

1977 Nonradiological Environmental  
Monitoring Report (1)

Palisades Nuclear Plant

Consumers Power Company

May, 1978

(1) Reference Consumers Power submittal dated, March 31, 1978 for additional information.

PALISADES NUCLEAR PLANT  
ENVIRONMENTAL MONITORING PROGRAM - TECHNICAL SPECIFICATIONS

1. Meteorological Network Observations (4.11.6)

Thirteen meteorological stations were established, as described in Amendment 6 to Facility Operating License DPR-20 (Change 10 to Appendix A) to document effects of cooling tower operation on meteorological variables. The stations were established by and are serviced under contract with the Department of Atmospheric and Oceanic Science, The University of Michigan. In March 1977, a summary of meteorological measurements for the period January 1975 through December 1975 was completed as Data Report No 4, which is included as Appendix A. In September 1977, a summary of meteorological measurements for the period January 1976 through December 1976 was completed as Data Report No 5, which is included as Appendix B. Quarterly progress reports for the periods April 1 through June 30, 1977, July 1 through September 30, 1977 and October 2 through December 31, 1977 are included as Appendix C. The fifth annual report for the period of April 1, 1976 through March 31, 1977 is included as Appendix D.

2. Noise Survey (4.11.6)

No additional noise surveys were conducted during the reporting period.

3. Cooling Tower Drift Study (4.11.6)

## Introduction

The cooling tower study at the Palisades Nuclear Plant initiated in January of 1973 has continued essentially as designed through 1977 with one alteration as noted below. The following sections summarize the data that were collected and analyzed for the period of January through December of 1977. In addition, the results of the vegetation compositional (4.11.6b), vegetation chemical (4.11.6c), and soil chemical analyses (4.11.6d) for the period of 1974-77 have been summarized in a paper<sup>(2)</sup> that is included as Appendix E.

The scope and methods of the drift study were outlined in detail in the preoperational report<sup>(1)</sup>. During 1977 the scope of the study has been altered in one way: Station 25, one of the precipitation collecting stations, was destroyed by construction activities during June (Figure 1, Table 1).

The plant and cooling towers were operating nearly 90% of the time during 1977.

### 4.11.6a Precipitation Collection and Analyses

Precipitation and cooling tower drift were collected monthly at 25 stations (Stations 11 and 25 no longer exist) shown in Figure 1 and

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- (1) Rochow, J. J. 1975. Palisades Nuclear Plant Cooling Tower Drift Study: Preoperational Study Report. Consumers Power Co submittal with letter of Jan 31, 1975 to Directorate of Licensing, NRC.
- (2) Rochow, J. J. 1978. Compositional, Structural and Chemical Changes to Forest Vegetation from Fresh Water Wet Cooling Tower Drift. In: Cooling Tower Environment - 1978 Proceedings, pp 119-38, May 2-4, 1978, Univ of Maryland, College Park.

TABLE 1  
Palisades Drift Study: Sampling Plot and Rain Gauge Locations

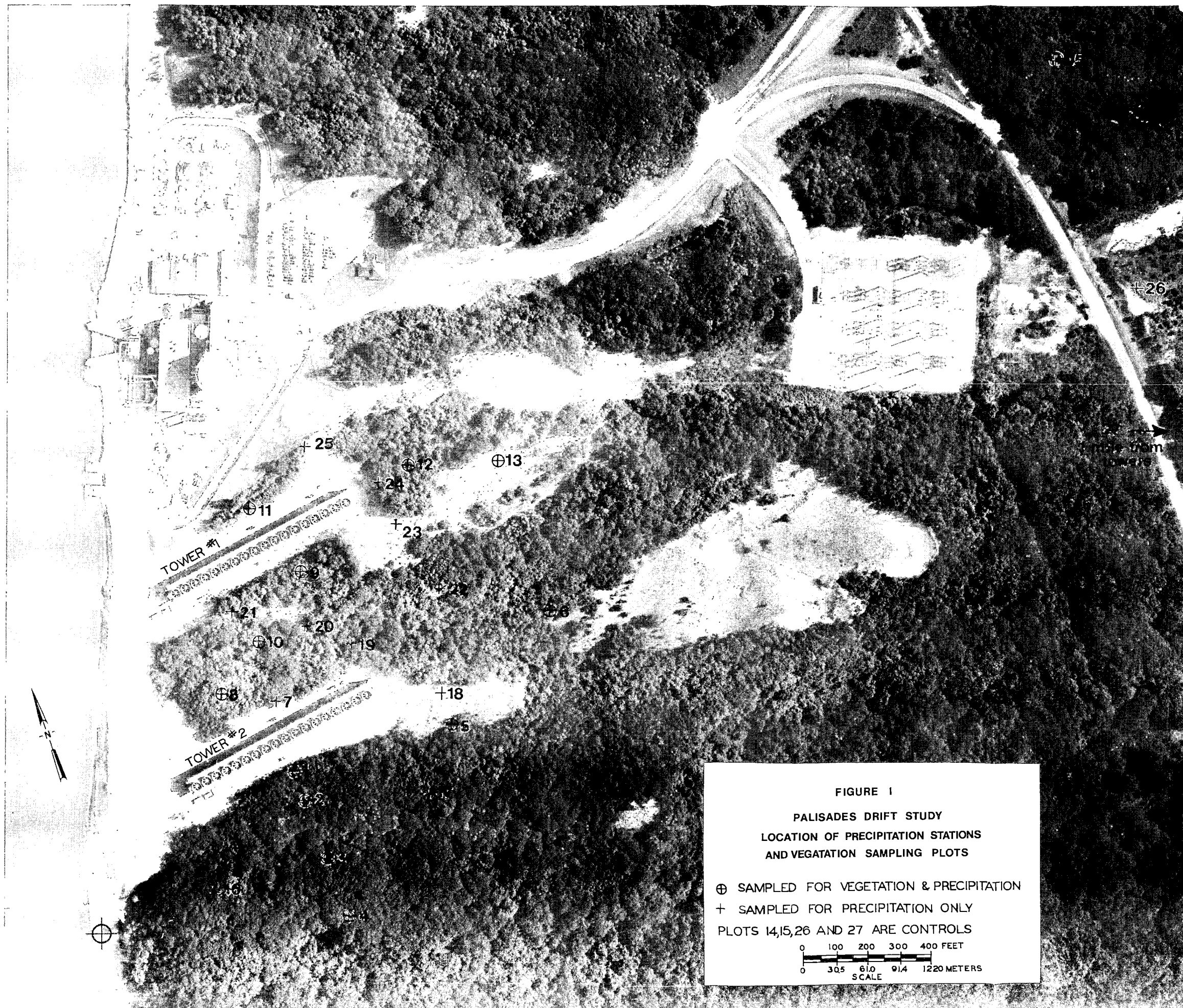
	Plot No	Distance		Direction From	Tower No	
		(Ft)	(M)			
Installed----- December 27, 1972	1	100	(30.5)	S	2	(Center)
	2	200	(61.0)	S	2	(Center)
	3	400	(121.9)	S	2	(Center)
	4	600	(182.9)	S	2	(Center)
	5	200	(61.0)	SE	2	(East End)
	6	600	(182.9)	E	2	(East End)
	7*	100	(30.5)	N	2	(Center)
	8	185	(56.4)	NW	2	(Center)
	9	150	(45.7)	SSE	1	(Center)
	10	275	(83.8)	NNW	2	(Center)
	11**	120	(36.6)	N	1	(Center)
	12	200	(61.0)	E	1	(East End)
	13	470	(143.3)	E	1	(East End)
	14 (Control)	2200	(670.6)	ESE	Both	
	15 (Control)	2700	(823.0)	NE	Both	
Installed June 28, 1973 (Rain Gauges Only)	16	320	(97.5)	S	2	(West End)
	17	350	(106.7)	S	2	(East End)
	18	200	(61.0)	E	2	(East End)
	19	125	(38.1)	N	2	(East End)
	20	250	(76.2)	N	2	(East End)
	21	175	(53.3)	SW	1	(Center)
	22	400	(121.9)	SE, NE	1&2	(East End)
	23	125	(38.1)	SE	1	(East End)
	24	100	(30.5)	E	1	(East End)
	25***	250	(76.2)	N	1	(East End)
Installed June 25, 1976 (Rain Gauges-- Only)	26 (Control)	2600	(792.5)	E	Both	
	27 (Control)	5280	(1609.3)	E	Both	

\*Eliminated from vegetation sampling due to disturbance from construction activities (1973).

\*\*Destroyed during November 1976

\*\*\*Destroyed during June 1977







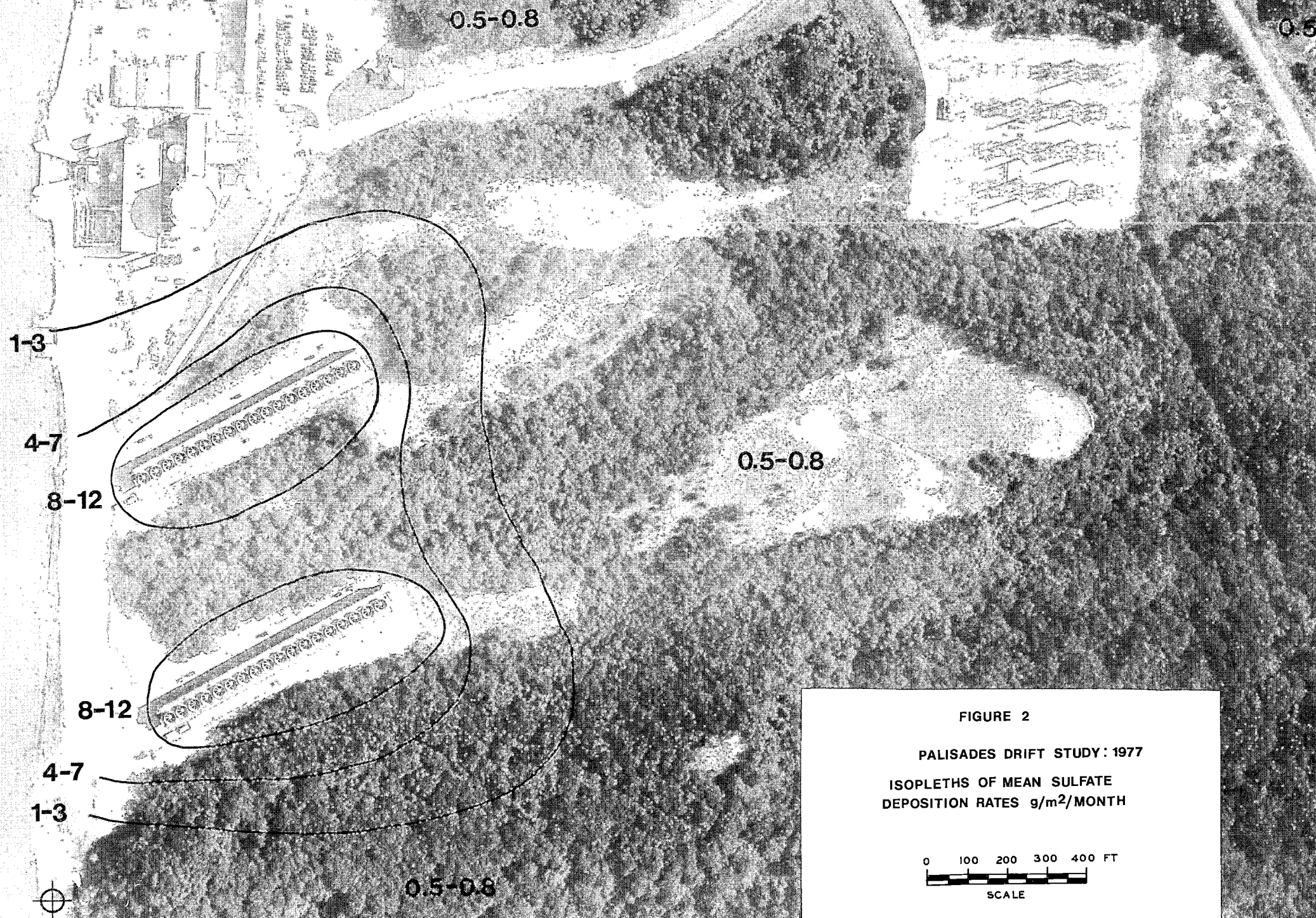


FIGURE 2

PALISADES DRIFT STUDY: 1977  
ISOPLETHS OF MEAN SULFATE  
DEPOSITION RATES  $\text{g/m}^2/\text{MONTH}$

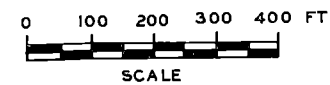


Table 1. Table 2 shows the mean deposition rates for sulfate and calcium during the period when the cooling towers were not operational and during the period of operation. Table 2 also shows the mean conductivity during these periods. Figures 2 and 3 show isopleths of the mean deposition rates for sulfate and calcium during the operational period, respectively.

### Sulfate

The monthly mean sulfate deposition rates during the 1977 operational period are listed by station in Table 2 and graphically displayed in Figure 2. Very high monthly mean deposition rates have been calculated for Stations 1, 7, 9, 10 and 21. At these stations, the sulfate deposition rate is from 20 to 40 times the nonoperational rate ( $0.29 \text{ g m}^{-2} \text{ month}^{-1}$ ). High individual monthly deposition rates were ( $\text{g m}^{-2}$ ) 15.05, 13.18, 20.05, 17.44 and 28.73 for Stations 1, 7, 9, 10 and 21, respectively. It is assumed that these high sulfate deposition rates are partially responsible for the drastic alteration to the vegetation structure in a 200 foot radius of the cooling towers. As discussed in the 1976 Annual Report of Operation<sup>(2)</sup>, a progression of visible damage has occurred, beginning with white pine (Pinus strobus) through the deciduous tree species. The chemically induced vegetation damage in conjunction with the ice damage during the 1976-77 winter has essentially eliminated much of the forest canopy in the 200 foot radius (Figure 4). The affected area includes from 20-25 acres (8-10 ha) of which about 15 acres (6 ha) are forested. It is estimated that between

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(2) Consumers Power Co Annual Report of Operation for the Palisades Plant. Submitted to NRC, March 1977.

TABLE 2  
PALISADES DRIFT STUDY - OPERATIONAL DATA:  
Summary of Precipitation and Drift Chemical Analysis - 1977

<u>Station No</u>	<u>Monthly Mean</u> <u>Deposition Rate (g m<sup>-2</sup> month<sup>-1</sup>)</u>		<u>Monthly Mean</u> <u>Conductivity</u> <u>(μmho cm<sup>-1</sup>)</u>
	<u>Sulfate</u>	<u>Calcium</u>	
1	8.35	2.21	210
2	4.89	0.97	133
3	0.97	0.23	54
4	0.61	0.13	39
5	1.57	0.39	55
6	0.78	0.17	40
7	8.30	2.62	297
8	4.55	0.85	124
9	11.87	3.64	273
10	6.98	1.26	152
11	-	-	-
12	1.15	0.38	65
13	0.64	0.14	44
14 and 15 (Controls)	0.45	0.14	47
16	0.68	0.20	60
17	0.89	0.22	44
18	1.41	0.35	59
19	4.14	0.94	116
20	3.73	0.95	102
21	12.52	5.13	357
22	1.18	0.23	47
23	3.12	0.76	80
24	2.97	1.12	121
25*	4.15	0.90	101
26 and 27 (Controls)	0.51	0.07	52

---

\*5 months data

1500 and 2000 trees have been adversely affected by sulfate deposition in these 15 acres.

As shown in the 1976 operational data<sup>(3)</sup>, the control stations (14, 15, 26 and 27) are receiving sulfate deposition rates nearly twice the rate as that under nonoperational conditions (Table 2). It is apparent that some of the sulfates ejected by the cooling towers are being deposited offsite. However, no visible effects to the vegetation have been observed from these deposition rates.

Samples of water from the cooling tower basins were taken monthly during the operational period and analyzed for sulfates. The monthly mean concentration of sulfates in Tower No 1 was 297 ppm and 312 ppm in Tower No 2 for 1977.

#### Calcium

The monthly mean deposition rates for calcium during the 1977 operational period are listed by station in Table 2 and graphically displayed in Figure 3.

Stations 1, 7, 9 and 21 received the highest calcium deposition rates. At these stations, the calcium deposition rate is from 15 to 35 times the nonoperational rate. High individual monthly deposition rates were ( $\text{g m}^{-2}$ ) 4.43, 3.67, 7.03 and 9.48 for Stations 1, 7, 9 and 21, respectively.

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(3) Ibid.



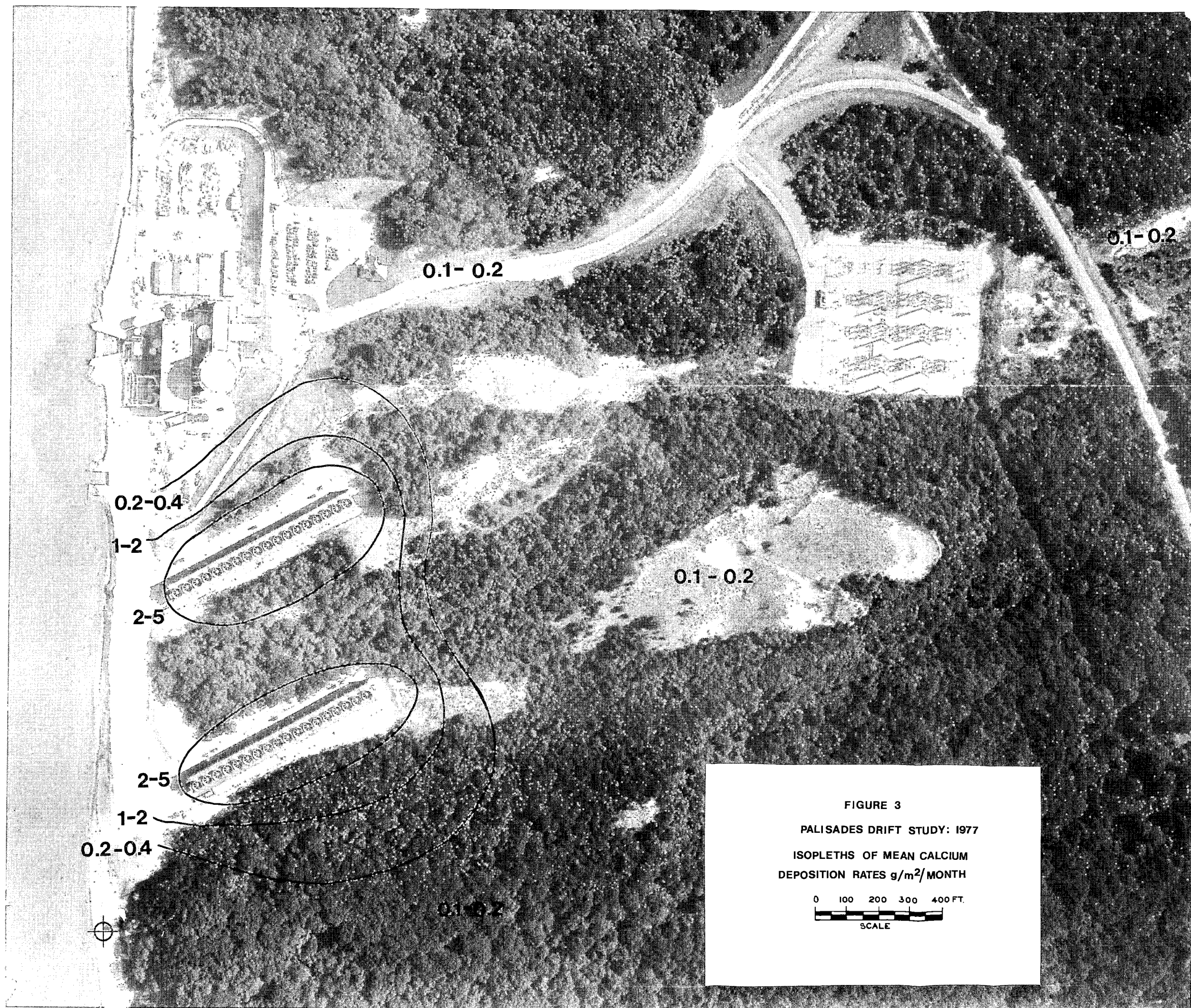




Figure 4. Nearly complete canopy elimination in 200 ft (61m) radius of cooling towers.



In general, the calcium deposition rates are less than the sulfate deposition rates by a factor of from three to four (Table 2).

Calcium is not added to the cooling water as is sulfuric acid. Hence, the increase in calcium concentration results from about three cycles of concentration of the lake water which averages 33.6 ppm calcium. The cooling tower basin water averaged 94 ppm and 104 ppm for cooling towers 1 and 2, respectively, during the 1977 operational period.

The calcium deposition rates at the control stations (14, 15, 26 and 27) are similar to the rates recorded for nonoperation conditions ( $0.14 \text{ g m}^{-2} \text{ month}^{-1}$ ) (Table 2) unlike the much higher calcium deposition rates recorded at Stations 26 and 27 during 1976.

#### Conductivity

Table 2 shows the monthly mean conductivity of the precipitation for each station during the 1977 operational period. As expected the stations with the highest mean conductivity also have the greatest mean sulfate and calcium deposition rates. When comparing the 1977 and 1976<sup>(4)</sup> conductivity data, it is apparent that the stations near the cooling towers had slightly lower monthly mean conductivity levels, while the more distant stations had slightly higher monthly mean conductivity levels.

4.11.6 b, c and d (See Appendix E).

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<sup>(4)</sup>Ibid.



#### 4.11.6 e Ice Damage Observations

During the winter of 1977-78 icing conditions were not as severe as those reported for the winter of 1976-77. Although some physical damage to the arborescent vegetation was observed, especially in those areas that escaped the severest damage during the 1976-77 winter. The Palisades Plant was shutdown for refueling in early January, 1978, hence, additional icing damage was averted.

APPENDIX A

*An Investigation of the  
Meteorological Impact of a  
Once-Through Cooling System at  
the Donald C. Cook Nuclear Plant*

Data Report No. 4

Summary of Meteorological Measurements  
for the Period

January 1975 through December 1975

Prepared with contributions from:

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March 1977

Under contract with:

American Electric Power Service Corporation

Indiana and Michigan Power Company

College of Engineering

Department of Atmospheric and Oceanic Science

AN INVESTIGATION OF THE METEOROLOGICAL IMPACT OF  
A ONCE-THROUGH COOLING SYSTEM  
AT THE DONALD C. COOK NUCLEAR PLANT

Data Report No. 4  
Summary of Meteorological Measurements  
for the Period  
January 1975 through December 1975

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The Division of Research Development and Administration  
DRDA Project 320157

under contract with:

AMERICAN ELECTRIC POWER SERVICE CORPORATION  
Indiana & Michigan Power Company

March 1977

## ACKNOWLEDGEMENTS

Special appreciation is expressed to Mr. Edward Ryznar who is principal investigator for the project and to Dr. Harry Moses for his ideas and suggestions pertaining to preparation of this report.

Paul Titus was responsible for much of the calibration work and coordinated the field program with our man in the field, Donald Pearson, who maintained the network data collection. Michael St. Peter and Gary Rizzo did most of the initial processing of the data as it came in from the field.

The measurement program would not have been possible without the cooperation of the property owners listed in this report, who permitted us to locate meteorological equipment on their property. Our sincere appreciation is extended to them. Appreciation is also extended to Ms. Bobbie Walunas for typing the manuscript. Computations were performed on the Amdahl 470V/6 computer at the University of Michigan Computing Center.

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## I. INTRODUCTION

This report summarizes meteorological measurements made at 12 stations in the vicinity of the Donald C. Cook Nuclear Plant, located on the shoreline of Lake Michigan near Bridgman, Michigan, during the period January 1975 through December 1975. The stations were established in 1972 as part of an investigation of the meteorological effects of a once-through cooling system at the Cook Plant. A first data report, covering October 1972 through June 1973, was published in February 1975; a second data report, covering July 1973 through December 1973, was published in August 1975; a third data report, covering January through December 1974, was published in March 1976; and a supplement to the third data report, covering humidity measurements for the same period, was published in October 1976.

A similar investigation is underway in the vicinity of the Palisades Nuclear Plant, which utilizes mechanical-draft cooling towers. The Palisades Plant is located about 40 km north-northeast of the Cook Plant. Measurements from a network of 13 stations in the vicinity of the Palisades Plant supplement those for the Cook study and are summarized in a companion report.

Only brief descriptions of the instrumentation, calibration procedures, machine digitization and data processing methods are given here. These subjects, in addition to analysis of the data, are covered in detail in the Annual Progress Reports listed below.

Baker, D.G., and Ryznar, E., 1973: Meteorological study of power plant thermal discharges, First Annual Progress Report, ORA Project 320157, The University of Michigan, Ann Arbor, Michigan, 42 pp.

Baker, D.G., and Ryznar, E., 1974: An investigation of the meteorological impact of a once-through cooling system at the Donald C. Cook Nuclear Plant, Second Annual Progress Report, DRDA Project 320157, The University of Michigan, Ann Arbor, Michigan, 68 pp.

Baker, D.G., and Ryznar, E., 1976: Coastal Meteorology in the Vicinity of the Donald C. Cook Nuclear Plant: A Preliminary Analysis, DRDA Project 320157, The University of Michigan, Ann Arbor, Michigan, 68 pp.

Baker, D.G., E. Ryznar, D. Kahlbaum, R. Kessler, W. Snell and M. Weber, 1976: An Investigation of the Meteorological Impact of a Once-Through Cooling System at the Donald C. Cook Nuclear Plant, Fourth Annual Progress Report, DRDA Project 320157, The University of Michigan, Ann Arbor, Michigan, 141 pp.

Most tabulations presented here were designed to be similar in form to standard National Weather Service tabulations of climatological data. Although alternative forms of tabulation and more detailed analyses were considered, it was felt that presenting the data in the form of basic tabulations and summaries would be most useful.

It is hoped that these data will be useful to other investigators needing meteorological information taken near the Lake Michigan shoreline. Hourly values of all meteorological variables presented in this report, covering the period from the time of installation of each instrument through 31 December 1975 for all stations, are stored on magnetic tape and can be made available. Inquiries should be directed to the authors.

## II. DESCRIPTION OF METEOROLOGICAL NETWORK

### Location and nature of stations

Figure 2.1 shows the locations of the Donald C. Cook and Palisades meteorological networks in relation to the nuclear plants, Lake Michigan, and several cities in southwestern Michigan. The topography of the area is shown in Figure 2.2. Shown in both figures are the locations of the climatological stations for which various data are available. Temperature and precipitation data for South Haven, Benton Harbor, Eau Claire and Dowagiac for the period 1940-1969, for example, are summarized in the Climate of Michigan, a publication available from the Michigan Weather Service, East Lansing, Michigan. Daily precipitation totals are available for all the stations. In addition, hourly precipitation totals are available for Covert for winter-time, Sodus, Berrien Springs and Coloma. Daily maximum and minimum temperatures are available from all stations except Covert and Coloma. The nearest reporting station which has hourly weather observations (temperature, cloudiness, wind, etc.) which are also representative of shoreline weather conditions is located at Benton Harbor Airport, about 4 km from Lake Michigan. Hourly airways weather observations are taken usually between 0645 and 2045 local time each day.

Table 2.1 is a listing of the latitude, longitude and elevation of each station, the name and address of the

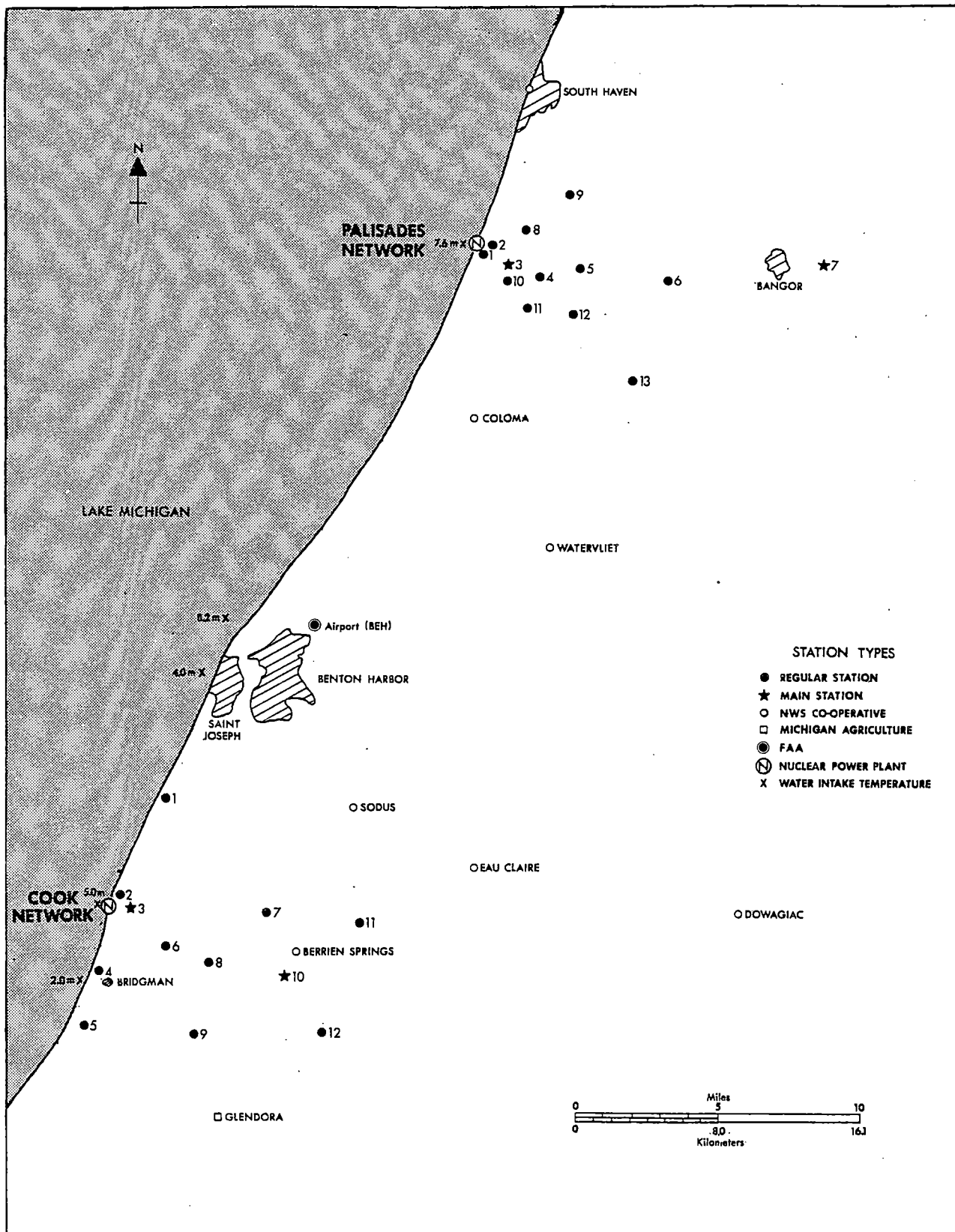


Fig. 2.1. Donald C. Cook and Palisades Nuclear Plants meteorological networks. Network sites are given by numbers. Main sites are C03A, C10A, P03A, and P07A. Open circles are other locations with meteorological information.



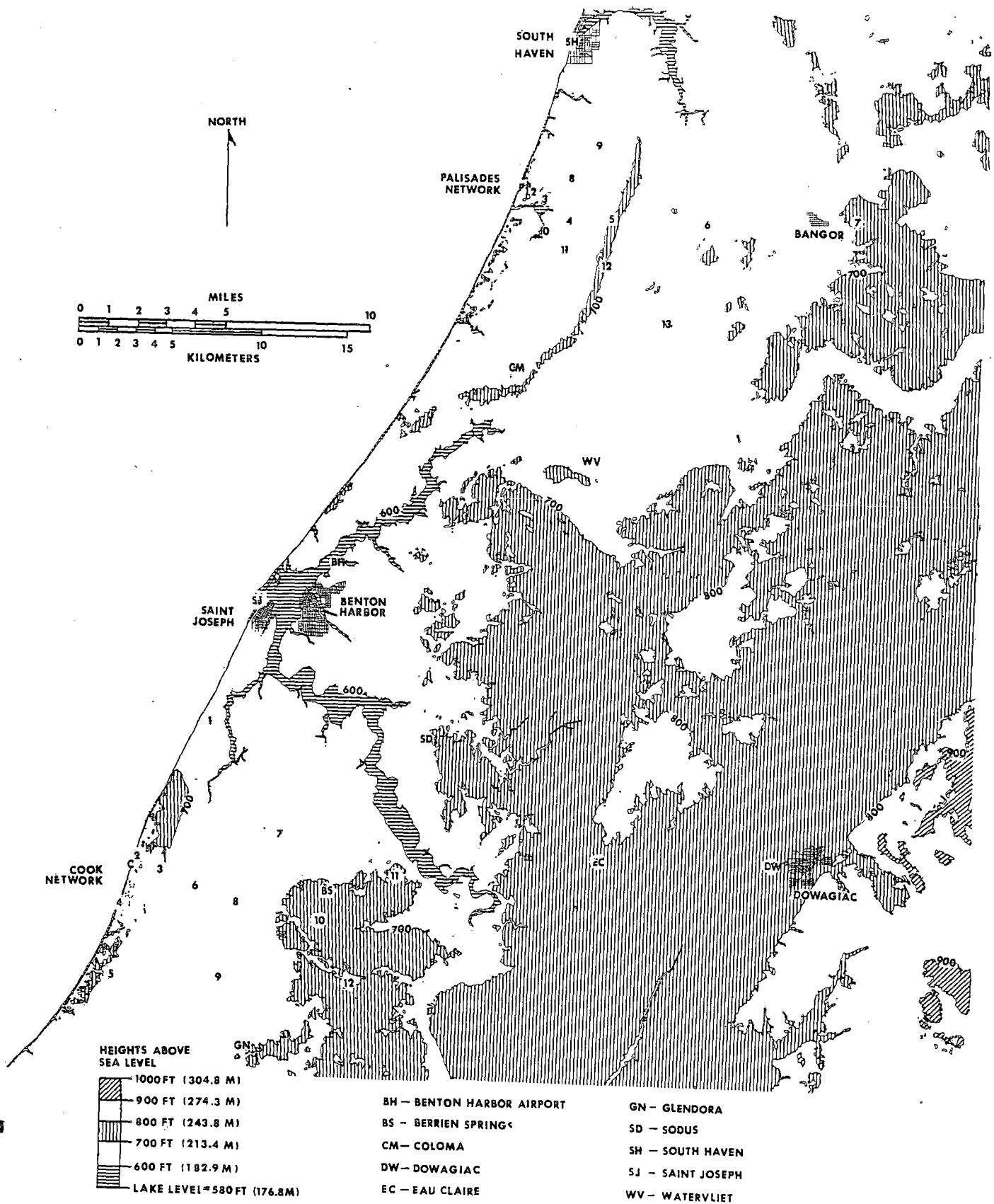


Fig. 2.2. Topography in the vicinity of the Donald C. Cook and Palisades Nuclear Plants. Network sites are given by numbers. Other data sources are given with letters.

TABLE 2.1

## Locations of Stations and Variables Measured

(Variables measured: T = temperature, H = humidity, P = precipitation, W = wind,  
V = visibility, R = total solar radiation).

<u>Station</u>	<u>Land Owners</u>	<u>North Latitude</u>	<u>West Longitude</u>	<u>Elevation of Hygrothermograph, meters above sea level</u>	<u>Variables Measured</u>
C01B	Mr. Lester White 4366 Ridge Road Stevensville	42°03'	86°31'	188	T,H,P
C02A	Indiana & Michigan Power Co.	41°59'	86°34'		P
C02B	Indiana & Michigan Power Co.	41°59'	86°34'	190	T,H,P
C03A	Indiana & Michigan Power Co.	41°59'	86°33'	189	T,H,P,W,V,R
C04A	Miss Jane Condon Dunewood Bridgman, Michigan 49106	41°57'	86°35'	182	T,H,P
C05A	H.A. Valerius Rt. 1, Box 40 Bridgman, Michigan 49106	41°55'	86°35'	192	T,H,P
C06A	Mr. Bolin Date Rd. between Lemon Creek and Hinchman	41°58'	86°31'	193	T,H,P
C07A	Gerald Totzke 6744 Totzke Road Baroda, Michigan 49101	42°	86°28'	198	T,H,P

TABLE 2.1 (continued)

<u>Station</u>	<u>Land Owners</u>	<u>North Latitude</u>	<u>West Longitude</u>	<u>Elevation of Hygrothermograph, meters above sea level</u>	<u>Variables Measured</u>
C08A	Zilke Nursery Corner Cleveland Avenue and Lemon Creek	41°57'	86°30'	192	T,H,P
C09A	Backus 0.4 miles E. of Holden on Snow	41°55'	86°30'	196	T,H,P
C10A	Mr. Gaul Lauer Rd. between Shawnee and Lemon Creek	41°57'	86°26'	225	T,H,P,W,R
C11A	National Mobile Concrete Corporation corner Hinchman and US 31 Berrien Springs	41°58'	86°23'	213	T,H,P
C11B	Ken Stover 3801 St. Joseph Ave. Berrien Springs	41°58'	86°23'	218	T,H,P
C12A	Lester Brohmen Rt. 1, Box 390 Berrien Springs	41°55'	86°25'	215	T,H,P

property owner and the variables measured.

In January 1975 there were 12 stations comprising the Cook network. Repeated vandalism forced the abandonment of station C02B in June, and the relocation of C11A to C11B in July. The labeling of each station as C01B through C12A is for identification by computer in data processing.

All stations have a recording precipitation gage and a Belfort Hygrothermograph, except C02A which has only the former. The precipitation gages are calibrated semi-annually. The hygrothermograph readings are compared weekly in the field with measurements made with an Assman psychrometer. In addition, beginning in December, 1973 the hygrothermographs have been calibrated in controlled humidity chambers at least once every 6 months.

Stations C03A and C10A contain, in addition to the above, sensing and recording equipment for measuring total solar radiation, wind speed and direction, and visibility (C03A only). A summary of the instrumentation used in the meteorological networks to record the data tabulated in this report is found in Table 2.2.

Table 2.2 Network Instrumentation

<u>Variable</u>	<u>Instrument and manufacturer</u>	<u>Height above ground (m)</u>	<u>Date installed (mo/yr)</u>	<u>Calibration frequency (mo)</u>	<u>Calibration technique</u>
Precipitation	Weighing gauge Belfort Inst. Co.	1	10/72	6	Static weights
Temperature Rel. Hum.	Hygrothermograph Model 5-594 Belfort Inst. Co.	1.5	2/73	6	Calibration chamber
Wind Speed	Gill 3-cup Anemometer Model 12101 R.M. Young Co.	3	2/73	6	Wind tunnel
Wind Direction	Wind Vane Model 104 WeatherMeasure Corp.	3	2/73	6	Circular linearity
Visibility	Visiometer Model 1580 Meteorology Research Inc.	1.5	10/72 (P-3) * 3/73 (C-3) 5/73 (P-7)	12-18	Manufacturer
Solar Rad.	Pyranometer Model R411 WeatherMeasure Corp.	1	10/72 (P-3) 12/72 (C-3) 3/73 (P-7) 12/72 (C-10)	12	Comparison with standard

\*The letters P and C denote stations in the Palisades and Cook networks, respectively.

### III. PRECIPITATION

Precipitation is measured with a Belfort Recording Precipitation Gage. It is recorded and digitized to the nearest hundredth of an inch. For tabulation digitized data are reduced to hourly totals of precipitation. The data are then tabulated in sets of three tables for each month. The first table gives the total precipitation by day for each station. An M indicates missing data. A series of asterisks indicates that the total amount of precipitation which fell during that period is known and indicated as a number in parentheses at the end of the period. The exact time of occurrence during the period, however, is unknown. The second table gives the greatest 1-, 3-, 6-, 12-, and 24-hour totals and the third gives hourly totals for each month. The last two tables contain data only for those stations which had uninterrupted records of precipitation for all times during which precipitation was occurring in that month. If data were missing for any hour during which precipitation was occurring, an M is listed for that station.

Table 3.1A. Cook Network: Daily Total Precipitation (Inches) for January 1975

DAY	CO1B	CO2A	CO2B	CO3A	CO4A	CO5A	CO6A	CO7A	CO8A	CO9A	C10A	C11A	C12A
1	0.00	0.00	0.01	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.01
2	0.03	0.07	0.05	0.03	0.04	0.03	0.03	0.02	0.04	0.01	0.03	M	0.03
3	0.16	0.05	0.13	0.15	0.14	0.11	0.16	0.10	0.16	0.16	0.11	M	0.10
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.02	0.02	0.02	0.01	0.01
7	0.09	0.08	0.06	0.06	0.06	0.10	0.09	0.10	0.08	0.06	0.09	0.09	0.08
8	0.35	0.34	0.47	0.39	0.37	0.39	0.41	0.46	0.39	0.33	0.36	0.34	0.42
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	1.64	1.54	1.49	1.56	1.57	1.45	1.46	1.24	1.37	1.14	1.01	1.09	1.07
11	0.03	0.00	0.03	0.03	0.04	0.01	0.02	0.01	0.00	0.02	0.00	(0.04)	0.02
12	0.01	0.01	0.04	0.02	0.00	0.00	0.01	0.01	0.03	0.00	0.00	M	0.02
13	0.00	0.03	0.06	0.00	0.06	(0.00)	0.03	0.03	0.11	0.04	0.06	M	0.02
14	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.02	0.03	0.00	M	0.04
15	0.02	0.00	0.05	0.06	0.00	*	0.00	0.00	0.01	0.01	0.01	M	0.00
16	0.04	0.00	0.01	0.00	0.01	*	0.03	0.00	0.05	0.05	0.03	M	0.05
17	0.00	0.00	0.00	0.00	0.00	*	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.18	0.09	0.18	0.14	0.12	(0.10)	0.16	0.06	0.18	0.21	0.09	M	0.07
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.17	0.14	0.14	0.17	0.17	0.18	0.14	0.16	0.19	0.18	0.18	(0.17)	0.16
25	0.15	0.09	0.17	0.13	0.14	0.16	0.18	0.18	0.25	0.26	0.21	*	0.21
26	0.03	0.00	0.04	0.01	0.04	0.03	0.04	0.01	0.04	0.03	0.03	(0.22)	0.03
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.01	0.08	0.05	0.06	0.05	0.08	0.00	0.06	0.05	0.04	0.06	0.05	0.04
29	0.26	0.32	0.36	0.29	0.22	0.36	0.29	0.26	0.36	0.37	0.35	0.42	0.43
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot	3.17	2.85	3.36	3.11	3.04	(3.04)	3.06	2.70	3.35	2.96	2.64	M	2.81

Table 3.2A. Cock Network  
Greatest precipitation received in a given period for  
January 1975

Station	1-Hour			3-Hour			6-Hour			12-Hour			24-Hour		
	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time
	(in.)	began		(in.)	began		(in.)	began		(in.)	began		(in.)	began	
C01E	0.37	10	C600	0.88	10	0500	1.24	10	0400	1.40	10	0400	1.66	10	0300
C02A	0.33	10	C600	0.80	10	0500	1.20	10	0300	1.35	10	0300	1.54	10	0300
C02E	0.40	10	C600	0.80	10	0600	1.06	10	0300	1.23	10	0300	1.50	10	0300
C03A	0.47	10	C600	0.88	10	0600	1.10	10	0300	1.26	10	0400	1.56	10	0300
C04A	0.46	10	C700	0.90	10	0500	1.18	10	0400	1.37	10	0400	1.60	10	0400
C05A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C06A	0.43	10	C700	0.78	10	0500	1.08	10	0400	1.22	10	0400	1.47	10	0300
C07A	0.42	10	C700	0.68	10	0500	0.93	10	0400	1.05	10	0400	1.25	10	0300
C08A	0.41	10	C700	0.69	10	0500	0.95	10	0400	1.09	10	0400	1.37	10	0400
C09A	0.31	10	C700	0.50	10	0700	0.76	10	0400	0.89	10	0400	1.15	10	0400
C10A	0.17	10	C700	0.40	10	0600	0.64	10	0300	0.78	10	0300	1.01	10	0300
C11A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C12A	0.25	10	C700	0.43	10	0500	0.67	10	0300	0.83	10	0300	1.07	10	0300



Table 33A. Cook Network:  
Precipitation accumulated in each hour (EST) for  
January 1975

Sta	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	Total
C01B	.21	.14	.17	.23	.25	.42	.41	.14	.12	.04	.06	.05	.06	.09	.11	.09	.03	.03	.03	.06	.06	.07	.23	.07	3.18
C02A	.20	.11	.13	.26	.24	.36	.30	.12	.02	.05	.06	.05	.07	.12	.12	.03	.01	.01	.05	.05	.07	.16	.07	.16	2.84
C02B	.30	.14	.33	.13	.13	.47	.38	.14	.05	.05	.05	.06	.13	.14	.20	.05	.03	.03	.04	.05	.08	.07	.18	.15	3.37
C03A	.17	.12	.14	.18	.20	.55	.36	.15	.05	.05	.06	.04	.11	.09	.15	.06	.02	.04	.02	.07	.07	.05	.23	.12	3.10
C04A	.18	.09	.09	.25	.19	.38	.50	.10	.10	.05	.08	.07	.13	.10	.14	.08	.03	.04	.02	.05	.07	.07	.15	.12	3.07
C05A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C06A	.21	.11	.10	.26	.24	.27	.50	.12	.13	.05	.07	.05	.11	.12	.12	.06	.03	.03	.03	.06	.07	.04	.22	.07	3.07
C07A	.19	.09	.09	.17	.22	.15	.47	.13	.09	.02	.04	.04	.18	.08	.10	.06	.03	.04	.03	.05	.07	.05	.21	.12	2.71
C08A	.23	.16	.15	.19	.23	.19	.48	.15	.13	.06	.08	.07	.16	.10	.12	.08	.03	.06	.05	.06	.08	.05	.31	.10	3.36
C09A	.18	.20	.17	.18	.21	.12	.38	.14	.16	.04	.06	.05	.09	.11	.11	.10	.06	.08	.03	.07	.10	.04	.20	.09	2.96
C10A	.27	.17	.10	.18	.15	.17	.22	.17	.05	.05	.07	.04	.09	.10	.11	.07	.04	.04	.04	.05	.06	.13	.22	.08	2.66
C11A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C12A	.19	.18	.22	.17	.19	.12	.32	.19	.05	.05	.06	.06	.15	.12	.11	.09	.05	.04	.04	.04	.06	.07	.19	.07	2.82
ave	.21	.14	.15	.20	.20	.29	.39	.14	.09	.05	.06	.05	.12	.11	.13	.07	.03	.04	.03	.06	.07	.07	.20	.10	3.01

Table 3.1B. Cook Network: Daily Total Precipitation (Inches) for February 1975

DAY	C01B	C02A	C02B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11A	C12A
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.01	0.03	0.03	0.02	0.04	0.02	0.00	0.00	0.01	0.03	0.01	M	0.01
5	0.16	0.18	0.17	0.16	0.18	0.14	0.16	0.14	0.13	0.13	0.13	M	0.15
6	0.09	0.06	0.14	0.07	0.10	0.07	0.09	0.11	0.09	0.08	0.07	M	0.09
7	0.02	0.02	0.04	0.04	0.03	0.01	0.02	0.02	0.01	0.03	0.01	M	0.03
8	0.04	0.06	0.09	0.12	0.08	*	0.05	0.08	0.07	0.10	0.03	M	0.08
9	0.01	0.01	0.03	0.04	0.04	*	0.01	0.01	0.01	0.02	0.01	M	0.03
10	0.02	0.01	0.01	0.03	0.03	(0.08)	(0.00)	0.01	(0.00)	0.01	0.01	M	0.03
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.48	0.48	0.50	0.47	0.51	0.39	0.48	0.48	0.47	0.46	0.42	M	0.42
16	0.05	0.10	0.05	0.03	0.03	0.03	0.04	0.02	0.02	0.01	0.07	M	0.02
17	0.24	0.22	0.21	0.19	0.21	0.17	0.18	0.24	0.19	0.15	0.22	M	0.22
18	0.13	0.06	0.07	0.09	0.08	0.07	0.05	0.04	0.11	0.11	0.10	M	0.08
19	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.02	0.01	M	0.04
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.44	0.47	0.46	0.46	0.48	0.52	0.48	0.48	0.54	0.51	0.51	0.49	0.54
23	0.28	0.28	0.28	0.31	0.29	0.26	0.28	0.33	0.31	0.36	0.34	0.28	0.33
24	0.04	0.06	0.08	0.05	0.07	0.04	0.05	0.08	0.07	0.07	0.03	0.04	0.04
25	0.10	M	0.11	0.07	0.18	0.11	0.05	0.02	0.13	0.16	0.05	0.06	0.05
26	0.01	M	0.09	0.01	0.04	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot	2.13	M	2.36	2.16	2.39	(1.92)	(1.96)	2.06	(2.17)	2.26	2.02	M	2.16

Table 3.2B. Cook Network  
Greatest precipitation received in a given period for  
February 1975

Station	1-Hour			3-Hour			6-Hour			12-Hour			24-Hour		
	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time
	(in.)	began		(in.)	began		(in.)	began		(in.)	began		(in.)	began	
C01B	0.99	22	1400	0.24	15	1300	0.35	15	1100	0.43	22	1100	0.49	22	1000
C02A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C02B	0.11	23	2100	0.21	15	1200	0.32	15	1100	0.45	15	0600	0.51	22	1000
C03A	0.08	23	2100	0.19	15	1100	0.33	15	1100	0.43	15	0800	0.53	22	1000
C04A	0.99	23	2100	0.23	15	1100	0.34	15	0900	0.46	15	0600	0.53	22	1000
C05A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C06A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C07A	0.17	23	2100	0.24	23	1900	0.38	15	1100	0.48	22	1100	0.53	22	1000
C08A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C09A	0.17	23	2100	0.25	23	2000	0.35	22	1200	0.51	22	1200	0.57	22	1000
C10A	0.14	23	2000	0.26	23	2000	0.30	15	1100	0.48	22	1000	0.53	22	1000
C11A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C12A	0.15	23	2000	0.22	23	1900	0.31	22	1300	0.51	22	1000	0.58	22	1000

Table 3.3B, Cook Network:  
Precipitation accumulated in each hour (EST) for  
February 1975

Sta	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	Total
C01B	.05	.08	.08	.03	.06	.07	.05	.05	.05	.07	.14	.16	.17	.22	.13	.09	.12	.12	.09	.11	.09	.04	.03	.03	2.13
C02A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C02B	.06	.11	.08	.04	.11	.06	.06	.05	.08	.09	.16	.17	.17	.16	.11	.09	.12	.10	.13	.09	.16	.06	.07	.06	2.39
C03A	.05	.10	.08	.04	.06	.02	.03	.04	.06	.06	.17	.13	.14	.14	.12	.12	.12	.11	.16	.11	.11	.05	.06	.05	2.15
C04A	.08	.11	.09	.06	.08	.05	.07	.07	.08	.12	.15	.16	.14	.17	.14	.09	.09	.08	.13	.10	.15	.08	.05	.05	2.38
C05A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C06A	.03	.08	.04	.05	.08	.03	.04	.05	M	M	M	M	M	M	M	.10	.12	.09	.08	.09	.14	.05	.04	.03	M
C07A	.03	.11	.08	.02	.06	.04	.06	.06	.04	.07	.18	.11	.12	.15	.12	.11	.10	.09	.07	.11	.20	.06	.03	.02	2.05
C08A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	.16	.12	.11	.08	.17	.09	.05	.02	.03	M
C09A	.04	.07	.06	.03	.07	.04	.04	.02	.04	.11	.13	.20	.15	.19	.13	.12	.11	.12	.10	.09	.20	.10	.06	.03	2.25
C10A	.05	.08	.05	.05	.08	.02	.03	.04	.05	.09	.14	.17	.17	.14	.12	.12	.10	.08	.06	.17	.14	.04	.02	.03	2.02
C11A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C12A	.07	.05	.04	.09	.08	.03	.04	.05	.06	.12	.14	.13	.16	.16	.13	.13	.12	.11	.10	.19	.08	.03	.01	.03	2.17
ave	.05	.09	.07	.05	.08	.04	.05	.05	.06	.09	.15	.15	.15	.17	.12	.11	.11	.10	.10	.12	.14	.06	.04	.03	2.18

Table 3.1C . Cook Network: Daily Total Precipitation (Inches) for March 1975

DAY	C01B	C02A	C02B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11A	C12A
1	0.00	M	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.03
2	0.31	M	0.33	0.43	0.31	0.38	0.24	0.21	0.23	0.22	0.13	0.25	0.22
3	0.04	M	0.04	0.03	0.02	0.02	0.02	0.01	0.04	0.02	0.03	0.04	0.04
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.05	M	0.06	0.03	0.04	0.06	0.04	0.05	0.06	0.06	0.06	0.05	0.06
6	0.29	M	0.18	0.14	0.19	0.22	0.17	0.20	0.22	0.17	0.16	0.13	0.20
7	0.36	M	0.38	0.45	0.40	0.37	0.38	0.33	0.31	0.43	0.38	0.38	0.40
8	0.07	M	0.10	0.06	0.06	0.08	0.04	0.04	0.02	0.04	0.03	0.09	0.09
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.07	M	0.09	0.07	0.11	0.05	0.05	0.09	0.07	0.10	0.10	0.10	0.06
11	0.04	0.04	0.01	0.02	0.03	0.03	0.03	0.01	0.01	0.02	0.02	0.02	0.01
12	0.08	0.08	0.09	0.07	0.08	0.09	0.08	0.09	0.09	0.08	0.09	0.10	0.09
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.08	0.07	0.09	0.11	0.07	0.22	0.16	0.10	0.17	0.12	0.08	0.04	0.09
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.13	0.12	0.07	0.07	0.07	0.07	0.08	0.09	0.09	0.08	0.09	0.09	0.05
22	0.17	*	0.07	0.09	0.08	0.09	0.10	0.12	0.10	0.21	0.43	0.46	0.54
23	0.02	*	0.04	0.04	0.03	0.01	0.04	0.03	0.06	0.03	0.05	0.02	0.02
24	0.06	(0.16)	0.09	0.07	0.05	0.06	0.07	0.13	0.11	0.12	0.12	0.12	0.15
25	0.02	0.02	0.06	0.06	0.02	0.04	0.05	0.05	0.08	0.07	0.01	0.06	0.06
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.16	0.17	0.19	0.14	0.24	0.15	0.14	0.13	0.18	0.18	0.20	0.14	0.16
28	0.40	0.36	0.36	0.33	0.38	0.38	0.36	0.40	0.36	0.30	0.33	0.28	0.29
29	0.00	0.03	0.03	0.03	0.00	0.00	0.02	0.02	0.01	0.02	0.00	0.01	0.02
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot	2.35	M	2.28	2.24	2.19	2.33	2.08	2.11	2.22	2.28	2.31	2.39	2.58

Table 3.2C. Cook Network  
Greatest precipitation received in a given period for  
March 1975

Station	1-Hour			3-Hour			6-Hour			12-Hour			24-Hour		
	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time
	(in.)	began		(in.)	began		(in.)	began		(in.)	began		(in.)	began	
C01E	0.16	6	2400	0.38	6	2300	0.51	6	2300	0.63	6	2300	0.65	6	2300
C02A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C02E	0.10	6	2400	0.28	6	2400	0.38	6	2300	0.53	6	2300	0.56	6	2300
C03A	0.09	2	0600	0.25	6	2400	0.34	6	2300	0.54	6	2300	0.59	6	2300
C04A	0.11	7	0100	0.30	6	2300	0.38	6	2300	0.56	6	2300	0.59	6	2200
C05A	0.12	6	2400	0.29	6	2300	0.35	6	2300	0.56	6	2300	0.58	6	2300
C06A	0.10	6	2400	0.26	6	2300	0.33	6	2300	0.50	6	2300	0.55	6	2200
C07A	0.11	6	2400	0.29	6	2300	0.37	6	2300	0.49	6	2300	0.52	6	2300
C08A	0.10	6	2400	0.28	6	2300	0.34	6	2200	0.49	6	2300	0.53	6	2200
C09A	0.16	22	0300	0.29	6	2400	0.37	6	2300	0.54	6	2300	0.59	6	2200
C10A	0.29	22	0300	0.42	22	0200	0.43	22	0200	0.48	6	2300	0.54	6	2300
C11A	0.24	22	0300	0.46	22	0300	0.46	22	0300	0.48	6	2300	0.55	21	0500
C12A	0.30	22	0300	0.51	22	0200	0.52	22	0200	0.56	6	2300	0.60	6	2200

Table 3.3G. Cook Network:  
Precipitation accumulated in each hour (EST) for  
July 1975

	Precipitation (inches) accumulated in each hour interval ending at																								
Sta	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	Total
C01B	.00	.00	.00	.09	.02	.01	.23	.37	.10	.13	.06	.32	.07	.01	.01	.01	.00	.00	.00	.08	.25	.13	.07	.05	2.00
C02A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C03A	.00	.00	.00	.01	.00	.01	.03	.61	.12	.09	.04	.10	.00	.00	.01	.01	.01	.01	.03	.28	.38	.10	.05	.12	2.04
C04A	.00	.00	.00	.00	.01	.01	.04	.47	.13	.11	.07	.12	.00	.00	.02	.01	.01	.01	.04	.09	.21	.08	.06	.07	1.55
C05A	.00	.00	.00	.01	.01	.01	.01	.90	.12	.13	.07	.08	.04	.00	.00	.00	.07	.02	.04	.18	.39	.11	.03	.05	2.27
C06A	.00	M	M	M	M	M	M	M	M	M	M	.06	.05	.01	.01	.01	.06	.02	.01	.38	.47	.16	.01	.07	M
C07A	.01	.00	.00	.00	.00	.01	.01	.37	.16	.17	.05	.11	.06	.06	.01	.02	.04	.02	.01	.01	.50	.29	.02	.08	2.04
C08A	.00	.00	.00	.00	.00	.00	.49	.11	.16	.06	.09	.10	.01	.01	.00	.00	.06	.05	.02	.31	.86	.08	.05	.11	2.59
C09A	.01	.01	.01	.01	.01	.01	.00	.77	.11	.11	.07	.07	.08	.01	.01	.01	.14	.05	.02	.13	.44	.09	.04	.01	2.20
C10A	.00	.00	.00	.00	.00	.00	.01	.56	.11	.11	.07	.12	.06	.02	.01	.06	.41	.04	.03	.01	.62	.05	.12	.12	2.53
C11A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C12A	.00	.00	.00	.00	.00	.01	.01	.22	.11	.15	.08	.16	.07	.01	.06	.12	.08	.09	.00	.11	.23	.06	.03	.05	1.66
ave	.00	.00	.00	.01	.01	.01	.09	.49	.12	.12	.07	.13	.05	.01	.02	.03	.09	.03	.02	.16	.43	.12	.05	.07	2.11

Table 3.1D. Cook Network: Daily Total Precipitation (Inches) for April 1975

DAY	C01B	C02A	C02B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11A	C12A
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.85	1.25	1.08	1.09	1.20	1.08	0.95	1.02	0.94	0.92	0.69	0.71	0.73
3	0.07	0.06	0.15	0.26	0.11	0.18	0.12	0.11	0.06	0.04	0.04	(0.12)	0.11
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	2.29	1.50	1.63	1.52	1.51	1.57	1.69	1.87	1.81	1.39	1.42	1.48	1.36
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.10	0.08	0.08	0.06	0.08	0.07	0.07	0.08	0.08	0.08	0.07	0.07	0.10
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.63	0.86	0.88	0.88	0.40	0.41	0.79	0.62	0.37	0.41	0.57	0.60	0.48
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.72	0.91	0.82	0.76	0.93	0.83	0.74	0.72	0.82	0.82	0.77	0.65	0.86
28	0.37	0.30	0.23	0.26	0.37	0.30	0.28	0.23	0.34	0.29	0.41	0.37	0.30
29	0.10	0.06	0.06	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.16	0.05	0.06	0.04	0.06	0.05	0.06	0.07	0.04	0.04	0.08	0.10	0.09
Tot	5.29	5.07	4.99	4.88	4.68	4.49	4.70	4.72	4.46	3.90	4.05	(4.10)	4.03



Table 3.2D. Cook Network  
Greatest precipitation received in a given period for  
April 1975

Station	1-Hour			3-Hour			6-Hour			12-Hour			24-Hour		
	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time
	(in.)	began		(in.)	began		(in.)	began		(in.)	began		(in.)	began	
C01B	0.43	18	1200	1.01	18	1600	1.59	18	1500	2.16	18	1100	2.29	18	0700
C02A	0.55	23	2200	0.66	23	2100	1.00	18	1500	1.35	18	1000	1.50	18	0700
C02B	0.59	23	2200	0.71	18	1600	1.10	18	1500	1.46	18	1100	1.63	18	0600
C03A	0.60	23	2200	0.72	18	1600	1.08	18	1600	1.35	18	1100	1.52	18	0600
C04A	0.38	18	1600	0.69	18	1600	1.03	18	1500	1.37	18	1000	1.51	18	0700
C05A	0.32	18	1800	0.72	18	1600	1.11	18	1600	1.46	18	1100	1.57	18	0600
C06A	0.50	23	2200	0.93	18	1600	1.19	18	1600	1.57	18	1000	1.69	18	0600
C07A	0.49	18	1700	0.98	18	1700	1.38	18	1600	1.73	18	1100	1.87	18	0600
C08A	0.35	18	1900	0.89	18	1700	1.25	18	1600	1.67	18	1100	1.81	18	0600
C09A	0.19	18	1700	0.54	18	1700	0.82	18	1600	1.18	18	1100	1.30	18	0700
C10A	0.29	18	1700	0.59	18	1700	0.86	18	1600	1.32	18	1100	1.42	18	0600
C11A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C12A	0.28	18	1700	0.56	18	1700	0.83	18	1600	1.22	18	1100	1.36	18	0600

Table 3.3D Cook Network:  
Precipitation accumulated in each hour (EST) for  
April 1975

	Precipitation (inches) accumulated in each hour interval ending at																								
Sta	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	Total
C01B	.02	.03	.10	.28	.00	.01	.04	.13	.21	.14	.07	.59	.08	.06	.38	.58	.61	.79	.23	.25	.11	.38	.18	.03	5.29
C02A	.03	.11	.08	.10	.01	.01	.05	.16	.22	.06	.13	.29	.07	.14	.32	.56	.52	.58	.29	.26	.17	.71	.16	.04	4.98
C02B	.02	.04	.08	.04	.10	.01	.05	.16	.18	.10	.24	.26	.09	.05	.31	.56	.65	.54	.23	.24	.13	.75	.12	.04	4.87
C03A	.05	.12	.08	.08	.04	.02	.01	.18	.23	.16	.10	.31	.09	.06	.15	.43	.72	.47	.25	.23	.17	.70	.15	.08	4.69
C04A	.04	.11	.11	.16	.01	.02	.05	.12	.21	.14	.20	.27	.07	.11	.35	.59	.45	.62	.31	.22	.14	.18	.13	.07	4.50
C05A	.07	.13	.08	.17	.03	.00	.01	.13	.18	.14	.12	.26	.11	.06	.18	.43	.64	.70	.36	.19	.16	.20	.10	.05	4.69
C06A	.03	.10	.05	.14	.02	.01	.02	.08	.17	.16	.10	.35	.07	.11	.23	.46	.62	.66	.27	.16	.17	.57	.09	.04	4.73
C07A	.02	.07	.06	.05	.05	.02	.01	.11	.24	.12	.09	.35	.15	.05	.13	.34	.89	.57	.56	.17	.15	.35	.14	.03	4.47
C08A	.01	.05	.04	.25	.01	.01	.02	.11	.17	.11	.17	.30	.11	.06	.21	.34	.75	.62	.49	.17	.16	.20	.08	.03	3.91
C09A	.01	.15	.06	.08	.01	.11	.01	.06	.22	.17	.17	.27	.07	.08	.22	.29	.45	.39	.34	.22	.25	.22	.11	.04	4.05
C10A	.02	.08	.07	.22	.00	.00	.00	.11	.17	.15	.09	.44	.14	.10	.16	.24	.59	.32	.35	.16	.12	.39	.09	.02	4.03
C11A	.01	.07	.06	.20	.08	.02	.03	.05	.15	.14	.16	.29	.20	.11	.12	.27	.41	.40	.32	M	M	M	M	M	M
C12A	.04	.13	.06	.14	.03	.00	.01	.05	.14	.13	.14	.37	.06	.11	.19	.37	.63	.37	.31	.13	.13	.27	.16	.04	4.03
ave	.03	.09	.07	.15	.03	.01	.02	.11	.19	.13	.14	.34	.10	.08	.23	.42	.61	.54	.33	.20	.15	.41	.13	.04	4.56

Table 3.1E. Cook Network: Daily Total Precipitation (Inches) for May 1975

DAY	C01B	C02A	C02B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11A	C12A
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.11	0.11	0.12	0.10	0.11	0.10	0.10	0.11	0.13	0.12	0.12	0.14	0.08
4	0.00	0.02	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.02
5	0.53	0.25	M	0.19	0.05	0.02	0.23	0.58	0.32	0.06	0.38	0.23	0.05
6	0.48	0.32	M	0.35	0.23	0.34	0.31	0.62	0.31	0.30	0.45	1.01	0.35
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.10	0.09	M	0.08	0.09	0.10	0.07	0.11	0.13	0.08	0.13	0.10	0.10
12	0.02	0.00	M	0.03	0.01	0.01	0.05	0.03	0.04	0.02	0.03	0.04	0.03
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.13	0.10	0.11	0.13	0.14	0.06	0.08	0.06	0.03	0.00	0.00	0.00	0.00
15	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	1.21	*	0.72	0.60	0.48	0.50	0.67	0.76	0.72	0.77	1.17	1.22	0.91
21	0.15	*	0.17	0.21	0.17	0.26	0.26	0.24	0.36	0.37	0.36	0.34	0.51
22	0.03	*	0.02	0.02	0.01	0.01	0.03	0.01	0.04	0.04	*	0.03	0.04
23	0.00	*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	*	0.00	0.00
24	0.07	*	0.12	0.06	0.13	0.14	0.05	0.06	0.07	0.10	*	0.07	0.08
25	0.38	*	0.24	0.37	0.23	0.41	0.27	0.30	0.32	0.34	*	0.83	1.04
26	0.16	*	0.00	0.00	0.00	0.02	0.01	0.05	0.00	0.01	(0.77)	0.10	0.00
27	0.00	*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.07
30	1.10	*	1.50	1.52	1.51	1.33	1.17	1.20	1.24	(1.19)	1.35	1.18	1.31
31	0.02	(2.43)	0.02	0.03	0.03	0.03	0.05	0.02	0.00	0.01	0.02	0.00	0.02
Tot	4.50	(3.32)	M	3.71	3.20	3.34	3.36	4.16	3.72	(3.40)	(4.77)	5.41	4.61

Table 3.2E. Cook Network  
Greatest precipitation received in a given period for  
May 1975

Station	1-Hour			3-Hour			6-Hour			12-Hour			24-Hour		
	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time
	(in.)	began		(in.)	began		(in.)	began		(in.)	began		(in.)	began	
C01B	0.53	20	2000	0.97	20	1900	1.21	20	1800	1.21	20	1700	1.33	20	1700
C02A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C02B	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C03A	0.90	30	1500	1.21	30	1500	1.51	30	1500	1.52	30	1500	1.55	30	1500
C04A	0.90	30	1600	1.19	30	1600	1.51	30	1500	1.51	30	1500	1.53	30	1500
C05A	0.76	30	1600	1.10	30	1500	1.32	30	1500	1.33	30	1500	1.35	30	1500
C06A	0.73	30	1600	1.00	30	1500	1.16	30	1500	1.17	30	1500	1.21	30	1500
C07A	0.87	30	1600	1.14	30	1600	1.20	30	1600	1.20	30	1600	1.22	30	1600
C08A	0.77	30	1600	1.01	30	1600	1.23	30	1500	1.24	30	1300	1.24	30	0100
C09A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C10A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C11A	0.81	30	1600	1.15	30	1600	1.22	20	1800	1.23	5	1900	1.42	20	1900
C12A	0.68	30	1500	1.08	30	1500	1.28	30	1400	1.30	30	0800	1.38	29	2100

Table 3.3E Cook Network:  
Precipitation accumulated in each hour (EST) -for  
May 1975

Sta	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	Total
C01B	.24	.02	.10	.07	.07	.02	.04	.04	.02	.03	.07	.01	.06	.06	.57	.46	.06	.64	.30	.57	.29	.10	.20	.45	4.49
C02A	.24	.02	.10	.07	.07	.02	.04	.04	.02	.03	.07	.01	.06	.06	.57	.46	.06	.64	.30	.57	.29	.10	.20	.45	4.49
C02B	.24	.02	.10	.07	.07	.02	.04	.04	.02	.03	.07	.01	.06	.06	.57	.46	.06	.64	.30	.57	.29	.10	.20	.45	4.49
C03A	.07	.02	.11	.12	.08	.01	.02	.02	.01	.01	.00	.01	.07	.02	.91	.55	.13	.51	.29	.16	.14	.11	.14	.23	3.72
C04A	.01	.01	.06	.10	.07	.01	.01	.01	.00	.00	.00	.03	.07	.02	.28	1.03	.12	.53	.26	.14	.11	.15	.06	.11	3.20
C05A	.02	.06	.06	.15	.04	.03	.01	.01	.01	.01	.01	.04	.07	.02	.35	1.08	.13	.54	.26	.13	.09	.09	.06	.08	3.34
C06A	.09	.04	.03	.11	.11	.02	.02	.02	.02	.02	.01	.03	.11	.06	.25	.90	.11	.35	.23	.16	.26	.04	.09	.30	3.37
C07A	.22	.03	.17	.13	.06	.04	.03	.03	.01	.01	.01	.02	.08	.04	.25	1.03	.28	.39	.27	.31	.17	.07	.13	.59	4.17
C08A	.09	.01	.03	.14	.08	.02	.01	.01	.01	.01	.01	.10	.09	.04	.23	.96	.19	.54	.23	.22	.22	.06	.05	.39	3.73
C09A	.03	.05	.02	.13	.08	.01	.01	.01	.02	.02	.01	.01	.01	.01	.01	.01	.15	.51	.37	.25	.12	.04	.04	.09	.01
C10A	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
C11A	.54	.08	.10	.14	.10	.09	.00	.09	.01	.01	.01	.02	.14	.05	.35	1.21	.21	.73	.44	.33	.25	.19	.04	.27	5.41
C12A	.08	.02	.03	.16	.06	.04	.02	.03	.02	.02	.01	.01	.17	.16	.68	.66	.65	.43	.70	.27	.23	.04	.04	.09	4.62
ave	.14	.03	.07	.13	.07	.03	.02	.03	.01	.01	.01	.03	.10	.05	.41	.88	.20	.52	.33	.25	.19	.09	.08	.26	3.95

Table 3.1F. Cook Network: Daily Total Precipitation (Inches) for June 1975

DAY	C01B	C02A	C02B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11A	C12A
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.16	0.09	0.12	0.12	0.12	0.14	0.11	0.06	0.11	0.16	0.11	0.10	0.16
4	0.34	0.30	0.32	0.30	0.20	0.26	0.26	0.32	0.20	0.12	0.11	0.18	0.08
5	0.00	0.00	0.00	0.01	0.10	0.04	0.05	0.00	0.05	0.10	0.06	0.02	0.08
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.22	0.18	0.20	0.19	0.22	0.21	0.18	0.21	0.21	0.22	0.29	0.27	0.33
12	0.00	0.00	M	0.00	0.00	0.03	0.00	0.00	0.00	0.04	0.00	0.00	0.05
13	0.41	0.39	M	0.36	0.32	0.29	0.34	0.34	0.37	0.40	0.35	0.26	0.42
14	0.27	0.32	M	0.29	0.33	0.32	0.28	0.30	0.34	0.31	0.34	0.31	0.36
15	0.85	0.78	M	0.95	0.93	1.01	1.02	1.33	1.23	1.21	1.83	1.35	1.31
16	0.00	0.00	M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.35	0.31	M	0.41	0.35	0.43	0.52	0.41	0.46	0.28	0.27	0.30	0.18
18	0.00	0.00	M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.04	M	M	0.00	0.00	0.04	0.40	0.19	0.26	0.11	0.04	0.07	0.00
23	0.21	M	M	0.21	0.10	0.12	0.10	0.09	0.07	0.06	0.04	0.01	0.00
24	0.00	0.00	M	0.05	0.04	0.01	0.02	0.00	0.03	0.07	0.01	*	0.08
25	0.18	0.46	M	0.36	0.02	0.07	0.73	0.22	0.57	0.88	0.47	(0.15)	0.30
26	0.00	0.00	M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot	3.03	M	M	3.25	2.73	2.97	4.01	3.47	3.90	3.96	3.92	(3.02)	3.35

Table 3.2F. Cook Network  
Greatest precipitation received in a given period for  
June 1975

Station	1-Hour			3-Hour			6-Hour			12-Hour			24-Hour		
	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time
	(in.)	began		(in.)	began		(in.)	began		(in.)	began		(in.)	began	
C01B	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C02A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C02B	0.38	18	1500	0.50	16	0100	0.56	15	2300	0.91	16	0100	1.21	15	1700
C03A	0.43	16	0200	0.60	16	0200	0.62	16	0200	0.94	15	1700	1.24	15	1700
C04A	0.37	16	0200	0.61	16	0200	0.63	15	2400	0.97	16	0100	1.29	15	1500
C05A	0.72	26	1200	0.72	26	1000	0.72	26	0700	0.92	16	0200	1.23	15	1700
C06A	0.47	16	0200	0.67	16	0100	0.72	16	0100	1.29	16	0100	1.60	15	1700
C07A	0.46	26	1300	0.72	16	0200	0.74	15	2300	1.19	16	0100	1.54	15	1700
C08A	0.86	26	1200	0.87	26	1000	0.87	26	0700	1.16	16	0100	1.48	15	1700
C09A	0.53	16	1000	0.94	16	1000	0.94	16	0700	1.76	16	0100	2.11	15	1700
C10A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C11A	0.46	16	1100	0.67	16	0200	0.72	15	2400	1.27	16	0200	1.66	15	1800
C12A	0.89	26	1200	1.50	26	1100	1.60	26	1000	1.60	26	0400	1.60	25	1700

Table 3.3F. Cook Network:  
Precipitation accumulated in each hour (EST) for  
June 1975

Precipitation (inches) accumulated in each hour interval ending at																										
Sta	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	Total	
C01B	.10	.28	.09	.09	.10	.02	.08	.06	.05	.38	.16	.16	.00	.03	.33	.03	.07	.10	.14	.01	.32	.34	.03	.03	3.03	
C02A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
C02B	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
C03A	.09	.33	.09	.18	.07	.03	.07	.09	.07	.32	.11	.36	.01	.03	.39	.01	.08	.11	.11	.01	.39	.25	.04	.01	3.25	
C04A	.00	.44	.11	.10	.10	.05	.16	.11	.08	.14	.10	.05	.00	.22	.14	.01	.09	.13	.13	.02	.33	.17	.05	.02	2.74	
C05A	.01	.37	.19	.13	.04	.04	.09	.13	.09	.17	.20	.06	.30	.13	.31	.03	.05	.15	.11	.06	.32	.14	.07	.04	2.96	
C06A	.01	.33	.13	.14	.05	.03	.12	.08	.06	.18	.17	.77	.01	.31	.45	.19	.06	.10	.11	.07	.28	.24	.09	.01	4.00	
C07A	.11	.47	.09	.09	.03	.04	.09	.07	.14	.51	.09	.13	.10	.03	.40	.17	.08	.13	.13	.04	.21	.30	.04	.00	3.50	
C08A	.02	.39	.27	.07	.05	.05	.12	.08	.08	.17	.29	.13	.47	.02	.44	.27	.08	.17	.11	.04	.22	.25	.11	.03	3.92	
C09A	.03	.42	.22	.10	.04	.08	.16	.10	.08	.21	.21	.89	.00	.07	.22	.10	.09	.13	.12	.06	.27	.17	.16	.04	3.96	
C10A	.05	.48	.21	.09	.03	.04	.12	.10	.09	.62	.39	.31	.21	.06	.23	.05	.11	.15	.11	.04	.21	.16	.06	.02	3.93	
C11A	M	M	M	M	M	M	M	M	M	M	M	M	M	.01	.29	.06	.05	.14	.12	.06	M	M	M	M	M	
C12A	.01	.17	.37	.13	.06	.07	.16	.14	.09	.07	.49	.38	.02	.05	.10	.01	.02	.12	.13	.14	.07	.31	.16	.08	3.36	
ave	.04	.37	.18	.11	.06	.05	.12	.10	.08	.28	.22	.32	.08	.09	.30	.08	.07	.13	.12	.05	.26	.23	.08	.03	3.45	



Table 3.1G. Cook Network: Daily Total Precipitation (Inches) for July 1975

DAY	C01B	C02A	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11A	C12A
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.05	0.00	0.00	0.00	0.00	0.00	0.11	0.01	0.00	0.09	M	0.06
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	M	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	M	0.00
9	0.05	*	0.14	0.09	0.03	0.06	0.07	0.11	0.01	0.16	M	0.05
10	0.00	*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	M	0.00
11	0.16	*	0.16	0.15	0.27	0.19	0.20	0.24	0.29	0.59	M	0.29
12	0.39	*	0.05	0.02	0.05	0.05	0.04	0.06	0.08	0.09	M	0.18
13	0.24	*	0.67	0.28	0.50	0.85	0.57	1.10	0.53	0.52	M	0.26
14	0.19	(0.82)	0.21	0.22	0.21	0.28	0.25	0.22	0.24	0.17	M	0.16
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	M	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	M	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	M	0.00
18	0.28	0.21	0.21	0.26	0.24	0.22	0.32	0.26	0.25	0.31	M	0.38
19	0.56	0.32	0.57	0.46	0.92	0.40	0.39	0.54	0.75	0.53	M	0.25
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	M	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	M	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	M	0.00
23	0.07	0.02	0.04	0.06	0.05	0.05	0.08	0.05	0.05	0.06	M	0.03
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	M	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	M	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	M	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	M	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	M	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	M	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	M	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	M	0.00
Tot	1.99	(1.37)	2.05	1.54	2.27	2.10	2.03	2.59	2.20	2.52	M	1.66

Table 3.2G. Cook Network  
Greatest precipitation received in a given period for  
July 1975

Station	1-Hour			3-Hour			6-Hour			12-Hour			24-Hour		
	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time
	(in.)	began		(in.)	began		(in.)	began		(in.)	began		(in.)	began	
C01B	0.27	19 0800		0.53	19 0700		0.56	19 0500		0.56	19 0400		0.81	18 1000	
C02A	M	M M		M	M M		M	M M		M	M M		M	M M	
C03A	0.51	19 0800		0.62	13 2000		0.65	13 1800		0.67	13 1500		0.88	13 1500	
C04A	0.35	19 0800		0.43	19 0800		0.46	19 0600		0.46	19 0400		0.67	18 1000	
C05A	0.82	19 0800		0.89	19 0800		0.92	19 0600		0.92	19 0400		1.11	18 1000	
C06A	M	M M		M	M M		M	M M		M	M M		M	M M	
C07A	0.34	13 2100		0.54	13 2000		0.56	13 1700		0.62	13 2100		0.83	13 1500	
C08A	0.70	13 2100		1.05	13 2000		1.10	13 1800		1.12	13 1800		1.32	13 1800	
C09A	0.69	19 0800		0.74	19 0800		0.75	19 0800		0.75	19 0800		0.96	18 1000	
C10A	0.49	19 0800		0.53	19 0800		0.58	11 1700		0.59	11 1700		0.82	18 1000	
C11A	M	M M		M	M M		M	M M		M	M M		M	M M	
C12A	0.18	19 0800		0.33	18 1000		0.37	18 1000		0.38	18 0700		0.61	18 1000	

Table 3.3C Cook Network:  
Precipitation accumulated in each hour (EST) for  
March 1975

Precipitation (inches) accumulated in each hour interval ending at																										
Sta	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	Total	
C01B	.18	.30	.12	.10	.11	.12	.10	.05	.09	.06	.06	.01	.01	.04	.09	.09	.03	.03	.08	.11	.14	.05	.16	.22	2.35	
C02A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
C02B	.18	.20	.16	.13	.07	.13	.09	.08	.06	.08	.06	.08	.01	.01	.07	.10	.06	.07	.08	.11	.18	.06	.11	.14	2.30	
C03A	.18	.18	.16	.10	.09	.17	.07	.10	.07	.08	.05	.09	.02	.02	.05	.08	.07	.08	.08	.09	.15	.06	.09	.12	2.26	
C04A	.18	.14	.13	.12	.11	.14	.08	.08	.05	.08	.04	.02	.00	.03	.09	.07	.06	.07	.08	.09	.16	.10	.13	.17	2.21	
C05A	.15	.17	.24	.11	.03	.14	.13	.07	.06	.09	.05	.06	.03	.02	.05	.10	.05	.08	.05	.06	.17	.08	.14	.18	2.34	
C06A	.16	.16	.18	.14	.09	.13	.07	.06	.06	.07	.08	.02	.03	.03	.05	.09	.06	.03	.05	.08	.15	.06	.10	.14	2.08	
C07A	.23	.12	.15	.17	.13	.08	.11	.05	.04	.06	.06	.06	.01	.01	.05	.06	.08	.03	.07	.06	.14	.09	.11	.15	2.10	
C08A	.17	.12	.17	.16	.11	.15	.09	.06	.05	.08	.06	.02	.02	.02	.06	.06	.06	.06	.06	.10	.18	.13	.12	.13	2.23	
C09A	.22	.19	.27	.12	.07	.17	.08	.06	.05	.06	.12	.04	.02	.01	.04	.04	.04	.07	.05	.07	.09	.09	.12	.16	2.29	
C10A	.19	.19	.40	.16	.08	.09	.12	.09	.03	.04	.04	.03	.02	.03	.04	.04	.04	.05	.05	.08	.14	.08	.12	.16	2.32	
C11A	.23	.13	.32	.30	.12	.09	.11	.10	.05	.05	.07	.04	.03	.02	.01	.04	.05	.05	.03	.06	.11	.15	.10	.15	2.41	
C12A	.24	.16	.36	.23	.12	.10	.15	.10	.06	.07	.07	.05	.03	.00	.04	.05	.05	.04	.06	.07	.12	.09	.15	.15	2.56	
ave	.19	.17	.22	.15	.10	.13	.10	.07	.05	.07	.06	.04	.02	.02	.05	.07	.05	.06	.06	.08	.14	.09	.12	.16	2.29	

Table 3.1H. Cook Network: Daily Total Precipitation (Inches) for August 1975

DAY	C01B	C02A	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11B	C12A
1	0.00	0.00	0.00	0.00	0.03	0.00	0.01	0.03	0.02	0.09	0.00	0.00
2	1.14	0.90	0.85	0.81	0.64	0.56	0.52	0.60	0.63	0.70	0.67	0.84
3	0.07	0.16	0.23	0.53	0.90	0.36	0.15	0.45	0.92	0.21	0.09	0.36
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.44	0.16	0.15	0.21	0.16	0.23	0.33	0.21	0.08	0.10	0.28	0.14
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	*	0.01	0.03	0.02	0.03	0.03	0.04
11	0.05	0.04	0.02	0.00	0.00	(0.05)	0.06	0.02	0.00	0.02	0.03	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.05	0.08	0.07	0.05	0.07	0.02	0.04	0.05	0.11	0.11	0.14	0.17
16	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.02	0.01	0.01	0.00	0.00
17	0.01	0.01	0.01	0.00	0.00	0.02	0.00	0.01	0.01	0.01	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.08	0.27	0.25	0.23	0.22	0.23	0.12	0.23	0.21	0.24	0.15	0.30
21	0.85	0.82	0.92	0.76	0.83	0.79	0.71	0.76	0.74	0.82	0.58	0.60
22	1.87	*	0.76	0.45	0.24	0.72	1.25	0.76	0.42	0.65	1.14	0.73
23	0.70	*	0.94	0.34	0.11	0.71	1.33	0.76	0.35	1.00	0.58	0.39
24	0.00	*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	(1.95)	0.01	0.03	0.05	0.02	0.02	0.06	0.07	0.07	0.06	0.13
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.33	*	0.65	0.49	0.38	0.52	0.39	0.34	0.39	0.68	0.66	0.29
29	0.52	*	0.26	0.35	0.16	0.30	0.18	0.23	0.35	0.31	0.22	0.35
30	0.90	*	1.42	1.55	1.47	1.58	1.20	1.85	1.59	1.86	1.29	1.39
31	0.14	(2.66)	0.08	0.07	0.08	0.10	0.10	0.10	0.07	0.06	0.10	0.05
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Tot	7.17	(7.07)	6.63	5.87	5.34	(6.21)	6.42	5.51	5.99	6.97	6.02	5.78

Table 3.2H. Cook Network  
Greatest precipitation received in a given period for  
August 1975

Station	1-Hour			3-Hour			6-Hour			12-Hour			24-Hour		
	amt. (in.)	day began	time	amt. (in.)	day began	time	amt. (in.)	day began	time	amt. (in.)	day began	time	amt. (in.)	day began	time
C01B	1.47	22	0400	1.77	22	0300	1.86	22	0200	2.59	21	2000	2.62	21	1400
C02A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C03A	0.71	23	0200	0.94	23	0100	1.18	30	0600	1.60	21	2000	1.70	22	0300
C04A	0.48	30	0700	1.02	30	0600	1.37	30	0600	1.42	30	0600	1.61	30	0600
C05A	0.54	21	2100	0.97	30	0600	1.32	30	0600	1.36	30	0600	1.53	30	0500
C06A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C07A	1.33	23	0200	1.33	23	0200	1.33	23	0200	1.89	21	2100	2.56	22	0300
C08A	0.61	22	0500	1.27	30	0500	1.58	30	0500	1.61	29	2300	1.90	30	0500
C09A	0.39	30	0600	0.82	30	0600	1.09	30	0500	1.30	30	0600	1.66	30	0400
C10A	0.81	23	0200	1.14	30	0500	1.44	30	0500	1.49	30	0400	1.87	30	0400
C11B	0.97	22	0500	1.09	22	0400	1.13	22	0200	1.68	21	2100	1.68	21	2100
C12A	0.60	22	0500	0.79	30	0500	1.01	30	0500	1.28	21	2100	1.39	30	0500

Table 3.3H. Cook Network:  
Precipitation accumulated in each hour (EST) for  
August 1975

Sta	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	Total
C01B	.48	.77	.28	1.52	.23	.21	.18	.08	.44	.22	.10	.24	.04	.04	.40	.27	.08	.11	.09	.66	.25	.38	.05	.07	7.18
C02A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C03A	.45	.78	.33	.18	.57	.40	.37	.19	.20	.23	.23	.08	.09	.31	.02	.05	.13	.18	.05	.21	.61	.69	.18	.08	6.62
C04A	.35	.42	.43	.19	.32	.41	.55	.28	.16	.15	.17	.14	.11	.26	.11	.04	.09	.15	.07	.11	.48	.67	.11	.09	5.87
C05A	.77	.04	.40	.18	.11	.57	.49	.16	.17	.19	.09	.06	.09	.12	.03	.01	.11	.17	.09	.26	.66	.34	.20	.06	5.36
C06A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C07A	.15	1.33	.04	.35	1.05	.23	.14	.36	.19	.13	.12	.20	.11	.02	.21	.12	.05	.18	.07	.07	.64	.49	.08	.07	6.42
C08A	.27	.60	.45	.27	1.09	.79	.33	.14	.18	.10	.16	.05	.07	.02	.04	.01	.21	.17	.05	.09	.88	.30	.17	.05	6.50
C09A	.66	.38	.53	.31	.54	.59	.27	.25	.08	.08	.09	.04	.04	.01	.04	.07	.34	.13	.08	.13	.42	.37	.45	.11	5.99
C10A	.51	.89	.10	.16	1.02	.61	.46	.13	.20	.09	.09	.24	.00	.01	.11	.08	.15	.22	.07	.12	.75	.31	.07	.56	6.97
C11B	.19	.52	.17	.24	1.28	.35	.19	.14	.10	.07	.22	.34	.02	.00	.40	.01	.11	.10	.06	.13	.56	.28	.07	.48	6.03
C12A	.42	.35	.09	.38	.99	.60	.31	.08	.12	.15	.30	.15	.05	.01	.05	.09	.23	.13	.05	.17	.44	.35	.17	.10	5.78
ave	.43	.61	.28	.38	.72	.48	.33	.18	.18	.14	.16	.15	.06	.08	.14	.07	.15	.16	.07	.19	.57	.42	.16	.17	6.27

Table 3.11. Cook Network: Daily Total Precipitation (Inches) for Sept 1975

DAY	C01B	C02A	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11B	C12A
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.48	0.36	0.36	0.34	0.43	0.36	0.36	0.34	0.45	0.39	0.32	0.49
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.02	0.00	0.00	0.01	0.04	0.00	0.00	0.02	0.02	0.01	0.02	0.04
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.35	*	0.31	0.30	0.40	0.47	0.56	0.59	0.40	0.45	0.40	0.37
20	0.00	*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
21	0.00	(0.28)	0.03	0.03	0.00	0.02	0.03	0.05	0.02	0.06	0.09	0.06
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.13	0.15	0.14	0.16	0.13	0.14	0.16	0.17	0.24	0.22	0.15	0.24
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.21	0.14	0.24	0.23	0.33	0.33	0.30	0.29	0.29	0.19	0.19	0.11
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot	1.19	(0.93)	1.08	1.07	1.33	1.32	1.41	1.46	1.42	1.34	1.17	1.31

Table 3.2I. Cook Network  
Greatest precipitation received in a given period for  
Sept. 1975

Station	1-Hour			3-Hour			6-Hour			12-Hour			24-Hour		
	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time
	(in.)	began		(in.)	began		(in.)	began		(in.)	began		(in.)	began	
C01B	0.21	5 0800		0.30	5 0600		0.38	5 0600		0.47	5 0600		0.48	5 0400	
C02A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C03A	0.23	29 1600		0.24	29 1400		0.28	5 0600		0.34	5 0600		0.36	5 0600	
C04A	0.20	29 1600		0.23	29 1400		0.28	5 0500		0.34	5 0500		0.34	5 0500	
C05A	0.16	29 1600		0.32	29 1400		0.33	29 1300		0.42	5 0500		0.43	5 0400	
C06A	0.31	29 1600		0.32	29 1400		0.33	29 1300		0.42	19 0500		0.47	19 0300	
C07A	0.27	29 1600		0.30	29 1600		0.31	5 0600		0.48	19 0500		0.56	19 0300	
C08A	0.23	29 1600		0.28	29 1400		0.29	29 1300		0.52	19 0500		0.59	19 0300	
C09A	0.23	29 1600		0.28	29 1400		0.32	5 0800		0.45	5 0500		0.45	5 0500	
C10A	0.11	19 0700		0.23	19 0500		0.28	19 0500		0.39	5 0500		0.45	19 0300	
C11B	0.14	29 1600		0.19	29 1600		0.27	5 0500		0.32	5 0500		0.40	19 0300	
C12A	0.16	5 1300		0.20	19 0500		0.34	5 0800		0.49	5 0500		0.49	5 0500	



Table 3.3I. Cook Network:  
Precipitation accumulated in each hour (EST) for  
Sept. 1975

	Precipitation (inches) accumulated in each hour interval ending at																								
Sta	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	Total
C01B	.00	.00	.00	.02	.03	.15	.11	.25	.07	.02	.01	.11	.05	.05	.07	.17	.06	.02	.00	.01	.00	.00	.00	.00	1.20
C02A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C03A	.00	.00	.00	.01	.06	.18	.11	.14	.07	.01	.01	.01	.08	.02	.06	.25	.02	.02	.01	.02	.01	.01	.01	.00	1.08
C04A	.00	.01	.01	.03	.06	.18	.11	.15	.09	.01	.01	.02	.06	.01	.05	.22	.03	.03	.00	.00	.00	.00	.00	.00	1.08
C05A	.00	.02	.02	.02	.07	.19	.10	.10	.06	.01	.01	.05	.19	.04	.21	.18	.02	.01	.00	.01	.00	.00	.00	.00	1.34
C06A	.00	.00	.00	.01	.06	.19	.15	.17	.04	.02	.01	.11	.05	.01	.08	.33	.02	.02	.00	.01	.01	.00	.00	.00	1.31
C07A	.00	.00	.02	.01	.03	.21	.17	.09	.13	.07	.03	.07	.06	.02	.06	.32	.06	.02	.01	.01	.00	.00	.00	.00	1.41
C08A	.02	.00	.01	.01	.11	.20	.16	.14	.05	.05	.06	.10	.04	.01	.14	.27	.05	.04	.00	.01	.00	.00	.00	.00	1.47
C09A	.02	.00	.00	.02	.05	.18	.23	.12	.05	.02	.02	.10	.12	.03	.09	.29	.03	.03	.01	.00	.00	.00	.00	.00	1.43
C10A	.00	.01	.01	.00	.08	.27	.20	.10	.08	.02	.02	.04	.11	.02	.14	.09	.06	.06	.02	.01	.00	.00	.00	.00	1.35
C11B	.00	.02	.01	.02	.08	.20	.12	.11	.07	.01	.01	.02	.05	.01	.07	.16	.09	.05	.05	.01	.00	.00	.00	.00	1.17
C12A	.00	.04	.00	.01	.07	.27	.17	.12	.09	.01	.01	.03	.17	.01	.02	.12	.04	.05	.05	.03	.00	.00	.00	.00	1.31
ave	.00	.01	.01	.01	.06	.20	.15	.13	.07	.02	.02	.06	.09	.02	.09	.22	.04	.03	.02	.01	.00	.00	.00	.00	1.29

Table 3.1J. Cook Network: Daily Total Precipitation (Inches) For October 1975

DAY	C01B	C02A	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11B	C12A
1	0.03	0.02	0.02	0.08	0.08	0.03	0.02	0.03	0.01	0.05	0.03	0.01
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.01	0.02	0.02	0.01	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00
15	0.05	0.05	0.13	0.14	0.07	0.10	0.09	0.06	0.04	0.04	0.04	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.10	0.08	0.06	0.07	0.07	0.07	0.08	0.06	0.08	0.06	0.06	0.10
19	0.18	0.15	0.19	0.14	0.16	0.19	0.15	0.17	0.17	0.20	0.23	0.20
20	0.02	0.02	0.00	0.00	0.00	0.01	0.00	0.02	0.01	0.00	0.00	0.02
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.78	0.51	0.62	0.56	0.67	0.52	0.34	0.38	0.43	0.56	0.69	0.65
25	0.02	0.02	0.02	0.03	0.04	0.03	0.06	0.05	0.05	0.12	0.09	0.06
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot	1.19	0.87	1.06	1.03	1.12	0.97	0.75	0.78	0.79	1.03	1.14	1.04

Table 3.2J. Cook Network  
Greatest precipitation received in a given period for  
October 1975

Station	1-Hour		3-Hour		6-Hour		12-Hour		24-Hour	
	amt.	day time	amt.	day time	amt.	day time	amt.	day time	amt.	day time
	(in.)	began	(in.)	began	(in.)	began	(in.)	began	(in.)	began
C01B	0.40	24 2200	0.74	24 2200	0.75	24 2200	0.75	24 2200	0.79	24 0400
C02A	0.21	24 2300	0.48	24 2200	0.48	24 2200	0.49	24 2200	0.51	24 0400
C03A	0.35	24 2200	0.62	24 2200	0.64	24 2000	0.64	24 1400	0.64	24 0300
C04A	0.26	24 2300	0.56	24 2200	0.59	24 2200	0.59	24 2200	0.59	24 2200
C05A	0.43	24 2300	0.67	24 2200	0.70	24 2200	0.70	24 2200	0.70	24 2200
C06A	0.39	24 2300	0.51	24 2200	0.54	24 2200	0.54	24 2200	0.54	24 2200
C07A	0.25	24 2300	0.34	24 2200	0.39	24 2200	0.39	24 2200	0.39	24 2200
C08A	0.27	24 2300	0.42	24 2300	0.42	24 2300	0.42	24 2300	0.43	24 2300
C09A	0.35	24 2300	0.43	24 2300	0.47	24 2200	0.47	24 2200	0.47	24 2200
C10A	0.51	24 2400	0.62	24 2400	0.68	24 2300	0.68	24 2300	0.68	24 2300
C11B	0.61	24 2300	0.73	24 2300	0.75	24 2300	0.76	24 2300	0.76	24 2300
C12A	0.30	24 2200	0.65	24 2200	0.71	24 2200	0.71	24 2200	0.71	24 2200

Table 3.3J. Cook Network:  
Precipitation accumulated in each hour (EST) for  
October 1975

Precipitation (inches) accumulated in each hour interval ending at																										
Sta	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	Total	
C01B	.07	.02	.03	.02	.04	.01	.02	.02	.02	.02	.00	.00	.00	.00	.00	.00	.01	.04	.04	.01	.01	.41	.34	.05	1.19	
C02A	.06	.01	.01	.01	.03	.01	.01	.01	.01	.02	.01	.01	.01	.01	.01	.01	.01	.02	.02	.01	.01	.18	.23	.16	.86	
C03A	.16	.03	.01	.01	.01	.01	.01	.01	.01	.01	.01	.00	.00	.00	.00	.01	.01	.02	.05	.01	.01	.36	.23	.07	1.07	
C04A	.18	.03	.01	.01	.01	.01	.01	.01	.01	.01	.01	.00	.00	.00	.00	.00	.00	.03	.03	.01	.01	.30	.28	.07	1.02	
C05A	.10	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.02	.03	.01	.01	.25	.45	.10	1.11	
C06A	.13	.03	.01	.01	.01	.01	.01	.01	.01	.01	.01	.03	.00	.00	.01	.01	.01	.02	.05	.01	.01	.11	.40	.06	.97	
C07A	.13	.04	.02	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.02	.02	.01	.01	.04	.27	.08	.75	
C08A	.12	.02	.02	.02	.02	.01	.01	.01	.01	.00	.00	.00	.00	.00	.00	.00	.00	.03	.02	.00	.00	.00	.32	.13	.79	
C09A	.06	.04	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.00	.00	.00	.03	.02	.01	.01	.01	.00	.02	.36	.09	.78	
C10A	.11	.06	.03	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.03	.01	.02	.04	.01	.00	.00	.00	.08	.54	1.04	
C11B	.10	.03	.02	.02	.02	.02	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.02	.04	.03	.01	.01	.01	.64	.08	1.13	
C12A	.07	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.00	.00	.02	.02	.01	.04	.02	.00	.00	.30	.32	.10	1.04	
ave	.11	.03	.02	.01	.02	.01	.01	.01	.01	.01	.01	.01	.01	.00	.01	.01	.01	.03	.03	.01	.01	.17	.33	.13	.98	

Table 3.1K. Cook Network: Daily Total Precipitation (Inches) for November 1975

DAY	C01B	C02A	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11B	C12A
1	0.24	0.23	0.30	0.24	0.19	*	0.30	0.33	0.22	0.30	0.28	0.11
2	0.10	0.06	0.07	0.03	0.01	*	0.08	0.03	0.00	0.01	0.03	0.01
3	0.35	0.45	0.64	0.64	0.45	(1.00)	0.54	0.62	0.47	0.53	0.49	0.38
4	0.00	0.02	0.03	0.01	0.02	0.01	0.02	0.01	0.02	0.03	0.02	0.04
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.35	0.37	0.40	0.41	0.46	0.47	0.43	0.50	0.46	0.44	0.37	0.45
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.13	0.13	0.16	0.14	0.26	0.22	0.15	0.16	0.23	0.26	0.33	0.17
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.03	0.03	0.03	0.05	0.04	0.11	0.07	0.04	0.00	0.02	0.03
13	0.33	0.39	0.41	0.43	0.55	0.38	0.36	0.33	0.44	0.37	0.36	0.36
14	0.01	0.00	0.01	0.00	0.02	0.00	0.00	0.02	0.02	0.03	0.17	0.10
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.71	0.72	0.66	0.66	0.67	0.70	0.65	0.71	0.73	0.57	0.63	0.60
21	0.12	0.12	0.11	0.12	0.10	0.12	0.08	0.15	0.16	0.11	0.09	0.15
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.01	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.03	0.02
25	0.07	0.09	0.09	0.10	0.07	0.05	0.03	0.06	0.09	0.05	0.04	0.03
26	0.23	0.27	0.10	0.28	0.10	0.17	0.07	0.13	0.19	0.26	0.27	0.08
27	0.08	0.12	0.08	0.12	0.05	0.08	0.06	0.09	0.14	0.11	0.15	0.09
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.54	0.47	0.45	0.58	0.52	0.56	0.49	0.68	0.60	0.60	0.58	0.59
30	0.38	0.34	0.31	0.35	0.38	0.37	0.35	0.44	0.40	0.39	0.36	0.34
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Total	3.64	3.82	3.87	4.15	3.91	(4.17)	3.72	4.33	4.21	4.07	4.22	3.55

Table 3.2K. Cook Network  
Greatest precipitation received in a given period for  
November 1975

Station	1-Hour			3-Hour			6-Hour			12-Hour			24-Hour		
	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time
	(in.)	began		(in.)	began		(in.)	began		(in.)	began		(in.)	began	
C01B	0.19	29 0600		0.38	29 0500		0.60	20 0900		0.71	20 0900		0.86	29 0500	
C02A	0.23	29 0600		0.35	29 0500		0.66	20 0900		0.72	20 0900		0.76	20 0900	
C03A	0.19	29 0600		0.37	3 0500		0.58	3 0400		0.65	20 0900		0.70	20 0900	
C04A	0.23	29 0600		0.42	29 0500		0.60	3 0200		0.65	20 0800		0.83	29 0500	
C05A	0.21	30 0200		0.37	29 0500		0.51	20 0900		0.64	20 0900		0.84	29 0500	
C06A	M	M M		M	M M		M	M M		M	M M		M	M M	
C07A	0.21	29 0600		0.37	29 0500		0.58	20 0900		0.64	20 0900		0.78	29 0600	
C08A	0.24	3 0400		0.49	29 0500		0.63	20 0900		0.70	20 0900		1.03	29 0500	
C09A	0.23	29 0600		0.39	29 0600		0.68	20 0900		0.72	20 0900		0.98	29 0600	
C10A	0.22	29 0600		0.37	29 0500		0.48	20 0900		0.57	20 0900		0.96	29 0600	
C11B	0.28	10 0200		0.37	29 0500		0.53	20 1000		0.62	20 0900		0.87	29 0500	
C12A	0.19	29 0600		0.38	7 0300		0.53	20 0900		0.60	20 0900		0.87	29 0500	

Table 3.3K. Cook Network:  
Precipitation accumulated in each hour (EST) for  
November 1975

	Precipitation (inches) accumulated in each hour interval ending at																									
Sta	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	Total	
C01B	.21	.38	.12	.14	.40	.35	.16	.11	.18	.40	.24	.12	.36	.23	.06	.08	.06	.03	.03	.04	.06	.06	.07	.07	.10	3.64
C02A	.18	.32	.22	.33	.34	.39	.26	.07	.12	.30	.22	.15	.14	.22	.08	.07	.04	.02	.02	.03	.07	.07	.07	.10	3.83	
C03A	.09	.36	.23	.31	.56	.39	.36	.05	.13	.26	.25	.13	.13	.19	.05	.08	.03	.04	.02	.02	.05	.04	.04	.05	3.86	
C04A	.16	.44	.18	.38	.49	.39	.33	.02	.15	.19	.19	.17	.10	.19	.07	.17	.05	.04	.05	.06	.07	.08	.10	.09	4.16	
C05A	.07	.56	.21	.30	.56	.33	.16	.04	.13	.14	.19	.18	.08	.21	.09	.17	.08	.07	.02	.08	.04	.07	.07	.07	3.91	
C06A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
C07A	.07	.37	.25	.35	.43	.49	.28	.03	.17	.24	.16	.12	.25	.23	.08	.06	.05	.03	.01	.31	.05	.04	.09	.06	3.73	
C08A	.38	.46	.51	.40	.54	.48	.23	.01	.22	.22	.22	.10	.08	.28	.09	.06	.03	.05	.03	.04	.06	.07	.08	.04	4.36	
C09A	.23	.61	.35	.33	.35	.34	.27	.04	.17	.26	.21	.13	.10	.28	.05	.03	.03	.07	.02	.04	.04	.05	.11	.12	4.23	
C10A	.09	.66	.32	.38	.38	.40	.22	.06	.22	.21	.21	.09	.16	.14	.10	.06	.03	.04	.02	.05	.05	.06	.14	.07	4.08	
C11B	.12	.64	.29	.47	.40	.34	.20	.08	.16	.21	.20	.18	.11	.19	.06	.05	.05	.05	.02	.04	.09	.08	.13	.08	4.23	
C12A	.06	.50	.23	.31	.36	.34	.16	.04	.17	.18	.30	.13	.13	.15	.05	.06	.02	.02	.04	.04	.03	.06	.07	.06	3.53	
ave	.12	.48	.26	.34	.44	.39	.24	.05	.17	.24	.22	.14	.09	.21	.07	.08	.04	.04	.03	.04	.06	.06	.09	.07	3.96	

Table 3.11. Cook Network: Daily Total Precipitation (Inches) for December 1975

DAY	C01B	C02A	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11B	C12A
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.84	0.89	0.98	0.76	0.78	1.06	0.96	0.95	0.63	0.49	0.69	0.34
6	0.26	0.37	0.32	0.36	0.39	0.30	0.31	0.22	0.21	0.35	0.29	0.43
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.28	0.31	0.29	0.33	0.21	0.30	0.27	0.25	0.24	0.26	0.28	0.21
9	0.13	0.13	0.14	0.14	0.07	0.13	0.10	0.15	0.15	0.15	0.13	0.15
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.01
13	0.22	0.23	0.34	0.36	0.23	0.30	0.26	0.19	0.31	0.22	0.21	0.25
14	0.74	0.93	0.95	0.91	0.97	0.95	0.92	1.07	1.12	1.10	1.14	1.31
15	0.07	0.01	0.03	0.09	0.11	0.07	0.04	0.07	0.07	0.08	0.05	0.07
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
17	0.07	0.00	0.04	0.05	0.02	0.04	0.05	0.03	0.05	0.02	0.06	0.07
18	0.01	0.00	0.00	0.03	0.00	0.01	0.01	0.00	0.01	0.00	0.04	0.01
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.06	0.06	0.06	0.10	0.07	0.10	0.07	0.09	0.12	0.10	0.08	0.13
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.03	0.00	0.03	0.02	0.00	0.01	0.03	0.00	0.00	0.02	0.01
24	0.02	0.00	0.01	0.02	0.02	0.01	0.01	0.00	0.01	0.01	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.01	0.04	0.04	0.03	0.04	0.02	0.00	0.00	0.03	0.03	0.02	0.05
27	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.33	0.28	0.31	0.32	0.28	0.30	0.31	0.29	0.31	0.29	0.30	0.22
30	0.08	0.09	0.08	0.09	0.08	0.09	0.09	0.12	0.07	0.09	0.10	0.11
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot	3.12	3.37	3.60	3.62	3.30	3.68	3.41	3.47	3.34	3.22	3.44	3.37



Table 3.2L. Cook Network  
Greatest precipitation received in a given period for  
December 1975

Station	1-Hour			3-Hour			6-Hour			12-Hour			24-Hour		
	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time
	(in.)	began		(in.)	began		(in.)	began		(in.)	began		(in.)	began	
C01B	0.46	5	2400	0.76	5	2300	0.91	5	2300	1.08	5	1900	1.09	5	1900
C02A	0.49	5	2400	0.73	5	2300	0.97	5	2300	1.25	5	1900	1.25	5	1900
C03A	0.49	5	2400	0.79	5	2300	0.98	5	1900	1.28	5	1900	1.29	5	1900
C04A	0.35	5	2400	0.61	5	2300	0.81	5	2000	1.11	5	1900	1.12	5	1900
C05A	0.44	5	2400	0.76	5	2300	0.91	5	2300	1.16	5	1900	1.17	5	1900
C06A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
C07A	0.46	5	2400	0.73	5	2300	1.01	5	2000	1.25	5	1900	1.26	5	1900
C08A	0.39	14	1800	0.69	5	2300	0.95	5	1900	1.16	5	1900	1.17	5	1900
C09A	0.55	14	1800	0.68	14	1700	0.84	14	1800	0.95	14	1700	1.17	14	0200
C10A	0.37	14	1900	0.70	14	1800	0.83	14	1800	0.93	14	1500	1.16	14	0400
C11B	0.45	14	1900	0.67	14	1800	0.85	14	1800	0.96	5	1900	1.17	14	0400
C12A	0.51	14	1900	0.89	14	1800	1.05	14	1800	1.17	14	1800	1.37	14	0400

Table 3.3L. Cook Network:  
Precipitation accumulated in each hour (EST) for  
December 1975

Sta	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	Total
C01B	.21	.08	.12	.12	.09	.17	.05	.02	.01	.01	.03	.09	.05	.05	.08	.12	.07	.16	.34	.11	.13	.14	.33	.54	3.13
C02A	.18	.18	.14	.16	.14	.17	.04	.01	.01	.01	.11	.01	.01	.04	.09	.11	.13	.25	.29	.16	.13	.14	.22	.62	3.36
C03A	.20	.13	.08	.13	.12	.17	.05	.02	.02	.02	.21	.04	.03	.06	.07	.08	.23	.26	.32	.19	.12	.17	.30	.60	3.60
C04A	.19	.15	.16	.19	.12	.22	.09	.03	.02	.05	.12	.12	.02	.04	.15	.08	.08	.06	.34	.45	.13	.13	.26	.44	3.63
C05A	.28	.14	.07	.14	.11	.16	.06	.03	.02	.02	.09	.05	.01	.04	.06	.05	.05	.28	.47	.15	.12	.13	.26	.51	3.31
C06A	M	M	M	M	M	M	M	M	M	M	M	M	.02	.02	.06	.11	.07	.31	.50	.17	.11	.12	.34	.62	M
C07A	.19	.11	.08	.19	.08	.17	.06	.03	.03	.01	.15	.01	.01	.03	.06	.10	.06	.24	.39	.29	.10	.14	.29	.57	3.41
C08A	.14	.12	.10	.13	.06	.18	.05	.03	.04	.04	.08	.07	.02	.02	.06	.12	.10	.44	.47	.10	.14	.15	.43	.39	3.47
C09A	.13	.09	.10	.14	.08	.16	.08	.03	.03	.04	.18	.05	.05	.04	.06	.08	.08	.57	.23	.10	.11	.20	.28	.40	3.32
C10A	.28	.15	.06	.14	.09	.17	.05	.02	.02	.03	.14	.04	.03	.04	.07	.12	.07	.35	.44	.17	.09	.09	.22	.35	3.24
C11B	.23	.12	.07	.12	.11	.16	.05	.02	.03	.07	.13	.03	.02	.03	.05	.10	.08	.28	.56	.21	.12	.12	.31	.39	3.42
C12A	.30	.16	.08	.16	.15	.15	.10	.04	.04	.04	.04	.11	.01	.02	.07	.07	.03	.39	.61	.14	.08	.11	.26	.22	3.38
ave	.21	.13	.10	.15	.10	.17	.06	.03	.02	.03	.12	.06	.02	.04	.07	.10	.09	.30	.41	.19	.12	.14	.29	.47	3.41

#### IV. TEMPERATURE

Air temperature is measured with a hygrothermograph located in a standard instrument shelter. It is recorded in degrees Fahrenheit and reported to the nearest whole degree. The data are given in 3 tables for each month. The first table gives the daily maximum (midnight to midnight) for each station; the second gives the daily minimum; and the third gives the daily average temperature. Since a continuous record of temperature is obtained, the daily average temperature ( $\bar{T}$ ) is calculated using a finite-difference approximation to the equation

$$\bar{T} = 1/24 \int_0^{24} T(t) dt, \quad \text{where } T(t) \text{ is the}$$

variation of temperature with time and is assumed linear between data points. This method is used instead of the average of daily maximum and minimum temperatures normally listed in climatological summaries, since it is more accurate for comparing temperature data among stations.

At the bottom of each table, two sets of averages are given for each station. The top set of numbers is based on all data available for each station for that month. The bottom set is based on data only for days for which temperatures were recorded at all stations in operation during the month.

Table 4.1A. Cook Network: Daily Maximum Temperatures (F) for January 1975

DAY	C01E	C02B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11A	C12A
1	36	35	37	37	36	36	36	34	35	34	35	34
2	32	34	34	36	34	34	32	33	34	33	33	33
3	34	36	36	37	36	36	36	34	35	34	34	35
4	32	33	34	36	35	35	33	35	35	33	32	32
5	35	36	38	39	36	37	37	37	37	37	36	37
6	35	36	35	37	35	35	35	34	36	35	35	35
7	41	41	43	45	43	42	41	42	42	42	41	42
8	47	47	48	50	49	48	48	47	48	47	47	47
9	39	38	39	40	39	39	38	37	38	39	38	38
10	58	58	59	60	59	59	60	59	58	59	57	59
11	47	47	48	50	48	49	49	48	48	49	48	49
12	16	18	17	21	17	17	16	16	16	16	14	15
13	16	17	16	19	16	15	15	14	15	15	14	15
14	16	18	17	19	18	17	15	17	18	15	15	15
15	28	30	29	30	28	28	28	27	28	26	26	26
16	27	M	29	30	28	28	27	26	27	27	26	27
17	28	M	30	32	30	30	30	29	31	29	29	29
18	33	M	35	36	34	35	35	34	36	34	34	34
19	31	M	32	33	32	32	32	31	32	32	31	31
20	22	M	23	27	24	24	24	22	23	22	M	23
21	34	34	36	37	36	35	36	36	35	35	34	35
22	33	34	35	36	35	35	35	34	34	34	33	35
23	35	37	36	38	36	35	35	35	37	33	35	34
24	40	43	42	44	42	40	41	41	41	40	40	40
25	40	40	40	42	40	40	39	39	40	39	38	39
26	30	31	32	33	31	30	30	30	30	30	30	29
27	30	31	31	33	32	31	32	31	31	31	31	30
28	36	37	38	39	38	37	37	38	37	38	36	36
29	43	44	49	47	52	50	49	51	51	52	49	52
30	32	33	34	35	34	33	33	33	33	33	31	32
31	35	35	38	38	36	M	36	36	37	35	34	34

Averages and extremes for all data

Ave	33.6	35.5	35.2	36.6	35.1	34.7	34.5	34.2	34.8	34.1	33.9	33.9
Max	58	58	59	60	59	59	60	59	58	59	57	59
Min	16	17	16	19	16	15	15	14	15	15	14	15
Cases	31	26	31	31	31	30	31	31	31	31	30	31

Averages and extremes for days with data from all stations having data for this month

Ave	34.6	35.5	36.1	37.6	36.2	35.7	35.4	35.3	35.7	35.2	34.5	35.0
Max	58	58	59	60	59	59	60	59	58	59	57	59
Min	16	17	16	19	16	15	15	14	15	15	14	15
Cases	25	25	25	25	25	25	25	25	25	25	25	25

Table 4.2A. Cook Network: Daily Minimum Temperatures (F) for January 1975

DAY	C01E	C02B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11A	C12A
1	26	28	28	30	29	28	27	28	27	26	26	27
2	20	20	21	21	18	20	21	18	17	20	20	16
3	28	30	30	31	30	30	30	30	30	30	29	29
4	22	23	23	26	19	19	21	20	20	22	22	20
5	21	22	21	23	18	19	20	18	17	19	19	19
6	29	31	31	30	31	32	32	30	30	30	31	28
7	29	30	29	33	29	29	30	29	29	30	30	30
8	36	36	37	38	37	37	36	36	37	36	35	36
9	34	34	34	36	35	35	35	34	34	36	33	35
10	37	38	39	40	39	39	38	37	38	39	38	38
11	16	18	17	21	17	17	16	16	16	16	14	15
12	13	14	12	16	12	12	13	10	10	9	9	9
13	11	11	8	10	8	8	8	7	7	7	6	6
14	11	13	11	15	9	9	5	5	5	7	7	4
15	14	17	15	17	14	14	13	12	12	13	14	13
16	22	M	24	26	24	24	24	23	24	23	22	22
17	12	M	13	15	10	11	13	10	9	11	12	11
18	25	M	27	28	27	27	27	26	27	26	26	26
19	16	M	17	19	18	17	15	16	16	16	14	15
20	8	M	8	10	8	8	6	7	6	7	M	6
21	20	23	23	25	24	24	24	22	23	22	22	23
22	22	23	24	26	24	24	24	23	24	22	22	23
23	17	19	18	21	17	17	18	17	15	18	16	15
24	27	28	29	31	28	28	28	27	26	28	28	29
25	26	27	28	30	28	27	27	27	27	26	26	26
26	25	27	27	28	27	26	26	26	26	23	25	25
27	21	23	22	25	22	22	24	22	21	22	21	20
28	27	27	28	28	28	27	28	26	26	28	26	26
29	30	31	32	32	32	31	31	30	31	31	29	30
30	27	27	29	29	28	28	29	27	27	28	27	28
31	28	29	30	31	30	M	30	30	30	30	28	29

## Averages and extremes for all data

Ave	22.6	25.0	23.7	25.5	23.2	23.0	23.2	22.2	22.2	22.6	22.6	21.9
Max	37	38	39	40	39	39	38	37	38	39	38	38
Min	8	11	8	10	8	8	5	5	5	7	6	4
Cases	31	26	31	31	31	30	31	31	31	31	30	31

## Averages and extremes for days with data from all stations having data for this month

Ave	23.6	24.8	24.6	26.5	24.1	24.1	24.2	23.1	23.0	23.5	23.0	22.8
Max	37	38	39	40	39	39	38	37	38	39	38	38
Min	11	11	8	10	8	8	5	5	5	7	6	4
Cases	25	25	25	25	25	25	25	25	25	25	25	25

Table 4.3A. Cook Network: Daily Average Temperatures (F) for January 1975

DAY	C01E	C02B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11A	C12A
1	30	31	31	33	31	31	31	30	30	30	30	30
2	28	29	30	31	29	29	29	28	28	29	28	28
3	32	33	34	35	33	33	33	32	33	32	32	32
4	28	30	30	32	30	29	29	29	29	29	28	29
5	29	31	31	33	29	29	28	28	28	28	28	28
6	32	34	34	34	34	34	33	33	33	33	33	32
7	35	36	36	38	36	36	35	36	36	36	35	36
8	42	42	43	45	43	43	43	42	43	43	42	42
9	36	36	36	38	36	36	36	35	36	36	34	36
10	48	49	50	51	50	50	50	49	50	50	48	49
11	28	29	29	31	29	29	29	29	29	29	26	29
12	14	15	14	18	14	14	14	13	13	11	11	12
13	13	14	12	15	12	11	11	10	11	9	9	9
14	13	15	14	17	14	13	13	12	13	13	12	12
15	23	25	24	25	23	23	22	21	22	22	22	22
16	25	M	27	28	26	26	25	25	26	25	24	25
17	24	M	24	26	23	23	23	22	22	23	23	22
18	30	M	32	34	32	32	32	31	32	32	31	31
19	26	M	28	29	28	28	27	26	27	27	25	26
20	16	M	17	19	17	17	16	16	16	15	M	15
21	31	31	32	34	33	32	32	31	32	31	31	32
22	26	28	28	30	28	28	28	28	28	27	27	27
23	27	29	28	30	28	27	27	27	27	27	26	26
24	34	36	36	38	36	35	35	35	35	35	35	35
25	33	34	35	36	35	34	34	34	35	34	33	34
26	28	29	29	31	29	28	28	28	29	27	28	28
27	28	29	30	31	30	29	29	28	28	28	28	27
28	31	32	33	33	33	32	32	32	32	33	31	31
29	33	34	36	36	36	36	35	35	36	36	34	35
30	30	31	32	33	31	31	31	31	31	31	29	30
31	30	32	33	35	33	M	32	33	32	32	30	31

Averages and extremes for all data

Ave	28.6	30.5	29.9	31.6	29.8	29.4	29.1	28.7	29.1	28.8	28.4	28.4
Max	48	49	50	51	50	50	50	49	50	50	48	49
Min	13	14	12	15	12	11	11	10	11	9	9	9
Cases	31	26	31	31	31	30	31	31	31	31	30	31

Averages and extremes for days with data from all stations having data for this month

Ave	29.4	30.5	30.6	32.3	30.5	30.2	29.9	29.5	29.8	29.5	28.8	29.2
Max	48	49	50	51	50	50	50	49	50	50	48	49
Min	13	14	12	15	12	11	11	10	11	9	9	9
Cases	25	25	25	25	25	25	25	25	25	25	25	25

Table 4.1B. Cook Network: Daily Maximum Temperatures (F) for February 1975

DAY	C01B	C02B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11A	C12A
1	36	36	37	38	36	M	36	37	36	35	33	35
2	34	35	37	36	36	36	36	36	36	36	34	36
3	36	35	36	36	35	35	34	37	36	35	34	34
4	36	34	36	35	34	34	35	36	35	35	34	33
5	35	34	35	34	34	34	34	35	34	35	33	33
6	32	32	34	32	32	32	32	33	31	30	31	32
7	29	28	28	28	29	28	28	28	26	26	26	26
8	29	30	30	29	29	M	29	29	28	28	28	28
9	13	14	13	14	14	13	13	16	12	13	12	13
10	20	21	21	22	20	21	20	23	21	20	20	19
11	32	32	34	32	34	32	34	35	34	35	33	34
12	30	31	31	31	31	30	30	34	31	31	29	30
13	24	24	23	24	24	23	24	24	23	23	23	23
14	31	29	30	32	30	29	30	32	29	30	28	28
15	33	33	34	34	35	32	33	35	34	34	32	33
16	33	34	33	34	33	34	34	35	33	33	32	34
17	38	38	40	38	38	38	38	40	39	39	36	38
18	34	34	35	33	34	35	35	37	37	35	35	34
19	33	33	34	32	33	M	35	36	34	33	32	32
20	40	43	41	42	40	M	40	43	43	42	39	40
21	46	47	46	50	47	M	47	49	46	47	45	47
22	46	46	43	48	45	M	44	46	45	46	44	45
23	37	38	36	39	37	37	38	39	37	38	37	39
24	38	40	39	40	40	41	41	41	39	41	40	41
25	36	37	36	36	38	37	37	39	37	37	37	37
26	34	35	34	34	35	35	35	38	36	35	33	34
27	34	35	33	34	35	M	34	36	35	34	33	34
28	36	37	35	35	36	36	36	37	36	35	34	36

Averages and extremes for all data

Ave	33.4	33.8	33.7	34.0	33.7	32.0	33.6	35.2	33.7	33.6	32.4	33.1
Max	46	47	46	50	47	41	47	49	46	47	45	47
Min	13	14	13	14	14	13	13	16	12	13	12	13
Cases	28	28	28	28	28	21	28	28	28	28	28	28

Averages and extremes for days with data from all stations having data for this month

Ave	32.0	32.1	32.4	32.3	32.3	32.0	32.2	33.8	32.2	32.2	31.1	31.8
Max	38	40	40	40	40	41	41	41	39	41	40	41
Min	13	14	13	14	14	13	13	16	12	13	12	13
Cases	21	21	21	21	21	21	21	21	21	21	21	21

Table 4.2B. Cook Network: Daily Minimum Temperatures (F) for February 1975

DAY	C01B	C02B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11A	C12A
1	25	28	27	26	27	M	28	27	27	27	25	27
2	21	22	20	20	21	22	25	20	22	24	22	20
3	21	22	22	20	22	23	23	23	21	22	21	22
4	29	27	28	27	27	28	28	27	29	27	26	27
5	31	31	31	31	31	32	31	32	31	30	30	31
6	17	18	17	17	18	17	16	18	16	16	16	17
7	6	7	5	5	5	5	4	4	2	4	3	3
8	13	14	13	14	14	M	13	15	12	12	12	13
9	-2	-1	-4	-2	-4	-5	-4	-5	-8	-4	-5	-3
10	-6	-7	-8	-7	-8	-9	-8	-8	-13	-8	-9	-11
11	20	21	21	22	20	21	20	23	21	20	20	19
12	23	23	22	22	23	21	20	22	21	20	20	18
13	18	19	17	19	16	13	15	15	14	12	14	10
14	13	11	10	12	8	9	11	8	8	11	11	7
15	25	25	26	25	25	27	25	26	26	25	25	24
16	28	27	28	28	28	27	28	29	28	28	27	28
17	33	33	33	33	33	33	33	35	33	33	32	33
18	33	32	32	32	32	32	33	34	32	32	31	31
19	28	26	24	25	23	M	22	23	20	21	22	24
20	22	22	22	23	22	M	21	22	18	22	21	23
21	29	28	25	28	23	M	29	27	26	29	28	27
22	34	35	33	35	34	M	37	35	34	35	34	34
23	33	34	32	34	33	34	35	35	33	34	33	33
24	29	29	29	29	30	29	30	31	29	29	29	30
25	28	29	28	29	29	29	30	30	29	29	28	30
26	24	25	24	24	24	22	25	26	25	23	23	24
27	23	25	22	23	22	M	23	23	22	22	23	22
28	27	28	26	28	26	27	27	27	27	27	27	27

## Averages and extremes for all data

Ave	22.3	22.6	21.6	22.2	21.6	20.8	22.1	22.3	20.9	21.5	21.0	21.1
Max	34	35	33	35	34	34	37	35	34	35	34	34
Min	-6	-7	-8	-7	-8	-9	-8	-8	-13	-8	-9	-11
Cases	28	28	28	28	28	21	28	28	28	28	28	28

## Averages and extremes for days with data from all stations having data for this month

Ave	21.5	21.7	20.9	21.3	20.9	20.8	21.3	21.5	20.3	20.7	20.2	20.0
Max	33	34	33	34	33	34	35	35	33	34	33	33
Min	-6	-7	-8	-7	-8	-9	-8	-8	-13	-8	-9	-11
Cases	21	21	21	21	21	21	21	21	21	21	21	21



Table 4.3B. Cook Network: Daily Average Temperatures (F) for February 1975

DAY	C01B	C02B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11A	C12A
1	30	32	32	31	32	M	32	32	31	31	29	31
2	28	28	28	29	29	28	29	29	28	29	28	28
3	29	28	29	28	28	29	29	29	28	28	28	28
4	32	31	32	31	31	31	31	32	32	31	30	30
5	33	32	33	32	32	33	32	33	32	32	31	32
6	25	26	26	26	26	26	25	27	26	24	25	26
7	17	18	17	17	18	17	16	18	16	15	15	16
8	19	20	20	20	20	M	19	21	19	18	18	20
9	10	10	10	9	10	9	9	11	8	8	8	9
10	9	8	8	9	8	7	8	8	6	8	7	6
11	27	27	28	27	27	27	26	28	27	28	26	26
12	27	26	26	26	27	26	25	27	26	26	26	25
13	21	21	21	21	20	19	20	21	19	19	19	18
14	23	22	23	24	21	21	22	23	21	22	21	20
15	30	30	31	31	31	30	30	31	31	30	30	30
16	30	31	31	31	31	31	31	32	31	31	30	31
17	35	35	36	35	36	36	36	37	35	35	34	35
18	33	33	33	33	33	33	34	35	33	33	33	33
19	32	30	31	30	31	M	31	32	31	30	29	31
20	32	33	31	33	31	M	31	33	31	32	31	32
21	39	39	36	40	36	M	39	39	36	39	38	39
22	38	38	37	39	38	M	40	40	38	39	38	39
23	34	36	34	36	35	36	37	37	34	36	34	36
24	34	35	33	35	34	35	35	36	33	34	34	34
25	33	34	32	33	33	33	33	34	33	33	32	33
26	31	31	31	32	32	32	32	33	32	32	30	32
27	28	30	29	30	29	M	29	30	29	29	28	29
28	32	33	32	32	32	33	32	33	32	32	32	33
Averages and extremes for all data												
Ave	28.2	28.5	28.2	28.5	28.2	27.2	28.3	29.4	27.8	28.0	27.3	27.9
Max	39	39	37	40	38	36	40	40	38	39	38	39
Min	9	8	8	9	8	7	8	8	6	8	7	6
Cases	28	28	28	28	28	21	28	28	28	28	28	28
Averages and extremes for days with data from all stations having data for this month												
Ave	27.2	27.4	27.3	27.5	27.3	27.2	27.3	28.4	26.8	27.0	26.3	26.7
Max	35	36	36	36	36	36	37	37	35	36	34	36
Min	9	8	8	9	8	7	8	8	6	8	7	6
Cases	21	21	21	21	21	21	21	21	21	21	21	21

Table 4.1C. Cook Network: Daily Maximum Temperatures (F) for March 1975

DAY	C01B	C02B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11A	C12A
1	28	27	27	28	27	M	27	28	27	27	28	27
2	32	34	33	32	32	29	28	30	29	28	30	30
3	30	29	30	29	29	28	28	29	27	29	29	30
4	35	33	33	35	34	33	33	37	34	35	33	35
5	41	42	40	41	40	M	39	40	40	40	39	40
6	40	39	38	39	37	M	38	41	39	40	39	39
7	37	39	37	36	36	36	36	36	36	36	35	36
8	33	33	33	33	33	33	33	34	33	33	31	34
9	31	29	29	32	30	30	30	32	33	30	30	30
10	33	34	32	33	31	31	32	31	32	32	33	31
11	34	35	33	35	33	M	33	33	34	33	33	32
12	37	36	36	36	37	M	36	38	38	37	36	37
13	32	32	33	33	31	32	32	33	33	33	32	33
14	34	35	37	35	34	35	36	37	37	38	37	37
15	40	40	42	41	42	44	43	45	45	47	44	45
16	42	40	49	42	49	M	48	50	49	49	47	47
17	55	55	55	56	54	M	55	56	55	54	54	54
18	55	52	57	55	55	55	55	57	56	54	55	54
19	47	46	46	44	46	44	45	45	44	45	46	45
20	54	50	55	51	53	55	57	59	57	58	59	60
21	59	61	61	64	62	59	60	62	61	61	60	61
22	52	50	52	53	55	51	52	52	53	54	53	54
23	54	56	55	57	55	53	55	56	55	55	54	54
24	54	51	53	50	54	54	54	56	56	54	54	55
25	32	32	33	33	32	33	32	33	32	32	31	32
26	35	35	36	38	35	36	35	37	36	36	34	35
27	35	34	34	35	33	34	34	35	34	34	33	34
28	36	34	35	35	35	35	34	35	35	35	34	34
29	36	35	35	35	35	36	34	35	35	35	34	35
30	30	29	28	30	29	30	28	29	29	28	28	28
31	51	51	53	51	55	56	54	57	59	56	55	58

Averages and extremes for all data

Ave	40.1	39.6	40.3	40.2	40.1	40.1	39.9	41.2	40.7	40.6	40.0	40.5
Max	59	61	61	64	62	59	60	62	61	61	60	61
Min	28	27	27	28	27	28	27	28	27	27	28	27
Cases	31	31	31	31	31	24	31	31	31	31	31	31

Averages and extremes for days with data from all stations having data for this month

Ave	40.3	39.8	40.5	40.4	40.3	40.1	40.0	41.3	40.9	40.8	40.2	40.8
Max	59	61	61	64	62	59	60	62	61	61	60	61
Min	30	29	28	29	29	28	28	29	27	28	28	28
Cases	24	24	24	24	24	24	24	24	24	24	24	24

Table 4.20. Cook Network: Daily Minimum Temperatures (F) for March 1975

DAY	C01B	C02B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11A	C12A
1	25	25	24	24	22	M	22	23	22	23	23	23
2	23	23	24	25	23	21	22	22	21	22	21	22
3	25	24	24	25	24	21	21	23	21	22	22	23
4	20	24	22	25	21	21	20	16	16	22	21	19
5	21	18	19	22	16	M	19	18	14	19	20	17
6	34	33	33	34	33	M	33	34	33	34	33	34
7	33	33	33	33	33	33	33	33	32	33	31	34
8	24	22	22	23	23	22	23	22	21	22	21	22
9	20	20	17	22	17	18	16	17	16	15	16	16
10	25	25	25	26	25	26	25	26	25	25	25	26
11	28	27	28	27	27	M	28	27	28	28	27	27
12	29	29	29	29	28	M	28	29	29	28	28	29
13	25	25	25	25	24	24	24	25	25	24	24	24
14	23	23	24	24	23	24	24	24	24	25	24	24
15	22	25	22	26	19	23	25	21	22	24	25	21
16	30	28	27	29	26	M	30	27	27	30	29	28
17	25	27	26	26	25	M	29	26	26	31	29	26
18	37	36	36	35	36	37	37	36	36	38	37	38
19	31	32	33	32	31	32	34	32	31	33	34	33
20	34	34	34	34	33	33	34	34	33	34	35	34
21	37	37	38	37	38	37	37	38	37	37	37	38
22	31	31	31	31	30	31	32	29	30	33	33	32
23	30	29	29	29	29	29	31	29	29	33	32	31
24	29	30	30	31	28	31	30	30	29	30	29	30
25	27	27	26	28	25	26	26	27	26	26	25	26
26	22	21	22	21	21	22	21	21	20	20	20	21
27	26	26	28	27	26	27	27	27	27	26	26	27
28	32	31	31	31	31	32	31	31	31	31	30	31
29	29	28	28	29	27	29	27	28	28	28	26	27
30	26	26	25	27	25	25	26	26	25	24	24	24
31	27	26	26	26	26	27	26	26	26	26	25	26

## Averages and extremes for all data

Ave	27.4	27.3	27.1	27.8	26.3	27.1	27.1	26.7	26.1	27.3	26.8	26.9
Max	37	37	38	37	38	37	37	38	37	38	37	38
Min	20	18	17	21	16	18	16	16	14	15	16	16
Cases	31	31	31	31	31	24	31	31	31	31	31	31

## Averages and extremes for days with data from all stations having data for this month

Ave	27.4	27.4	27.3	28.0	26.6	27.1	27.2	26.8	26.3	27.2	26.8	27.0
Max	37	37	38	37	38	37	37	38	37	38	37	38
Min	20	20	17	21	17	18	16	16	16	15	16	16
Cases	24	24	24	24	24	24	24	24	24	24	24	24

Table 4.3C. Cook Network: Daily Average Temperatures (F) for March 1975

DAY	C01B	C02B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11A	C12A
1	26	26	25	26	25	M	24	25	24	25	26	25
2	27	27	27	28	27	25	25	25	25	24	25	26
3	27	26	26	27	26	25	25	26	25	25	25	26
4	29	28	28	29	28	27	27	28	26	28	27	27
5	33	33	32	33	31	M	30	31	29	32	31	31
6	36	36	35	36	35	M	35	37	36	37	36	36
7	34	35	34	34	34	34	34	35	34	34	33	34
8	28	27	27	28	27	27	26	27	26	26	25	26
9	27	26	26	27	26	26	25	26	26	25	25	25
10	29	28	28	29	28	28	28	29	28	28	28	28
11	31	30	30	31	30	M	30	30	31	30	30	30
12	34	34	34	34	34	M	34	34	35	34	34	34
13	28	28	28	28	27	28	28	28	28	28	27	28
14	29	29	30	29	29	29	29	29	29	30	29	29
15	32	32	31	33	30	33	33	33	32	34	34	33
16	35	35	37	35	36	M	38	37	37	38	38	37
17	40	39	40	39	39	M	41	40	40	41	41	40
18	45	44	46	43	45	45	45	46	45	45	46	46
19	38	38	39	37	39	38	39	39	39	40	40	40
20	41	40	43	41	43	43	44	44	44	44	46	45
21	49	49	50	50	50	48	48	50	49	48	48	49
22	39	38	40	39	39	39	40	40	40	40	39	40
23	43	43	43	43	43	42	42	43	43	43	43	43
24	42	41	43	42	43	43	43	44	44	44	43	44
25	29	29	29	30	28	30	29	29	28	28	27	28
26	28	28	29	30	28	29	28	29	29	28	27	28
27	30	29	30	30	29	31	30	30	30	30	29	30
28	34	33	33	34	33	34	33	34	33	34	32	33
29	32	31	31	32	31	32	31	32	32	31	30	31
30	28	27	27	28	27	28	27	28	27	26	26	26
31	40	39	41	40	41	42	40	41	41	41	40	41
Averages and extremes for all data												
Ave	33.7	33.2	33.6	33.8	33.3	33.5	33.4	33.9	33.4	33.6	33.3	33.5
Max	49	49	50	50	50	48	48	50	49	48	48	49
Min	26	26	25	26	25	25	24	25	24	24	25	25
Cases	31	31	31	31	31	24	31	31	31	31	31	31
Averages and extremes for days with data from all stations having data for this month												
Ave	33.7	33.2	33.7	33.9	33.4	33.5	33.4	34.0	33.5	33.6	33.2	33.6
Max	49	49	50	50	50	48	48	50	49	48	48	49
Min	27	26	26	27	26	25	25	25	25	24	25	25
Cases	24	24	24	24	24	24	24	24	24	24	24	24

Table 4-1D. Cook Network: Daily Maximum Temperatures (F) for April 1975

DAY	C01B	C02B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11A	C12A
1	42	42	43	45	46	48	47	46	47	46	45	47
2	35	34	34	35	34	35	36	36	35	35	34	35
3	32	33	32	33	33	33	32	32	32	31	31	33
4	35	37	36	36	35	34	34	35	34	33	32	34
5	36	40	36	36	35	36	35	35	36	35	36	37
6	37	40	37	39	37	36	36	36	37	36	37	36
7	38	40	40	38	39	39	41	40	41	41	44	40
8	49	46	47	48	48	47	47	48	49	48	47	46
9	44	42	41	42	42	41	42	42	43	42	41	40
10	42	44	44	41	42	44	45	47	48	47	47	46
11	40	41	40	40	40	38	38	40	40	39	39	37
12	41	41	42	42	42	43	43	47	45	44	44	45
13	46	M	47	45	48	49	48	50	51	50	50	51
14	46	46	45	48	46	46	47	47	47	46	45	45
15	47	48	47	47	51	50	50	53	52	51	50	52
16	52	51	54	52	55	54	54	55	55	54	54	55
17	66	66	65	68	66	66	66	67	66	65	65	65
18	66	66	66	67	67	67	67	66	67	66	66	66
19	47	48	51	49	53	53	50	52	54	55	55	56
20	45	44	45	48	47	47	46	49	48	46	47	48
21	45	46	47	48	47	49	48	47	48	48	49	47
22	61	57	62	58	62	64	63	64	64	64	62	63
23	67	65	67	66	69	69	68	69	71	70	67	69
24	57	56	55	59	58	57	59	57	58	60	59	59
25	50	52	54	50	54	54	54	54	56	55	55	55
26	55	57	59	58	58	59	62	62	62	62	60	60
27	50	50	50	49	51	50	50	50	51	50	50	49
28	50	50	51	52	50	48	48	50	49	49	49	50
29	76	77	77	77	75	73	72	74	76	74	73	75
30	67	64	70	67	69	67	67	68	69	68	68	69

Averages and extremes for all data

Ave	48.8	49.1	49.5	49.4	50.0	49.9	49.8	50.6	51.0	50.3	50.0	50.3
Max	76	77	77	77	75	73	72	74	76	74	73	75
Min	32	33	32	33	33	33	32	32	32	31	31	33
Cases	30	29	30	30	30	30	30	30	30	30	30	30

Averages and extremes for days with data from all stations having data for this month

Ave	48.9	49.1	49.6	49.6	50.0	49.9	49.9	50.6	51.0	50.3	50.0	50.3
Max	76	77	77	77	75	73	72	74	76	74	73	75
Min	32	33	32	33	33	33	32	32	32	31	31	33
Cases	29	29	29	29	29	29	29	29	29	29	29	29

Table 4.2D. Cook Network: Daily Minimum Temperatures (F) for April 1975

DAY	C01B	C02B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11A	C12A
1	31	31	31	32	31	33	33	33	31	30	31	32
2	26	25	24	25	25	26	25	25	25	23	23	24
3	28	26	25	27	26	27	26	26	25	25	24	24
4	30	28	27	30	30	29	28	26	25	24	23	22
5	27	27	25	28	24	23	22	23	22	21	21	22
6	28	27	25	28	26	25	25	24	23	24	24	25
7	27	25	24	26	23	25	25	26	26	25	24	25
8	27	24	25	24	24	24	26	24	25	26	28	23
9	36	33	32	33	33	33	33	34	34	34	33	33
10	28	27	27	27	26	27	28	28	28	29	29	28
11	33	30	27	30	29	27	28	27	27	29	28	28
12	26	25	20	23	21	22	24	20	22	22	25	20
13	24	M	19	23	20	20	23	20	22	23	24	20
14	35	31	30	31	32	31	34	33	34	35	35	31
15	34	32	33	33	33	32	34	32	32	33	32	32
16	38	38	33	39	32	33	35	30	31	37	39	32
17	37	36	33	35	36	33	37	33	36	39	37	33
18	47	48	51	49	53	53	50	52	54	55	55	56
19	39	40	40	41	41	41	41	41	41	41	41	41
20	38	36	38	37	37	37	39	36	35	39	38	37
21	30	32	29	31	30	30	32	29	29	30	33	29
22	41	40	41	42	42	42	41	41	41	41	39	40
23	52	51	52	52	53	53	52	51	51	51	50	51
24	40	39	39	39	39	40	40	40	40	40	40	41
25	38	37	37	37	37	37	37	35	36	38	38	36
26	33	36	32	34	32	32	34	32	32	34	36	33
27	42	42	41	41	43	41	41	42	42	41	42	41
28	42	43	42	42	44	41	42	43	44	42	41	42
29	42	41	43	42	42	41	42	42	42	42	43	43
30	45	46	47	46	47	46	48	48	49	50	53	52

## Averages and extremes for all data

Ave	34.8	34.3	33.1	34.2	33.7	33.5	34.2	33.2	33.5	34.1	34.3	33.2
Max	52	51	52	52	53	53	52	52	54	55	55	56
Min	24	24	19	23	20	20	22	20	22	21	21	20
Cases	30	29	30	30	30	30	30	30	30	30	30	30

## Averages and extremes for days with data from all stations having data for this month

Ave	35.2	34.3	33.6	34.6	34.2	33.9	34.6	33.7	33.9	34.5	34.7	33.7
Max	52	51	52	52	53	53	52	52	54	55	55	56
Min	26	24	20	23	21	22	22	20	22	21	21	20
Cases	29	29	29	29	29	29	29	29	29	29	29	29

Table 4.3D. Cook Network: Daily Average Temperatures (F) for April 1975

DAY	C01B	C02B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11A	C12A
1	35	35	35	36	35	37	37	37	36	36	35	37
2	31	31	30	32	31	32	32	32	32	31	31	32
3	30	30	29	31	30	31	30	31	29	29	28	30
4	32	33	31	32	32	32	31	32	31	29	29	31
5	32	33	31	33	32	32	31	31	31	30	30	30
6	33	33	31	33	32	32	32	32	31	30	31	31
7	34	33	32	32	32	32	33	32	33	32	33	32
8	38	36	35	35	36	36	36	37	37	37	38	35
9	38	36	36	37	36	36	37	38	38	37	37	36
10	36	35	35	35	35	35	35	36	37	37	36	36
11	36	35	34	35	34	34	33	34	34	34	33	33
12	35	33	31	33	33	32	33	33	33	33	34	32
13	37	M	35	35	35	36	37	37	38	38	38	37
14	39	37	37	38	38	38	38	40	39	39	39	38
15	40	39	39	40	40	41	41	41	41	41	41	40
16	44	44	44	44	45	45	45	45	45	46	46	44
17	53	53	51	53	53	52	53	53	53	53	52	52
18	60	60	61	61	63	62	62	62	63	62	62	63
19	42	43	43	44	44	44	44	45	46	44	45	45
20	40	41	41	42	42	41	41	42	43	41	42	42
21	39	39	39	40	39	40	40	39	39	40	40	39
22	49	48	51	49	51	52	51	52	51	52	50	51
23	59	57	59	57	60	60	58	59	59	59	57	59
24	44	45	46	44	46	47	47	46	47	48	48	48
25	44	45	45	44	45	46	46	46	46	46	46	46
26	45	46	47	45	47	47	48	48	48	49	49	48
27	45	46	45	45	46	45	46	46	46	45	45	45
28	46	46	47	46	47	45	46	46	46	46	45	46
29	58	58	59	59	58	57	57	58	58	58	58	59
30	59	57	60	58	59	58	58	59	59	60	59	60

## Averages and extremes for all data

Ave	41.8	41.5	41.3	41.6	41.9	41.9	42.0	42.2	42.3	42.1	41.8	41.8
Max	60	60	61	61	63	62	62	62	63	62	62	63
Min	30	30	29	31	30	31	30	31	29	29	28	30
Cases	30	29	30	30	30	30	30	30	30	30	30	30

## Averages and extremes for days with data from all stations having data for this month

Ave	42.0	41.5	41.5	41.9	42.1	42.1	42.1	42.4	42.5	42.2	42.0	42.0
Max	60	60	61	61	63	62	62	62	63	62	62	63
Min	30	30	29	31	30	31	30	31	29	29	28	30
Cases	29	29	29	29	29	29	29	29	29	29	29	29

Table 4.1E. Cook Network: Daily Maximum Temperatures (F) for

May 1975

DAY	C01B	C02B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11A	C12A
1	57	57	59	59	59	59	57	59	59	58	58	60
2	67	66	69	66	70	69	67	71	71	68	68	70
3	65	66	66	65	64	64	64	64	64	63	64	63
4	50	52	53	50	53	52	51	52	53	51	51	53
5	65	68	69	68	70	69	68	69	70	68	68	68
6	50	53	55	53	55	56	60	59	61	62	64	63
7	65	69	67	72	67	67	65	68	67	66	64	65
8	68	69	67	72	68	67	67	68	66	67	66	66
9	63	64	71	64	70	69	69	70	72	69	69	70
10	62	64	70	61	67	66	67	68	71	68	68	69
11	70	75	76	69	76	74	74	74	76	74	74	74
12	53	53	53	53	53	53	54	54	55	56	57	56
13	58	57	62	58	63	64	62	63	63	63	65	65
14	69	67	69	67	70	69	69	69	70	68	68	70
15	54	52	54	53	55	55	54	54	55	54	54	54
16	52	54	57	55	54	56	57	57	58	59	60	60
17	67	67	71	69	71	72	73	72	73	73	73	73
18	81	M	82	82	84	84	83	83	83	83	83	82
19	90	94	92	93	91	89	92	89	90	88	90	89
20	88	90	91	90	89	90	89	90	89	88	88	90
21	81	78	81	80	80	80	80	81	81	80	80	82
22	64	63	65	63	66	67	66	M	67	67	68	69
23	75	76	82	73	81	82	82	M	83	82	82	83
24	84	85	85	83	86	85	86	M	86	85	85	87
25	75	77	81	74	80	81	83	M	84	84	84	84
26	71	71	72	74	75	75	74	M	76	75	74	76
27	65	66	69	70	69	69	69	70	72	69	68	68
28	69	70	73	73	72	74	76	76	76	76	76	77
29	75	M	76	77	77	76	78	78	78	77	77	79
30	77	M	76	76	79	76	79	79	78	78	77	77
31	62	M	63	63	63	64	63	64	67	64	63	63

## Averages and extremes for all data

Ave	67.5	67.5	70.2	68.5	70.2	70.1	70.3	69.3	71.4	70.4	70.5	71.1
Max	90	94	92	93	91	90	92	90	90	88	90	90
Min	50	52	53	50	53	52	51	52	53	51	51	53
Cases	31	27	31	31	31	31	31	26	31	31	31	31

## Averages and extremes for days with data from all stations having data for this month

Ave	64.9	66.0	67.9	66.4	67.5	67.4	67.5	68.0	68.7	67.6	67.9	68.4
Max	90	94	92	93	91	90	92	90	90	88	90	90
Min	50	52	53	50	53	52	51	52	53	51	51	53
Cases	22	22	22	22	22	22	22	22	22	22	22	22



Table 4.2E. Cook Network: Daily Minimum Temperatures (F) for

May 1975

DAY	C01B	C02B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11A	C12A
1	42	43	43	43	42	43	42	42	42	43	43	43
2	44	44	43	44	39	43	43	39	42	44	46	45
3	44	44	45	45	44	45	46	46	46	46	47	47
4	39	40	40	41	41	40	40	41	41	40	41	42
5	40	42	40	41	39	40	40	39	39	38	41	40
6	42	46	46	46	47	47	47	48	47	49	49	50
7	44	45	46	45	46	45	46	46	46	46	47	46
8	51	52	53	52	53	52	52	53	52	52	52	52
9	44	46	47	45	45	47	48	45	45	46	49	45
10	40	43	41	44	41	41	43	39	40	43	45	42
11	42	49	43	47	42	42	45	41	42	47	49	43
12	39	39	40	40	40	39	40	38	38	40	40	39
13	36	36	38	39	38	37	37	34	35	38	38	36
14	49	47	44	49	42	44	44	38	40	46	48	42
15	45	44	44	45	46	44	44	43	40	42	43	43
16	43	41	41	42	42	41	41	41	38	40	41	40
17	43	42	44	43	43	40	44	38	41	45	46	43
18	48	M	47	49	46	47	47	45	46	49	52	48
19	63	61	62	63	61	62	62	59	60	62	62	61
20	59	58	63	59	62	63	62	62	62	63	64	65
21	62	61	64	62	63	64	64	63	62	63	63	64
22	53	54	56	55	56	57	57	M	57	57	57	58
23	53	54	55	55	56	54	55	M	55	56	57	57
24	63	60	64	63	63	65	67	M	65	66	66	66
25	61	60	62	61	61	63	63	M	63	64	64	65
26	60	60	61	62	61	61	62	M	61	62	62	63
27	51	52	51	51	49	49	53	48	50	50	52	51
28	46	48	46	48	45	45	48	45	45	46	48	46
29	60	M	59	58	57	58	59	58	57	58	59	58
30	53	M	54	55	54	54	54	53	54	55	56	55
31	52	M	51	53	51	51	51	48	49	50	52	51

## Averages and extremes for all data

Ave	48.7	48.6	49.5	49.8	48.9	49.1	49.9	45.8	48.4	49.9	50.9	49.9
Max	63	61	64	63	63	65	67	63	65	66	66	66
Min	36	36	38	39	38	37	37	34	35	38	38	36
Cases	31	27	31	31	31	31	31	26	31	31	31	31

## Averages and extremes for days with data from all stations having data for this month

Ave	45.8	46.5	46.5	47.0	45.9	46.0	46.9	44.9	45.1	46.8	47.9	46.6
Max	63	61	64	63	63	64	64	63	62	63	64	65
Min	36	36	38	39	38	37	37	34	35	38	38	36
Cases	22	22	22	22	22	22	22	22	22	22	22	22

Table 4.3E. Cook Network: Daily Average Temperatures (F) for

May 1975

DAY	C01B	C02B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11A	C12A
1	48	48	49	49	49	50	49	50	50	50	51	51
2	57	57	58	57	58	58	57	57	58	58	59	59
3	54	55	56	55	55	55	55	56	56	55	56	56
4	44	45	46	45	46	46	46	46	46	45	46	47
5	53	55	56	54	56	55	55	56	56	55	55	55
6	46	50	51	49	51	51	52	53	54	54	55	55
7	55	57	57	58	57	56	56	57	56	56	56	55
8	58	60	59	60	59	58	58	59	58	58	58	57
9	55	57	59	54	58	57	58	58	58	58	58	58
10	50	52	55	52	54	55	56	55	56	56	58	56
11	57	59	60	57	58	58	59	58	59	60	61	59
12	47	49	49	48	48	49	49	49	49	50	50	50
13	49	47	50	49	50	51	50	48	49	51	52	50
14	59	57	58	58	57	58	58	56	56	58	59	58
15	50	49	51	50	52	52	51	50	50	51	51	50
16	48	48	49	49	49	49	49	49	49	50	51	50
17	55	55	58	54	57	57	57	56	57	59	59	57
18	66	M	66	66	66	67	68	65	66	67	68	67
19	77	76	78	77	77	76	77	75	75	75	76	76
20	73	72	74	72	73	74	74	74	73	73	74	74
21	68	66	69	67	69	69	69	70	69	69	69	70
22	58	58	61	59	61	62	63	M	63	63	63	65
23	65	65	69	64	68	69	68	M	70	69	70	70
24	73	72	74	73	74	74	74	M	74	74	74	75
25	67	66	69	67	69	70	69	M	70	70	70	70
26	66	65	67	67	68	68	67	M	68	68	68	69
27	59	60	61	62	60	61	62	61	62	61	61	61
28	60	61	61	61	61	61	62	61	62	61	62	62
29	68	M	68	68	68	68	68	69	68	68	68	68
30	65	M	66	66	67	66	66	66	66	66	66	66
31	56	M	56	58	56	56	56	57	57	56	57	57

## Averages and extremes for all data

Ave	58.3	57.8	60.0	58.9	59.7	59.8	59.9	58.0	60.1	60.1	60.7	60.5
Max	77	76	78	77	77	76	77	75	75	75	76	76
Min	44	45	46	45	46	46	46	46	46	45	46	47
Cases	31	27	31	31	31	31	31	26	31	31	31	31

## Averages and extremes for days with data from all stations having data for this month

Ave	55.6	56.1	57.4	56.2	57.0	57.0	57.2	56.9	57.2	57.4	58.1	57.6
Max	77	76	78	77	77	76	77	75	75	75	76	76
Min	44	45	46	45	46	46	46	46	46	45	46	47
Cases	22	22	22	22	22	22	22	22	22	22	22	22

Table 4.1F. Cook Network: Daily Maximum Temperatures (F) for June 1975

DAY	C01B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11A	C12A
1	64	63	67	65	66	66	69	67	68	68	70
2	62	65	65	65	67	64	67	66	66	65	67
3	71	72	73	74	73	72	74	73	72	72	74
4	78	79	79	80	80	80	81	82	80	79	80
5	76	77	77	78	78	77	79	79	79	77	79
6	65	68	69	66	67	66	66	69	66	66	69
7	59	58	59	59	59	58	59	59	57	59	59
8	62	64	64	62	63	62	64	66	65	M	65
9	72	71	73	70	73	71	73	70	70	70	71
10	80	80	83	79	81	80	83	78	79	78	79
11	78	80	80	80	80	79	81	81	80	79	81
12	70	72	70	73	72	73	75	75	74	73	75
13	83	83	84	85	82	83	83	83	83	82	83
14	70	78	72	79	78	77	79	79	79	78	80
15	69	69	68	70	68	68	69	69	69	69	70
16	75	75	78	75	75	75	M	74	74	74	74
17	78	78	81	79	79	78	M	78	78	79	78
18	87	87	88	87	87	85	M	86	86	85	85
19	83	86	83	87	88	87	M	90	87	85	89
20	83	87	82	86	88	88	M	91	89	89	89
21	85	89	87	88	91	89	M	89	90	89	88
22	89	90	89	90	89	90	M	90	89	M	88
23	81	82	84	85	83	83	M	85	84	83	83
24	76	79	79	81	80	79	M	82	81	80	83
25	77	78	79	78	78	76	M	78	77	75	76
26	78	83	80	81	82	83	M	84	83	82	83
27	81	85	82	84	84	85	M	87	86	85	86
28	81	85	81	84	84	85	M	89	87	86	88
29	84	87	88	86	87	87	M	86	87	85	86
30	79	85	80	83	83	87	M	M	88	87	88

## Averages and extremes for all data

Ave	75.9	77.8	77.5	78.0	78.2	77.8	73.5	78.8	78.4	77.8	78.9
Max	89	90	89	90	91	90	83	91	90	89	89
Min	59	58	59	59	59	58	59	59	57	59	59
Cases	30	30	30	30	30	30	15	29	30	28	30

## Averages and extremes for days with data from all stations having data for this month

Ave	71.2	72.5	72.8	73.1	73.1	72.4	74.1	73.6	73.0	72.5	74.1
Max	83	83	84	85	82	83	83	83	83	82	83
Min	59	58	59	59	59	58	59	59	57	59	59
Cases	11	11	11	11	11	11	11	11	11	11	11

Table 4.2F. Cook Network: Daily Minimum Temperatures (F) for June 1975

DAY	C01B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11A	C12A
1	47	50	49	47	48	49	46	47	49	50	50
2	46	47	48	47	47	49	46	46	46	49	49
3	51	50	52	48	50	51	47	48	49	51	50
4	57	55	58	52	55	56	51	52	54	56	54
5	63	62	62	62	63	63	63	62	61	62	63
6	59	58	59	59	59	58	59	57	57	59	59
7	53	48	51	48	46	48	44	44	46	48	47
8	47	48	48	47	46	47	44	44	46	M	45
9	46	47	47	45	46	49	44	45	48	50	47
10	55	54	53	53	53	54	53	54	53	55	54
11	63	65	62	64	64	64	64	63	62	63	65
12	60	59	59	58	58	58	58	58	57	58	59
13	60	60	59	61	60	59	59	59	57	59	60
14	60	60	59	60	59	59	59	59	59	60	60
15	60	60	61	61	59	59	59	59	59	59	61
16	60	58	58	56	56	55	M	54	54	55	56
17	67	68	69	68	69	69	M	68	68	69	69
18	65	66	64	66	67	67	M	67	67	68	67
19	72	73	73	72	74	74	M	73	73	74	73
20	68	70	69	68	71	71	M	71	69	73	72
21	67	67	69	66	67	68	M	66	67	69	68
22	73	71	74	68	71	73	M	69	71	M	72
23	68	69	70	69	69	69	M	69	68	68	70
24	68	69	69	68	68	68	M	68	67	68	69
25	67	68	67	69	67	67	M	68	67	67	68
26	64	65	64	66	65	64	M	64	64	64	65
27	65	66	67	65	64	65	M	64	65	66	65
28	66	67	66	65	65	66	M	66	65	66	67
29	66	67	67	66	64	67	M	64	68	67	68
30	63	64	64	63	62	64	M	M	64	65	64

## Averages and extremes for all data

Ave	60.9	61.0	61.2	60.2	60.4	61.0	53.1	59.6	60.0	61.4	61.2
Max	73	73	74	72	74	74	64	73	73	74	73
Min	46	47	47	45	46	47	44	44	46	48	45
Cases	30	30	30	30	30	30	15	29	30	28	30

## Averages and extremes for days with data from all stations having data for this month

Ave	55.7	55.4	55.6	54.6	54.8	55.4	53.7	53.8	54.1	55.6	55.6
Max	63	65	62	64	64	64	64	63	62	63	65
Min	46	47	47	45	46	48	44	44	46	48	47
Cases	14	14	14	14	14	14	14	14	14	14	14

Table 4.3F. Cook Network: Daily Average Temperatures (F) for June 1975

DAY	C01B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11A	C12A
1	57	57	59	56	57	57	56	56	57	58	58
2	56	56	56	55	56	57	56	55	55	57	56
3	60	61	61	60	61	61	61	60	60	61	61
4	68	68	68	67	68	68	67	67	67	68	68
5	68	68	67	69	70	69	70	69	69	69	70
6	63	63	63	63	64	63	63	64	63	63	63
7	55	54	55	55	54	54	54	54	53	54	53
8	56	56	57	56	55	55	55	55	55	M	55
9	61	61	61	60	61	61	61	60	60	61	61
10	69	69	70	68	69	69	69	68	68	68	69
11	69	70	69	70	70	69	71	70	69	69	71
12	64	65	64	66	65	65	66	65	65	65	66
13	68	69	68	70	69	69	69	69	69	69	70
14	65	66	64	67	66	66	67	67	66	67	68
15	64	64	64	65	64	63	65	65	63	64	65
16	68	67	69	68	67	67	M	67	66	67	67
17	71	71	73	72	72	72	M	71	71	72	72
18	74	76	76	76	76	76	M	76	75	76	76
19	76	79	77	79	80	79	M	80	79	79	80
20	75	77	76	77	79	79	M	80	79	80	81
21	77	79	78	77	79	79	M	78	78	79	79
22	79	80	82	79	79	79	M	79	79	M	79
23	73	74	75	75	74	75	M	75	74	75	75
24	72	73	73	74	73	73	M	74	73	73	75
25	71	72	72	73	72	71	M	72	71	71	72
26	72	74	72	74	74	74	M	74	73	73	74
27	73	75	74	74	74	74	M	75	74	75	76
28	73	75	73	74	74	75	M	76	76	76	77
29	74	77	75	76	75	77	M	76	77	76	77
30	71	74	71	73	73	74	M	M	75	75	76

Averages and extremes for all data

Ave	68.1	69.0	68.7	68.9	69.0	68.9	63.2	68.9	68.6	69.2	69.6
Max	79	80	82	79	80	79	71	80	79	80	81
Min	55	54	55	55	54	54	54	54	53	54	53
Cases	30	30	30	30	30	30	15	29	30	28	30

Averages and extremes for days with data from all stations having data for this month

Ave	63.3	63.6	63.6	63.6	63.8	63.4	63.8	63.4	63.1	63.6	64.3
Max	69	70	70	70	70	69	71	70	69	69	71
Min	55	54	55	55	54	54	54	54	53	54	53
Cases	14	14	14	14	14	14	14	14	14	14	14

Table 4.1G. Cook Network: Daily Maximum Temperatures (F) for July 1975

DAY	C01B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11A	C12A
1	82	88	83	85	85	86	96	M	88	86	90
2	85	87	88	87	86	87	87	M	89	87	90
3	80	83	83	83	82	82	83	M	85	83	86
4	77	82	81	79	79	79	79	M	81	M	81
5	81	85	84	82	83	83	84	M	84	83	86
6	77	82	82	82	82	81	83	M	83	M	81
7	78	85	84	80	81	82	82	M	82	82	83
8	80	81	84	80	82	81	82	M	83	84	87
9	76	79	81	77	78	77	78	M	77	77	80
10	68	71	M	68	68	66	68	M	68	M	68
11	73	72	75	72	73	71	73	M	74	M	75
12	69	72	71	68	71	68	73	M	71	M	70
13	69	69	70	70	71	68	70	M	69	M	69
14	72	73	73	72	72	70	74	M	73	M	74
15	82	83	82	82	84	81	84	83	84	M	83
16	86	85	87	85	86	85	87	85	87	M	88
17	85	87	88	86	87	85	87	85	87	M	87
18	76	77	78	76	79	75	77	75	76	M	77
19	84	84	84	82	83	81	84	83	83	M	82
20	81	M	84	83	84	82	85	85	85	M	87
21	77	81	79	77	79	79	78	83	81	M	84
22	84	83	83	82	82	82	85	83	84	M	86
23	85	84	85	83	83	82	85	83	85	M	83
24	80	80	82	79	79	78	79	81	80	M	83
25	78	78	78	75	77	75	75	80	76	M	80
26	81	82	83	80	82	80	82	84	83	M	83
27	83	85	83	83	84	82	83	85	82	M	87
28	80	84	84	81	85	83	83	86	83	M	86
29	85	89	84	86	92	89	91	90	90	M	90
30	86	92	87	88	92	90	92	94	93	M	93
31	89	93	87	91	93	93	95	94	96	97	95

## Averages and extremes for all data

Ave	79.6	81.9	81.9	80.1	81.4	80.1	81.7	84.6	82.0	84.9	83.0
Max	89	93	88	91	93	93	95	94	96	97	95
Min	68	69	70	68	68	66	68	75	68	77	68
Cases	31	30	30	31	31	31	31	17	31	8	31

## Averages and extremes for days with data from all stations having data for this month

Ave	89.0	93.0	87.0	91.0	93.0	93.0	95.0	94.0	96.0	97.0	95.0
Max	89	93	87	91	93	93	95	94	96	97	95
Min	89	93	87	91	93	93	95	94	96	97	95
Cases	1	1	1	1	1	1	1	1	1	1	1

Table 4.2G. Cook Network: Daily Minimum Temperatures (F) for July 1975

DAY	C01B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11A	C12A
1	61	63	62	59	60	62	59	M	63	64	62
2	59	62	63	60	60	62	59	M	62	62	61
3	66	67	68	65	66	66	62	M	67	66	67
4	59	62	63	61	60	61	58	M	61	M	60
5	59	62	63	60	60	60	58	M	60	61	60
6	63	65	64	63	64	64	63	M	65	M	64
7	66	66	67	64	64	65	64	M	64	66	64
8	65	63	65	62	61	61	59	M	61	63	61
9	59	60	62	58	59	58	56	M	57	58	57
10	60	60	M	60	58	56	60	M	56	M	56
11	52	52	52	49	50	47	47	M	48	M	48
12	49	51	51	47	48	48	47	M	49	M	49
13	53	53	53	49	51	50	51	M	51	M	52
14	54	54	54	51	52	50	51	M	51	M	51
15	60	60	59	57	58	58	57	57	59	M	59
16	65	62	63	57	60	61	59	58	62	M	61
17	66	63	64	60	62	62	61	59	63	M	63
18	66	66	64	65	65	64	64	64	65	M	65
19	70	70	70	69	69	67	68	68	68	M	69
20	67	M	69	64	65	64	65	65	67	M	67
21	61	62	61	59	60	59	60	59	60	M	60
22	59	60	59	55	57	55	55	55	57	M	56
23	69	68	67	65	66	64	65	64	66	M	66
24	71	67	70	68	66	63	67	61	63	M	65
25	57	57	58	55	55	54	55	55	55	M	55
26	54	54	53	50	50	51	49	50	52	M	51
27	60	63	62	58	61	61	60	60	61	M	61
28	57	59	59	54	56	56	55	55	59	M	56
29	59	58	60	56	56	57	56	56	58	M	58
30	66	64	64	61	61	64	61	61	65	M	63
31	68	67	68	63	63	66	62	63	66	65	66

Averages and extremes for all data

Ave	61.3	61.3	61.9	58.8	59.5	59.2	58.5	59.4	60.0	63.1	59.8
Max	71	70	70	69	69	67	68	68	68	66	69
Min	49	51	51	47	48	47	47	50	48	58	48
Cases	31	30	30	31	31	31	31	17	31	8	31

Averages and extremes for days with data from all stations having data for this month

Ave	68.0	67.0	68.0	63.0	63.0	66.0	62.0	63.0	66.0	65.0	66.0
Max	68	67	68	63	63	66	62	63	66	65	66
Min	68	67	68	63	63	66	62	63	66	65	66
Cases	1	1	1	1	1	1	1	1	1	1	1

Table 4.3G. Cook Network: Daily Average Temperatures (F) for July 1975

DAY	C01B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11A	C12A
1	72	75	73	72	73	75	73	M	76	75	75
2	73	76	75	73	74	75	73	M	76	76	75
3	74	76	75	75	75	74	73	M	76	75	75
4	70	73	72	71	71	71	70	M	72	M	72
5	70	74	73	71	72	72	72	M	73	73	73
6	71	74	72	71	72	72	72	M	73	M	73
7	72	75	75	72	73	73	73	M	73	74	73
8	72	73	74	71	72	71	70	M	71	73	72
9	69	70	71	68	69	69	68	M	69	69	69
10	64	66	M	64	64	62	64	M	63	M	64
11	62	62	62	60	61	59	60	M	60	M	60
12	59	60	59	58	59	57	58	M	59	M	58
13	61	62	61	60	61	59	61	M	61	M	61
14	63	63	63	61	62	60	61	M	62	M	62
15	71	72	71	69	71	70	71	69	71	M	71
16	75	75	75	73	73	73	73	72	74	M	75
17	76	77	76	74	75	74	75	73	76	M	75
18	71	71	70	70	71	69	70	69	70	M	70
19	76	77	75	75	76	74	76	75	75	M	75
20	74	M	74	73	74	73	74	73	74	M	75
21	70	72	71	70	71	69	70	72	71	M	71
22	72	72	71	70	71	70	70	70	71	M	72
23	76	75	76	74	76	73	75	74	75	M	75
24	74	73	74	73	74	71	73	72	73	M	74
25	71	70	71	69	70	68	68	68	67	M	68
26	70	70	69	67	68	67	68	67	69	M	69
27	74	74	73	71	74	72	72	72	72	M	74
28	70	71	71	68	71	70	69	71	71	M	71
29	73	75	73	72	74	74	74	73	75	M	74
30	77	78	76	76	77	77	76	77	78	M	77
31	78	80	77	77	78	78	78	78	79	79	79

Averages and extremes for all data

Ave	70.9	72.0	71.6	70.0	70.9	70.0	70.3	72.1	71.2	74.1	71.2
Max	78	80	77	77	78	78	78	78	79	79	79
Min	59	60	59	58	59	57	58	67	59	69	58
Cases	31	30	30	31	31	31	31	17	31	8	31

Averages and extremes for days with data from all stations having data for this month

Ave	78.3	79.6	77.1	76.9	78.0	77.7	77.6	77.5	79.0	78.9	78.9
Max	78	80	77	77	78	78	78	78	79	79	79
Min	78	80	77	77	78	78	78	78	79	79	79
Cases	1	1	1	1	1	1	1	1	1	1	1



Table 4.1H. Cook Network: Daily Maximum Temperatures (F) for August 1975

DAY	C01B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11B	C12A
1	86	89	86	88	91	90	91	91	93	95	92
2	77	76	76	76	77	76	77	77	77	77	78
3	80	80	79	77	79	77	79	83	79	84	78
4	83	85	85	86	86	84	85	86	86	92	87
5	75	74	74	74	74	75	73	75	76	76	72
6	69	73	67	71	73	71	71	75	72	75	71
7	72	76	71	74	76	76	77	76	78	76	75
8	79	82	81	80	83	79	81	81	82	81	80
9	85	86	85	86	86	84	87	86	86	86	87
10	86	86	86	86	87	85	88	87	88	87	88
11	81	84	82	83	86	84	87	86	87	87	88
12	85	87	86	85	87	85	87	86	86	86	85
13	81	84	83	82	83	81	85	83	85	83	85
14	82	85	83	81	85	83	84	82	84	83	82
15	71	70	69	70	70	69	70	70	70	69	70
16	77	80	78	79	80	78	81	81	81	79	80
17	78	79	79	76	79	77	79	79	80	80	82
18	74	81	73	77	80	78	78	81	82	80	82
19	76	80	73	77	81	78	77	82	82	81	80
20	77	76	75	74	78	75	77	76	76	75	75
21	86	87	85	87	89	87	90	90	89	88	89
22	78	80	79	79	81	80	80	82	82	82	83
23	89	90	88	87	88	87	89	89	88	87	87
24	89	90	90	87	89	87	89	89	88	87	86
25	83	84	84	83	84	83	85	85	85	84	84
26	79	79	82	79	80	78	79	81	79	79	80
27	78	80	81	79	82	81	82	82	82	81	81
28	86	85	88	85	86	84	85	85	85	84	83
29	76	76	76	76	77	75	76	76	76	76	75
30	71	71	70	72	71	70	71	71	73	71	71
31	69	68	68	69	68	68	69	69	70	68	69

Averages and extremes for all data

Ave	79.3	80.7	79.4	79.5	81.2	79.5	80.9	81.4	81.5	81.3	80.8
Max	89	90	90	88	91	90	91	91	93	95	92
Min	69	68	67	69	68	68	69	69	70	68	69
Cases	31	31	31	31	31	31	31	31	31	31	31

Averages and extremes for days with data from all stations having data for this month

Ave	79.3	80.7	79.4	79.5	81.2	79.5	80.9	81.4	81.5	81.3	80.8
Max	89	90	90	88	91	90	91	91	93	95	92
Min	69	68	67	69	68	68	69	69	70	68	69
Cases	31	31	31	31	31	31	31	31	31	31	31

Table 4.2H. Cook Network: Daily Minimum Temperatures (F) for August 1975

DAY	C01B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11B	C12A
1	70	70	70	67	68	69	68	68	69	70	68
2	71	71	71	69	71	70	71	70	71	70	70
3	61	63	63	61	62	62	62	61	61	63	62
4	61	61	63	59	59	59	59	59	61	60	60
5	62	62	61	61	61	61	61	59	62	61	62
6	59	56	55	55	55	55	54	53	56	56	57
7	51	52	50	49	47	49	49	49	51	49	50
8	56	52	53	49	49	49	48	48	52	54	51
9	60	58	61	54	55	56	54	55	57	60	56
10	67	65	65	64	65	62	63	63	65	64	64
11	66	65	65	63	64	62	63	63	65	63	64
12	65	66	64	63	64	62	63	61	64	64	64
13	68	69	68	68	66	65	66	65	68	68	68
14	58	62	59	59	55	57	58	58	59	58	60
15	61	61	61	61	61	61	62	61	62	61	62
16	57	59	59	59	57	58	59	61	62	60	63
17	61	63	63	61	60	61	60	59	62	62	61
18	59	60	59	58	57	58	56	57	60	60	58
19	60	61	59	57	58	59	57	57	59	58	59
20	62	62	61	61	61	61	60	60	61	61	61
21	68	69	65	67	68	68	68	69	69	67	67
22	66	68	65	67	68	68	68	67	69	68	69
23	71	71	69	70	70	70	70	69	70	70	71
24	77	77	76	74	75	74	74	74	74	73	73
25	70	70	70	68	69	67	67	66	67	67	66
26	61	60	62	58	60	61	58	58	61	61	59
27	58	56	58	56	55	56	54	55	57	58	56
28	65	61	62	60	60	62	60	59	62	62	62
29	69	68	68	68	68	67	68	68	69	68	68
30	67	66	66	67	67	65	67	67	67	66	66
31	62	63	63	65	64	63	63	62	62	63	63

Averages and extremes for all data

Ave	63.5	63.5	63.0	61.9	61.9	61.8	61.6	61.3	63.0	62.7	62.6
Max	77	77	76	74	75	74	74	74	74	73	73
Min	51	52	50	49	47	49	48	48	51	49	50
Cases	31	31	31	31	31	31	31	31	31	31	31

Averages and extremes for days with data from all stations having data for this month

Ave	63.5	63.5	63.0	61.9	61.9	61.8	61.6	61.3	63.0	62.7	62.6
Max	77	77	76	74	75	74	74	74	74	73	73
Min	51	52	50	49	47	49	48	48	51	49	50
Cases	31	31	31	31	31	31	31	31	31	31	31

Table 4.3H. Cook Network: Daily Average Temperatures (F) for August 1975

DAY	C01B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11B	C12A
1	78	79	77	77	78	78	79	78	79	79	79
2	74	73	73	73	74	73	74	73	73	72	73
3	74	73	73	72	73	72	73	73	73	73	73
4	72	73	73	72	73	72	72	73	74	75	73
5	70	70	71	69	69	68	68	67	70	69	68
6	64	65	62	64	65	64	64	64	65	65	64
7	62	64	61	62	63	63	63	62	64	64	63
8	68	68	68	65	66	66	65	65	67	67	66
9	74	74	74	72	72	71	71	71	73	74	72
10	76	75	75	74	75	73	74	72	75	75	74
11	72	72	72	71	72	71	72	72	73	72	73
12	74	76	75	73	75	73	74	73	74	74	75
13	77	79	77	77	78	76	78	76	78	77	78
14	70	72	70	70	70	70	71	70	71	70	72
15	67	67	65	66	67	65	67	65	66	65	66
16	68	70	68	68	69	69	70	70	71	69	71
17	72	72	69	71	71	70	71	70	71	71	72
18	68	69	66	67	68	67	67	68	69	68	68
19	68	70	66	67	69	68	68	68	69	68	69
20	69	69	68	67	69	67	68	67	69	67	67
21	76	77	74	77	78	77	78	78	78	77	77
22	73	74	72	73	74	73	74	74	75	73	74
23	79	80	78	78	79	78	79	79	79	78	78
24	82	82	81	80	81	80	81	80	80	79	80
25	77	77	76	76	77	76	77	76	76	75	75
26	72	71	72	70	72	70	70	70	71	71	70
27	68	69	69	68	68	68	67	67	69	68	68
28	75	73	74	73	73	73	72	72	73	73	72
29	72	72	71	72	72	71	71	71	72	71	71
30	69	68	68	69	69	67	68	69	69	68	68
31	66	66	66	67	67	66	67	67	67	66	66

Averages and extremes for all data

Ave	71.9	72.2	71.1	70.9	71.8	70.8	71.3	71.0	72.0	71.4	71.5
Max	82	82	81	80	81	80	81	80	80	79	80
Min	62	64	61	62	63	63	63	62	64	64	63
Cases	31	31	31	31	31	31	31	31	31	31	31

Averages and extremes for days with data from all stations having data for this month

Ave	71.9	72.2	71.1	70.9	71.8	70.8	71.3	71.0	72.0	71.4	71.5
Max	82	82	81	80	81	80	81	80	80	79	80
Min	62	64	61	62	63	63	63	62	64	64	63
Cases	31	31	31	31	31	31	31	31	31	31	31

Table 4.11. Cook Network: Daily Maximum Temperatures (F) for Sept 1975

DAY	C01B	C02B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11B	C12A
1	76	M	78	77	77	79	78	81	83	82	81	79
2	73	M	77	76	75	76	76	78	82	80	79	78
3	81	M	81	82	82	82	81	85	85	83	82	84
4	71	M	71	74	71	70	70	71	76	73	72	70
5	63	M	63	64	65	63	63	65	66	66	64	64
6	70	M	69	72	69	68	66	69	72	70	69	69
7	79	M	77	79	78	77	76	78	78	78	77	75
8	67	M	68	70	67	66	65	65	69	66	67	67
9	69	M	69	73	68	71	69	70	70	70	69	68
10	83	M	82	84	82	83	81	82	82	81	80	80
11	73	M	75	76	74	76	75	76	76	76	77	75
12	58	M	58	59	57	59	56	57	61	58	57	57
13	58	M	60	63	60	60	57	59	61	61	58	60
14	67	M	67	70	66	67	65	68	69	68	67	67
15	65	M	66	68	69	68	66	68	71	69	67	69
16	70	M	69	74	69	71	69	71	72	73	70	70
17	72	M	70	72	70	72	70	72	71	72	71	69
18	75	M	74	73	74	76	74	77	75	75	74	73
19	65	M	63	65	65	65	64	65	65	66	65	66
20	60	M	59	62	60	61	59	61	61	60	59	60
21	57	M	56	58	57	58	57	59	58	57	56	58
22	60	M	59	60	61	59	57	60	60	60	58	59
23	67	M	67	68	66	67	64	67	66	67	65	64
24	65	M	64	66	66	63	63	64	68	64	63	62
25	52	M	52	51	51	51	50	51	51	51	50	50
26	58	M	60	59	59	59	58	57	59	60	57	58
27	64	M	63	68	64	65	62	64	66	66	65	66
28	68	M	71	72	70	72	70	72	74	73	71	72
29	64	M	65	64	64	64	62	63	63	63	63	62
30	69	71	70	71	72	71	71	73	72	72	72	71

## Averages and extremes for all data

Ave	67.3	71.0	67.4	69.0	67.6	68.0	66.5	68.3	69.4	68.7	67.5	67.4
Max	83	71	82	84	82	83	81	85	85	83	82	84
Min	52	71	52	51	51	51	50	51	51	51	50	50
Cases	30	1	30	30	30	30	30	30	30	30	30	30

## Averages and extremes for days with data from all stations having data for this month

Ave	69.0	71.0	70.0	71.0	72.0	71.0	71.0	73.0	72.0	72.0	72.0	71.0
Max	69	71	70	71	72	71	71	73	72	72	72	71
Min	69	71	70	71	72	71	71	73	72	72	72	71
Cases	1	1	1	1	1	1	1	1	1	1	1	1

Table 4.2I. Cook Network: Daily Minimum Temperatures (F) for Sept 1975

DAY	C01B	C02B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11B	C12A
1	62	M	64	65	65	64	63	63	65	64	63	62
2	58	M	58	60	58	57	58	58	59	59	60	59
3	59	M	58	59	58	56	58	58	58	59	59	58
4	57	M	57	58	57	57	57	57	57	58	57	56
5	55	M	57	56	56	55	57	57	56	57	56	56
6	52	M	51	52	49	48	49	49	50	50	51	49
7	52	M	49	51	47	46	48	47	47	50	51	47
8	49	M	49	50	48	47	48	47	46	48	48	48
9	42	M	44	44	43	42	41	42	43	44	44	44
10	54	M	52	53	50	50	52	51	51	53	53	51
11	57	M	57	57	57	56	55	56	55	55	55	54
12	51	M	50	50	49	50	50	50	50	51	49	50
13	42	M	40	44	39	39	40	39	39	41	42	39
14	42	M	39	44	36	37	39	36	38	40	39	37
15	50	M	50	51	49	49	49	50	49	50	50	49
16	53	M	51	53	50	51	54	51	51	55	56	55
17	54	M	51	54	50	51	56	54	53	57	57	55
18	57	M	57	58	57	58	56	58	58	60	58	58
19	53	M	51	53	51	52	50	51	51	53	51	52
20	49	M	47	49	47	48	46	47	47	48	48	47
21	53	M	52	55	52	53	51	52	51	50	51	50
22	49	M	47	50	43	44	44	45	43	45	45	44
23	43	M	41	44	42	40	41	40	41	42	41	39
24	49	M	47	47	47	46	46	46	44	47	45	46
25	47	M	46	46	46	46	45	47	46	47	45	46
26	40	M	42	44	41	39	41	39	39	42	42	40
27	40	M	39	43	36	35	39	36	37	42	42	38
28	42	M	39	45	36	36	36	36	37	41	38	38
29	49	M	45	46	43	42	45	43	44	46	45	46
30	52	53	50	53	48	47	47	47	45	48	49	49

## Averages and extremes for all data

Ave	50.4	53.0	49.3	51.1	48.3	48.0	48.7	48.4	48.3	50.1	49.7	48.7
Max	62	53	64	65	65	64	63	63	65	64	63	62
Min	40	53	39	43	36	35	36	36	37	40	38	37
Cases	30	1	30	30	30	30	30	30	30	30	30	30

Averages and extremes for days with data from all stations having data for this month												
Ave	52.0	53.0	50.0	53.0	48.0	47.0	47.0	47.0	45.0	48.0	49.0	49.0
Max	52	53	50	53	48	47	47	47	45	48	49	49
Min	52	53	50	53	48	47	47	47	45	48	49	49
Cases	1	1	1	1	1	1	1	1	1	1	1	1

Table 4.3I. Cook Network: Daily Average Temperatures (F) for Sept 1975

DAY	C01B	C02B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11B	C12A
1	68	M	69	70	70	70	69	70	71	72	70	69
2	68	M	68	69	68	68	67	69	70	71	69	68
3	69	M	70	71	70	70	69	71	71	71	71	70
4	65	M	64	66	64	63	63	63	64	64	63	62
5	60	M	60	61	61	59	59	61	62	61	60	59
6	63	M	63	64	62	62	60	62	62	62	61	60
7	65	M	63	65	64	63	63	64	64	64	64	62
8	62	M	61	63	61	60	58	58	58	58	59	57
9	55	M	56	56	55	55	55	55	56	56	55	56
10	67	M	67	68	66	66	66	67	66	67	65	66
11	66	M	66	67	66	67	66	67	66	66	65	66
12	55	M	55	56	54	55	53	54	54	54	53	53
13	53	M	53	55	52	53	51	52	52	52	51	51
14	54	M	53	55	52	53	53	52	53	54	53	52
15	57	M	57	58	57	57	57	57	58	58	57	57
16	60	M	60	61	60	61	60	60	60	61	61	60
17	64	M	62	64	63	63	62	63	63	64	64	62
18	64	M	64	65	64	65	64	66	65	66	65	64
19	60	M	59	60	60	60	58	60	60	61	60	60
20	56	M	53	56	54	54	53	54	54	54	54	53
21	55	M	54	56	55	55	53	55	54	54	53	53
22	54	M	53	55	53	53	51	53	52	53	51	51
23	55	M	54	56	54	53	52	54	54	55	53	52
24	56	M	55	55	55	54	54	55	55	55	53	53
25	50	M	49	49	49	49	48	50	49	49	48	48
26	49	M	51	51	50	50	50	49	50	50	50	50
27	52	M	51	54	49	50	50	49	50	52	52	51
28	55	M	54	56	52	53	52	53	53	55	54	54
29	55	M	53	54	52	52	53	53	52	54	54	54
30	60	61	60	62	59	59	59	59	58	60	60	60

## Averages and extremes for all data

Ave	59.2	61.4	58.6	59.9	58.5	58.4	57.6	58.4	58.6	59.1	58.3	57.8
Max	69	61	70	71	70	70	69	71	71	72	71	70
Min	49	61	49	49	49	49	48	49	49	49	48	48
Cases	30	1	30	30	30	30	30	30	30	30	30	30

## Averages and extremes for days with data from all stations having data for this month

Ave	60.1	61.4	60.1	61.5	59.4	58.5	58.8	58.9	57.9	59.5	59.6	59.8
Max	60	61	60	62	59	59	59	59	58	60	60	60
Min	60	61	60	62	59	59	59	59	58	60	60	60
Cases	1	1	1	1	1	1	1	1	1	1	1	1

Table 4.1J. Cook Network: Daily Maximum Temperatures (F) for October 1975

DAY	C01B	C02B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11B	C12A
1	60	61	60	61	60	59	59	60	60	59	59	59
2	54	53	56	57	53	54	53	53	56	54	54	54
3	65	65	66	66	67	66	68	68	69	66	66	67
4	69	69	72	70	70	73	74	74	75	73	73	73
5	71	71	73	72	71	72	72	72	73	72	71	72
6	65	M	67	68	64	65	66	66	69	67	67	66
7	70	M	74	74	73	74	72	74	74	74	72	72
8	69	M	68	70	67	68	68	69	68	68	67	66
9	67	M	70	69	69	70	70	73	73	73	72	73
10	66	M	67	70	68	67	68	69	70	70	69	70
11	58	M	59	63	58	58	58	59	60	60	59	60
12	72	M	73	75	71	73	71	73	71	72	71	71
13	82	M	83	78	83	84	85	86	88	85	84	86
14	83	M	83	81	82	82	82	83	84	80	81	81
15	63	M	62	63	62	63	63	65	66	63	63	65
16	56	M	57	58	55	56	55	56	59	57	57	59
17	52	M	52	53	52	52	52	53	54	52	51	52
18	50	M	52	51	49	50	50	50	52	48	48	49
19	49	M	49	49	49	49	49	50	51	49	48	48
20	66	M	67	66	67	68	68	68	70	67	67	66
21	67	M	69	68	68	69	70	72	74	71	69	70
22	80	M	80	81	79	79	78	79	81	78	78	78
23	75	M	75	75	74	74	75	74	77	73	73	73
24	79	M	79	80	77	77	78	79	80	77	76	76
25	55	M	58	55	56	57	56	57	57	59	57	59
26	58	M	58	60	56	58	57	58	58	58	55	56
27	68	M	67	69	67	67	65	67	67	66	66	65
28	62	M	62	62	62	62	61	64	65	63	62	64
29	51	M	54	53	53	52	52	52	54	51	51	50
30	50	M	49	53	49	50	48	51	50	50	49	48
31	61	M	60	62	61	60	59	60	61	59	60	59

Averages and extremes for all data

Ave	64.3	63.8	65.2	65.5	64.3	64.8	64.6	65.6	66.6	65.0	64.4	64.7
Max	83	71	83	81	83	84	85	86	88	85	84	86
Min	49	53	49	49	49	49	48	50	50	48	48	48
Cases	31	5	31	31	31	31	31	31	31	31	31	31

Averages and extremes for days with data from all stations having data for this month

Ave	63.8	63.8	65.4	65.2	64.2	64.8	65.2	65.4	66.6	64.8	64.6	65.0
Max	71	71	73	72	71	73	74	74	75	73	73	73
Min	54	53	56	57	53	54	53	53	56	54	54	54
Cases	5	5	5	5	5	5	5	5	5	5	5	5

Table 4.2J. Cook Network: Daily Minimum Temperatures (F) for October 1975

DAY	C01B	C02B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11B	C12A
1	47	45	46	45	44	44	44	45	45	44	44	45
2	35	40	38	40	34	34	36	34	36	35	37	35
3	39	39	38	42	34	34	37	34	35	36	37	37
4	41	45	41	46	37	39	43	39	40	44	43	43
5	47	45	44	48	37	37	45	40	41	45	45	46
6	42	M	41	44	39	38	39	40	40	41	44	39
7	43	M	41	43	38	35	38	36	37	41	42	40
8	52	M	47	51	45	43	51	47	49	52	51	50
9	46	M	45	47	44	43	45	45	45	45	48	44
10	48	M	47	50	45	41	44	41	43	44	44	41
11	43	M	42	44	40	37	41	40	40	41	42	38
12	39	M	38	40	37	36	38	37	37	38	38	36
13	61	M	61	62	60	59	62	59	60	61	60	61
14	62	M	62	62	60	60	60	57	58	59	61	58
15	51	M	50	51	50	50	49	50	50	47	48	48
16	43	M	42	42	41	40	41	41	40	39	41	37
17	42	M	41	42	39	39	41	41	40	40	40	42
18	44	M	44	44	43	42	42	43	43	40	39	41
19	45	M	45	45	45	45	45	46	47	44	44	45
20	48	M	49	49	48	47	44	44	44	44	44	44
21	49	M	48	51	45	45	46	45	47	47	48	46
22	47	M	44	48	43	41	44	42	44	45	46	45
23	58	M	58	59	57	57	57	57	58	56	56	56
24	55	M	58	54	56	57	56	57	57	59	57	59
25	46	M	45	46	40	38	37	35	36	38	38	35
26	35	M	34	36	30	32	32	31	33	32	35	30
27	41	M	39	39	34	37	39	36	38	39	38	38
28	50	M	49	50	49	47	47	48	47	47	47	46
29	40	M	39	40	39	37	39	38	38	37	38	38
30	31	M	30	29	28	27	29	29	30	31	30	30
31	38	M	37	37	37	37	35	37	38	36	35	36

## Averages and extremes for all data

Ave	45.4	42.8	44.6	46.0	42.5	41.9	43.4	42.4	43.1	43.5	43.9	42.9
Max	62	45	62	62	60	60	62	59	60	61	61	61
Min	31	39	30	29	28	27	29	29	30	31	30	30
Cases	31	5	31	31	31	31	31	31	31	31	31	31

## Averages and extremes for days with data from all stations having data for this month

Ave	41.8	42.8	41.4	44.2	37.2	37.6	41.0	38.4	39.4	40.8	41.2	41.2
Max	47	45	46	48	44	44	45	45	45	45	45	46
Min	35	39	38	40	34	34	36	34	35	35	37	35
Cases	5	5	5	5	5	5	5	5	5	5	5	5



Table 4.3J. Cook Network: Daily Average Temperatures (F) for October 1975

DAY	C01B	C02B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11B	C12A
1	53	53	52	53	52	51	51	52	51	50	50	51
2	45	45	46	46	44	43	44	44	45	43	44	44
3	53	54	53	54	50	49	51	50	50	51	52	52
4	56	56	55	57	51	53	57	55	55	56	57	56
5	61	59	60	61	57	57	60	58	59	59	58	60
6	58	M	58	59	56	55	56	56	57	57	57	54
7	55	M	55	55	52	52	55	53	54	56	56	54
8	59	M	58	59	56	56	58	58	58	58	57	57
9	58	M	60	58	58	58	59	60	60	60	59	59
10	59	M	58	60	57	55	56	55	55	56	56	55
11	52	M	52	54	51	51	51	51	50	51	51	49
12	56	M	56	57	54	54	55	55	54	56	54	54
13	70	M	71	69	70	69	71	70	71	70	70	70
14	72	M	72	70	71	70	69	69	69	69	70	70
15	59	M	59	59	59	59	59	60	61	58	58	60
16	51	M	50	51	49	48	48	49	49	48	48	48
17	48	M	47	47	46	46	47	47	48	46	46	48
18	47	M	46	46	45	46	46	47	47	44	44	45
19	48	M	48	47	47	47	47	48	49	47	47	47
20	58	M	58	58	57	57	56	57	57	56	56	55
21	58	M	58	58	56	56	57	57	58	57	57	56
22	63	M	62	64	60	60	61	61	62	62	62	61
23	66	M	66	66	64	64	65	65	66	65	64	64
24	69	M	69	70	68	68	69	69	69	69	68	68
25	49	M	49	50	47	47	46	46	46	46	45	45
26	49	M	47	49	44	44	43	43	44	44	44	43
27	53	M	52	53	50	51	52	51	52	52	51	51
28	55	M	54	55	54	53	53	54	54	53	54	53
29	48	M	47	48	47	45	45	46	46	45	45	45
30	40	M	39	39	40	39	39	39	40	39	40	39
31	49	M	48	50	49	49	48	49	50	48	49	48

## Averages and extremes for all data

Ave	55.4	53.3	55.0	55.5	53.6	53.3	54.0	54.0	54.4	54.0	53.8	53.5
Max	72	59	72	70	71	70	71	70	71	70	70	70
Min	40	45	39	39	40	39	39	39	40	39	40	39
Cases	31	5	31	31	31	31	31	31	31	31	31	31

Averages and extremes for days with data from all stations having data for this month												
Ave	53.6	53.3	53.1	54.2	50.6	50.7	52.6	51.7	52.2	52.0	52.2	52.6
Max	61	59	60	61	57	57	60	58	59	59	58	60
Min	45	45	46	46	44	43	44	44	45	43	44	44
Cases	5	5	5	5	5	5	5	5	5	5	5	5

Table 4-1K. Cook Network: Daily Maximum Temperatures (F) for November 1975

DAY	C01B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11B	C12A
1	57	58	57	58	58	56	58	57	55	55	56
2	68	70	67	72	71	69	70	72	68	69	69
3	65	67	65	67	65	65	67	66	63	63	65
4	62	63	61	64	63	63	65	65	62	62	63
5	56	70	68	68	70	70	72	72	69	69	71
6	74	77	74	76	76	75	76	77	74	74	75
7	67	68	66	66	67	66	67	68	64	65	66
8	64	64	63	64	64	63	64	63	61	61	63
9	69	70	70	69	70	68	69	69	67	67	69
10	67	68	66	66	68	66	66	67	64	M	66
11	57	57	57	56	57	55	58	56	55	M	53
12	54	54	53	52	53	52	53	53	52	53	52
13	41	40	40	39	40	39	41	40	39	39	38
14	40	38	39	37	38	37	37	39	36	36	36
15	52	53	51	55	54	52	56	55	50	51	52
16	63	64	63	65	64	61	63	65	60	63	62
17	66	69	62	68	67	67	68	70	65	67	65
18	64	67	63	66	66	66	67	69	64	66	65
19	63	66	63	65	65	62	65	67	62	64	62
20	56	54	55	54	54	53	55	55	53	54	54
21	41	40	42	40	41	40	40	41	38	39	38
22	39	38	40	39	40	37	40	41	37	39	39
23	40	41	43	41	42	40	43	43	40	42	41
24	38	38	39	38	37	36	37	38	36	36	36
25	34	33	35	33	33	31	32	33	30	30	31
26	31	31	33	30	31	29	30	32	29	30	30
27	39	38	40	37	37	37	35	38	36	36	36
28	33	33	35	32	33	32	32	33	31	31	33
29	58	58	59	57	57	56	56	58	56	58	59
30	59	58	60	58	58	57	57	58	56	58	59

Averages and extremes for all data

Ave	54.2	54.8	54.3	54.4	54.6	53.3	54.6	55.3	52.4	52.8	53.5
Max	74	77	74	76	76	75	76	77	74	74	75
Min	31	31	33	30	31	29	30	32	29	30	30
Cases	30	30	30	30	30	30	30	30	30	28	30

Averages and extremes for days with data from all stations having data for this month

Ave	53.7	54.3	53.8	53.9	54.1	52.8	54.1	54.9	51.9	52.8	53.0
Max	74	77	74	76	76	75	76	77	74	74	75
Min	31	31	33	30	31	29	30	32	29	30	30
Cases	28	28	28	28	28	28	28	28	28	28	28

Table 4.2K. Cook Network: Daily Minimum Temperatures (F) for November 1975

DAY	C01B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11B	C12A
1	53	53	53	53	54	52	52	52	50	51	52
2	56	56	56	55	56	54	55	56	53	54	55
3	58	60	57	59	59	59	59	60	57	58	59
4	51	55	56	55	52	53	54	55	53	53	54
5	51	53	54	52	50	52	51	52	50	50	50
6	56	53	54	50	50	53	50	52	49	55	51
7	60	61	60	60	59	60	60	60	58	57	59
8	51	52	51	50	52	52	50	51	50	51	51
9	50	48	50	49	48	51	48	51	50	50	50
10	47	47	47	45	48	43	45	40	39	M	40
11	37	35	35	30	34	34	33	34	32	M	30
12	40	40	38	37	37	34	36	35	32	33	33
13	35	35	34	34	35	34	34	34	31	33	31
14	33	31	32	30	30	29	28	27	26	28	28
15	31	32	33	31	29	28	28	27	26	27	29
16	36	35	35	33	35	34	32	35	33	35	33
17	44	43	44	40	42	44	43	43	42	45	46
18	46	44	46	38	40	44	38	43	44	44	43
19	43	39	42	34	37	40	35	38	39	41	41
20	37	38	37	37	37	36	37	38	37	36	37
21	34	33	33	33	34	32	35	35	31	33	33
22	35	35	36	28	30	29	26	28	25	29	26
23	26	25	26	22	27	26	24	25	24	27	23
24	29	27	27	26	28	28	26	27	27	28	26
25	27	27	28	27	27	25	25	26	24	23	24
26	24	24	24	24	23	22	22	24	22	21	22
27	29	29	29	28	29	28	28	29	27	28	28
28	28	27	29	27	28	27	27	28	26	27	28
29	31	31	33	32	31	31	31	33	29	30	32
30	26	25	28	24	25	24	24	25	23	24	26

Averages and extremes for all data

Ave	40.1	39.8	40.2	38.1	38.9	38.6	37.9	38.8	37.0	38.3	38.0
Max	60	61	60	60	59	60	60	60	58	58	59
Min	24	24	24	22	23	22	22	24	22	21	22
Cases	30	30	30	30	30	30	30	30	30	28	30

Averages and extremes for days with data from all stations having data for this month

Ave	40.0	39.7	40.2	38.1	38.7	38.6	37.8	38.9	37.1	38.3	38.2
Max	60	61	60	60	59	60	60	60	58	58	59
Min	24	24	24	22	23	22	22	24	22	21	22
Cases	28	28	28	28	28	28	28	28	28	28	28

Table 4.3K. Cook Network: Daily Average Temperatures (F) for November 1975

DAY	C01B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11B	C12A
1	55	55	55	55	56	54	55	55	53	53	53
2	60	61	60	61	62	60	61	62	59	59	61
3	62	63	61	62	61	61	62	63	59	60	62
4	57	59	58	59	58	59	60	60	57	57	58
5	59	61	59	59	59	60	59	59	58	58	59
6	64	65	63	63	63	63	64	64	62	63	63
7	63	64	62	62	63	62	63	63	60	60	62
8	56	58	56	57	58	57	58	57	56	56	58
9	61	61	60	60	61	60	61	61	59	59	60
10	53	53	53	52	54	52	52	53	49	M	50
11	49	49	48	46	48	46	47	47	45	M	44
12	45	45	44	43	44	42	43	43	40	41	40
13	39	38	38	37	38	37	37	37	34	36	35
14	37	36	37	35	35	34	34	34	31	33	33
15	44	43	43	43	41	39	40	40	38	39	40
16	50	50	50	50	48	47	46	47	46	49	48
17	55	55	54	53	52	53	53	53	53	55	54
18	55	53	53	51	49	52	51	52	52	53	52
19	52	51	50	48	48	49	47	50	49	51	50
20	49	48	48	47	48	47	48	49	47	48	48
21	38	36	38	36	37	35	37	37	35	36	35
22	37	36	38	36	36	34	34	35	33	35	34
23	34	33	35	32	33	31	31	32	30	33	30
24	33	32	33	32	33	31	32	32	31	31	30
25	31	30	32	30	30	28	29	30	28	27	28
26	27	27	28	27	27	26	26	28	26	26	26
27	34	34	35	32	33	32	32	33	31	32	32
28	30	30	31	29	30	29	29	30	28	28	30
29	44	44	46	44	44	43	43	45	43	44	45
30	44	43	45	42	43	43	43	45	42	44	45

Averages and extremes for all data

Ave	47.2	47.1	47.1	46.1	46.3	45.5	45.9	46.4	44.5	45.1	45.5
Max	64	65	63	63	63	63	64	64	62	63	63
Min	27	27	28	27	27	26	26	28	26	26	26
Cases	30	30	30	30	30	30	30	30	30	28	30

Averages and extremes for days with data from all stations having data for this month

Ave	46.9	46.9	46.8	45.9	46.0	45.3	45.5	46.2	44.3	45.1	45.4
Max	64	65	63	63	63	63	64	64	62	63	63
Min	27	27	28	27	27	26	26	28	26	26	26
Cases	28	28	28	28	28	28	28	28	28	28	28

Table 4.1L. Cook Network: Daily Maximum Temperatures (F) for December 1975

DAY	C01B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11B	C12A
1	28	28	28	27	27	26	28	29	28	27	27
2	34	35	36	36	35	33	35	37	34	36	33
3	33	36	36	35	34	33	34	36	34	35	35
4	50	52	52	51	50	49	49	50	50	50	49
5	62	63	61	62	61	61	62	63	61	61	60
6	54	56	52	56	55	56	54	56	56	56	56
7	33	34	34	33	34	34	34	34	33	33	33
8	35	34	34	33	33	35	34	33	35	34	33
9	34	34	35	35	33	35	33	35	33	35	33
10	35	33	34	33	32	33	32	33	33	33	32
11	35	33	34	33	33	33	33	34	33	33	33
12	34	34	33	34	33	34	33	34	34	34	33
13	62	63	62	63	61	62	61	62	62	62	61
14	63	64	61	62	61	62	61	63	62	63	63
15	46	47	45	48	46	47	48	47	48	49	50
16	34	34	35	31	32	32	32	33	33	33	32
17	32	31	33	30	30	31	31	33	32	31	31
18	19	18	20	16	16	17	16	17	16	16	17
19	32	33	33	32	31	31	32	32	32	32	33
20	38	37	37	36	36	36	36	35	36	35	36
21	28	29	30	30	29	30	27	30	30	30	29
22	35	35	34	34	33	34	34	34	33	33	33
23	34	34	34	33	32	33	32	33	32	33	32
24	30	31	31	29	29	30	29	31	30	29	29
25	32	33	34	32	32	33	32	33	32	32	31
26	32	33	34	33	32	33	32	32	32	32	32
27	30	32	32	32	30	31	31	32	30	31	31
28	31	31	33	29	31	31	31	32	31	30	29
29	35	35	35	35	34	35	34	34	34	35	34
30	36	37	38	37	36	36	35	36	37	37	36
31	34	34	34	34	33	34	34	34	34	35	34

## Averages and extremes for all data

Ave	37.1	37.5	37.5	36.9	36.3	36.8	36.4	37.3	36.8	36.9	36.5
Max	63	64	62	63	61	62	62	63	62	63	63
Min	19	18	20	16	16	17	16	17	16	16	17
Cases	31	31	31	31	31	31	31	31	31	31	31

## Averages and extremes for days with data from all stations having data for this month

Ave	37.1	37.5	37.5	36.9	36.3	36.8	36.4	37.3	36.8	36.9	36.5
Max	63	64	62	63	61	62	62	63	62	63	63
Min	19	18	20	16	16	17	16	17	16	16	17
Cases	31	31	31	31	31	31	31	31	31	31	31

Table 4.2L Cook Network: Daily Minimum Temperatures (F) for December 1975

DAY	C01B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11B	C12A
1	23	22	24	19	19	20	19	17	18	18	18
2	28	28	28	27	27	26	27	26	27	27	27
3	29	28	28	29	28	26	27	28	27	26	27
4	30	29	29	29	28	31	29	29	29	30	30
5	43	43	46	44	41	43	42	42	44	45	44
6	24	24	24	24	25	26	24	25	25	24	25
7	15	17	18	19	19	22	19	20	20	19	19
8	28	28	28	27	28	29	27	28	28	29	27
9	27	28	28	28	27	27	28	28	28	28	28
10	29	29	29	29	28	28	28	28	27	28	27
11	29	30	29	30	30	30	30	31	30	30	30
12	30	30	30	30	30	31	30	31	31	30	30
13	34	34	33	34	33	34	33	34	34	33	33
14	46	46	44	48	46	47	48	47	48	49	50
15	33	33	33	30	30	32	32	33	32	33	32
16	27	27	26	24	25	27	26	27	27	26	26
17	16	16	18	13	14	15	15	15	15	14	14
18	13	12	14	8	11	11	11	12	11	10	11
19	18	17	16	14	15	15	13	13	13	12	13
20	27	26	27	27	26	26	26	26	25	26	26
21	15	15	15	14	14	14	10	13	11	15	9
22	17	15	17	14	14	14	11	12	12	13	8
23	28	29	29	28	27	29	27	27	28	26	27
24	25	25	25	24	24	25	23	25	23	23	23
25	28	29	28	28	27	28	28	29	28	28	28
26	28	29	29	28	28	28	27	28	28	27	28
27	24	25	25	23	23	24	23	24	23	24	23
28	17	15	17	14	14	16	11	12	14	15	11
29	15	14	14	14	13	16	11	13	14	14	10
30	32	32	33	33	32	32	31	30	33	33	30
31	30	30	29	31	28	29	29	28	29	31	30

## Averages and extremes for all data

Ave	26.1	26.0	26.2	25.3	25.0	25.8	24.7	25.2	25.2	25.4	24.6
Max	46	46	46	48	46	47	48	47	48	49	50
Min	13	12	14	8	11	11	10	12	11	10	8
Cases	31	31	31	31	31	31	31	31	31	31	31

## Averages and extremes for days with data from all stations having data for this month

Ave	26.1	26.0	26.2	25.3	25.0	25.8	24.7	25.2	25.2	25.4	24.6
Max	46	46	46	48	46	47	48	47	48	49	50
Min	13	12	14	8	11	11	10	12	11	10	8
Cases	31	31	31	31	31	31	31	31	31	31	31

Table 4.3L. Cook Network: Daily Average Temperatures (F) for December 1975

DAY	C01B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11B	C12A
1	25	25	25	24	24	23	24	24	24	23	23
2	32	32	32	31	31	30	31	32	30	31	30
3	31	31	31	31	30	30	30	31	30	31	30
4	39	39	40	39	38	39	38	39	39	39	39
5	53	53	53	53	51	51	51	52	52	52	51
6	35	35	35	35	35	36	35	35	35	35	35
7	26	27	27	27	27	29	27	28	28	27	27
8	30	30	30	30	30	31	31	31	31	31	30
9	31	31	32	31	30	31	31	31	30	30	30
10	31	31	32	31	30	31	31	31	31	31	30
11	31	32	31	32	31	32	31	32	32	32	31
12	32	33	32	32	31	33	32	33	33	32	32
13	50	50	49	49	48	49	48	50	49	50	49
14	56	57	54	57	56	57	56	57	57	58	57
15	37	37	37	36	35	37	36	38	37	37	37
16	32	32	32	29	29	30	30	31	30	30	30
17	20	19	21	17	18	19	18	20	19	18	19
18	15	15	17	13	13	14	14	15	13	13	13
19	23	24	24	22	22	23	22	23	22	22	22
20	32	32	32	32	30	31	31	32	31	31	31
21	22	22	22	22	21	22	20	21	21	22	20
22	28	27	28	27	25	27	25	26	26	26	24
23	31	32	31	31	30	31	30	31	31	30	30
24	27	28	28	27	27	28	27	28	27	26	27
25	30	31	31	30	29	30	29	31	30	30	30
26	31	32	32	31	30	30	30	31	30	30	30
27	28	28	29	28	27	28	27	28	27	28	27
28	24	25	26	24	24	25	23	24	23	24	23
29	24	24	25	25	24	24	23	24	24	24	23
30	35	35	36	36	35	34	34	34	35	35	34
31	32	32	32	32	32	32	32	32	32	33	32

## Averages and extremes for all data

Ave	31.4	31.7	31.8	31.1	30.5	31.2	30.6	31.4	30.9	31.0	30.5
Max	56	57	54	57	56	57	56	57	57	58	57
Min	15	15	17	13	13	14	14	15	13	13	13
Cases	31	31	31	31	31	31	31	31	31	31	31

## Averages and extremes for days with data from all stations having data for this month

Ave	31.4	31.7	31.8	31.1	30.5	31.2	30.5	31.4	30.9	31.0	30.5
Max	56	57	54	57	56	57	56	57	57	58	57
Min	15	15	17	13	13	14	14	15	13	13	13
Cases	31	31	31	31	31	31	31	31	31	31	31

## V. HUMIDITY

Relative humidity is measured with the hair hygrometer of a hygrothermograph located in a standard instrument shelter. It is recorded on a scale of 0-100% and reported to the nearest whole percent. Since relative humidity is a function of temperature, the data are given in three tables for each month. The first gives the relative humidity for standard National Weather Service reporting times, for each day of the month. The second gives the temperature reported at the same six-hour intervals. The third gives the dew point, defined as the temperature at which saturation occurs. It is calculated from the corresponding values of temperature and relative humidity. The significance of dew point as a moisture variable is that it is a function of the actual amount of water vapor in the air rather than the amount relative to saturation, as is relative humidity.

The data contained in this report are only for the two main stations. Hourly values of temperature and relative humidity as well as calculated values of dew point and specific humidity for all network stations will be used in analyses, however, and are stored at the University of Michigan Computing Center on magnetic tape. Discussions of hygrometer calibration procedures and the general accuracy of the humidity data may be found in annual reports for this project.



Table 5.1A

## Relative Humidity (%)

January 1975

Day	C03A				C10A			
	0100	Time (EST)			0100	Time (EST)		
		0700	1300	1900		0700	1300	1900
1	88	77	73	60	90	78	72	62
2	60	91	56	66	63	86	59	68
3	93	89	91	65	94	91	87	64
4	68	62	61	86	67	63	56	86
5	93	87	65	78	91	92	60	73
6	84	79	91	82	81	78	92	83
7	86	91	61	82	83	90	65	79
8	95	94	94	93	93	95	94	94
9	81	83	85	87	83	79	86	83
10	81	95	91	90	78	94	90	90
11	86	65	66	71	72	62	58	65
12	67	80	81	75	70	82	82	78
13	76	83	86	81	85	85	77	87
14	83	75	77	60	83	82	77	71
15	68	86	70	76	69	87	74	78
16	93	69	64	54	93	68	67	58
17	62	88	54	54	61	83	56	49
18	85	98	81	70	79	94	76	69
19	70	74	75	56	67	71	71	58
20	62	66	51	62	59	63	54	59
21	65	60	66	79	65	57	66	77
22	81	77	59	86	79	70	56	87
23	76	94	56	64	72	93	62	68
24	93	97	77	95	90	95	77	92
25	96	95	90	83	94	91	78	86
26	84	74	73	68	79	73	76	66
27	68	87	66	72	68	89	63	66
28	83	82	58	74	74	70	51	67
29	97	95	65	66	96	85	65	64
30	65	70	61	93	62	68	61	89
31	92	68	48	62	88	66	48	57

Averages for all days with data

Ave	79.9	81.7	70.7	73.9	78.3	80.0	69.5	73.4
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	79.9	81.7	70.7	73.9	78.3	80.0	69.5	73.4
Cases	31	31	31	31	31	31	31	31

Table 5.2A

Temperature (F)

January 1975

Day	C03A				C10A			
	0100	Time (EST)		1900	0100	Time (EST)		1900
		0700	1300			0700	1300	
1	36	32	29	30	34	32	28	29
2	30	21	33	31	29	21	32	31
3	30	34	35	34	30	32	34	33
4	33	32	34	26	32	31	32	24
5	26	24	33	32	26	20	32	31
6	32	32	35	35	31	30	35	35
7	34	31	42	37	34	32	39	37
8	40	46	47	39	41	45	47	39
9	36	35	35	36	36	36	36	36
10	39	44	55	57	39	41	56	57
11	45	31	28	21	49	30	29	20
12	16	12	13	16	13	11	11	12
13	12	11	11	13	9	7	8	10
14	15	14	15	12	15	13	15	8
15	16	26	26	25	15	21	25	21
16	28	25	26	28	27	24	24	25
17	27	14	27	28	25	13	27	29
18	29	31	35	34	29	30	34	34
19	31	29	32	23	31	29	31	23
20	16	9	21	21	15	9	18	19
21	25	30	34	36	24	30	32	34
22	34	25	31	27	33	23	32	24
23	27	19	33	33	24	18	30	32
24	30	29	40	41	29	28	39	40
25	40	39	36	30	39	38	37	28
26	29	28	29	31	28	27	28	29
27	31	24	31	31	23	22	30	31
28	30	29	37	35	30	29	36	35
29	35	44	35	32	35	45	33	31
30	32	31	33	31	31	31	32	30
31	32	31	36	34	31	30	34	33

Averages for all days with data

Ave	29.6	27.8	31.8	30.3	28.5	26.7	30.9	29.1
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	29.6	27.8	31.8	30.3	28.5	26.7	30.9	29.1
Cases	31	31	31	31	31	31	31	31

Table 5.3A

Dew Point (F)

January 1975

Day	C03A				C10A			
	0100	Time (EST) 0700	1300	1900	0100	Time (EST) 0700	1300	1900
1	33	26	21	18	32	25	20	18
2	18	19	19	21	18	17	19	22
3	28	31	33	24	28	30	30	23
4	23	21	22	22	22	20	18	21
5	24	21	22	26	23	18	19	24
6	28	26	33	30	26	24	33	30
7	30	29	29	32	29	29	28	31
8	39	44	45	37	39	44	45	37
9	31	31	31	32	31	30	32	31
10	34	42	53	54	33	40	53	54
11	41	21	18	13	40	19	16	10
12	7	7	9	9	5	7	7	6
13	6	6	8	9	5	3	3	7
14	11	7	9	1	11	9	9	1
15	8	22	18	18	7	18	18	15
16	26	17	15	13	25	15	15	12
17	16	11	12	13	13	9	13	12
18	25	30	30	25	23	29	28	24
19	22	22	25	9	21	20	23	10
20	5	0	5	10	3	0	4	7
21	15	18	24	30	14	16	22	27
22	29	19	18	23	27	14	18	21
23	21	18	19	22	17	16	19	23
24	28	28	34	40	27	27	33	38
25	39	38	34	26	38	35	30	25
26	24	21	21	22	22	20	22	19
27	22	21	21	23	14	19	18	21
28	26	24	23	27	22	20	19	26
29	35	42	24	22	34	41	23	21
30	21	22	21	30	20	21	20	28
31	30	21	18	22	28	20	16	19

Averages for all days with data

Ave	24.0	22.7	23.0	22.7	22.5	21.1	21.7	21.4
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	24.0	22.7	23.0	22.7	22.5	21.1	21.7	21.4
Cases	31	31	31	31	31	31	31	31

Table 5.1B

## Relative Humidity (%)

February 1975

Day	C03A				C10A			
	0100	Time (EST)		1900	0100	Time (EST)		1900
1	76	0700	1300	55	70	0700	1300	61
2	93	96	49	71	83	82	49	72
3	86	94	58	70	79	92	59	61
4	73	72	66	96	70	68	66	91
5	96	95	96	96	98	96	92	95
6	96	94	81	68	95	93	77	64
7	70	88	68	67	68	77	58	64
8	69	71	66	91	66	69	66	86
9	83	77	79	69	79	76	68	65
10	82	84	62	70	76	78	58	64
11	84	90	82	86	77	86	70	74
12	91	88	70	74	81	78	69	72
13	63	67	72	80	60	61	69	77
14	80	95	55	63	74	82	48	55
15	88	97	96	94	62	93	94	95
16	94	94	93	93	89	92	89	90
17	94	95	98	97	92	95	97	90
18	92	92	98	87	89	82	92	86
19	83	88	91	80	80	83	82	74
20	92	96	52	68	82	90	53	67
21	85	98	49	57	87	86	45	57
22	56	87	100	99	56	73	96	98
23	98	99	94	97	97	97	95	96
24	98	82	70	87	97	81	73	86
25	97	97	78	57	94	93	81	53
26	63	66	65	59	61	64	62	61
27	64	65	61	63	64	65	61	64
28	76	81	53	56	73	80	64	55

Averages for all days with data

Ave	83.0	87.0	73.4	76.8	78.4	82.0	70.9	74.0
Cases	28	28	28	28	28	28	28	28

Averages for only those days with data for both stations

Ave	83.0	87.0	73.4	76.8	78.4	82.0	70.9	74.0
Cases	28	28	28	28	28	28	28	28

Table 5.2B

## Temperature (F)

February 1975

Day	C03A				C10A			
		Time (EST)				Time (EST)		
	0100	0700	1300	1900	0100	0700	1300	1900
1	32	28	35	33	32	28	33	32
2	27	20	36	31	28	25	36	29
3	27	23	35	32	25	23	32	31
4	28	30	35	33	27	29	35	32
5	33	33	35	33	31	32	34	33
6	31	33	26	21	30	29	25	19
7	17	6	16	22	15	4	14	20
8	30	22	19	16	28	20	17	13
9	13	11	11	11	13	11	9	7
10	-4	-5	14	20	-4	-4	15	18
11	22	27	33	30	21	25	35	31
12	24	25	30	28	24	23	31	27
13	22	19	21	18	22	19	21	12
14	17	11	30	29	15	11	30	28
15	26	30	33	33	26	29	33	31
16	30	28	33	33	29	28	33	33
17	33	34	39	37	33	35	39	36
18	35	33	33	32	34	33	34	32
19	34	33	30	30	33	31	30	29
20	24	23	37	37	22	23	38	40
21	31	25	43	41	32	29	44	44
22	41	38	37	34	45	40	37	36
23	33	32	36	35	34	35	36	36
24	36	34	34	31	38	35	33	31
25	28	31	33	36	29	29	35	36
26	34	30	32	29	33	31	35	31
27	24	26	31	32	23	26	33	30
28	34	34	33	28	33	34	32	28

Averages for all days with data

Ave	27.1	25.5	30.6	29.4	26.8	25.4	30.7	28.7
Cases	28	28	28	28	28	28	28	28

Averages for only those days with data for both stations

Ave	27.1	25.5	30.6	29.4	26.8	25.4	30.7	28.7
Cases	28	28	28	28	28	28	28	28

Table 5.3B

Dew Point (F)

February 1975

Day	C03A				C10A			
	0100	Time (EST)			0100	Time (EST)		
		0700	1300	1900		0700	1300	1900
1	25	26	20	18	23	24	18	20
2	25	19	19	23	23	20	19	21
3	23	21	21	23	20	21	19	19
4	21	22	25	32	18	20	25	30
5	32	31	33	32	31	31	31	32
6	30	32	21	12	29	28	19	9
7	9	3	7	13	6	0	2	10
8	21	14	10	13	18	12	8	9
9	9	5	6	3	7	5	1	-1
10	-8	-8	4	12	-9	-9	3	8
11	18	24	28	26	15	21	26	23
12	22	22	21	21	19	17	22	20
13	12	10	14	12	10	8	13	6
14	12	10	15	18	8	6	13	14
15	23	29	32	32	15	27	32	29
16	28	27	31	31	26	26	30	30
17	31	32	39	36	31	33	38	33
18	33	31	33	28	31	28	32	28
19	29	29	28	25	27	27	25	21
20	22	22	21	27	17	20	22	30
21	27	25	25	27	29	25	24	30
22	27	35	37	34	30	32	36	36
23	32	32	34	35	34	34	35	35
24	35	29	25	27	37	30	26	27
25	28	31	26	22	28	27	29	20
26	23	20	22	17	21	20	23	19
27	13	15	19	21	12	16	21	19
28	27	29	17	15	26	29	21	14

Averages for all days with data

Ave	22.4	22.0	22.5	22.6	20.7	20.6	21.9	21.1
Cases	28	28	28	28	28	28	28	28

Averages for only those days with data for both stations

Ave	22.4	22.0	22.5	22.6	20.7	20.6	21.9	21.1
Cases	28	28	28	28	28	28	28	28

Table 5.1C

## Relative Humidity (%)

March 1975

Day	C03A				C10A			
	0100	Time (EST)		1900	0100	Time (EST)		1900
		0700	1300			0700	1300	
1	54	60	56	65	53	61	61	69
2	87	93	60	96	80	87	61	80
3	65	78	72	66	91	79	76	69
4	67	75	64	62	71	79	58	61
5	63	83	55	57	74	85	58	61
6	92	85	72	71	94	78	67	66
7	94	96	83	76	94	96	82	78
8	69	68	54	62	76	74	55	62
9	64	73	59	62	72	75	54	60
10	79	96	65	73	75	93	65	67
11	76	80	58	70	76	80	57	70
12	95	95	86	66	94	96	84	65
13	57	59	52	48	56	57	55	50
14	64	63	44	74	63	61	47	59
15	95	96	54	49	95	96	45	63
16	83	94	54	70	80	90	53	58
17	96	88	33	50	86	87	37	45
18	86	84	52	61	85	85	52	66
19	90	94	91	84	95	96	96	82
20	82	85	55	65	88	78	42	57
21	61	80	54	61	59	81	53	60
22	79	95	71	75	75	94	69	69
23	93	78	51	53	79	72	50	54
24	92	96	55	67	90	95	48	55
25	93	87	83	85	90	86	87	77
26	72	62	52	48	78	62	55	48
27	60	63	45	77	60	62	45	72
28	75	91	92	96	72	92	95	95
29	95	66	58	56	95	66	59	56
30	56	68	55	49	57	79	54	50
31	46	66	44	48	49	65	42	49

Averages for all days with data

Ave	76.9	80.6	60.6	65.9	77.5	80.3	60.1	63.7
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	76.9	80.6	60.6	65.9	77.5	80.3	60.1	63.7
Cases	31	31	31	31	31	31	31	31

Table 5.2C

## Temperature (F)

March 1975

Day	C03A				C10A			
	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)
	0100	0700	1300	1900	0100	0700	1300	1900
1	26	26	26	24	26	24	27	24
2	24	24	33	27	23	22	27	25
3	26	25	29	26	24	22	29	25
4	27	25	30	29	26	25	33	29
5	28	20	37	40	25	20	37	40
6	34	34	36	36	36	34	39	37
7	34	34	34	33	35	35	34	34
8	32	27	30	25	32	26	27	24
9	22	18	28	29	21	15	29	28
10	28	26	31	29	28	25	32	29
11	28	28	32	32	28	28	32	31
12	32	36	35	33	33	35	35	33
13	27	25	31	30	26	25	31	31
14	27	24	35	33	27	25	34	33
15	24	22	37	37	24	26	43	37
16	33	30	44	40	33	32	45	43
17	30	28	51	50	32	31	50	47
18	37	40	55	49	38	38	54	51
19	45	40	38	37	45	42	38	37
20	36	35	50	44	34	35	56	48
21	45	38	55	55	45	37	53	55
22	51	37	41	38	50	37	41	38
23	31	35	51	52	33	34	50	51
24	44	48	46	36	44	46	49	38
25	29	31	31	26	29	30	30	27
26	27	22	31	32	26	20	30	32
27	29	28	33	31	29	27	33	31
28	31	32	35	34	31	33	35	34
29	35	31	32	30	35	30	32	30
30	28	26	26	28	27	25	26	28
31	27	28	48	50	26	28	49	53

Averages for all days with data

Ave	31.6	29.7	37.2	35.4	31.4	29.5	37.4	35.5
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	31.6	29.7	37.2	35.4	31.4	29.5	37.4	35.5
Cases	31	31	31	31	31	31	31	31



Table 5.3C

Dew Point (F)

March 1975

Day	C03A				C10A			
	Time	Time (EST)			Time	Time (EST)		
	0100	0700	1300	1900	0100	0700	1300	1900
1	12	14	13	14	11	13	15	15
2	21	23	20	26	18	19	15	20
3	16	19	21	16	21	17	22	17
4	17	18	19	17	18	20	19	17
5	17	16	22	26	18	17	24	27
6	32	30	28	28	34	28	29	27
7	32	33	30	26	34	34	29	27
8	23	17	16	14	25	19	13	13
9	12	11	16	18	14	9	15	16
10	22	25	20	22	21	24	21	20
11	21	23	19	23	21	22	19	23
12	31	35	32	23	32	34	31	23
13	14	13	16	13	13	12	17	14
14	16	13	15	25	16	13	16	20
15	23	21	22	20	23	25	23	26
16	28	28	28	30	27	29	29	28
17	29	25	23	31	28	28	24	27
18	33	35	38	36	34	34	37	39
19	42	38	36	32	44	41	37	32
20	31	31	34	33	31	29	33	34
21	33	33	39	42	31	32	36	41
22	45	36	32	30	42	35	31	28
23	30	29	33	35	28	26	32	35
24	42	47	31	27	41	44	30	23
25	27	27	26	22	27	26	27	20
26	19	11	15	15	20	9	16	15
27	17	16	14	25	17	15	14	23
28	24	30	33	33	24	31	33	33
29	33	21	19	16	34	20	19	16
30	14	17	12	11	14	19	12	12
31	9	18	27	31	10	17	27	34

Averages for all days with data

Ave	24.8	24.2	24.2	24.6	24.9	23.9	24.0	24.0
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	24.8	24.2	24.2	24.6	24.9	23.9	24.0	24.0
Cases	31	31	31	31	31	31	31	31

Table 5.1D

## Relative Humidity (%)

April 1975

Day	C03A				C10A			
	Time (EST)				Time (EST)			
	0100	0700	1300	1900	0100	0700	1300	1900
1	62	85	57	63	65	86	61	65
2	67	72	91	100	69	66	91	100
3	99	81	61	58	96	95	64	59
4	64	56	49	59	57	52	52	59
5	72	73	62	79	77	74	67	80
6	79	71	57	79	80	67	61	76
7	61	75	49	83	64	71	46	70
8	100	81	34	44	87	78	36	45
9	41	43	39	58	40	42	39	55
10	83	86	52	52	80	86	57	49
11	66	68	60	62	85	58	63	62
12	68	74	47	62	75	76	40	63
13	96	80	45	40	90	89	35	40
14	70	65	48	67	52	63	53	67
15	90	99	69	55	91	100	56	53
16	71	86	72	66	67	85	63	66
17	97	82	45	50	88	77	47	53
18	84	92	80	91	83	93	85	91
19	86	83	63	66	77	79	59	58
20	82	88	67	80	75	85	62	73
21	99	98	55	91	87	99	47	87
22	88	97	54	58	89	97	59	58
23	75	64	87	71	75	72	90	71
24	94	96	84	93	94	96	89	91
25	94	94	58	75	94	95	68	70
26	97	78	42	69	96	88	38	40
27	60	58	87	94	56	59	86	93
28	78	83	75	78	82	87	75	80
29	90	98	51	37	89	96	47	41
30	93	82	58	96	90	77	67	94

Averages for all days with data

Ave	80.2	79.5	60.0	69.2	78.3	79.6	60.1	66.8
Cases	30	30	30	30	30	30	30	30

Averages for only those days with data for both stations

Ave	80.2	79.5	60.0	69.2	78.3	79.6	60.1	66.8
Cases	30	30	30	30	30	30	30	30

Table 5.2D

## Temperature (F)

April 1975

Day	C03A				C10A			
	0100	Time (EST)			0100	Time (EST)		
		0700	1300	1900		0700	1300	1900
1	43	41	34	38	46	43	33	36
2	32	34	31	30	32	35	30	33
3	25	27	28	32	25	28	30	30
4	30	28	34	35	30	27	33	28
5	28	26	28	34	25	28	24	32
6	29	25	33	36	29	24	32	36
7	29	25	34	38	30	25	28	36
8	28	26	41	36	29	28	43	44
9	36	32	40	39	37	34	41	41
10	33	27	37	42	35	31	40	44
11	31	32	31	40	32	32	35	37
12	29	20	35	38	29	24	32	44
13	23	19	39	45	25	25	42	50
14	30	33	35	38	37	35	40	44
15	36	34	37	44	37	33	34	45
16	33	42	41	41	41	41	43	52
17	36	35	49	59	39	39	39	56
18	63	61	60	66	62	63	63	66
19	51	40	43	44	55	43	41	48
20	41	39	45	43	41	39	44	46
21	38	31	36	45	39	32	42	45
22	41	43	61	61	41	43	59	63
23	54	54	56	67	55	51	55	65
24	55	51	48	43	60	55	53	52
25	40	45	47	54	41	46	48	51
26	37	32	53	56	38	35	46	61
27	49	48	49	45	49	46	48	45
28	45	43	44	46	44	42	45	48
29	48	56	77	66	46	48	74	65
30	54	58	70	62	54	58	62	60

Averages for all days with data

Ave	38.2	36.9	43.3	45.5	39.3	37.7	42.6	46.8
Cases	30	30	30	30	30	30	30	30

Averages for only those days with data for both stations

Ave	38.2	36.9	43.3	45.5	39.3	37.7	42.6	46.8
Cases	30	30	30	30	30	30	30	30

Table 5.3D

Dew Point (F)

April 1975

Day	C03A				C10A			
	Time (EST)				Time (EST)			
	0100	0700	1300	1900	0100	0700	1300	1900
1	30	30	23	20	32	30	26	21
2	22	23	29	28	24	23	30	29
3	26	22	20	17	25	26	19	17
4	19	16	17	16	16	12	17	16
5	21	21	23	25	19	15	24	26
6	22	21	21	25	23	17	22	25
7	16	21	21	29	18	17	21	25
8	27	21	18	19	27	23	21	21
9	14	13	17	23	14	14	18	24
10	28	26	26	19	29	26	29	20
11	22	23	26	19	29	18	27	21
12	18	23	21	18	20	21	21	22
13	21	27	23	18	23	25	22	21
14	22	25	24	29	20	24	28	30
15	33	34	33	30	35	34	32	30
16	26	38	39	38	31	40	40	39
17	34	35	38	45	37	35	39	46
18	57	60	57	58	57	61	60	62
19	42	35	33	32	43	35	35	30
20	35	36	34	36	33	35	32	34
21	36	31	29	38	34	31	28	37
22	39	42	42	45	38	42	44	44
23	46	44	56	57	46	46	56	57
24	53	47	40	38	54	49	43	40
25	40	43	40	36	40	44	41	37
26	35	35	34	41	36	36	33	33
27	36	33	41	39	35	32	41	40
28	39	37	40	43	39	39	38	42
29	44	43	50	45	42	43	49	44
30	51	51	53	60	51	50	55	59

Averages for all days with data

Ave	31.8	31.8	32.2	32.9	32.3	31.4	33.1	33.1
Cases	30	30	30	30	30	30	30	30

Averages for only those days with data for both stations

Ave	31.8	31.8	32.2	32.9	32.3	31.4	33.1	33.1
Cases	30	30	30	30	30	30	30	30

Table 5.1E

## Relative Humidity (%)

May 1975

Day	C03A				C10A			
	Time (EST)				Time (EST)			
	0100	0700	1300	1900	0100	0700	1300	1900
1	96	85	55	43	95	83	54	51
2	87	65	46	44	74	70	39	52
3	64	68	74	98	62	68	65	95
4	98	98	85	83	96	97	92	85
5	98	97	56	69	97	96	62	77
6	97	94	71	85	96	92	74	80
7	78	81	42	47	82	83	47	52
8	60	54	38	44	62	58	42	49
9	78	52	32	41	66	63	35	43
10	86	73	45	33	86	92	40	38
11	79	59	32	42	66	73	46	45
12	94	94	71	75	97	96	82	79
13	76	85	43	37	88	90	51	46
14	66	61	47	58	57	72	59	55
15	94	96	67	75	96	97	74	77
16	94	78	59	66	96	82	67	70
17	94	74	44	61	95	82	46	62
18	96	59	37	40	98	70	43	53
19	48	66	39	34	64	75	50	41
20	70	82	60	93	84	89	63	90
21	92	84	88	89	92	92	93	95
22	96	92	95	97	97	96	94	93
23	96	91	60	59	98	97	67	71
24	87	78	51	88	93	91	55	98
25	93	85	52	93	100	91	59	99
26	95	95	75	65	99	99	81	82
27	90	71	54	46	87	77	61	51
28	96	80	46	45	100	89	42	52
29	74	81	65	78	80	86	67	83
30	93	87	68	98	100	93	72	100
31	97	94	66	76	100	99	69	87

Averages for all days with data

Ave	85.8	79.3	56.8	64.5	87.2	85.1	61.0	69.4
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	85.8	79.3	56.8	64.5	87.2	85.1	61.0	69.4
Cases	31	31	31	31	31	31	31	31

Table 5.2E  
Temperature (F)  
May 1975

Day	C03A				C10A			
	Time (EST)				Time (EST)			
	0100	0700	1300	1900	0100	0700	1300	1900
1	45	44	51	57	48	45	53	55
2	45	52	66	65	46	51	68	63
3	58	57	61	52	58	56	58	52
4	44	43	49	49	45	44	46	48
5	42	46	67	64	41	46	65	64
6	53	49	53	48	55	50	59	52
7	50	50	64	62	48	50	63	61
8	54	55	66	62	53	54	65	59
9	53	59	69	56	54	57	69	56
10	46	50	60	66	45	48	67	64
11	46	51	70	65	48	53	69	63
12	53	50	50	46	53	52	53	46
13	41	42	57	59	40	44	62	58
14	44	52	68	67	47	52	67	66
15	54	48	54	49	53	52	53	50
16	44	47	55	52	42	44	57	52
17	45	52	71	64	46	53	69	63
18	50	58	75	79	51	60	77	78
19	71	66	90	85	67	65	84	83
20	70	70	84	64	69	67	85	65
21	66	70	68	66	65	68	69	64
22	65	65	58	57	63	63	65	65
23	57	60	78	77	57	61	77	78
24	70	71	80	71	68	69	83	73
25	63	68	81	67	65	68	82	66
26	66	65	69	71	65	66	71	70
27	62	57	65	67	61	57	65	67
28	49	55	71	66	50	53	73	67
29	60	61	73	73	60	60	75	72
30	67	66	75	61	65	65	75	62
31	51	53	62	58	52	53	63	56

Averages for all days with data

Ave	54.3	55.9	66.4	62.7	54.1	55.6	67.2	62.5
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	54.3	55.9	66.4	62.7	54.1	55.6	67.2	62.5
Cases	31	31	31	31	31	31	31	31

Table 5.3E

Dew Point (F)

May 1975

Day	C03A				C10A			
	Time (EST)				Time (EST)			
	0100	0700	1300	1900	0100	0700	1300	1900
1	44	40	35	35	47	40	36	37
2	41	40	44	43	38	41	41	45
3	46	46	53	51	45	45	46	51
4	44	42	44	44	44	43	44	44
5	42	46	51	53	40	44	52	57
6	52	48	44	44	54	48	50	46
7	43	44	41	41	42	45	43	43
8	41	39	40	39	40	39	41	40
9	46	41	38	33	43	45	40	34
10	42	41	39	35	41	46	42	38
11	40	37	39	41	37	44	47	42
12	51	48	41	38	52	51	48	40
13	34	37	35	32	36	41	43	37
14	34	39	47	51	33	43	52	50
15	52	47	43	41	52	51	45	44
16	42	40	41	41	41	39	46	43
17	43	44	48	50	45	47	48	50
18	49	44	46	52	50	50	52	59
19	51	54	61	53	54	56	62	56
20	59	65	69	62	63	64	70	62
21	64	65	64	63	63	65	67	62
22	63	62	56	56	62	62	63	63
23	56	58	63	61	56	60	65	68
24	66	64	60	68	66	67	65	72
25	61	63	61	65	64	65	67	66
26	64	64	61	58	65	65	65	64
27	59	48	48	45	57	49	51	47
28	48	48	49	44	50	50	48	49
29	51	55	61	65	54	56	64	66
30	64	62	63	61	65	63	65	62
31	50	51	50	51	52	53	53	52

Averages for all days with data

Ave	49.7	49.1	49.5	48.9	50.0	51.0	52.2	51.2
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	49.7	49.1	49.5	48.9	50.0	51.0	52.2	51.2
Cases	31	31	31	31	31	31	31	31

Table 5.1F

## Relative Humidity (%)

June 1975

Day	C03A				C10A			
	0100	Time (EST)		1900	0100	Time (EST)		1900
		0700	1300			0700	1300	
1	95	88	65	70	100	97	68	73
2	97	93	76	72	100	94	86	78
3	98	96	67	50	100	100	70	58
4	83	88	73	69	88	94	82	87
5	71	95	51	57	81	100	52	66
6	68	71	57	65	67	77	64	67
7	80	79	74	76	84	85	78	83
8	96	76	54	66	100	79	54	65
9	97	84	52	47	99	89	60	55
10	71	77	45	55	80	85	53	63
11	73	95	82	68	83	100	94	85
12	87	75	56	74	92	82	47	66
13	81	82	52	51	70	81	46	53
14	96	86	61	95	93	88	59	94
15	89	90	91	80	93	90	86	83
16	85	84	51	58	88	85	56	64
17	69	73	69	84	70	78	82	78
18	82	89	67	81	90	85	69	85
19	87	86	73	75	87	83	69	82
20	95	95	67	77	93	89	66	77
21	95	78	47	58	92	84	53	62
22	88	84	55	67	92	85	56	70
23	82	94	71	89	86	90	63	81
24	95	90	81	82	94	90	73	79
25	95	89	87	81	93	89	93	83
26	94	78	68	81	92	85	68	76
27	96	95	74	70	93	94	62	69
28	96	87	51	74	94	90	54	62
29	95	78	51	73	91	86	51	51
30	93	85	36	63	90	86	30	51

Averages for all days with data

Ave	87.6	85.3	63.5	70.3	89.2	87.9	64.9	71.5
Cases	30	30	30	30	30	30	30	30

Averages for only those days with data for both stations

Ave	87.6	85.3	63.5	70.3	89.2	87.9	64.9	71.5
Cases	30	30	30	30	30	30	30	30



Table 5.2F

## Temperature (F)

June 1975

Day	C03A				C10A			
	Time (EST)				Time (EST)			
	0100	0700	1300	1900	0100	0700	1300	1900
1	51	56	63	57	50	53	66	59
2	49	53	59	61	48	53	57	60
3	50	55	67	70	49	53	68	72
4	58	61	75	77	55	60	72	77
5	73	65	72	69	72	63	74	70
6	64	63	67	61	64	63	66	61
7	57	53	55	54	56	52	54	53
8	49	56	62	58	46	53	63	58
9	47	56	68	70	48	55	67	67
10	59	58	79	76	57	61	78	74
11	67	66	72	79	64	66	72	74
12	63	61	70	65	60	62	72	62
13	63	63	76	77	62	63	78	73
14	60	63	73	64	60	63	75	63
15	68	65	64	63	68	65	64	62
16	60	61	73	73	58	59	73	71
17	69	70	77	70	69	70	76	72
18	71	70	81	77	68	69	83	76
19	75	74	82	86	75	76	84	83
20	74	73	81	79	72	75	85	83
21	70	72	88	84	70	72	88	85
22	73	76	90	82	71	76	89	79
23	76	71	77	73	74	70	83	73
24	69	71	76	77	67	70	79	77
25	69	71	73	73	68	69	71	72
26	67	71	81	76	66	69	81	77
27	68	72	80	76	67	70	81	78
28	68	76	85	74	66	74	86	76
29	68	76	87	76	69	73	86	81
30	68	72	85	76	68	69	86	79

Averages for all days with data

Ave	64.1	65.8	74.6	71.8	63.0	65.0	75.2	71.6
Cases	30	30	30	30	30	30	30	30

Averages for only those days with data for both stations

Ave	64.1	65.8	74.6	71.8	63.0	65.0	75.2	71.6
Cases	30	30	30	30	30	30	30	30

Table 5.3F  
Dew Point (F)  
June 1975

Day	C03A				C10A			
	0100	Time (EST) 0700	1300	1900	0100	Time (EST) 0700	1300	1900
1	50	52	51	48	50	52	55	50
2	48	51	52	51	48	52	53	53
3	49	54	55	50	49	53	58	56
4	53	58	66	66	52	58	67	72
5	63	63	53	54	66	63	55	58
6	54	53	51	49	53	56	53	50
7	51	47	46	47	52	48	48	48
8	48	48	45	47	46	47	46	46
9	47	51	49	49	48	52	53	50
10	49	51	55	59	51	57	59	60
11	58	65	66	68	59	66	70	69
12	60	53	53	56	58	56	51	51
13	57	57	56	57	52	57	56	55
14	59	58	59	63	57	59	60	61
15	64	62	61	57	66	62	60	57
16	55	56	54	58	55	54	56	58
17	58	61	66	65	58	63	70	64
18	66	67	69	70	65	64	71	71
19	70	70	72	77	71	71	73	77
20	73	71	69	71	70	71	72	75
21	68	64	65	68	68	66	68	71
22	70	70	71	70	69	71	71	69
23	70	69	67	70	69	67	69	67
24	68	68	70	71	65	67	70	69
25	68	67	69	67	66	66	69	67
26	65	64	69	70	64	64	69	69
27	67	70	71	65	65	68	67	67
28	67	72	65	66	64	71	67	62
29	66	69	67	66	66	69	66	61
30	66	67	54	62	65	65	51	59

Averages for all days with data

Ave	60.1	61.0	60.6	61.1	59.5	61.1	61.7	61.4
Cases	30	30	30	30	30	30	30	30

Averages for only those days with data for both stations

Ave	60.1	61.0	60.6	61.1	59.5	61.1	61.7	61.4
Cases	30	30	30	30	30	30	30	30

Table 5.1G

## Relative Humidity (%)

July 1975

Day	C03A				C10A			
	Time (EST)				Time (EST)			
	0100	0700	1300	1900	0100	0700	1300	1900
1	93	81	48	48	86	82	43	42
2	90	74	43	46	90	77	38	42
3	73	87	70	87	71	82	62	79
4	93	70	53	79	90	79	44	63
5	95	76	48	57	90	81	46	52
6	89	89	68	63	88	85	75	65
7	90	92	63	85	90	85	54	81
8	95	86	67	70	90	91	59	65
9	91	64	55	52	91	78	48	44
10	95	77	58	67	92	82	61	66
11	76	67	49	74	86	80	41	86
12	97	92	62	94	92	92	65	91
13	96	87	54	70	91	91	46	81
14	97	93	63	60	92	90	57	66
15	86	74	51	56	90	82	47	58
16	93	78	46	61	89	83	44	60
17	90	76	44	52	88	75	44	56
18	91	74	90	81	88	79	92	80
19	76	93	74	83	85	77	80	88
20	91	90	M	66	89	91	56	46
21	87	82	54	64	85	84	55	61
22	95	84	52	58	91	88	50	61
23	81	86	55	71	87	88	57	70
24	92	90	75	64	89	89	75	57
25	67	71	59	66	88	89	48	60
26	96	76	44	58	92	77	38	49
27	75	77	61	55	80	75	51	45
28	94	87	52	57	92	79	39	43
29	95	82	47	55	91	76	40	55
30	92	76	41	56	82	76	39	55
31	93	77	46	65	93	84	39	60

Averages for all days with data

Ave	89.1	80.8	56.5	65.2	88.3	82.8	52.7	62.2
Cases	31	31	30	31	31	31	31	31

Averages for only those days with data for both stations

Ave	89.1	80.5	56.5	65.2	88.3	82.6	52.5	62.7
Cases	30	30	30	30	30	30	30	30

Table 5.2G  
Temperature (F)  
July 1975

Day	C03A				C10A			
	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)
	0100	0700	1300	1900	0100	0700	1300	1900
1	64	71	85	81	65	70	86	83
2	65	73	85	80	64	70	86	83
3	71	76	82	77	70	75	81	77
4	69	73	80	72	67	70	81	75
5	62	72	81	77	61	68	82	80
6	69	70	78	78	68	68	75	79
7	72	71	82	74	71	70	81	73
8	67	72	81	74	66	68	82	72
9	63	67	77	76	61	64	76	75
10	63	66	70	64	62	64	66	63
11	57	61	71	63	54	59	72	58
12	53	59	66	61	50	58	64	59
13	57	59	69	65	55	58	69	65
14	55	56	68	70	54	55	69	69
15	61	64	79	81	59	63	80	80
16	65	69	85	81	64	66	85	80
17	68	69	86	83	68	69	85	82
18	70	72	69	74	69	70	65	73
19	76	76	83	79	72	75	81	78
20	70	72	83	78	68	69	78	81
21	70	70	79	74	69	67	81	75
22	61	65	80	79	59	62	81	79
23	73	70	82	77	70	70	84	78
24	73	72	77	73	74	71	76	76
25	68	71	78	67	63	64	76	70
26	56	63	79	75	55	60	82	78
27	69	73	81	78	65	69	82	77
28	62	67	82	78	60	64	82	77
29	60	66	88	82	59	68	89	82
30	67	73	90	81	67	71	91	81
31	68	76	92	82	68	72	93	82

Averages for all days with data

Ave	65.3	68.8	79.5	75.3	63.7	66.6	79.3	75.4
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	65.3	68.8	79.5	75.3	63.7	66.6	79.3	75.4
Cases	31	31	31	31	31	31	31	31

Table 5.3G  
Dew Point (F)  
July 1975

Day	C03A				C10A			
	0100	Time (EST) 0700	1300	1900	0100	Time (EST) 0700	1300	1900
1	62	65	62	59	61	64	60	57
2	62	64	60	58	61	63	57	57
3	62	72	71	72	60	69	67	70
4	67	62	61	65	64	63	56	61
5	61	63	60	61	58	62	59	60
6	65	66	66	64	64	63	66	66
7	69	68	68	69	69	66	63	66
8	66	68	69	63	63	65	66	60
9	60	54	59	56	58	57	54	51
10	61	58	54	53	59	58	52	51
11	50	50	51	54	50	52	46	54
12	52	57	53	59	48	56	52	56
13	56	55	51	54	53	55	47	59
14	54	54	55	56	51	52	53	57
15	57	55	59	64	56	57	58	64
16	63	62	61	66	60	61	61	65
17	65	61	62	64	64	61	61	65
18	68	63	65	68	66	63	63	66
19	68	74	74	74	67	67	74	74
20	68	69	M	65	64	66	61	58
21	66	64	60	61	64	62	63	60
22	59	60	60	62	56	58	60	64
23	67	66	64	66	66	66	67	68
24	70	69	68	60	70	68	68	59
25	56	61	62	56	59	60	55	56
26	55	56	55	59	53	53	53	57
27	60	65	66	60	59	60	62	55
28	60	63	62	61	58	58	54	52
29	59	60	65	64	56	60	61	64
30	65	65	63	64	61	63	62	63
31	66	68	68	69	66	67	64	66

Averages for all days with data

Ave	61.9	62.5	61.9	62.2	60.1	61.1	59.5	60.7
Cases	31	31	30	31	31	31	31	31

Averages for only those days with data for both stations

Ave	61.7	62.3	61.9	62.1	60.0	60.9	59.5	60.8
Cases	30	30	30	30	30	30	30	30

Table 5.1H

## Relative Humidity (%)

August 1975

Day	C03A				C10A			
	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)
	0100	0700	1300	1900	0100	0700	1300	1900
1	93	72	53	74	91	85	49	81
2	95	94	89	94	91	91	90	92
3	95	94	66	70	92	90	58	68
4	96	95	57	50	93	92	52	49
5	84	95	95	64	77	94	95	68
6	74	78	55	55	73	82	49	55
7	92	88	47	68	94	89	42	51
8	95	73	43	51	90	82	46	55
9	87	78	50	51	87	86	40	52
10	70	83	52	78	85	88	49	85
11	94	95	66	90	92	92	55	86
12	92	90	75	71	90	85	78	75
13	62	83	63	73	86	82	61	71
14	95	81	43	67	93	82	37	67
15	76	92	76	84	74	93	83	86
16	95	96	63	70	92	91	60	62
17	93	86	75	78	91	92	60	72
18	95	95	55	M	94	94	51	65
19	83	85	54	73	84	84	52	65
20	94	86	73	95	89	85	74	92
21	95	91	70	74	91	89	64	77
22	95	97	75	89	93	92	71	89
23	95	95	69	77	92	91	74	78
24	74	89	64	74	83	91	67	78
25	79	91	69	82	85	92	71	76
26	93	86	56	67	92	92	49	64
27	93	87	53	78	92	93	49	77
28	94	73	49	76	93	83	53	75
29	94	92	84	87	93	92	86	90
30	93	93	94	95	92	93	93	94
31	95	96	87	89	94	94	89	88

Averages for all days with data

Ave	89.1	88.0	65.2	74.9	89.1	89.1	62.8	73.7
Cases	31	31	31	30	31	31	31	31

Averages for only those days with data for both stations

Ave	88.9	87.8	65.5	74.9	88.9	88.9	63.2	74.0
Cases	30	30	30	30	30	30	30	30

Table 5.2H

Temperature (F)

August 1975

Day	C03A				C10A			
	Time (EST)				Time (EST)			
	0100	0700	1300	1900	0100	0700	1300	1900
1	71	79	87	79	71	75	92	80
2	73	72	76	74	73	71	75	75
3	71	73	79	74	70	72	79	73
4	63	65	81	82	62	66	84	81
5	69	71	68	71	69	72	68	71
6	63	61	72	66	63	61	72	67
7	55	58	75	69	54	57	75	72
8	54	60	79	76	55	58	79	76
9	64	67	83	81	63	64	85	79
10	75	73	85	71	69	70	85	73
11	65	68	82	72	65	68	86	71
12	67	68	81	84	65	67	78	82
13	80	77	81	79	75	77	81	78
14	67	66	84	72	66	63	82	72
15	70	64	70	69	69	62	67	67
16	61	63	76	74	63	64	79	75
17	69	71	76	73	68	68	80	73
18	62	62	78	72	61	62	81	71
19	61	63	79	73	60	61	79	74
20	64	65	75	71	63	64	76	71
21	70	73	84	85	69	73	87	85
22	68	71	79	76	71	71	81	77
23	71	74	88	84	71	73	86	83
24	80	78	88	83	77	74	87	83
25	78	75	81	74	77	74	82	74
26	69	67	77	72	67	67	78	75
27	60	62	80	73	59	59	81	73
28	62	67	84	77	63	66	84	77
29	68	69	74	74	69	69	75	73
30	69	68	70	67	70	68	70	68
31	68	68	66	66	69	69	66	66

Averages for all days with data

Ave	67.4	68.3	78.6	74.5	66.6	67.2	79.3	74.7
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	67.4	68.3	78.6	74.5	66.6	67.2	79.3	74.7
Cases	31	31	31	31	31	31	31	31

Table 5.3H

Dew Point (F)

August 1975

Day	C03A				C10A			
	Time (EST)				Time (EST)			
	0100	0700	1300	1900	0100	0700	1300	1900
1	69	69	68	70	68	70	70	74
2	71	70	72	73	70	68	72	72
3	70	72	67	64	68	69	63	62
4	61	64	64	61	60	63	65	60
5	64	69	66	58	62	70	67	60
6	54	54	55	50	54	55	52	50
7	53	54	53	57	52	53	50	53
8	53	51	54	55	52	52	56	58
9	60	60	63	61	59	59	57	60
10	65	68	66	64	65	66	64	68
11	63	66	69	69	62	65	68	66
12	65	65	73	73	62	62	70	73
13	66	71	67	69	71	71	66	67
14	66	59	59	61	64	57	53	61
15	62	61	62	64	61	60	61	63
16	59	62	63	64	60	61	64	61
17	67	67	67	66	65	66	65	64
18	61	61	61	M	59	60	61	58
19	56	58	61	63	55	56	59	61
20	62	60	66	69	59	59	67	68
21	68	70	73	76	66	70	73	76
22	66	69	70	72	68	68	71	73
23	70	72	77	75	68	70	76	76
24	71	74	74	74	71	72	75	75
25	71	72	70	68	72	71	71	66
26	67	63	59	60	65	65	57	62
27	58	58	61	66	57	57	60	65
28	60	58	63	69	61	61	65	68
29	66	67	69	70	67	67	70	70
30	67	66	68	65	68	66	68	66
31	67	67	62	62	67	67	63	63

Averages for all days with data

Ave	63.8	64.4	65.2	65.6	63.2	63.8	64.5	65.2
Cases	31	31	31	30	31	31	31	31

Averages for only those days with data for both stations

Ave	63.9	64.5	65.3	65.6	63.4	64.0	64.6	65.5
Cases	30	30	30	30	30	30	30	30



Table 5.1I

## Relative Humidity (%)

Sept. 1975

Day	C03A				C10A			
	0100	Time (EST) 0700	1300	1900	0100	Time (EST) 0700	1300	1900
1	90	88	62	87	92	88	67	77
2	94	92	71	90	92	92	72	83
3	95	93	75	90	92	91	74	82
4	95	93	55	81	92	92	72	85
5	94	96	96	93	94	95	92	91
6	74	83	63	77	83	95	57	84
7	95	96	49	65	95	89	51	64
8	73	83	63	70	89	95	66	77
9	97	93	43	69	96	96	45	65
10	91	84	55	70	85	86	53	70
11	85	94	86	66	78	92	87	80
12	76	72	50	46	73	85	51	48
13	45	48	41	80	51	48	41	48
14	98	75	40	80	93	91	40	55
15	67	73	49	77	72	78	47	87
16	93	94	63	80	93	94	51	82
17	95	95	68	89	92	94	73	89
18	95	95	75	88	94	93	62	86
19	92	95	86	94	89	94	90	93
20	95	91	67	83	93	92	65	87
21	73	79	72	85	89	80	70	94
22	77	76	70	83	86	96	76	85
23	90	97	46	77	88	98	46	81
24	83	69	43	56	82	76	44	52
25	71	95	90	82	70	91	94	92
26	96	95	62	92	93	93	69	91
27	97	95	55	88	95	94	45	82
28	98	96	37	81	95	92	36	74
29	96	91	58	95	92	90	64	93
30	95	95	54	63	93	93	49	74

Averages for all days with data

Ave	87.2	87.3	61.5	79.3	87.3	89.5	61.7	78.4
Cases	30	30	30	30	30	30	30	30

Averages for only those days with data for both stations

Ave	87.2	87.3	61.5	79.3	87.3	89.5	61.7	78.4
Cases	30	30	30	30	30	30	30	30

Table 5.2I  
Temperature (F)  
Sept. 1975

Day	C03A				C10A			
	0100	Time (EST)		1900	0100	Time (EST)		1900
1	65	65	75	73	65	66	75	77
2	65	68	76	66	67	69	80	70
3	59	65	78	72	60	66	82	76
4	61	64	70	63	62	63	69	64
5	57	58	63	61	57	60	64	60
6	62	63	68	61	61	59	69	63
7	50	50	73	71	52	54	74	72
8	64	60	66	58	59	54	65	56
9	48	44	65	62	47	46	67	62
10	52	54	79	75	54	54	79	73
11	66	67	72	61	67	67	74	61
12	55	52	57	54	54	52	56	53
13	54	53	58	52	51	51	58	52
14	39	40	64	61	40	44	66	61
15	52	50	64	60	53	50	66	61
16	57	56	67	62	58	57	69	64
17	51	57	68	66	57	59	70	67
18	60	58	71	66	62	60	73	68
19	62	63	60	54	64	64	66	56
20	51	48	56	55	52	48	59	54
21	55	54	54	53	53	54	55	51
22	53	53	55	54	53	51	55	51
23	49	41	66	58	49	42	65	55
24	51	47	62	57	51	47	62	56
25	51	47	50	50	50	47	50	50
26	48	45	58	53	48	47	56	52
27	41	40	61	54	44	46	64	51
28	41	39	70	62	41	45	70	59
29	45	49	63	54	47	49	63	54
30	51	53	68	64	51	48	68	63

Averages for all days with data

Ave	53.9	53.5	65.2	60.4	54.3	53.9	66.3	60.4
Cases	30	30	30	30	30	30	30	30

Averages for only those days with data for both stations

Ave	53.9	53.5	65.2	60.4	54.3	53.9	66.3	60.4
Cases	30	30	30	30	30	30	30	30

Table 5.3I

Dew Point (F)

Sept. 1975

Day	C03A				C10A			
	Time (EST)				Time (EST)			
	0100	0700	1300	1900	0100	0700	1300	1900
1	62	61	61	69	63	62	63	69
2	64	66	66	63	65	66	70	65
3	57	63	70	69	58	63	73	70
4	59	62	53	57	60	60	60	60
5	55	57	61	58	56	58	62	57
6	54	58	55	54	56	57	53	58
7	49	49	53	59	50	51	55	59
8	55	55	53	48	56	53	53	49
9	47	42	42	52	45	45	44	50
10	50	49	62	65	49	50	60	63
11	61	65	68	50	60	65	70	54
12	48	43	38	34	46	48	38	33
13	33	34	34	46	33	32	34	33
14	39	32	40	55	39	41	40	44
15	42	42	44	52	44	43	46	57
16	55	55	54	56	56	55	50	58
17	50	56	57	62	55	57	61	64
18	58	57	62	63	60	58	59	64
19	60	61	56	52	61	63	63	54
20	49	45	45	50	50	46	47	50
21	47	47	45	48	50	48	45	49
22	46	45	45	49	49	50	48	47
23	46	41	44	51	45	41	44	49
24	46	38	40	41	46	40	40	39
25	42	45	47	45	41	44	48	48
26	47	44	45	51	46	45	46	49
27	40	39	45	50	43	44	42	46
28	40	38	42	56	40	42	42	50
29	44	46	47	53	45	46	50	52
30	50	51	51	51	49	47	48	54

Averages for all days with data

Ave	49.8	49.5	50.8	53.6	50.5	50.7	51.8	53.2
Cases	30	30	30	30	30	30	30	30

Averages for only those days with data for both stations

Ave	49.8	49.5	50.8	53.6	50.5	50.7	51.8	53.2
Cases	30	30	30	30	30	30	30	30

Table 5.1J

## Relative Humidity (%)

October 1975

Day	C03A				C10A			
	0100	0700	1300	1900	0100	0700	1300	1900
1	64	69	62	62	69	75	62	67
2	76	90	49	80	81	96	51	82
3	88	76	43	40	91	76	34	45
4	77	94	41	66	69	78	38	65
5	79	86	46	47	71	82	46	51
6	75	93	48	76	65	96	41	69
7	94	92	34	59	95	92	35	66
8	71	86	59	76	62	88	64	89
9	84	94	42	72	89	96	44	76
10	86	89	46	78	92	92	35	79
11	78	68	54	82	93	82	53	81
12	95	95	49	46	97	96	48	50
13	52	65	48	52	54	69	42	51
14	57	63	44	50	70	81	43	48
15	93	93	69	55	91	88	68	55
16	64	81	55	77	75	96	53	82
17	95	91	60	58	94	90	57	57
18	69	70	56	81	69	71	59	82
19	95	95	95	94	95	94	93	94
20	95	79	42	48	94	94	42	50
21	54	86	54	83	62	86	46	83
22	94	96	48	56	87	89	52	56
23	61	81	48	64	61	78	48	61
24	74	77	55	67	68	74	56	68
25	88	67	61	45	88	70	61	73
26	46	91	35	50	93	95	37	51
27	68	78	38	49	73	77	38	48
28	62	92	70	82	64	93	60	86
29	75	88	48	64	79	93	51	72
30	82	91	43	59	85	81	46	60
31	72	77	35	38	77	73	41	38

Averages for all days with data

Ave	76.3	83.7	50.9	63.2	79.1	85.2	49.7	65.6
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	76.3	83.7	50.9	63.2	79.1	85.2	49.7	65.6
Cases	31	31	31	31	31	31	31	31

Table 5.2J  
Temperature (F)  
October 1975

Day	C03A				C10A			
	Time	Time (EST)			Time	Time (EST)		
	0100	0700	1300	1900	0100	0700	1300	1900
1	58	52	51	50	57	49	50	48
2	45	41	55	43	43	39	50	42
3	38	40	63	60	36	40	63	57
4	48	42	67	58	47	44	70	59
5	48	45	70	68	50	46	70	66
6	61	55	66	55	60	49	67	54
7	41	43	71	57	44	45	71	56
8	48	51	67	60	53	53	67	60
9	55	45	69	64	55	45	72	63
10	57	47	66	54	55	44	68	53
11	52	49	59	51	48	48	60	50
12	40	40	68	64	41	42	68	63
13	63	63	81	74	61	63	83	72
14	69	67	81	76	64	61	80	73
15	62	62	60	54	61	61	60	52
16	49	46	56	48	45	40	56	45
17	41	42	51	50	41	42	52	49
18	47	44	50	46	45	41	48	44
19	46	46	48	49	44	46	48	48
20	49	52	65	65	48	45	64	63
21	61	49	67	59	56	49	70	57
22	48	47	75	71	48	49	73	70
23	66	58	74	67	64	58	72	67
24	60	63	78	74	61	63	76	73
25	53	45	48	50	52	43	49	44
26	46	35	58	47	36	33	56	45
27	42	40	63	57	40	41	63	57
28	54	52	61	53	52	49	63	52
29	48	42	53	47	47	40	51	44
30	37	30	48	41	34	31	48	39
31	37	38	57	57	36	38	55	56

Averages for all days with data

Ave	50.6	47.5	62.8	57.0	49.0	46.4	62.7	55.5
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	50.6	47.5	62.8	57.0	49.0	46.4	62.7	55.5
Cases	31	31	31	31	31	31	31	31

Table 5.3J

Dew Point (F)

October 1975

Day	C03A				C10A			
	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)
	0100	0700	1300	1900	0100	0700	1300	1900
1	46	42	39	38	47	42	38	37
2	38	39	35	37	37	38	33	37
3	35	34	40	36	33	33	34	36
4	41	40	42	46	38	38	43	47
5	42	41	48	46	41	41	48	47
6	53	53	46	47	48	48	42	44
7	39	41	40	42	42	42	42	45
8	39	47	53	53	41	49	55	56
9	50	44	45	54	52	44	48	55
10	53	44	44	47	53	42	39	47
11	45	39	42	46	46	43	42	44
12	39	38	48	43	40	41	47	44
13	45	51	59	56	44	53	58	52
14	53	54	57	56	53	55	55	52
15	60	59	49	38	59	58	49	36
16	37	40	40	41	37	39	39	40
17	40	39	37	36	39	40	37	34
18	37	35	35	40	36	32	35	39
19	44	45	47	48	43	45	46	46
20	47	46	41	45	46	43	40	44
21	44	46	50	53	43	45	48	52
22	47	46	54	55	44	46	55	53
23	52	52	53	54	50	51	51	53
24	52	56	60	62	51	55	59	61
25	49	35	36	29	48	34	36	36
26	27	32	30	29	34	32	30	28
27	32	34	37	37	32	34	37	37
28	41	49	51	48	40	47	49	48
29	41	39	34	36	40	38	33	36
30	32	27	26	27	30	26	28	26
31	29	31	29	31	30	30	31	31

Averages for all days with data

Ave	42.9	42.5	43.5	43.8	42.4	42.0	42.8	43.3
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	42.9	42.5	43.5	43.8	42.4	42.0	42.8	43.3
Cases	31	31	31	31	31	31	31	31

Table 5.1K

## Relative Humidity (%)

November 1975

Day	C03A				C10A			
	Time (FST)	Time (FST)	Time (FST)	Time (FST)	Time (FST)	Time (FST)	Time (FST)	Time (FST)
	0100	0700	1300	1900	0100	0700	1300	1900
1	44	88	80	91	48	93	88	95
2	91	91	64	87	92	91	76	89
3	89	93	77	83	91	94	87	85
4	93	95	93	94	94	94	91	90
5	95	96	69	94	93	92	63	92
6	95	95	56	81	94	94	51	76
7	94	95	73	82	87	94	77	84
8	88	96	84	96	89	94	79	96
9	96	95	71	75	95	94	74	74
10	82	66	51	48	85	64	49	46
11	58	88	40	50	78	89	36	50
12	61	63	66	71	63	68	63	74
13	96	92	95	83	91	84	68	69
14	61	64	60	65	63	69	67	88
15	65	68	48	56	79	67	47	64
16	77	96	47	62	81	94	44	65
17	83	92	53	68	80	85	58	72
18	75	93	41	51	82	85	46	53
19	79	83	40	64	71	86	45	55
20	64	72	91	71	70	74	93	75
21	65	94	80	86	72	98	94	84
22	65	67	60	54	68	74	68	79
23	61	91	57	70	92	91	55	87
24	87	90	54	87	89	88	56	87
25	92	80	74	85	96	87	77	95
26	63	67	50	73	70	72	55	68
27	97	92	90	80	97	98	93	89
28	81	82	68	81	85	88	73	82
29	69	96	93	78	77	94	94	77
30	72	72	78	69	75	76	83	68

Averages for all days with data

Ave	78.0	85.0	66.7	74.4	81.5	85.7	68.4	77.0
Cases	30	30	30	30	30	30	30	30

Averages for only those days with data for both stations

Ave	78.0	85.0	66.7	74.4	81.5	85.7	68.4	77.0
Cases	30	30	30	30	30	30	30	30

Table 5.2K

Temperature (F)

November 1975

Day	C03A				C10A			
	Time (EST)				Time (EST)			
	0100	0700	1300	1900	0100	0700	1300	1900
1	58	53	55	55	54	51	53	53
2	56	56	64	65	54	55	62	63
3	63	60	65	64	60	58	60	59
4	60	58	61	59	57	56	58	56
5	54	59	69	59	51	54	67	57
6	53	59	74	67	51	55	73	64
7	64	61	66	63	61	58	62	59
8	64	58	58	54	60	54	57	51
9	51	55	68	66	50	53	64	64
10	67	47	52	52	62	43	50	48
11	50	35	55	52	37	33	53	50
12	53	46	43	41	51	41	39	36
13	40	39	38	38	34	35	37	33
14	35	37	38	34	31	33	34	27
15	35	32	50	50	27	30	45	44
16	48	35	61	54	40	33	59	49
17	47	43	66	61	46	43	62	55
18	53	44	66	52	51	44	62	51
19	43	41	65	51	44	39	61	52
20	51	54	54	42	47	50	53	41
21	37	34	37	38	36	32	35	36
22	35	35	37	35	35	34	36	29
23	35	25	39	33	25	24	39	28
24	27	29	38	35	27	28	36	33
25	32	28	33	33	30	25	30	27
26	26	24	31	28	24	22	29	27
27	29	32	37	35	29	31	35	32
28	30	28	32	28	27	26	30	27
29	34	36	43	53	31	34	42	52
30	57	55	40	29	54	53	40	28

Averages for all days with data

Ave	46.2	43.3	51.2	47.5	42.8	40.9	48.8	44.4
Cases	30	30	30	30	30	30	30	30

Averages for only those days with data for both stations

Ave	46.2	43.3	51.2	47.5	42.8	40.9	48.8	44.4
Cases	30	30	30	30	30	30	30	30



Table 5.3K

Dew Point (F)

November 1975

Day	C03A				C10A			
	0100	Time (EST)			0100	Time (EST)		
		0700	1300	1900		0700	1300	1900
1	36	50	49	52	35	49	49	51
2	53	54	52	61	51	52	54	60
3	60	58	57	58	57	56	56	55
4	58	57	58	57	55	54	56	53
5	53	57	59	57	49	52	54	55
6	51	57	57	61	49	54	53	56
7	62	60	57	58	57	56	55	54
8	60	57	54	53	57	52	51	50
9	50	53	58	58	49	51	56	55
10	61	36	35	33	58	32	31	28
11	36	32	31	34	31	30	26	32
12	40	34	32	32	39	32	28	28
13	39	37	37	33	32	31	28	24
14	23	26	25	23	20	24	24	24
15	24	23	31	35	21	20	26	33
16	41	34	41	41	34	31	37	38
17	43	41	48	50	40	39	47	47
18	45	42	41	34	45	39	41	34
19	36	36	40	39	35	35	40	37
20	39	45	51	33	38	42	51	33
21	27	32	31	34	28	31	33	32
22	25	25	25	20	25	26	26	24
23	23	23	25	24	23	22	24	25
24	24	26	23	31	24	25	22	30
25	30	22	25	29	29	22	24	26
26	15	15	15	20	15	14	15	18
27	28	30	35	29	28	30	34	29
28	25	23	22	23	23	23	23	23
29	25	35	42	46	24	33	41	45
30	48	46	34	20	46	46	35	19

Averages for all days with data

Ave	39.4	38.9	39.6	39.4	37.2	36.8	38.0	37.2
Cases	30	30	30	30	30	30	30	30

Averages for only those days with data for both stations

Ave	39.4	38.9	39.6	39.4	37.2	36.8	38.0	37.2
Cases	30	30	30	30	30	30	30	30

Table 5.1L  
Relative Humidity (%)

December 1975

Day	C03A				C10A			
	Time (FST)	Time (FST)	Time (FST)	Time (FST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)
	0100	0700	1300	1900	0100	0700	1300	1900
1	71	71	55	54	69	75	58	59
2	54	64	62	64	60	71	65	70
3	65	61	48	55	72	68	53	59
4	65	87	51	80	69	87	55	79
5	64	80	54	87	73	78	63	91
6	95	69	58	56	95	69	63	60
7	75	89	58	73	71	89	60	75
8	83	92	68	93	83	93	71	93
9	93	93	72	69	95	94	78	80
10	73	67	67	82	74	74	69	85
11	95	94	87	95	88	93	88	95
12	96	91	83	82	95	91	87	85
13	96	93	64	79	94	96	76	86
14	77	81	67	94	81	91	71	94
15	94	86	77	70	94	90	83	81
16	76	69	55	76	95	77	60	81
17	66	74	72	73	72	80	77	79
18	82	72	74	58	94	82	80	65
19	65	67	77	70	68	71	87	73
20	68	94	76	59	73	96	77	67
21	62	73	53	82	70	72	52	77
22	79	72	67	66	83	73	64	69
23	78	77	62	65	80	93	59	64
24	67	73	64	92	72	77	65	83
25	88	84	89	90	87	84	93	88
26	85	88	75	67	86	94	79	74
27	69	68	62	61	75	71	65	66
28	64	62	46	69	67	67	46	70
29	92	88	90	96	93	89	89	97
30	95	94	93	84	97	96	96	88
31	82	80	70	69	83	81	74	74

Averages for all days with data

Ave	77.8	79.1	67.6	74.5	80.9	82.7	71.1	77.6
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	77.8	79.1	67.6	74.5	80.9	82.7	71.1	77.6
Cases	31	31	31	31	31	31	31	31

Table 5.2L

Temperature (F)

December 1975

Day	C03A				C10A			
	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)
	0100	0700	1300	1900	0100	0700	1300	1900
1	24	22	27	26	23	21	24	25
2	28	34	35	32	28	27	34	32
3	29	29	35	31	28	27	33	31
4	32	29	47	41	31	30	47	42
5	48	45	61	56	46	45	59	54
6	47	39	35	28	46	38	34	30
7	23	19	33	32	23	20	33	32
8	31	29	32	30	31	29	34	30
9	29	28	34	32	29	29	32	31
10	32	30	30	32	33	30	30	31
11	33	33	30	30	33	33	31	31
12	31	31	33	34	31	31	33	34
13	34	41	60	57	34	40	60	55
14	55	56	62	54	54	53	62	56
15	47	38	37	34	46	38	36	33
16	33	31	31	33	32	29	30	30
17	28	20	16	17	30	20	16	15
18	17	15	13	15	16	12	12	14
19	19	18	24	29	14	18	23	28
20	34	34	31	29	33	33	30	28
21	26	18	27	22	25	16	28	17
22	16	22	33	34	13	21	32	33
23	33	32	33	31	32	30	32	30
24	29	26	30	29	27	24	28	28
25	29	30	32	32	28	28	31	31
26	30	30	32	33	30	28	30	32
27	31	29	28	26	30	28	28	24
28	24	24	31	24	23	23	30	20
29	14	17	27	31	14	15	27	31
30	35	36	36	34	35	36	36	34
31	31	31	34	32	33	32	32	33

Averages for all days with data

Ave	30.8	29.5	33.8	32.3	30.0	28.7	33.2	31.6
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	30.8	29.5	33.8	32.3	30.0	28.7	33.2	31.6
Cases	31	31	31	31	31	31	31	31

Table 5.3L

Dew Point (F)

December 1975

Day	C03A				C10A			
	Time (EST)				Time (EST)			
	0100	0700	1300	1900	0100	0700	1300	1900
1	16	14	13	11	14	15	11	13
2	14	22	23	22	16	19	24	23
3	19	17	17	17	20	18	17	19
4	22	26	30	36	22	26	32	36
5	36	40	45	53	38	39	47	52
6	46	29	21	14	44	29	23	18
7	16	17	20	24	15	17	21	25
8	26	27	23	28	27	27	26	29
9	27	26	26	23	28	27	26	25
10	24	21	20	27	25	23	21	28
11	32	32	27	29	30	31	28	29
12	30	29	29	29	30	29	30	30
13	33	39	48	51	33	39	53	51
14	48	50	51	53	49	51	52	54
15	46	34	30	25	44	35	31	28
16	27	22	17	26	31	23	18	25
17	18	13	9	10	22	15	10	10
18	13	8	6	3	14	8	7	5
19	9	9	18	21	5	10	20	20
20	24	33	24	17	25	32	24	18
21	14	11	12	17	16	9	13	11
22	10	14	24	24	8	14	21	24
23	27	25	21	21	26	28	20	19
24	19	19	19	27	20	18	18	24
25	26	25	29	29	25	24	29	28
26	26	27	26	23	26	27	25	25
27	22	20	16	14	23	20	18	15
28	14	13	12	15	14	14	12	12
29	12	14	24	30	13	13	24	31
30	34	35	34	30	34	35	35	30
31	27	26	25	23	28	27	25	25

Averages for all days with data

Ave	24.4	23.7	23.8	24.9	24.7	24.0	24.4	25.2
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	24.4	23.7	23.8	24.9	24.7	24.0	24.4	25.2
Cases	31	31	31	31	31	31	31	31

## VI. WIND SPEED AND DIRECTION

Wind speed and direction are measured at a height of about 3 meters with an R. M. Young Co. Model 1201 3-cup anemometer and a WeatherMeasure Model 104 wind vane, respectively, and recorded on twin Esterline-Angus recorders. Wind speed is reported to the nearest mile per hour and wind direction is reported to the nearest degree. For tabulation, digitized data are reduced to hourly averages of wind speed and direction.

The tabulated wind data are given in terms of percentage frequencies of joint occurrences of wind speed and direction in assigned categories. The categories for wind speed are in miles per hour and are: calm (less than 1 mph), 1-3, 4-7, 8-12, 13-18, and 19+. Wind direction is tabulated in 10-degree categories and in 22.5-degree categories. The 10-degree categories are used in the tabulated data and the 22.5-degree categories are used in the wind roses. There is also a category for a variable direction, the criterion for which is that the range of wind direction during an hour equal or exceed 180 degrees.

Joint percentage frequencies are determined by dividing the number of joint occurrences in each pair of categories by the total number of hours of data listed at the bottom of each table. The average speed for each direction is determined by adding all wind speeds for a particular direction category and dividing by the number of occurrences.

The average overall speed is the average of the speeds for all directions (weighted by frequency of occurrence) and zero mph (weighted by the frequency of calms). For months with a large amount of missing wind direction data and much more complete wind speed data, a second listing of percent calm and overall average speed is given, based on all wind speed data for the month.

A graphical portrayal of wind data is also shown for each month in the form of a wind rose graphed by computer. In the wind roses, the length of each line extending from the circumference of the center circle is proportional to the percent of time that the wind was from the direction. The lines are 22.5 degrees apart, and the lengths of alternating black and white sections of each line are proportional to the percent of time the speed was in a particular category as given in the legend at the bottom of each figure. The percent of calms is also shown.

The wind system at C10A was out of service in June 1975.

Table 6.1A Cook Network

Percentage Frequency of Wind Direction and Wind Speed  
at Station C03A for January 1975

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.0	0.5	0.0	0.0	0.0	0.5	5.6
020	0.0	1.2	0.0	0.0	0.0	1.2	5.9
030	0.1	0.5	0.0	0.0	0.0	0.7	4.8
040	0.3	0.7	0.0	0.0	0.0	0.9	4.6
050	0.8	0.8	0.3	0.0	0.0	1.9	4.5
060	0.4	1.1	0.3	0.0	0.0	1.8	5.6
070	0.7	1.1	0.0	0.0	0.0	1.8	4.1
080	0.0	1.8	0.0	0.0	0.0	1.8	5.3
090	0.1	1.6	0.0	0.0	0.0	1.8	4.7
100	0.1	1.6	0.0	0.0	0.0	1.8	5.3
110	0.5	1.8	0.7	0.0	0.0	3.0	6.3
120	0.7	1.6	0.8	0.0	0.0	3.1	6.1
130	0.3	0.9	0.5	0.3	0.0	2.0	6.9
140	0.7	2.0	1.5	0.1	0.0	4.3	6.4
150	0.7	2.6	0.9	0.0	0.0	4.2	5.8
160	1.9	3.1	1.3	0.0	0.0	6.3	5.0
170	1.2	2.3	1.1	0.0	0.0	4.6	5.3
180	1.1	2.6	0.8	0.0	0.0	4.5	5.1
190	1.1	1.1	0.4	0.0	0.0	2.6	4.4
200	0.1	1.5	0.1	0.0	0.0	1.8	5.3
210	0.5	2.0	0.1	0.3	0.0	3.0	5.6
220	0.3	1.9	0.9	0.9	0.0	4.0	8.5
230	0.3	1.2	2.4	1.5	0.0	5.4	9.9
240	0.0	0.9	1.5	2.2	0.0	4.6	11.9
250	0.3	0.4	2.0	1.9	0.7	5.3	12.5
260	0.0	0.5	2.2	1.8	0.3	4.7	12.0
270	0.1	0.5	3.2	3.1	0.4	7.4	11.9
280	0.8	2.3	3.8	1.9	0.0	8.8	8.9
290	0.1	1.2	0.8	0.0	0.0	2.2	6.9
300	0.3	0.0	0.0	0.0	0.0	0.3	2.4
310	0.4	0.1	0.0	0.0	0.0	0.5	2.4
320	0.3	0.1	0.0	0.0	0.0	0.4	3.4
330	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340	0.3	0.1	0.0	0.0	0.0	0.4	3.0
350	0.1	0.1	0.0	0.0	0.0	0.3	2.8
360	0.1	0.0	0.0	0.0	0.0	0.1	2.2
Variable	0.7	0.4	0.0	0.0	0.0	1.1	3.1
Total	15.4	42.4	25.8	13.9	1.3	98.8	7.4
Percent Calm:						1.2	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 741 hours of data.

Table 6.2A Cook Network

Percentage Frequency of Wind Direction and Wind Speed  
at Station C10A for January 1975

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.0	0.0	0.7	0.0	0.0	0.7	11.2
020	0.0	0.0	0.2	0.0	0.0	0.2	8.7
030	0.0	0.0	0.4	0.0	0.0	0.4	9.3
040	0.0	0.0	0.2	0.0	0.0	0.2	9.5
050	0.0	0.0	0.2	0.0	0.0	0.2	8.5
060	0.2	0.5	0.2	0.0	0.0	0.9	6.2
070	0.0	0.0	0.0	0.0	0.0	0.0	0.0
080	0.0	0.2	0.4	0.0	0.0	0.5	7.7
090	0.0	1.1	0.2	0.0	0.0	1.2	6.7
100	0.0	1.1	0.2	0.0	0.0	1.2	7.1
110	0.2	0.4	0.2	0.0	0.0	0.7	6.0
120	0.0	0.4	1.2	0.0	0.0	1.6	8.6
130	0.2	0.5	4.0	0.9	0.0	5.6	10.0
140	0.0	0.9	1.6	1.1	0.0	3.5	9.6
150	0.0	0.9	0.9	0.5	0.0	2.3	9.3
160	0.7	0.9	1.2	0.5	0.0	3.3	7.9
170	0.2	1.1	1.1	0.2	0.0	2.5	7.7
180	0.4	2.6	3.5	1.1	0.2	7.7	9.2
190	0.2	2.5	2.5	1.2	0.0	6.3	8.7
200	0.2	1.1	3.7	1.6	0.9	7.4	11.1
210	0.2	1.8	4.2	1.1	0.5	7.7	10.4
220	0.5	1.6	6.3	1.2	1.4	11.1	11.2
230	0.2	1.1	1.9	1.6	0.9	5.6	12.5
240	0.0	0.5	1.2	0.2	0.0	1.9	9.8
250	0.0	0.7	0.9	0.7	0.0	2.3	10.4
260	0.0	0.5	1.1	1.2	0.0	2.8	10.6
270	0.0	0.5	1.2	0.4	0.0	2.1	10.2
280	0.4	1.1	0.7	0.0	0.0	2.1	6.8
290	0.0	1.2	1.2	0.7	0.0	3.2	9.1
300	0.0	0.5	3.5	2.1	0.0	6.2	11.2
310	0.2	0.4	1.6	1.1	0.0	3.2	10.8
320	0.0	0.5	0.9	0.7	0.0	2.1	10.7
330	0.0	0.2	0.2	0.4	0.0	0.7	11.2
340	0.0	0.2	0.4	0.0	0.0	0.5	8.2
350	0.0	0.2	0.7	0.0	0.0	0.9	8.2
360	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Variable	0.7	0.4	0.0	0.0	0.0	1.1	3.2
Total	4.2	25.2	48.4	18.3	3.9	100.0	9.9
Percent Calm:						0.0	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 568 hours of data.



Figure 6.1A  
WIND ROSE - JANUARY 1975  
COOK NUCLEAR PLANT - STATION C03A

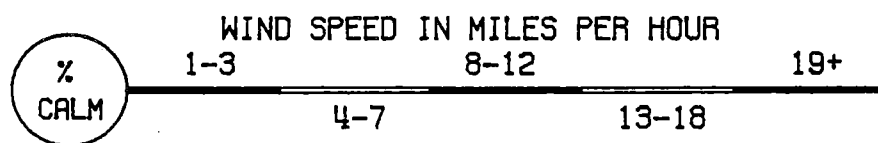
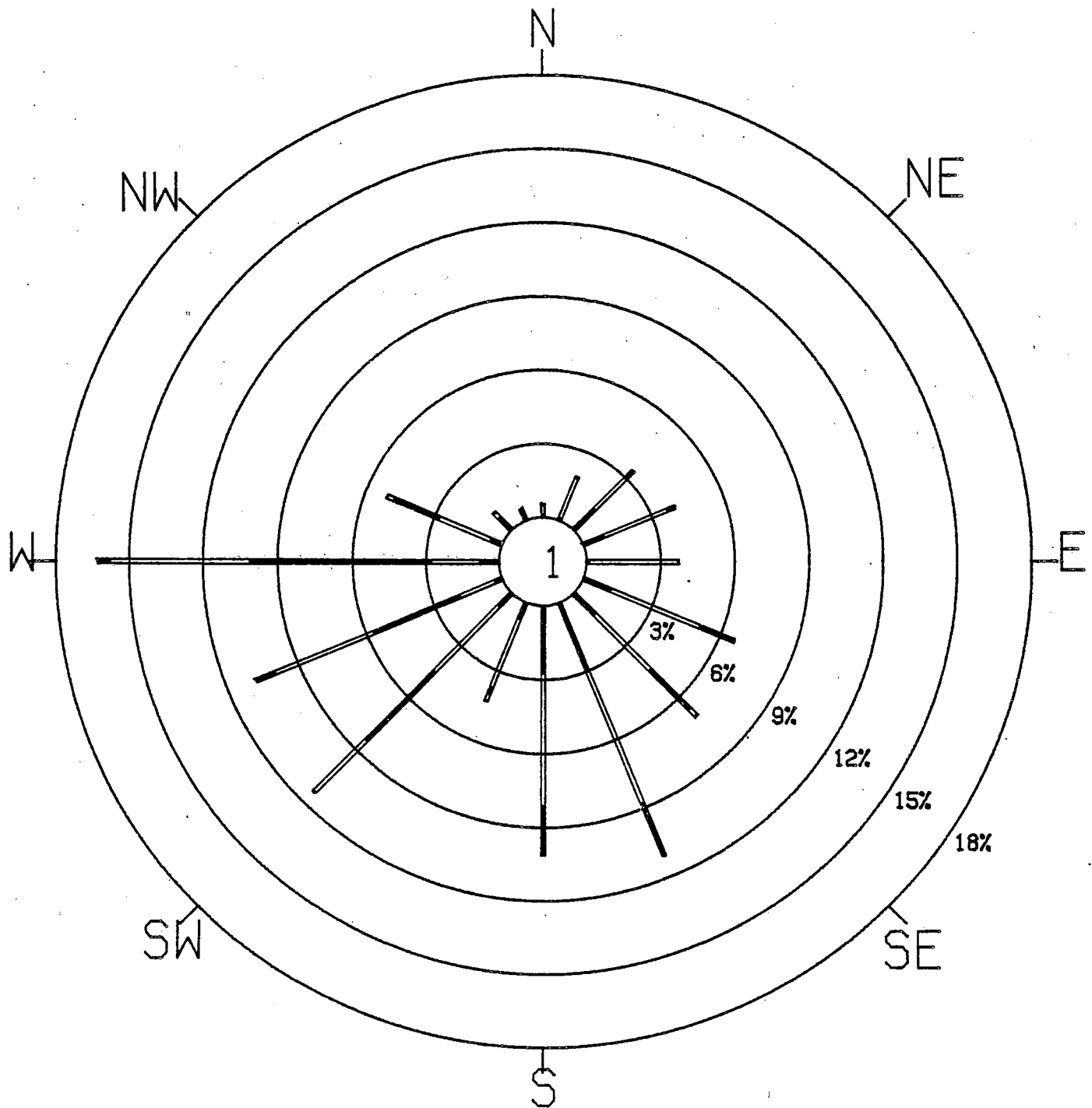


Figure 6.2A

# WIND ROSE - JANUARY 1975

## COOK NUCLEAR PLANT - STATION C10A

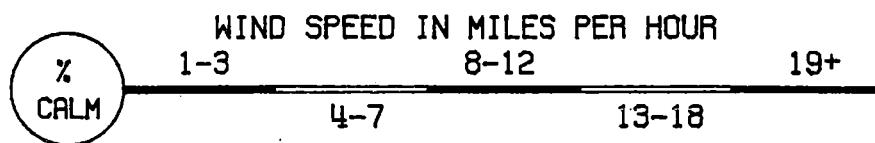
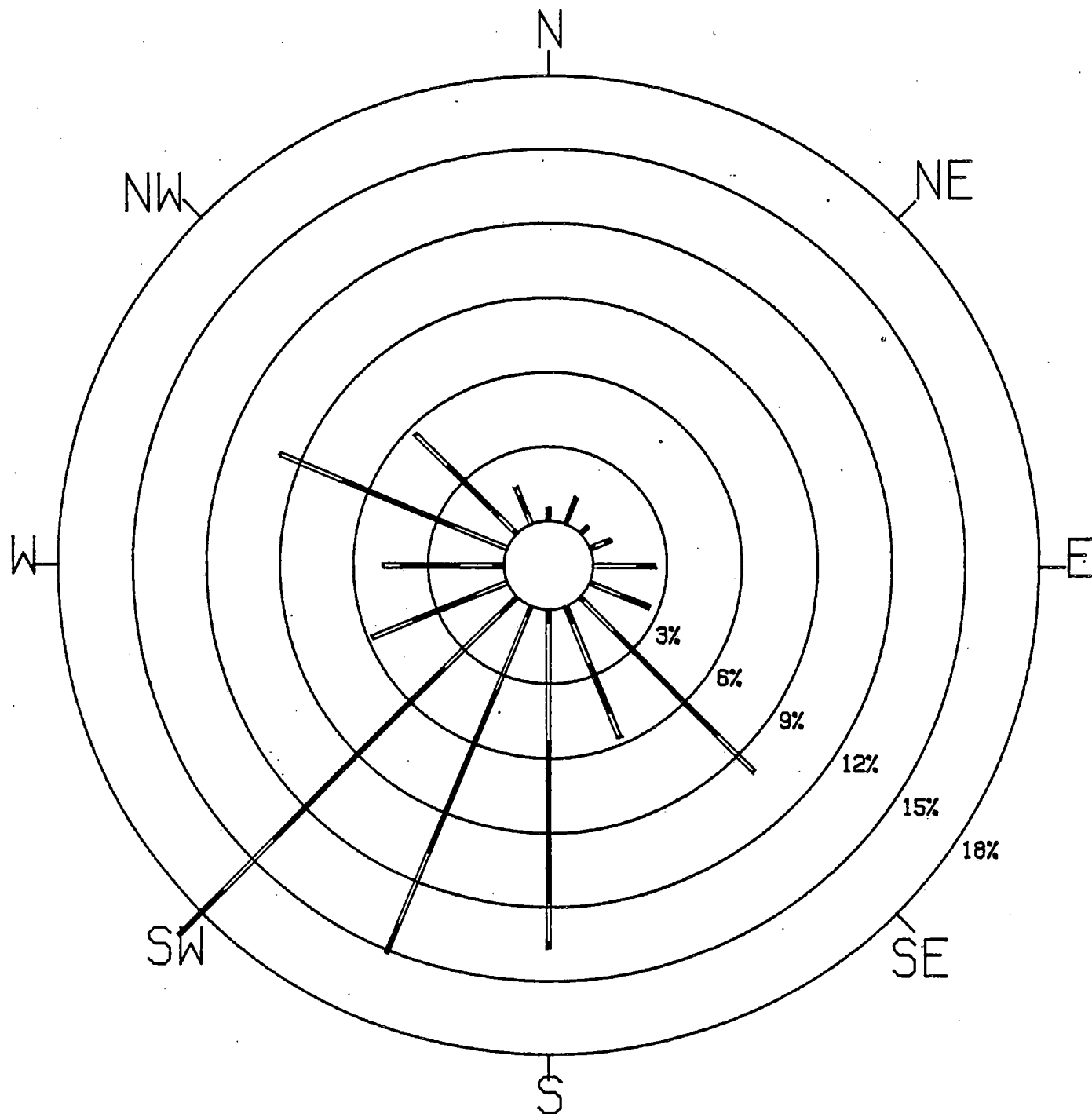


Table 6.1B Cook Network

Percentage Frequency of Wind Direction and Wind Speed  
at Station C03A for February 1975.

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	1.1	0.7	0.0	0.0	0.0	1.8	3.7
020	0.8	0.5	0.0	0.0	0.0	1.3	3.7
030	1.0	0.0	0.0	0.0	0.0	1.0	2.0
040	2.0	0.8	0.3	0.3	0.0	3.4	4.8
050	2.0	3.1	0.3	0.2	0.2	5.7	5.1
060	2.3	2.8	1.6	0.0	0.2	6.9	5.8
070	1.5	1.6	1.1	0.2	0.0	4.4	5.1
080	0.5	2.0	1.5	0.0	0.0	3.9	6.8
090	0.7	1.5	1.8	0.0	0.0	3.9	6.8
100	0.5	0.3	0.8	0.0	0.0	1.6	5.8
110	0.3	0.2	0.3	0.0	0.0	0.8	5.2
120	0.2	0.8	1.5	0.0	0.0	2.5	7.5
130	0.5	0.3	1.1	0.2	0.0	2.1	7.5
140	0.3	1.3	0.5	0.0	0.0	2.1	6.2
150	0.3	0.5	0.7	0.0	0.0	1.5	6.2
160	0.2	1.0	0.2	0.0	0.0	1.3	6.1
170	1.1	2.3	1.1	0.0	0.0	4.6	5.5
180	0.5	1.1	0.3	0.0	0.0	2.0	5.5
190	0.7	1.3	0.2	0.0	0.0	2.1	4.8
200	0.3	0.8	0.3	0.0	0.0	1.5	5.5
210	0.3	0.5	0.5	0.0	0.0	1.3	5.8
220	0.2	0.7	0.5	0.0	0.0	1.3	6.2
230	0.0	1.3	1.5	0.0	0.0	2.8	8.3
240	0.0	1.1	1.1	0.8	0.0	3.1	9.5
250	0.2	0.5	2.8	0.7	2.9	7.0	16.1
260	0.2	0.0	3.4	1.3	2.1	7.0	14.8
270	0.2	0.0	3.4	3.4	0.2	7.2	12.6
280	0.0	0.3	2.0	1.5	0.0	3.8	11.0
290	0.2	2.0	1.0	0.0	0.0	3.1	6.7
300	0.2	1.0	0.0	0.0	0.0	1.1	5.4
310	0.0	0.5	0.0	0.0	0.0	0.5	5.2
320	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330	0.2	0.0	0.0	0.0	0.0	0.2	1.4
340	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350	0.0	0.2	0.0	0.0	0.0	0.2	4.1
360	0.5	0.3	0.0	0.0	0.0	0.8	2.7
Variable	1.1	0.2	0.0	0.0	0.0	1.3	2.1
Total	19.8	31.4	30.0	8.5	5.6	95.3	7.6
Percent Calm:						4.7	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 611 hours of data.

Table 6.2B Cook Network

Percentage Frequency of Wind Direction and Wind Speed  
at Station C10A for February 1975

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.0	0.2	0.3	0.0	0.0	0.5	8.6
020	0.6	0.5	0.3	0.0	0.0	1.4	5.0
030	0.6	0.3	0.0	0.0	0.0	0.9	2.9
040	1.1	0.3	0.2	0.2	0.0	1.7	4.0
050	1.4	1.1	0.2	0.2	0.0	2.8	4.3
060	1.7	1.2	0.0	0.2	0.0	3.1	4.2
070	1.4	1.9	0.0	0.2	0.2	3.5	5.1
080	0.8	0.9	0.5	0.0	0.2	2.3	6.0
090	0.5	1.1	0.8	0.0	0.0	2.3	6.0
100	1.1	1.1	2.8	0.5	0.0	5.4	7.5
110	0.6	1.1	1.5	0.5	0.0	3.7	7.7
120	0.2	1.4	1.4	1.1	0.0	4.0	8.8
130	0.0	0.2	1.1	0.0	0.0	1.2	10.1
140	0.2	0.8	0.3	0.6	0.0	1.9	8.5
150	0.5	0.8	1.5	0.3	0.0	3.1	8.0
160	0.2	0.8	1.1	0.2	0.0	2.2	7.9
170	0.6	0.6	0.9	0.0	0.0	2.2	6.8
180	0.8	0.5	1.4	0.8	0.0	3.4	8.5
190	1.1	1.1	1.7	0.6	0.0	4.5	7.5
200	0.2	1.1	1.7	1.7	0.0	4.6	10.3
210	0.2	0.8	1.2	0.9	0.0	3.1	10.0
220	0.2	0.5	0.8	0.6	0.0	2.0	9.9
230	0.0	0.9	0.6	0.0	0.0	1.5	7.4
240	0.0	0.3	1.2	0.5	0.0	2.0	9.9
250	0.2	1.2	1.7	0.2	0.0	3.2	7.9
260	0.2	0.5	2.8	1.7	3.2	8.3	15.9
270	0.2	0.3	2.0	1.2	0.3	4.0	11.8
280	0.0	0.0	1.1	0.3	0.0	1.4	10.7
290	0.0	0.2	1.4	1.1	0.0	2.6	11.6
300	0.0	0.0	1.2	2.2	0.0	3.4	12.8
310	0.0	0.2	1.1	0.8	0.2	2.2	12.7
320	0.0	0.0	1.9	0.5	0.0	2.3	11.5
330	0.0	0.2	1.5	0.6	0.0	2.3	10.3
340	0.3	0.0	0.5	0.3	0.0	1.1	9.9
350	0.0	0.5	0.3	0.3	0.0	1.1	9.5
360	0.3	0.8	0.3	0.2	0.0	1.5	6.3
Variable	0.8	0.2	0.0	0.0	0.0	0.9	1.7
Total	15.4	23.0	37.2	18.1	4.0	97.7	8.8
Percent Calm:						2.3	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 648 hours of data.

Figure 6.1B

# WIND ROSE - FEBRUARY 1975

## COOK NUCLEAR PLANT - STATION C03A

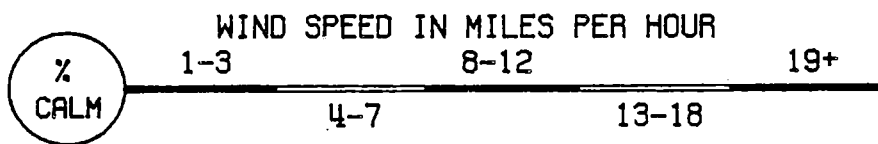
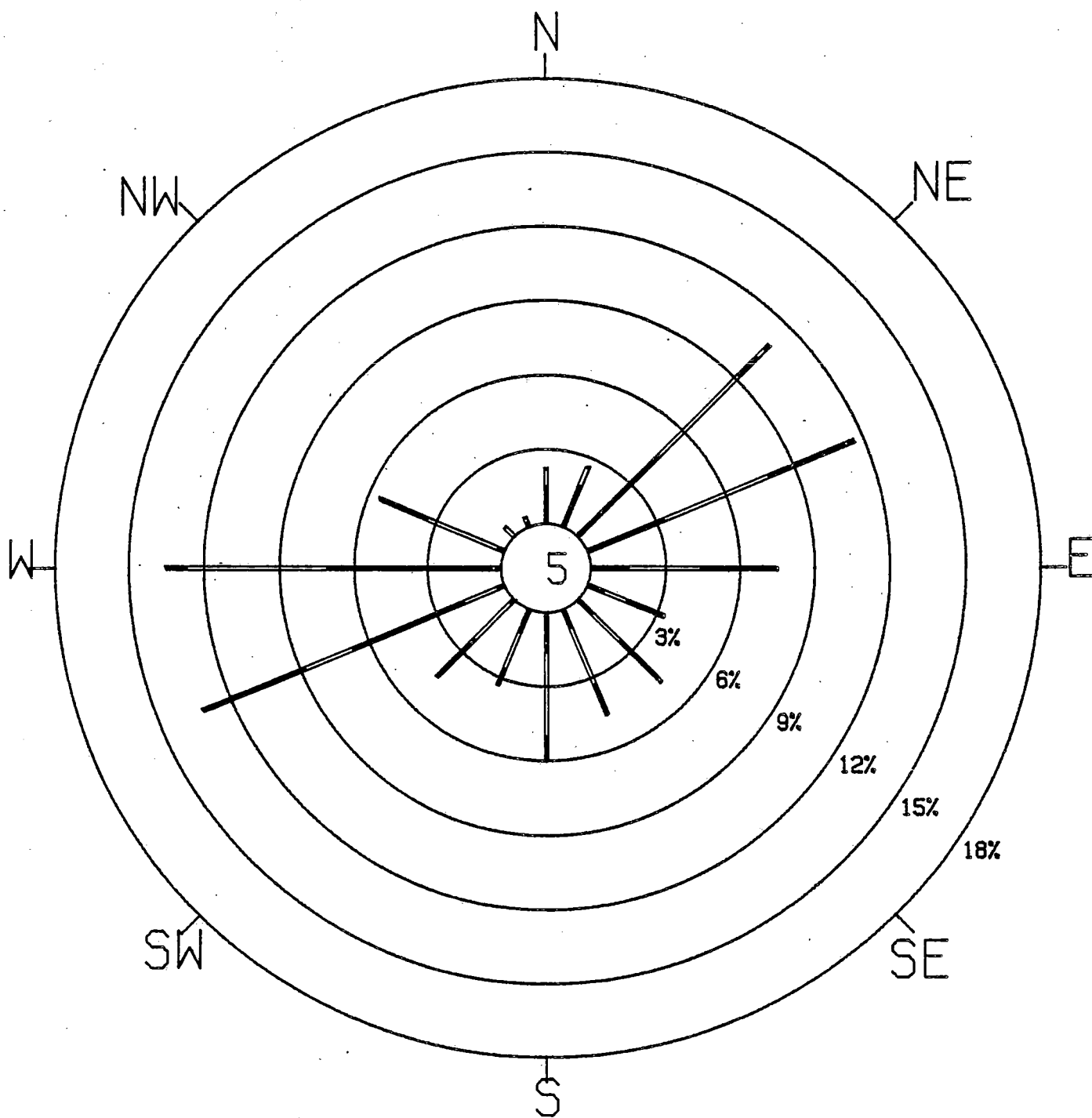


Figure 6.2B

# WIND ROSE - FEBRUARY 1975

## COOK NUCLEAR PLANT - STATION C10A

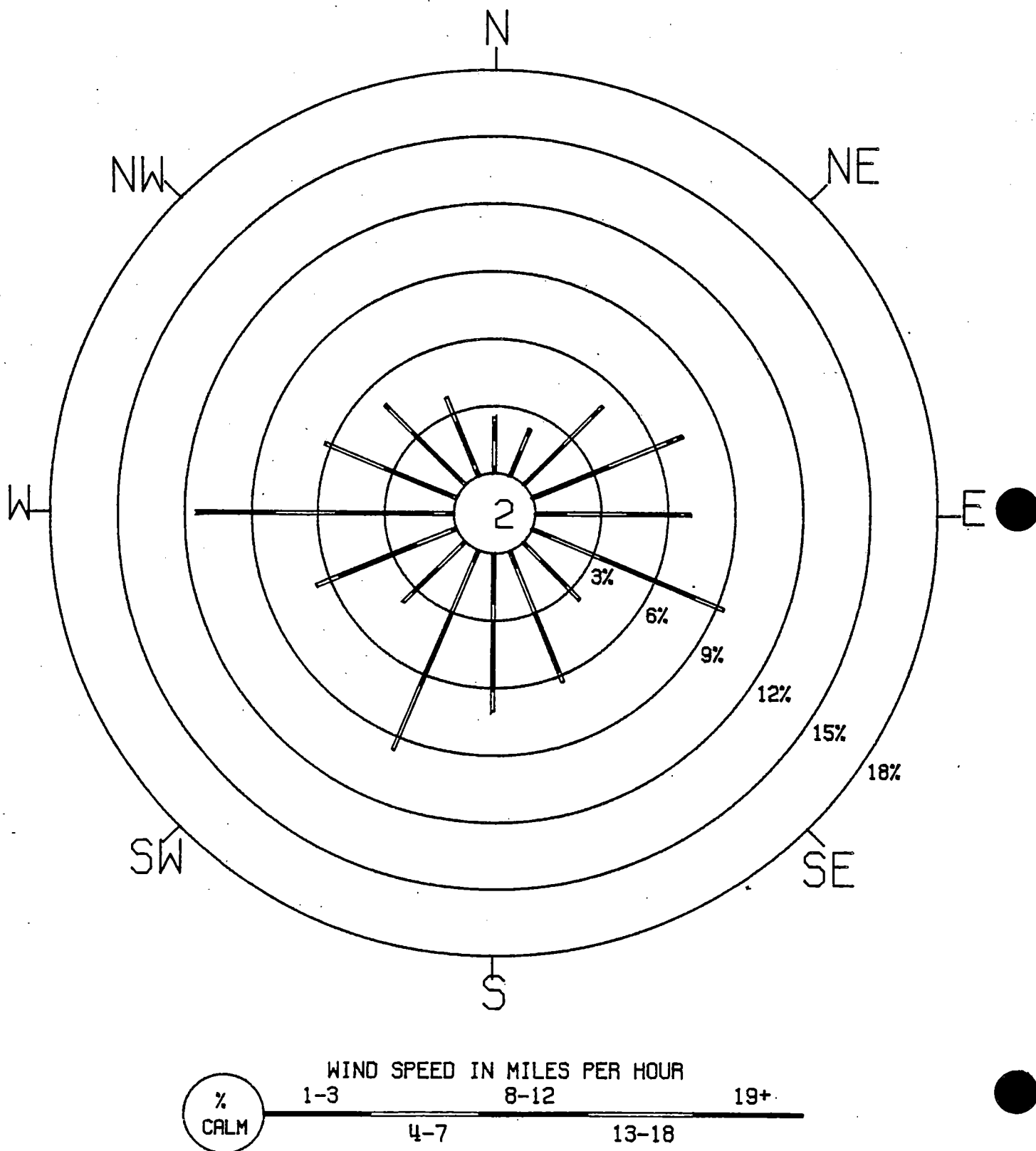


Table 6.1G Cook Network

Percentage Frequency of Wind Direction and Wind Speed  
at Station C03A for March 1975

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	1.1	1.9	1.0	0.0	0.0	4.0	5.1
020	0.1	0.5	0.3	0.0	0.0	1.0	6.0
030	0.1	0.7	0.4	0.0	0.0	1.2	6.4
040	0.7	1.0	0.7	0.0	0.0	2.3	5.6
050	0.8	0.8	1.2	0.0	0.0	2.9	6.2
060	0.4	1.4	1.5	0.1	0.0	3.4	7.2
070	1.1	1.0	2.2	0.0	0.0	4.2	6.9
080	0.3	0.7	1.5	0.8	0.0	3.3	9.5
090	0.7	0.8	1.5	2.1	0.0	5.1	10.3
100	0.3	1.4	2.5	0.5	0.0	4.7	8.7
110	0.4	0.8	0.4	0.0	0.0	1.6	5.9
120	0.1	1.1	0.7	0.0	0.0	1.9	6.9
130	0.0	1.2	0.8	0.0	0.0	2.1	7.1
140	0.1	1.0	0.1	0.0	0.0	1.2	6.2
150	0.5	0.3	0.1	0.0	0.0	1.0	4.2
160	0.4	0.1	0.0	0.0	0.0	0.5	1.7
170	0.7	0.1	0.0	0.0	0.0	0.8	3.2
180	0.5	0.1	0.1	0.0	0.0	0.8	3.9
190	0.5	0.3	0.0	0.0	0.0	0.8	3.0
200	0.3	0.3	0.4	0.0	0.0	1.0	5.6
210	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	0.1	0.4	0.7	0.1	0.0	1.4	8.1
230	0.0	0.5	0.8	0.7	0.0	2.1	9.9
240	0.0	0.4	2.5	0.7	0.0	3.6	10.4
250	0.3	0.4	1.4	1.8	0.0	3.8	11.0
260	0.3	1.0	1.6	2.9	0.4	6.2	11.7
270	0.1	0.7	2.3	1.6	0.5	5.3	12.0
280	0.1	0.8	2.2	0.3	0.0	3.4	8.5
290	0.0	2.6	4.2	0.0	0.0	6.8	7.9
300	0.3	1.4	1.5	0.0	0.0	3.1	7.3
310	0.4	1.2	0.1	0.0	0.0	1.8	5.2
320	0.0	0.8	0.0	0.0	0.0	0.8	5.6
330	0.3	2.2	0.1	0.0	0.0	2.6	5.6
340	0.1	0.8	0.1	0.0	0.0	1.1	6.0
350	0.4	0.5	0.0	0.0	0.0	1.0	4.1
360	0.3	1.0	0.1	0.0	0.0	1.4	5.3
Variable	1.6	0.8	0.1	0.0	0.0	2.6	2.9
Total	13.7	31.1	33.4	11.6	1.0	90.7	7.1
Percent Calm:						9.3	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 731 hours of data.

Table 6.2C Cook Network

Percentage Frequency of Wind Direction and Wind Speed  
at Station C10A for March 1975

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.2	0.0	0.2	0.0	0.0	0.3	6.9
020	0.0	0.2	0.7	0.0	0.0	0.9	9.4
030	0.3	0.9	1.0	0.2	0.0	2.4	7.6
040	0.7	0.9	0.7	0.2	0.0	2.4	6.4
050	0.2	0.5	0.9	0.0	0.0	1.5	7.2
060	0.5	0.9	1.4	0.0	0.0	2.7	6.6
070	0.5	0.7	0.2	0.0	0.0	1.4	5.2
080	0.7	0.9	0.9	0.0	0.0	2.4	5.7
090	0.9	0.7	0.3	0.3	0.0	2.2	6.1
100	0.3	1.2	1.7	1.4	0.9	5.5	11.6
110	0.5	1.2	1.0	3.1	1.2	7.0	13.2
120	0.7	2.6	3.4	3.4	0.0	10.1	10.3
130	0.5	1.0	1.5	0.5	0.0	3.6	7.6
140	0.5	0.9	1.4	0.0	0.0	2.7	7.2
150	0.2	0.5	0.3	0.0	0.0	1.0	6.2
160	0.3	0.5	0.5	0.2	0.0	1.5	7.2
170	0.3	0.5	0.0	0.2	0.0	1.0	5.8
180	0.3	0.3	0.2	0.0	0.0	0.9	4.3
190	0.5	0.2	0.5	0.5	0.0	1.7	8.1
200	0.2	0.9	0.3	0.9	0.0	2.2	8.8
210	0.3	0.3	1.0	1.4	0.7	3.8	12.2
220	0.3	0.5	0.9	0.5	0.0	2.2	9.5
230	0.0	0.2	0.0	0.9	0.0	1.0	13.4
240	0.0	0.0	0.7	0.3	0.0	1.0	12.0
250	0.0	0.0	0.3	0.7	0.0	1.0	12.9
260	0.0	0.0	0.5	2.0	0.2	2.7	14.2
270	0.0	0.3	1.4	2.7	0.5	4.9	13.6
280	0.0	0.2	0.5	1.0	0.2	1.9	13.6
290	0.0	0.0	0.3	0.3	0.2	0.9	13.7
300	0.0	0.0	0.7	0.3	0.2	1.2	12.7
310	0.2	0.3	0.7	0.9	1.9	3.9	15.9
320	0.3	0.2	1.4	1.7	0.2	3.8	12.3
330	0.3	0.7	0.5	2.0	0.3	3.9	11.9
340	0.3	0.0	0.5	0.3	0.0	1.2	9.5
350	0.5	0.0	0.9	0.9	0.0	2.2	9.9
360	0.2	0.0	0.9	1.2	0.0	2.2	12.3
Variable	1.2	0.9	0.0	0.0	0.0	2.0	2.9
Total	12.1	18.8	28.2	28.0	6.3	93.3	9.6
Percent Calm:						6.7	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 586 hours of data.



Figure 6.1C

# WIND ROSE - MARCH 1975

## COOK NUCLEAR PLANT - STATION C03A

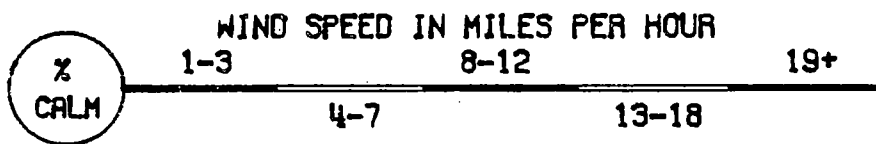
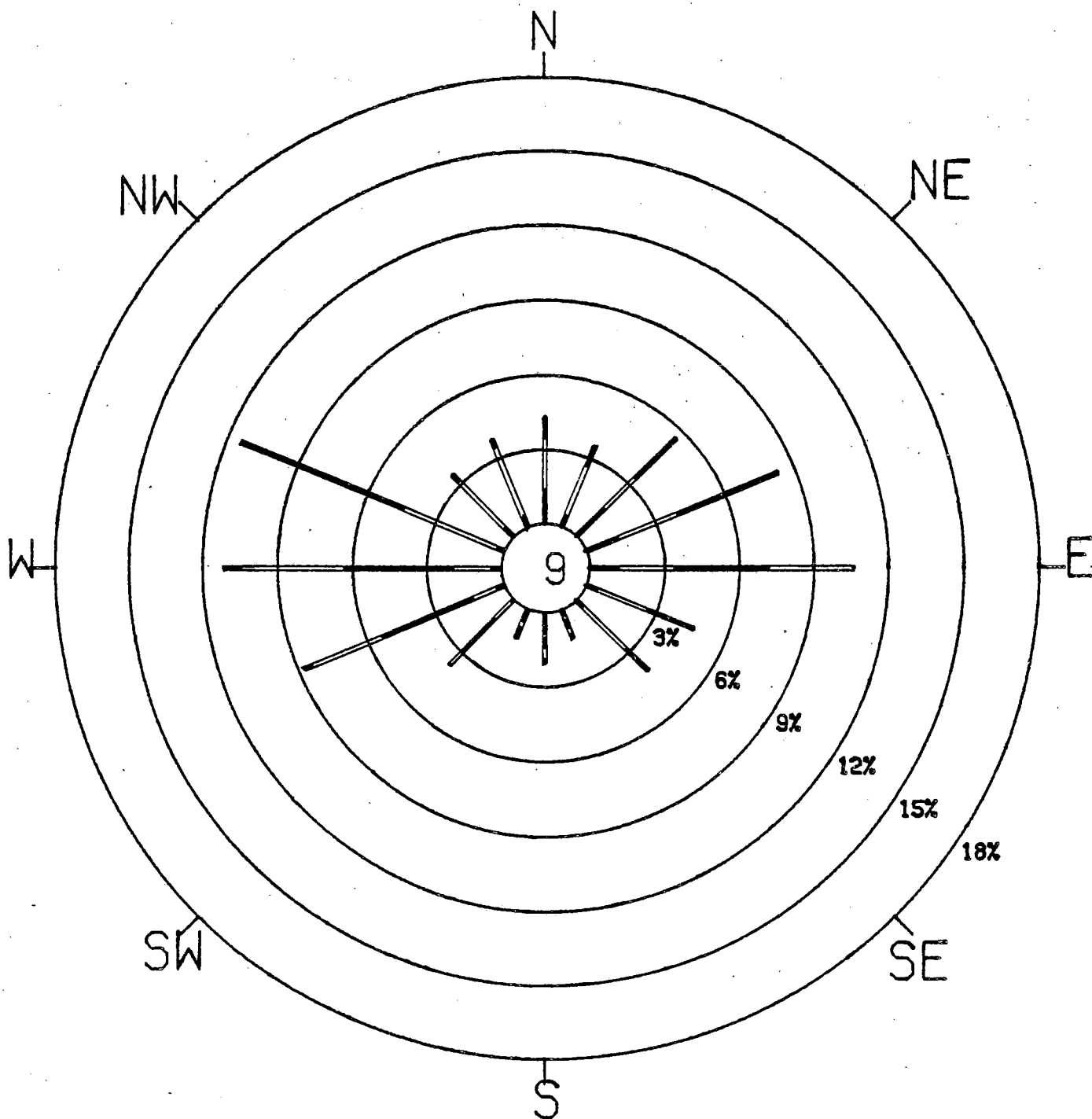


Figure 6.2C

# WIND ROSE - MARCH 1975

COOK NUCLEAR PLANT - STATION C10A

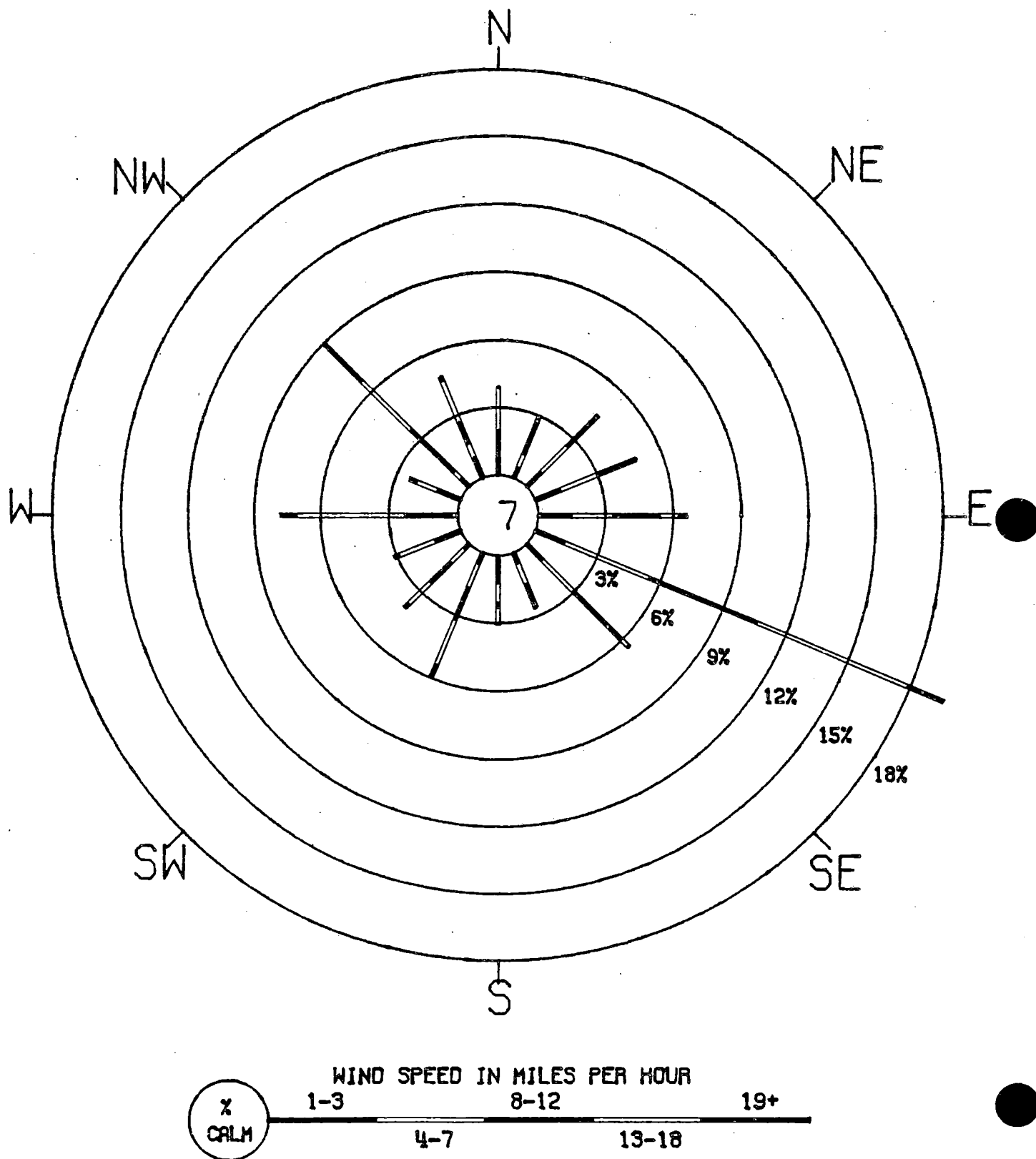


Table 6.1D Cook Network

Percentage Frequency of Wind Direction and Wind Speed  
at Station C03A for April 1975

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	1.5	5.3	0.3	0.0	0.0	7.1	5.2
020	1.1	3.7	0.6	0.0	0.0	5.4	5.5
030	1.2	1.7	0.3	0.0	0.0	3.2	4.3
040	0.6	1.1	0.8	0.0	0.0	2.5	6.1
050	0.6	0.5	1.4	0.0	0.0	2.5	7.2
060	0.5	0.8	0.8	0.5	0.0	2.5	8.1
070	1.1	1.2	1.1	0.0	0.0	3.4	6.1
080	0.3	1.5	1.1	0.2	0.0	3.1	6.7
090	0.6	2.5	1.4	0.6	0.0	5.1	7.3
100	0.3	0.9	1.4	0.3	0.0	2.9	7.9
110	0.3	0.8	0.9	0.5	0.0	2.5	8.4
120	0.5	0.5	0.6	0.6	0.0	2.2	8.8
130	0.5	0.6	0.8	0.0	0.0	1.9	6.0
140	0.6	0.3	0.5	0.0	0.0	1.4	5.2
150	0.2	0.0	0.0	0.0	0.0	0.2	1.2
160	0.0	0.9	0.3	0.0	0.0	1.2	6.5
170	0.3	0.0	0.9	0.0	0.0	1.2	7.0
180	0.0	0.2	1.1	0.0	0.0	1.2	8.8
190	0.2	0.2	0.0	0.0	0.0	0.3	4.2
200	0.2	0.2	0.0	0.0	0.0	0.3	5.1
210	0.0	0.3	0.3	0.0	0.0	0.6	7.5
220	0.0	0.5	0.3	0.2	0.0	0.9	8.4
230	0.0	0.0	0.2	0.6	0.0	0.8	13.3
240	0.0	0.6	0.2	2.5	0.3	3.6	13.7
250	0.0	0.8	0.5	0.9	0.0	2.2	10.6
260	0.0	0.8	1.2	0.6	0.0	2.6	9.9
270	0.2	2.0	0.6	0.2	0.0	2.9	6.8
280	0.2	0.8	0.3	0.6	0.0	1.9	9.5
290	0.3	0.3	1.4	0.3	0.0	2.3	9.2
300	0.6	0.2	0.8	0.0	0.0	1.5	5.9
310	0.2	0.5	1.2	0.0	0.0	1.9	7.0
320	0.2	1.4	0.2	0.0	0.0	1.7	6.2
330	0.3	1.5	0.2	0.0	0.0	2.0	5.3
340	0.8	1.4	0.0	0.0	0.0	2.2	4.5
350	1.1	1.4	0.0	0.0	0.0	2.5	3.8
360	0.8	2.9	0.2	0.0	0.0	3.9	4.6
Variable	1.9	1.2	0.0	0.0	0.0	3.1	3.3
Total	16.8	39.3	21.6	8.5	0.3	86.6	5.9
Percent Calm:						13.4	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 647 hours of data.

Table 6.2D Cook Network

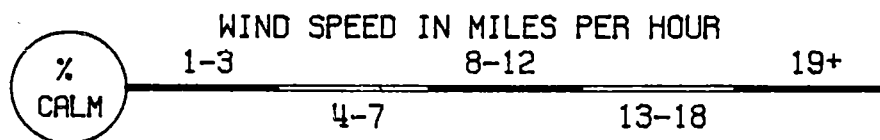
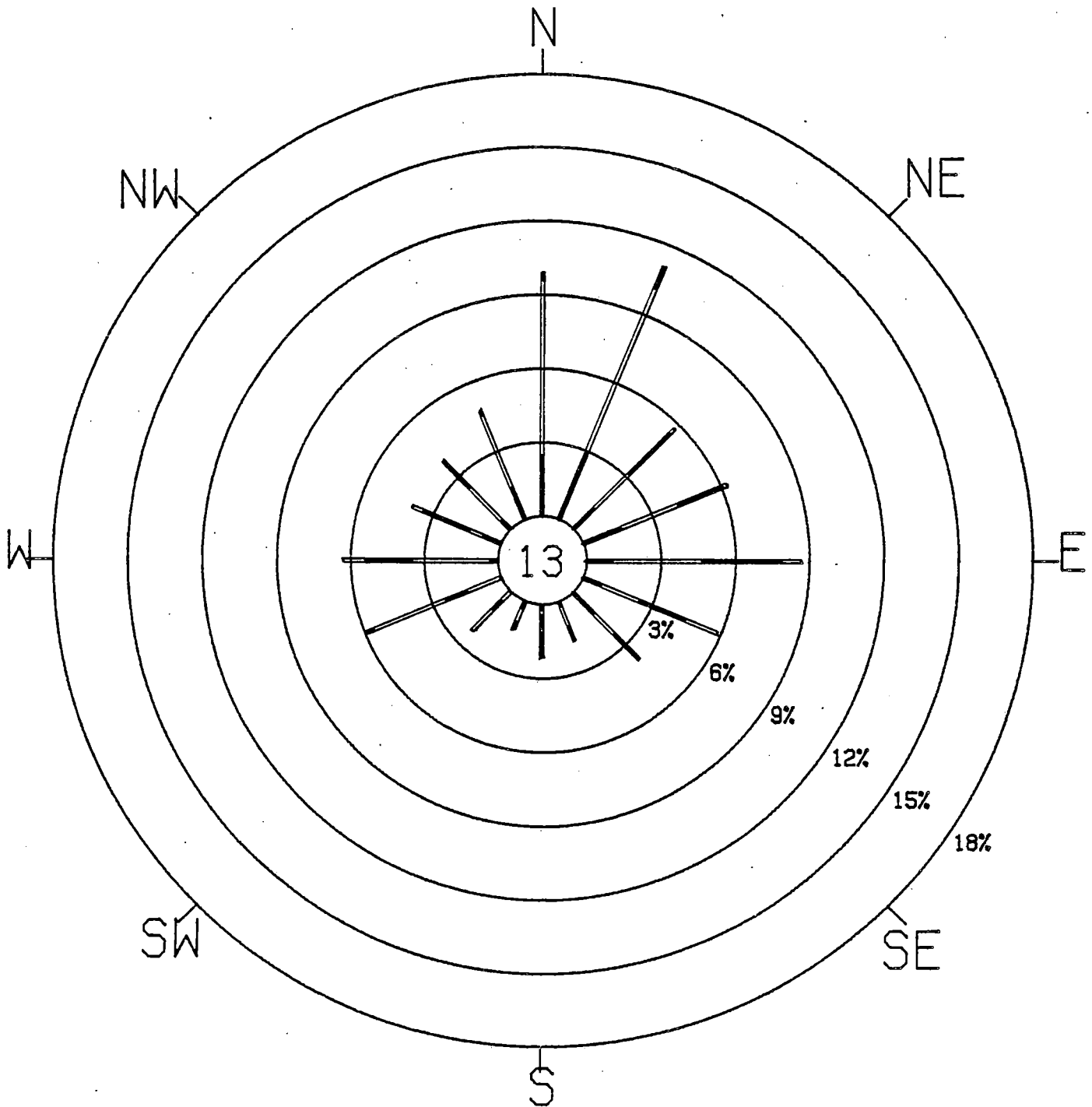
Percentage Frequency of Wind Direction and Wind Speed  
at Station C10A for April 1975

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.4	1.3	1.0	0.0	0.0	2.6	6.4
020	0.3	0.8	0.7	0.0	0.0	1.8	6.0
030	0.4	0.6	0.6	0.0	0.0	1.5	5.4
040	0.4	0.7	0.6	0.1	0.0	1.8	6.8
050	0.3	0.4	0.8	0.0	0.0	1.5	6.6
060	0.6	0.3	1.1	0.3	0.0	2.2	8.4
070	0.8	1.3	0.7	0.3	0.0	3.1	6.4
080	0.1	1.3	1.4	0.0	0.0	2.8	7.4
090	0.3	1.0	1.0	0.4	0.0	2.6	8.1
100	0.6	1.9	1.0	0.7	0.0	4.2	8.1
110	0.1	1.5	1.7	1.4	0.0	4.7	9.6
120	0.4	1.5	2.5	2.8	0.1	7.4	10.6
130	0.1	1.0	1.3	1.4	0.3	4.0	11.0
140	0.0	0.6	0.1	0.3	0.0	1.0	8.1
150	0.3	0.7	0.8	0.1	0.0	1.9	7.5
160	0.0	0.3	0.4	0.1	0.0	0.8	9.1
170	0.1	0.1	0.1	0.7	0.1	1.3	12.3
180	0.1	0.4	0.6	0.8	0.1	2.1	11.1
190	0.0	0.0	0.3	1.4	0.1	1.8	15.0
200	0.0	0.1	0.7	0.6	0.3	1.7	12.8
210	0.3	0.3	0.4	0.1	0.0	1.1	7.2
220	0.3	0.4	0.0	0.3	0.0	1.0	7.4
230	0.1	0.1	0.0	0.4	0.0	0.7	12.4
240	0.0	0.3	0.0	0.4	0.3	1.0	14.4
250	0.0	0.4	0.0	0.8	0.6	1.8	14.4
260	0.1	0.0	0.4	0.8	0.1	1.5	12.9
270	0.0	0.1	0.4	0.6	0.0	1.1	12.4
280	0.0	0.3	1.1	0.3	0.0	1.7	9.9
290	0.3	0.6	0.4	0.3	0.1	1.7	8.9
300	0.0	0.4	0.8	0.4	0.6	2.2	12.4
310	0.3	0.3	0.7	1.7	0.1	3.1	12.1
320	0.1	1.3	1.0	2.1	0.0	4.4	11.6
330	0.1	0.8	2.1	2.2	0.0	5.3	11.6
340	0.3	1.0	1.9	1.1	0.0	4.3	9.8
350	0.1	0.6	1.7	1.7	0.0	4.0	11.1
360	0.3	2.6	1.8	0.0	0.0	4.7	7.1
Variable	0.7	1.0	0.3	0.0	0.0	1.9	4.3
Total	8.5	26.1	30.3	24.6	2.9	92.4	8.9
Percent Calm:						7.6	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 720 hours of data.

Figure 6.1D

WIND ROSE - APRIL 1975  
COOK NUCLEAR PLANT - STATION C03A



## WIND ROSE - APRIL 1975

COOK NUCLEAR PLANT - STATION C10A

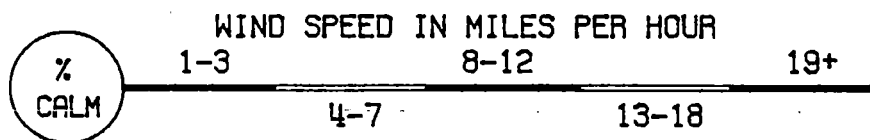
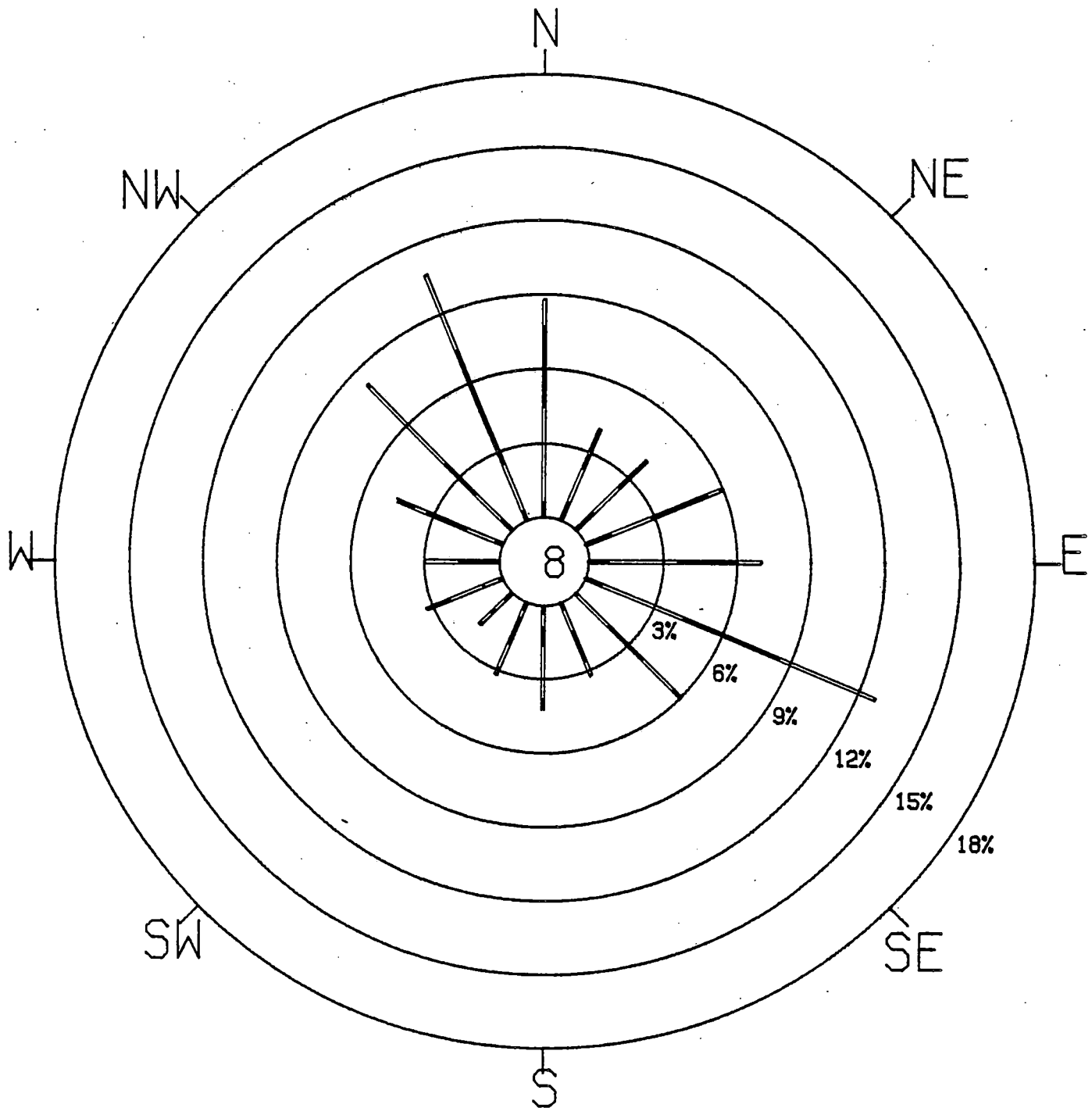


Table 6.1E Cook Network

Percentage Frequency of Wind Direction and Wind Speed  
at Station C03A for May 1975

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	1.2	2.2	0.0	0.0	0.0	3.4	3.6
020	1.5	1.1	0.0	0.0	0.0	2.6	3.2
030	1.1	0.4	0.0	0.0	0.0	1.5	2.6
040	0.9	0.4	0.1	0.0	0.0	1.5	3.3
050	2.2	1.2	0.4	0.0	0.0	3.8	3.7
060	1.3	0.9	0.0	0.0	0.0	2.3	3.3
070	0.8	0.8	1.1	0.0	0.0	2.7	6.2
080	0.1	0.3	0.4	0.0	0.0	0.8	6.7
090	0.1	0.1	0.5	0.0	0.0	0.8	7.4
100	0.8	0.4	0.0	0.0	0.0	1.2	3.5
110	0.5	0.3	0.0	0.0	0.0	0.8	3.3
120	0.8	0.8	0.1	0.0	0.0	1.7	4.3
130	0.9	0.5	0.3	0.0	0.0	1.7	4.2
140	0.9	0.4	0.0	0.0	0.0	1.3	2.9
150	0.8	0.4	0.5	0.0	0.0	1.7	4.4
160	1.2	0.7	0.1	0.0	0.0	2.0	3.7
170	1.5	0.9	0.0	0.0	0.0	2.4	3.3
180	0.5	0.4	0.3	0.0	0.0	1.2	4.8
190	0.8	0.5	0.5	0.0	0.0	1.9	4.7
200	0.4	0.4	0.1	0.0	0.0	0.9	4.4
210	0.7	0.4	0.0	0.0	0.0	1.1	3.0
220	0.5	0.4	0.1	0.0	0.0	1.1	4.3
230	0.4	0.8	0.7	0.0	0.0	1.9	5.9
240	0.1	1.2	0.7	0.0	0.0	2.0	7.0
250	0.5	2.6	1.3	0.0	0.0	4.4	6.3
260	0.9	4.3	1.5	0.0	0.0	6.7	6.0
270	1.1	3.4	0.4	0.0	0.0	4.8	5.1
280	0.7	3.2	0.4	0.0	0.0	4.3	5.5
290	0.3	0.9	0.0	0.0	0.0	1.2	5.0
300	0.4	1.6	0.0	0.0	0.0	2.0	4.1
310	0.3	1.6	0.0	0.0	0.0	1.9	4.5
320	0.0	0.8	0.0	0.0	0.0	0.8	4.1
330	0.4	0.5	0.0	0.0	0.0	0.9	2.9
340	0.7	0.5	0.0	0.0	0.0	1.2	3.2
350	0.3	0.3	0.0	0.0	0.0	0.5	3.4
360	0.7	0.5	0.0	0.0	0.0	1.2	3.6
Variable	5.6	3.1	0.0	0.0	0.0	8.7	2.9
Total	32.1	39.4	9.7	0.0	0.0	81.2	3.6
Percent Calm:						18.8	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 744 hours of data.

Table 6.2E Cook Network

Percentage Frequency of Wind Direction and Wind Speed

at Station C10A for

May 1975

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.8	0.2	0.2	0.0	0.0	1.3	4.0
020	0.4	1.1	0.4	0.0	0.0	1.9	5.3
030	0.2	0.6	0.4	0.0	0.0	1.3	6.5
040	0.6	1.3	0.4	0.0	0.0	2.3	5.1
050	0.4	0.2	0.6	0.0	0.0	1.3	6.4
060	0.6	0.4	0.0	0.0	0.0	1.1	3.5
070	0.4	1.1	0.4	0.0	0.0	1.9	4.8
080	0.8	1.1	0.2	0.0	0.0	2.1	4.8
090	0.0	0.4	1.3	0.0	0.0	1.7	8.5
100	0.4	1.7	1.1	0.2	0.0	3.4	7.3
110	0.4	1.1	1.1	0.2	0.0	2.7	7.2
120	0.2	0.2	0.4	0.0	0.0	0.8	5.5
130	0.0	1.3	0.2	0.0	0.0	1.5	6.4
140	0.2	1.1	1.1	0.0	0.0	2.3	7.0
150	0.8	1.5	0.4	0.0	0.0	2.7	4.9
160	0.4	0.6	0.4	0.0	0.0	1.5	5.0
170	0.8	2.5	0.8	0.2	0.0	4.4	6.2
180	2.5	1.5	2.1	0.8	0.0	7.0	6.8
190	0.4	1.1	1.7	0.6	0.0	3.8	8.9
200	0.4	0.6	0.4	0.0	0.0	1.5	5.4
210	0.6	0.4	0.2	0.2	0.0	1.5	6.0
220	0.0	0.8	0.0	0.0	0.0	0.8	5.1
230	0.2	0.0	0.0	0.0	0.0	0.2	2.7
240	0.4	0.2	0.4	0.0	0.0	1.1	6.6
250	0.6	0.6	0.6	0.2	0.0	2.1	6.2
260	0.4	0.6	0.8	0.2	0.0	2.1	7.7
270	0.0	1.3	0.2	0.0	0.0	1.5	6.2
280	0.2	0.8	0.4	0.0	0.0	1.5	6.1
290	0.2	0.8	0.6	0.2	0.0	1.9	6.9
300	0.2	1.5	2.1	0.4	0.0	4.2	7.8
310	0.4	0.8	4.2	1.7	0.0	7.2	10.3
320	0.6	0.0	3.2	1.1	0.0	4.9	9.7
330	0.0	0.8	2.3	1.1	0.0	4.2	10.0
340	0.2	1.1	1.3	0.0	0.0	2.5	7.3
350	0.2	1.7	0.8	0.0	0.0	2.7	6.7
360	0.0	1.3	0.4	0.0	0.0	1.7	6.3
Variable	1.1	1.5	0.0	0.0	0.0	2.5	3.7
Total	16.7	33.8	31.4	7.2	0.0	89.0	6.3
Percent Calm:						11.0	
						100.0	

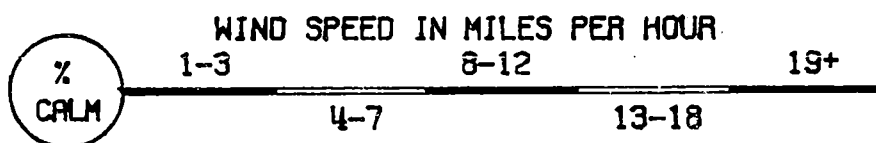
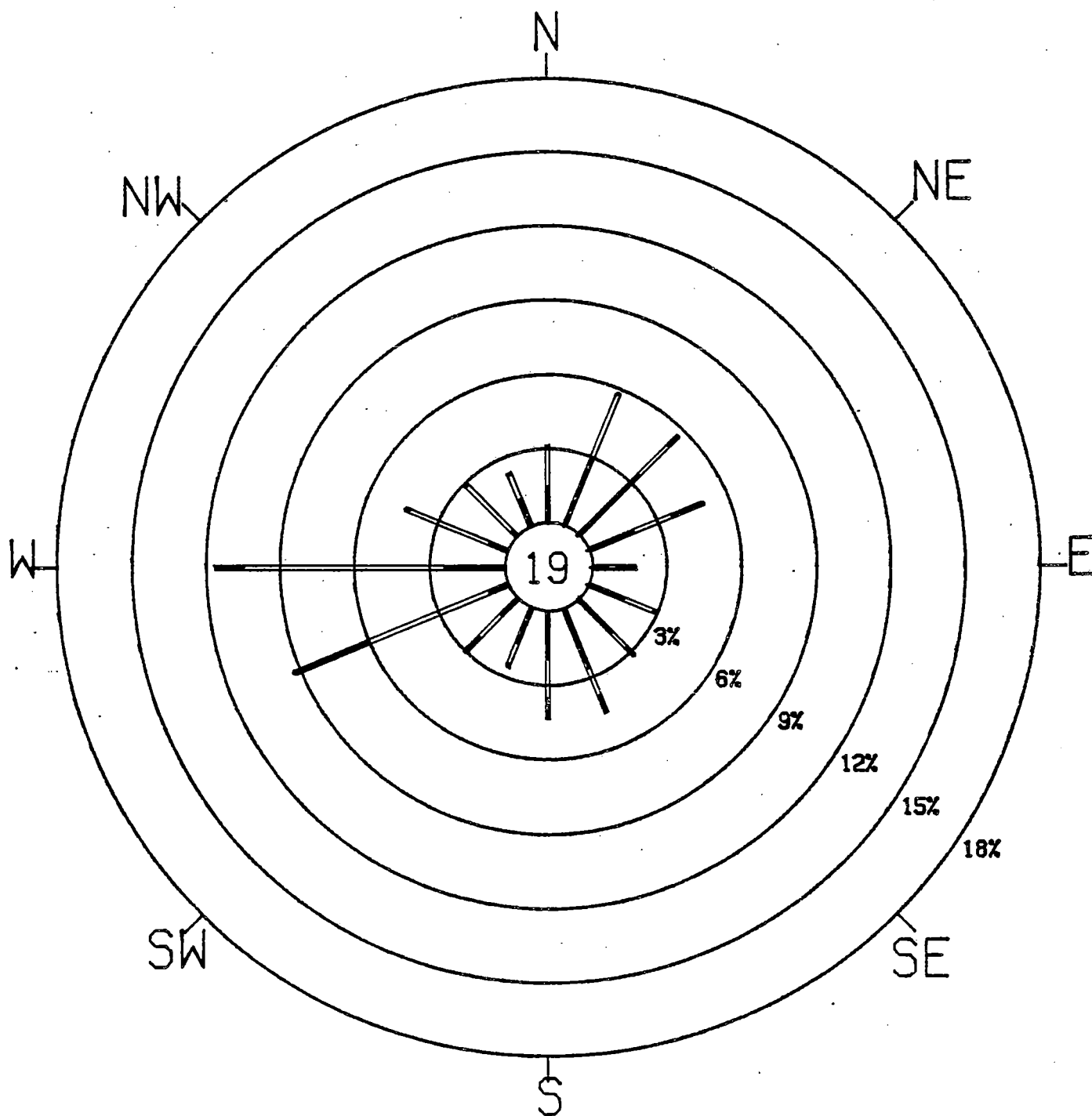
Note: Sensor height is 10 feet. Tabulated values are percent of 474 hours of data.



Figure 6.1E

# WIND ROSE - MAY 1975

## COOK NUCLEAR PLANT - STATION C03A



## WIND ROSE - MAY 1975

COOK NUCLEAR PLANT - STATION C10A

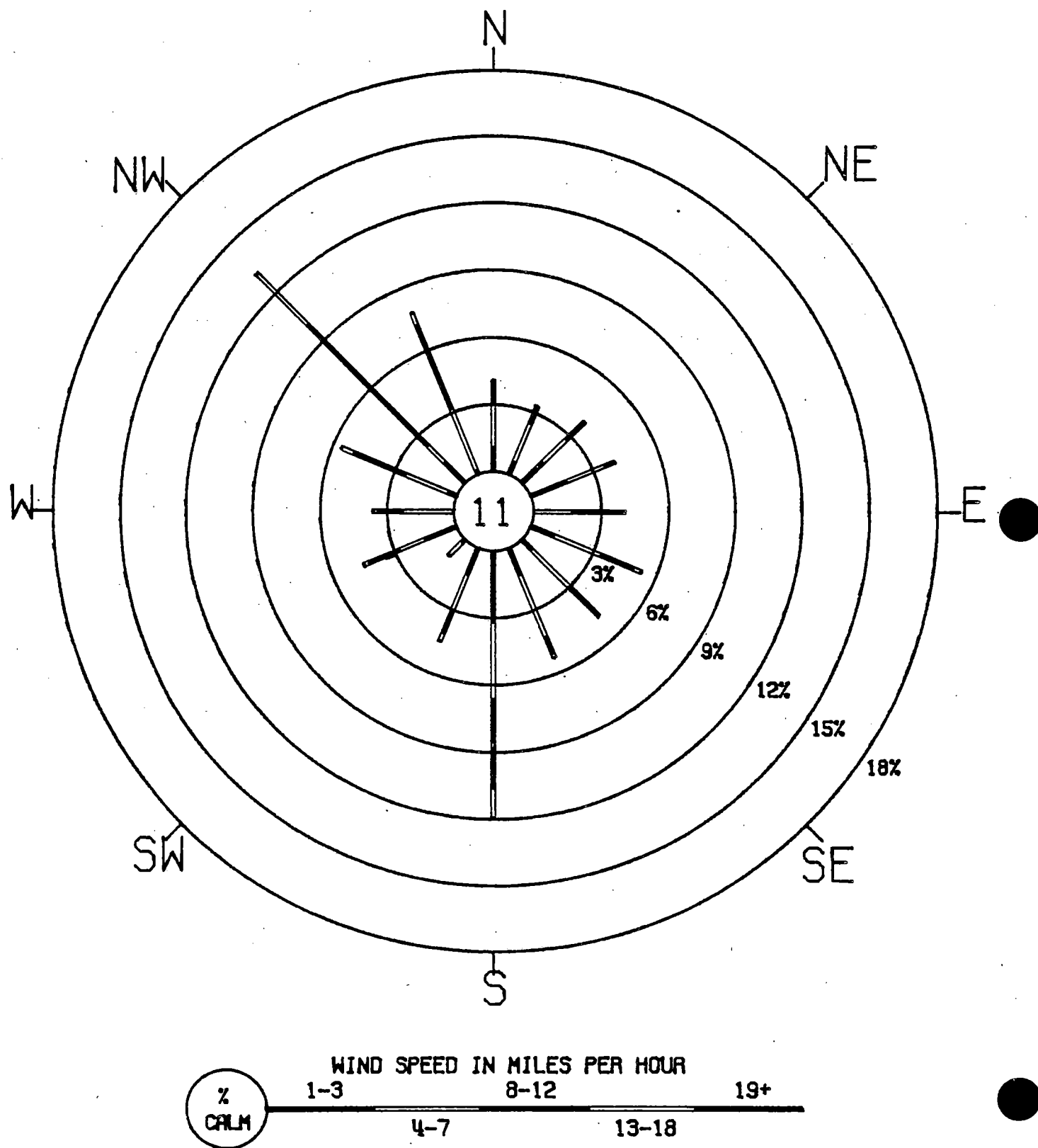


Table 6.1F Cook Network

Percentage Frequency of Wind Direction and Wind Speed  
at Station C03A for June 1975

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.6	0.4	0.0	0.0	0.0	1.0	3.1
020	0.1	0.4	0.0	0.0	0.0	0.6	4.9
030	1.1	0.4	0.0	0.0	0.0	1.5	2.8
040	0.8	0.0	0.0	0.0	0.0	0.8	1.9
050	1.0	0.3	0.0	0.0	0.0	1.3	2.2
060	2.4	0.1	0.0	0.0	0.0	2.5	2.1
070	1.3	1.4	0.0	0.0	0.0	2.6	3.8
080	1.1	1.3	0.4	0.0	0.0	2.8	5.1
090	0.4	1.0	0.7	0.0	0.0	2.1	5.8
100	0.3	1.5	0.4	0.0	0.0	2.2	5.8
110	0.1	1.5	0.1	0.0	0.0	1.8	4.6
120	0.4	0.8	0.0	0.0	0.0	1.3	5.1
130	1.1	1.9	0.7	0.0	0.0	3.8	5.4
140	0.7	0.7	0.6	0.0	0.0	1.9	5.1
150	0.4	1.3	0.0	0.0	0.0	1.7	4.5
160	0.4	0.0	0.1	0.0	0.0	0.6	4.1
170	0.6	0.6	0.0	0.0	0.0	1.1	3.6
180	0.3	0.3	0.0	0.0	0.0	0.6	3.2
190	0.7	0.6	0.0	0.0	0.0	1.3	3.4
200	0.8	0.4	0.0	0.0	0.0	1.3	2.4
210	0.8	1.0	0.3	0.0	0.0	2.1	4.6
220	1.0	2.8	0.4	0.0	0.0	4.2	5.1
230	0.6	4.2	2.6	0.0	0.0	7.4	7.1
240	0.8	3.5	3.3	0.1	0.0	7.8	7.2
250	0.3	2.5	2.5	0.0	0.0	5.3	7.2
260	0.3	1.7	1.0	0.0	0.0	2.9	6.1
270	0.3	3.3	0.6	0.0	0.0	4.2	5.9
280	0.7	1.8	0.1	0.0	0.0	2.6	4.5
290	0.4	1.1	0.0	0.0	0.0	1.5	4.4
300	0.8	0.4	0.0	0.0	0.0	1.3	3.2
310	0.1	0.1	0.0	0.0	0.0	0.3	3.4
320	0.4	0.0	0.0	0.0	0.0	0.4	2.5
330	0.3	0.4	0.0	0.0	0.0	0.7	3.8
340	1.1	0.1	0.0	0.0	0.0	1.3	2.3
350	0.3	0.3	0.0	0.0	0.0	0.6	3.2
360	0.1	0.0	0.0	0.0	0.0	0.1	3.1
Variable	4.4	1.1	0.0	0.0	0.0	5.6	2.3
Total	27.4	39.2	13.9	0.1	0.0	80.6	4.0
Percent Calm:						19.4	
						100.0	

Note: Sensor height is 10 feet. Tabulated  
values are percent of 720 hours of data.

Figure 6.1F  
WIND ROSE - JUNE 1975  
COOK NUCLEAR PLANT - STATION C03A

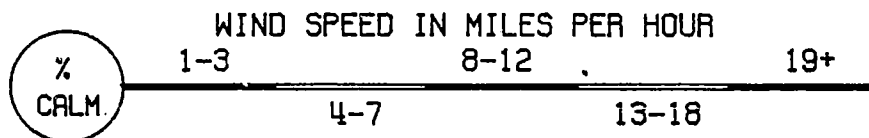
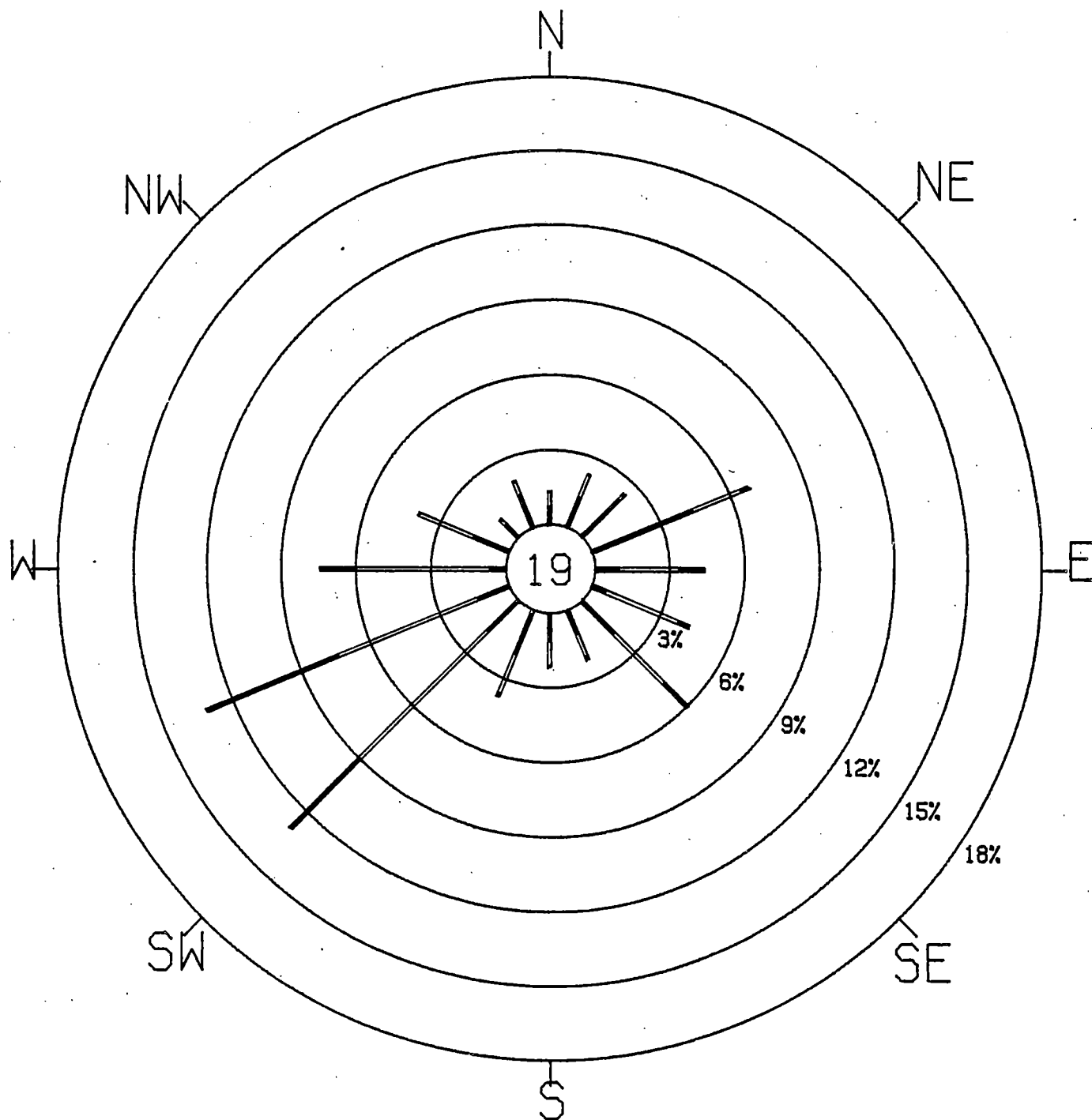


Table 6.1G Cook Network

Percentage Frequency of Wind Direction and Wind Speed  
at Station C03A for July 1975

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.7	0.0	0.0	0.0	0.0	0.7	2.0
020	0.9	0.4	0.0	0.0	0.0	1.3	3.1
030	1.2	0.0	0.0	0.0	0.0	1.2	2.7
040	0.7	0.1	0.0	0.0	0.0	0.8	2.0
050	0.4	0.0	0.0	0.0	0.0	0.4	1.7
060	0.1	0.1	0.0	0.0	0.0	0.3	3.8
070	0.1	0.1	0.0	0.0	0.0	0.3	2.6
080	0.3	0.0	0.0	0.0	0.0	0.3	1.3
090	0.5	0.3	0.0	0.0	0.0	0.8	2.9
100	0.7	0.0	0.0	0.0	0.0	0.7	1.3
110	0.9	0.1	0.0	0.0	0.0	1.1	2.5
120	0.7	0.4	0.3	0.0	0.0	1.3	4.3
130	0.8	1.2	0.3	0.0	0.0	2.3	4.5
140	0.9	0.4	0.0	0.0	0.0	1.3	2.9
150	0.9	0.5	0.0	0.0	0.0	1.5	3.1
160	0.5	0.5	0.0	0.0	0.0	1.1	3.4
170	0.7	0.4	0.0	0.0	0.0	1.1	2.9
180	0.8	0.8	0.0	0.0	0.0	1.6	3.1
190	0.9	0.5	0.0	0.0	0.0	1.5	2.8
200	1.2	0.7	0.0	0.0	0.0	1.9	3.0
210	0.8	0.5	0.0	0.0	0.0	1.3	3.1
220	1.5	1.2	0.3	0.0	0.0	3.0	4.1
230	1.9	2.3	0.9	0.0	0.0	5.1	4.8
240	0.5	1.9	0.5	0.0	0.0	3.0	5.4
250	0.4	3.1	0.8	0.0	0.0	4.3	5.8
260	0.4	2.6	0.5	0.0	0.0	3.5	6.0
270	0.4	3.1	1.2	0.0	0.0	4.7	6.1
280	1.6	3.5	0.8	0.0	0.0	5.9	4.9
290	0.7	2.4	0.0	0.0	0.0	3.1	4.7
300	0.3	1.5	0.0	0.0	0.0	1.7	4.3
310	0.5	0.7	0.0	0.0	0.0	1.2	3.6
320	0.1	0.3	0.0	0.0	0.0	0.4	4.5
330	0.4	0.0	0.0	0.0	0.0	0.4	2.6
340	0.1	0.0	0.0	0.0	0.0	0.1	1.4
350	0.1	0.3	0.0	0.0	0.0	0.4	3.1
360	0.7	0.1	0.0	0.0	0.0	0.8	2.8
Variable	4.4	1.9	0.0	0.0	0.0	6.3	2.6
Total	29.0	32.0	5.6	0.0	0.0	66.7	2.7
Percent Calm:						33.3	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 744 hours of data.

Table 6.2G Cook Network

## Percentage Frequency of Wind Direction and Wind Speed

at Station C10A for July 1975

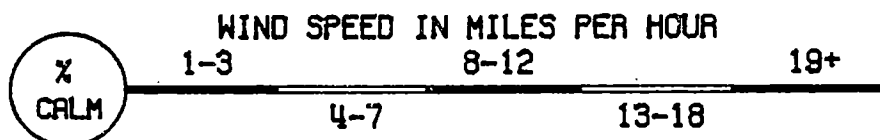
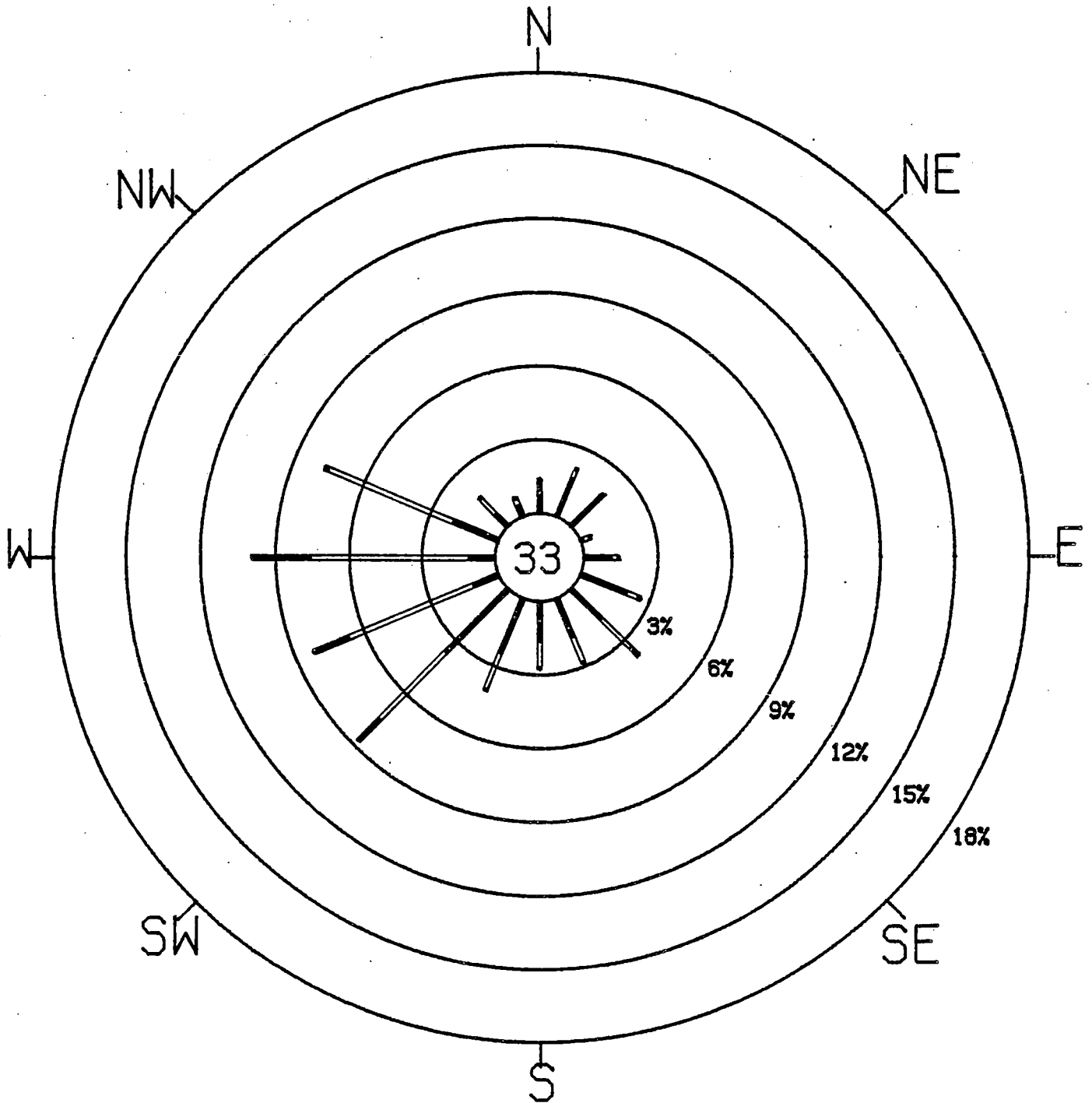
Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.9	0.3	0.0	0.0	0.0	1.2	2.6
020	0.4	0.0	0.0	0.0	0.0	0.4	2.5
030	0.3	0.3	0.0	0.0	0.0	0.6	3.2
040	0.6	0.1	0.0	0.0	0.0	0.7	2.0
050	0.1	0.0	0.0	0.0	0.0	0.1	0.6
060	0.0	0.1	0.0	0.0	0.0	0.1	4.9
070	0.0	0.0	0.0	0.0	0.0	0.0	0.0
080	0.3	0.0	0.0	0.0	0.0	0.3	2.0
090	0.0	0.1	0.0	0.0	0.0	0.1	4.2
100	0.1	0.1	0.0	0.0	0.0	0.3	3.1
110	0.4	0.3	0.0	0.0	0.0	0.7	3.2
120	0.4	0.4	0.0	0.0	0.0	0.9	3.5
130	1.3	0.1	0.1	0.0	0.0	1.6	2.5
140	0.9	0.0	0.1	0.0	0.0	1.0	3.6
150	1.2	0.9	0.0	0.0	0.0	2.1	3.1
160	1.8	0.9	0.4	0.0	0.0	3.1	3.8
170	1.9	2.1	0.6	0.0	0.0	4.6	4.2
180	1.5	2.7	0.3	0.0	0.0	4.5	4.4
190	2.2	1.6	0.4	0.0	0.0	4.3	4.3
200	0.6	2.1	0.7	0.1	0.0	3.6	6.3
210	0.9	1.6	1.0	0.0	0.0	3.6	6.1
220	0.7	1.0	0.1	0.0	0.0	1.9	4.8
230	0.3	0.6	0.1	0.0	0.0	1.0	5.1
240	0.1	0.4	0.0	0.0	0.0	0.6	4.5
250	0.1	0.4	0.6	0.0	0.0	1.2	6.6
260	0.6	1.9	0.6	0.0	0.0	3.1	5.2
270	0.3	0.9	0.3	0.0	0.0	1.5	5.9
280	0.1	0.6	0.4	0.0	0.0	1.2	6.8
290	0.4	0.4	1.0	0.0	0.0	1.9	6.8
300	0.4	0.9	1.0	0.0	0.0	2.4	6.1
310	0.0	0.9	1.0	0.0	0.0	1.9	8.2
320	0.9	0.6	2.1	0.6	0.0	4.2	7.9
330	0.4	1.8	2.2	0.7	0.0	5.2	8.5
340	0.6	0.6	1.0	0.0	0.0	2.2	6.1
350	0.0	0.9	0.3	0.0	0.0	1.2	6.8
360	0.7	1.5	0.3	0.0	0.0	2.5	5.0
Variable	3.6	1.2	0.1	0.0	0.0	4.9	2.8
Total	25.7	28.9	15.4	1.5	0.0	71.6	3.7
Percent Calm:						28.4	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 668 hours of data.

Figure 6.1G

# WIND ROSE - JULY 1975

## COOK NUCLEAR PLANT - STATION C03A



## WIND ROSE - JULY 1975

COOK NUCLEAR PLANT - STATION C10A

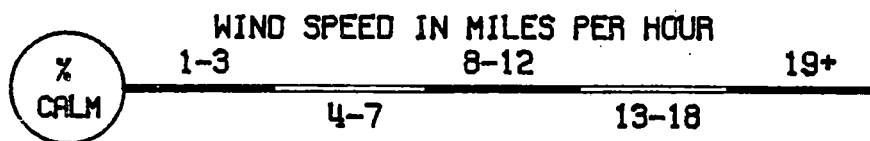
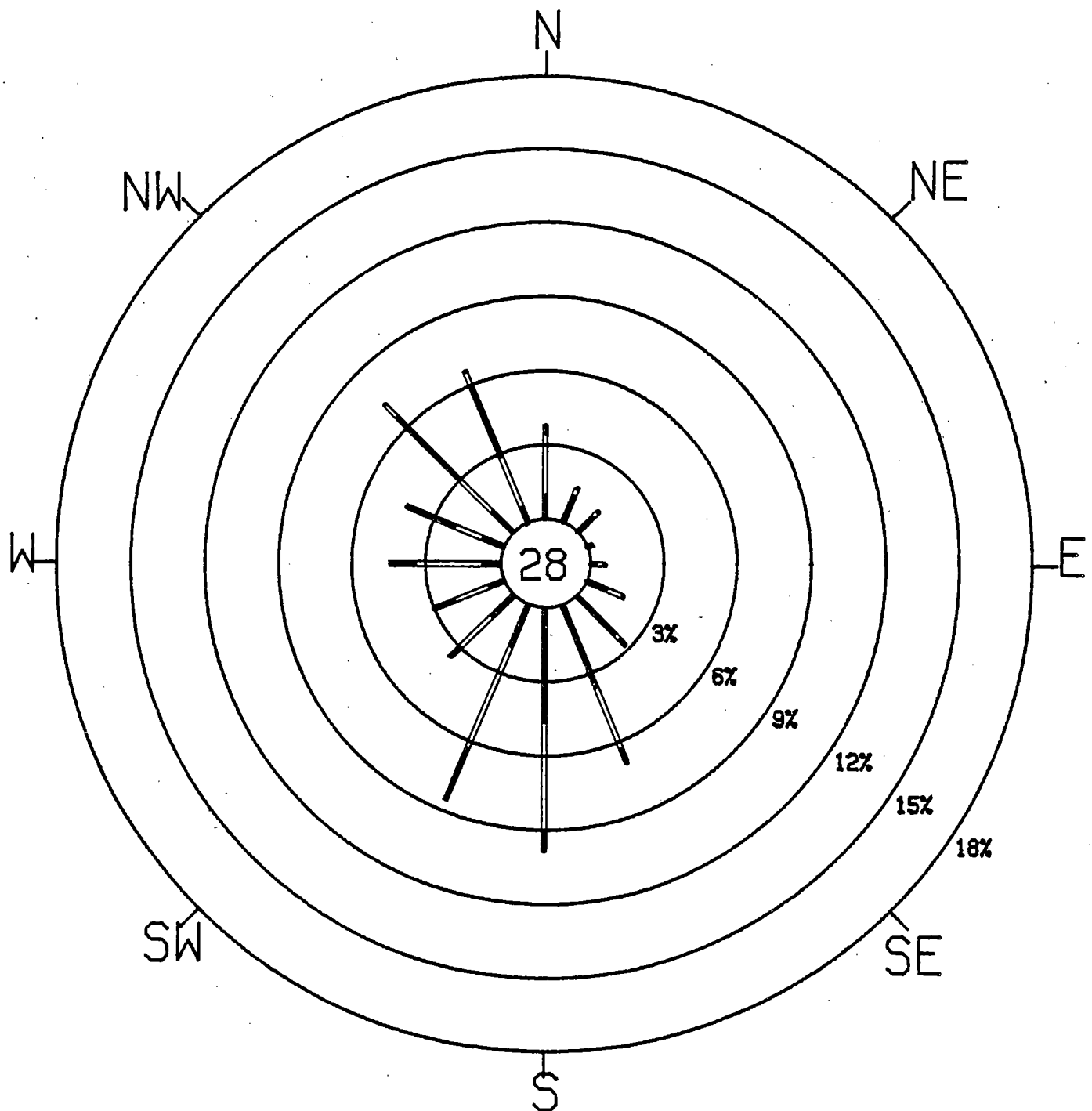




Table 6.1H Cook Network

Percentage Frequency of Wind Direction and Wind Speed  
at Station C03A for August 1975

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.7	0.5	0.0	0.0	0.0	1.2	3.2
020	0.7	0.1	0.0	0.0	0.0	0.8	3.1
030	1.1	0.5	0.0	0.0	0.0	1.6	3.3
040	1.6	1.7	0.1	0.0	0.0	3.5	3.6
050	2.0	2.2	0.3	0.0	0.0	4.4	3.9
060	2.3	1.7	0.0	0.0	0.0	4.0	3.5
070	0.8	1.1	0.4	0.0	0.0	2.3	4.2
080	0.5	0.7	0.0	0.0	0.0	1.2	3.5
090	0.4	0.3	0.0	0.0	0.0	0.7	2.6
100	0.5	0.4	0.0	0.0	0.0	0.9	3.5
110	0.9	0.8	0.1	0.0	0.0	1.9	3.8
120	1.5	0.7	0.0	0.0	0.0	2.2	3.0
130	0.9	0.3	0.0	0.0	0.0	1.2	2.8
140	0.7	0.3	0.0	0.0	0.0	0.9	3.1
150	1.1	0.4	0.0	0.0	0.0	1.5	2.6
160	1.2	0.3	0.0	0.0	0.0	1.5	1.9
170	0.1	0.5	0.0	0.0	0.0	0.7	4.0
180	0.5	0.4	0.1	0.0	0.0	1.1	3.9
190	1.3	0.5	0.0	0.0	0.0	1.9	2.6
200	0.8	1.1	0.0	0.0	0.0	1.9	3.7
210	0.7	1.6	0.0	0.0	0.0	2.3	4.2
220	0.8	2.2	0.7	0.0	0.0	3.6	5.2
230	1.3	3.1	1.7	0.0	0.0	6.2	5.4
240	0.8	2.3	1.5	0.0	0.0	4.6	5.9
250	0.3	2.8	0.7	0.0	0.0	3.8	6.1
260	0.4	1.5	0.5	0.0	0.0	2.4	5.8
270	0.3	3.5	0.4	0.0	0.0	4.2	5.6
280	0.5	2.3	0.1	0.0	0.0	3.0	5.0
290	0.1	0.1	0.0	0.0	0.0	0.3	3.9
300	0.8	0.3	0.0	0.0	0.0	1.1	2.9
310	0.1	0.3	0.0	0.0	0.0	0.4	3.8
320	0.0	0.1	0.0	0.0	0.0	0.1	3.6
330	0.0	0.3	0.0	0.0	0.0	0.3	4.0
340	0.3	0.1	0.0	0.0	0.0	0.4	3.3
350	0.3	0.4	0.0	0.0	0.0	0.7	3.3
360	0.5	0.0	0.0	0.0	0.0	0.5	2.6
Variable	4.4	0.1	0.0	0.0	0.0	4.6	1.9
Total	31.5	35.5	6.7	0.0	0.0	73.7	3.0
Percent Calm:						26.3	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 744 hours of data.

Table 6.2H Cook Network

## Percentage frequency of Wind Direction and Wind Speed

at Station C10A for August 1975

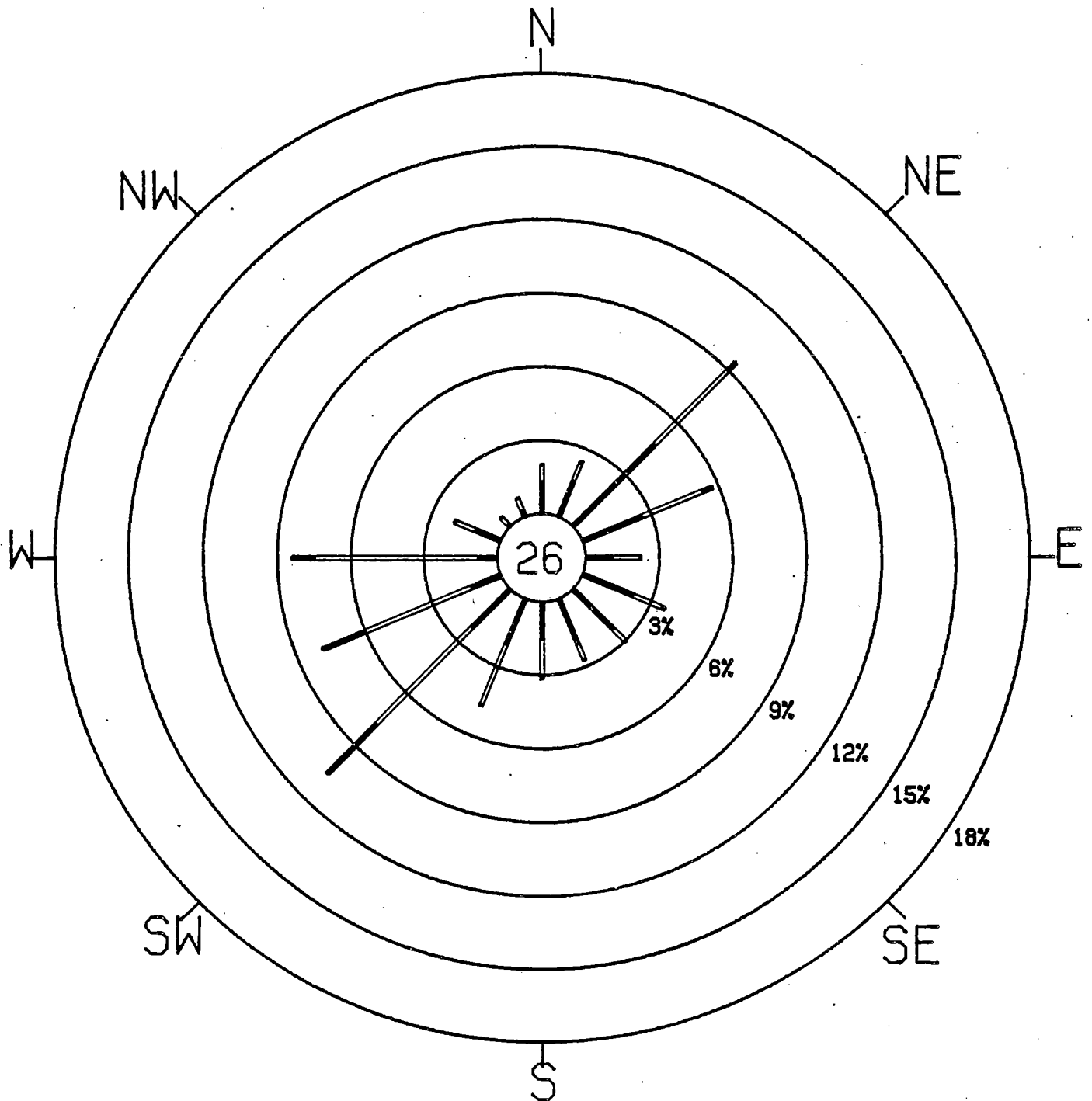
Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.6	0.1	0.1	0.0	0.0	0.9	3.2
020	0.9	0.6	0.0	0.0	0.0	1.4	2.8
030	0.9	0.3	0.3	0.0	0.0	1.4	3.9
040	1.1	1.4	0.0	0.0	0.0	2.6	3.9
050	1.3	1.3	0.1	0.0	0.0	2.7	3.6
060	0.7	1.3	0.0	0.0	0.0	2.0	4.2
070	0.7	0.9	0.1	0.0	0.0	1.7	3.6
080	1.3	0.3	0.3	0.0	0.0	1.8	3.9
090	0.6	0.9	0.1	0.0	0.0	1.6	4.1
100	0.3	1.8	0.3	0.0	0.0	2.4	5.0
110	0.6	1.0	0.0	0.0	0.0	1.6	3.7
120	0.4	0.9	0.0	0.0	0.0	1.3	4.3
130	0.4	0.6	0.3	0.0	0.0	1.3	4.8
140	1.3	0.9	0.0	0.0	0.0	2.1	3.1
150	1.1	1.0	0.0	0.0	0.0	2.1	3.1
160	1.7	1.1	0.0	0.0	0.0	2.8	3.2
170	2.7	1.6	0.0	0.0	0.0	4.3	3.1
180	1.7	2.4	0.1	0.0	0.0	4.3	4.1
190	2.1	2.6	0.1	0.0	0.0	4.8	3.6
200	0.7	1.4	0.7	0.0	0.0	2.8	5.4
210	1.8	1.3	0.6	0.0	0.0	3.7	4.2
220	0.4	0.6	0.3	0.0	0.0	1.3	4.8
230	1.1	0.9	0.1	0.0	0.0	2.1	3.7
240	0.9	0.9	0.6	0.0	0.0	2.3	5.3
250	0.4	1.4	0.6	0.0	0.0	2.4	6.0
260	0.9	1.3	0.6	0.0	0.0	2.7	5.3
270	0.3	1.0	0.3	0.0	0.0	1.6	5.5
280	0.6	0.9	0.0	0.0	0.0	1.4	4.3
290	0.4	0.6	0.1	0.0	0.0	1.1	4.9
300	0.4	0.9	0.3	0.0	0.0	1.6	5.1
310	0.4	1.6	0.7	0.0	0.0	2.7	6.1
320	0.0	0.9	1.3	0.0	0.0	2.1	7.9
330	0.6	0.6	1.0	0.0	0.0	2.1	6.5
340	0.3	0.6	0.4	0.0	0.0	1.3	6.5
350	0.6	0.4	0.3	0.0	0.0	1.3	5.0
360	0.4	0.7	0.0	0.0	0.0	1.1	4.0
Variable	3.4	0.0	0.0	0.0	0.0	3.4	1.7
Total	33.9	36.3	9.8	0.0	0.0	80.0	3.5
Percent Calm:						20.0	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 705 hours of data.

Figure 6.1H

# WIND ROSE - AUGUST 1975

## COOK NUCLEAR PLANT - STATION C03A



## WIND ROSE - AUGUST 1975

COOK NUCLEAR PLANT - STATION C10A

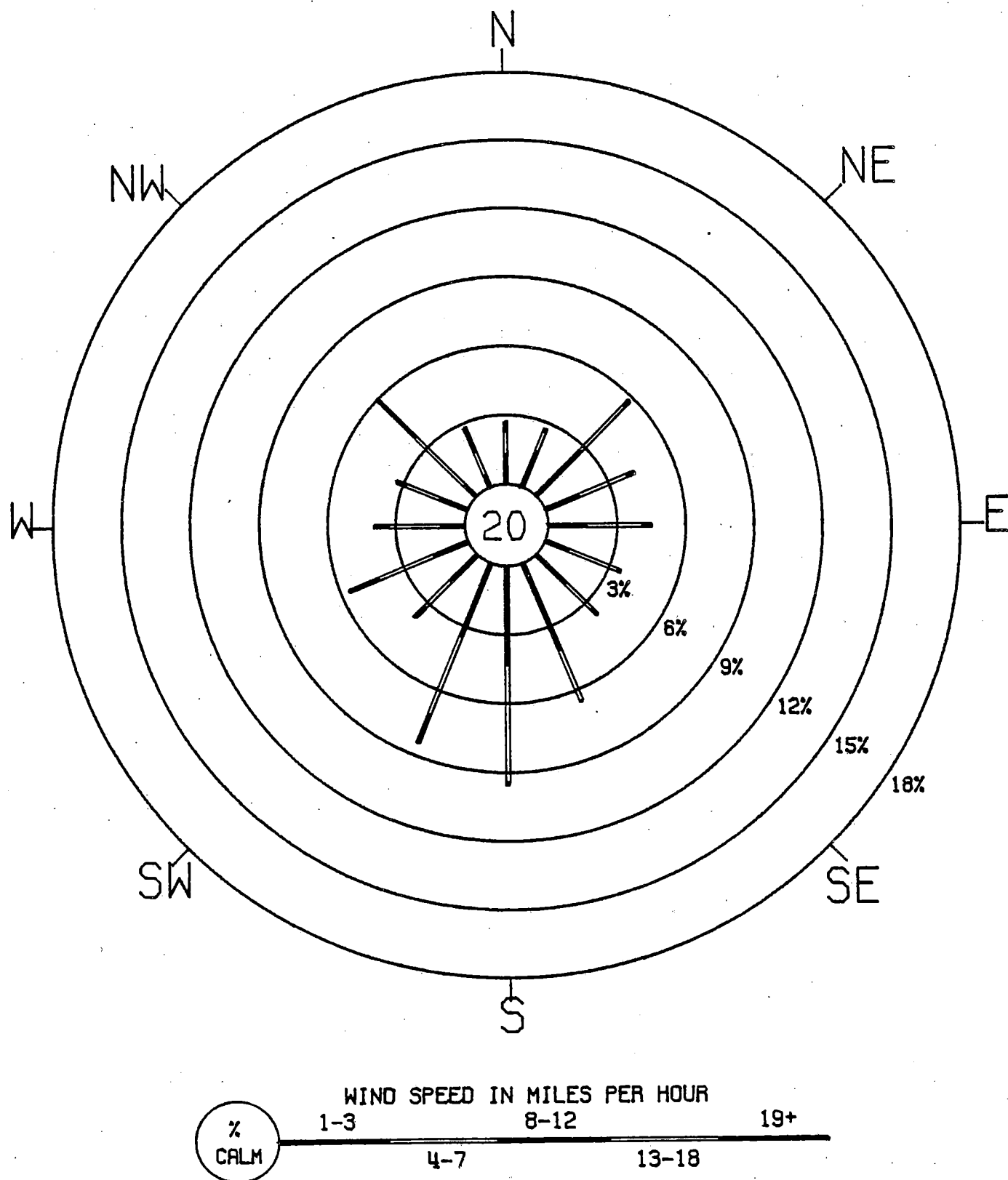


Table 6.11 Cook Network

Percentage Frequency of Wind Direction and Wind Speed  
at Station C03A for Sept. 1975

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.1	0.4	0.0	0.0	0.0	0.6	4.2
020	1.0	0.1	0.0	0.0	0.0	1.1	2.7
030	1.4	0.4	0.0	0.0	0.0	1.8	2.4
040	0.4	2.1	0.3	0.0	0.0	2.8	4.7
050	1.1	3.2	0.4	0.0	0.0	4.8	4.8
060	1.0	0.4	0.0	0.0	0.0	1.4	2.6
070	1.1	0.3	0.0	0.0	0.0	1.4	2.9
080	0.4	0.8	0.0	0.0	0.0	1.3	3.6
090	0.6	0.4	0.0	0.0	0.0	1.0	2.8
100	1.3	0.6	0.0	0.0	0.0	1.8	2.5
110	1.3	0.6	0.0	0.0	0.0	1.8	2.9
120	2.2	0.6	0.0	0.0	0.0	2.8	2.6
130	1.7	1.0	0.0	0.0	0.0	2.7	3.4
140	1.5	0.3	0.0	0.0	0.0	1.8	2.4
150	0.4	0.4	0.0	0.0	0.0	0.8	3.9
160	0.8	0.1	0.0	0.0	0.0	1.0	1.6
170	0.4	0.0	0.0	0.0	0.0	0.4	2.6
180	1.1	0.3	0.1	0.0	0.0	1.5	3.1
190	0.3	0.0	0.3	0.0	0.0	0.6	4.9
200	1.1	0.1	0.1	0.0	0.0	1.4	2.8
210	0.8	0.4	0.0	0.0	0.0	1.3	2.6
220	1.1	0.8	0.3	0.0	0.0	2.2	4.0
230	0.1	1.7	0.4	0.0	0.0	2.2	5.8
240	0.3	0.8	1.8	0.0	0.0	2.9	8.3
250	0.1	1.5	2.2	0.0	0.0	3.9	8.6
260	0.7	2.9	1.1	0.0	0.0	4.8	6.0
270	1.1	4.1	3.8	0.0	0.0	9.0	6.4
280	1.4	1.0	1.1	0.0	0.0	3.5	5.0
290	1.1	0.3	0.0	0.0	0.0	1.4	2.5
300	0.4	0.1	0.0	0.0	0.0	0.6	2.8
310	0.1	0.4	0.0	0.0	0.0	0.6	3.7
320	0.3	0.1	0.0	0.0	0.0	0.4	2.9
330	0.3	0.0	0.0	0.0	0.0	0.3	2.0
340	0.1	0.6	0.0	0.0	0.0	0.7	4.3
350	0.1	0.1	0.0	0.0	0.0	0.3	3.4
360	0.4	0.6	0.0	0.0	0.0	1.0	3.4
Variable	4.8	0.7	0.0	0.0	0.0	5.5	2.1
Total	32.7	28.4	12.0	0.0	0.0	73.1	3.2
Percent Calm:						26.9	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 715 hours of data.

Table 6.2I Cook Network

## Percentage Frequency of Wind Direction and Wind Speed

at Station C10A for Sept. 1975

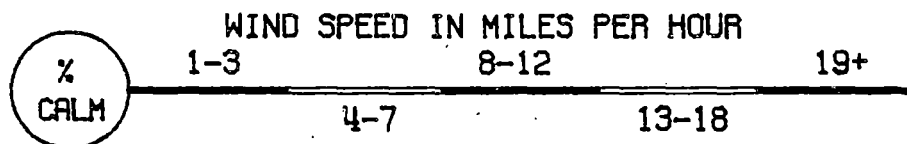
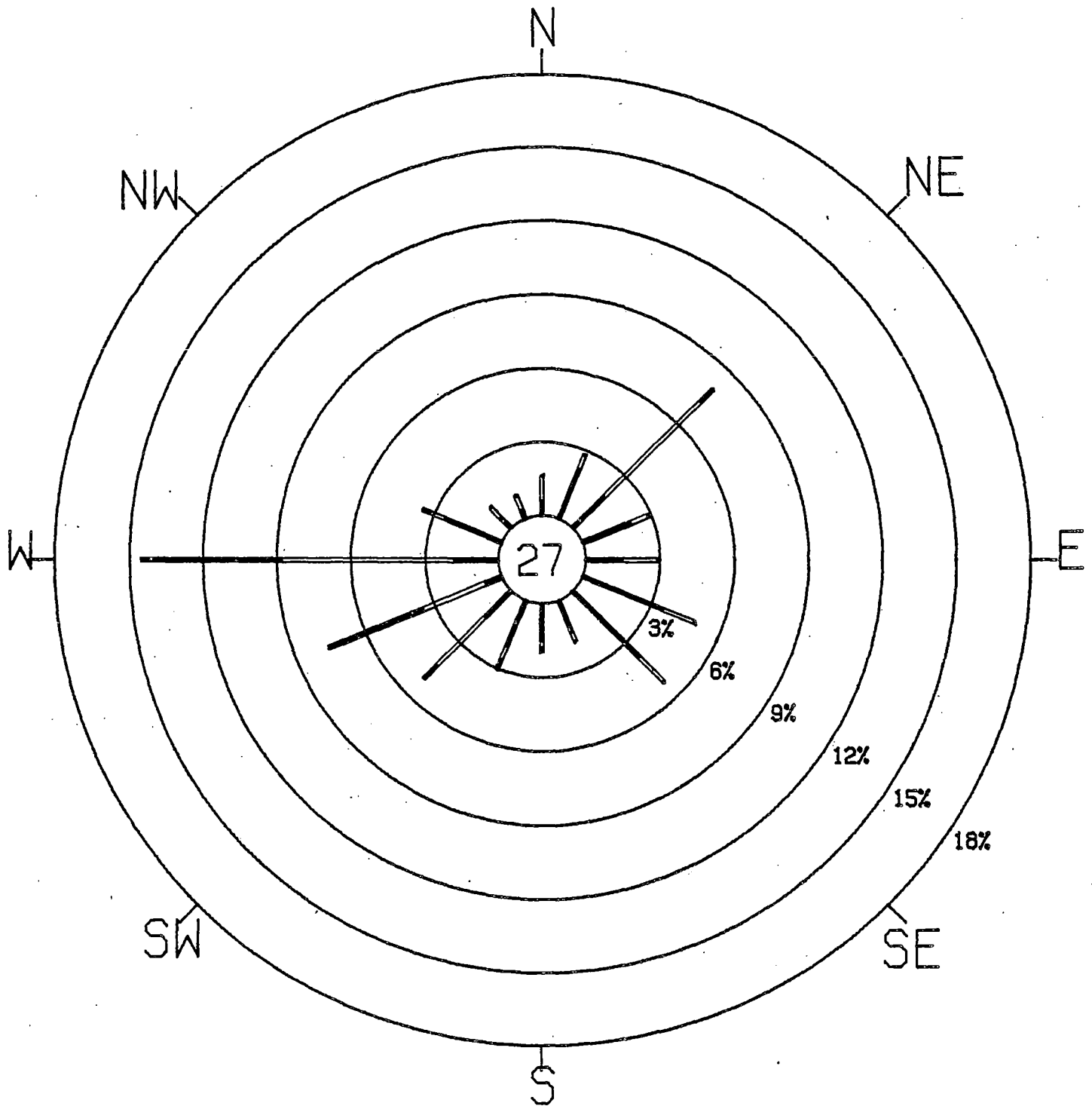
Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
01C	0.4	0.4	0.0	0.0	0.0	0.8	3.8
02C	0.4	0.8	0.0	0.0	0.0	1.3	4.2
03C	0.0	1.0	0.6	0.0	0.0	1.5	6.9
04C	0.4	1.3	1.4	0.0	0.0	3.1	6.8
05C	1.1	0.6	0.6	0.1	0.0	2.4	5.7
06C	0.1	0.1	0.0	0.0	0.0	0.3	2.2
07C	0.8	0.1	0.0	0.0	0.0	1.0	2.5
08C	0.4	0.0	0.0	0.0	0.0	0.4	2.6
09C	0.6	0.3	0.0	0.0	0.0	0.8	3.5
10C	0.6	1.1	0.0	0.0	0.0	1.7	4.7
11C	1.4	1.3	0.0	0.0	0.0	2.6	3.5
12C	1.3	1.7	0.1	0.0	0.0	3.1	4.1
13C	1.3	1.5	0.0	0.0	0.0	2.8	3.7
14C	1.9	1.1	0.0	0.0	0.0	3.1	3.0
15C	2.2	1.0	0.0	0.0	0.0	3.2	2.9
16C	1.1	1.5	0.0	0.0	0.0	2.6	3.8
17C	1.3	1.0	0.1	0.0	0.0	2.4	3.7
18C	3.9	1.7	0.1	0.0	0.0	5.7	2.9
19C	2.4	1.3	0.6	0.0	0.0	4.2	4.3
20C	1.8	1.9	0.3	0.0	0.0	4.0	4.3
21C	1.1	1.5	0.1	0.0	0.0	2.8	4.5
22C	0.6	1.8	0.1	0.0	0.0	2.5	5.1
23C	0.7	0.8	0.4	0.0	0.0	1.9	4.7
24C	0.4	1.4	0.8	0.0	0.0	2.6	6.3
25C	0.6	0.7	0.6	0.0	0.0	1.8	5.7
26C	0.1	0.6	1.0	0.0	0.0	1.7	7.5
27C	0.4	0.3	0.3	0.0	0.0	1.0	4.6
28C	0.1	0.8	0.8	0.0	0.0	1.8	7.0
29C	0.7	0.6	0.6	0.0	0.0	1.8	5.1
30C	0.6	1.7	2.2	0.7	0.0	5.1	8.0
31C	1.1	1.3	1.4	0.4	0.0	4.2	6.9
32C	0.6	0.6	0.0	0.1	0.0	1.3	4.9
33C	0.1	0.7	0.6	0.0	0.0	1.4	6.7
34C	0.4	1.1	0.7	0.1	0.0	2.4	6.5
35C	1.0	0.8	0.8	0.1	0.0	2.8	5.9
36C	1.1	0.4	0.1	0.0	0.0	1.7	3.6
Variable	3.1	0.6	0.0	0.0	0.0	3.6	2.0
Total	36.0	35.1	14.3	1.7	0.0	87.1	4.2
Percent Calm:						12.9	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 720 hours of data.

Figure 6.11

# WIND ROSE - SEPTEMBER 1975

## COOK NUCLEAR PLANT - STATION C03A



WIND ROSE - SEPTEMBER 1975  
COOK NUCLEAR PLANT - STATION C10A

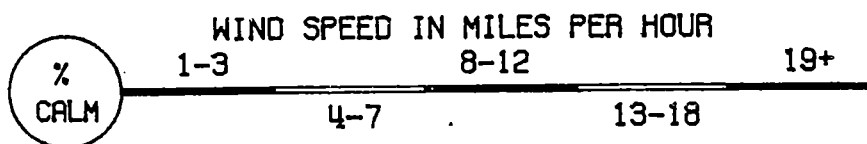
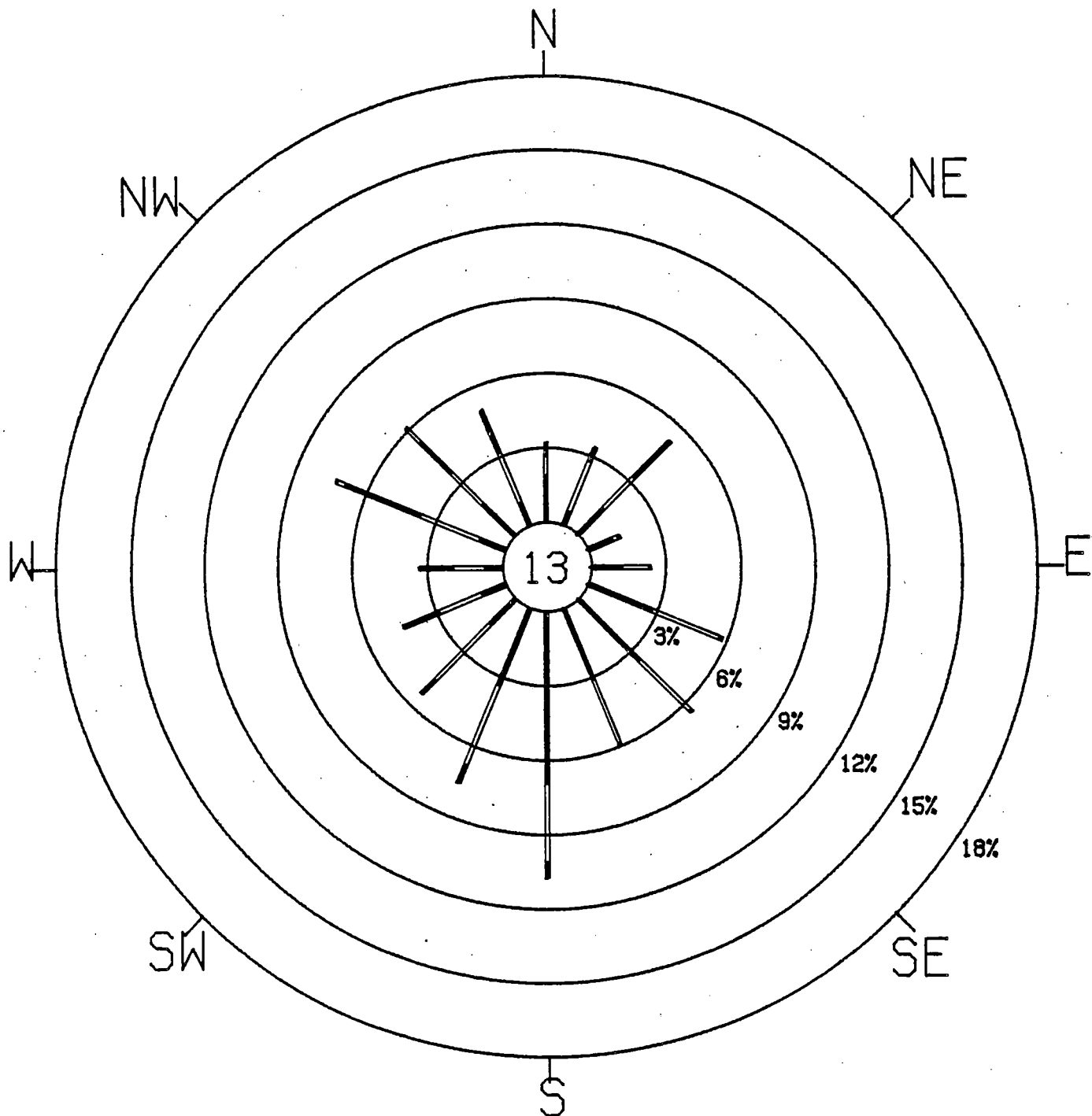




Table 6.1J Cook Network

Percentage Frequency of Wind Direction and Wind Speed  
at Station C03A for October 1975

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.5	0.2	0.0	0.0	0.0	0.6	2.2
020	0.5	0.6	0.3	0.0	0.0	1.4	5.5
030	1.4	1.8	1.2	0.0	0.0	4.4	5.7
040	0.8	2.4	2.0	0.2	0.0	5.3	6.5
050	1.7	1.5	0.0	0.0	0.0	3.2	3.5
060	0.8	0.0	0.0	0.0	0.0	0.8	2.4
070	0.2	0.0	0.0	0.0	0.0	0.2	0.5
080	0.2	0.0	0.0	0.0	0.0	0.2	0.6
090	0.5	0.3	0.0	0.0	0.0	0.8	3.1
100	0.8	0.6	0.0	0.0	0.0	1.4	3.4
110	0.8	0.3	0.0	0.0	0.0	1.1	2.8
120	0.6	0.6	0.0	0.0	0.0	1.2	3.4
130	1.2	1.5	0.2	0.0	0.0	2.9	4.1
140	1.8	3.5	0.8	0.0	0.0	6.0	4.7
150	1.1	2.0	0.8	0.0	0.0	3.8	4.9
160	1.5	1.8	0.9	0.0	0.0	4.2	5.0
170	1.2	1.4	0.2	0.0	0.0	2.7	4.2
180	0.6	0.8	0.3	0.0	0.0	1.7	4.2
190	0.9	0.9	0.0	0.0	0.0	1.8	3.1
200	0.9	1.5	0.2	0.0	0.0	2.6	4.3
210	0.3	1.5	0.0	0.0	0.0	1.8	4.4
220	0.6	3.0	0.2	0.0	0.0	3.8	4.9
230	0.2	4.5	0.5	0.0	0.0	5.1	6.0
240	0.3	2.9	1.2	0.0	0.0	4.4	6.2
250	0.3	2.1	0.6	0.6	0.0	3.6	7.4
260	0.6	3.5	0.8	0.8	0.0	5.6	7.2
270	0.8	4.4	1.1	0.0	0.0	6.2	5.7
280	1.1	2.0	0.0	0.0	0.0	3.0	4.5
290	0.3	0.5	0.0	0.0	0.0	0.8	3.3
300	0.8	0.0	0.0	0.0	0.0	0.8	2.9
310	0.2	0.0	0.0	0.0	0.0	0.2	3.4
320	0.2	0.0	0.0	0.0	0.0	0.2	2.9
330	0.3	0.0	0.0	0.0	0.0	0.3	2.7
340	0.8	0.2	0.0	0.0	0.0	0.9	2.4
350	0.2	0.3	0.0	0.0	0.0	0.5	3.2
360	0.5	0.3	0.0	0.0	0.0	0.8	3.2
Variable	3.5	1.1	0.0	0.0	0.0	4.5	2.5
Total	27.9	47.4	10.8	1.5	0.0	87.7	4.3
Percent Calm:						12.3	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 666 hours of data.

Table 6.2J Cook Network

## Percentage Frequency of Wind Direction and Wind Speed

at Station C10A for October 1975

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.4	0.7	0.4	0.0	0.0	1.5	5.6
020	0.1	0.3	0.7	0.0	0.0	1.1	7.1
030	0.4	1.1	1.5	0.0	0.0	3.0	7.0
040	0.3	1.2	1.1	0.0	0.0	2.6	7.1
050	0.7	0.5	0.5	0.1	0.0	1.9	6.0
060	0.5	0.4	0.1	0.0	0.0	1.1	4.3
070	0.9	0.1	0.0	0.0	0.0	1.1	2.3
080	0.3	0.0	0.0	0.0	0.0	0.3	2.1
090	0.4	0.3	0.0	0.0	0.0	0.7	2.9
100	0.1	0.1	0.0	0.0	0.0	0.3	4.2
110	0.4	0.8	0.0	0.0	0.0	1.2	4.0
120	1.1	0.9	0.0	0.0	0.0	2.0	3.6
130	1.5	0.9	0.0	0.0	0.0	2.4	3.4
140	1.2	1.3	0.0	0.0	0.0	2.6	4.0
150	1.1	1.5	0.0	0.0	0.0	2.6	3.7
160	0.5	2.6	0.9	0.3	0.0	4.3	6.4
170	2.0	1.7	3.2	1.3	0.0	8.3	7.3
180	3.6	1.6	2.4	0.7	0.0	8.3	5.8
190	1.5	2.6	2.7	0.4	0.0	7.1	6.7
200	0.5	3.6	3.1	0.3	0.0	7.5	7.2
210	0.8	1.7	1.5	0.0	0.0	4.0	6.9
220	0.8	0.5	1.1	0.0	0.0	2.4	6.2
230	0.3	0.3	0.1	0.0	0.0	0.7	4.8
240	0.8	0.9	0.4	0.0	0.0	2.2	5.1
250	0.4	0.5	0.9	0.0	0.0	1.9	7.1
260	0.3	1.1	1.1	0.0	0.0	2.4	7.7
270	0.1	0.8	0.8	0.3	0.0	2.0	8.6
280	0.4	0.1	1.3	0.0	0.0	1.9	7.4
290	0.1	0.3	0.4	0.0	0.0	0.8	7.5
300	0.8	0.7	1.6	0.0	0.0	3.1	7.3
310	0.8	1.5	1.6	0.0	0.0	3.9	6.6
320	0.8	0.7	0.5	0.0	0.0	2.0	4.9
330	0.1	0.8	0.8	0.0	0.0	1.7	7.1
340	0.1	0.5	0.5	0.0	0.0	1.2	6.8
350	1.1	0.0	0.1	0.0	0.0	1.2	3.2
360	0.5	0.5	0.8	0.0	0.0	1.9	6.5
Variable	2.2	0.3	0.0	0.0	0.0	2.4	2.1
Total	28.1	33.6	30.4	3.4	0.0	95.4	5.8
Percent Calm:						4.6	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 744 hours of data.

Figure 6.1J

# WIND ROSE - OCTOBER 1975

## COOK NUCLEAR PLANT - STATION C03A

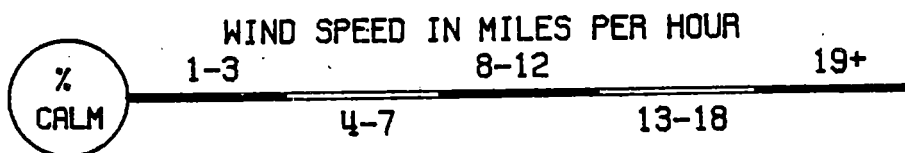
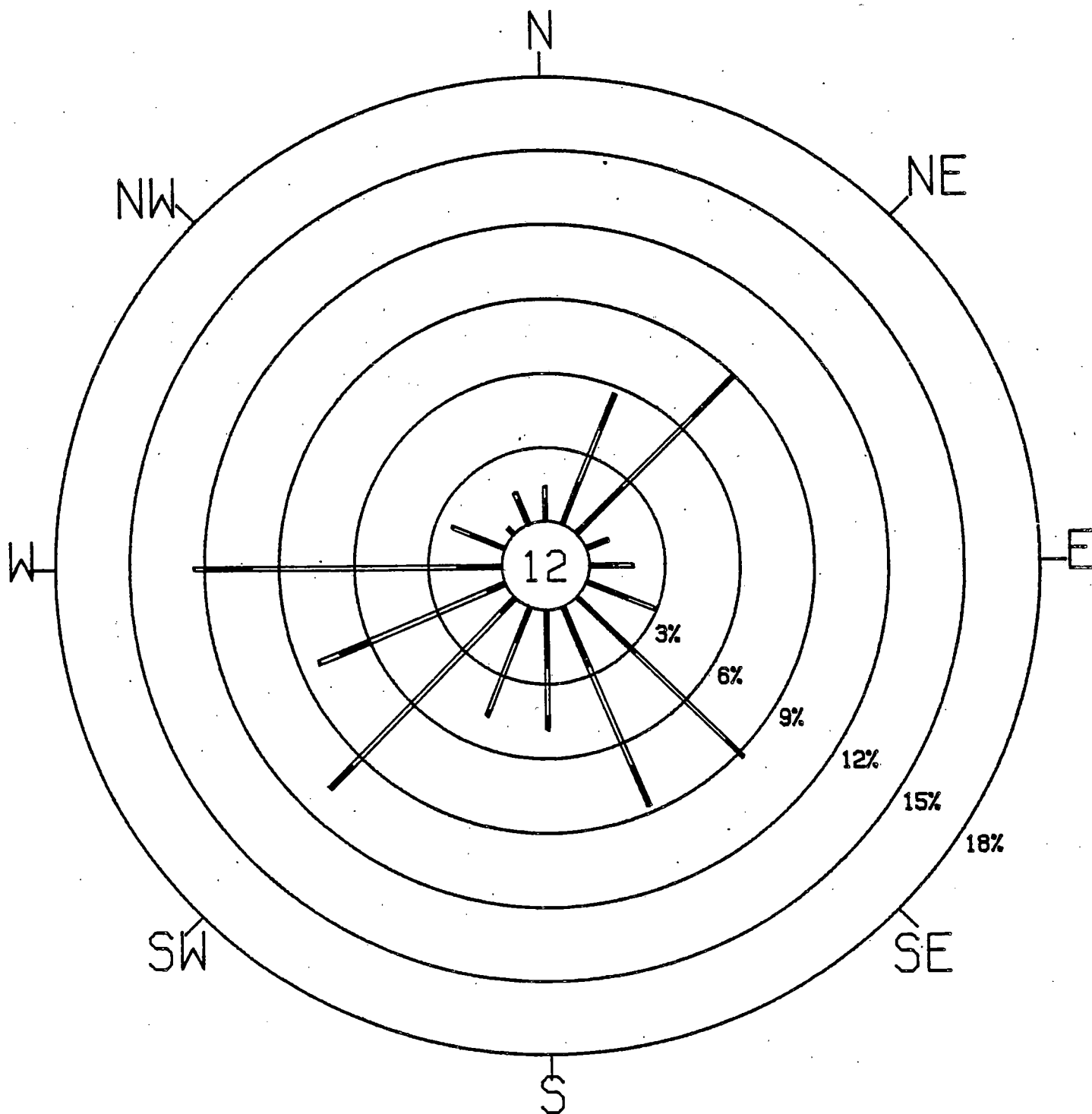


Figure 6.2J

# WIND ROSE - OCTOBER 1975

## COOK NUCLEAR PLANT - STATION C10A

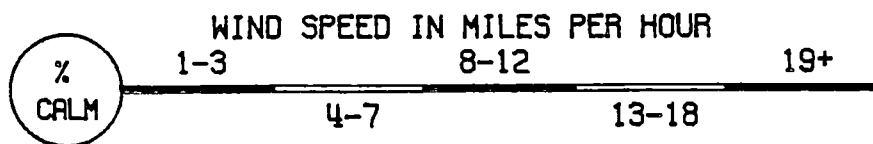
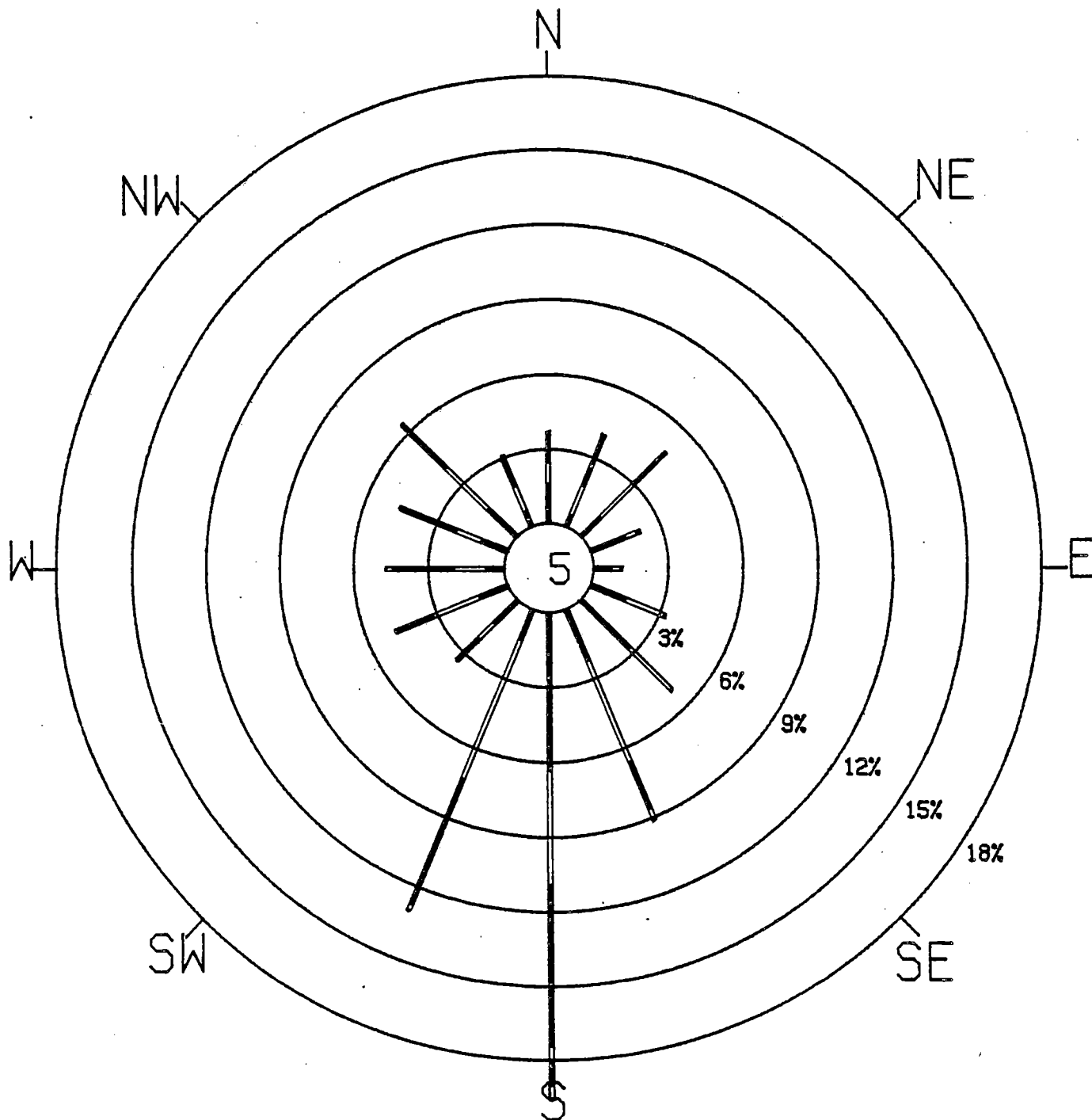


Table 6.1K Cook Network

## Percentage Frequency of Wind Direction and Wind Speed

at Station C03A for November 1975

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
01C	0.0	0.4	0.0	0.0	0.0	0.4	4.4
02C	0.0	0.6	0.0	0.0	0.0	0.6	4.8
03C	0.1	0.7	0.1	0.0	0.0	1.0	5.5
04C	0.1	1.3	0.1	0.0	0.0	1.5	5.4
05C	0.3	1.5	0.3	0.0	0.0	2.1	6.2
06C	0.3	0.8	0.8	0.0	0.0	1.9	7.0
07C	0.0	1.8	0.8	0.0	0.0	2.6	6.4
08C	0.4	0.4	0.1	0.0	0.0	1.0	4.0
09C	0.1	0.1	0.0	0.0	0.0	0.3	3.6
10C	0.3	0.3	0.3	0.0	0.0	0.8	5.4
11C	0.6	0.6	0.3	0.0	0.0	1.4	4.7
12C	0.1	1.1	1.1	0.0	0.0	2.4	6.9
13C	1.0	1.9	1.4	0.1	0.0	4.4	6.2
14C	1.7	0.6	1.1	0.1	0.0	3.5	5.3
15C	1.4	1.3	1.5	0.0	0.0	4.2	5.9
16C	2.4	2.9	0.4	0.0	0.0	5.7	4.0
17C	3.5	1.7	0.4	0.0	0.0	5.6	3.6
18C	0.6	1.4	0.1	0.0	0.0	2.1	4.8
19C	0.8	1.4	0.7	0.0	0.0	2.9	5.5
20C	1.3	2.2	1.0	0.0	0.0	4.4	5.5
21C	0.4	1.5	0.8	0.0	0.0	2.8	6.2
22C	0.8	4.9	0.1	0.0	0.0	5.8	5.1
23C	0.7	3.1	0.8	0.4	0.0	5.0	6.3
24C	0.3	1.4	1.9	0.3	0.6	4.4	9.6
25C	0.7	1.7	1.7	0.0	1.8	5.8	11.0
26C	0.3	0.7	1.5	0.7	0.0	3.2	9.7
27C	0.3	1.1	1.8	0.1	0.0	3.3	7.8
28C	0.6	0.8	0.3	0.0	0.0	1.7	5.0
29C	0.0	0.1	0.1	0.0	0.0	0.3	7.6
30C	0.0	0.3	0.8	0.0	0.0	1.1	9.3
31C	0.0	0.6	0.8	0.0	0.0	1.4	7.8
32C	0.1	0.7	0.6	0.0	0.0	1.4	6.2
33C	0.0	0.1	0.4	0.0	0.0	0.6	7.6
34C	0.0	0.4	0.3	0.0	0.0	0.7	7.3
35C	0.0	0.0	0.3	0.0	0.0	0.3	8.3
36C	0.0	0.3	0.4	0.0	0.0	0.7	7.7
Variable	0.6	0.1	0.0	0.0	0.0	0.7	2.1
Total	19.6	40.7	23.5	1.8	2.4	87.9	5.6
Percent Calm:						12.1	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 720 hours of data.

Table 6.2K Ccck Network

Percentage Frequency of Wind Direction and Wind Speed  
at Station C10A for November 1975

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
01C	0.1	0.3	0.7	0.0	0.0	1.1	7.9
02C	0.1	0.3	0.6	0.0	0.0	1.0	6.5
03C	0.0	0.3	1.0	0.0	0.0	1.3	8.0
04C	0.3	0.6	0.3	0.0	0.0	1.1	4.9
05C	0.0	0.4	0.0	0.0	0.0	0.4	4.9
06C	0.0	1.0	0.1	0.0	0.0	1.1	5.3
07C	0.1	0.6	0.7	0.0	0.0	1.4	6.8
08C	0.3	0.4	0.6	0.0	0.0	1.3	6.8
09C	0.3	0.6	0.1	0.0	0.0	1.0	4.9
10C	0.4	0.3	0.4	0.0	0.0	1.1	6.0
11C	1.0	0.1	0.0	0.0	0.0	1.1	2.5
12C	0.0	0.4	0.1	0.0	0.0	0.6	6.0
13C	0.6	0.1	0.8	0.0	0.0	1.5	6.8
14C	0.6	0.6	1.4	0.6	0.0	3.1	8.5
15C	1.1	0.6	1.8	1.0	0.0	4.4	8.1
16C	1.4	0.8	1.1	1.1	0.0	4.4	7.9
17C	1.9	1.1	1.4	2.1	0.7	7.2	9.7
18C	2.5	2.1	1.3	0.7	0.3	6.8	6.4
19C	1.0	4.7	5.6	0.6	0.6	12.4	8.4
20C	0.8	4.9	3.2	2.1	0.3	11.3	8.3
21C	0.4	3.1	3.9	1.0	0.0	8.3	8.3
22C	0.6	1.1	1.7	0.6	0.0	3.9	8.2
23C	0.4	0.6	0.1	0.1	0.4	1.7	10.0
24C	0.6	0.6	0.4	0.0	0.1	1.7	6.4
25C	0.3	0.7	0.1	0.6	0.0	1.7	8.7
26C	0.1	0.6	0.8	1.3	0.8	3.6	14.2
27C	0.4	0.4	0.6	0.0	0.3	1.7	8.5
28C	0.4	0.3	0.7	0.0	0.0	1.4	6.7
29C	0.0	0.6	0.4	0.0	0.0	1.0	6.8
30C	0.0	0.1	0.1	0.0	0.0	0.3	8.5
31C	0.1	0.6	0.4	0.1	0.0	1.3	8.1
32C	0.0	0.1	0.3	1.1	0.4	1.9	14.2
33C	0.1	0.0	0.3	1.1	0.7	2.2	16.5
34C	0.0	0.0	0.0	0.3	0.3	0.6	18.2
35C	0.0	0.0	0.1	0.3	0.0	0.4	15.2
36C	0.1	0.3	0.1	0.0	0.1	0.7	8.5
Variable	0.6	0.1	0.0	0.0	0.0	0.7	1.7
Total	16.7	29.0	31.3	14.4	5.0	96.4	8.2
Percent Calm:						3.6	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 720 hours of data.

Figure 6.1K

WIND ROSE - NOVEMBER 1975

COOK NUCLEAR PLANT - STATION C03A

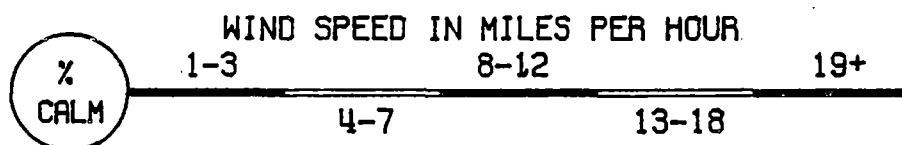
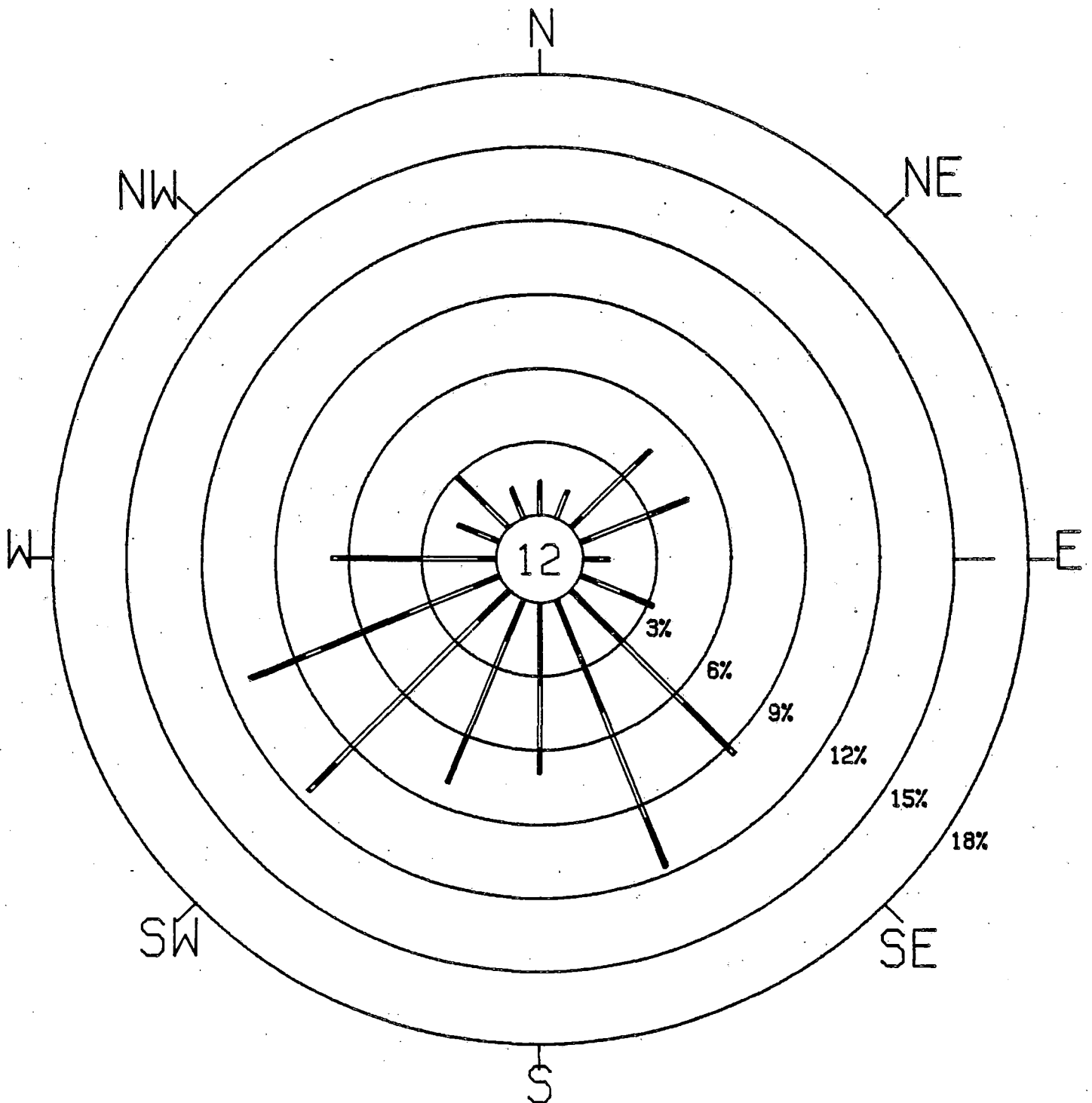


Figure 6.2K

# WIND ROSE - NOVEMBER 1975

## COOK NUCLEAR PLANT - STATION C10A

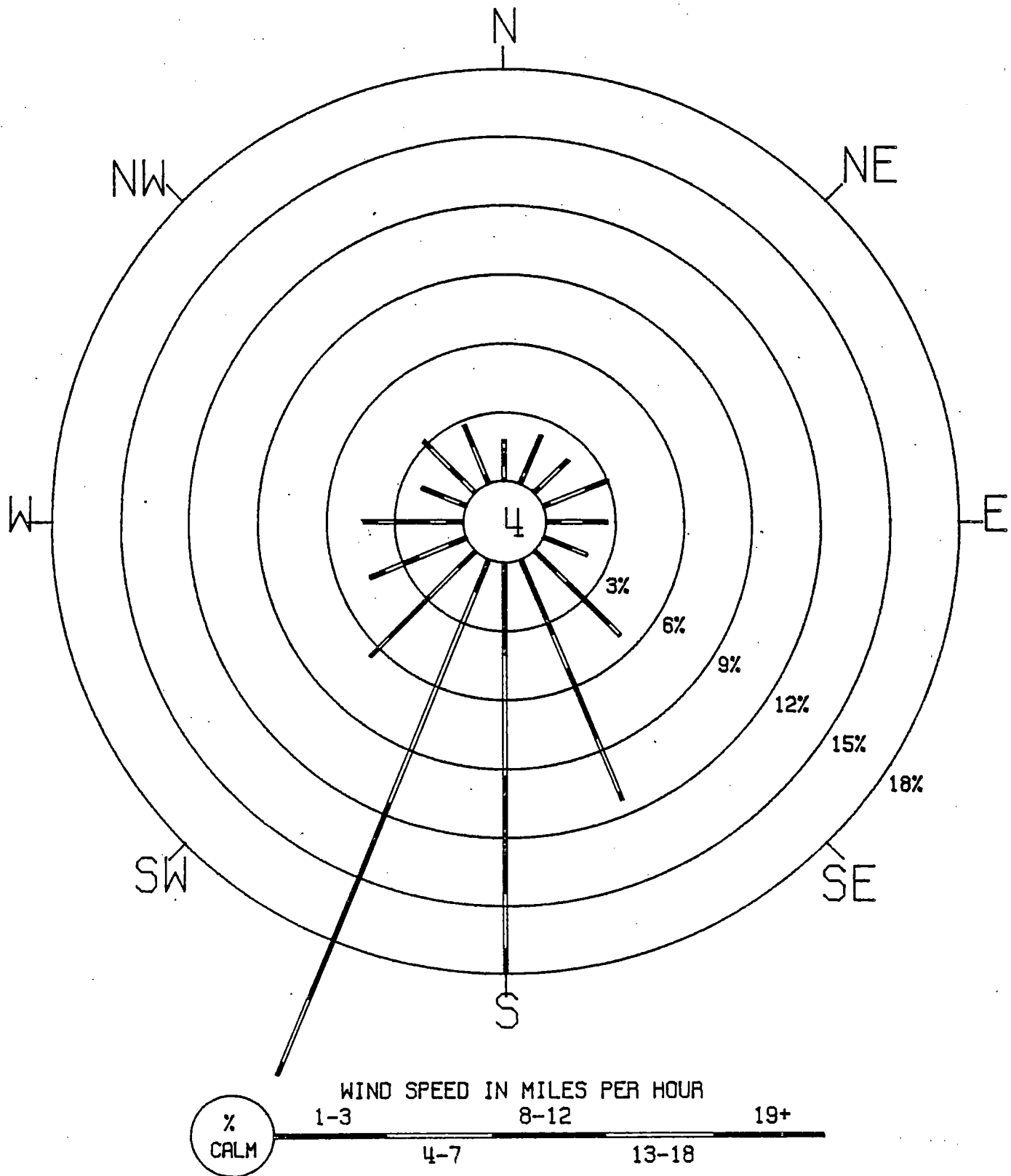




Table 6.1J Cock Network

Percentage Frequency of Wind Direction and Wind Speed  
at Station C03A for December 1975

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.4	1.4	0.9	0.0	0.0	2.7	5.6
020	0.7	1.4	0.7	0.0	0.0	2.8	5.8
030	0.6	0.9	1.4	0.0	0.0	2.8	6.5
040	1.3	1.4	0.3	0.0	0.0	3.0	3.8
050	2.1	1.6	1.6	0.0	0.0	5.2	5.3
060	0.7	0.7	2.1	0.6	0.0	4.1	8.9
070	0.6	0.3	0.7	0.0	0.0	1.6	6.3
080	0.6	0.9	0.7	0.0	0.0	2.1	6.1
090	0.3	0.4	0.4	0.0	0.0	1.1	5.9
100	0.6	0.6	0.0	0.0	0.0	1.1	3.6
110	1.0	0.9	0.0	0.0	0.0	1.8	3.8
120	1.0	1.7	0.4	0.0	0.0	3.1	4.6
130	1.1	0.9	0.3	0.0	0.0	2.3	4.6
140	1.1	2.7	0.4	0.0	0.0	4.3	5.0
150	1.7	0.6	0.6	0.0	0.0	2.8	4.2
160	1.8	1.6	0.7	0.0	0.0	4.1	4.6
170	1.4	1.8	1.3	0.0	0.0	4.5	5.6
180	0.4	2.8	1.0	0.0	0.0	4.3	6.3
190	0.4	2.0	0.9	0.0	0.0	3.3	6.3
200	0.3	1.1	0.6	0.0	0.0	2.0	6.1
210	0.1	1.0	0.0	0.0	0.0	1.1	5.4
220	0.0	1.1	0.9	0.0	0.0	2.0	7.4
230	0.3	0.7	0.4	0.0	0.0	1.4	6.1
240	0.1	1.1	1.0	0.0	0.0	2.3	7.7
250	0.0	0.7	1.0	1.6	0.9	4.1	13.2
260	0.0	1.1	1.7	1.1	0.1	4.1	10.1
270	0.0	0.4	3.3	1.4	0.0	5.1	11.0
280	0.3	0.6	2.3	1.4	0.0	4.5	10.5
290	0.3	1.0	0.4	0.0	0.0	1.7	5.7
300	0.3	1.3	0.0	0.0	0.0	1.6	4.3
310	0.6	0.7	0.0	0.0	0.0	1.3	3.7
320	0.7	0.7	0.0	0.0	0.0	1.4	3.8
330	0.3	0.4	0.0	0.0	0.0	0.7	3.4
340	0.4	0.1	0.0	0.0	0.0	0.6	3.7
350	0.4	0.1	0.3	0.0	0.0	0.9	4.5
360	0.1	0.6	0.4	0.0	0.0	1.1	6.4
Variable	1.6	0.3	0.0	0.0	0.0	1.8	2.3
Total	23.7	37.6	26.5	6.1	1.0	94.9	6.2
Percent Calm:						5.1	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 705 hours of data.

Table 6.2L Cook Network

Percentage Frequency of Wind Direction and Wind Speed  
at Station C10A for December 1975

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.4	0.4	0.7	0.4	0.0	1.9	8.5
020	0.6	0.4	1.0	0.0	0.0	1.9	7.3
030	0.3	1.1	1.5	0.1	0.0	3.1	7.8
040	1.1	0.6	0.7	0.0	0.0	2.4	4.9
050	0.8	0.7	0.4	0.0	0.0	1.9	4.8
060	0.1	1.1	1.4	0.0	0.0	2.6	7.3
070	0.7	0.4	1.4	0.1	0.0	2.6	7.5
080	0.7	0.4	1.4	0.6	0.0	3.1	8.5
090	1.0	0.1	0.4	0.1	0.0	1.7	5.4
100	0.8	0.4	0.1	0.4	0.0	1.8	6.0
110	0.6	1.0	0.0	0.3	0.0	1.8	5.5
120	1.1	0.7	0.3	0.4	0.0	2.5	5.7
130	0.4	0.8	0.3	0.1	0.0	1.7	5.9
140	0.4	0.8	1.0	0.0	0.0	2.2	6.6
150	1.1	1.9	0.8	0.0	0.0	3.9	5.6
160	0.7	2.2	0.6	0.0	0.0	3.5	5.3
170	0.6	2.5	0.8	0.7	0.0	4.6	6.9
180	0.4	1.0	0.7	2.2	0.1	4.4	11.3
190	0.0	0.7	2.1	3.6	0.6	6.9	13.4
200	0.0	1.0	1.9	2.2	0.3	5.4	11.4
210	0.1	0.4	2.9	0.4	0.6	4.4	11.2
220	0.0	0.3	0.7	0.6	0.0	1.5	10.4
230	0.1	0.6	0.3	0.0	0.0	1.0	5.9
240	0.1	0.6	0.3	0.0	0.0	1.0	6.7
250	0.0	0.6	0.0	0.1	0.0	0.7	7.9
260	0.0	0.8	1.2	0.1	0.6	2.8	10.6
270	0.3	0.6	1.2	0.3	0.1	2.5	9.7
280	0.0	1.0	1.0	0.4	0.0	2.4	8.4
290	0.0	0.7	1.7	3.5	0.0	5.8	12.0
300	0.1	0.0	0.8	1.4	0.0	2.4	12.8
310	0.1	0.1	0.4	0.1	0.0	0.8	8.4
320	0.3	0.3	1.1	0.4	0.0	2.1	8.9
330	0.1	0.4	1.0	0.1	0.0	1.7	8.4
340	0.0	0.7	0.7	0.3	0.1	1.8	9.7
350	0.4	0.3	0.6	0.7	0.3	2.2	11.0
360	0.4	0.6	1.1	1.7	0.0	3.7	10.1
Variable	1.2	0.3	0.0	0.0	0.0	1.5	2.0
Total	15.3	26.4	32.5	21.5	2.6	98.2	8.6
Percent Calm:						1.8	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 721 hours of data.

Figure 6.1 L

# WIND ROSE - DECEMBER 1975

## COOK NUCLEAR PLANT - STATION C03A

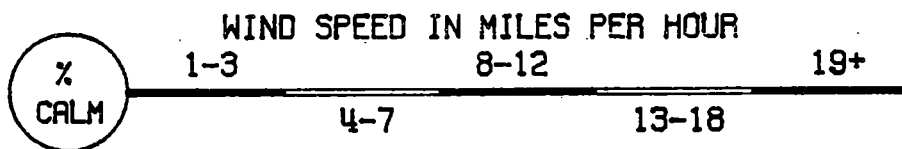
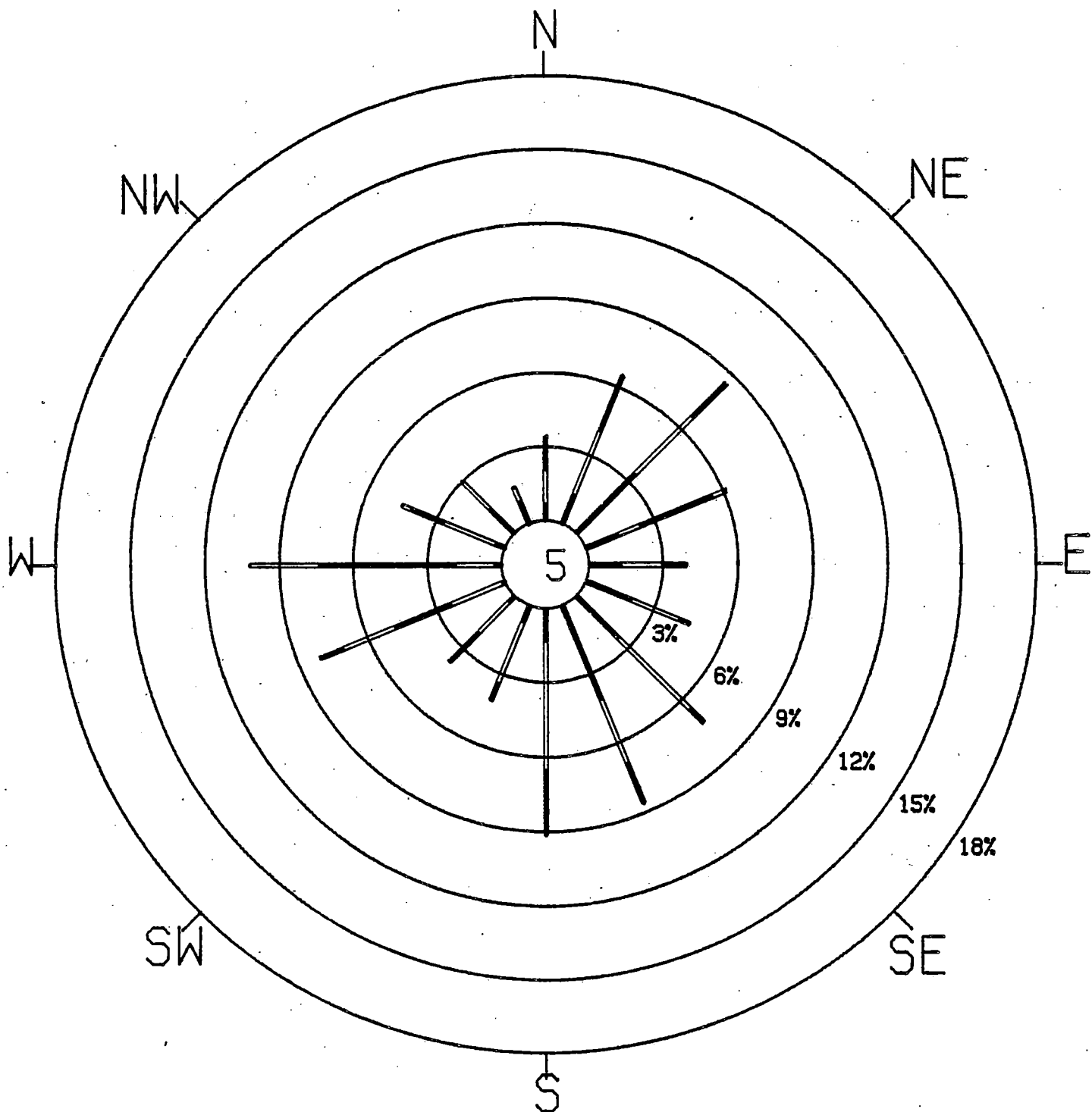
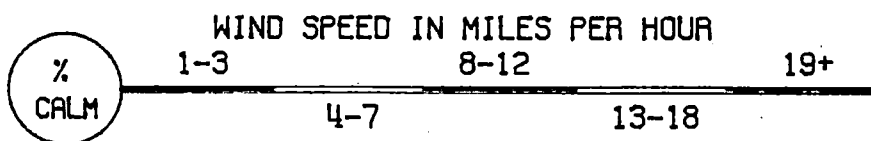
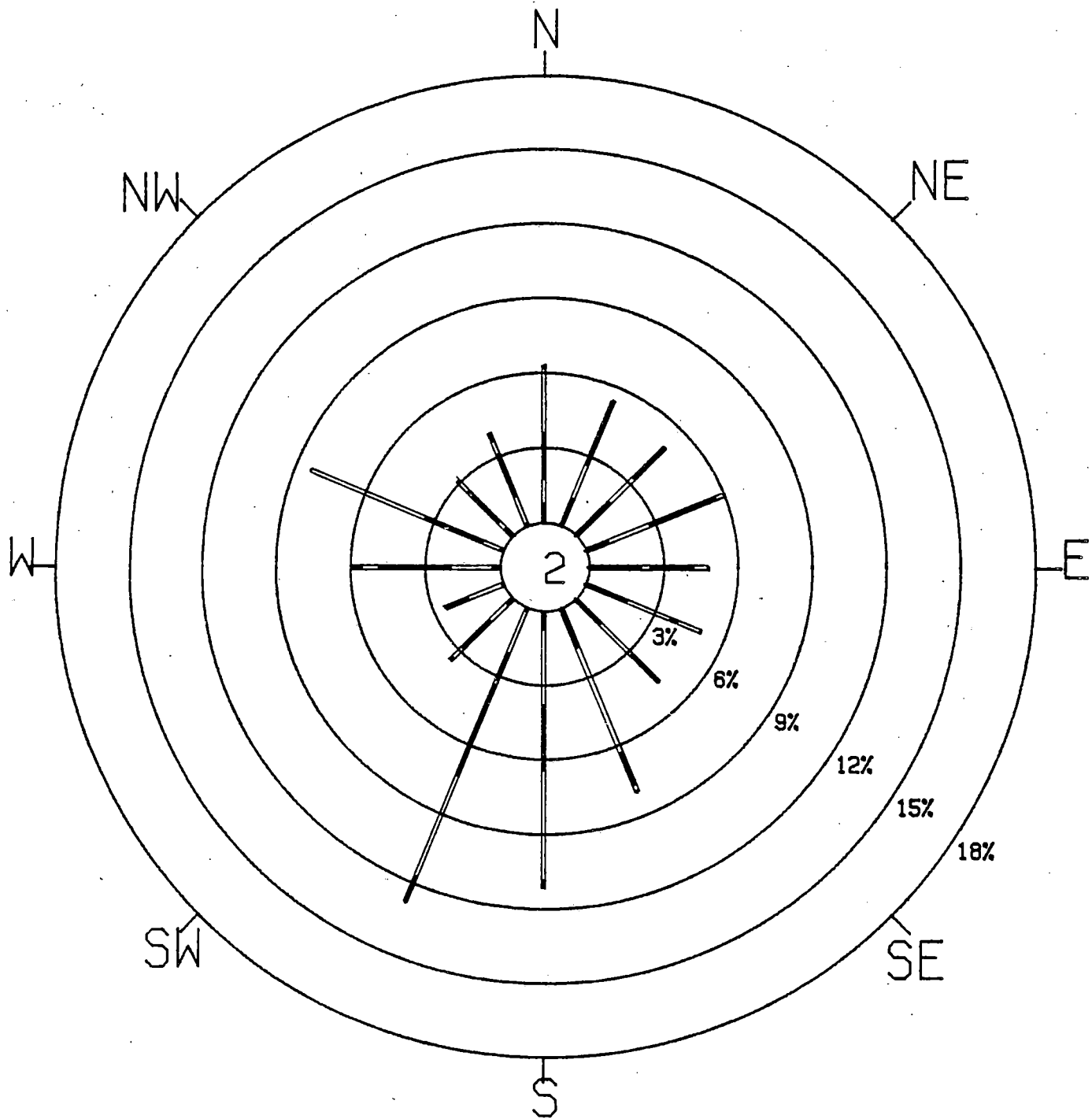


Figure 6.2L

# WIND ROSE - DECEMBER 1975

## COOK NUCLEAR PLANT - STATION C10A



## VII. VISIBILITY

Visibility is measured at station C03A with a visiometer system manufactured by Meteorology Research Incorporated, Palo Alto, California. Visibility data are recorded as voltages, converted to distances, and reported to the nearest 0.1 km. Digitized data are processed in terms of hourly values for tabulation. The data are classified by episodes during which an obstruction to visibility occurred and are summarized for each month. Visibilities of 3 km, 1 km, and 0.5 km were used as critical distances for determining episodes for the following reasons:

- 1) The visiometer system is not sensitive to visibility changes which occurred at visibilities greater than about 3 km. In addition, the operational significance of visibilities greater than 3 km is small.
- 2) As visibility decreases to 1 km or less, its operational significance increases markedly. If the obstruction is caused by fog, visibilities of 0.5 km or less are classified as heavy fog by the National Weather Service.

In the data tabulations, the "onset" of an episode is the time at which the visibility decreased below 3, 1, or 0.5 km, having remained greater than that distance for at least 1/2 hour previously.

The "end" of an episode is the time at which the visibility increased above 3, 1, or 0.5 km and remained greater than that distance for at least 1/2 hour. "Duration" is defined as the total time elapsed between "onset" and "end".

"Accumulated time" is the total time during which the visibility was actually below that distance during a given episode. It can be noted that "duration" and "accumulated time" may differ significantly during periods of highly variable visibility.

The type of visibility obstruction is given for each episode of visibility less than 3 km, along with the minimum visibility and its time of occurrence.

A preliminary analysis of visibility data obtained during snow has shown occasional episodes with significant reductions in visibility but no measured precipitation associated with them. Possible reasons for this behavior, which occurs mainly during gusty winds, are that (1) the visibility may indeed be reduced, but sufficient snow has not entered the precipitation gage because of the gusty wind and/or (2) the water equivalent of the snow did not exceed the 0.01 inch sensitivity of the gage and/or (3) the actual visibility is greater than that indicated by the visiometer, which may over-respond to snow.

The type of obstruction to visibility was determined on the basis of (1) hourly weather observations made at Benton Harbor Airport between 0630 and 2030 each day and at Muskegon, Grand Rapids, and South Bend on a 24-hour basis and (2) measurements of precipitation and other variables within the meteorological network.

TABLE 7.1A  
VISIBILITY OBSTRUCTION AT STATION CO3A

January 1975

INSTRUMENT OPERATION: 0000 1 Jan - 0415 13 Jan; 0600 - 1000 13 Jan; 1600 13 Jan - 2400 31 Jan

Total Hours of Operation: 736.3

	Date	Type of Obstruction	Onset (EST)	End	<3 km Episode Duration (Hr)	Accumulated Time <3 km (Hr)	Onset (EST)	End	<1 km Episode Duration (Hr)	Accumulated Time <1 km (Hr)	Onset (EST)	End	<0.5 km Episode Duration (Hr)	Accumulated Time <0.5 km (Hr)	Min. Vis. for day (km)	Time of Min. Vis. (EST)	
2	Jan	Snow	2211	2304	0.89	0.33	2246	2253	0.12	0.03	NONE					0.8	2245
3	Jan	Snow	0009	0147	1.63	1.63	0018	0056	0.64	0.37	0029	0030	0.01	0.01	0.4	0030	
4	Jan	Fog	0958	1144	1.78	1.78	NONE				NONE					1.8	1054
5	Jan	Haze	0823	1304	4.68	4.30	NONE				NONE					1.8	1015
6	Jan	Snow Haze	0924 1514	1046 1547	1.36 0.55 1.91	0.55 1.10	NONE NONE				NONE NONE					1.4	0924
7	Jan	Fog Fog/Rain	0340 2146	0557 (2400)	2.30 2.23 4.53	2.30 1.28 3.58	NONE NONE				NONE NONE					1.4	2323
8	Jan	Fog/Rain Fog/Drizzle Fog/Rain Fog	(0000) 0246 1200 1600	0148 1200 1600 2025	1.75 9.23 4.00 4.44 19.42	1.36 9.23 4.00 4.44 19.03	0612 1101 1200 1346 1600	0740 1200 1312 1600 1925	NONE 1.46 0.99 1.19 2.23 3.40 9.27	1.14 0.80 1.19 0.67 3.40 7.21	NONE NONE NONE NONE NONE 1.99					0.2	1802
9	Jan	Fog Fog Fog Fog Fog	0955 1159 1410 1814 2143	1029 1334 1726 1825 2229	0.57 1.58 3.26 0.19 0.77 6.37	0.57 1.58 2.80 0.19 0.77 5.91	NONE NONE NONE NONE NONE				NONE NONE NONE NONE NONE					2.1	1502
10	Jan	Fog/Rain Fog Fog Fog/Rain	0311 1708 1916 2152	1618 1805 1949 2341	13.11 0.96 0.55 1.83 16.45	12.33 0.96 0.39 1.15 14.87	0444 0555 2329	0502 0717 2335	0.30 1.37 NONE NONE 0.10 1.77	0.11 0.85 0.10 1.06	0556 0611 2330 2332	NONE 0.23 NONE NONE 0.04 0.27	0.11 0.15		0.2	2331	
11	Jan	Snow Snow Snow	1450 2031 2247	1512 2146 2258	0.36 1.25 0.17 1.78	0.10 0.30 0.09 0.49	2138	2139	NONE 0.01 NONE	0.01	NONE NONE NONE					0.7	2138
12	Jan	Snow Snow Snow Snow Snow	0311 0948 1129 1349 1653	0914 1051 1156 1609 (2400)	6.03 1.05 0.44 2.34 7.11 16.97	1.99 0.33 0.09 0.39 2.83 5.63	0449 0645 1501 2020 2316	0518 0656 1520 2222 2359	0.48 0.19 0.30 2.03 0.73 3.73	0.07 0.01 0.01 0.18 0.31 0.58	NONE NONE NONE NONE NONE 0.04					0.4	2327
13	Jan	Snow Snow Snow Snow Snow Snow Snow	(0000) 0202 0340 0600 0850 1600 2304	0033 0308 0415 0807 1000 1850 (2400)	0.55 0.97 0.59 2.11 1.17 2.84 0.93 9.16	0.33 0.67 0.59 0.95 1.17 0.72 0.77 5.20	0235 0344 0652 0928 1637 2319	0253 0415 0738 1000 1726 2353	NONE 0.31 0.52 0.77 0.53 0.81 0.57 3.51	0.04 0.52 0.04 0.44 0.47 0.28 1.79	0402 0415 0934 1704 2329	NONE NONE 0.21 NONE 0.43 0.21 0.16 1.01	0.21 0.28 0.11 0.06 0.66		0.3	0415	

Table 7.1A (cont.)

Date		Type of Obstruction	<3 km				<1 km				<0.5 km				Min. Vis. for day (km)	Time of Min. Vis. (EST)
			Onset (EST)	End (EST)	Episode Duration (Hr)	Accumulated Time <3 km (Hr)	Onset (EST)	End (EST)	Episode Duration (Hr)	Accumulated Time <1 km (Hr)	Onset (EST)	End (EST)	Episode Duration (Hr)	Accumulated Time <0.5 km (Hr)		
14	Jan	Snow Snow Snow Snow Snow	(0000) 0155 0242 0506 0619	0123 0205 0314 0549 0643	1.39 0.16 0.54 0.71 0.39 3.19	0.66 0.16 0.14 0.16 0.13 1.25	0025	0037	0.20 NONE NONE NONE NONE	0.06			NONE NONE NONE NONE NONE	0.6	0034	
15	Jan	Fog	2349	(2400)	0.18	0.18	2356	(2400)	0.07	0.04	2359	(2400)	0.01	0.01	0.5	2359
16	Jan	Fog	(0000)	0350	3.84	2.82	(0000) 0227	0055 0246	0.92 0.32 1.24	0.37 0.01 0.38	(0000)	0001	0.01 NONE	0.01	0.5	0000
18	Jan	Fog/Snow	0110	0935	8.43	7.76	0118 0550	0214 0931	0.94 3.67 4.61	0.73 3.40 4.13	0619	0924	NONE 3.08	3.08	0.1	0653
19	Jan	Snow	1325	1328	0.05	0.05			NONE				NONE		2.1	1325
22	Jan	Snow	1629	1631	0.03	0.03			NONE				NONE		2.6	1629
24	Jan	Fog/Rain	1804	(2400)	5.93	5.31			NONE				NONE		1.5	2134
25	Jan	Fog Fog Fog Fog/Rain Fog Fog Fog/Snow Snow Snow	(0000) 0202 0336 0516 0842 1055 1404 1604 1918	0129 0258 0423 0621 0858 1255 1517 1658 (2400)	1.49 0.89 0.78 1.08 0.26 2.01 1.23 0.81 4.70 13.25	1.49 0.75 0.53 0.63 0.25 1.68 0.89 0.31 3.77 10.30			NONE NONE NONE NONE NONE NONE NONE NONE NONE 2.07 2.30	0.03 0.22 0.25			NONE NONE NONE NONE NONE NONE NONE NONE NONE 2.01	0.7	2115	
26	Jan	Snow Snow	(0000) 0231	0018 0538	0.30 3.13 3.43	0.12 2.81 2.93	0329	0516	NONE 1.97	0.78	0330	0401	NONE 0.52	0.08	0.4	0357
28	Jan	Fog	2223	(2400)	1.61	1.61	2334	2338	0.05	0.05			NONE		0.7	2335
29	Jan	Fog/Rain	(0000)	0605	6.09	5.51	0131 0244 0519	0150 0419 0555	0.32 1.58 0.58 2.48	0.05 1.38 0.58 2.01	0352	0413	NONE 0.34 NONE	0.34	0.3	0410
30	Jan	Snow	1733	1831	0.97	0.97			NONE				NONE		1.6	1823
					132.57	102.57			31.97	18.75			7.28	6.37		

Percent of Total Hours of Data With Visibility Equal to or Less Than

	<u>3 km</u>	<u>1 km</u>	<u>0.5 km</u>
Fog (F)	3.4	0.5	0.3
Haze (H)	0.7	0.0	0.0
Drizzle (L)	0.0	0.0	0.0
Rain (R)	0.0	0.0	0.0
Snow (S)	3.1	0.5	0.1
F & H	0.0	0.0	0.0
F & L	1.2	0.3	0.0
F & R	4.3	0.7	0.1
F & S	1.2	0.6	0.4
Total	13.9	2.6	0.9



Table 7.12  
VISIBILITY OBSTRUCTION AT STATION C03A

February 1975

INSTRUMENT OPERATION: 0000 1 Feb - 0815 7 Feb; 1200 7 Feb - 1200 18 Feb;  
0500 19 Feb - 0933 25 Feb; 1140 25 Feb - 2400 28 Feb  
Total Hours of Operation: 649.1

Date	Type of Obstruction	Onset (EST)	End (EST)	<3 km Episode Duration (Hr)	Accumulated Time <3 km (Hr)	Onset (EST)	End (EST)	<1 km Episode Duration (Hr)	Accumulated Time <1 km (Hr)	Onset (EST)	End (EST)	<0.5 km Episode Duration (Hr)	Accumulated Time <0.5 km (Hr)	Min. Vis. for day (km)	Time of Min. Vis. (EST)
4 Feb	Snow Fog/Snow Fog	1355 1516 2205	1423 2105 (2400)	0.47 5.81 <u>1.91</u> 8.19	0.19 4.32 <u>1.91</u> 6.42			NONE NONE NONE				NONE NONE NONE		1.4	1540
5 Feb	Fog/Snow	(0000)	(2400)	24.00	24.00	0030 2305	0723 (2400)	6.89 <u>0.91</u> 7.80	6.88 <u>0.04</u> 6.92	0235 0452	0419 0549	1.74 <u>0.96</u> 2.70	1.31 <u>0.96</u> 2.27	0.4	0522
6 Feb	Fog/Snow Fog/Snow Snow	(0000) 1025 2228	0952 1234 2309	9.86 2.14 <u>0.68</u> 12.68	6.82 1.54 <u>0.12</u> 8.48	(0000)	0028	0.44 NONE NONE	0.11			NONE NONE NONE		0.6	0003
7 Feb	Snow Snow Snow	0107 0313 0546	0155 0449 0815	0.81 1.60 <u>2.48</u> 4.89	0.10 0.17 <u>1.51</u> 1.78	0733	0815	NONE NONE 0.70	0.03			NONE NONE NONE		0.8	0810
8 Feb	Snow	1611	(2400)	7.82	4.59	1731 1814 1902 2058	1743 1826 1927 2153	0.19 0.20 0.43 <u>0.93</u> 1.75	0.01 0.20 0.07 <u>0.20</u> 0.48	1818	1825	NONE 0.12 NONE NONE	0.12	0.3	1819
9 Feb	Snow Snow Snow Snow Snow	(0000) 0343 0517 0729 1050	0234 0405 0649 0823 1124	2.57 0.38 1.53 0.90 <u>0.58</u> 5.96	1.05 0.38 0.95 0.38 <u>0.10</u> 2.86	0346	0353	NONE 0.13 NONE NONE NONE	0.08			NONE NONE NONE NONE NONE		0.6	0346
10 Feb	Snow	1625	1643	0.30	0.30	1627	1629	0.03	0.03			NONE		0.7	1627
11 Feb	Snow	1145	1229	0.73	0.36			NONE				NONE		2.4	1201
12 Feb	Fog	1026	1109	0.72	0.72			NONE				NONE		2.5	1028
13 Feb	Snow	1321	1324	0.05	0.05			NONE				NONE		1.5	1321
15 Feb	Fog/Rain Fog/Rain Fog/Rain Fog/Rain	0134 0546 0813 0943	0247 0615 0902 (2400)	1.21 0.48 0.81 14.28 <u>17.78</u>	1.07 0.07 0.69 14.02 <u>15.85</u>	1359 1814	1716 1850	NONE NONE NONE 3.30 <u>0.61</u> 3.91	2.93 <u>0.09</u> 3.02			NONE NONE NONE NONE NONE		0.6	1711
16 Feb	Fog Fog	(0000) 0833	0600 1628	6.00 <u>7.92</u> 13.92	6.00 <u>7.92</u> 13.92			NONE NONE				NONE NONE		2.3	0358
17 Feb	Fog/Rain Fog/Rain Fog Fog	0236 0502 0951 1715	0344 0520 1635 2228	1.13 0.29 6.74 <u>4.87</u> 13.03	0.53 0.14 6.36 <u>4.87</u> 11.90			NONE NONE NONE NONE				NONE NONE NONE NONE		1.4	1137
18 Feb	Fog Fog/Snow	0355 1116	0431 1200	0.60 <u>0.73</u> 1.33	0.47 <u>0.73</u> 1.20	1119	1120	NONE 0.01	0.01			NONE NONE		0.9	1118
19 Feb	Snow	1229	1310	0.67	0.67			NONE				NONE		1.7	1234
21 Feb	Haze	2230	2231	0.01	0.01			NONE				NONE		3.0	2230

Table 7.1B (cont.)

Date	Type of Obstruction	<3 km				<1 km				<0.5 km				Min. Vis. for day (km)	Time of Min Vis. (EST)
		Onset (EST)	End	Episode Duration (Hr)	Accumulated Time <3 km (Hr)	Onset (EST)	End	Episode Duration (Hr)	Accumulated Time <1 km (Hr)	Onset (EST)	End	Episode Duration (Hr)	Accumulated Time <0.5 km (Hr)		
22 Feb	Haze Fog/Rain	0733	0747	0.24	0.24			NONE				NONE		0.9	1925
		1014	(2400)	13.77 14.01	13.74 13.98	1916	1928	0.19	0.08			NONE			
23 Feb	Fog	(0000)	0519	5.31	5.24			NONE				NONE		1.4	0021
	Fog	0643	0716	0.55	0.38			NONE				NONE			
	Fog	1007	1102	0.92	0.55			NONE				NONE			
	Fog	1340	1045	3.08	2.54			NONE				NONE			
	Fog/Rain	1855	1905	0.17 10.03	0.17 8.88			NONE				NONE			
24 Feb	Fog/Rain	0216	0316	1.01	0.69			NONE				NONE		0.8	2220
	Snow	0908	1024	1.26	0.28			NONE				NONE			
	Snow	1333	1352	0.32	0.11			NONE				NONE			
	Snow	1704	1714	0.17	0.17			NONE				NONE			
	Snow	1747	1759	0.21	0.19			NONE				NONE			
	Fog	2132	2349	2.28 5.25 7.81	1.37 2.81	2216	2227	0.18	0.09			NONE			
25 Feb	Fog	0025	0040	0.26	0.16			NONE				NONE		0.4	0933
	Fog	0202	0247	0.74	0.25			NONE				NONE			
	Fog/Snow	0528	0639	1.18	1.18	0553	0618	0.42	0.06			NONE			
	Fog/Snow	0743	0841	0.98	0.18			NONE				NONE			
	Fog/Snow	0923	0933	0.17 3.33	0.17 1.94	0931	0933	0.03 0.45	0.01 0.07	0932	0933	0.01	0.01		
26 Feb	Snow	1507	1511	0.07	0.07			NONE				NONE		1.4	1507
27 Feb	Snow	0217	0241	0.39	0.04			NONE				NONE		2.5	0239
28 Feb	Snow	1102	1107	0.08	0.08	1104	1105	0.02	0.02	1104	1105	0.01	0.01	0.3	1104
				145.24	120.91			15.61	10.94			2.84	2.41		

Percent of Total Hours of Data With Visibility Equal to or Less Than

	3 km	1 km	0.5 km
Fog (F)	6.0	<0.1	0.0
Haze (H)	<0.1	0.0	0.0
Drizzle (L)	0.0	0.0	0.0
Rain (R)	0.0	0.0	0.0
Snow (S)	1.8	0.1	<0.1
F & H	0.0	0.0	0.0
F & L	0.0	0.0	0.0
F & R	4.8	0.5	0.0
F & S	6.0	1.1	0.3
Total	18.6	1.7	0.4

Table 7.1C  
VISIBILITY OBSTRUCTION AT STATION CO3A

March 1975

INSTRUMENT OPERATION: 0000 1 Mar - 1200 3 Mar; 1538 3 Mar - 2112 19 Mar; 1130 20 Mar - 2400 31 Mar  
Total Hours of Operation: 726.1

Total Hours of Operation: 726.1																	
Date	Type of Obstruction	<3 km				<1 km				<0.5 km				Min. Vis. for day (km)	Time of Min. Vis. (EST)		
		Onset (EST)	End	Episode Duration (Hr)	Accumulated Time <3 km (Hr)	Onset (EST)	End	Episode Duration (Hr)	Accumulated Time <1 km (Hr)	Onset (EST)	End	Episode Duration (Hr)	Accumulated Time <0.5 km (Hr)				
1 Mar	Snow	1946	2011	0.41	0.21	NONE				NONE				1.2	1954		
2 Mar	Snow	0236	0356	1.34	0.58	0237	0254	0.28	0.23	0536	0716	NONE	1.15	0.1	0551		
	Snow	0455	0735	2.66	2.18	0519	0717	1.97	1.69			1.67					
	Snow	1702	2140	4.64	2.03	1728	1810	0.70	0.02			NONE					
					2012	2024	0.20	0.20	0.18								
	Snow	2254	(2400)	1.10	0.27	2100	2132	0.54	0.30			2101				2131	0.51
				9.74	5.06			NONE				NONE	1.54				
								3.69	2.44			2.36					
3 Mar	Snow	(0000)	0024	0.40	0.40	0231	0303	NONE	0.09	0334	0336	NONE	0.04	0.3	0334		
	Snow	0228	0413	1.77	0.69			0.54				0.04					
	Snow	0455	0511	0.28	0.19			NONE				NONE					
	Snow	0610	0641	0.64	0.07			NONE				NONE					
	Snow	0713	0740	0.45	0.08			NONE				NONE					
				3.41	1.43												
4 Mar	Haze	1217	1352	1.58	1.58	NONE				NONE				1.1	1311		
5 Mar	Fog/Rain	2037	(2400)	3.38	3.38	2111	2310	2.00	1.95	2210	2244	0.58	0.23	0.5	2234		
6 Mar	Fog	(0000)	0042	0.70	0.70	2345	2346	NONE	0.02			NONE		0.7	2345		
	Fog/Snow	2255	(2400)	1.08	0.81			NONE									
				1.78	1.51												
7 Mar	Fog/Snow	(0000)	0333	3.55	2.75	0808	1115	NONE	3.12	0817	1115	NONE	2.97	0.2	1057		
	Fog/Snow	0452	1115	6.38	6.38			2.97									
				9.93	9.13												
8 Mar	Snow	0209	0630	4.35	2.18	0232	0320	0.81	0.79	0237	0314	0.62	0.42	0.2	0246		
						0453	0517	0.39	0.24			NONE					
						0558	0616	0.31	0.05			NONE					
								1.51	1.08								
10 Mar	Fog/Snow	0235	0307	0.55	0.21			NONE				NONE		1.2	0541		
	Fog/Snow	0341	0610	2.47	1.66			NONE									
				3.02	1.87												
11 Mar	Haze	2318	(2400)	0.70	0.70	NONE				NONE				2.0	2319		
12 Mar	Fog	(0000)	0710	7.16	7.16	0338	0455	1.28	1.22	0411	0421	0.17	0.17	0.4	0416		
	Fog	0755	1001	2.09	1.55			NONE									
				9.25	8.71												
16 Mar	Fog	0211	0615	4.06	1.59			NONE				NONE		2.1	2346		
	Fog	2220	(2400)	1.63	1.01			NONE									
				5.69	2.60												
17 Mar	Fog	(0000)	0211	2.17	1.59			NONE				NONE		2.0	0048		
	Fog	0445	0549	1.07	0.69			NONE									
				3.24	2.28												
18 Mar	Haze	0045	0428	3.72	3.22			NONE				NONE		2.5	0412		
	Haze	0507	0604	0.96	0.78			NONE									
	Haze	0702	0735	0.55	0.55			NONE									
				5.23	4.55												
19 Mar	Fog	0001	1221	12.34	11.72	0152	0647	4.92	4.26	0611	0645	0.57	0.10	0.3	0643		
						1015	1134	1.31	1.25	NONE							
	Fog	1305	1514	2.16	2.16	NONE				NONE							
	Fog	1924	2112	1.80	0.98	NONE				NONE							
				16.30	14.86			6.23	5.51								
20 Mar	Haze	1130	2159	10.48	10.48			NONE				NONE		1.3	1257		
	Haze	2256	2400	1.06	1.06			NONE									
				11.54	11.54												

Table 7.1C (cont.)

Date	Type of Obstruction	<3 km				<1 km				<0.5 km				Min. Vis. for day (km)	Time of Min. Vis. (EST)
		Onset (EST)	End	Episode Duration (Hr)	Accumulated Time <3 km (Hr)	Onset (EST)	End	Episode Duration (Hr)	Accumulated Time <1 km (Hr)	Onset (EST)	End	Episode Duration (Hr)	Accumulated Time <0.5 km (Hr)		
21 Mar	Rain	0540	0545	0.09	0.09			NONE				NONE		2.0	0542
22 Mar	Fog/Rain	0031	0455	4.39	4.39	0306	0434	1.47	0.39			NONE		0.8	0306
24 Mar	Fog	0434	0725	2.85	2.85			NONE				NONE		1.4	0621
25 Mar	Snow	0015	0048	0.55	0.55	0026	0046	0.33	0.21			NONE			
	Snow	0143	0210	0.45	0.29			NONE				NONE			
	Snow	0251	0323	0.54	0.36			NONE				NONE			
	Snow	0401	0429	0.46	0.29			NONE				NONE			
	Snow	0743	0839	0.94	0.51			NONE				NONE			
	Snow	1056	1126	0.50	0.11			NONE				NONE			
	Snow	1707	1731	0.40	0.11			NONE				NONE			
	Snow	1819	1904	0.76	0.40	1840	1842	0.03	0.03	1840	1841	0.01	0.01		
	Snow	1959	2125	1.44	0.39			NONE				NONE		0.4	1840
				6.04	3.01			0.36	0.24						
27 Mar	Snow	2018	2020	0.04	0.04			NONE				NONE		2.1	2018
28 Mar	Fog/Rain	1450	1505	0.25	0.25			NONE				NONE			
	Fog/Rain	1536	1546	0.18	0.18			NONE				NONE			
	Fog/Rain	1652	1719	0.46	0.11			NONE				NONE			
	Fog/Rain	1949	(2400)	4.18	3.36	2143	2156	0.24	0.16			NONE		0.6	2321
				5.07	3.90	2313	2325	0.21	0.21			NONE			
								0.45	0.37						
29 Mar	Fog/Rain	(0000)	0106	1.10	0.66			NONE				NONE		2.2	0000
30 Mar	Snow	0611	0709	0.97	0.12			NONE				NONE			
	Snow	0748	0759	0.18	0.06			NONE				NONE		1.6	0705
				1.15	0.18										
				110.28	86.71			20.67	16.43			7.32	5.48		

Percent of Total Hours of Data With Visibility Equal to or Less Than

	<u>3 km</u>	<u>1 km</u>	<u>0.5 km</u>
Fog (F)	4.4	0.9	<0.1
Haze (H)	2.5	0.0	0.0
Drizzle (L)	0.0	0.0	0.0
Rain (R)	<0.1	0.0	0.0
Snow (S)	1.7	0.5	0.3
F & H	0.0	0.0	0.0
F & L	0.0	0.0	0.0
F & R	1.7	0.4	<0.1
F & S	1.6	0.4	0.4
Total	11.9	2.2	0.8

Table 7.1D  
VISIBILITY OBSTRUCTION AT STATION C03A

April 1975

INSTRUMENT OPERATION: 0000 1 Apr - 2400 30 Apr  
Total Hours of Operation: 720.0

Date	Type of Obstruction	Onset End (EST)		<3 km Episode Duration (Hr)		Accumulated Time <3 km (Hr)		Onset End (EST)		<1 km Episode Duration (Hr)		Accumulated Time <1 km (Hr)		Onset End (EST)		<0.5 km Episode Duration (Hr)		Accumulated Time <0.5 km (Hr)		Min. Vis. for day (km)	Time of Min. Vis. (EST)
2 Apr	Fog/Snow Fog/Snow	0840	0916	0.60		0.12		1858	(2400)	NONE	5.04	4.90		1913	1929	NONE		0.20		0.1	2309
		1640	(2400)	7.33		5.86								2023	(2400)	0.27		3.61			
				7.93		5.98										3.88		3.01			
3 Apr	Snow	(0000)	1146	11.77		11.77		(0000)	1143	11.72		11.72		(0000)	1143	11.72		11.72		0.1	0000
13 Apr	Fog	0016	0019	0.04		0.04				NONE						NONE				2.2	0016
15 Apr	Haze	1730	1731	0.02		0.02				NONE						NONE				2.4	1730
16 Apr	Fog	0806	1108	3.03		3.03				NONE						NONE				1.7	0949
17 Apr	Fog	0129	0204	0.58		0.13				NONE						NONE				2.6	0135
18 Apr	Fog/Rain Fog/Rain Fog/Rain Fog/Rain	0726	1008	2.71		1.58		1145	1201	NONE	0.26	0.06		1644	1649	NONE	0.07	0.07		0.4	1647
		1128	1232	1.06		0.46															
		1515	1746	2.51		1.75															
		1816	2007	1.85		1.31															
				8.13		5.10				0.41		0.20				NONE					
23 Apr	Fog/Rain Fog/Rain Fog/Rain	0802	0835	0.55		0.52		2134	2201	NONE	0.45	0.17		2134	2158	NONE	0.40	0.08		0.2	2155
		0959	1010	0.18		0.12															
		2131	2257	1.43		0.97															
				2.16		1.61															
24 Apr	Fog	0304	0745	4.68		4.45		0443	0505	0.38		0.05		0635	0652	NONE	0.29	0.17		0.4	0650
								0559	0707	1.13		0.79									
										1.61		0.84									
25 Apr	Fog	0453	0749	2.92		2.92				NONE						NONE				1.4	0658
26 Apr	Fog Fog	0307	0324	0.29		0.29				NONE	NONE					NONE	NONE			1.9	0624
		0621	0659	0.63		0.61															
				0.92		0.90															
27 Apr	Fog/Rain Fog/Rain	1210	1233	0.39		0.08				NONE	NONE					NONE	NONE			2.1	1233
		1631	1651	0.32		0.08															
				0.71		0.16															
28 Apr	Fog/Rain	0204	0213	0.15		0.15				NONE						NONE				1.2	0204
30 Apr	Fog	2128	(2400)	2.54		2.46		2135	2227	0.87		0.87		2138	2224	0.77		0.77		0.2	2159
				45.58		38.72				20.00		18.70				17.13		16.02			

Percent of Total Hours of Data With Visibility Equal to or Less Than

	3 km	1 km	0.5 km
Fog (F)	1.9	0.2	0.1
Haze (H)	<0.1	0.0	0.0
Drizzle (L)	0.0	0.0	0.0
Rain (R)	0.0	0.0	0.0
Snow (S)	1.6	1.6	1.6
F & H	0.0	0.0	0.0
F & L	0.0	0.0	0.0
F & R	1.0	0.1	<0.1
F & S	0.8	0.7	0.4
Total	5.4	2.6	2.2

Table 7.1F  
VISIBILITY OBSTRUCTION AT STATION C03A  
May 1975

INSTRUMENT OPERATION: 0000 1 May - 1200 27 May; 1400 29 May - 2400 31 May

Total Hours of Operation: 694.0

Total Hours of Operation: 694.0																
Date	Type of Obstruction	<3 km				<1 km				<0.5 km				Min.Vis. for day (km)	Time of Min.Vis. (EST)	
		Onset (EST)	End	Episode Duration (Hr)	Accumulated Time <3 km (Hr)	Onset (EST)	End	Episode Duration (Hr)	Accumulated Time <1 km (Hr)	Onset (EST)	End	Episode Duration (Hr)	Accumulated Time <0.5 km (Hr)			
1 May	Fog	0000	0059	0.98	0.98	0000	0054	0.90	0.90	0003	0047	0.72	0.72	0.3	0022	
3 May	Fog/Rain Fog	1703	2000	2.95	2.60	2012 2058	2022 (2400)	NONE	0.17 3.04 3.21	0.17 3.04 3.21	2104	(2400)	NONE NONE 2.94	2.94	0.1	2247
		2000	(2400)	4.00	4.00											
				6.95	6.60											
4 May	Fog	0000	0736	7.60	7.60	0000	0723	7.38	7.23	0000	0239 0406	2.65 3.15 NONE 5.80	2.65 3.15 5.80	0.2	0002	
	Fog	0811	0855	0.72 8.32	0.62 8.22			NONE								
5 May	Fog	0128	0200	0.54	0.07	2335	2337	NONE	0.03	0.03			NONE NONE	0.5	2335	
	Fog/Rain	2333	(2400)	0.45 0.99	0.45 0.52											
6 May	Fog/Rain	0000	0100	1.00	1.00	0308	0328	NONE	0.31	0.07	0309	0310	NONE 0.01	0.01	0.4	0309
	Fog/Rain	0140	0518	3.63 4.63	3.52 4.52			NONE								
11 May	Haze	0335	0339	0.07	0.07	NONE				NONE				2.0	0335	
12 May	Fog	0253	0650	3.94	3.55	0502	0507	0.08	0.08	NONE				0.8	0505	
14 May	Haze	0134	0259	1.43	1.21			NONE					NONE NONE NONE	1.0	2220	
	Haze	0455	0708	2.22	1.86			NONE								
	Fog/Rain	2217	2232	0.25 3.90	0.19 3.26			NONE								
15 May	Fog	0604	0813	2.16	1.85	0619	0804	1.74	1.30	0625	0715	0.84	0.84	0.1	0641	
17 May	Fog	2348	2352	0.06	0.06	NONE				NONE				2.3	2348	
18 May	Fog	0047	0506	4.31	3.57	NONE				NONE				1.2	0323	
19 May	Haze	1113	1134	0.35	0.35			NONE					NONE NONE NONE	2.7	1210	
	Haze	1210	1213	0.06	0.06			NONE								
	Haze	1415	1444	0.48 0.89	0.48 0.89			NONE								
20 May	Haze	0859	0911	0.21	0.21	1708 1843	1729 1844	NONE	0.35 0.01 0.01	0.11 0.01			NONE NONE NONE NONE NONE	0.6	1843	
	Haze	1017	1733	7.26	6.84											
	Rain	1843	1847	0.07	0.07											
	Rain	1930	1946	0.26	0.26											
	Rain	2052	2119	0.44 8.24	0.13 7.51											
21 May	Fog	0401	0428	0.44	0.26	1147	1149	NONE	0.03	0.03			NONE NONE NONE	0.7	1148	
	Fog	0515	0542	0.46	0.46											
	Rain	1126	1229	1.05 1.95	0.32 1.04											
22 May	Fog	0139	0214	0.59	0.42	1052 1838	1141 (2400)	NONE	0.82 5.37	0.79 5.03	1102 1851 2349	1129 2257 2359	NONE NONE NONE 0.45 NONE 4.09 0.16 4.70	0.14 3.95 0.16 4.25	0.1	1952
	Fog	0353	0428	0.58	0.58											
	Fog/Rain	0601	0650	0.83	0.83											
	Fog	0807	1235	4.47	4.30											
	Fog	1309	1332	0.38	0.38											
	Fog	1835	(2400)	5.41	5.41											
				12.26	11.92											
23 May	Fog	0000	0702	7.03	7.03	0000 0202 0503	0043 0338 0544	0.71 1.61 0.68 NONE 3.00	0.39 0.94 0.21	0217	0227	NONE 0.18 NONE NONE NONE	0.18	0.3	0225	
	Haze	1310	1325	0.24	0.24											
	Haze	2253	2334	0.67 7.94	0.26 7.53											

Table 7.1E (cont.)

Date	Type of Obstruction	<3 km				<1 km				<0.5 km				Min. Vis. for day (km)	Time of Min Vis. (EST)
		Onset (EST)	End (EST)	Duration (Hr)	Accumulated Time <3 km (Hr)	Onset (EST)	End (EST)	Duration (Hr)	Accumulated Time <1 km (Hr)	Onset (EST)	End (EST)	Duration (Hr)	Accumulated Time <0.5 km (Hr)		
24 May	Haze	0905	0931	0.42	0.42			NONE				NONE		2.0	1823
	Rain	1822	1855	0.54	0.14			NONE				NONE			
	Fog/Rain	2337	(2400)	0.38	0.38			NONE				NONE			
				1.34	0.94										
25 May	Fog	0000	0032	0.53	0.53			NONE				NONE		0.5	1542
	Fog	0245	0622	3.60	3.37			NONE				NONE			
	Haze	1250	1500	2.17	2.17			NONE				NONE			
	Rain	1500	1726	2.43	1.91	1541	1544	0.05	0.05			NONE			
				8.73	7.98										
26 May	Fog	0327	0740	4.22	4.22	0504	0506	0.04	0.04			NONE		0.9	0504
29 May	Haze	1400	(2400)	10.00	9.74			NONE				NONE		1.2	1831
30 May	Haze	0000	0146	1.76	1.76			NONE				NONE		0.2	1530
	Haze	1304	1336	0.54	0.19			NONE				NONE			
	Rain	1443	1640	1.94	1.65	1529	1614	0.76	0.53	1530	1607	0.61	0.07		
	Fog/Rain	1741	1856	1.25	0.53			NONE				NONE			
				5.49	4.13										
				97.37	89.10			24.08	20.95			15.80	14.81		

Percent of Total Hours of Data With Visibility Equal to or Less Than

	3 km	1 km	0.5 km
Fog (F)	7.1	2.8	2.1
Haze (H)	3.7	<0.1	0.0
Drizzle (L)	0.0	0.0	0.0
Rain (R)	0.7	0.1	<0.1
Snow (S)	0.0	0.0	0.0
F & H	0.0	0.0	0.0
F & L	0.0	0.0	0.0
F & R	1.4	<0.1	<0.1
F & S	0.0	0.0	0.0
Total	12.9	3.0	2.1

Table 7.1F  
VISIBILITY OBSTRUCTION AT STATION C03A  
June 1975

INSTRUMENT OPERATION: 0000 1 June - 2400 30 June  
Total Hours of Operation: 720.0

Date	Type of Obstruction	Onset (EST)	End (EST)	<3 km Episode Duration (Hr)	Accumulated Time <3 km (Hr)	Onset (EST)	End (EST)	<1 km Episode Duration (Hr)	Accumulated Time <1 km (Hr)	Onset (EST)	End (EST)	<0.5 km Episode Duration (Hr)	Accumulated Time <0.5 km (Hr)	Min. Vis. for day (km)	Time of Min. Vis. (EST)
1 Jun	Haze Haze Haze	0522 0926 1047	0649 0943 1208	1.45 0.28 1.37 3.10	1.22 0.28 1.02 2.52			NONE NONE NONE				NONE NONE NONE		2.0	1101
3 Jun	Rain	0634	0653	0.33	0.09			NONE				NONE		2.4	0651
4 Jun	Rain Rain	1946 2052	2005 2227	0.32 1.59 1.91	0.24 1.08 1.32	2001	2002	0.01 NONE	0.01			NONE NONE		0.7	2001
11 Jun	Fog/Rain	0556	0753	1.95	1.95			NONE				NONE		1.9	0700
13 Jun	Haze Rain Rain	1431 1917 2028	1632 1941 2042	2.01 0.41 0.24 2.66	1.67 0.33 0.24 2.24	1919	1940	NONE 0.34 NONE	0.15	1919	1920	NONE 0.01 NONE	0.01	0.5	1919
14 Jun	Rain	1552	1645	0.88	0.88			NONE				NONE		1.4	1604
15 Jun	Rain Rain	0046 0936	0152 1004	1.10 0.46 1.56	0.77 0.30 1.07	0055 0945	0123 0949	0.46 0.06 0.52	0.01 0.06 0.07			NONE NONE		0.8	0945
17 Jun	Rain	1358	1429	0.52	0.45	1419	1425	0.11	0.11	1420	1423	0.04	0.04	0.2	1421
18 Jun	Haze	1057	1138	0.69	0.34			NONE				NONE		2.1	1059
20 Jun	Fog Haze Fog	0305 0809 2205	0722 1247 (2400)	4.28 4.63 1.91 10.82	3.61 4.17 1.78 9.56	0642	0655	0.21 NONE NONE	0.21	0647	0652	0.07 NONE NONE	0.07	0.3	0650
21 Jun	Fog	0000	0147	1.78	1.78			NONE				NONE		1.2	0055
22 Jun	Haze	1555	1604	0.14	0.10			NONE				NONE		2.2	1601
23 Jun	Rain	0416	0438	0.36	0.10	0417	0418	0.01	0.01			NONE		0.7	0417
24 Jun	Haze Rain Fog	1455 2202 2309	1538 2211 2324	0.72 0.16 0.25 1.13	0.40 0.16 0.18 0.74			NONE NONE NONE				NONE NONE NONE		1.0	2205
25 Jun	Rain	1132	1149	0.28	0.28	1136	1146	0.17	0.13	1137	1140	0.06	0.06	0.2	1137
26 Jun	Fog	0017	0118	1.02	0.42			NONE				NONE		2.5	0102
27 Jun	Fog Haze Haze Fog	0001 1338 1746 2108	0804 1352 1800 (2400)	8.06 0.24 0.23 2.87 11.40	7.92 0.24 0.23 2.74 11.13	0350	0418	0.48 NONE NONE NONE	0.08			NONE NONE NONE NONE		0.7	0416
28 Jun	Fog	0000	0731	7.52	7.52	0159	0634	4.57	2.86	0306	0307	0.01	0.01	0.5	0306
29 Jun	Fog Fog	0440 2236	0701 (2400)	2.36 1.40 3.76	1.70 0.79 2.49			NONE NONE				NONE NONE		1.4	0442
30 Jun	Fog Fog	0000 0507	0201 0510	2.02 0.05 2.07	1.97 0.05 2.02			NONE NONE				NONE NONE		1.9	0508
				53.88	47.00			6.42	3.63			0.19	0.19		

Percent of Total Hours of Data With Visibility Equal to or Less Than

	3 km	1 km	0.5 km
Fog (F)	4.2	0.4	<0.1
Haze (H)	1.3	0.0	0.0
Drizzle (L)	0.0	0.0	0.0
Rain (R)	0.7	0.1	<0.1
Snow (S)	0.0	0.0	0.0
F & H	0.0	0.0	0.0
F & L	0.0	0.0	0.0
F & R	0.3	0.0	0.0
F & S	0.0	0.0	0.0
Total	6.5	0.5	<0.1



Table 7.1C  
VISIBILITY OBSTRUCTION AT STATION C03A

July 1975

INSTRUMENT OPERATION: 0000 1 July - 2400 27 July; 1500 28 July - 2400 31 July  
Total Hours of Operation: 729.0

Date	Type of Obstruction	Onset (EST)	End (EST)	<3 km Episode Duration (Hr)	Accumulated Time <3 km (Hr)	Onset (EST)	End (EST)	<1 km Episode Duration (Hr)	Accumulated Time <1 km (Hr)	Onset (EST)	End (EST)	<0.5 km Episode Duration (Hr)	Accumulated Time <0.5 km (Hr)	Min. Vis. for day (km)	Time of Min. Vis. (EST)
2 July	Haze	0519	1250	7.53	6.98			NONE				NONE		1.1	0607
3 July	Haze	0414	0850	4.61	4.61			NONE				NONE		1.7	1235
	Haze	1232	1241	0.15	0.15			NONE				NONE			
	Fog	2042	2130	0.80	0.49			NONE				NONE			
				5.56	5.25										
4 July	Haze	0444	0447	0.05	0.05			NONE				NONE		2.3	0445
5 July	Fog	2352	2356	0.06	0.06	2353	2354	0.01	0.01			NONE		0.9	2353
7 July	Fog	2155	2158	0.06	0.06			NONE				NONE		1.2	2155
9 July	Fog/Rain	2334	2343	0.15	0.11	2339	2340	0.01	0.01			NONE		0.5	2339
11 July	Rain	2046	2053	0.11	0.11			NONE				NONE		1.6	2049
12 July	Fog	0203	0306	1.06	0.21			NONE				NONE		0.5	0635
	Fog	0633	0638	0.08	0.08	0635	0636	0.02	0.02			NONE			
				1.14	0.29										
13 July	Fog	0252	0428	1.61	0.88	0350	0419	0.47	0.46			NONE		0.6	0351
	Rain	1943	2131	1.80	1.25	1949	2012	0.38	0.01			NONE			
				3.41	2.13			0.85	0.47						
14 July	Fog/Rain	0710	0715	0.09	0.09			NONE				NONE		1.9	0711
17 July	Fog	0352	0632	2.68	2.36			NONE				NONE		1.7	0522
	Haze	1322	1927	6.09	5.21			NONE				NONE			
	Haze	2259	(2400)	1.02	1.02			NONE				NONE			
				9.79	8.59										
18 July	Fog	(0000)	0419	4.32	4.07			NONE				NONE		1.8	1233
	Fog	0516	0531	0.25	0.25			NONE				NONE			
	Fog	1202	1302	1.02	0.36			NONE				NONE			
				5.59	4.68										
19 July	Fog/Rain	0807	0859	0.87	0.58	0812	0821	0.15	0.15	0814	0816	0.03	0.03	0.3	0814
20 July	Fog	0625	0631	0.11	0.11			NONE				NONE		2.7	0628
22 July	Fog	0456	0503	0.12	0.12			NONE				NONE		1.3	0500
23 July	Haze	1346	1631	2.78	2.78			NONE				NONE		2.0	0618
	Fog	2145	2215	0.50	0.14			NONE				NONE			
	Fog/Rain	2356	(2400)	0.07	0.07			NONE				NONE			
				3.35	2.99										
24 July	Fog/Rain	(0000)	0048	0.80	0.51			NONE				NONE		2.4	0006
30 July	Haze	2114	2118	0.05	0.05			NONE				NONE		2.0	2115
31 July	Fog	0052	0640	5.80	4.31			NONE				NONE		1.4	0228
				44.64	37.07			1.04	0.66			0.03	0.03		

Percent of Total Hours of Data With Visibility Equal to or Less Than

	3 km	1 km	0.5 km
Fog (F)	1.8	0.1	0.0
Haze (H)	2.9	0.0	0.0
Drizzle (L)	0.0	0.0	0.0
Rain (R)	0.2	<0.1	0.0
Snow (S)	0.0	0.0	0.0
F & H	0.0	0.0	0.0
F & L	0.0	0.0	0.0
F & R	0.2	<0.1	< 0.1
F & S	0.0	0.0	0.0
Total	5.1	0.1	< 0.1

Table 7.1H  
VISIBILITY OBSTRUCTION AT STATION C03A  
August 1975  
INSTRUMENT IN OPERATION: 0000 1 Aug - 1141 4 Aug; 1200 7 Aug - 2400 31 Aug  
Total Hours of Operation: 671.7

Date	Type of Obstruction	Onset (EST)	End (EST)	<3 km Episode Duration (Hr)	Accumulated Time <3 km (Hr)	Onset (EST)	End (EST)	<1 km Episode Duration (Hr)	Accumulated Time <1 km (Hr)	Onset (EST)	End (EST)	<0.5 km Episode Duration (Hr)	Accumulated Time <0.5 km (Hr)	Min. Vis. for day (km)	Time of Min. Vis. (EST)
1 Aug	Fog	0034	0654	6.34	6.22			NONE				NONE		1.3	0320
	Fog	2125	2136	0.18	0.18			NONE				NONE			
	Fog	2314	(2400)	0.77	0.40			NONE				NONE			
				7.29	6.80										
2 Aug	Fog	(0000)	0636	6.60	6.46	0524	0629	1.09	0.50			NONE			
	Fog/Rain	0755	0852	0.96	0.71			NONE				NONE			
	Fog/Rain	1014	1119	1.07	0.63			NONE				NONE			
	Fog	1202	1235	0.54	0.20			NONE				NONE			
	Fog	1432	1513	0.67	0.59	1444	1507	0.38	0.13	1502	1506	0.08	0.05	0.3	1502
	Fog/Rain	1824	2355	5.52	4.38			NONE				NONE			
				15.36	12.97			1.47	0.63						
3 Aug	Fog/Rain	0346	0404	0.29	0.29	0349	0358	0.15	0.11	0350	0351	0.01	0.01	0.4	0350
4 Aug	Haze	1029	1036	0.11	0.11			NONE				NONE		2.8	1031
9 Aug	Fog	0350	0352	0.02	0.02			NONE				NONE		2.6	0351
10 Aug	Fog	2113	2126	0.21	0.21	2116	2125	0.15	0.14	2116	2124	0.13	0.11	0.1	2116
11 Aug	Fog	0259	0322	0.38	0.21			NONE				NONE			
	Rain	1714	1749	0.58	0.58			NONE				NONE		1.3	1717
	Fog	2308	(2400)	1.87	1.67			NONE				NONE			
				2.83	2.46										
12 Aug	Fog	(0000)	0035	0.58	0.51			NONE				NONE			
	Haze	0914	0929	0.24	0.24			NONE				NONE			
	Fog	2104	2110	0.10	0.10	2106	2107	0.02	0.02	2106	2107	0.01	0.01	0.1	2107
				0.92	0.85										
13 Aug	Fog	2350	(2400)	0.16	0.16			NONE				NONE		1.3	2357
14 Aug	Fog	(0000)	0602	6.04	5.67	0126	0244	1.29	0.87	0144	0201	0.27	0.10	0.3	0146
16 Aug	Fog	0505	0508	0.05	0.05			NONE				NONE		1.8	0505
17 Aug	Fog	2327	2329	0.03	0.03			NONE				NONE		2.8	2327
20 Aug	Rain	1414	1437	0.40	0.02			NONE				NONE			
	Rain	1608	1625	0.28	0.17	1618	1620	0.02	0.02			NONE		0.7	1618
	Rain	1656	1810	1.23	0.64			NONE				NONE			
				1.91	0.83										
21 Aug	Fog	0008	0022	0.23	0.23			NONE				NONE			
	Fog/Rain	0224	0352	1.47	1.47			NONE				NONE			
	Fog	0500	0633	1.55	1.55			NONE				NONE			
	Rain	2026	2124	0.96	0.61	2029	2057	0.48	0.28	2032	2043	0.17	0.14	0.2	2039
				4.21	3.86										
22 Aug	Fog/Rain	0356	0459	1.05	0.86	0412	0452	0.65	0.24	0446	0448	0.04	0.04	0.3	0446
23 Aug	Fog/Rain	0129	0211	0.69	0.69	0138	0208	0.50	0.46	0143	0208	0.41	0.26	0.2	0207
29 Aug	Fog/Rain	0034	0050	0.27	0.27	0038	0048	0.16	0.05			NONE		0.7	0039
	Fog	0202	0346	1.72	1.72			NONE				NONE			
				1.99	1.99										
30 Aug	Fog/Rain	0515	0658	1.72	1.35			NONE				NONE			
	Fog/Rain	0729	0932	2.06	0.66			NONE				NONE			
	Fog/Rain	1010	1029	0.32	0.13			NONE				NONE			
	Fog/Rain	2223	2241	0.30	0.09			NONE				NONE		1.2	0606
				4.40	2.23										
31 Aug	Fog/Rain	0036	0040	0.07	0.07			NONE				NONE			
	Fog	0746	0817	0.52	0.17			NONE				NONE		1.9	0037
				0.59	0.24										

Percent of Total Hours of Data With Visibility Equal to or Less Than

	3 km	1 km	0.5 km
Fog (F)	3.9	0.2	<0.1
Haze (H)	0.1	0.0	0.0
Drizzle (L)	0.0	0.0	0.0
Rain (R)	0.3	<0.1	<0.1
Snow (S)	0.0	0.0	0.0
F & H	0.0	0.0	0.0
F & L	0.0	0.0	0.0
F & R	1.7	0.1	<0.1
F & S	0.0	0.0	0.0
Total	6.0	0.4	0.1

Table 7.1f  
VISIBILITY OBSTRUCTION AT STATION CO3A

September 1975

INSTRUMENT OPERATION: 0000 1 Sept - 2400 30 Sept

Total Hours of Operation: 720.0

Total Hours of Operation: 720.0

Date	Type of Obstruction	Onset	End	<3 km Episode Duration (Hr)	Accumulated Time <3 km (Hr)	Onset	End	<1 km Episode Duration (Hr)	Accumulated Time <1 km (Hr)	Onset	End	<0.5 km Episode Duration (Hr)	Accumulated Time <0.5 km (Hr)	Min. Vis. for day (km)	Time of Min. Vis. (EST)
1 Sept	Fog	2119	(2400)	2.68	2.18			NONE				NONE		1.3	2353
2 Sept	Fog Fog	(0000) 2253	0109 2338	1.15 0.75 1.90	0.67 0.75 1.42	2306	2336	NONE 0.50	0.50	2308	2335	NONE 0.44	0.44	0.1	2316
3 Sept	Fog	2011	(2400)	3.81	3.81	2213	2344	1.51	1.21	2225	2341	1.26	0.87	0.1	2251
4 Sept	Fog	(0000)	0115	1.25	0.95			NONE				NONE		2.1	0043
5 Sept	Fog/Rain	0758	0805	0.12	0.12			NONE				NONE		1.6	0801
11 Sept	Fog Haze	0601 1605	0637 1608	0.61 0.05 0.66	0.43 0.05 0.48			NONE NONE				NONE NONE		1.1	1606
16 Sept	Fog	2308	(2400)	0.96	0.38			NONE				NONE		2.2	2327
17 Sept	Fog Fog Fog	(0000) 0701 2335	0252 0719 (2400)	2.86 0.30 0.41 1.57	0.72 0.30 0.41 1.43			NONE NONE NONE				NONE NONE NONE		2.0	0108
18 Sept	Fog	(0000)	0807	3.12	8.12	0320	0638	3.29	3.29			NONE		0.5	0455
19 Sept	Fog/Rain	0416	0801	3.75	3.61			NONE				NONE		1.2	0513
23 Sept	Fog	0417	0446	0.47	0.04			NONE				NONE		2.6	0417
26 Sept	Fog	2311	2316	0.07	0.07			NONE				NONE		2.3	2313
27 Sept	Fog	0747	0750	0.04	0.04			NONE				NONE		2.7	0747
29 Sept	Fog/Rain Fog	1510 1806	1610 2329	1.00 5.38	0.97 5.38	1825 2042 2246	1914 2155 2302	NONE 0.82 1.21 0.28 2.31	0.20 0.87 0.15 1.22	2135	2144	NONE NONE 0.16 NONE	0.10	0.3	2137
30 Sept	Fog	0444	0504	0.33	0.21			NONE				NONE		1.2	0500
				34.01	29.21			7.61	6.22			1.86	1.41		

Percent of Total Hours of Data With Visibility Equal to or Less Than

	<u>3 km</u>	<u>1 km</u>	<u>0.5 km</u>
Fog (F)	3.4	0.9	0.2
Haze (H)	<0.1	0.0	0.0
Drizzle (L)	0.0	0.0	0.0
Rain (R)	0.0	0.0	0.0
Snow (S)	0.0	0.0	0.0
F & H	0.0	0.0	0.0
F & L	0.0	0.0	0.0
F & R	0.7	0.0	0.0
F & S	0.0	0.0	0.0
Total	4.1	0.9	0.2

Table 7.1J  
VISIBILITY OBSTRUCTION AT STATION C03A

October 1975

INSTRUMENT OPERATION: 0000 1 Oct - 2400 31 Oct  
Total Hours of Operation: 744.0

Total Hours of Operation: 744.0															
Date	Type of Obstruction	<3 km				<1 km				<0.5 km				Min.Vis. for day (km)	Time of Min.Vis. (EST)
		Onset (EST)	End	Episode Duration (Hr)	Accumulated Time <3 km (Hr)	Onset (EST)	End	Episode Duration (Hr)	Accumulated Time <1 km (Hr)	Onset (EST)	End	Episode Duration (Hr)	Accumulated Time <0.5 km (Hr)		
9 Oct	Fog	0657	0658	0.02	0.02			NONE				NONE		2.8	0657
12 Oct	Fog	0131	0144	0.23	0.23			NONE				NONE		0.4	0717
	Fog	0313	0357	0.73	0.53			NONE				NONE			
	Fog	0437	0808	3.51	3.35	0440	0732	2.88	2.18	0450	0517	0.43	0.25		
				4.47	4.11					0615	0724	1.15	0.66		
												1.58	0.91		
15 Oct	Fog/Rain	0001	0034	0.54	0.39			NONE				NONE		1.3	0029
19 Oct	Fog	1905	1911	0.10	0.10			NONE				NONE		2.0	1907
21 Oct	Fog	2101	(2400)	2.98	2.97			NONE				NONE		1.6	2333
22 Oct	Fog	(0000)	0031	0.52	0.20			NONE				NONE		1.0	0522
	Fog	0134	0805	6.53	5.38	0522	0523	0.01	0.01			NONE			
				7.05	5.58										
24 Oct	Rain	2234	2342	1.14	0.51	2250	2305	0.24	0.03			NONE		0.6	2303
				16.30	13.68			3.13	2.22			1.58	0.91		

Percent of Total Hours of Data With Visibility Equal to or Less Than

	<u>3 km</u>	<u>1 km</u>	<u>0.5 km</u>
Fog (F)	1.7	0.3	0.1
Haze (H)	0.0	0.0	0.0
Drizzle (L)	0.0	0.0	0.0
Rain (R)	0.1	<0.1	0.0
Snow (S)	0.0	0.1	0.0
F & H	0.0	0.0	0.0
F & L	0.0	0.0	0.0
F & R	<0.1	0.0	0.0
F & S	0.0	0.0	0.0
Total	1.8	0.3	0.1

Table 7.1K  
VISIBILITY OBSTRUCTION AT STATION C03A  
November 1975  
INSTRUMENT OPERATION: 0000 1 Nov - 0910 20 Nov; 1115 20 Nov - 2400 30 Nov  
Total Hours of Operation: 717.9

Date	Type of Obstruction	Onset (EST)	End (EST)	<3 km Episode Duration (Hr)	Accumulated Time <3 km (Hr)	Onset (EST)	End (EST)	<1 km Episode Duration (Hr)	Accumulated Time <1 km (Hr)	Onset (EST)	End (EST)	<0.5 km Episode Duration (Hr)	Accumulated Time <0.5 km (Hr)	Min. Vis. for day (km)	Time of Min. Vis. (EST)
1 Nov	Rain	0546	0549	0.07	0.07			NONE				NONE		2.0	0546
2 Nov	Fog/Rain	1008	1018	0.15	0.15			NONE				NONE		1.9	1012
3 Nov	Fog/Rain Fog/Rain	0428 0714	0519 0821	0.86 <u>1.11</u> 1.97	0.66 <u>0.45</u> 1.11	0714	0717	NONE 0.04	0.04			NONE NONE		0.5	0714
4 Nov	Fog/Rain Fog Fog Fog	0326 0449 0713 1810	0413 0517 1159 (2400)	0.78 0.48 4.77 <u>5.84</u> 11.87	0.78 0.48 4.45 <u>5.84</u> 11.55	2217	(2400)	NONE NONE NONE 1.72	1.41	2255	2359	NONE NONE NONE 1.07	0.81	0.2	2334
5 Nov	Fog Fog	(0000) 1741	0920 (2400)	9.34 6.31 <u>15.65</u>	9.34 6.31 15.65	(0000) 0722 1942	0043 0840 (2400)	0.71 1.30 4.30 <u>6.31</u>	0.44 0.68 3.76 4.88	2043 2306	2115 (2400)	NONE NONE 0.54 0.90 <u>1.44</u>	0.32 <u>0.52</u> 0.84	0.1	2358
6 Nov	Fog	(0000)	0924	9.42	9.42	(0000)	0507	5.12	4.59	(0000)	0034 0229	0.57 0.54 <u>1.11</u>	0.57 0.18 0.75	0.1	0000
7 Nov	Fog/Rain Fog/Rain	0147 0424	0232 0500	0.74 <u>0.60</u> 1.34	0.74 <u>0.27</u> 1.01			NONE NONE				NONE NONE		1.1	0207
8 Nov	Fog Fog Fog	0804 1835 2046	1047 1949 (2400)	2.71 1.23 <u>3.24</u> 7.18	1.62 1.03 <u>3.21</u> 5.86	2354	2356	NONE NONE 0.03	0.03			NONE NONE NONE		0.8	2354
9 Nov	Fog Fog	(0000) 0735	0617 0841	6.29 <u>1.11</u> 7.40	6.21 <u>1.11</u> 7.32	0151	0456	3.08 NONE	1.60	0302	0406	1.07 NONE	0.17	0.4	0405
10 Nov	Rain	0233	0240	0.12	0.12			NONE				NONE		1.0	0236
13 Nov	Snow	1123	1124	0.01	0.01			NONE				NONE		2.8	1123
16 Nov	Fog	0716	0720	0.07	0.07			NONE				NONE		2.2	0717
20 Nov	Rain	1344	1420	0.60	0.20			NONE				NONE		1.2	1347
21 Nov	Snow Snow Snow Snow	0332 0456 0627 0937	0416 0546 0737 0954	0.72 0.83 1.07 <u>0.28</u> 3.00	0.17 0.27 0.33 <u>0.26</u> 1.03			NONE NONE NONE NONE				NONE NONE NONE NONE		1.1	0511
24 Nov	Snow	2331	(2400)	0.49	0.41			NONE				NONE		1.5	2336
25 Nov	Snow Snow Snow	(0000) 0526 1628	0025 0539 1703	0.42 0.21 <u>0.58</u> 1.21	0.42 0.10 <u>0.51</u> 1.03	1649	1659	NONE NONE 0.16	0.06			NONE NONE NONE		0.7	1658
26 Nov	Fog/Snow	1939	(2400)	4.35	4.35	2041	(2400)	3.31	1.49	2236	2240	0.05	0.05	0.4	2237
27 Nov	Fog/Snow	(0000)	0334	3.57	3.57	(0000)	0210	2.16	2.00	0002	0146	1.73	0.71	0.3	0034
29 Nov	Fog/Rain Fog/Rain	0535 0930	0651 0953	1.27 <u>0.38</u> 1.65	0.34 <u>0.12</u> 0.46			NONE NONE				NONE NONE		1.7	0538
30 Nov	Rain	0229	0244	0.26	0.14			NONE				NONE		1.9	0241
				70.18	63.53			21.93	16.10			6.47	3.33		

Percent of Total Hours or Data With Visibility Equal to or Less Than

	3 km	1 km	0.5 km
Fog (F)	6.8	1.7	0.4
Haze (H)	0.0	0.0	0.0
Drizzle (L)	0.0	0.0	0.0
Rain (R)	0.1	0.0	0.0
Snow (S)	0.3	<0.1	0.0
F & H	0.0	0.0	0.0
F & L	0.0	0.0	0.0
F & R	0.5	<0.1	0.0
F & S	1.1	0.5	0.1
Total	8.8	2.2	0.5

Table 7.11  
VISIBILITY OBSTRUCTION AT STATION C03A

December 1975

INSTRUMENT OPERATION: 0000 1 Dec - 2400 31 Dec  
Total Hours of Operation: 744.0

Date	Type of Obstruction	Onset (EST)	End (EST)	<3 km Episode Duration (Hr)	Accumulated Time <3 km (Hr)	Onset (EST)	End (EST)	<1 km Episode Duration (Hr)	Accumulated Time <1 km (Hr)	Onset (EST)	End (EST)	<0.5 km Episode Duration (Hr)	Accumulated Time <0.5 km (Hr)	Min. Vis. for day (km)	Time of Min. Vis. (EST)
1 Dec	Snow	0117	0122	0.07	0.07	NONE				NONE				1.8	0119
5 Dec	Rain	1913	2011	0.97	0.58	1914	2007	0.89	0.05	1942	1943	0.01	0.01	0.4	1942
	Rain	2307	(2400)	0.88	0.38	NONE				NONE					
				1.85	0.96										
6 Dec	Rain	(0000)	0154	1.90	1.70	0012	0047	0.58	0.18	NONE				0.8	0028
8 Dec	Snow	1441	1458	0.29	0.09	NONE				NONE					
	Snow	1600	(2400)	8.00	6.44	1746	1849	1.05	0.22	NONE					
						2328	2359	0.52	0.27	NONE				0.6	2352
				8.29	6.53	1.57				0.49					
9 Dec	Snow	(0000)	0149	1.82	1.63	NONE				NONE					
	Snow	0359	0549	1.83	0.81	NONE				NONE					
	Snow	2218	2253	0.60	0.52	2235	2249	0.23	0.12	2237	2248	0.18	0.01	0.4	2247
				4.25	2.96										
12 Dec	Snow	0037	0910	8.55	8.55	0210	0552	3.70	2.66	NONE				0.6	0403
13 Dec	Fog	0509	0847	3.64	3.64	NONE				NONE					
	Rain	1107	1141	0.57	0.29	1119	1121	0.03	0.03	1119	1120	0.01	0.01	0.4	1120
				4.21	3.93										
14 Dec	Rain	0549	0616	0.45	0.11	NONE				NONE					
	Rain	1754	1820	0.44	0.24	1806	1807	0.01	0.01	NONE					
	Rain	1852	1928	0.60	0.19	NONE				NONE				0.8	1806
				1.49	0.54										
15 Dec	Snow	2109	2111	0.03	0.03	NONE				NONE				2.3	2109
17 Dec	Snow	1048	1113	0.41	0.08	NONE				NONE					
	Snow	1405	(2400)	9.92	5.91	2027	(2400)	3.55	2.26	2028	2221	1.88	0.59		
				10.33	5.99					2252	2326	0.58	0.04	0.3	2149
18 Dec	Snow	(0000)	0651	6.85	3.88	(0000)	0038	0.64	0.52	NONE					
	Snow	0728	0755	0.45	0.19	0249	0440	1.86	0.43	0415	0424	0.15	0.03		
	Snow	0907	1002	0.92	0.36	NONE				NONE					
	Snow	1116	1441	3.41	1.19	NONE				NONE					
	Snow	1531	1551	0.33	0.13	NONE				NONE				0.4	0415
				11.96	5.75	2.50				0.95					
19 Dec	Snow	0450	0613	1.38	0.31	NONE				NONE				1.4	0527
20 Dec	Fog/Snow	0615	0735	1.34	0.31	NONE				NONE				1.8	0725
23 Dec	Fog	0401	0440	0.65	0.20	NONE				NONE				1.5	0429
24 Dec	Snow	1827	1908	0.68	0.23	NONE				NONE					
	Snow	2141	2214	0.54	0.09	NONE				NONE				1.7	1829
				1.22	0.32										
25 Dec	Fog	1044	1101	0.29	0.29	NONE				NONE				2.8	1059
26 Dec	Snow	0517	0555	0.62	0.14	NONE				NONE					
	Snow	0648	0807	1.31	0.66	NONE				NONE					
	Snow	0852	0904	0.19	0.07	NONE				NONE					
	Snow	0939	1012	0.55	0.11	NONE				NONE				1.5	0650
				2.67	0.98										
27 Dec	Snow	0820	0821	0.01	0.01	NONE				NONE				2.8	0820

Table 7.1L (cont.)

Date	Type of Obstruction	<3 km				<1 km				<0.5 km				Min. Vis. for day (km)	Time of Min. Vis. (EST)
		Onset (EST)	End (EST)	Episode Duration (Hr)	Accumulated Time <3 km (Hr)	Onset (EST)	End (EST)	Episode Duration (Hr)	Accumulated Time <1 km (Hr)	Onset (EST)	End (EST)	Episode Duration (Hr)	Accumulated Time <0.5 km (Hr)		
29 Dec	Snow	1250	1313	0.37	0.37			NONE				NONE		1.0	2359'
	Snow	1556	1718	1.36	0.64			NONE				NONE			
	Fog/Rain	1819	1835	0.27	0.27			NONE				NONE			
	Fog/Rain	1910	(2400)	4.83	4.83			NONE				NONE			
				6.83	6.11										
30 Dec	Fog/Rain	(0000)	0235	2.59	2.59	0001	0005	0.08	0.08			NONE		0.9	0001
	Fog/Rain	0357	0504	1.11	1.11			NONE				NONE			
	Fog/Rain	0749	1141	3.87	3.57			NONE				NONE			
				7.57	7.27										
				74.89	52.81			13.14	6.83			2.81	0.69		

## Percent of Total Hours of Data With Visibility Equal to or Less Than

	<u>3 km</u>	<u>1 km</u>	<u>0.5 km</u>
Fog (F)	0.6	0.0	0.0
Haze (H)	0.0	0.0	0.0
Drizzle (L)	0.0	0.0	0.0
Rain (R)	0.5	<0.1	<0.1
Snow (S)	4.4	0.9	0.1
F & H	0.0	0.0	0.0
F & L	0.0	0.0	0.0
F & R	1.7	<0.1	0.0
F & S	<0.1	0.0	0.0
Total	7.1	0.9	0.1

## VIII. TOTAL SOLAR RADIATION

Total solar radiation (direct plus diffuse on a horizontal surface) is measured with a WeatherMeasure Model R411 pyranometer at the two main stations of each network. Data from the pyranometers in both the Cook and Palisades networks are included in this report for completeness. Data are reported in Langleys (Ly), where  $1 \text{ Ly} = 1 \text{ g} \cdot \text{cal} \cdot \text{cm}^{-2}$ .

Data are tabulated by month, showing the daily totals of total solar radiation received. To allow for chart changes, calibration and routine maintenance, a daily total is not considered missing if 1) the instrument was out of operation for only a few hours at most, and 2) an accurate estimate of the incident solar radiation received at the station during the down-time can be made from the data at the other stations. Totals for such days are listed within parentheses.

An earlier analysis of measured values of solar radiation compared to reference values for clear days (see Third Annual Report) showed that the data from the WeatherMeasure pyranometers were 5% to 15% low. A side-by-side comparison of each of the WeatherMeasure pyranometers to a calibrated Eppley pyranometer confirmed that the output from the WeatherMeasure pyranometers was low. The comparisons, however, did not cover a wide enough range of conditions to determine the magnitude of new correction factors.



Until such comparisons can be made, the previously-computed correction factor for each instrument will continue to be used. In addition, the pyranometer at P07A was struck by lightning on 18 April, and the replacement has not had a correction factor applied.

**Table 8.1A : Daily totals of incident solar radiation  
(direct plus diffuse) on a horizontal  
surface at the ground (Langleys/day).**

<u>Jan 75</u>					<u>Feb 75</u>				
<u>Day</u>	<u>Station</u>				<u>Day</u>	<u>Station</u>			
	<u>C03A</u>	<u>C10A</u>	<u>P03A</u>	<u>P07A</u>		<u>C03A</u>	<u>C10A</u>	<u>P03A</u>	<u>P07A</u>
1	35	33	19	35	1	216	218	209	222
2	155	149	137	144	2	243	245	212	229
3	19	34	31	22	3	268	266	259	276
4	155	151	82	96	4	91	98	107	126
5	169	160	165	161	5	63	59	58	76
6	35	39	30	43	6	76	69	48	57
7	178	169	M	M	7	210	241	102	202
8	14	9	M	31	8	113	130	113	164
9	36	30	M	43	9	147	201	113	190
10	38	36	M	43	10	176	178	184	224
11	59	69	31	32	11	91	124	89	140
12	85	112	65	91	12	172	162	111	129
13	47	(105)	54	110	13	165	195	166	234
14	102	109	85	143	14	245	249	274	308
15	82	80	71	88	15	32	44	37	48
16	182	169	146	156	16	74	90	99	116
17	157	159	173	192	17	52	56	45	50
18	44	47	21	26	18	57	79	64	79
19	54	70	59	87	19	120	126	73	124
20	224	210	209	222	20	345	340	310	345
21	66	72	55	78	21	284	286	252	275
22	162	167	158	183	22	54	51	80	89
23	220	217	193	228	23	62	55	60	77
24	112	120	79	100	24	124	94	96	97
25	57	57	66	67	25	101	98	107	108
26	54	84	54	81	26	208	226	140	159
27	84	87	110	132	27	285	273	193	198
28	124	125	161	166	28	290	257	202	241
29	50	57	38	37	29				
30	110	108	115	129	30				
31	223	232	216	224	31				
<b>Total</b>	<b>3132</b>	<b>(3266)</b>			<b>Total</b>	<b>4364</b>	<b>4510</b>	<b>3803</b>	<b>4583</b>

Table 8.1B : Daily totals of incident solar radiation  
(direct plus diffuse) on a horizontal  
surface at the ground (Langleys/day).

<u>Mar 75</u>					<u>Apr 75</u>				
<u>Day</u>	<u>Station</u>				<u>Day</u>	<u>Station</u>			
	<u>C03A</u>	<u>C10A</u>	<u>P03A</u>	<u>P07A</u>		<u>C03A</u>	<u>C10A</u>	<u>P03A</u>	<u>P07A</u>
1	153	147	183	181	1	324	362	412	455
2	206	253	281	314	2	42	52	67	67
3	221	301	229	274	3	399	417	394	430
4	351	341	263	296	4	563	548	543	583
5	238	252	207	250	5	531	533	540	592
6	243	234	241	219	6	581	575	562	600
7	164	154	156	178	7	583	570	562	596
8	276	341	351	390	8	449	455	469	528
9	343	316	326	388	9	119	130	153	218
10	253	237	202	231	10	566	550	445	(463)
11	175	186	172	174	11	533	536	574	(607)
12	167	132	118	98	12	586	573	570	607
13	420	420	436	467	13	595	586	576	618
14	414	391	386	392	14	132	145	184	176
15	422	413	420	441	15	493	472	534	550
16	256	242	190	219	16	416	382	397	398
17	445	438	438	466	17	298	289	309	368
18	210	193	238	221	18	58	46	99	(94)
19	M	167	161	227	19	M	459	350	M
20	M	432	430	457	20	371	313	431	M
21	327	336	339	354	21	(263)	269	377	M
22	305	265	231	184	22	M	448	444	M
23	387	388	336	359	23	(167)	153	138	M
24	267	305	320	305	24	229	236	330	M
25	76	(85)	123	175	25	378	330	419	M
26	529	513	506	(538)	26	555	554	535	559
27	108	115	121	143	27	60	64	79	83
28	69	62	74	86	28	157	153	157	(132)
29	239	231	181	181	29	621	593	584	607
30	263	250	224	298	30	180	167	144	(144)
31	395	410	311	375	31				
<b>Total</b>		(8550)	8194	(8881)	<b>Total</b>		10960	11378	

Table 8.1C : Daily totals of incident solar radiation  
(direct plus diffuse) on a horizontal  
surface at the ground (Langleys/day).

<u>May 75</u>					<u>Jun 75</u>				
<u>Day</u>	<u>Station</u>				<u>Day</u>	<u>Station</u>			
	<u>C03A</u>	<u>C10A</u>	<u>P03A</u>	<u>P07A</u>		<u>C03A</u>	<u>C10A</u>	<u>P03A</u>	<u>P07A</u>
1	659	636	630	(647)	1	641	627	542	572
2	562	544	548	554	2	386	353	501	464
3	148	146	133	160	3	580	538	606	559
4	346	268	180	180	4	315	311	315	294
5	425	422	328	348	5	605	580	606	595
6	654	614	629	642	6	707	681	683	710
7	475	467	501	543	7	357	317	441	474
8	284	287	294	331	8	738	711	713	737
9	643	637	591	644	9	554	534	500	521
10	671	634	626	654	10	654	633	637	656
11	399	409	429	466	11	358	322	276	238
12	395	397	315	347	12	655	M	584	626
13	704	665	656	678	13	668	M	604	617
14	258	268	233	251	14	527	M	524	518
15	433	382	348	369	15	240	M	220	220
16	686	654	663	687	16	551	M	444	462
17	654	629	636	664	17	319	M	322	273
18	659	638	633	656	18	499	M	M	545
19	632	605	600	(631)	19	618	M	M	587
20	M	511	496	492	20	658	M	M	506
21	M	435	447	447	21	662	M	M	622
22	(231)	247	309	351	22	494	M	M	508
23	653	610	624	M	23	487	M	535	481
24	583	562	586	M	24	392	M	335	266
25	394	362	404	M	25	352	M	202	194
26	562	(527)	512	M	26	595	M	594	630
27	723	687	699	720	27	531	M	478	534
28	644	609	624	657	28	651	M	656	628
29	271	286	305	M	29	621	M	623	623
30	277	295	329	293	30	703	M	690	667
31	356	400	471	416	31				
<b>Total</b>		14833	14779		<b>Total</b>	16118			15327

Table 8.1D : Daily totals of incident solar radiation  
(direct plus diffuse) on a horizontal  
surface at the ground (Langleys/day).

<u>Jul 75</u>					<u>Aug 75</u>				
<u>Day</u>	<u>Station</u>				<u>Day</u>	<u>Station</u>			
	<u>C03A</u>	<u>C10A</u>	<u>P03A</u>	<u>P07A</u>		<u>C03A</u>	<u>C10A</u>	<u>P03A</u>	<u>P07A</u>
1	677	M	654	646	1	365	405	386	372
2	621	M	590	579	2	138	153	121	133
3	358	M	296	342	3	574	561	573	535
4	699	M	667	655	4	625	638	606	588
5	635	M	619	611	5	283	268	417	362
6	410	M	324	377	6	599	586	601	561
7	M	M	613	553	7	642	649	619	601
8	M	M	579	589	8	635	638	611	607
9	M	M	630	620	9	603	601	568	548
10	M	M	488	566	10	451	445	484	452
11	543	501	594	473	11	439	453	431	417
12	359	389	344	315	12	350	349	373	375
13	427	426	431	406	13	336	337	317	306
14	437	403	351	271	14	428	445	418	420
15	654	627	593	510	15	172	139	103	79
16	628	605	608	575	16	580	521	575	560
17	M	594	587	546	17	496	478	478	485
18	M	258	174	179	18	456	457	335	318
19	M	359	312	245	19	468	464	464	(451)
20	M	537	418	449	20	193	215	228	M
21	M	665	651	612	21	413	422	262	M
22	581	584	583	565	22	350	334	341	(292)
23	317	332	304	306	23	417	419	329	298
24	512	441	441	443	24	505	440	463	420
25	662	664	645	635	25	353	383	283	309
26	654	639	630	605	26	527	529	516	486
27	633	624	617	607	27	430	448	431	428
28	642	637	630	M	28	397	402	374	379
29	615	617	601	(594)	29	197	189	176	163
30	599	590	584	570	30	64	74	72	62
31	574	574	564	545	31	95	102	120	114
Total			16122		Total	12581	12544	12075	

Table 8.1E : Daily totals of incident solar radiation  
(direct plus diffuse) on a horizontal  
surface at the ground (Langleys/day),

<u>Sep 75</u>					<u>Oct 75</u>				
<u>Day</u>	<u>Station</u>				<u>Day</u>	<u>Station</u>			
	<u>C03A</u>	<u>C10A</u>	<u>P03A</u>	<u>P07A</u>		<u>C03A</u>	<u>C10A</u>	<u>P03A</u>	<u>P07A</u>
1	433	436	394	422	1	114	114	107	141
2	428	423	455	417	2	318	306	338	345
3	307	309	280	(273)	3	407	399	385	391
4	285	270	365	M	4	391	385	375	377
5	76	81	78	M	5	377	367	363	355
6	493	440	511	459	6	(379)	386	380	375
7	M	463	409	419	7	382	378	372	372
8	M	291	303	290	8	129	126	153	153
9	M	457	464	451	9	321	321	326	309
10	M	407	400	394	10	355	352	(340)	(341)
11	M	134	131	112	11	346	355	289	314
12	M	306	366	332	12	331	342	313	329
13	M	416	400	367	13	315	314	300	307
14	M	434	460	450	14	270	276	270	270
15	M	220	215	231	15	192	174	196	200
16	M	240	368	239	16	340	332	171	265
17	M	243	235	M	17	123	123	137	140
18	M	309	289	M	18	127	93	112	98
19	M	48	48	M	19	32	34	33	33
20	180	178	147	M	20	257	263	264	260
21	85	69	97	M	21	272	268	231	238
22	214	148	252	M	22	274	271	255	260
23	375	350	403	M	23	259	262	246	261
24	427	407	412	M	24	227	231	219	230
25	66	66	71	M	25	209	208	195	180
26	265	217	231	M	26	298	295	275	291
27	427	427	413	397	27	286	283	269	279
28	423	417	406	396	28	194	179	151	99
29	150	147	149	163	29	267	273	265	260
30	394	371	371	394	30	276	277	267	283
31					31	206	211	197	209
<b>Total</b>		8724	9123		<b>Total</b>	(8274)	8198	(7794)	(7965)

Table 8.1F : Daily totals of incident solar radiation  
(direct plus diffuse) on a horizontal  
surface at the ground (Langleys/day).

<u>Nov 75</u>					<u>Dec 75</u>				
<u>Day</u>	<u>Station</u>				<u>Day</u>	<u>Station</u>			
	<u>C03A</u>	<u>C10A</u>	<u>P03A</u>	<u>P07A</u>		<u>C03A</u>	<u>C10A</u>	<u>P03A</u>	<u>P07A</u>
1	18	24	26	28	1	116	130	85	108
2	126	M	77	90	2	98	103	68	82
3	61	(70)	48	55	3	154	163	138	137
4	93	76	143	141	4	176	168	158	162
5	222	204	202	199	5	149	144	126	134
6	208	200	193	198	6	156	161	149	122
7	109	111	100	91	7	157	163	112	125
8	131	128	147	166	8	54	55	52	59
9	127	108	124	130	9	93	111	73	91
10	206	(197)	174	164	10	71	91	48	55
11	200	202	203	210	11	20	29	18	29
12	21	23	16	28	12	40	44	40	44
13	47	67	70	91	13	77	90	72	70
14	159	150	131	137	14	29	44	14	20
15	223	219	203	215	15	30	33	36	27
16	215	216	198	203	16	99	102	58	77
17	205	204	188	195	17	30	43	35	54
18	203	203	181	193	18	56	76	57	106
19	196	197	180	189	19	36	53	14	41
20	27	28	24	27	20	30	53	59	56
21	25	34	33	45	21	193	180	174	179
22	162	128	139	129	22	131	142	51	74
23	190	201	183	168	23	37	62	63	84
24	85	91	69	80	24	57	77	53	67
25	39	67	56	(63)	25	36	49	15	34
26	152	156	151	160	26	43	63	43	53
27	29	35	24	38	27	104	114	94	108
28	121	126	83	88	28	141	138	118	130
29	23	25	19	21	29	31	39	42	62
30	36	35	29	32	30	39	41	34	48
31					31	63	70	51	59
<b>Total</b>	3659		3414	(3574)	<b>Total</b>	2546	2831	2150	2497

## IX. SUMMARY

This section summarizes the data presented in this report. Monthly totals or averages for all stations are presented for data from January 1975 through December 1975. Table 9.1A shows monthly totals of precipitation throughout the network. Table 9.1B gives the prevailing wind direction (defined as the wind direction which occurs most frequently during the month), the average wind speed, and the percentage of onshore (SW through N) and offshore (NE through S) winds for each month at the two main stations. Table 9.1C summarizes the percentage of time visibility was reduced to or below given distances, by month for the two main stations. Table 9.1D gives the monthly average of daily total solar radiation only for stations which had no missing data during a given month.



Table 9.1A

## Monthly Total Precipitation (inches)

Month	C01B	C02A	C02B	C03A	C04A	C05A	C06A	C07A	C08A	C09A	C10A	C11A	C11B	C12A
JAN 75	3.17	2.85	3.36	3.11	3.04	(3.04)	3.06	2.70	3.35	2.96	2.64	M		2.81
FEB 75	2.13	M	2.36	2.16	2.39	(1.92)	(1.96)	2.06	(2.17)	2.26	2.02	M		2.16
MAR 75	2.35	M	2.28	2.24	2.19	2.33	2.08	2.11	2.22	2.28	2.31	2.39		2.58
APR 75	5.29	5.07	4.99	4.88	4.68	4.49	4.70	4.72	4.46	3.90	4.05	(4.10)		4.03
MAY 75	4.50	(3.32)	M	3.71	3.20	3.34	3.36	4.16	3.72	(3.40)	(4.77)	5.41		4.61
JUN 75	3.03	M		3.25	2.73	2.97	4.01	3.47	3.90	3.96	3.92	(3.02)		3.35
JUL 75	1.99	(1.37)		2.05	1.54	2.27	2.10	2.03	2.59	2.20	2.52			1.66
AUG 75	7.17	(7.07)		6.63	5.87	5.34	(6.21)	6.42	6.51	5.99	6.97		6.02	5.78
SEP 75	1.19	(0.93)		1.08	1.07	1.33	1.32	1.41	1.46	1.42	1.34		1.17	1.31
OCT 75	1.19	0.87		1.06	1.03	1.12	0.97	0.75	0.78	0.79	1.03		1.14	1.04
NOV 75	3.64	3.82		3.87	4.15	3.91	(4.17)	3.72	4.33	4.21	4.07		4.22	3.55
DEC 75	3.12	3.37		3.60	3.62	3.30	3.68	3.41	3.47	3.34	3.22		3.44	3.37

Table 9.1B

## MONTHLY MEAN WIND SPEEDS AND DIRECTIONS

C03A						C10A				
	hours of data/hours in month	prevailing direction	average speed (mph)	% onshore	% offshore	hours of data/hours in month	prevailing direction	average speed (mph)	% onshore	% offshore
JAN 75	741/744	W	7.4	45.4	46.0	568/744	SW	9.9	47.4	35.5
FEB 75	611/672	W	7.6	39.6	48.5	648/672	W	8.8	39.7	45.2
MAR 75	731/744	WNW	7.1	46.8	36.6	586/744	ESE	9.6	34.9	47.5
APR 75	647/720	NNE	5.9	37.0	34.3	720/720	ESE	8.9	40.4	42.7
MAY 75	744/744	W	3.6	36.6	27.5	474/744	NW	6.3	39.7	39.1
JUN 75	720/720	WSW	4.0	41.4	27.9	178/720				
JUL 75	744/744	W	2.7	38.4	15.7	668/744	S	3.7	33.2	23.3
AUG 75	744/744	SW	3.0	32.3	29.6	705/744	S	3.5	27.8	37.6
SEP 75	715/720	W	3.2	34.2	27.7	720/720	S	4.2	34.7	37.9
OCT 75	666/744	W	4.3	36.5	36.7	744/744	S	5.8	31.0	45.0
NOV 75	720/720	SSE	5.6	36.6	41.3	720/720	SSW	8.2	25.4	43.5
DEC 75	705/744	W	6.2	34.5	47.9	721/744	SSW	8.6	34.0	44.4

Table 9.1C MONTHLY VISIBILITY PERCENTAGES

	<u>hours of operation</u>	C03A		
		<u>3 km</u>	<u>1 km</u>	<u>0.5 km</u>
JAN 75	736.3	13.9	2.6	0.9
FEB 75	649.1	18.6	1.7	0.4
MAR 75	726.1	11.9	2.2	0.8
APR 75	720.0	5.4	2.6	2.2
MAY 75	694.0	12.9	3.0	2.1
JUN 75	720.0	6.5	0.5	<0.1
JUL 75	729.0	5.1	0.1	<0.1
AUG 75	671.7	6.0	0.4	0.1
SEP 75	720.0	4.1	0.9	0.2
OCT 75	744.0	1.8	0.3	0.1
NOV 75	717.9	8.8	2.2	0.5
DEC 75	744.0	7.1	0.9	0.1

Note: Entries in this table are percent of total hours of operation for the given month with visibility equal to or less than the given distance.

Table 9.1D: Monthly Averages of Daily Total  
Solar Radiation for Stations with  
Complete Data for Entire Month (Langleys)

	C03A	C10A	P03A	P07A
Jan 75	101	(105)	-	-
Feb 75	156	161	136	164
Mar 75	-	(276)	264	(286)
Apr 75	-	365	379	-
May 75	-	478	477	-
Jun 75	537	-	-	511
Jul 75	-	-	520	-
Aug 75	406	405	390	-
Sep 75	-	291	304	-
Oct 75	(267)	264	(251)	(257)
Nov 75	122	-	114	(119)
Dec 75	82	91	69	81

APPENDIX B

*An Investigation of the  
Meteorological Impact of  
Mechanical-Draft Cooling Towers  
at the Palisades Nuclear Plant*

Data Report No. 5  
Summary of Meteorological Measurements  
for the Period  
January 1976 through December 1976

Prepared with contributions from:

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September 1977

Under contract with:  
Consumers Power Company  
Jackson, Michigan



College of Engineering  
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September 1977

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Paul Titus was responsible for much of the calibration work and coordinated the field program with Donald Pearson, who maintained the network data collection. Dennis Hodges did much of the initial processing of the data as it came in from the field.

The measurement program would not have been possible without the cooperation of the property owners listed in this report, who permitted us to locate meteorological equipment on their property. Our sincere appreciation is extended to them. We also thank Ms. Bobbie Walunas for typing the text. Computations were performed on the Amdahl 470V/6 computer at the University of Michigan Computing Center.



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## I. INTRODUCTION

This report summarizes meteorological measurements made at 13 stations in the vicinity of the Palisades Nuclear Plant located on the shoreline of Lake Michigan near Covert, Michigan. Data in this report are for the period January - December, 1976, and supplement those in the first data report, which was for the period October 1972 through June 1973; the second data report, for the period July - December 1973; the third data report and supplement, for the period January - December 1974; and the fourth data report, for the period January - December 1975.

The meteorological stations were established in 1972 as part of a study of the meteorological impact of the mechanical-draft cooling towers at the Palisades plant. The cooling towers began operation on 31 March, 1975. Data obtained until then, together with climatological information for stations in the region nearby, have been analyzed to determine natural meteorological conditions near the shoreline and their variations with distance inland. As additional data are obtained from the stations with the cooling towers in operation, the analysis is being extended to include a comparison of conditions prior to and during cooling tower operation.

A similar investigation is underway in the vicinity of the Donald C. Cook Nuclear Plant, which is utilizing a once-through cooling system. The Cook Nuclear Plant is located about 40 km south-southwest of Palisades.



Measurements from a network of 12 stations in the vicinity of the Cook Plant supplement those for the Palisades study and are summarized in a companion report.

Only brief descriptions of the instrumentation, calibration procedures, machine digitization and data processing methods are given here. Detailed information on the above is provided in the First and Second Annual Progress Reports listed below. The Third Annual Report describes fog and visibility computations with a cooling tower plume model in addition to analyses of shoreline meteorological events which affect the cooling tower plume. The Fourth Annual Report contains analyses of network data from the pre-operational period, summaries of initial plume observations and description of a time-lapse camera system for continuous daylight monitoring of plume behavior and effects. The Fifth Annual Report discusses plume behavior and observed effects such as icing and enhancement of total solar radiation, and includes initial analyses of operational vs. pre-operational data.

Ryznar, E. and D.G. Baker, 1973: An Investigation of the Meteorological Impact of Mechanical-Draft Cooling Towers at the Palisades Nuclear Plant. First Annual Progress Report, ORA Project 320158, The University of Michigan, 42 pp.

\_\_\_\_ and \_\_\_\_\_, 1974: An Investigation of the Meteorological Impact of Mechanical-Draft Cooling Towers at the Palisades Nuclear Plant. Second Annual Progress Report, DRDA Project 320158, The University of Michigan, 78 pp.

\_\_\_\_, M.R. Weber, and D.G. Baker, 1975: An Investigation of the Meteorological Impact of Mechanical-Draft Cooling Towers at the Palisades Nuclear Plant. Third Annual Progress Report, DRDA Project 320158, The University of Michigan, 58 pp.

— and —, 1976: An Investigation of the Meteorological Impact of Mechanical-Draft Cooling Towers at the Palisades Nuclear Plant. Fourth Annual Progress Report, DRDA Project 320158, The University of Michigan, 102 pp.

—, —, D.F. Kahlbaum, and W.G. Snell, 1977: An Investigation of the Meteorological Impact of Mechanical-Draft Cooling Towers at the Palisades Nuclear Plant. Fifth Annual Report, DRDA Project 320158, The University of Michigan, 103 pp.

Most tabulations presented here were designed to be similar in form to standard National Weather Service tabulations of climatological data. Although alternative forms of tabulation and more detailed analyses were considered, it was felt that presenting the data in the form of basic tabulations and summaries would be most useful.

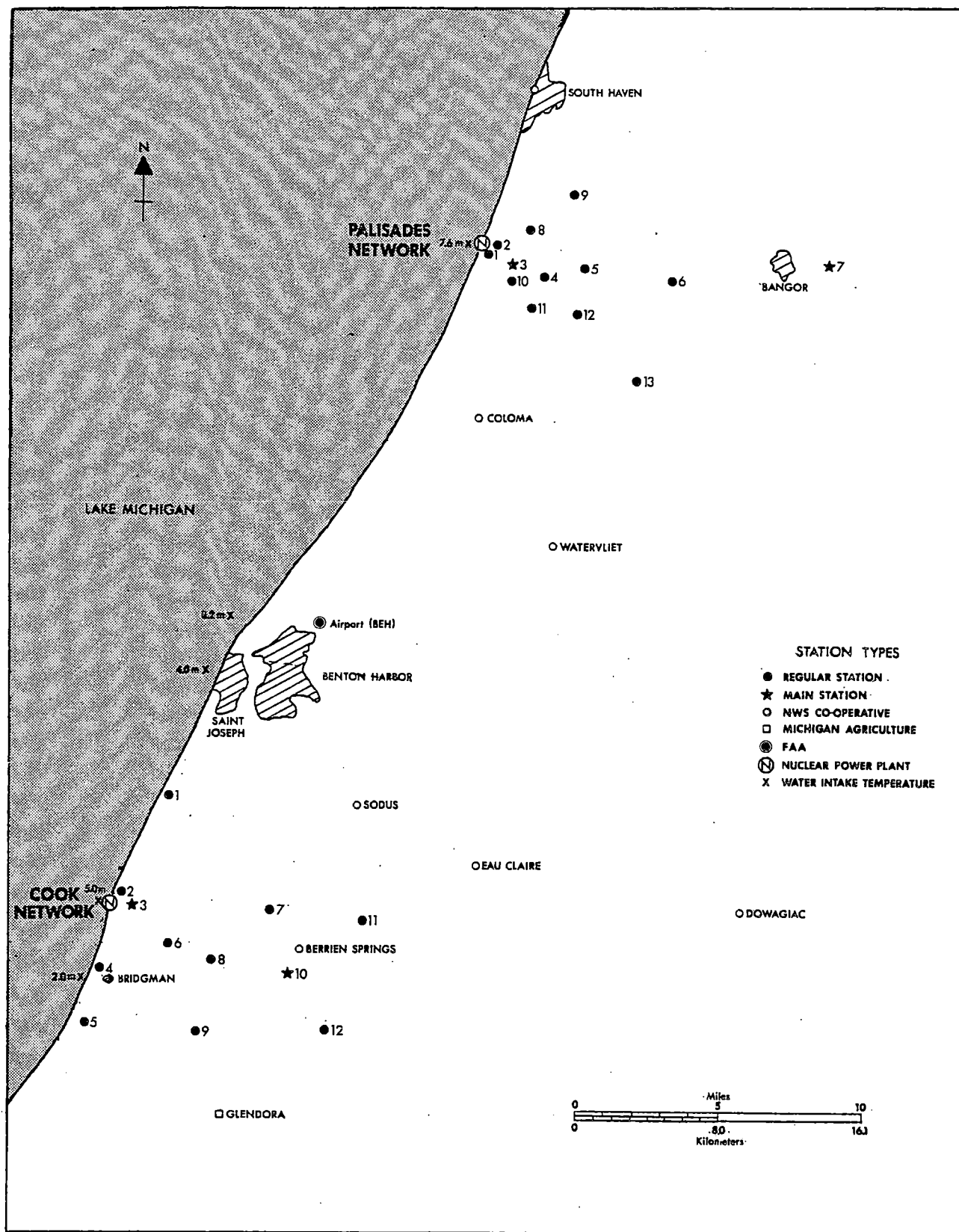
It is hoped that these data may be useful to other investigators needing meteorological information taken near the Lake Michigan shoreline. Hourly values of all meteorological variables presented in this report, covering the period from the time of installation of each instrument through 31 December 1976 for all stations, are stored on magnetic tape and can be made available. Inquiries should be directed to the authors.

## II. DESCRIPTION OF METEOROLOGICAL NETWORK

### Location and Nature of Stations

Figure 2.1 shows the locations of the Palisades and Donald C. Cook meteorological networks in relation to the nuclear plants, Lake Michigan, and several cities in southwestern Michigan. The topography of the area is shown in Figure 2.2. Shown in both figures are the locations of the climatological stations for which various data are available. Temperature and precipitation data for South Haven, Benton Harbor, Eau Claire and Dowagiac for the period 1940-1969, for example, are summarized in the Climate of Michigan, a publication available from the Michigan Weather Service, East Lansing, Michigan. Daily precipitation totals are available for all the stations. In addition, hourly precipitation totals are available for Covert for winter-time, Sodus, Berrien Springs, and Coloma. Daily maximum and minimum temperatures are available for all stations except Covert and Coloma. The nearest reporting station which has hourly weather observations (temperature, cloudiness, wind, etc.) which are also representative of shoreline weather conditions is Benton Harbor Airport, located about 30 km SSW of Palisades and about 4 km from Lake Michigan. Hourly weather observations are taken daily between about 0645 to 2045 local time.

Table 2.1 is a listing of the latitude, longitude and elevation of each station, the name and address of the property owner and the variables measured.



2.1 Location of Palisades and Donald C. Cook meteorological networks

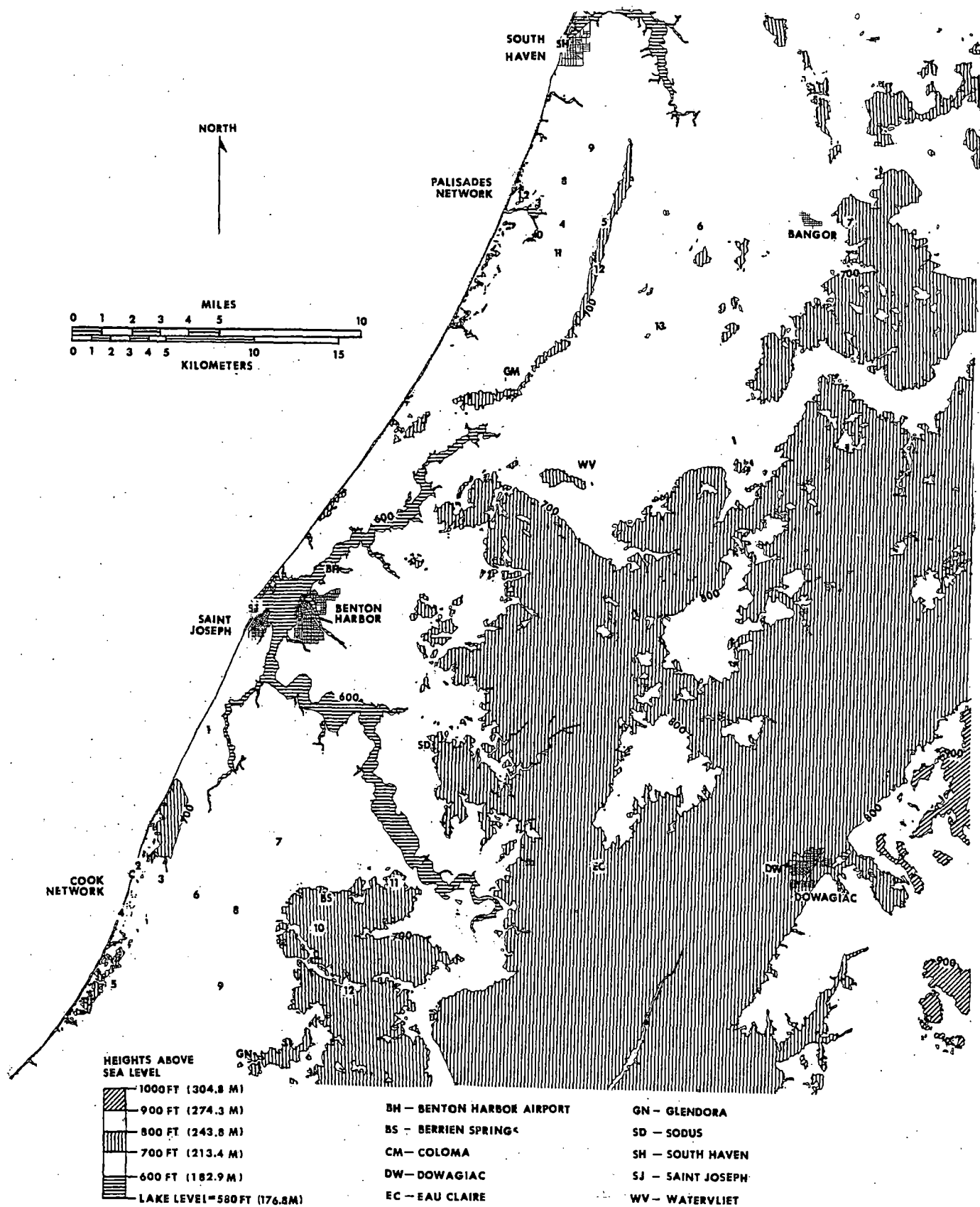


Fig. 2.2. Topography in the vicinity of the Donald C. Cook and Palisades Nuclear Plants. Network sites are given by numbers. Other data sources are given with letters.

Table 2.1

## Locations of Stations and Variables Measured

(Variables measured: T = temperature, H = relative humidity, P = precipitation, W = wind,  
V = visibility, R = total solar radiation.)

<u>Station</u>	<u>Land Owner</u>	<u>North Latitude</u>	<u>West Longitude</u>	<u>Elevation, meters above sea level</u>	<u>Variables Measured</u>
P01A	Consumers Power Company	42°19'	86°19'	187	T,H,P
P02A	Consumers Power Company	42°19'	86°18'	212	T,H,P
P03A	Consumers Power Company	42°19'	86°18'	194	T,H,P,W,V,R
P04A	Leroy Nalls 30th Avenue Covert, Mich. 49043	42°18'	86°17'	202	T,H,P
P05A	Paul Rood 30th Avenue Covert, Mich. 49043	42°18'	86°15'	217	T,H,P
P06A	Mr. and Mrs. Schwer 30th Avenue Covert, Mich. 49043	42°18'	86°11'	212	T,H,P
P07A	USDA Office Bangor, Mich.	42°18'	86°06'	220	T,H,P,W,V,R
P08A	Mrs. Edith Livingstone 7555 24th Avenue Covert, Mich. 49043	42°20'	86°17'	201	T,H,P
P09A	Mr. Don Grier Airport Manager South Haven Airport South Haven, Mich. 49043	42°21'	86°15'	207	T,H,P

Table 2.1 (continued)

<u>Station</u>	<u>Land Owner</u>	<u>North Latitude</u>	<u>West Longitude</u>	<u>Elevation, meters above sea level</u>	<u>Variables Measured</u>
P10A	Mr. Harry Sarno 32nd Avenue Covert, Mich. 49043	42°18'	86°18'	198	T,H,P
P11A	Mr. and Mrs. Neal 34th Avenue Covert. Mich. 49043	42°18'	86°17'	208	T,H,P
P12A	Mr. Jerry Sarno R. No. 1, Box 10 Covert, Mich. 49043	42°17'	86°15'	227	T,H,P
P13A	Mr. Otto Watkins R. No. 1, 44th Avenue Covert, Mich. 49043	42°16'	86°12'	220	T,H,P

It can be noted that there are 13 stations comprising the Palisades network. The labeling of each station as P01A through P13A is for identification by computer in data processing.

All stations have a recording precipitation gage and a Belfort Hygrothermograph. The precipitation gages are calibrated semi-annually. The hygrothermograph recordings are compared weekly in the field with an Assman psychrometer. In addition, beginning in December, 1973, the hygrothermographs have been calibrated in controlled humidity chambers at least once every 6 months.

Stations P03A and P07A contain, in addition to the above, sensing and recording equipment for measuring total solar radiation, wind speed and direction, and visibility. A summary of the instrumentation used in the meteorological networks to record the data tabulated in this report is found in Table 2.2



Table 2.2 Network Instrumentation

<u>Variable</u>	<u>Instrument and manufacturer</u>	<u>Height above ground (m)</u>	<u>Date installed (mo/yr)</u>	<u>Calibration frequency (mo)</u>	<u>Calibration technique</u>
Precipitation	Weighing gauge Belfort Inst. Co.	1	10/72	6	Static weights
Temperature Rel. Hum.	Hygrothermograph Model 5-594 Belfort Inst. Co.	1.5	2/73	6	Calibration chamber
Wind Speed	Gill 3-cup Anemometer Model 12101 R.M. Young Co.	3	2/73	6	Wind tunnel
Wind Direction	Wind Vane Model 104 WeatherMeasure Corp.	3	2/73	6	Circular linearity
Visibility	Visiometer  Model 1580  Meteorology Research Inc.	1.5	10/72 (P-3) * 3/73 (C-3) 5/73 (P-7)	12-18	Manufacturer
Solar Rad.	Pyranometer  Model R411  WeatherMeasure Corp.	1	10/72 (P-3) 12/72 (C-3) 3/73 (P-7) 12/72 (C-10)	12	Comparison with standard

\*The letters P and C denote stations in the Palisades and Cook networks, respectively.

### III. PRECIPITATION

Precipitation is measured with a Belfort Recording Precipitation Gage. It is recorded and digitized to the nearest hundredth of an inch. For tabulation digitized data are reduced to hourly totals of precipitation. The data are then tabulated in sets of three tables for each month. The first table gives the total precipitation by day for each station. An M indicates missing data. A series of asterisks indicates that the total amount of precipitation which fell during that period is known and indicated as a number in parentheses at the end of the period. The exact time of occurrence during the period, however, is unknown. The second table gives the greatest 1-, 3-, 6-, 12-, and 24-hour totals and the third gives hourly totals for each month. The last two tables contain data only for those stations which had uninterrupted records of precipitation for all times during which precipitation was occurring in that month. If data were missing for any hour during which precipitation was occurring, an M is listed for that station.

Table 3.1A. Palisades Network: Daily Total Precipitation (Inches) for January 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.05	0.03	0.03	0.03	0.02	0.04	0.03	0.04	0.03	0.03	0.03	0.05	0.05
3	0.07	0.06	0.03	0.08	0.09	0.03	0.09	0.03	0.05	0.05	0.05	0.02	0.02
4	0.15	0.15	0.04	0.07	0.10	0.13	0.07	0.11	0.04	0.07	0.08	0.05	0.04
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
7	0.38	0.41	0.24	0.30	0.29	0.23	0.18	0.33	0.22	0.27	0.26	0.22	0.19
8	0.08	0.09	0.04	0.05	0.08	0.09	0.09	0.05	0.05	0.06	0.01	0.05	0.07
9	0.01	0.01	0.00	0.01	0.00	0.00	0.02	0.02	0.01	0.01	0.01	0.00	0.00
10	0.05	0.06	0.04	0.04	0.03	0.04	0.03	0.06	0.01	0.05	0.01	0.04	0.03
11	0.06	0.06	0.05	0.06	0.07	0.10	0.08	0.08	0.06	0.08	0.20	0.09	0.07
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.51	0.55	0.43	0.51	0.40	0.55	0.47	0.49	0.34	0.50	0.55	0.47	0.41
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.04	0.03	0.00	0.03	0.00	0.03	0.02	0.03	0.01	0.02	0.02	0.01	0.03
16	0.07	0.07	0.03	0.03	0.05	0.04	0.02	0.06	0.03	0.05	0.03	0.04	0.01
17	0.13	0.16	0.12	0.15	0.13	0.11	0.05	0.16	0.17	0.14	0.11	0.10	0.11
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.08	0.11	0.04	0.07	0.07	0.04	0.05	0.07	0.11	0.06	0.14	0.04	0.04
20	0.04	0.02	0.00	0.01	0.01	0.00	0.00	0.01	0.02	0.01	0.01	0.01	0.00
21	0.22	0.23	0.10	0.12	0.14	0.18	0.14	0.17	0.22	0.16	0.14	0.10	0.13
22	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.02	0.01	0.02	0.00	0.00	0.00	0.01	0.00	0.04	0.02	0.00	0.00	0.02
25	0.12	0.12	0.11	0.09	0.08	0.12	0.12	0.10	0.09	0.08	0.06	0.10	0.07
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.01	0.01	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.01	0.01
30	0.09	0.09	0.05	0.07	0.06	0.08	0.05	0.08	0.05	0.08	0.09	0.07	0.08
31	0.01	0.01	0.02	0.01	0.00	0.01	0.03	0.02	0.02	0.02	0.01	0.00	0.01
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Tot	2.20	2.28	1.39	1.75	1.64	1.85	1.56	1.92	1.57	1.76	1.82	1.47	1.40

Table 3.2A. Palisades Network  
Greatest precipitation received in a given period for  
January 1976

Station	1-Hour		3-Hour		6-Hour		12-Hour		24-Hour	
	amt.	day time	amt.	day time	amt.	day time	amt.	day time	amt.	day time
	(in.)	began	(in.)	began	(in.)	began	(in.)	began	(in.)	began
P01A	0.07	13 1300	0.20	13 1200	0.39	13 0900	0.51	13 0800	0.51	13 0800
P02A	0.11	13 1500	0.22	13 1000	0.42	13 1000	0.55	13 0900	0.55	13 0900
P03A	0.09	13 1100	0.22	13 1000	0.35	13 0900	0.43	13 0800	0.43	13 0800
P04A	0.09	13 1100	0.26	13 0900	0.42	13 0900	0.51	13 0800	0.51	13 0700
P05A	0.07	13 1100	0.19	13 1000	0.31	13 1000	0.40	13 0800	0.40	13 0700
P06A	0.11	13 1000	0.29	13 1000	0.46	13 0900	0.55	13 0700	0.55	13 0700
P07A	0.11	13 1100	0.30	13 1000	0.43	13 0900	0.47	13 0900	0.47	13 0700
P08A	0.10	13 1500	0.18	13 1300	0.37	13 1000	0.48	13 0900	0.49	13 0900
P09A	0.07	13 1100	0.19	13 1000	0.31	13 0900	0.34	13 0900	0.34	13 0700
P10A	0.09	13 1200	0.24	13 1100	0.41	13 1000	0.50	13 0900	0.50	13 0900
P11A	0.11	11 0700	0.29	13 1000	0.48	13 0900	0.55	13 0700	0.55	13 0700
P12A	0.09	13 1100	0.24	13 1000	0.39	13 0900	0.47	13 0700	0.47	13 0700
P13A	0.09	13 1000	0.23	13 0900	0.33	13 0900	0.41	13 0700	0.41	13 0700

Table 3.3A. Palisades Network:  
Precipitation accumulated in each hour (EST) for  
January 1976

	Precipitation (inches) accumulated in each hour interval ending at																									
Sta	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	Total	
P01A	.15	.14	.11	.11	.06	.05	.05	.04	.09	.14	.10	.10	.11	.09	.14	.13	.12	.12	.10	.05	.03	.03	.05	.10	2.22	
P02A	.14	.13	.11	.10	.08	.07	.05	.04	.10	.14	.12	.11	.08	.07	.20	.15	.14	.12	.08	.06	.04	.02	.04	.09	2.29	
P03A	.07	.07	.05	.06	.04	.04	.05	.04	.08	.10	.10	.08	.05	.05	.13	.07	.09	.06	.05	.05	.02	.02	.02	.02	1.41	
P04A	.10	.08	.07	.08	.06	.03	.05	.06	.11	.14	.12	.08	.09	.09	.12	.09	.08	.08	.05	.04	.03	.03	.03	.05	1.78	
P05A	.08	.08	.07	.08	.08	.06	.06	.05	.06	.09	.10	.10	.08	.04	.10	.11	.11	.04	.03	.04	.03	.03	.03	.03	.06	1.63
P06A	.09	.11	.07	.07	.08	.07	.06	.05	.09	.14	.15	.12	.12	.07	.10	.13	.12	.06	.04	.03	.01	.01	.01	.05	1.85	
P07A	.06	.08	.07	.07	.08	.06	.04	.06	.08	.12	.13	.10	.07	.05	.06	.11	.06	.04	.05	.04	.03	.03	.03	.03	1.54	
P08A	.08	.09	.10	.09	.07	.07	.05	.04	.07	.11	.11	.11	.08	.06	.15	.13	.13	.10	.07	.05	.03	.03	.04	.05	1.92	
P09A	.11	.10	.07	.07	.06	.04	.06	.05	.05	.09	.09	.08	.07	.06	.11	.11	.11	.08	.04	.02	.02	.02	.02	.04	1.57	
P10A	.10	.09	.07	.06	.08	.05	.04	.05	.06	.11	.11	.10	.09	.08	.10	.10	.11	.10	.06	.05	.04	.03	.03	.04	1.77	
P11A	.08	.09	.09	.08	.06	.06	.15	.09	.10	.13	.13	.12	.07	.08	.11	.08	.06	.07	.04	.03	.03	.02	.02	.04	1.83	
P12A	.06	.06	.06	.06	.06	.05	.08	.06	.07	.12	.11	.09	.08	.06	.10	.07	.08	.07	.04	.02	.01	.01	.02	.03	1.46	
P13A	.05	.09	.08	.07	.07	.06	.04	.05	.09	.11	.10	.05	.03	.04	.08	.08	.07	.07	.05	.03	.02	.02	.02	.02	1.39	
ave	.09	.09	.08	.08	.07	.05	.06	.05	.08	.12	.11	.10	.08	.06	.12	.11	.10	.08	.05	.04	.03	.02	.03	.05	1.74	

Table 3.1B. Palisades Network: Daily Total Precipitation (Inches) for February 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	0.25	0.23	0.12	0.19	0.21	0.22	0.18	0.20	0.24	0.18	0.20	0.17	0.20
2	0.04	0.02	0.02	0.04	0.06	0.08	0.08	0.04	0.06	0.04	0.01	0.04	0.10
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.04	0.04	0.03	0.07	0.04	0.04	0.05	0.05	0.04	0.04	0.03	0.02	0.04
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.06	0.06	0.06	0.07	0.05	0.04	0.06	0.06	0.05	0.06	0.05	0.05	0.05
16	0.26	0.30	0.28	0.24	0.21	0.22	0.31	0.28	0.24	0.26	0.16	0.20	0.33
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.17	0.17	0.16	0.20	0.24	0.42	0.58	0.18	0.16	0.19	0.17	0.29	0.36
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	1.30	1.25	1.25	1.19	1.21	1.27	1.41	1.26	1.19	1.23	1.31	1.31	1.30
22	0.04	0.05	0.01	0.01	0.02	0.01	0.02	0.00	0.02	0.02	0.01	0.01	0.03
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.10	0.09	0.09	0.11	0.16	0.17	0.32	0.08	0.10	0.13	0.20	0.23	0.23
Tot	2.26	2.21	2.02	2.12	2.20	2.47	3.01	2.15	2.10	2.15	2.14	2.32	2.64

Table 3.2B. Palisades Network  
Greatest precipitation received in a given period for  
February 1976

Station	1-Hour			3-Hour			6-Hour			12-Hour			24-Hour		
	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time
	(in.)	began		(in.)	began		(in.)	began		(in.)	began		(in.)	began	
P01A	0.31	21	0700	0.70	21	0600	1.06	21	0200	1.24	21	0100	1.30	21	0100
P02A	0.29	21	0600	0.64	21	0600	0.98	21	0200	1.20	21	0100	1.25	21	0100
P03A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
P04A	0.25	21	0700	0.62	21	0600	0.97	21	0200	1.14	21	0100	1.19	21	0100
P05A	0.26	21	0700	0.61	21	0600	0.95	21	0200	1.17	21	0100	1.21	21	0100
P06A	0.26	21	0600	0.61	21	0500	1.02	21	0200	1.22	21	0200	1.28	21	0200
P07A	0.29	18	1300	0.69	21	0600	1.03	21	0200	1.36	21	0200	1.42	21	0200
P08A	0.27	21	0700	0.63	21	0600	1.03	21	0200	1.22	21	0200	1.26	21	0200
P09A	0.28	21	0600	0.64	21	0500	0.97	21	0200	1.13	21	0100	1.19	21	0100
P10A	0.28	21	0600	0.65	21	0500	1.02	21	0200	1.17	21	0100	1.23	21	0100
P11A	0.28	21	0600	0.65	21	0500	0.98	21	0200	1.25	21	0100	1.31	21	0100
P12A	0.28	21	0700	0.68	21	0600	1.05	21	0200	1.25	21	0100	1.31	21	0100
P13A	0.23	21	0600	0.62	21	0500	1.00	21	0200	1.26	21	0100	1.30	21	0100

Table 3.3B. Palisades Network:  
Precipitation accumulated in each hour (EST) for  
February 1976

Sta	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	Total
P01A	.06	.23	.12	.17	.18	.39	.40	.15	.02	.02	.02	.02	.03	.06	.05	.01	.01	.02	.04	.09	.08	.02	.01	.04	2.26
P02A	.08	.23	.12	.15	.15	.39	.32	.18	.05	.02	.01	.03	.04	.05	.03	.01	.02	.03	.04	.16	.04	.01	.01	.05	2.21
P03A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
P04A	.01	.24	.10	.17	.18	.34	.35	.20	.04	.01	.02	.05	.05	.04	.05	.01	.00	.04	.01	.12	.01	.02	.04	.02	2.12
P05A	.09	.19	.13	.25	.19	.36	.34	.15	.04	.02	.04	.05	.04	.05	.02	.01	.01	.03	.04	.06	.02	.01	.03	.03	2.19
P06A	.02	.28	.12	.25	.26	.39	.24	.16	.06	.03	.03	.20	.05	.09	.03	.02	.01	.02	.08	.01	.04	.01	.05	.06	2.49
P07A	.01	.24	.15	.46	.19	.37	.31	.26	.11	.05	.02	.08	.32	.07	.04	.03	.01	.04	.12	.00	.07	.00	.02	.03	3.02
P08A	.01	.25	.10	.13	.19	.33	.39	.18	.05	.02	.01	.02	.03	.07	.04	.01	.01	.01	.04	.06	.11	.01	.04	.04	2.15
P09A	.07	.21	.11	.16	.22	.38	.32	.14	.03	.02	.01	.04	.03	.06	.03	.00	.00	.00	.03	.09	.04	.01	.06	.04	2.10
P10A	.08	.23	.14	.23	.16	.31	.32	.14	.07	.02	.00	.05	.03	.05	.04	.01	.01	.02	.05	.02	.12	.01	.02	.03	2.15
P11A	.12	.17	.12	.23	.22	.39	.29	.18	.04	.01	.02	.04	.05	.05	.03	.01	.01	.04	.02	.02	.01	.02	.05	.03	2.15
P12A	.04	.23	.10	.34	.17	.40	.34	.18	.05	.01	.03	.11	.03	.07	.02	.01	.01	.02	.05	.01	.02	.01	.03	.04	2.32
P13A	.16	.21	.16	.34	.30	.36	.25	.11	.05	.04	.03	.14	.02	.09	.03	.00	.00	.07	.12	.02	.05	.02	.05	.03	2.65
ave	.06	.23	.12	.24	.20	.37	.32	.17	.05	.02	.02	.07	.06	.06	.03	.01	.01	.03	.05	.05	.05	.01	.04	.04	2.32



Table 3.1C. Palisades Network: Daily Total Precipitation (Inches) for March 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	1.13	1.06	1.01	0.82	0.71	0.76	0.68	1.06	0.95	0.89	0.82	0.71	*
2	0.60	0.55	0.53	0.51	0.51	0.53	0.48	0.46	0.51	0.56	0.60	0.69	(1.08)
3	0.10	0.21	0.12	0.15	0.19	0.10	0.13	0.17	0.13	0.11	0.17	0.11	0.18
4	0.71	0.57	0.64	0.57	0.63	0.52	0.45	0.61	0.70	0.67	0.55	0.60	0.40
5	0.28	0.39	0.28	0.33	0.28	0.35	0.37	0.36	0.26	0.24	0.34	0.26	0.41
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.11	0.12	0.09	0.08	0.09	0.09	0.07	0.09	0.10	0.09	0.10	0.08	0.08
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.33	0.32	0.33	0.38	0.35	0.34	0.30	0.35	0.33	0.37	0.37	0.37	0.36
13	0.08	0.07	0.01	0.04	0.04	0.04	0.04	0.06	0.03	0.06	0.04	0.03	0.02
14	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.02	0.00	0.02	0.02	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.54	0.57	0.53	0.50	1.02	0.88	0.47	0.53	0.54	0.47	0.72	0.92	0.64
21	0.03	0.02	0.01	0.00	0.02	0.01	0.03	0.04	0.01	0.02	0.04	0.01	0.01
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.51	0.49	0.47	0.48	0.63	0.53	0.59	0.48	0.51	0.50	0.50	0.55	0.51
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.06	0.08	0.08	0.10	0.08	0.06	0.05	0.09	0.06	0.10	0.07	0.07	0.07
Tot	4.50	4.47	4.11	3.97	4.56	4.21	3.66	4.32	4.13	4.10	4.34	4.40	(3.76)

Table 3.2C. Palisades Network  
Greatest precipitation received in a given period for  
March 1976

Station	1-Hour			3-Hour			6-Hour			12-Hour			24-Hour		
	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time
	(in.)	began		(in.)	began		(in.)	began		(in.)	began		(in.)	began	
P01A	0.46	1	2100	0.54	1	1900	0.83	1	1600	0.95	1	1300	1.13	1	0100
P02A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
P03A	0.38	20	1500	0.53	20	1400	0.69	1	1600	0.81	1	1300	1.01	1	0100
P04A	0.44	20	1500	0.50	20	1300	0.66	4	2200	0.67	4	2200	0.88	4	0400
P05A	0.76	20	1500	1.02	20	1400	1.02	20	1400	1.02	20	1400	1.04	20	1400
P06A	0.64	20	1500	0.87	20	1300	0.88	20	1300	0.88	20	1300	0.89	20	1300
P07A	0.43	20	1500	0.47	4	2400	0.61	4	2300	0.65	4	1600	0.81	4	0700
P08A	0.42	20	1500	0.54	4	2300	0.75	1	1600	0.85	1	1300	1.06	1	0100
P09A	0.48	20	1500	0.54	20	1400	0.67	1	1600	0.79	1	1300	0.95	1	0100
P10A	0.41	20	1500	0.48	4	2300	0.62	4	2200	0.68	1	1200	0.89	1	0100
P11A	0.67	20	1500	0.72	20	1400	0.72	20	1400	0.73	20	1400	0.85	4	0900
P12A	0.77	20	1500	0.92	20	1300	0.92	20	1300	0.92	20	1300	0.93	20	1300
P13A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M

Table 3.3C. Palisades Network:  
Precipitation accumulated in each hour (EST) for  
March 1976

Sta	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	Total
P01A	.29	.17	.18	.10	.16	.12	.09	.22	.13	.09	.06	.12	.12	.21	.41	.18	.21	.06	.06	.14	.52	.13	.15	.55	4.48
P02A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
P03A	.30	.17	.18	.07	.12	.11	.08	.24	.10	.11	.06	.05	.15	.22	.41	.14	.21	.01	.03	.35	.20	.15	.20	.47	4.11
P04A	.32	.20	.20	.11	.11	.14	.07	.09	.14	.13	.04	.07	.08	.17	.45	.11	.17	.04	.08	.22	.16	.17	.17	.52	3.98
P05A	.32	.20	.14	.11	.14	.14	.09	.15	.15	.10	.13	.08	.10	.19	.78	.21	.20	.03	.06	.23	.18	.17	.20	.47	4.57
P06A	.27	.17	.23	.09	.11	.13	.11	.17	.15	.11	.09	.08	.18	.23	.67	.08	.20	.05	.06	.12	.19	.09	.13	.51	4.22
P07A	.29	.22	.24	.08	.04	.11	.06	.22	.25	.08	.11	.04	.12	.07	.46	.10	.17	.06	.03	.08	.09	.07	.16	.49	3.65
P08A	.35	.22	.20	.09	.12	.13	.09	.18	.12	.11	.09	.12	.09	.23	.43	.14	.19	.03	.05	.28	.35	.09	.22	.38	4.31
P09A	.26	.13	.14	.11	.10	.15	.09	.12	.13	.10	.09	.11	.16	.07	.50	.13	.20	.03	.05	.26	.32	.19	.17	.49	4.11
P10A	.21	.12	.19	.13	.11	.16	.09	.12	.11	.13	.08	.07	.16	.09	.43	.10	.19	.11	.07	.14	.28	.16	.35	.46	4.07
P11A	.35	.15	.21	.10	.14	.13	.10	.14	.13	.13	.07	.06	.16	.12	.70	.04	.20	.10	.12	.18	.20	.12	.18	.51	4.33
P12A	.27	.15	.17	.10	.12	.10	.07	.23	.14	.10	.10	.06	.14	.20	.80	.07	.19	.02	.11	.14	.13	.17	.25	.60	4.40
P13A	M	M	M	M	M	M	M	M	M	.07	.10	.06	.08	M	M	M	M	M	M	M	M	M	M	M	M
ave	.29	.17	.19	.10	.11	.13	.08	.17	.14	.11	.09	.08	.13	.17	.55	.12	.19	.05	.07	.19	.24	.14	.20	.50	4.20

Table 3.1D Palisades Network: Daily Total Precipitation (Inches) for April 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	0.09	0.10	0.08	0.10	0.11	0.15	0.11	0.10	0.09	0.13	0.14	0.11	0.12
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.14	0.13	0.11	0.13	0.12	0.16	0.10	0.15	0.09	0.10	0.14	0.13	0.15
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.34	0.32	0.30	0.29	0.34	0.33	0.31	0.33	0.35	0.29	0.27	0.29	0.25
11	0.01	0.02	0.05	0.03	0.02	0.04	0.06	0.04	0.04	0.05	0.05	0.03	0.05
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.78	0.74	0.81	0.97	0.87	0.73	0.75	0.71	0.67	0.89	0.87	0.88	0.67
16	0.00	0.01	0.00	0.02	0.02	0.01	0.03	0.02	0.04	0.02	0.03	0.03	0.01
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.52	0.38	0.44	0.44	0.17	0.04	0.01	0.52	0.39	0.44	0.20	0.13	0.04
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.07	0.07	0.06	0.06	0.08	0.08	0.07	0.06	0.05	0.07	0.10	0.09	0.10
21	0.18	0.17	0.20	0.22	0.24	0.20	0.18	0.18	0.20	0.18	0.26	0.26	0.16
22	0.00	0.00	0.00	0.00	0.02	0.01	0.02	0.00	0.04	0.01	0.00	0.01	0.02
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.83	0.78	0.79	0.81	0.88	0.98	0.83	0.80	0.76	0.79	0.98	1.02	1.15
25	1.54	1.37	1.54	1.70	1.58	1.68	1.36	1.63	1.54	1.58	1.80	1.41	1.24
26	0.07	0.21	0.06	0.04	0.05	0.00	0.03	0.09	0.00	0.06	0.06	0.03	0.01
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot	4.57	4.30	4.44	4.81	4.50	4.41	3.86	4.63	4.26	4.61	4.90	4.42	3.97

Table 3.2D. Palisades Network  
Greatest precipitation received in a given period for  
April 1976

Station	1-Hour		3-Hour		6-Hour		12-Hour		24-Hour	
	amt.	day time	amt.	day time	amt.	day time	amt.	day time	amt.	day time
	(in.)	began	(in.)	began	(in.)	began	(in.)	began	(in.)	began
P01A	0.41	15 2100	0.78	15 2100	0.87	25 0500	1.27	25 0500	2.17	24 1700
P02A	0.42	15 2100	0.74	15 2100	0.84	25 0500	1.16	24 2200	1.91	24 1700
P03A	0.47	15 2200	0.81	15 2100	0.94	25 0500	1.31	25 0500	2.14	24 1700
P04A	0.55	15 2200	0.97	15 2100	0.99	25 0500	1.41	25 0500	2.29	24 1600
P05A	0.57	15 2100	0.87	15 2100	0.95	25 0500	1.34	25 0500	2.28	24 1700
P06A	0.45	25 0800	0.94	25 0800	1.20	25 0800	1.49	25 0600	2.44	24 1700
P07A	0.55	15 2200	0.75	15 2100	0.88	25 0800	1.15	25 0700	1.91	24 1700
P08A	0.42	15 2200	0.74	25 0800	0.98	25 0500	1.34	25 0500	2.19	24 1700
P09A	0.36	15 2200	0.67	15 2100	1.01	25 0500	1.30	25 0100	2.15	24 1700
P10A	0.63	15 2100	0.89	15 2100	0.94	25 0600	1.30	25 0600	2.22	24 1700
P11A	0.49	15 2200	0.87	15 2100	1.11	25 0600	1.58	24 2200	2.56	24 1700
P12A	0.48	15 2100	0.88	15 2100	0.91	25 0800	1.22	24 2200	2.23	24 1700
P13A	0.48	15 2200	0.70	25 0800	0.88	25 0700	1.14	25 0600	2.12	24 1600

Table 3.3D. Palisades Network:  
Precipitation accumulated in each hour (EST) for  
April 1976

Precipitation (inches) accumulated in each hour interval ending at																										
Sta	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	Total	
P01A	.15	.09	.01	.12	.09	.12	.09	.30	.36	.13	.05	.11	.12	.13	.08	.09	.24	.11	.27	.24	.76	.49	.22	.20	4.59	
P02A	.15	.08	.01	.04	.15	.13	.10	.34	.33	.16	.06	.09	.09	.07	.04	.11	.23	.13	.25	.24	.63	.50	.18	.20	4.29	
P03A	.17	.10	.01	.08	.11	.16	.10	.32	.35	.12	.07	.10	.09	.09	.06	.15	.21	.05	.29	.27	.57	.57	.17	.23	4.45	
P04A	.15	.09	.02	.14	.13	.19	.11	.35	.34	.07	.09	.10	.11	.08	.07	.20	.22	.10	.35	.27	.59	.65	.17	.22	4.81	
P05A	.18	.11	.03	.05	.15	.14	.08	.33	.36	.15	.09	.11	.09	.08	.08	.07	.33	.14	.19	.10	.72	.44	.23	.26	4.51	
P06A	.16	.08	.05	.04	.17	.07	.05	.46	.46	.16	.11	.16	.09	.08	.07	.07	.23	.09	.17	.10	.46	.54	.20	.34	4.41	
P07A	.27	.16	.05	.05	.09	.04	.04	.28	.39	.13	.11	.11	.08	.10	.07	.07	.13	.12	.07	.06	.30	.70	.19	.24	3.85	
P08A	.16	.06	.03	.06	.18	.08	.10	.18	.41	.28	.08	.09	.14	.12	.08	.07	.28	.15	.38	.29	.47	.51	.21	.21	4.61	
P09A	.21	.10	.03	.05	.24	.16	.09	.15	.42	.15	.07	.05	.06	.08	.07	.08	.29	.08	.33	.23	.47	.51	.19	.19	4.28	
P10A	.21	.11	.02	.03	.10	.12	.12	.39	.30	.15	.09	.09	.10	.10	.10	.08	.21	.13	.31	.24	.82	.40	.19	.20	4.61	
P11A	.23	.11	.02	.08	.16	.23	.05	.49	.36	.11	.13	.08	.08	.09	.09	.11	.36	.07	.28	.12	.52	.68	.20	.24	4.89	
P12A	.16	.10	.04	.05	.12	.06	.05	.45	.30	.09	.11	.11	.07	.10	.07	.10	.30	.11	.21	.09	.64	.57	.20	.31	4.41	
P13A	.19	.09	.04	.04	.13	.05	.08	.41	.31	.11	.07	.10	.08	.09	.06	.15	.15	.10	.14	.11	.22	.57	.41	.27	3.97	
ave	.18	.10	.03	.06	.14	.12	.08	.34	.36	.14	.09	.10	.09	.09	.07	.10	.24	.11	.25	.18	.55	.55	.21	.24	4.44	

Table 3.1E. Palisades Network: Daily Total Precipitation (Inches) for

May 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.55	0.57	0.55	0.61	0.60	0.51	0.39	0.57	0.54	0.62	0.68	0.65	0.51
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.30	0.29	0.29	0.28	0.29	0.25	0.17	0.34	0.34	0.27	0.25	0.24	0.15
6	0.85	0.84	0.81	0.80	0.75	0.79	0.82	0.78	0.70	0.83	0.86	0.82	0.84
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.11	0.13	0.12	0.12	0.14	0.12	0.08	0.12	0.11	0.14	0.13	0.11	0.14
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.01	0.02	0.03	0.03	0.03	0.02	0.00	0.02	0.01	0.03	0.04	0.04	0.05
14	0.02	0.01	0.00	0.01	0.03	0.03	0.01	0.00	0.01	0.01	0.02	0.04	0.02
15	0.84	0.83	0.86	0.82	1.04	1.13	0.99	1.03	1.11	0.91	0.93	1.03	1.05
16	0.00	0.02	0.01	0.00	0.03	0.10	0.58	0.02	0.01	0.03	0.02	0.00	0.01
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.14	0.14	0.13	0.10	0.17	0.29	0.23	0.23	0.26	0.07	0.04	0.05	0.11
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.39	0.38	0.40	0.39	0.37	0.47	0.34	0.41	0.38	0.41	0.39	0.39	*
29	1.10	1.08	1.04	1.04	1.00	1.17	0.81	1.06	1.03	1.08	1.00	1.01	*
30	0.53	0.51	0.52	0.69	0.87	0.84	1.67	0.54	0.45	0.77	0.96	1.20	(3.39)
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot	4.84	4.82	4.76	4.89	5.32	5.72	6.09	5.12	4.95	5.17	5.32	5.58	(6.27)

Table 3.2E. Palisades Network  
Greatest precipitation received in a given period for  
May 1976

Station	1-Hour			3-Hour			6-Hour			12-Hour			24-Hour		
	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time
	(in.)	began		(in.)	began		(in.)	began		(in.)	began		(in.)	began	
P01A	0.18	29	0500	0.42	29	0500	0.68	29	0200	1.00	28	2000	1.28	28	2000
P02A	0.17	30	1600	0.47	29	0500	0.69	29	0200	1.02	28	2000	1.26	28	2000
P03A	0.20	30	1600	0.41	29	0500	0.67	29	0200	1.00	28	2000	1.24	28	2000
P04A	0.20	30	1600	0.41	29	0500	0.69	30	1200	0.95	28	2000	1.17	28	2000
P05A	0.27	30	1600	0.55	30	1200	0.87	30	1200	0.95	28	1900	1.17	28	2000
P06A	0.29	20	1100	0.49	30	1400	0.84	30	1200	1.11	28	1900	1.31	28	2100
P07A	0.79	30	1300	1.43	30	1300	1.67	30	1300	1.67	30	1300	1.83	29	1700
P08A	0.23	20	1100	0.42	30	1500	0.70	15	1700	0.97	28	2000	1.25	28	2000
P09A	0.31	15	2200	0.44	15	2000	0.75	15	1700	0.96	28	2000	1.17	28	2100
P10A	0.26	30	1200	0.45	30	1200	0.75	30	1200	1.04	28	2000	1.27	28	2000
P11A	0.33	30	1600	0.61	30	1400	0.95	30	1200	0.96	30	1200	1.17	29	1800
P12A	0.35	30	1600	0.79	30	1200	1.20	30	1100	1.20	30	1100	1.43	29	1700
P13A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M



Table 3.3E. Palisades Network:  
Precipitation accumulated in each hour (EST) for  
May 1976

Precipitation (inches) accumulated in each hour interval ending at																										
Sta	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	Total	
P01A	.08	.15	.07	.09	.21	.21	.15	.08	.05	.20	.29	.33	.20	.21	.15	.41	.35	.16	.18	.34	.24	.33	.21	.14	4.83	
P02A	.08	.11	.08	.05	.22	.22	.22	.06	.06	.13	.34	.32	.21	.19	.16	.42	.35	.13	.17	.35	.25	.38	.18	.14	4.83	
P03A	.07	.15	.05	.11	.20	.20	.16	.05	.05	.13	.34	.35	.19	.21	.17	.43	.31	.17	.10	.31	.26	.38	.22	.15	4.75	
P04A	.04	.10	.10	.10	.18	.19	.19	.07	.08	.16	.31	.38	.18	.19	.19	.46	.39	.12	.18	.36	.29	.35	.18	.10	4.88	
P05A	.08	.15	.05	.19	.19	.17	.09	.06	.07	.15	.38	.43	.25	.30	.15	.45	.33	.15	.41	.28	.39	.34	.17	.09	5.32	
P06A	.08	.22	.05	.17	.21	.18	.07	.03	.09	.15	.53	.34	.33	.33	.29	.33	.35	.20	.33	.40	.33	.40	.22	.09	5.71	
P07A	.03	.07	.11	.06	.22	.14	.09	.04	.10	.15	.40	.15	.99	.14	.30	.36	.37	.15	.26	.20	.23	.31	.18	.05	6.10	
P08A	.04	.09	.11	.05	.19	.20	.18	.08	.05	.15	.47	.22	.20	.17	.22	.35	.49	.14	.25	.34	.29	.47	.18	.18	5.12	
P09A	.04	.08	.09	.14	.17	.17	.17	.05	.05	.19	.50	.21	.20	.15	.22	.26	.38	.18	.14	.38	.27	.55	.19	.16	4.95	
P10A	.09	.18	.05	.13	.19	.20	.17	.06	.05	.15	.27	.47	.22	.26	.25	.41	.33	.18	.14	.29	.32	.40	.20	.14	5.15	
P11A	.08	.16	.07	.16	.21	.17	.13	.07	.07	.19	.25	.40	.27	.23	.31	.57	.39	.11	.12	.43	.33	.32	.17	.09	5.31	
P12A	.15	.16	.05	.13	.18	.19	.12	.04	.06	.16	.27	.42	.49	.39	.21	.63	.31	.09	.31	.26	.42	.27	.19	.06	5.58	
P13A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
ave	.07	.13	.07	.11	.20	.19	.14	.06	.07	.16	.36	.33	.31	.31	.22	.42	.36	.15	.22	.33	.30	.37	.19	.12	5.21	

Table 3.1F. Palisades Network: Daily Total Precipitation (Inches) for June 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.09	0.08	0.08	0.07	0.10	0.11	0.20	0.06	0.11	0.05	0.05	0.05	0.04
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.07	0.04	0.07	0.13	0.17	0.15	0.02	0.00	0.00	0.11	0.12	0.21	1.30
13	0.12	0.11	0.08	0.08	0.08	0.06	0.05	0.11	0.05	0.10	0.09	0.08	0.04
14	0.00	0.01	0.01	0.01	0.03	0.06	0.01	0.01	0.01	0.01	0.01	0.06	0.04
15	0.61	0.72	0.57	0.44	0.30	0.25	0.39	0.74	0.87	0.44	0.34	0.21	0.35
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.32	0.33	0.34	0.35	0.52	0.51	0.62	0.31	0.32	0.34	0.44	0.54	0.55
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.70	0.69	0.66	0.70	0.72	0.45	0.62	0.48	0.40	0.50	0.54	0.59	1.08
23	0.36	0.35	0.30	0.40	0.28	0.21	0.52	0.40	0.20	0.46	0.39	0.62	0.14
24	0.22	0.23	0.22	0.21	0.29	0.32	0.33	0.22	0.22	0.22	0.26	0.29	0.36
25	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.01	0.02
28	0.41	0.39	0.34	0.35	0.26	0.18	0.66	0.49	0.64	0.07	0.07	0.13	0.11
29	0.28	0.29	0.26	0.26	0.31	0.30	0.41	0.26	0.28	0.27	0.36	0.28	0.39
30	0.75	0.74	0.74	0.59	0.45	0.41	0.53	0.52	0.51	0.67	0.61	0.43	0.34
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Tot	3.93	3.98	3.67	3.59	3.51	3.01	4.42	3.60	3.61	3.25	3.28	3.50	4.76

Table 3.2F. Palisades Network  
Greatest precipitation received in a given period for  
June 1976

Station	1-Hour			3-Hour			6-Hour			12-Hour			24-Hour		
	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time
	(in.)	began		(in.)	began		(in.)	began		(in.)	began		(in.)	began	
P01A	0.49	15	1600	0.70	22	1600	0.70	22	1600	0.70	22	0700	0.99	22	1600
P02A	0.65	15	1600	0.72	15	1600	0.72	15	1600	0.72	15	1600	0.94	29	1300
P03A	0.45	15	1600	0.66	22	1600	0.66	22	1600	0.69	30	0300	0.94	29	1400
P04A	0.40	15	1600	0.69	22	1600	0.70	22	1600	0.70	22	1600	0.91	22	1600
P05A	0.37	22	1600	0.72	22	1600	0.72	22	1600	0.72	22	1600	0.83	22	1600
P06A	0.25	22	1800	0.45	22	1700	0.45	22	1700	0.51	18	1400	0.61	29	1900
P07A	0.56	28	2200	0.61	22	1600	0.61	22	1300	0.62	23	1600	1.07	22	1700
P08A	0.48	15	1600	0.72	15	1600	0.74	15	1600	0.74	15	1600	0.74	15	1600
P09A	0.78	15	1600	0.87	15	1600	0.87	15	1500	0.87	15	1500	0.87	14	1900
P10A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
P11A	0.29	22	1600	0.53	22	1600	0.54	22	1500	0.55	30	1100	0.85	29	1400
P12A	0.33	23	1600	0.60	23	1500	0.60	23	1500	0.69	23	1500	0.82	23	1500
P13A	0.76	12	0100	1.28	12	0100	1.29	12	0100	1.30	12	0100	1.30	12	0100

Table 3.3F. Palisades Network:  
Precipitation accumulated in each hour (EST) for  
June 1976

Precipitation (inches) accumulated in each hour interval ending at																										
Sta	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	Total	
P01A	.03	.06	.03	.06	.02	.02	.00	.00	.00	.01	.48	.21	.13	.03	.36	.98	.51	.17	.08	.08	.37	.09	.16	.05	3.94	
P02A	.02	.04	.01	.04	.03	.03	.01	.00	.00	.00	.37	.31	.12	.05	.26	1.21	.39	.30	.07	.10	.19	.26	.10	.05	3.98	
P03A	.01	.08	.02	.04	.02	.02	.01	.00	.00	.03	.40	.26	.05	.08	.20	1.08	.47	.15	.09	.12	.05	.33	.11	.04	3.67	
P04A	.01	.14	.01	.05	.00	.02	.01	.00	.01	.03	.12	.33	.16	.05	.29	1.13	.28	.25	.07	.08	.34	.07	.09	.04	3.60	
P05A	.03	.22	.02	.03	.01	.00	.00	.00	.07	.03	.23	.13	.12	.06	.19	1.09	.32	.29	.12	.12	.09	.19	.10	.03	3.51	
P06A	.03	.20	.08	.07	.01	.00	.00	.00	.00	.09	.04	.14	.12	.06	.19	.57	.40	.38	.09	.14	.13	.12	.13	.02	3.01	
P07A	.03	.06	.04	.08	.01	.01	.02	.01	.01	.09	.05	.05	.21	.09	.19	1.02	.72	.42	.20	.05	.16	.62	.04	.25	4.41	
P08A	.02	.01	.03	.03	.04	.05	.02	.00	.00	.02	.26	.16	.08	.09	.25	.97	.47	.23	.13	.10	.04	.49	.09	.03	3.60	
P09A	.02	.02	.03	.02	.01	.00	.00	.00	.01	.06	.26	.17	.12	.07	.16	1.12	.29	.27	.09	.08	.19	.45	.13	.02	3.61	
P10A	.02	M	M	M	M	M	M	M	M	M	M	M	M	M	M	.51	.78	.35	.12	.10	.10	.07	.07	.08	.03	M
P11A	.02	.14	.01	.03	.02	.03	.01	.00	.01	.01	.26	.24	.14	.05	.30	.99	.25	.20	.14	.13	.09	.05	.07	.07	3.28	
P12A	.01	.32	.00	.04	.02	.00	.02	.01	.03	.08	.04	.25	.10	.04	.34	1.19	.35	.11	.17	.08	.11	.08	.06	.05	3.50	
P13A	.79	.59	.03	.02	.02	.02	.00	.00	.00	.11	.13	.16	.04	.04	.39	1.19	.50	.18	.21	.06	.13	.04	.07	.03	4.76	
ave	.08	.16	.03	.04	.02	.02	.01	.00	.01	.05	.22	.20	.11	.06	.28	1.02	.41	.24	.12	.10	.15	.22	.09	.06	3.69	

Table 3.1G. Palisades Network: Daily Total Precipitation (Inches) for July 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.04	0.05	0.05	0.06	0.06	0.05	0.04	0.04	0.05	0.04	0.04	0.04	0.04
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.13	0.11	0.09	0.07	0.09	0.11	0.09	0.19	0.12	0.05	0.04	0.03	0.04
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.93	0.96	0.91	0.81	0.91	1.29	1.15	1.24	1.49	0.93	1.03	0.98	1.31
21	0.10	0.10	0.16	0.10	0.16	0.22	0.02	0.15	0.07	0.08	0.07	0.07	0.07
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.32	0.36	0.29	0.39	0.52	0.51	0.32	0.60	0.61	0.25	0.19	0.20	0.06
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	1.92	1.96	1.90	2.10	2.22	2.38	2.63	2.10	2.32	1.89	1.88	1.55	1.56
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.35	0.35	0.25	0.24	0.18	0.34	0.28	0.30	0.28	0.22	0.18	0.30	0.33
29	0.06	0.03	0.03	0.00	0.00	0.00	0.00	0.03	0.04	0.00	0.00	0.00	0.00
30	0.44	0.49	0.57	0.49	0.24	0.15	0.08	0.46	0.23	1.01	1.27	1.59	1.46
31	0.18	0.17	0.30	0.24	0.35	0.36	0.35	0.35	0.31	0.29	0.27	0.31	0.33
Tot	4.47	4.58	4.55	4.50	4.73	5.41	4.96	5.46	5.52	4.76	4.97	5.07	5.20

Table 3.2G. Palisades Network  
Greatest precipitation received in a given period for  
July 1976

Station	1-Hour		3-Hour		6-Hour		12-Hour		24-Hour	
	amt.	day time	amt.	day time	amt.	day time	amt.	day time	amt.	day time
	(in.)	began	(in.)	began	(in.)	began	(in.)	began	(in.)	began
P01A	1.77	26 2200	1.92	26 2100	1.92	26 2100	1.92	26 2100	1.92	26 2100
P02A	1.51	26 2200	1.95	26 2100	1.96	26 2100	1.96	26 2100	1.96	26 2100
P03A	1.87	26 2200	1.90	26 2200	1.90	26 2200	1.90	26 2200	1.90	26 2200
P04A	1.63	26 2200	2.10	26 2100	2.10	26 2100	2.10	26 2100	2.10	26 2100
P05A	1.64	26 2200	2.22	26 2100	2.22	26 2000	2.22	26 2000	2.22	26 2000
P06A	2.34	26 2200	2.38	26 2200	2.38	26 2200	2.38	26 2200	2.38	26 2200
P07A	2.50	26 2200	2.63	26 2100	2.63	26 2000	2.63	26 2000	2.63	26 2000
P08A	2.06	26 2200	2.10	26 2100	2.10	26 2000	2.10	26 2000	2.10	26 2000
P09A	1.62	26 2200	2.32	26 2100	2.32	26 2000	2.32	26 2000	2.32	26 2000
P10A	1.83	26 2200	1.89	26 2200	1.89	26 2000	1.89	26 2000	1.89	26 2000
P11A	1.74	26 2200	1.88	26 2200	1.88	26 2200	1.88	26 2200	1.88	26 2200
P12A	1.59	30 2400	1.75	30 2400	1.75	30 2400	1.89	30 2400	1.90	30 2400
P13A	1.45	30 2400	1.69	30 2400	1.71	30 2400	1.78	30 2400	1.79	30 1600

Table 3.3g Palisades Network:  
Precipitation accumulated in each hour (EST) for  
July 1976

Sta	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	Total
P01A	.17	.08	.01	.01	.04	.01	.00	.00	.02	.00	.25	.04	.07	.00	.00	.02	.36	.38	.21	.12	.19	1.98	.09	.45	4.47
P02A	.15	.05	.01	.01	.03	.00	.00	.01	.03	.10	.15	.09	.00	.00	.02	.03	.29	.40	.26	.11	.45	1.77	.22	.40	4.57
P03A	.27	.09	.01	.06	.00	.01	.00	.00	.02	.02	.14	.04	.06	.00	.01	.04	.51	.26	.10	.10	.05	2.07	.09	.57	4.54
P04A	.19	.07	.02	.00	.02	.00	.00	.00	.02	.06	.07	.05	.07	.00	.00	.04	.24	.38	.18	.06	.32	1.87	.38	.45	4.51
P05A	.30	.08	.01	.02	.01	.00	.00	.00	.08	.01	.05	.06	.02	.01	.02	.04	.24	.31	.31	.10	.64	2.01	.15	.24	4.73
P06A	.23	.22	.04	.03	.00	.00	.00	.00	.09	.13	.17	.04	.01	.00	.00	.03	.26	.37	.43	.25	.05	2.42	.47	.18	5.42
P07A	.20	.06	.04	.06	.00	.00	.01	.01	.08	.01	.24	.04	.00	.00	.00	.01	.15	.56	.34	.18	.04	2.55	.33	.06	4.96
P08A	.32	.07	.01	.00	.00	.00	.00	.00	.12	.07	.15	.04	.04	.00	.01	.04	.69	.26	.17	.27	.08	2.65	.01	.46	5.47
P09A	.28	.09	.01	.01	.00	.00	.00	.00	.03	.05	.18	.03	.02	.00	.00	.05	.06	.83	.24	.36	.70	2.09	.25	.23	5.53
P10A	.13	.10	.08	.02	.00	.00	.03	.02	.02	.02	.09	.05	.07	.01	.00	.06	.27	.46	.11	.08	.04	2.01	.06	1.02	4.76
P11A	.12	.07	.09	.01	.00	.00	.04	.01	.03	.01	.09	.04	.04	.00	.00	.02	.05	.15	.15	.72	.02	1.79	.25	1.27	4.97
P12A	.11	.10	.05	.00	.00	.00	.06	.00	.06	.07	.16	.05	.03	.00	.00	.04	.11	.43	.29	.16	.04	1.62	.09	1.59	5.08
P13A	.18	.09	.03	.01	.01	.01	.01	.01	.03	.08	.18	.08	.01	.00	.00	.08	.05	.50	.68	.05	.04	1.47	.18	1.45	5.21
ave	.20	.09	.03	.02	.01	.00	.01	.00	.05	.05	.15	.05	.03	.00	.01	.04	.25	.41	.27	.20	.20	2.02	.20	.64	4.94

Table 3.1H. Palisades Network: Daily Total Precipitation (Inches) for August 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.08	0.09	0.08	0.10	0.13	0.10	0.05	0.05	0.05	0.08	0.11	0.04	0.05
6	0.09	0.10	0.08	0.10	0.09	0.09	0.04	0.07	0.05	0.14	0.17	0.14	0.13
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.08	0.07	0.06	0.07	0.06	0.05	0.06	0.07	0.06	0.05	0.06	0.06	0.06
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.41	0.47	0.52	0.49	0.54	0.47	0.28	0.39	0.32	0.57	0.75	0.78	0.47
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.08	*	0.05	0.04	0.04	0.02	0.01	0.06	0.04	0.04	0.08	0.10	0.07
28	0.31	(0.42)	0.35	0.37	0.28	0.36	0.27	0.31	0.33	0.37	0.32	0.28	0.24
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot	1.05	(1.15)	1.14	1.17	1.14	1.09	0.71	0.95	0.85	1.25	1.49	1.40	1.06



Table 3.2H. Palisades Network  
Greatest precipitation received in a given period for  
August 1976

Station	1-Hour			3-Hour			6-Hour			12-Hour			24-Hour		
	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time
	(in.)	began		(in.)	began		(in.)	began		(in.)	began		(in.)	began	
P01A	0.22	14 0400		0.34	14 0300		0.41	14 0300		0.41	14 0300		0.41	14 0300	
P02A	M	M M		M	M M		M	M M		M	M M		M	M M	
P03A	0.22	14 0400		0.42	14 0300		0.52	14 0400		0.52	14 0200		0.52	14 0200	
P04A	0.27	14 0400		0.39	14 0400		0.49	14 0300		0.49	14 0300		0.49	14 0300	
P05A	0.31	14 0400		0.42	14 0300		0.54	14 0400		0.54	14 0200		0.54	14 0200	
P06A	0.25	28 0700		0.36	28 0700		0.47	14 0300		0.47	14 0300		0.47	14 0300	
P07A	0.19	14 0500		0.27	28 0600		0.28	14 0400		0.28	14 0400		0.28	27 1000	
P08A	0.24	14 0400		0.33	14 0300		0.39	14 0300		0.39	14 0300		0.39	14 0300	
P09A	0.16	28 0600		0.33	28 0600		0.33	28 0600		0.33	28 0500		0.36	27 0900	
P10A	0.23	14 0400		0.42	14 0400		0.57	14 0300		0.57	14 0200		0.57	14 0200	
P11A	0.47	14 0400		0.58	14 0300		0.75	14 0200		0.75	14 0200		0.75	14 0200	
P12A	0.35	14 0500		0.57	14 0500		0.78	14 0400		0.78	14 0200		0.78	14 0200	
P13A	0.16	14 0500		0.38	14 0400		0.47	14 0400		0.47	14 0200		0.47	14 0200	

Table 3.3H. Palisades Network:  
Precipitation accumulated in each hour (EST) for  
August 1976

Precipitation (inches) accumulated in each hour interval ending at																										
Sta	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	Total	
P01A	.00	.00	.04	.28	.17	.16	.24	.05	.11	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.06	
P02A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
P03A	.00	.00	.00	.23	.30	.21	.28	.05	.06	.01	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.15	
P04A	.00	.01	.04	.31	.16	.24	.31	.02	.06	.02	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.18	
P05A	.00	.00	.00	.36	.17	.16	.31	.06	.07	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.15	
P06A	.00	.00	.00	.18	.18	.10	.42	.14	.05	.02	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.09	
P07A	.00	.00	.00	.04	.21	.13	.24	.06	.02	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.71	
P08A	.00	.00	.02	.28	.12	.13	.25	.06	.06	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.95	
P09A	.00	.00	.06	.19	.11	.20	.20	.02	.04	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.85	
P10A	.00	.00	.02	.26	.27	.25	.30	.07	.06	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.25	
P11A	.00	.01	.01	.50	.22	.12	.44	.04	.11	.02	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.48	
P12A	.00	.00	.02	.24	.43	.04	.48	.04	.09	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.41	
P13A	.00	.00	.01	.18	.23	.16	.23	.09	.12	.01	.00	.00	.00	.00	.04	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.07	
ave	.00	.00	.02	.25	.21	.16	.31	.06	.07	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.11	

Table 3.11. Palisades Network: Daily Total Precipitation (Inches) for Sept 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.92	*	0.79	0.68	0.59	0.70	1.25	0.79	0.59	0.77	0.61	0.51	0.70
10	0.00	(0.90)	0.01	0.02	0.00	0.00	0.02	0.01	0.01	0.02	0.03	0.01	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.13	0.10	0.04	0.01	0.00	0.00	0.00	0.10	0.08	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.07	0.09	0.09	0.11	0.09	0.09	0.11	0.08	0.09	0.07	0.07	0.10	0.10
20	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01
21	0.02	0.04	0.00	0.03	0.07	0.13	0.05	0.06	0.05	0.00	0.00	0.00	0.00
22	0.04	0.04	0.03	0.04	0.03	0.02	0.02	0.04	0.04	0.02	0.02	0.01	0.00
23	0.04	0.03	0.03	0.03	0.03	0.05	0.03	0.03	0.03	0.05	0.04	0.04	0.03
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.83	0.83	0.80	0.72	0.79	0.83	0.86	0.78	0.73	0.82	0.82	0.81	0.77
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot	2.06	(2.03)	1.79	1.65	1.61	1.82	2.34	1.89	1.62	1.76	1.59	1.49	1.61

Table 3.2I. Palisades Network  
Greatest precipitation received in a given period for  
Sept. 1976

Station	1-Hour			3-Hour			6-Hour			12-Hour			24-Hour		
	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time
	(in.)	began		(in.)	began		(in.)	began		(in.)	began		(in.)	began	
P01A	0.23	9	0600	0.39	9	0600	0.56	9	0600	0.78	9	0600	0.92	9	0600
P02A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
P03A	0.17	9	1200	0.30	9	1000	0.45	9	0700	0.73	26	0400	0.80	26	0100
P04A	0.16	9	1200	0.28	9	1000	0.39	9	0700	0.63	26	0400	0.72	26	0100
P05A	0.15	9	1100	0.30	9	1100	0.40	9	0800	0.69	26	0400	0.79	26	0100
P06A	0.16	9	1200	0.30	9	1100	0.50	9	0700	0.74	26	0400	0.83	25	2300
P07A	0.27	9	2400	0.61	9	0700	0.86	9	0700	0.98	9	0700	1.26	9	0700
P08A	0.18	9	1200	0.31	9	1100	0.46	9	0700	0.72	26	0400	0.79	9	0600
P09A	0.17	9	1100	0.26	9	1100	0.37	9	0700	0.68	26	0400	0.73	26	0100
P10A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
P11A	0.22	9	1200	0.28	9	1200	0.40	9	0700	0.71	26	0400	0.82	26	0100
P12A	0.16	9	1100	0.29	9	1100	0.38	26	0300	0.72	26	0400	0.81	26	0100
P13A	0.18	9	1200	0.34	9	0600	0.52	9	0700	0.66	9	0500	0.77	26	0100

Table 3.3I. Palisades Network:  
Precipitation accumulated in each hour (EST) for  
Sept. 1976

Precipitation (inches) accumulated in each hour interval ending at																									
Sta	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	Total
P01A	.05	.02	.04	.04	.05	.35	.22	.12	.04	.03	.21	.22	.10	.13	.05	.00	.00	.00	.00	.17	.04	.00	.13	.04	2.06
P02A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
P03A	.04	.01	.03	.04	.05	.28	.17	.10	.05	.01	.18	.25	.09	.13	.07	.01	.00	.00	.00	.07	.06	.00	.10	.04	1.80
P04A	.04	.03	.03	.03	.06	.20	.13	.09	.04	.05	.17	.24	.07	.14	.04	.00	.01	.01	.01	.10	.02	.01	.11	.04	1.65
P05A	.03	.02	.05	.04	.05	.14	.12	.09	.05	.09	.20	.19	.10	.11	.08	.01	.01	.01	.01	.05	.04	.01	.08	.03	1.62
P06A	.03	.01	.04	.03	.03	.12	.21	.10	.10	.12	.15	.24	.11	.12	.08	.04	.01	.03	.00	.03	.06	.00	.10	.03	1.82
P07A	.01	.00	.05	.06	.04	.11	.36	.32	.13	.05	.09	.31	.16	.13	.06	.01	.01	.03	.00	.02	.08	.00	.00	.29	2.34
P08A	.03	.01	.05	.05	.08	.17	.17	.09	.07	.07	.16	.26	.10	.15	.05	.00	.00	.00	.04	.10	.04	.01	.15	.05	1.89
P09A	.03	.00	.03	.04	.05	.14	.12	.15	.04	.06	.22	.15	.09	.13	.05	.01	.00	.00	.06	.09	.03	.00	.09	.04	1.62
P10A	.04	.03	.04	.04	.09	.19	.15	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
P11A	.04	.04	.04	.04	.08	.19	.12	.10	.05	.02	.09	.31	.10	.11	.06	.01	.02	.01	.00	.04	.04	.00	.06	.03	1.60
P12A	.03	.02	.05	.04	.10	.12	.09	.10	.04	.03	.23	.19	.10	.11	.04	.01	.03	.00	.00	.05	.04	.00	.06	.01	1.49
P13A	.02	.02	.04	.04	.06	.18	.25	.15	.04	.01	.07	.28	.07	.10	.05	.02	.02	.02	.00	.02	.06	.03	.04	.01	1.61
ave	.03	.02	.04	.04	.06	.18	.17	.13	.06	.05	.16	.24	.10	.12	.06	.01	.01	.01	.01	.07	.05	.01	.09	.06	1.78

Table 3.1J. Palisades Network: Daily Total Precipitation (Inches) for October 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.26	0.27	0.25	0.22	0.24	0.22	0.29	0.24	0.19	0.25	0.24	0.24	0.24
6	0.56	0.52	0.52	0.55	0.54	0.63	0.68	0.55	0.53	0.50	0.56	0.55	0.65
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.40	0.39	0.35	0.25	0.13	0.05	0.02	0.28	0.17	0.30	0.23	0.15	0.06
17	0.06	0.06	0.06	0.06	0.07	0.01	0.00	0.08	0.02	0.07	0.07	0.07	*
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	*
19	0.07	0.10	0.07	0.09	0.09	0.11	0.07	0.07	0.08	0.07	0.10	0.10	(0.15)
20	0.01	0.01	0.03	0.04	0.08	0.07	0.00	0.07	0.07	0.02	0.01	0.03	0.01
21	0.09	0.07	0.06	0.07	0.10	0.16	0.28	0.18	0.08	0.07	0.10	0.12	0.15
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.01	0.03	0.01	0.01	0.02	0.03	0.01	0.01	0.03	0.02	0.04	0.02	0.03
24	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.53	0.53	0.49	0.50	0.50	0.53	0.51	0.51	0.52	0.52	0.49	0.49	0.48
31	0.06	0.06	0.06	0.05	0.04	0.04	0.06	0.06	0.05	0.05	0.05	0.04	0.04
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Tot	2.05	2.04	1.90	1.84	1.81	1.85	1.93	2.06	1.75	1.88	1.90	1.82	(1.81)

Table 3.2J. Palisades Network  
Greatest precipitation received in a given period for  
October 1976

Station	1-Hour			3-Hour			6-Hour			12-Hour			24-Hour		
	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time
	(in.)	began		(in.)	began		(in.)	began		(in.)	began		(in.)	began	
P01A	0.15	6	0400	0.36	6	0200	0.62	5	2300	0.77	5	2000	0.81	5	1300
P02A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
P03A	0.13	6	0400	0.32	6	0300	0.60	5	2400	0.73	5	2000	0.78	5	1400
P04A	0.15	6	0400	0.37	6	0200	0.63	5	2400	0.75	5	1900	0.77	5	1300
P05A	0.17	6	0400	0.37	6	0300	0.61	5	2400	0.78	5	2000	0.78	5	2000
P06A	0.19	6	0400	0.45	6	0200	0.73	5	2400	0.85	5	1900	0.85	5	1400
P07A	0.22	6	0400	0.52	6	0200	0.75	5	2300	0.90	5	2100	0.97	5	1400
P08A	0.15	6	0400	0.35	6	0200	0.61	5	2400	0.76	5	2100	0.78	5	1400
P09A	0.15	6	0400	0.34	6	0200	0.59	5	2400	0.69	5	2000	0.72	5	1400
P10A	0.15	6	0400	0.36	6	0200	0.60	5	2300	0.72	5	2100	0.75	5	1400
P11A	0.13	6	0100	0.34	6	0100	0.65	5	2400	0.78	5	2000	0.81	5	1400
P12A	0.15	6	0400	0.37	6	0200	0.66	5	2300	0.79	5	2000	0.79	5	2000
P13A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M

Table 3.3J. Palisades Network:  
Precipitation accumulated in each hour (EST) for  
October 1976

Precipitation (inches) accumulated in each hour interval ending at																									
Sta	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	Total
P01A	.13	.11	.15	.23	.08	.09	.04	.02	.07	.09	.11	.03	.01	.07	.07	.11	.11	.13	.05	.04	.05	.05	.09	.13	2.03
P02A	.14	.08	.15	M	M	M	M	M	M	.08	.08	.04	.00	.05	.11	.10	.09	.09	.10	.05	.06	.06	.08	.16	M
P03A	.14	.10	.12	.19	.12	.08	.03	.01	.05	.06	.08	.06	.00	.06	.12	.09	.09	.10	.07	.03	.04	.06	.07	.13	1.90
P04A	.16	.10	.14	.19	.10	.07	.02	.03	.07	.03	.07	.01	.00	.06	.08	.09	.09	.09	.10	.05	.04	.04	.07	.14	1.84
P05A	.14	.09	.14	.21	.11	.04	.02	.02	.02	.02	.03	.03	.00	.07	.13	.09	.09	.15	.06	.03	.07	.08	.09	.10	1.81
P06A	.12	.12	.18	.23	.11	.06	.03	.05	.02	.00	.00	.00	.00	.07	.17	.12	.10	.11	.07	.03	.02	.04	.09	.13	1.87
P07A	.13	.15	.20	.24	.13	.04	.03	.03	.02	.01	.00	.00	.00	.05	.18	.14	.11	.05	.07	.04	.07	.07	.09	.09	1.94
P08A	.15	.11	.13	.20	.12	.10	.05	.01	.06	.06	.07	.02	.00	.07	.16	.09	.09	.09	.08	.02	.05	.08	.08	.13	2.04
P09A	.12	.12	.12	.20	.13	.05	.01	.01	.02	.04	.04	.04	.00	.07	.13	.11	.11	.08	.07	.03	.04	.05	.05	.11	1.75
P10A	.12	.09	.16	.21	.05	.05	.05	.03	.05	.05	.08	.04	.03	.07	.12	.10	.10	.08	.06	.03	.05	.06	.09	.12	1.88
P11A	.17	.09	.15	.19	.13	.07	.05	.02	.04	.04	.05	.03	.00	.05	.13	.09	.09	.10	.07	.04	.05	.06	.07	.14	1.90
P12A	.13	.10	.17	.19	.12	.08	.04	.02	.01	.03	.03	.02	.03	.06	.14	.09	.09	.06	.03	.02	.06	.06	.11	.12	1.81
P13A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
ave	.14	.10	.15	.21	.11	.07	.03	.02	.04	.04	.05	.03	.01	.06	.13	.10	.10	.09	.07	.03	.05	.06	.08	.13	1.90



Table 3.1K. Palisades Network: Daily Total Precipitation (Inches) for November 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.26	0.23	0.16	0.19	0.35	0.35	0.25	0.27	0.15	M	0.15	0.21	0.27
4	0.71	0.72	0.74	0.62	0.53	*	0.20	0.69	*	M	0.75	0.67	*
5	0.08	0.10	0.08	0.09	0.09	*	0.07	0.07	*	M	0.08	0.07	*
6	0.00	0.00	0.00	0.00	0.00	*	0.00	0.00	*	0.00	0.00	0.00	*
7	0.02	0.01	0.01	0.03	0.02	*	0.08	0.02	*	0.03	0.02	0.01	*
8	0.01	0.02	0.00	0.02	0.04	*	0.20	0.03	*	0.01	0.01	0.02	*
9	0.01	0.01	0.02	0.02	0.02	(0.81)	0.04	0.00	(0.77)	0.00	0.00	0.01	(0.63)
10	0.33	0.30	0.29	0.27	0.21	0.28	0.40	0.24	0.20	0.32	0.29	0.25	0.22
11	0.37	0.35	0.31	0.31	0.29	0.33	0.36	0.35	0.28	0.26	0.26	0.27	0.23
12	0.03	0.05	0.04	0.07	0.06	0.08	0.03	0.05	0.08	0.06	0.07	0.10	0.08
13	0.01	0.02	0.02	0.02	0.00	0.02	0.02	0.02	0.01	0.02	0.01	0.01	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.00
21	0.13	0.13	0.09	0.10	0.12	0.15	0.15	0.11	0.09	0.10	0.12	0.11	0.11
22	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.47	0.39	0.41	0.44	0.40	0.33	0.35	0.50	0.41	0.34	0.36	0.36	0.35
27	0.35	0.44	0.35	0.26	0.31	0.37	0.54	0.33	0.33	0.41	0.33	0.35	0.42
28	0.04	0.03	0.03	0.02	0.03	0.01	0.00	0.00	0.00	0.03	0.02	0.01	0.01
29	0.09	0.10	0.03	0.06	0.10	0.06	0.16	0.11	0.10	0.06	0.07	0.05	0.03
30	0.04	0.06	0.02	0.02	0.05	0.03	0.10	0.02	0.06	0.02	0.03	0.01	0.00
Tot	2.95	2.96	2.62	2.54	2.62	(2.82)	2.97	2.84	(2.49)	M	2.58	2.51	(2.35)

Table 3.2K. Palisades Network  
Greatest precipitation received in a given period for  
November 1976

Station	1-Hour			3-Hour			6-Hour			12-Hour			24-Hour		
	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time
	(in.)	began		(in.)	began		(in.)	began		(in.)	began		(in.)	began	
P01A	0.24	27	0100	0.50	26	2300	0.66	26	2100	0.76	3	2200	0.96	3	1700
P02A	0.23	27	0100	0.44	26	2300	0.65	26	2200	0.76	3	2400	0.95	3	2000
P03A	0.21	27	0100	0.43	26	2300	0.62	26	2100	0.69	4	0100	0.90	3	2000
P04A	0.16	27	0100	0.37	26	2400	0.53	26	2100	0.61	4	0100	0.81	3	1700
P05A	0.14	27	0200	0.38	26	2400	0.53	26	2100	0.60	3	2000	0.88	3	2000
P06A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
P07A	0.29	27	0100	0.51	27	0100	0.63	26	2100	0.68	26	2100	0.85	26	0500
P08A	0.18	27	0100	0.44	26	2300	0.61	26	2100	0.65	4	0100	0.95	3	2000
P09A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
P10A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
P11A	0.17	27	0100	0.39	26	2400	0.53	26	2100	0.70	4	0100	0.89	3	2000
P12A	0.18	27	0100	0.41	26	2400	0.54	26	2100	0.65	4	0100	0.89	3	2000
P13A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M

**Table 3.3K Palisades Network:**

Precipitation accumulated in each hour (EST) for  
November 1976

Sta	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	Total
P01A	.48	.28	.08	.08	.14	.07	.04	.18	.22	.13	.05	.05	.03	.05	.01	.01	.06	.05	.02	.02	.06	.26	.37	.22	2.97
P02A	.47	.37	.15	.07	.14	.11	.06	.20	.23	.13	.07	.02	.03	.04	.01	.01	.02	.05	.01	.04	.13	.09	.35	.15	2.96
P03A	.41	.28	.11	.04	.09	.06	.03	.08	.21	.17	.12	.11	.05	.04	.01	.01	.05	.02	.02	.05	.10	.19	.28	.11	2.62
P04A	.36	.26	.11	.03	.17	.06	.04	.08	.23	.18	.08	.07	.01	.03	.01	.01	.02	.04	.01	.03	.14	.19	.20	.17	2.54
P05A	.33	.32	.07	.05	.10	.05	.05	.09	.18	.17	.09	.05	.10	.04	.01	.01	.02	.02	.01	.06	.17	.23	.26	.15	2.61
P06A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
P07A	.40	.34	.21	.08	.16	.11	.06	.12	.23	.13	.02	.11	.02	.02	.04	.03	.09	.06	.07	.02	.12	.15	.18	.21	2.98
P08A	.40	.23	.13	.06	.10	.08	.03	.11	.22	.19	.10	.07	.05	.02	.01	.00	.11	.01	.01	.02	.19	.18	.29	.22	2.83
P09A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
P10A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
P11A	.33	.36	.12	.04	.09	.06	.04	.07	.21	.21	.13	.08	.07	.03	.01	.01	.05	.06	.01	.05	.09	.10	.23	.14	2.59
P12A	.38	.32	.05	.02	.10	.04	.04	.07	.18	.25	.16	.10	.03	.03	.01	.01	.01	.03	.01	.06	.15	.14	.23	.08	2.51
P13A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
ave	.40	.31	.11	.05	.12	.07	.04	.11	.21	.17	.09	.07	.04	.03	.01	.01	.05	.04	.02	.04	.13	.17	.27	.16	2.74

Table 3.1L. Palisades Network: Daily Total Precipitation (Inches) for December 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	0.11	0.11	0.06	0.10	0.09	0.07	0.03	0.09	0.06	0.11	0.13	0.05	0.06
2	*	0.10	*	0.08	0.10	0.07	0.08	0.08	0.06	0.07	0.09	0.05	0.05
3	*	*	(0.12)	0.11	0.05	0.08	0.07	0.09	0.02	0.09	0.08	0.06	0.06
4	*	*	0.00	0.00	0.01	0.02	0.02	0.03	0.02	0.03	0.01	0.01	0.02
5	*	*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	*	*	0.20	0.24	0.24	0.21	0.18	0.29	0.20	0.23	0.15	0.21	0.21
7	*	(0.37)	0.01	0.00	0.01	0.02	0.02	0.00	0.00	0.01	0.00	0.00	0.00
8	*	0.02	0.01	0.01	0.01	0.01	0.02	0.01	0.00	0.02	0.03	0.02	0.01
9	*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	(0.51)	0.02	0.01	0.00	0.00	0.00	0.00	0.02	0.00	0.01	0.00	0.02	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.17	0.18	0.13	0.15	0.17	0.13	0.09	0.14	0.15	0.15	0.15	0.15	0.13
20	0.11	0.11	0.10	0.06	0.06	0.10	0.11	0.09	0.03	0.11	0.08	0.08	0.08
21	0.13	0.13	0.05	0.13	0.13	0.09	0.05	0.19	0.08	0.11	0.11	0.08	0.11
22	0.04	0.03	0.00	0.03	0.03	0.01	0.06	0.02	0.04	0.04	0.05	0.02	0.02
23	0.19	0.16	0.07	0.09	0.09	0.09	0.13	0.17	0.18	0.12	0.08	0.07	0.06
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.07	0.07	0.04	0.03	0.06	0.08	0.06	0.05	0.06	0.04	0.02	0.05	0.04
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.12	0.10	0.05	0.07	0.11	0.10	0.07	0.09	0.05	0.07	M	0.05	0.06
29	0.12	0.09	0.05	0.08	0.11	0.12	0.25	0.08	0.10	0.09	M	0.07	0.07
30	0.24	0.28	0.17	0.21	0.17	0.18	0.10	0.21	0.17	0.24	M	0.17	0.16
31	0.12	0.06	0.07	0.07	0.07	0.08	0.06	0.08	0.06	0.08	M	0.07	M
Tot	(1.93)	(1.85)	(1.14)	1.46	1.51	1.46	1.40	1.73	1.28	1.62	M	1.23	M

Table 3.2L. Palisades Network  
Greatest precipitation received in a given period for  
December 1976

Station	1-Hour			3-Hour			6-Hour			12-Hour			24-Hour		
	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time	amt.	day	time
	(in.)	began		(in.)	began		(in.)	began		(in.)	began		(in.)	began	
P01A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
P02A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
P03A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
P04A	0.05	21	0400	0.09	19	2100	0.16	6	1500	0.24	6	1300	0.24	6	1300
P05A	0.05	19	2400	0.11	19	2200	0.17	19	1900	0.25	6	1400	0.25	6	1400
P06A	0.06	26	1200	0.09	6	2200	0.13	6	1800	0.23	6	1500	0.24	6	1500
P07A	0.04	22	2100	0.09	23	0600	0.13	6	1500	0.20	6	1500	0.25	29	0100
P08A	0.08	21	0500	0.12	21	0300	0.21	6	1500	0.29	6	1300	0.29	6	1300
P09A	0.11	23	0500	0.15	23	0400	0.18	23	0400	0.20	6	1400	0.23	22	1600
P10A	0.05	21	0500	0.11	30	2300	0.17	6	1500	0.23	6	1300	0.26	30	0200
P11A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
P12A	0.05	21	0400	0.10	19	2000	0.15	19	1900	0.21	6	1400	0.21	19	1900
P13A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M

Table 3.3L. Palisades Network:  
Precipitation accumulated in each hour (EST) for  
December 1976

Precipitation (inches) accumulated in each hour interval ending at																									
Sta	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	Total
P01A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
P02A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
P03A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	.02	.04	.05	.05	.06	.06	.06	M	M	M	M
P04A	.05	.03	.02	.08	.09	.02	.06	.06	.06	.08	.10	.05	.02	.04	.05	.04	.08	.07	.07	.06	.09	.08	.09	.07	1.48
P05A	.07	.05	.04	.06	.08	.04	.05	.07	.07	.07	.07	.07	.02	.02	.05	.05	.05	.06	.07	.07	.09	.07	.12	.11	1.51
P06A	.05	.05	.06	.07	.05	.05	.04	.06	.04	.10	.06	.11	.04	.03	.05	.05	.05	.05	.06	.07	.06	.09	.09	.11	1.47
P07A	.07	.06	.06	.05	.05	.04	.05	.10	.05	.07	.07	.07	.03	.03	.04	.05	.05	.05	.05	.05	.10	.06	.07	.09	1.41
P08A	.07	.05	.03	.05	.20	.05	.05	.08	.05	.05	.07	.09	.04	.02	.07	.07	.08	.07	.07	.06	.06	.08	.15	.11	1.70
P09A	.04	.02	.02	.07	.17	.06	.04	.04	.04	.04	.06	.07	.02	.02	.04	.05	.05	.06	.05	.05	.06	.07	.08	.06	1.28
P10A	.06	.02	.02	.04	.12	.05	.06	.08	.06	.06	.11	.07	.04	.03	.06	.06	.07	.08	.09	.06	.09	.08	.11	.11	1.61
P11A	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
P12A	.05	.04	.02	.06	.05	.02	.05	.04	.04	.08	.08	.04	.02	.03	.04	.05	.05	.05	.05	.06	.08	.08	.08	.06	1.23
P13A	.05	.05	.04	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
ave	.06	.04	.04	.06	.10	.04	.05	.06	.05	.07	.08	.07	.03	.03	.05	.05	.06	.06	.06	.06	.08	.07	.10	.09	1.46

#### IV. TEMPERATURE

Air temperature is measured with a hygrothermograph located in a standard instrument shelter. It is recorded in degrees Fahrenheit and reported to the nearest whole degree. The data are given in 3 tables for each month. The first table gives the daily maximum (midnight to midnight) for each station; the second gives the daily minimum; and the third gives the daily average temperature. Since a continuous record of temperature is obtained, the daily average temperature ( $\bar{T}$ ) is calculated using a finite-difference approximation to the equation

$$\bar{T} = 1/24 \int_0^{24} T(t) dt, \quad \text{where } T(t) \text{ is the}$$

variation of temperature with time and is assumed linear between data points. This method is used instead of the average of daily maximum and minimum temperatures normally listed in climatological summaries, since it is more accurate for comparing temperature data among stations.

At the bottom of each table, two sets of averages are given for each station. The top set of numbers is based on all data available for each station for that month. The bottom set is based on data only for days for which temperatures were recorded at all stations in operation during the month.

Table 4.1A. Palisades Network: Daily Maximum Temperatures (F) for January 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	36	38	37	36	37	36	35	38	38	M	37	37	36
2	39	39	39	38	37	37	38	38	39	M	38	37	37
3	29	28	29	28	27	28	27	28	29	M	28	28	27
4	19	18	17	16	16	17	18	17	18	M	18	17	16
5	19	23	21	20	20	20	20	21	21	M	21	19	20
6	35	34	34	34	34	32	32	33	M	M	33	34	33
7	33	32	32	32	32	31	30	31	M	31	32	32	32
8	17	16	14	15	14	14	15	15	M	14	14	15	15
9	21	20	18	18	18	17	17	18	M	18	17	18	17
10	24	25	23	23	22	22	22	22	M	23	23	24	23
11	33	34	32	32	32	32	32	32	M	32	31	33	32
12	36	35	35	34	34	34	34	34	M	34	34	34	34
13	35	36	34	33	34	34	34	34	M	33	34	34	34
14	30	29	29	30	29	28	28	29	M	29	29	29	28
15	35	35	35	34	34	34	34	35	35	35	34	34	34
16	35	35	36	35	35	34	34	35	35	36	35	35	34
17	20	22	20	21	21	24	23	21	25	20	21	19	24
18	20	24	21	21	21	21	21	21	22	21	22	20	20
19	33	33	34	33	34	32	33	33	34	34	33	33	32
20	33	33	34	33	33	32	32	33	M	34	33	33	32
21	27	27	27	26	26	26	26	26	M	27	26	26	26
22	26	26	26	25	25	25	26	25	M	25	24	26	25
23	25	26	26	24	25	26	23	26	M	26	26	25	26
24	31	32	32	30	32	30	29	31	M	31	31	30	31
25	29	30	29	29	30	29	28	29	M	30	30	29	30
26	31	32	32	30	32	31	29	31	M	32	31	31	31
27	24	24	23	25	21	23	20	23	M	24	23	22	22
28	33	34	35	35	34	34	33	34	M	34	34	34	34
29	35	35	36	37	35	36	34	36	M	35	35	35	35
30	27	32	30	30	29	29	27	31	M	28	29	29	30
31	28	30	29	29	28	28	26	29	M	28	30	28	28

## Averages and extremes for all data

Ave	29.0	29.6	29.0	28.6	28.4	28.3	27.7	28.7	29.6	28.6	28.6	28.4	28.3
Max	39	39	39	38	37	37	38	38	39	36	38	37	37
Min	17	16	14	15	14	14	15	15	18	14	14	15	15
Cases	31	31	31	31	31	31	31	31	10	25	31	31	31

## Averages and extremes for days with data from all stations having data for this month

Ave	28.6	29.8	29.2	28.8	29.0	29.0	29.0	29.0	30.2	29.2	29.0	28.2	28.8
Max	35	35	36	35	35	34	34	35	35	36	35	35	34
Min	20	22	20	21	21	21	21	21	22	20	21	19	20
Cases	5	5	5	5	5	5	5	5	5	5	5	5	5



Table 4.2A. Palisades Network: Daily Minimum Temperatures (F) for January 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	26	28	26	26	27	26	28	28	30	M	26	28	26
2	29	28	29	28	27	28	27	28	29	M	28	28	27
3	16	16	15	15	15	15	15	16	16	M	15	15	14
4	16	16	15	14	14	14	13	15	16	M	15	14	13
5	5	4	4	3	0	0	2	4	3	M	3	1	-2
6	15	17	18	17	16	17	16	18	M	M	17	17	15
7	13	12	11	11	11	11	11	11	M	11	11	12	11
8	13	12	11	10	10	10	5	0	M	11	10	11	6
9	15	13	12	9	8	6	7	11	M	9	9	9	6
10	9	9	9	7	6	6	7	6	M	8	7	7	5
11	24	25	23	23	22	22	22	22	M	23	23	24	23
12	25	24	23	22	22	23	23	23	M	22	22	23	22
13	30	29	29	29	29	28	28	29	M	29	29	29	28
14	23	22	21	21	21	20	21	20	M	21	21	20	20
15	18	18	17	16	16	17	17	17	18	18	16	16	16
16	14	14	13	13	12	10	11	13	14	13	14	12	11
17	4	8	3	2	5	2	4	4	6	2	3	6	3
18	8	8	10	9	9	9	9	9	9	10	9	9	8
19	18	18	18	17	17	16	17	17	19	17	18	17	16
20	14	13	14	12	12	12	12	13	M	12	12	12	12
21	15	14	15	14	14	14	13	14	M	13	13	14	13
22	14	13	14	12	13	12	9	12	M	12	12	13	12
23	14	13	13	12	12	12	9	12	M	12	12	13	12
24	13	16	15	14	15	14	12	15	M	14	14	14	14
25	11	18	12	15	15	15	18	15	M	11	14	16	18
26	21	22	21	20	20	18	16	21	M	22	21	21	19
27	12	14	14	14	12	13	11	12	M	13	13	11	10
28	-1	3	5	4	0	3	2	4	M	3	2	2	1
29	22	21	22	22	19	21	20	22	M	21	21	20	20
30	15	18	16	13	12	9	10	14	M	15	13	15	12
31	16	18	17	16	12	11	11	16	M	16	15	15	12

## Averages and extremes for all data

Ave	15.7	16.3	15.6	14.8	14.3	14.0	13.7	14.9	16.0	14.3	14.8	15.0	13.6
Max	30	29	29	29	29	28	28	29	30	29	29	29	28
Min	-1	3	3	2	0	0	2	0	3	2	2	1	-2
Cases	31	31	31	31	31	31	31	31	10	25	31	31	31

## Averages and extremes for days with data from all stations having data for this month

Ave	12.4	13.2	12.2	11.4	11.3	10.8	11.6	12.0	13.2	12.0	12.0	12.0	10.8
Max	18	18	18	17	17	17	17	17	19	18	18	17	16
Min	4	8	3	2	5	2	4	4	6	2	3	6	3
Cases	5	5	5	5	5	5	5	5	5	5	5	5	5

Table 4.3A. Palisades Network: Daily Average Temperatures (F) for January 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	32	32	32	31	32	31	32	32	33	M	32	32	31
2	34	33	33	32	32	32	32	32	33	M	33	33	32
3	21	21	21	20	19	20	20	20	21	M	20	20	20
4	18	17	16	15	15	15	16	16	17	M	16	16	15
5	14	14	14	13	12	13	13	14	15	M	14	13	11
6	27	26	26	26	26	26	25	26	M	M	26	26	25
7	23	23	22	22	22	21	21	21	M	21	22	22	22
8	15	14	13	12	13	12	11	12	M	13	12	13	12
9	18	16	16	14	14	13	13	15	M	15	13	14	13
10	18	17	16	15	14	15	15	16	M	16	15	16	15
11	28	29	27	27	27	27	27	27	M	27	27	28	27
12	30	30	29	28	28	28	28	28	M	28	29	29	28
13	33	33	32	32	32	32	32	32	M	32	32	32	31
14	26	25	25	25	25	24	24	25	M	25	24	24	24
15	25	25	25	25	25	25	24	25	26	26	25	25	25
16	26	26	25	25	25	25	24	26	25	26	26	25	25
17	14	14	13	12	13	13	13	13	15	13	13	12	12
18	15	15	15	14	14	14	14	14	15	15	15	14	14
19	28	27	28	27	27	27	26	27	28	28	27	27	27
20	26	26	27	26	25	26	25	26	M	26	25	25	24
21	24	24	24	23	23	23	22	23	M	23	23	23	22
22	22	21	21	20	20	20	18	21	M	21	20	21	20
23	18	19	19	18	18	18	15	19	M	19	18	18	18
24	20	23	23	21	22	22	20	22	M	22	22	21	22
25	24	25	25	24	25	24	24	25	M	24	24	24	25
26	27	28	28	27	27	27	25	27	M	28	27	27	27
27	20	21	20	20	19	20	17	20	M	20	19	19	19
28	20	22	22	22	20	21	19	21	M	21	21	20	19
29	27	27	27	27	25	27	25	27	M	26	26	26	26
30	22	23	23	23	21	21	20	22	M	22	22	22	22
31	25	25	26	25	24	24	22	25	M	25	25	24	24
Averages and extremes for all data													
Ave	23.3	23.2	23.1	22.3	22.0	22.1	21.4	22.5	22.8	22.4	22.3	22.3	21.8
Max	34	33	33	32	32	32	32	32	33	32	33	33	32
Min	14	14	13	12	12	12	11	12	15	13	12	12	11
Cases	31	31	31	31	31	31	31	31	10	25	31	31	31
Averages and extremes for days with data from all stations having data for this month													
Ave	21.6	21.6	21.3	20.6	20.7	20.7	20.2	20.9	21.7	21.5	21.1	20.6	20.4
Max	28	27	28	27	27	27	26	27	28	28	27	27	27
Min	14	14	13	12	13	13	13	13	15	13	13	12	12
Cases	5	5	5	5	5	5	5	5	5	5	5	5	5

Table 4.1B . Palisades Network: Daily Maximum Temperatures (F) for February 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	33	34	33	32	34	32	32	33	M	32	34	33	34
2	18	18	17	18	18	17	17	18	M	18	20	17	17
3	29	30	30	28	29	27	27	29	M	29	29	28	28
4	30	32	31	31	32	30	30	31	M	31	30	30	31
5	21	23	21	21	21	21	20	21	M	21	22	21	21
6	21	22	21	21	21	21	20	21	M	21	22	20	21
7	30	32	31	30	30	29	29	31	M	31	31	29	29
8	37	36	35	36	36	34	34	36	M	36	36	35	36
9	43	44	44	43	45	44	43	43	M	43	44	43	44
10	51	52	53	52	53	49	53	51	M	52	54	52	52
11	35	36	36	36	36	35	36	35	35	36	36	35	35
12	49	52	51	51	49	48	49	50	51	51	51	49	48
13	43	45	46	47	47	46	45	45	47	47	47	46	45
14	39	43	42	43	42	41	41	43	42	43	44	41	40
15	50	54	57	59	61	60	62	57	58	57	60	59	60
16	41	45	46	47	46	44	46	44	45	46	46	46	45
17	37	38	38	39	40	41	41	37	38	38	38	39	40
18	51	50	52	51	51	51	51	51	52	51	52	51	52
19	36	37	36	37	37	36	35	35	37	36	36	36	36
20	46	49	50	50	50	50	50	49	50	50	50	50	49
21	42	43	43	43	42	42	42	41	43	42	42	42	42
22	32	32	32	33	31	31	31	31	32	32	31	31	31
23	36	39	38	39	40	38	37	38	40	38	39	39	39
24	58	62	61	62	62	62	60	60	62	62	63	60	60
25	58	62	61	62	63	62	63	60	62	61	64	62	62
26	45	48	48	47	48	48	49	47	49	47	46	47	47
27	65	69	68	69	69	68	67	67	68	69	69	68	67
28	46	47	47	46	49	48	47	47	52	48	48	47	47
29	57	57	57	57	56	55	55	56	57	58	56	56	54

## Averages and extremes for all data

Ave	40.7	42.4	42.2	42.4	42.7	41.7	41.8	41.6	48.4	42.3	42.9	41.8	41.8
Max	65	69	68	69	69	68	67	67	68	69	69	68	67
Min	18	18	17	18	18	17	17	18	32	18	20	17	17
Cases	29	29	29	29	29	29	29	29	19	29	29	29	29

## Averages and extremes for days with data from all stations having data for this month

Ave	45.6	47.6	47.8	48.3	48.4	47.7	47.7	47.0	48.4	48.0	48.3	47.6	47.3
Max	65	69	68	69	69	68	67	67	68	69	69	68	67
Min	32	32	32	33	31	31	31	31	32	32	31	31	31
Cases	19	19	19	19	19	19	19	19	19	19	19	19	19

Table 4.2B. Palisades Network: Daily Minimum Temperatures (F) for February 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	7	8	8	6	7	5	5	7	M	6	7	6	6
2	1	3	3	1	-2	-1	0	1	M	1	3	2	-1
3	-5	0	-2	-2	-5	-4	-2	-2	M	-3	-1	-3	-4
4	5	14	4	5	13	4	10	5	M	4	8	14	11
5	15	16	12	14	15	12	14	14	M	14	17	15	14
6	8	13	9	8	10	6	9	8	M	8	9	12	9
7	13	20	19	18	18	16	11	17	M	19	19	17	13
8	9	17	9	10	12	6	11	8	M	10	10	15	12
9	7	16	6	8	8	5	9	6	M	6	8	13	13
10	34	34	35	34	35	34	36	34	M	34	35	34	34
11	22	28	27	27	26	25	28	24	27	25	26	27	25
12	23	28	29	29	28	27	30	26	28	28	29	28	27
13	23	26	24	24	25	25	25	21	27	23	24	26	25
14	13	18	14	15	16	18	18	13	19	12	15	19	19
15	33	37	37	38	37	36	37	35	36	36	36	36	36
16	27	32	27	29	30	30	33	27	32	26	28	32	32
17	33	34	34	34	34	33	33	33	34	34	35	32	33
18	35	35	36	35	36	35	35	35	37	34	36	36	35
19	31	33	33	33	33	32	31	32	34	32	33	33	32
20	24	28	25	25	28	28	29	23	29	23	23	29	29
21	32	32	32	32	31	31	31	31	32	32	31	31	31
22	23	23	23	24	23	22	20	22	24	23	23	23	22
23	18	20	20	20	21	18	15	18	21	17	18	21	20
24	33	37	37	38	37	35	36	37	39	37	36	37	36
25	38	46	44	46	44	44	44	44	47	43	46	46	45
26	26	32	27	29	31	31	32	27	32	27	28	35	34
27	29	36	30	31	33	31	31	30	33	30	31	35	35
28	27	34	34	32	32	29	28	32	34	33	32	32	30
29	35	35	35	36	35	36	36	34	36	35	36	36	35

## Averages and extremes for all data

Ave	21.3	25.3	23.1	23.4	23.8	22.4	23.3	22.1	31.6	22.4	23.5	24.8	23.7
Max	38	46	44	46	44	44	44	44	47	43	46	46	45
Min	-5	0	-2	-2	-5	-4	-2	-2	19	-3	-1	-3	-4
Cases	29	29	29	29	29	29	29	29	19	29	29	29	29

## Averages and extremes for days with data from all stations having data for this month

Ave	27.6	31.3	29.9	30.4	30.5	29.8	30.1	28.6	31.6	28.9	29.8	31.3	30.6
Max	38	46	44	46	44	44	44	44	47	43	46	46	45
Min	13	18	14	15	16	18	15	13	19	12	15	19	19
Cases	19	19	19	19	19	19	19	19	19	19	19	19	19

Table 4.3B. Palisades Network: Daily Average Temperatures (F) for February 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	21	21	21	19	20	18	19	20	M	19	21	19	19
2	12	13	12	11	10	7	8	12	M	11	12	9	8
3	11	14	13	12	12	11	11	11	M	12	13	11	11
4	22	24	22	21	23	21	21	22	M	21	22	22	22
5	18	20	18	18	19	18	18	18	M	18	19	18	18
6	17	19	18	17	18	17	16	17	M	17	18	17	17
7	22	24	23	22	23	22	20	23	M	23	24	22	21
8	29	31	29	29	30	28	28	29	M	29	30	30	30
9	27	31	28	29	28	28	29	28	M	28	30	29	30
10	42	43	43	43	43	42	43	42	M	43	44	42	43
11	31	33	33	33	33	32	33	32	33	33	34	33	32
12	42	43	44	44	42	41	42	43	43	43	44	42	42
13	34	36	36	36	36	36	38	35	37	36	37	36	37
14	28	31	29	31	30	30	31	29	31	29	31	30	30
15	43	46	47	49	49	48	50	47	48	48	49	49	49
16	36	38	37	38	38	37	38	36	38	36	37	38	37
17	35	35	36	36	35	35	35	35	36	35	36	35	35
18	39	39	39	39	39	38	39	38	40	39	40	39	39
19	34	35	35	35	35	34	34	34	36	34	35	35	34
20	37	40	39	39	40	39	40	38	41	38	39	40	40
21	36	36	37	37	36	36	36	35	37	36	36	36	36
22	27	28	28	29	28	27	27	27	29	28	27	28	27
23	28	30	30	31	30	29	28	29	31	30	29	30	29
24	45	49	49	49	49	48	47	48	49	49	49	48	48
25	50	54	54	54	53	52	53	52	54	53	54	53	53
26	37	42	40	40	41	41	42	39	42	39	40	42	42
27	45	50	49	49	50	48	48	49	50	50	50	50	50
28	35	39	38	39	40	40	39	38	40	39	39	40	40
29	41	42	42	43	43	44	45	42	43	43	43	43	43

## Averages and extremes for all data

Ave	31.9	34.1	33.4	33.5	33.6	32.7	33.1	32.6	39.8	33.0	33.9	33.3	33.1
Max	50	54	54	54	53	52	53	52	54	53	54	53	53
Min	11	13	12	11	10	7	8	11	29	11	12	9	8
Cases	29	29	29	29	29	29	29	29	19	29	29	29	29

## Averages and extremes for days with data from all stations having data for this month

Ave	37.0	39.3	39.0	39.5	39.5	38.7	39.2	38.1	39.8	38.8	39.5	39.3	39.1
Max	50	54	54	54	53	52	53	52	54	53	54	53	53
Min	27	28	28	29	28	27	27	27	29	28	27	28	27
Cases	19	19	19	19	19	19	19	19	19	19	19	19	19

55

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	35	35	36	37	35	37	36	35	37	36	37	36	36
2	40	40	40	41	39	38	38	40	39	40	41	40	39
3	43	45	47	48	48	46	45	45	47	47	48	47	46
4	64	65	65	67	66	66	66	66	66	66	65	66	66
5	52	53	54	54	53	54	54	54	54	54	53	54	53
6	M	37	M	38	37	37	37	37	37	37	37	37	36
7	36	37	M	37	36	35	35	36	36	37	35	34	36
8	M	39	M	39	39	M	38	38	38	37	39	38	38
9	41	44	44	44	45	45	46	44	43	44	46	45	46
10	37	37	38	38	37	38	37	38	37	37	37	37	38
11	44	46	45	45	44	45	43	45	43	44	46	43	45
12	58	58	59	59	59	57	58	58	58	58	59	58	59
13	33	34	34	34	34	34	34	34	34	34	34	34	35
14	40	41	41	43	42	42	42	41	41	40	43	42	43
15	36	36	36	36	37	37	35	36	36	35	37	35	38
16	33	33	34	33	34	32	32	34	33	33	34	32	32
17	29	30	31	32	31	31	29	31	31	32	31	30	31
18	62	63	61	62	61	61	59	62	60	62	62	62	60
19	68	72	71	72	73	71	70	72	71	72	73	71	71
20	70	70	69	70	69	69	67	70	69	69	69	68	68
21	41	43	44	46	46	46	46	44	45	44	45	46	46
22	38	41	40	41	42	41	41	40	41	40	43	41	41
23	55	57	57	58	58	57	56	57	57	57	59	57	56
24	72	71	70	71	70	69	69	70	69	69	70	69	69
25	59	61	61	61	61	61	59	60	59	61	62	60	60
26	78	78	76	76	76	75	74	77	75	76	76	75	74
27	62	62	63	64	63	63	61	62	61	62	63	63	62
28	58	59	58	58	58	58	56	59	57	57	60	56	56
29	M	54	55	55	55	54	54	55	54	54	55	54	54
30	M	67	66	67	65	67	66	66	67	68	68	64	66
31	M	48	46	46	47	46	47	46	46	47	47	45	47

### Averages and extremes for all data

Ave	49.4	50.2	51.5	50.7	50.3	50.4	49.4	50.1	49.7	50.0	50.8	49.6	49.9
Max	78	78	76	76	76	75	74	77	75	76	76	75	74
Min	29	30	31	32	31	31	29	31	31	32	31	30	31
Cases	26	31	28	31	31	30	31	31	31	31	31	31	31

Averages and extremes for days with data from all stations having data for this month

[illegible]

Table 4.2C. Palisades Network: Daily Minimum Temperatures (F) for March 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	31	31	32	32	32	33	31	31	32	31	33	31	30
2	34	33	35	35	34	34	34	34	35	33	34	34	33
3	33	32	33	33	33	33	33	33	33	32	33	32	32
4	32	32	33	33	32	33	32	32	33	32	32	32	31
5	30	30	30	31	30	30	30	30	30	29	29	30	29
6	M	22	M	22	21	21	21	21	22	21	21	21	21
7	27	28	M	29	27	26	24	28	28	28	27	27	26
8	M	22	M	23	22	M	20	22	23	22	21	22	22
9	19	24	22	24	23	24	26	22	28	21	23	26	26
10	21	25	22	23	23	23	22	21	22	22	21	25	25
11	15	18	15	16	17	19	18	14	18	14	15	20	21
12	33	34	34	34	34	34	34	34	34	34	34	34	35
13	20	22	22	22	22	22	22	21	22	21	20	23	24
14	31	31	33	30	28	26	27	31	30	29	29	28	28
15	28	28	28	28	28	26	24	28	29	27	29	28	29
16	22	23	23	23	24	21	19	23	22	22	23	22	22
17	21	21	22	22	22	21	19	21	21	21	22	20	21
18	29	30	31	31	31	30	29	31	30	31	31	30	30
19	48	51	52	53	53	52	50	53	52	52	53	53	52
20	41	43	44	46	46	46	46	44	45	44	45	46	46
21	26	26	26	24	23	21	19	23	23	24	21	23	23
22	17	19	16	18	20	19	18	16	19	16	17	21	20
23	23	30	24	26	29	27	29	24	30	23	26	32	31
24	42	46	48	49	47	45	46	47	47	47	47	47	45
25	35	41	43	43	43	37	39	41	42	42	43	44	42
26	43	49	53	54	52	52	52	51	50	52	53	52	52
27	32	34	35	34	34	33	32	34	34	34	34	34	33
28	26	28	26	27	27	29	28	26	27	25	26	30	29
29	M	43	43	43	43	42	42	43	42	42	43	43	42
30	M	41	41	41	41	42	41	41	40	42	40	41	42
31	M	37	35	37	36	37	36	36	37	37	34	36	37

## Averages and extremes for all data

Ave	29.2	31.4	32.2	31.8	31.5	31.3	30.4	30.8	31.6	30.6	30.9	31.8	31.6
Max	48	51	53	54	53	52	52	53	52	52	53	53	52
Min	15	18	15	16	17	19	18	14	18	14	15	20	20
Cases	26	31	28	31	31	30	31	31	31	31	31	31	31

## Averages and extremes for days with data from all stations having data for this month

Ave	29.3	31.2	31.3	31.6	31.5	30.8	30.4	30.6	31.5	30.3	30.9	31.9	31.6
Max	48	51	53	54	53	52	52	53	52	52	53	53	52
Min	15	18	15	16	17	19	18	14	18	14	15	20	20
Cases	25	25	25	25	25	25	25	25	25	25	25	25	25

Table 4.3C . Palisades Network: Daily Average Temperatures (F) for March 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	32	33	34	34	33	34	33	33	34	33	34	33	32
2	36	35	36	37	36	36	35	36	37	36	36	36	35
3	37	36	37	38	37	37	37	37	38	37	37	37	37
4	41	42	43	44	42	43	43	42	43	42	43	43	43
5	37	37	38	39	38	38	38	38	39	37	38	38	38
6	M	30	M	30	29	30	30	30	30	29	30	29	29
7	32	32	M	33	32	31	31	32	33	32	32	32	31
8	M	30	M	30	29	M	28	30	30	29	30	30	29
9	30	33	33	34	33	34	34	32	34	32	34	34	34
10	33	34	34	35	33	34	33	33	34	33	34	34	34
11	31	32	31	32	32	32	31	31	32	31	32	32	33
12	43	42	43	43	43	42	43	42	43	43	43	43	44
13	28	28	28	28	28	27	27	28	28	27	27	27	28
14	35	35	36	36	35	34	34	36	36	35	36	35	35
15	32	32	32	32	32	32	31	32	32	32	32	32	33
16	28	28	29	29	28	28	26	28	28	28	28	28	28
17	25	26	26	26	27	25	24	26	25	26	27	25	25
18	45	46	46	46	46	46	44	46	45	46	46	46	45
19	57	59	60	61	62	60	59	61	60	60	61	61	60
20	57	58	59	59	60	59	59	59	59	59	59	59	59
21	32	32	32	33	33	32	31	32	32	32	32	32	32
22	28	31	29	30	31	30	29	28	30	28	30	31	31
23	42	45	45	46	45	44	43	45	45	44	45	45	44
24	53	54	55	57	56	55	55	55	55	55	56	56	55
25	46	49	51	52	51	50	50	50	50	50	52	51	51
26	62	63	64	64	63	63	62	63	62	63	64	63	62
27	41	42	43	43	43	43	42	42	42	42	43	43	42
28	44	45	44	45	44	44	43	44	44	43	44	44	43
29	M	49	50	50	49	48	48	49	49	49	50	49	48
30	M	52	52	53	52	53	52	52	51	52	52	52	53
31	M	41	40	41	41	41	41	41	40	41	40	40	41

Averages and extremes for all data

Ave	38.7	39.8	41.1	40.6	40.1	40.1	39.3	39.7	39.9	39.6	40.3	39.9	39.9
Max	62	63	64	64	63	63	62	63	62	63	64	63	62
Min	25	26	26	26	27	25	24	26	25	26	27	25	25
Cases	26	31	28	31	31	30	31	31	31	31	31	31	31

Averages and extremes for days with data from all stations having data for this month

Ave	38.9	40.0	40.3	40.8	40.5	40.1	39.5	39.9	40.2	39.7	40.6	40.3	40.2
Max	62	63	64	64	63	63	62	63	62	63	64	63	62
Min	25	26	26	26	27	25	24	26	25	26	27	25	25
Cases	25	25	25	25	25	25	25	25	25	25	25	25	25



Table 4.1D. Palisades Network: Daily Maximum Temperatures (F) for April 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	M	38	37	38	39	38	38	38	39	39	38	38	39
2	M	48	45	48	49	51	51	47	47	48	49	49	51
3	M	72	68	70	71	70	68	70	70	70	72	70	70
4	M	48	45	47	49	50	52	48	47	48	47	48	49
5	M	56	55	56	57	57	56	56	57	57	58	56	58
6	M	55	52	55	57	57	58	55	54	55	57	56	57
7	47	50	47	49	52	53	54	50	49	50	51	52	53
8	42	42	39	42	43	44	46	42	42	42	42	41	44
9	45	47	44	47	50	51	53	47	47	48	49	48	51
10	62	65	63	64	65	65	64	65	64	65	66	65	65
11	41	41	39	41	42	44	45	42	43	42	43	42	45
12	42	43	40	42	44	44	45	43	42	42	43	43	44
13	62	63	61	63	64	64	64	62	63	63	65	63	64
14	76	79	76	78	78	78	79	78	77	78	79	77	78
15	79	80	78	81	81	80	80	80	80	81	81	80	80
16	85	85	82	83	83	83	83	83	83	84	84	82	82
17	83	85	80	82	82	81	82	82	82	83	83	81	81
18	82	84	80	81	81	81	81	81	81	82	81	80	81
19	57	58	55	59	59	59	61	57	58	60	59	59	60
20	60	60	58	60	60	61	61	60	60	62	60	60	61
21	70	70	67	70	69	71	69	69	70	70	70	69	70
22	62	64	62	64	64	64	64	61	61	65	64	65	64
23	64	62	59	62	62	64	63	62	62	64	63	63	63
24	61	61	58	60	59	61	59	59	59	61	60	60	60
25	44	44	42	44	43	44	44	43	43	44	43	45	45
26	40	40	36	39	39	39	38	39	39	38	39	38	39
27	41	45	40	41	42	43	42	42	41	42	42	41	41
28	51	50	47	48	49	50	50	49	48	50	50	49	49
29	54	59	55	55	58	59	58	56	56	56	57	57	59
30	60	61	59	60	62	62	61	60	61	60	62	62	62

## Averages and extremes for all data

Ave	58.8	58.5	55.6	57.6	58.4	58.9	59.0	57.5	57.5	58.3	58.6	58.0	58.8
Max	85	85	82	83	83	83	83	83	83	84	84	82	82
Min	40	38	36	38	39	38	38	38	39	38	38	38	39
Cases	24	30	30	30	30	30	30	30	30	30	30	30	30

## Averages and extremes for days with data from all stations having data for this month

Ave	58.8	59.9	57.0	59.0	59.6	60.2	60.3	58.8	58.8	59.7	59.8	59.3	60.0
Max	85	85	82	83	83	83	83	83	83	84	84	82	82
Min	40	40	36	39	39	39	38	39	39	38	39	38	39
Cases	24	24	24	24	24	24	24	24	24	24	24	24	24

Table 4.2D. Palisades Network: Daily Minimum Temperatures (F) for April 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	M	34	33	34	35	35	34	34	35	34	34	34	35
2	M	33	27	29	31	32	31	27	31	29	28	34	35
3	M	34	25	28	30	32	31	27	33	27	28	34	36
4	M	29	24	26	27	26	27	25	27	26	24	30	28
5	M	23	16	21	22	22	24	19	22	20	19	28	25
6	M	36	28	32	35	34	36	31	35	31	31	38	38
7	24	35	22	26	32	29	31	26	30	25	26	35	31
8	22	27	21	23	26	25	24	23	24	24	23	26	26
9	16	22	14	17	20	20	20	16	19	16	17	24	21
10	22	31	20	24	25	25	28	24	28	23	24	33	30
11	29	29	26	28	28	29	27	28	29	26	29	29	28
12	16	20	14	17	20	19	18	16	19	17	17	21	22
13	17	24	15	19	23	21	23	18	23	18	20	27	26
14	40	48	41	47	47	47	48	43	47	41	45	46	44
15	56	55	53	56	57	58	61	55	56	55	56	57	59
16	55	57	56	60	59	59	61	59	59	58	59	59	59
17	55	62	57	63	61	62	63	59	61	59	63	62	62
18	53	58	55	59	58	59	61	57	58	60	59	59	59
19	47	50	47	49	50	50	50	47	50	49	49	50	51
20	49	49	47	49	49	50	50	47	50	49	48	50	51
21	50	49	48	49	50	52	52	49	50	50	50	51	51
22	39	41	35	37	40	41	41	36	41	38	37	42	42
23	35	36	30	33	34	35	36	33	36	32	32	39	38
24	44	44	42	44	43	44	44	43	43	44	43	45	45
25	31	32	27	28	30	30	30	28	31	29	28	31	30
26	28	29	24	27	27	28	28	26	28	27	25	30	29
27	30	30	26	28	29	29	28	27	30	29	26	31	29
28	31	34	28	28	29	27	25	29	30	30	27	33	30
29	28	30	24	27	29	28	27	25	29	27	26	32	31
30	31	34	28	31	33	34	31	30	33	30	30	36	36
Averages and extremes for all data													
Ave	35.3	37.2	31.8	34.6	36.0	36.1	36.3	33.6	36.2	34.1	34.1	38.2	37.6
Max	56	62	57	63	61	62	63	59	61	60	63	62	62
Min	16	20	14	17	20	19	18	16	19	16	17	21	21
Cases	24	30	30	30	30	30	30	30	30	30	30	30	30
Averages and extremes for days with data from all stations having data for this month													
Ave	35.3	38.6	33.3	36.2	37.5	37.5	37.8	35.2	37.7	35.7	35.8	39.5	38.8
Max	56	62	57	63	61	62	63	59	61	60	63	62	62
Min	16	20	14	17	20	19	18	16	19	16	17	21	21
Cases	24	24	24	24	24	24	24	24	24	24	24	24	24

Table 4.3D. Palisades Network: Daily Average Temperatures (F) for April 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	M	36	34	35	36	36	35	35	37	36	35	36	37
2	M	40	38	40	41	41	41	39	41	40	40	41	42
3	M	51	47	50	51	51	50	49	52	50	51	52	53
4	M	40	37	39	40	40	40	39	40	39	39	40	40
5	M	41	37	40	42	41	41	39	41	40	40	44	43
6	M	47	44	46	48	47	48	46	46	47	47	48	49
7	37	41	35	38	41	41	42	38	41	38	39	42	42
8	33	35	31	33	34	34	34	34	34	34	34	34	35
9	32	36	31	33	36	36	36	33	34	33	34	37	37
10	45	49	45	47	48	48	49	47	49	46	47	49	49
11	35	35	34	35	36	36	36	36	36	36	36	35	36
12	30	32	29	31	33	33	33	31	32	31	31	33	34
13	40	45	40	43	45	44	46	42	45	42	43	46	47
14	62	65	63	65	65	64	65	64	65	64	65	64	64
15	68	69	68	70	71	70	71	69	70	70	71	70	70
16	70	71	70	72	72	71	72	71	71	72	72	71	71
17	70	72	70	72	72	71	72	71	71	72	73	71	71
18	66	68	66	68	68	68	70	67	68	69	68	68	69
19	53	53	50	53	54	54	55	52	53	53	54	54	55
20	54	54	52	54	54	55	54	53	54	54	54	54	55
21	58	58	56	57	58	59	59	57	58	58	57	58	59
22	50	50	47	50	50	52	52	49	50	50	50	52	52
23	51	51	47	50	50	51	51	49	51	50	50	52	52
24	52	51	49	51	50	52	51	50	50	52	51	51	52
25	36	36	33	36	36	37	37	35	36	36	35	37	36
26	36	36	32	34	34	35	33	34	35	35	34	35	34
27	37	37	35	36	35	36	35	36	36	37	35	36	36
28	41	42	39	39	40	40	38	40	41	40	39	41	41
29	42	45	40	42	44	44	43	41	43	42	42	46	45
30	46	49	46	47	48	49	48	46	49	47	47	50	50

## Averages and extremes for all data

Ave	47.6	47.9	44.9	46.9	47.7	47.9	48.0	46.4	47.6	47.1	47.0	48.2	48.5
Max	70	72	70	72	72	71	72	71	71	72	73	71	71
Min	30	32	29	31	33	33	33	31	32	31	31	33	34
Cases	24	30	30	30	30	30	30	30	30	30	30	30	30

## Averages and extremes for days with data from all stations having data for this month

Ave	47.6	49.2	46.2	48.2	48.9	49.2	49.3	47.6	48.8	48.4	48.3	49.4	49.6
Max	70	72	70	72	72	71	72	71	71	72	73	71	71
Min	30	32	29	31	33	33	33	31	32	31	31	33	34
Cases	24	24	24	24	24	24	24	24	24	24	24	24	24

Table 4.1E. Palisades Network: Daily Maximum Temperatures (F) for

May 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	60	60	60	61	60	61	60	60	61	61	62	60	60
2	47	48	47	50	50	49	51	47	49	49	50	50	50
3	44	42	42	43	43	43	42	42	43	44	43	43	41
4	61	62	62	64	63	63	62	62	62	63	64	62	63
5	72	75	75	78	78	79	79	76	75	77	80	77	79
6	46	46	47	49	48	48	50	47	47	48	48	48	49
7	49	50	47	49	49	51	52	48	46	48	50	48	50
8	56	58	56	58	57	58	58	56	56	57	59	56	58
9	68	71	69	71	71	70	71	70	69	71	72	70	71
10	72	74	72	73	72	73	73	72	71	73	75	72	73
11	56	56	57	57	56	56	56	56	57	57	57	57	56
12	56	61	58	60	59	62	60	58	58	60	61	60	61
13	74	76	74	74	72	75	73	74	73	75	76	73	75
14	59	62	62	64	64	68	71	62	62	63	64	65	68
15	67	68	67	68	67	69	68	67	68	68	68	67	68
16	69	73	71	73	71	73	71	70	71	72	72	71	71
17	53	56	52	54	52	54	55	52	51	53	53	52	53
18	57	59	54	56	56	57	57	55	55	57	56	55	56
19	63	67	66	68	68	68	68	66	67	68	68	68	68
20	68	72	71	73	74	75	74	71	70	73	74	74	75
21	54	61	58	58	60	60	64	57	59	60	57	60	59
22	54	59	55	56	57	59	60	56	54	56	56	57	58
23	53	58	53	55	57	59	61	55	55	55	56	56	58
24	54	58	56	58	58	60	61	56	56	58	58	59	60
25	58	64	59	60	61	62	63	59	58	62	62	60	62
26	63	71	65	66	67	68	69	64	64	68	66	66	68
27	71	78	71	72	72	73	74	70	70	72	73	72	74
28	69	72	70	71	71	70	70	70	70	70	71	71	70
29	61	63	62	62	61	63	62	62	61	62	62	61	62
30	65	67	65	65	65	67	70	66	65	64	65	64	67
31	63	68	65	67	69	70	72	66	65	67	67	68	69

## Averages and extremes for all data

Ave	60.1	63.1	60.9	62.4	62.2	63.3	63.8	61.0	60.9	62.3	62.7	62.0	63.0
Max	74	78	75	78	78	79	79	76	75	77	80	77	79
Min	44	42	42	43	43	43	42	42	43	44	43	43	41
Cases	31	31	31	31	31	31	31	31	31	31	31	31	31

## Averages and extremes for days with data from all stations having data for this month

Ave	60.1	63.1	60.9	62.4	62.2	63.3	63.8	61.0	60.9	62.3	62.7	62.0	63.0
Max	74	78	75	78	78	79	79	76	75	77	80	77	79
Min	44	42	42	43	43	43	42	42	43	44	43	43	41
Cases	31	31	31	31	31	31	31	31	31	31	31	31	31

Table 4.2E. Palisades Network: Daily Minimum Temperatures (F) for

May 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	38	41	40	40	41	42	42	38	41	40	40	44	44
2	30	36	30	33	33	35	34	30	34	32	32	38	37
3	34	36	36	36	37	37	36	35	38	37	35	38	37
4	28	32	28	31	32	30	34	28	33	29	30	34	32
5	45	45	45	47	46	48	49	45	45	46	47	46	47
6	33	33	34	33	34	35	33	33	34	34	33	35	35
7	29	31	27	28	32	31	30	28	30	28	28	34	34
8	27	28	24	28	28	28	27	25	26	27	26	32	31
9	50	51	52	52	49	49	49	52	52	53	51	50	50
10	48	55	51	49	48	46	49	47	48	50	48	50	51
11	35	38	32	34	35	34	34	32	32	33	32	39	38
12	29	33	28	30	30	30	29	28	30	30	28	33	32
13	33	40	33	39	37	39	41	36	44	37	36	42	43
14	48	50	49	51	51	53	53	50	49	51	51	52	53
15	54	54	52	56	54	55	57	54	54	54	55	55	57
16	48	50	48	50	48	52	50	48	48	49	49	49	50
17	45	46	44	44	43	44	42	43	44	45	43	44	44
18	39	41	36	37	38	38	36	36	38	38	35	40	40
19	30	33	28	31	33	31	32	28	31	30	28	34	34
20	49	56	51	48	51	49	51	49	54	53	48	57	53
21	41	45	37	39	42	40	40	36	39	38	37	44	43
22	35	41	31	34	39	38	39	32	36	34	33	42	41
23	36	41	29	32	39	37	37	31	36	33	31	42	41
24	40	43	37	41	43	44	43	38	41	40	39	44	46
25	35	40	33	36	40	40	40	34	39	35	34	42	42
26	36	39	34	37	38	38	39	33	38	36	35	40	41
27	38	41	35	39	40	41	41	36	41	37	37	42	43
28	50	56	48	54	52	54	55	51	54	49	52	55	55
29	56	58	57	58	57	58	58	57	57	58	57	57	58
30	54	56	53	55	54	54	56	54	55	54	54	55	56
31	51	54	51	52	53	57	58	52	52	52	53	54	56

## Averages and extremes for all data

Ave	40.1	43.3	39.1	41.1	41.8	42.2	42.4	39.3	41.7	40.7	39.9	44.0	44.0
Max	56	58	57	58	57	58	58	57	57	58	57	57	58
Min	27	28	24	28	28	28	27	25	26	27	26	32	31
Cases	31	31	31	31	31	31	31	31	31	31	31	31	31

## Averages and extremes for days with data from all stations having data for this month

Ave	40.1	43.3	39.1	41.1	41.8	42.2	42.4	39.3	41.7	40.7	39.9	44.0	44.0
Max	56	58	57	58	57	58	58	57	57	58	57	57	58
Min	27	28	24	28	28	28	27	25	26	27	26	32	31
Cases	31	31	31	31	31	31	31	31	31	31	31	31	31

Table 4.E. Palisades Network: Daily Average Temperatures (F) for

May 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	49	52	51	52	52	52	52	50	52	52	52	52	52
2	39	40	38	40	41	41	41	38	41	40	40	41	41
3	40	39	39	40	40	40	39	39	40	41	40	40	39
4	47	49	48	50	50	50	50	48	50	49	50	50	50
5	60	61	62	64	63	64	64	62	61	63	64	63	64
6	40	40	40	42	41	42	41	40	40	41	41	42	42
7	39	41	39	39	40	41	40	38	39	39	39	41	41
8	44	46	44	46	46	46	46	44	44	45	45	47	47
9	57	60	59	62	60	60	60	60	60	61	62	60	61
10	60	63	63	64	63	62	62	63	62	64	64	63	63
11	46	47	46	47	46	49	48	46	46	47	47	47	48
12	44	48	45	46	46	47	46	45	46	46	45	48	48
13	55	59	57	59	57	59	59	58	59	59	59	59	60
14	53	55	54	57	56	59	60	55	55	56	57	57	59
15	62	64	63	64	63	65	64	63	63	65	63	63	64
16	59	62	60	63	61	64	63	61	61	62	62	62	63
17	48	50	48	50	48	50	50	48	48	49	48	49	49
18	47	50	47	48	48	48	47	47	47	49	47	48	48
19	49	52	48	50	52	51	52	48	50	50	49	53	53
20	59	63	62	63	64	62	63	62	63	64	63	64	64
21	51	55	51	52	54	54	55	51	53	52	52	55	55
22	46	50	44	46	48	49	49	45	47	46	46	50	50
23	46	49	44	46	49	49	50	46	47	47	46	50	50
24	48	51	47	50	50	52	53	48	50	49	49	52	53
25	48	52	48	49	51	52	53	47	50	50	49	52	53
26	50	55	50	52	53	54	55	50	52	52	52	54	56
27	55	61	56	57	58	58	59	56	58	57	57	59	60
28	58	61	59	60	60	61	62	59	60	60	60	60	60
29	58	60	59	60	59	60	60	59	59	60	59	59	59
30	59	61	60	59	60	61	61	59	60	59	60	60	60
31	58	61	58	60	61	62	63	59	59	60	60	61	61

## Averages and extremes for all data

Ave	50.8	53.5	51.3	52.8	52.9	53.7	53.7	51.5	52.4	52.7	52.6	53.5	54.0
Max	62	64	63	64	64	65	64	63	63	65	64	64	64
Min	39	39	38	39	40	40	39	38	39	39	39	40	39
Cases	31	31	31	31	31	31	31	31	31	31	31	31	31

## Averages and extremes for days with data from all stations having data for this month

Ave	50.8	53.5	51.3	52.8	52.9	53.7	53.7	51.5	52.4	52.7	52.6	53.5	54.0
Max	62	64	63	64	64	65	64	63	63	65	64	64	64
Min	39	39	38	39	40	40	39	38	39	39	39	40	39
Cases	31	31	31	31	31	31	31	31	31	31	31	31	31

Table 4.1F. Palisades Network: Daily Maximum Temperatures (F) for

June 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	71	74	72	72	73	73	75	M	72	71	72	72	74
2	74	79	74	73	72	73	73	74	73	73	74	73	73
3	78	81	77	77	76	75	76	77	77	76	76	76	77
4	84	85	81	81	81	81	81	81	81	81	82	81	82
5	84	87	82	81	81	81	82	83	81	81	82	82	82
6	73	81	76	77	77	76	78	76	75	76	76	76	78
7	82	88	80	82	82	82	83	81	81	81	82	82	83
8	83	90	82	83	84	83	84	82	82	83	82	83	83
9	86	92	86	86	87	85	86	86	87	85	86	86	87
10	83	87	83	83	84	83	85	83	83	83	83	85	85
11	81	89	82	82	83	82	83	82	82	81	82	82	84
12	90	95	90	90	91	90	88	91	90	90	89	90	91
13	86	90	87	87	88	86	87	86	87	86	87	87	88
14	M	92	88	88	90	88	88	88	89	87	87	88	90
15	M	90	86	85	85	83	85	84	84	85	84	84	84
16	67	73	66	66	66	65	67	65	65	65	66	66	66
17	77	85	80	80	80	79	80	79	79	80	80	80	80
18	85	87	85	84	84	82	84	83	83	83	83	84	84
19	66	72	65	64	64	64	66	63	63	63	63	64	65
20	72	81	73	74	75	74	76	72	72	73	73	74	75
21	71	75	72	72	72	70	71	72	71	72	72	71	72
22	71	78	73	74	77	75	76	73	74	73	75	75	76
23	79	82	78	78	78	78	77	79	77	77	80	77	78
24	69	72	70	71	71	69	71	70	70	71	72	70	71
25	75	77	75	76	75	75	76	76	76	75	78	75	77
26	83	85	83	83	84	82	84	83	83	83	85	83	85
27	82	85	83	83	84	84	86	83	83	84	86	85	87
28	77	79	78	79	79	79	81	78	78	78	81	79	81
29	M	74	70	69	70	69	72	69	68	70	71	70	72
30	M	65	64	63	63	64	64	63	64	62	64	63	64

## Averages and extremes for all data

Ave	78.0	82.3	78.0	78.1	78.5	77.7	78.8	78.0	77.7	77.6	78.4	78.1	79.1
Max	90	95	90	90	91	90	88	91	90	90	89	90	91
Min	66	65	64	63	63	64	64	63	63	62	63	63	64
Cases	26	30	30	30	30	30	30	29	30	30	30	30	30

## Averages and extremes for days with data from all stations having data for this month

Ave	78.3	83.0	78.4	78.6	79.0	78.1	79.2	78.3	78.1	78.1	79.0	78.6	79.6
Max	90	95	90	90	91	90	88	91	90	90	89	90	91
Min	66	72	65	64	64	64	66	63	63	63	63	64	65
Cases	25	25	25	25	25	25	25	25	25	25	25	25	25

Table 4.2F. Palisades Network: Daily Minimum Temperatures (F) for June 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	49	52	50	50	51	52	54	M	51	49	50	51	53
2	44	47	40	41	45	42	44	40	46	40	38	45	47
3	40	47	37	40	43	42	43	39	47	38	38	47	48
4	45	49	41	44	46	44	50	43	51	41	44	49	53
5	45	53	45	48	51	50	55	48	54	46	48	56	57
6	47	51	44	47	48	47	50	45	49	45	45	51	53
7	46	49	43	46	47	45	49	43	46	44	45	50	52
8	56	61	52	54	56	54	58	55	58	53	54	61	61
9	54	60	51	53	55	53	56	52	56	52	52	60	59
10	57	65	54	58	59	57	63	56	65	55	56	64	65
11	62	68	66	66	67	64	65	65	69	66	65	66	67
12	65	67	65	65	66	65	66	65	66	65	64	66	67
13	62	64	63	62	63	63	66	62	65	62	61	64	66
14	M	68	67	66	67	67	68	66	67	65	65	68	69
15	M	67	66	64	64	62	65	63	65	63	62	64	65
16	47	51	46	47	48	48	50	45	49	46	44	50	53
17	44	47	42	44	44	44	47	41	45	41	41	46	49
18	54	61	60	61	58	60	62	59	61	56	59	62	63
19	48	60	47	47	48	47	50	44	47	45	45	51	52
20	44	47	42	44	44	44	47	40	45	41	41	47	50
21	53	56	51	52	54	54	55	51	54	51	50	56	58
22	54	55	53	54	54	55	56	53	56	52	53	56	59
23	52	55	51	53	53	53	56	51	55	50	52	56	58
24	61	62	63	62	62	61	63	62	63	62	63	62	63
25	57	58	54	55	56	56	61	54	59	53	55	60	63
26	55	58	53	55	56	56	61	54	60	53	55	60	64
27	62	66	66	63	62	63	67	62	65	64	62	63	66
28	63	64	62	62	64	63	65	62	63	62	63	65	66
29	M	60	59	58	58	55	58	57	61	58	58	59	60
30	M	60	59	58	57	57	58	57	60	57	58	59	59

## Averages and extremes for all data

Ave	52.5	57.6	53.1	54.0	54.9	54.1	56.9	52.9	56.6	52.5	52.9	57.1	58.8
Max	65	68	67	66	67	67	68	66	69	66	65	68	69
Min	40	47	37	40	43	42	43	39	45	38	38	45	47
Cases	26	30	30	30	30	30	30	29	30	30	30	30	30

## Averages and extremes for days with data from all stations having data for this month

Ave	52.7	56.8	51.6	52.9	54.0	53.2	56.2	51.6	55.8	51.3	51.7	56.5	58.4
Max	65	68	66	66	67	65	67	65	69	66	65	66	67
Min	40	47	37	40	43	42	43	39	45	38	38	45	47
Cases	25	25	25	25	25	25	25	25	25	25	25	25	25



Table 4.3F. Palisades Network: Daily Average Temperatures (F) for June 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	57	61	58	59	60	61	64	M	60	58	58	60	63
2	58	62	57	58	60	60	61	58	60	57	58	60	62
3	62	65	60	61	62	61	63	60	63	60	60	63	64
4	65	69	64	64	65	64	67	64	67	63	64	67	69
5	65	70	64	66	66	66	68	65	68	64	65	69	70
6	61	67	61	62	64	63	66	61	63	61	62	65	68
7	64	69	64	65	66	65	68	64	65	64	65	68	70
8	69	74	68	69	70	69	71	68	70	68	68	72	72
9	69	75	69	70	72	71	72	69	72	69	69	73	74
10	71	76	72	73	74	71	74	72	75	72	71	74	75
11	71	76	73	73	74	73	74	73	74	73	72	74	75
12	77	80	77	78	78	77	77	77	78	77	77	78	78
13	74	78	76	77	77	77	78	76	77	76	76	77	78
14	M	78	77	77	78	77	78	76	78	76	76	78	79
15	M	77	76	75	76	74	76	74	75	74	74	75	76
16	61	65	62	61	61	60	62	60	61	60	60	62	62
17	62	67	63	64	64	63	65	62	64	62	62	65	66
18	68	72	70	70	69	68	71	68	69	69	68	70	70
19	61	67	61	60	60	60	62	59	60	59	59	61	62
20	60	64	60	61	62	61	63	59	61	59	60	63	65
21	62	65	62	62	63	62	64	61	63	61	61	64	65
22	63	65	63	63	63	62	64	62	64	62	63	64	65
23	63	65	64	64	64	64	65	64	65	64	65	64	66
24	65	66	66	66	66	65	66	66	66	66	66	65	67
25	68	69	68	68	68	68	69	68	69	67	68	68	70
26	70	74	73	73	73	72	74	72	73	72	73	73	75
27	72	76	75	74	74	73	76	74	75	74	74	75	77
28	71	72	71	71	71	70	72	71	71	71	72	71	73
29	M	65	65	64	64	63	64	64	65	64	65	64	66
30	M	62	61	60	61	60	60	60	62	60	61	60	61

## Averages and extremes for all data

Ave	65.7	69.8	66.7	66.9	67.5	66.7	68.5	66.5	67.9	66.2	66.4	68.1	69.4
Max	77	80	77	78	78	77	78	77	78	77	77	78	79
Min	57	61	57	58	60	60	60	58	60	57	58	60	61
Cases	26	30	30	30	30	30	30	29	30	30	30	30	30

## Averages and extremes for days with data from all stations having data for this month

Ave	66.0	70.0	66.5	66.9	67.5	66.6	68.5	66.1	67.8	66.1	66.3	68.2	69.5
Max	77	80	77	78	78	77	78	77	78	77	77	78	78
Min	58	62	57	58	60	60	61	58	60	57	58	60	62
Cases	25	25	25	25	25	25	25	25	25	25	25	25	25

Table 4.1G. Palisades Network: Daily Maximum Temperatures (F) for July 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	M	72	68	67	68	69	68	67	68	69	70	68	68
2	M	80	75	75	77	78	77	76	76	77	78	77	77
3	M	77	71	72	74	75	76	73	72	72	76	74	74
4	M	78	72	73	75	79	83	73	74	73	77	76	78
5	M	83	77	76	79	81	82	77	77	77	80	78	80
6	M	87	82	83	83	84	83	81	83	83	85	83	83
7	M	78	78	78	81	81	80	79	80	78	81	79	80
8	M	83	78	78	80	81	82	77	78	79	81	79	80
9	M	85	84	84	84	84	83	83	84	84	85	84	83
10	M	90	92	90	92	90	91	90	90	91	93	91	91
11	M	89	86	86	87	87	86	85	86	85	89	86	86
12	M	74	69	67	66	67	70	67	65	67	69	65	67
13	M	77	73	72	73	74	75	73	72	73	75	72	74
14	87	89	90	90	91	91	93	89	89	91	93	91	91
15	81	85	83	83	86	85	86	83	83	84	87	84	85
16	70	76	71	69	69	69	70	71	71	71	71	69	70
17	76	79	74	74	75	74	74	74	74	75	77	74	75
18	78	83	81	80	80	80	81	81	80	81	84	80	81
19	79	82	82	83	85	85	84	81	82	83	87	83	86
20	79	81	81	82	84	86	87	81	82	83	84	83	83
21	77	81	78	78	81	82	83	77	81	78	80	80	79
22	79	80	80	80	79	81	79	79	77	80	79	77	76
23	81	85	84	85	85	85	84	85	83	85	85	83	83
24	78	83	79	78	80	84	83	78	78	80	80	79	80
25	80	86	81	81	82	85	83	81	80	82	83	81	82
26	83	86	85	85	86	87	86	84	83	86	86	85	85
27	M	84	81	80	81	83	81	79	79	80	33	80	81
28	M	78	80	78	79	80	78	78	78	80	80	78	79
29	M	74	73	71	72	73	71	72	71	72	73	70	71
30	M	82	80	80	81	82	80	80	78	81	81	79	81
31	M	75	72	70	72	73	72	71	69	72	72	69	70

## Averages and extremes for all data

Ave	79.1	81.4	78.7	78.3	79.6	80.5	80.4	78.2	78.2	79.1	80.8	78.6	79.3
Max	87	90	92	90	92	91	93	90	90	91	93	91	91
Min	70	72	68	67	66	67	68	67	65	67	69	65	67
Cases	13	31	31	31	31	31	31	31	31	31	31	31	31

## Averages and extremes for days with data from all stations having data for this month

Ave	79.1	82.8	80.7	80.6	81.8	82.6	82.5	80.3	80.2	81.5	82.8	80.7	81.2
Max	87	89	90	90	91	91	93	89	89	91	93	91	91
Min	70	76	71	69	69	69	70	71	71	71	71	69	70
Cases	13	13	13	13	13	13	13	13	13	13	13	13	13

Table 4.2G. Palisades Network: Daily Minimum Temperatures (°F) for July 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	M	52	49	50	50	50	51	48	51	49	49	54	53
2	M	46	43	45	46	46	47	43	48	43	46	48	49
3	M	48	46	46	48	48	48	45	49	45	47	50	51
4	M	50	46	48	50	49	51	47	50	47	49	53	53
5	M	56	50	50	52	52	56	50	55	50	53	56	56
6	M	52	50	51	52	54	54	50	54	50	52	54	56
7	M	59	55	57	58	59	61	55	61	55	58	61	62
8	M	56	52	53	55	53	55	51	54	52	53	57	57
9	M	53	49	51	52	54	57	50	54	49	52	56	58
10	M	76	76	74	75	74	75	74	76	74	76	73	75
11	M	63	65	64	64	64	64	63	65	64	65	63	67
12	M	58	60	53	56	48	49	56	58	58	56	56	54
13	M	47	42	42	45	42	42	41	45	41	42	49	47
14	55	57	56	56	56	58	59	56	59	56	57	60	63
15	64	65	63	62	63	63	65	62	63	63	64	67	66
16	54	56	53	54	54	53	54	54	54	54	55	57	57
17	53	54	48	48	49	46	48	46	48	49	50	55	52
18	50	55	49	50	50	51	57	49	57	48	52	58	56
19	57	61	57	60	59	61	64	57	63	58	60	63	63
20	67	72	72	70	71	71	71	69	71	72	72	71	70
21	60	61	59	60	59	62	63	58	60	59	57	64	63
22	62	61	59	62	60	62	65	60	63	58	60	64	63
23	69	69	69	67	69	70	71	68	68	69	69	69	70
24	58	59	56	56	58	59	59	55	57	56	55	60	60
25	53	55	51	53	54	56	56	51	53	52	52	56	57
26	59	61	58	59	60	62	65	58	64	58	59	64	65
27	M	60	57	58	58	61	59	57	58	57	57	61	62
28	M	57	54	55	56	57	57	53	56	54	55	58	59
29	M	61	60	60	61	62	61	58	59	59	59	63	62
30	M	57	56	56	57	58	57	54	56	56	55	58	59
31	M	60	59	58	60	59	58	58	59	59	59	59	59

## Averages and extremes for all data

Ave	58.5	58.0	55.5	55.7	56.7	56.9	58.0	54.7	57.7	55.3	56.3	59.3	59.5
Max	69	76	76	74	75	74	75	74	76	74	76	73	75
Min	50	46	42	42	45	42	42	41	45	41	42	48	47
Cases	13	31	31	31	31	31	31	31	31	31	31	31	31

## Averages and extremes for days with data from all stations having data for this month

Ave	58.5	60.5	57.7	58.2	58.6	59.5	61.3	57.2	60.0	57.8	58.6	62.2	61.9
Max	69	72	72	70	71	71	71	69	71	72	72	71	70
Min	50	54	48	48	49	46	48	46	48	48	50	55	52
Cases	13	13	13	13	13	13	13	13	13	13	13	13	13

Table 4.3G. Palisades Network: Daily Average Temperatures (F) for July 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	M	63	62	61	61	62	62	61	62	62	63	61	61
2	M	64	61	61	63	63	63	61	63	61	64	64	64
3	M	63	60	60	63	63	63	61	63	61	63	63	64
4	M	65	61	61	64	65	67	61	63	62	64	65	66
5	M	70	65	65	67	68	69	66	68	65	68	68	69
6	M	69	67	67	68	68	69	66	68	67	68	69	70
7	M	69	68	68	69	69	70	67	70	68	70	70	70
8	M	69	66	66	67	67	69	65	67	66	68	68	69
9	M	72	71	72	71	72	73	70	72	70	72	72	72
10	M	80	82	81	82	82	83	81	82	81	83	82	82
11	M	78	78	77	79	79	80	77	78	77	80	78	80
12	M	65	64	61	61	61	61	62	62	62	64	61	61
13	M	64	62	60	62	61	61	61	62	61	62	63	63
14	73	75	76	75	75	76	77	75	76	76	77	77	77
15	73	74	74	72	74	74	75	73	73	74	75	75	75
16	65	68	66	64	64	65	65	65	65	66	67	65	66
17	64	66	63	62	63	62	63	62	63	64	64	65	65
18	66	70	67	67	67	67	69	67	69	67	69	69	70
19	70	73	73	72	73	73	74	71	73	73	74	74	74
20	73	74	75	74	74	75	75	73	74	75	76	74	74
21	70	73	71	71	71	73	73	70	70	71	71	72	71
22	70	71	71	71	70	72	72	70	69	71	70	71	70
23	74	76	75	75	76	77	77	75	74	76	75	75	75
24	70	73	71	70	71	73	73	70	70	71	71	72	72
25	68	70	68	68	70	72	70	67	69	69	69	70	71
26	72	75	74	74	75	77	75	73	73	74	74	75	75
27	M	73	72	71	72	74	72	70	71	71	71	72	73
28	M	69	69	68	69	70	69	68	69	69	69	69	70
29	M	69	69	68	69	70	69	68	68	69	69	68	69
30	M	70	69	69	71	71	70	68	69	69	70	70	71
31	M	67	67	66	67	68	67	66	66	66	67	66	66

Averages and extremes for all data

Ave	69.8	70.2	69.0	68.4	69.4	69.9	70.2	68.1	69.0	68.8	69.9	69.8	70.2
Max	74	80	82	81	82	82	83	81	82	81	83	82	82
Min	64	63	60	60	61	61	61	61	62	61	62	61	61
Cases	13	31	31	31	31	31	31	31	31	31	31	31	31

Averages and extremes for days with data from all stations having data for this month

Ave	69.8	72.1	71.2	70.5	71.2	71.9	72.3	70.2	70.6	71.3	71.7	71.8	72.0
Max	74	76	76	75	76	77	77	75	76	76	77	77	77
Min	64	66	63	62	63	62	63	62	63	64	64	65	65
Cases	13	13	13	13	13	13	13	13	13	13	13	13	13

Table 4.1H. Palisades Network: Daily Maximum Temperatures (F) for August 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	M	80	73	71	73	75	75	71	71	71	72	72	73
2	M	77	72	69	71	72	72	69	69	69	70	70	71
3	M	81	75	74	75	77	78	73	74	74	74	73	77
4	76	81	78	79	80	80	78	79	80	79	79	77	81
5	76	82	79	78	77	80	79	77	78	77	79	77	80
6	72	76	74	73	72	73	72	73	73	73	72	72	73
7	73	78	74	74	72	74	74	72	73	72	74	72	74
8	73	80	74	74	75	77	76	74	73	74	74	73	77
9	79	85	79	78	79	81	81	78	78	78	79	79	80
10	84	86	83	84	83	84	83	83	83	86	84	83	83
11	83	86	85	85	86	85	85	85	85	87	85	84	86
12	81	85	82	84	84	85	84	82	83	84	84	83	84
13	77	83	79	79	80	81	81	78	78	80	80	79	81
14	73	78	74	73	74	76	75	74	73	75	73	74	76
15	72	79	71	71	70	71	73	71	69	72	72	71	71
16	73	79	73	71	72	72	74	72	71	74	73	71	73
17	75	82	77	77	78	78	80	76	77	78	79	77	80
18	81	87	81	81	82	83	84	81	81	82	81	81	84
19	81	86	83	83	84	85	87	81	82	84	83	82	85
20	87	91	86	87	87	87	87	85	86	88	87	86	88
21	83	89	85	84	86	86	88	83	85	86	85	84	86
22	82	88	84	85	86	85	86	84	85	85	84	83	86
23	82	88	83	83	86	85	89	81	83	85	84	85	85
24	M	91	86	88	87	87	87	86	85	87	88	86	88
25	81	84	82	82	83	82	81	81	81	83	82	81	83
26	82	86	85	86	87	86	86	84	85	87	86	85	87
27	89	93	91	90	90	88	90	91	91	91	91	89	92
28	77	84	80	79	79	78	79	78	79	81	80	79	81
29	68	73	71	70	67	65	66	69	71	72	69	68	67
30	76	80	77	76	76	76	76	76	75	79	78	75	77
31	81	84	83	84	85	85	86	82	83	86	85	84	87

## Averages and extremes for all data

Ave	78.4	83.3	79.3	79.1	79.5	80.0	80.4	78.4	78.7	80.0	79.5	78.5	80.5
Max	89	93	91	90	90	88	90	91	91	91	91	89	92
Min	68	73	71	69	67	65	66	69	69	69	69	68	67
Cases	27	31	31	31	31	31	31	31	31	31	31	31	31

## Averages and extremes for days with data from all stations having data for this month

Ave	78.4	83.4	79.7	79.6	80.0	80.3	80.7	78.9	79.3	80.7	80.1	79.0	81.0
Max	89	93	91	90	90	88	90	91	91	91	91	89	92
Min	68	73	71	70	67	65	66	69	69	72	69	68	67
Cases	27	27	27	27	27	27	27	27	27	27	27	27	27



Table 4.3H. Falisades Network: Daily Average Temperatures (F) for August 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	M	67	64	62	64	64	64	61	64	62	62	64	65
2	M	65	61	60	63	63	62	60	62	60	60	63	64
3	M	64	61	60	62	63	63	59	62	60	60	63	65
4	65	68	65	65	65	67	67	64	68	64	64	66	69
5	70	73	71	71	70	72	71	70	71	70	70	71	73
6	65	66	65	65	64	66	65	64	65	64	64	64	66
7	63	65	61	61	61	62	61	60	62	59	60	62	63
8	61	66	62	61	62	63	62	60	62	60	60	64	65
9	64	67	64	64	65	66	66	63	65	63	63	66	67
10	68	70	67	68	68	69	69	67	69	68	67	69	71
11	72	76	76	75	75	75	76	75	76	77	76	75	76
12	74	76	75	76	76	76	76	75	76	77	76	76	77
13	71	74	72	72	72	72	73	71	72	73	72	73	73
14	67	69	67	67	67	68	67	67	67	68	67	68	68
15	62	66	61	61	62	62	62	60	62	62	61	64	62
16	59	64	58	59	59	59	60	58	60	60	58	61	61
17	60	64	60	60	61	61	62	59	61	60	60	63	63
18	64	67	64	65	65	66	67	63	66	65	64	67	68
19	67	71	68	69	69	70	70	67	70	68	68	70	72
20	69	73	69	70	70	71	72	68	72	70	69	72	74
21	69	73	70	70	71	71	73	68	72	70	69	72	73
22	70	74	71	72	73	72	73	70	73	71	70	73	74
23	71	74	71	72	73	73	74	69	73	71	71	73	74
24	M	73	70	71	71	71	72	69	70	71	70	71	73
25	70	73	70	71	70	70	71	70	71	71	70	71	73
26	73	76	75	76	75	76	76	74	76	75	75	75	77
27	76	80	79	79	79	78	80	78	80	80	78	79	80
28	72	76	74	74	74	72	72	73	74	75	74	73	75
29	59	63	60	59	59	58	59	59	59	61	58	60	61
30	58	60	58	57	57	58	59	56	59	58	57	59	61
31	68	71	70	71	71	70	72	69	71	72	71	71	73

## Averages and extremes for all data

Ave	66.9	69.8	67.1	67.2	67.6	67.9	68.3	66.0	68.1	67.3	66.6	68.3	69.5
Max	76	80	79	79	79	78	80	78	80	80	78	79	80
Min	58	60	58	57	57	58	59	56	59	58	57	59	61
Cases	27	31	31	31	31	31	31	31	31	31	31	31	31

## Averages and extremes for days with data from all stations having data for this month

Ave	66.9	70.2	67.6	67.7	68.0	68.2	68.7	66.5	68.6	67.9	67.1	68.8	70.0
Max	76	80	79	79	79	78	80	78	80	80	78	79	80
Min	58	60	58	57	57	58	59	56	59	58	57	59	61
Cases	27	27	27	27	27	27	27	27	27	27	27	27	27

Table 4.11. Palisades Network: Daily Maximum Temperatures (F) for Sept 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	70	72	72	72	73	70	70	71	72	73	74	73	71
2	73	76	73	73	73	74	73	72	72	75	76	74	73
3	78	81	81	81	82	80	82	80	81	82	83	80	82
4	77	79	76	75	74	73	75	73	76	76	74	73	73
5	66	73	66	65	67	66	69	65	63	66	68	66	66
6	78	80	77	75	78	78	78	76	76	78	79	76	78
7	75	80	79	80	84	84	84	79	80	81	81	81	85
8	83	86	85	85	86	86	85	84	83	85	86	83	85
9	70	73	75	73	73	72	71	72	74	74	72	73	73
10	66	72	68	66	67	66	65	66	66	67	68	65	67
11	72	76	76	75	76	76	76	76	75	76	77	76	77
12	76	79	78	79	80	78	78	78	79	79	81	79	80
13	78	82	81	81	82	81	81	81	80	80	82	81	81
14	76	80	78	79	80	80	80	79	78	79	80	79	80
15	64	71	66	65	66	66	66	66	64	65	66	64	65
16	68	70	71	71	70	71	69	71	69	71	71	70	70
17	69	76	71	71	72	73	76	71	69	72	72	70	73
18	74	78	73	73	73	73	72	73	71	72	73	71	72
19	79	82	79	80	81	79	80	81	79	81	82	79	80
20	62	67	63	64	63	61	62	64	63	62	64	63	62
21	59	63	60	59	59	58	57	59	58	60	60	58	58
22	59	65	62	62	62	61	61	62	61	62	64	61	61
23	64	65	66	65	66	64	65	66	65	66	66	64	66
24	62	66	62	62	63	63	63	M	60	63	63	61	63
25	63	66	66	66	65	65	65	M	64	66	66	63	65
26	M	56	56	55	55	55	55	M	55	56	57	54	55
27	M	69	64	64	65	65	63	M	63	64	64	63	64
28	58	61	59	58	58	59	58	M	56	58	59	57	59
29	63	68	65	65	65	66	65	64	63	65	66	64	65
30	67	71	68	68	69	70	71	68	67	68	69	67	70

Averages and extremes for all data

Ave	69.6	72.8	70.5	70.2	70.9	70.4	70.5	71.9	69.4	70.7	71.4	69.6	70.6
Max	83	86	85	85	86	86	85	84	83	85	86	83	85
Min	58	56	56	55	55	55	55	59	55	56	57	54	55
Cases	28	30	30	30	30	30	30	25	30	30	30	30	30

Averages and extremes for days with data from all stations having data for this month

Ave	70.6	74.6	72.4	72.1	72.8	72.2	72.4	71.9	71.4	72.6	73.4	71.6	72.5
Max	83	86	85	85	86	86	85	84	83	85	86	83	85
Min	59	63	60	59	59	58	57	59	58	60	60	58	58
Cases	25	25	25	25	25	25	25	25	25	25	25	25	25



Table 4.2I. Palisades Network: Daily Minimum Temperatures (F) for Sept

1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	52	51	50	50	50	48	49	47	50	49	50	50	52
2	45	44	43	43	42	41	42	42	43	42	43	43	43
3	48	50	48	54	48	52	55	52	55	47	54	54	55
4	51	54	47	48	51	49	50	46	51	47	48	56	52
5	46	47	43	44	44	44	44	41	44	43	42	46	47
6	44	44	39	42	39	41	44	39	44	37	40	43	45
7	49	52	48	53	50	54	56	49	56	48	51	57	56
8	50	54	49	49	50	49	53	49	54	48	48	53	54
9	52	52	53	53	53	49	50	50	52	52	52	53	52
10	46	47	46	46	47	45	43	43	46	44	44	47	47
11	47	50	51	50	52	51	51	45	51	48	50	53	53
12	50	52	49	50	50	49	52	48	55	46	49	52	51
13	46	48	42	47	47	48	53	43	51	42	47	51	50
14	53	59	60	60	60	59	61	55	61	55	57	62	61
15	47	48	44	46	48	49	51	44	46	44	44	50	51
16	46	48	45	47	50	50	52	45	51	44	45	51	52
17	58	59	56	54	57	52	53	56	55	55	54	59	57
18	49	52	47	48	48	47	48	47	48	47	47	51	50
19	47	49	43	46	45	45	47	45	46	44	45	48	48
20	47	46	44	44	41	40	41	44	42	45	43	45	44
21	42	42	41	41	41	39	39	41	41	41	41	43	43
22	36	36	33	35	34	32	33	33	34	33	33	35	35
23	34	35	31	32	32	33	33	31	33	30	30	35	35
24	30	32	27	29	27	29	31	M	30	25	26	31	33
25	37	40	35	36	36	36	37	M	38	34	34	40	38
26	M	51	51	50	49	49	50	M	49	50	50	49	50
27	M	47	48	47	47	46	46	M	48	47	47	48	46
28	36	36	32	34	35	34	34	M	38	32	32	37	36
29	39	43	41	41	44	42	43	37	45	37	37	45	46
30	43	45	42	42	39	39	41	40	41	40	40	43	43

## Averages and extremes for all data

Ave	45.4	47.1	44.3	45.4	45.2	44.7	46.1	44.5	46.6	43.2	44.1	47.7	47.5
Max	58	59	60	60	60	59	61	56	61	55	57	62	61
Min	30	32	27	29	27	29	31	31	30	25	26	31	33
Cases	28	30	30	30	30	30	30	25	30	30	30	30	30

## Averages and extremes for days with data from all stations having data for this month

Ave	46.7	48.3	45.4	46.6	46.5	45.9	47.4	44.5	47.8	44.3	45.4	49.0	48.9
Max	58	59	60	60	60	59	61	56	61	55	57	62	61
Min	34	35	31	32	32	32	33	31	33	30	30	35	35
Cases	25	25	25	25	25	25	25	25	25	25	25	25	25

Table 4.3L Palisades Network: Daily Average Temperatures (F) for Sept 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	64	64	64	63	63	62	63	62	63	64	64	63	64
2	56	58	57	56	56	56	57	55	56	57	58	57	58
3	66	69	69	69	68	67	69	67	69	68	69	68	69
4	66	69	68	65	67	66	67	65	66	68	67	67	67
5	58	60	57	56	57	55	57	54	56	55	57	57	57
6	59	61	59	59	59	59	61	58	60	58	60	60	61
7	62	66	65	65	66	67	68	63	66	64	65	68	68
8	67	70	67	68	69	68	70	67	70	67	68	69	71
9	62	63	63	63	63	62	62	62	63	63	63	63	63
10	57	58	58	57	57	55	54	55	57	56	57	57	57
11	63	67	66	63	64	63	63	64	65	64	64	65	64
12	63	67	66	64	65	62	64	64	66	63	64	65	65
13	62	65	62	64	64	65	67	62	66	62	64	66	67
14	65	69	69	69	69	69	69	67	68	68	68	69	69
15	59	60	59	59	59	59	59	59	59	59	59	59	59
16	60	61	61	61	61	61	61	60	61	60	60	61	61
17	63	66	65	64	64	63	64	64	64	65	64	64	64
18	60	64	60	59	60	59	59	60	59	59	59	61	60
19	62	64	62	63	62	62	63	62	62	62	63	63	63
20	59	60	59	59	57	56	57	59	58	59	59	58	57
21	53	54	53	52	52	49	48	53	51	53	52	52	51
22	49	51	50	50	50	49	49	49	50	50	50	50	50
23	53	56	54	53	53	53	53	54	53	53	54	53	54
24	44	47	44	45	45	45	46	M	45	44	44	46	47
25	50	52	50	51	51	52	52	M	52	49	51	52	52
26	M	54	55	53	53	53	53	M	53	54	54	52	54
27	M	58	57	57	57	56	56	M	56	56	57	56	56
28	46	48	46	47	47	47	46	M	47	46	46	47	48
29	56	58	58	57	57	54	54	57	57	57	56	56	55
30	56	58	57	54	53	54	54	54	54	53	53	55	56
Averages and extremes for all data													
Ave	58.5	60.6	59.3	58.9	59.0	58.2	58.8	59.9	59.1	58.5	59.0	59.3	59.6
Max	67	70	69	69	69	69	70	67	70	68	69	69	71
Min	44	47	44	45	45	45	46	49	45	44	44	46	47
Cases	28	30	30	30	30	30	30	25	30	30	30	30	30
Averages and extremes for days with data from all stations having data for this month													
Ave	59.9	62.4	61.1	60.5	60.6	59.8	60.5	59.9	60.8	60.3	60.7	61.1	61.2
Max	67	70	69	69	69	69	70	67	70	68	69	69	71
Min	49	51	50	50	50	49	48	49	50	50	50	50	50
Cases	25	25	25	25	25	25	25	25	25	25	25	25	25

Table 4.1J. Palisades Network: Daily Maximum Temperatures (F) for October 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	71	76	73	75	76	77	79	75	74	75	77	75	78
2	76	85	80	81	84	82	83	82	81	82	83	82	84
3	77	82	79	79	81	79	78	79	78	79	82	77	79
4	M	82	79	80	80	80	78	81	80	81	82	M	80
5	M	68	67	67	68	67	68	67	67	M	68	M	69
6	54	59	55	55	54	52	53	55	53	54	55	53	56
7	M	60	55	56	55	54	54	M	53	55	57	55	54
8	M	56	54	54	53	53	54	M	53	54	56	55	55
9	M	57	52	53	53	52	53	M	53	52	53	54	54
10	M	62	60	61	62	62	61	M	60	61	63	62	62
11	M	70	67	68	67	66	66	M	66	68	70	67	68
12	M	75	73	76	76	77	75	M	73	74	77	76	77
13	63	66	62	64	62	62	61	63	62	63	63	64	63
14	65	69	67	67	65	65	65	67	66	66	68	66	66
15	62	63	62	63	61	61	60	61	61	61	63	62	62
16	49	50	48	48	48	48	48	48	47	48	49	48	49
17	M	50	46	47	47	46	47	46	45	46	47	45	46
18	M	51	49	49	48	48	47	49	48	49	51	M	48
19	M	41	42	42	41	40	41	M	41	41	42	M	41
20	M	45	44	44	44	44	44	44	45	43	45	44	44
21	M	45	45	46	45	43	42	45	46	44	46	45	43
22	M	43	43	43	43	42	41	42	42	42	43	41	42
23	M	48	47	47	47	47	47	47	47	47	48	46	46
24	M	48	47	47	48	47	45	46	46	47	48	47	47
25	M	48	48	47	47	46	46	46	46	47	48	46	47
26	M	40	40	40	39	39	39	40	40	40	40	39	40
27	37	43	41	41	42	41	42	41	39	41	42	41	41
28	46	47	47	47	47	46	46	47	46	47	48	47	47
29	53	54	54	54	54	54	54	53	52	54	56	54	55
30	48	48	48	47	47	46	46	48	47	47	48	46	47
31	45	51	49	48	48	47	49	49	48	48	49	47	48

## Averages and extremes for all data

Ave	57.4	57.5	55.6	56.0	55.9	55.3	55.2	55.0	55.0	55.2	57.0	55.0	56.1
Max	77	85	80	81	84	82	83	82	81	82	83	82	84
Min	37	40	40	40	39	39	39	40	39	40	40	39	40
Cases	13	31	31	31	31	31	31	24	31	30	31	27	31

## Averages and extremes for days with data from all stations having data for this month

Ave	57.4	61.0	58.8	59.2	59.2	58.5	58.8	59.1	58.0	58.8	60.2	58.6	59.6
Max	77	85	80	81	84	82	83	82	81	82	83	82	84
Min	37	43	41	41	42	41	42	41	39	41	42	41	41
Cases	13	13	13	13	13	13	13	13	13	13	13	13	13

Table 4.2J. Palisades Network: Daily Minimum Temperatures (F) for October 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	40	44	35	38	39	39	42	36	40	34	38	43	42
2	45	48	42	47	41	44	49	44	47	40	46	48	50
3	43	46	39	42	43	43	47	41	44	39	42	46	49
4	M	54	55	55	53	52	54	51	55	49	53	M	53
5	M	47	46	46	46	44	44	46	45	M	46	M	46
6	44	44	43	44	43	43	42	43	43	43	44	43	44
7	M	38	31	33	34	36	34	M	35	31	32	38	37
8	M	34	28	30	30	31	32	M	33	27	28	33	33
9	M	36	30	33	33	33	36	M	35	29	31	37	37
10	M	40	34	36	36	38	43	M	38	33	36	41	41
11	M	40	32	35	35	38	41	M	39	31	35	40	40
12	M	53	53	54	51	51	53	M	52	52	53	53	52
13	48	55	45	43	45	41	43	44	42	42	42	49	46
14	37	41	34	34	31	33	31	33	35	34	34	35	35
15	49	50	48	48	48	48	48	48	47	48	49	48	49
16	38	37	37	37	37	37	37	37	35	36	36	38	37
17	M	32	31	32	32	30	29	30	31	30	32	31	32
18	M	32	31	31	29	26	27	29	30	29	29	M	30
19	M	36	35	35	35	34	32	M	35	34	34	M	34
20	M	34	35	35	36	35	34	33	35	34	36	36	36
21	M	36	36	35	35	34	34	35	36	36	36	35	35
22	M	33	32	30	29	30	32	28	30	27	28	30	33
23	M	33	32	29	28	30	30	30	32	29	27	30	33
24	M	40	41	40	41	40	41	40	40	40	41	40	41
25	M	37	38	37	38	36	36	37	38	37	38	37	37
26	M	30	30	31	29	27	28	29	29	30	30	29	31
27	21	21	19	20	20	19	17	18	20	18	18	21	21
28	31	32	30	31	31	28	27	28	30	29	29	31	32
29	45	43	44	44	43	37	35	44	44	43	44	40	35
30	41	40	40	40	40	38	39	39	39	39	40	40	41
31	29	34	30	30	33	29	29	30	35	28	31	33	35

## Averages and extremes for all data

Ave	39.3	39.4	36.6	37.3	36.9	36.3	37.0	36.4	37.7	35.0	36.7	38.0	38.6
Max	49	55	55	55	53	52	54	51	55	52	53	53	53
Min	21	21	19	20	20	19	17	18	20	18	18	21	21
Cases	13	31	31	31	31	31	31	24	31	30	31	27	31

## Averages and extremes for days with data from all stations having data for this month

Ave	39.3	41.2	37.4	38.3	38.0	36.8	37.4	37.3	38.5	36.4	37.9	39.6	39.7
Max	49	55	48	48	48	48	49	48	47	48	49	49	50
Min	21	21	19	20	20	19	17	18	20	18	18	21	21
Cases	13	13	13	13	13	13	13	13	13	13	13	13	13

Table 4.3J. palisades Network: Daily Average Temperatures (F) for October 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	53	58	54	55	57	56	57	54	57	54	55	58	59
2	57	62	57	61	59	59	62	58	61	57	60	61	63
3	57	62	59	60	61	60	61	59	61	58	60	61	62
4	M	66	65	66	65	65	65	65	66	64	66	M	65
5	M	60	58	59	58	58	58	58	58	M	60	M	60
6	48	49	48	48	48	47	46	48	47	48	48	47	48
7	M	48	45	46	46	46	44	M	46	45	46	46	47
8	M	44	40	42	41	41	42	M	42	39	41	43	43
9	M	47	43	43	43	42	44	M	44	41	42	44	44
10	M	53	51	51	50	49	50	M	51	50	51	51	51
11	M	53	50	52	51	52	54	M	52	50	52	53	54
12	M	63	62	63	62	61	61	M	61	61	63	62	62
13	57	60	58	58	56	55	54	57	56	57	57	57	56
14	55	58	56	56	53	52	51	55	55	56	56	55	54
15	56	57	55	55	54	54	53	55	54	55	55	55	55
16	42	43	43	42	42	42	42	42	41	41	42	42	42
17	M	40	39	38	38	38	38	38	38	38	39	38	39
18	M	41	40	40	39	38	38	39	40	40	40	M	40
19	M	38	38	38	38	37	37	M	38	37	39	M	38
20	M	40	40	40	40	40	39	39	40	39	41	40	40
21	M	41	41	41	41	39	38	41	41	40	42	41	40
22	M	39	39	38	37	37	37	38	38	37	38	37	37
23	M	40	40	38	38	38	38	39	39	39	38	37	39
24	M	45	44	43	44	44	42	43	43	43	45	44	44
25	M	42	42	41	42	41	40	41	41	41	42	41	42
26	M	36	36	36	36	35	35	35	36	35	36	36	36
27	30	32	31	32	31	30	30	30	31	30	31	32	32
28	43	42	42	42	42	40	38	42	42	42	42	41	41
29	48	48	48	48	48	46	44	48	48	48	48	48	46
30	43	43	43	43	43	42	43	43	43	42	43	43	43
31	42	44	43	42	42	40	41	43	42	42	43	42	42
Averages and extremes for all data													
Ave	48.6	48.2	46.8	47.1	46.6	45.9	45.9	46.2	46.8	45.6	47.2	46.5	47.2
Max	57	66	65	66	65	65	65	65	66	64	66	62	65
Min	30	32	31	32	31	30	30	30	31	30	31	32	32
Cases	13	31	31	31	31	31	31	24	31	30	31	27	31
Averages and extremes for days with data from all stations having data for this month													
Ave	48.6	50.6	49.0	49.4	48.9	48.0	47.9	48.8	49.0	48.4	49.3	49.4	49.5
Max	57	62	59	61	61	60	62	59	61	58	60	61	63
Min	30	32	31	32	31	30	30	30	31	30	31	32	32
Cases	13	13	13	13	13	13	13	13	13	13	13	13	13

Table 4.1K. Palisades Network: Daily Maximum Temperatures (F) for November 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	49	51	50	49	50	49	49	49	48	49	50	50	51
2	51	53	53	52	52	51	53	52	52	53	53	52	52
3	49	48	49	48	48	47	48	48	48	49	49	48	47
4	36	41	39	39	38	37	37	39	37	38	39	38	38
5	41	41	41	42	42	41	42	43	42	42	43	41	40
6	46	47	48	47	46	46	47	47	47	47	47	45	46
7	41	42	43	42	41	41	39	43	43	42	43	42	41
8	32	36	35	33	34	34	34	34	33	36	36	34	33
9	47	49	50	49	49	47	48	50	48	48	49	48	48
10	40	40	41	41	40	40	39	42	41	41	41	41	40
11	30	32	32	33	31	32	32	34	32	30	31	31	33
12	36	36	38	37	37	36	34	37	37	36	37	36	35
13	37	39	38	39	38	38	39	40	39	37	39	38	38
14	34	38	36	37	36	37	37	38	37	36	37	36	36
15	37	41	40	41	39	40	39	41	40	40	40	39	39
16	M	45	45	44	44	44	44	45	44	44	45	43	44
17	42	44	44	43	43	42	42	43	43	43	43	43	43
18	47	50	52	52	52	51	50	52	52	52	53	52	53
19	44	48	48	47	48	50	49	49	50	47	48	49	50
20	41	45	43	42	42	43	43	44	43	43	44	43	43
21	37	39	40	38	37	35	33	39	39	38	39	37	37
22	33	33	33	33	33	33	32	33	33	32	33	33	33
23	31	31	32	31	31	30	31	32	31	31	32	32	31
24	32	33	35	34	34	34	34	35	35	33	34	34	34
25	51	51	52	52	53	53	53	53	53	52	53	52	54
26	55	55	56	55	55	56	55	56	56	56	56	55	55
27	38	38	39	38	38	39	39	39	39	39	39	39	38
28	26	24	26	25	25	26	27	26	26	26	27	27	25
29	18	18	19	18	18	19	18	18	19	19	18	18	18
30	19	18	20	20	18	19	19	20	19	19	19	18	18

## Averages and extremes for all data

Ave	38.6	40.2	40.6	40.0	39.7	39.7	39.5	40.7	40.2	39.9	40.6	39.8	39.8
Max	55	55	56	55	55	56	55	56	56	56	56	55	55
Min	18	18	19	18	18	19	18	18	19	19	18	18	18
Cases	29	30	30	30	30	30	30	30	30	30	30	30	30

## Averages and extremes for days with data from all stations having data for this month

Ave	38.6	40.0	40.4	39.9	39.6	39.5	39.4	40.6	40.1	39.8	40.4	39.7	39.6
Max	55	55	56	55	55	56	55	56	56	56	56	55	55
Min	18	18	19	18	18	19	18	18	19	19	18	18	18
Cases	29	29	29	29	29	29	29	29	29	29	29	29	29

Table 4.2K. Palisades Network: Daily Minimum Temperatures (F) for November 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	24	25	22	21	23	22	21	21	22	20	20	26	24
2	40	43	43	43	43	36	40	43	42	42	43	42	43
3	33	32	34	33	33	33	33	33	32	33	34	33	32
4	27	28	27	26	25	24	25	26	24	27	26	27	25
5	26	27	25	24	24	22	23	25	23	25	24	25	23
6	39	39	41	40	33	34	32	40	40	39	35	31	33
7	29	29	29	29	29	26	25	29	28	29	30	28	27
8	23	23	24	24	23	23	22	24	23	24	25	23	23
9	25	29	32	31	30	30	29	31	30	30	32	30	30
10	28	29	29	28	29	28	29	29	29	28	30	27	29
11	25	26	27	27	27	18	27	28	27	26	28	26	26
12	26	26	27	26	27	26	26	28	27	27	27	27	26
13	30	33	34	33	28	27	28	34	34	33	31	30	30
14	19	25	24	21	20	23	25	21	23	19	20	24	23
15	22	29	26	21	14	17	17	25	25	19	19	21	18
16	M	29	28	22	18	22	21	24	26	23	20	25	22
17	23	30	31	30	31	32	32	31	30	29	30	31	31
18	34	37	38	36	35	36	32	37	37	37	38	37	35
19	31	39	41	39	27	26	24	39	40	39	34	35	26
20	28	31	27	27	27	24	22	27	28	27	27	30	26
21	31	31	31	30	30	29	26	31	30	31	31	30	29
22	29	28	29	29	29	30	28	30	30	29	29	29	29
23	27	26	27	27	27	26	25	26	26	26	26	25	25
24	26	26	27	27	27	26	25	27	27	27	27	26	26
25	25	29	32	31	30	32	31	30	30	30	30	31	32
26	38	38	39	38	38	39	39	39	39	39	39	39	38
27	26	24	26	25	25	26	27	26	26	26	27	27	25
28	16	15	18	16	16	16	15	16	16	16	17	16	15
29	13	11	13	13	12	13	12	12	12	11	13	12	11
30	15	13	15	15	15	14	13	15	15	15	15	14	13

## Averages and extremes for all data

Ave	26.8	28.3	28.9	27.7	26.5	26.0	25.8	28.2	28.0	27.5	27.6	27.6	26.5
Max	40	43	43	43	43	39	40	43	42	42	43	42	43
Min	13	11	13	13	12	13	12	12	12	11	13	12	11
Cases	29	30	30	30	30	30	30	30	30	30	30	30	30

## Averages and extremes for days with data from all stations having data for this month

Ave	26.8	28.3	28.9	27.9	26.8	26.1	26.0	28.4	28.1	27.7	27.8	27.7	26.7
Max	40	43	43	43	43	39	40	43	42	42	43	42	43
Min	13	11	13	13	12	13	12	12	12	11	13	12	11
Cases	29	29	29	29	29	29	29	29	29	29	29	29	29

Table 4.3K Palisades Network: Daily Average Temperatures (F) for November 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	36	38	38	37	38	36	37	36	37	36	37	39	39
2	46	47	48	47	47	45	46	47	47	47	48	47	46
3	41	42	42	41	41	41	40	41	41	42	43	41	40
4	32	33	33	32	32	31	32	32	32	33	33	33	32
5	36	36	37	36	35	35	35	37	36	36	37	35	34
6	42	43	44	43	42	40	39	44	43	43	43	41	40
7	34	35	36	35	34	34	33	35	34	35	36	34	34
8	29	30	30	29	29	29	28	29	28	29	30	28	28
9	37	39	40	40	39	39	38	40	39	39	40	38	39
10	36	36	37	37	36	35	35	37	37	36	37	36	36
11	28	29	30	29	29	27	29	30	29	28	30	28	28
12	31	31	32	31	31	30	30	33	32	31	32	31	30
13	33	36	36	36	35	33	33	37	36	35	36	35	34
14	29	33	32	31	31	31	30	32	32	30	31	31	31
15	30	36	35	32	27	28	29	35	35	33	30	30	28
16	M	37	37	34	32	32	33	36	37	35	34	35	33
17	34	37	37	36	37	37	37	37	37	37	37	37	37
18	41	44	44	43	43	44	42	44	44	43	44	44	44
19	39	43	43	42	40	40	38	43	42	42	43	41	40
20	35	38	38	37	35	34	31	38	38	37	37	37	34
21	33	33	34	33	33	32	30	34	33	33	34	33	33
22	31	31	31	31	30	31	30	31	31	31	31	30	31
23	28	28	29	28	28	28	27	29	29	28	29	28	27
24	29	29	30	30	30	30	29	30	30	30	30	29	29
25	39	41	42	42	41	42	41	42	42	41	42	41	42
26	47	47	48	48	48	49	49	48	48	48	49	49	48
27	34	33	34	34	34	35	34	34	34	34	35	35	34
28	19	18	20	19	19	20	19	19	19	19	20	20	19
29	15	14	16	15	15	16	15	15	16	15	16	15	15
30	17	16	18	17	17	17	16	17	17	17	17	17	16

## Averages and extremes for all data

Ave	33.1	34.4	35.1	34.2	33.5	33.4	32.8	34.9	34.5	34.1	34.6	33.9	33.3
Max	47	47	48	48	48	49	49	48	48	48	49	49	48
Min	15	14	16	15	15	16	15	15	16	15	16	15	15
Cases	29	30	30	30	30	30	30	30	30	30	30	30	30

## Averages and extremes for days with data from all stations having data for this month

Ave	33.1	34.3	35.0	34.2	33.6	33.5	32.9	34.8	34.4	34.1	34.6	33.9	33.3
Max	47	47	48	48	48	49	49	48	48	48	49	49	48
Min	15	14	16	15	15	16	15	15	16	15	16	15	15
Cases	29	29	29	29	29	29	29	29	29	29	29	29	29



Table 4.1L. Palisades Network: Daily Maximum Temperatures (F) for December 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	26	25	26	27	26	25	26	M	26	27	25	25	25
2	22	21	23	23	22	22	21	M	22	23	21	22	20
3	17	16	18	18	18	19	17	M	18	18	17	18	17
4	24	23	25	24	24	24	24	M	24	M	24	M	23
5	32	32	32	33	33	32	32	M	32	M	32	M	31
6	31	31	32	32	M	30	31	M	32	M	M	M	30
7	28	28	28	30	M	28	28	M	29	M	M	M	28
8	21	20	22	22	21	21	21	21	21	21	21	20	20
9	34	35	36	38	37	36	37	36	36	37	37	36	36
10	42	40	42	43	42	41	39	41	41	42	42	41	40
11	26	31	29	30	30	29	28	29	30	29	30	28	28
12	32	30	31	31	30	31	30	30	29	31	31	30	30
13	24	26	26	27	26	27	25	25	25	25	26	24	25
14	37	37	39	39	40	39	39	39	38	39	39	39	39
15	37	38	40	41	41	41	41	38	39	39	38	40	40
16	34	33	35	34	35	35	34	33	35	34	34	34	34
17	36	37	38	38	37	38	36	37	36	38	36	37	37
18	37	40	39	39	40	40	38	39	39	39	39	38	39
19	47	48	49	50	50	47	47	47	48	48	49	48	47
20	35	35	36	M	36	36	36	35	35	35	35	36	35
21	23	22	23	M	23	21	20	20	20	22	21	21	20
22	30	29	30	M	29	28	28	28	29	30	28	29	29
23	29	28	29	M	29	28	28	28	28	29	28	27	28
24	31	32	34	M	33	32	31	32	33	34	31	31	33
25	33	32	34	M	34	33	32	33	34	34	32	32	32
26	32	31	32	M	32	30	30	30	32	32	31	31	31
27	31	31	32	M	31	29	26	28	32	31	30	29	30
28	28	27	29	M	28	27	26	26	28	29	27	27	27
29	12	12	12	M	12	11	11	10	11	12	11	11	10
30	12	15	14	M	14	14	13	14	13	15	13	13	13
31	16	15	16	17	17	15	15	14	16	16	14	15	15

Averages and extremes for all data

Ave	29.0	29.0	30.0	31.8	30.0	29.3	28.7	29.7	29.4	30.0	29.0	29.0	28.8
Max	47	48	49	50	50	47	47	47	48	48	49	48	47
Min	12	12	12	17	12	11	11	10	11	12	11	11	10
Cases	31	31	31	20	29	31	31	24	31	27	29	27	31

Averages and extremes for days with data from all stations having data for this month

Ave	32.5	33.1	34.0	34.5	34.3	33.8	33.1	33.0	33.3	33.7	33.5	33.1	33.1
Max	47	48	49	50	50	47	47	47	48	48	49	48	47
Min	16	15	16	17	17	15	15	14	16	16	14	15	15
Cases	13	13	13	13	13	13	13	13	13	13	13	13	13

Table 4.2L. Palisades Network: Daily Minimum Temperatures (F) for December 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	14	13	15	16	15	15	14	M	15	16	14	14	13
2	-11	-4	-8	-5	-10	-9	-7	M	-1	-11	-5	-2	-6
3	-10	-3	1	1	-6	-2	-2	M	0	-5	-1	-1	-4
4	9	12	13	13	11	12	14	M	14	M	13	M	12
5	8	12	16	15	14	10	14	M	15	M	14	M	12
6	21	21	23	23	M	22	23	M	23	M	M	M	22
7	13	13	13	13	M	13	12	M	13	M	M	M	12
8	6	8	6	6	7	5	6	5	7	6	5	7	6
9	16	15	16	17	16	15	14	15	16	16	15	15	14
10	21	19	21	21	20	20	19	20	20	21	21	20	20
11	15	16	19	19	19	19	16	18	18	19	19	18	18
12	18	20	22	22	20	18	20	20	21	21	21	20	19
13	16	17	19	19	18	17	16	18	17	18	18	17	17
14	20	20	22	21	22	21	21	21	20	21	21	21	22
15	19	24	19	19	21	19	24	16	21	17	17	22	21
16	18	22	17	19	20	20	24	16	24	15	16	22	20
17	23	26	24	24	27	25	23	24	26	24	21	26	25
18	15	17	15	16	15	16	17	14	17	13	13	18	19
19	24	31	28	32	33	34	35	26	33	24	32	32	34
20	18	18	18	M	19	18	18	17	18	18	16	17	16
21	11	10	12	M	11	-4	0	6	10	11	10	10	1
22	9	9	10	M	10	8	9	8	9	9	8	9	7
23	15	13	14	M	14	13	14	13	14	15	14	13	13
24	4	5	8	M	5	5	6	5	6	7	6	5	5
25	25	29	30	M	26	16	21	26	28	28	26	26	21
26	20	20	21	M	21	19	16	19	20	22	19	20	19
27	16	16	17	M	16	16	14	15	16	17	15	15	15
28	12	12	12	M	12	11	11	10	11	12	11	11	10
29	6	6	5	M	6	5	4	4	5	6	4	4	4
30	2	3	3	M	-4	-9	-3	-3	-4	4	-2	1	-1
31	-8	-2	-10	-9	-5	-16	-11	-11	-12	-7	-11	-2	-7

## Averages and extremes for all data

Ave	12.4	14.1	14.2	15.1	13.6	12.0	13.0	13.4	14.2	13.2	12.8	14.0	12.9
Max	25	31	30	32	33	34	35	26	33	28	32	32	34
Min	-11	-4	-10	-9	-10	-16	-11	-11	-12	-11	-11	-2	-7
Cases	31	31	31	20	29	31	31	24	31	27	29	27	31

## Averages and extremes for days with data from all stations having data for this month

Ave	15.6	17.9	16.8	17.4	17.9	16.4	17.2	15.5	17.5	16.0	16.0	18.2	17.5
Max	24	31	28	32	33	34	35	26	33	24	32	32	34
Min	-8	-2	-10	-9	-5	-16	-11	-11	-12	-7	-11	-2	-7
Cases	13	13	13	13	13	13	13	13	13	13	13	13	13

Table 4.3L Palisades Network: Daily Average Temperatures (F) for December 1976

DAY	P01A	P02A	P03A	P04A	P05A	P06A	P07A	P08A	P09A	P10A	P11A	P12A	P13A
1	21	20	21	22	21	21	20	M	21	22	20	20	20
2	7	9	10	11	9	9	8	M	10	10	10	12	8
3	9	9	11	11	10	11	9	M	10	10	10	10	9
4	20	20	22	21	21	20	20	M	21	M	21	M	20
5	27	26	27	28	26	26	25	M	27	M	26	M	25
6	27	27	28	28	M	27	27	M	28	M	M	M	26
7	20	21	21	22	M	20	20	M	20	M	M	M	20
8	16	15	16	16	16	15	14	15	16	16	15	15	15
9	24	24	25	26	25	25	24	25	25	25	25	24	24
10	34	33	34	35	34	34	32	33	34	34	34	33	33
11	20	21	23	23	22	22	21	22	22	22	23	21	22
12	28	26	28	27	26	25	24	27	27	28	27	25	25
13	20	20	21	21	21	20	19	20	20	20	21	20	20
14	31	31	33	33	34	33	32	32	32	32	32	32	32
15	30	32	31	31	31	30	31	29	32	30	28	31	30
16	30	29	30	30	30	30	30	28	31	28	28	30	29
17	34	32	34	34	34	34	33	32	33	34	32	33	33
18	26	29	29	29	29	28	29	27	29	27	27	29	29
19	38	41	42	42	42	40	41	40	41	40	40	40	40
20	26	25	26	M	26	26	25	25	25	26	25	25	25
21	18	17	18	M	17	15	14	16	17	18	16	16	14
22	20	20	21	M	21	20	19	19	20	21	19	19	19
23	20	19	20	M	19	19	19	19	19	20	19	19	19
24	19	20	22	M	21	19	19	20	21	22	20	20	20
25	30	31	33	M	31	29	28	31	32	32	30	30	30
26	26	26	27	M	26	25	25	25	27	27	25	25	25
27	22	23	23	M	22	21	21	21	22	23	22	21	21
28	21	21	22	M	22	21	20	20	22	22	20	20	20
29	8	7	7	M	7	7	6	6	7	8	6	6	6
30	8	8	8	M	8	7	6	7	7	9	7	7	7
31	12	11	11	12	13	9	8	9	10	12	10	10	10

## Averages and extremes for all data

Ave	22.4	22.3	23.4	25.0	22.9	22.1	21.7	22.8	22.8	22.9	22.0	22.0	21.8
Max	38	41	42	42	42	40	41	40	41	40	40	40	40
Min	7	7	7	11	7	7	6	6	7	8	6	6	6
Cases	31	31	31	20	29	31	31	24	31	27	29	27	31

## Averages and extremes for days with data from all stations having data for this month

Ave	26.3	26.5	27.5	27.5	27.4	26.4	26.0	26.1	27.0	26.8	26.2	26.4	26.3
Max	38	41	42	42	42	40	41	40	41	40	40	40	40
Min	12	11	11	12	13	9	8	9	10	12	10	10	10
Cases	13	13	13	13	13	13	13	13	13	13	13	13	13

## V. HUMIDITY

Relative humidity is measured with the hair hygrometer of a hygrothermograph located in a standard instrument shelter. It is recorded on a scale of 0-100% and reported to the nearest whole percent. Since relative humidity is a function of temperature, the data are given in three tables for each month. The first gives the relative humidity for standard National Weather Service reporting times, for each day of the month. The second gives the temperature reported at the same six-hour intervals. The third gives the dew point, defined as the temperature at which saturation occurs. It is calculated from the corresponding values of temperature and relative humidity. The significance of dew point as a moisture variable is that it is a function of the actual amount of water vapor in the air rather than the amount relative to saturation, as is relative humidity.

The data contained in this report are only for the two main stations. Hourly values of temperature and relative humidity as well as calculated values of dew point and specific humidity for all network stations will be used in analyses, however, and are stored at the University of Michigan Computing Center on magnetic tape. Discussions of hygrometer calibration procedures and the general accuracy of the humidity data may be found in annual reports for this project.

Table 5.1A  
Relative Humidity (%)  
January 1976

Day	P03A				P07A			
	0100	Time (EST) 0700	1300	1900	0100	Time (EST) 0700	1300	1900
1	79	89	62	65	82	92	62	70
2	77	98	82	75	86	95	78	76
3	78	89	85	79	79	86	87	94
4	88	83	86	74	93	89	93	89
5	73	78	61	65	90	85	62	66
6	64	65	50	57	72	72	55	58
7	100	92	69	79	91	92	63	63
8	87	76	69	78	80	84	76	82
9	79	84	84	68	85	83	82	76
10	70	75	63	85	75	78	65	71
11	95	97	70	72	93	95	77	77
12	75	81	69	66	78	82	75	73
13	72	81	97	83	72	80	94	87
14	73	69	62	62	80	74	65	65
15	65	77	83	91	67	76	82	93
16	86	81	69	63	88	78	63	69
17	72	90	80	93	73	90	61	88
18	75	64	53	74	73	59	49	66
19	67	55	86	85	66	59	63	93
20	83	75	77	81	90	73	77	80
21	91	86	83	76	92	96	88	76
22	72	66	64	71	81	82	83	90
23	74	80	69	75	83	87	80	82
24	81	87	83	83	88	90	82	89
25	99	99	71	94	100	98	70	92
26	100	89	87	72	99	94	86	79
27	73	77	73	71	73	82	67	75
28	76	80	69	86	82	82	67	75
29	89	74	68	73	89	73	79	82
30	77	95	69	78	85	95	65	79
31	86	83	70	72	90	85	65	71

Averages for all days with data

Ave	79.9	81.1	73.1	75.7	83.0	83.4	73.0	78.3
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	79.9	81.1	73.1	75.7	83.0	83.4	73.0	78.3
Cases	31	31	31	31	31	31	31	31

Table 5.2A  
Temperature (F)  
January 1976

Day	P03A				P07A			
	0100	Time (EST) 0700	1300	1900	0100	Time (EST) 0700	1300	1900
1	31	31	35	33	31	28	35	32
2	30	32	38	32	30	33	38	30
3	29	25	19	15	27	24	18	15
4	16	15	17	17	16	15	18	16
5	17	6	16	17	12	4	17	17
6	19	20	29	31	18	20	29	31
7	32	26	22	15	30	28	21	15
8	11	14	14	13	11	11	15	6
9	13	15	17	18	12	13	17	12
10	15	9	18	20	10	8	18	20
11	24	32	26	27	23	32	26	27
12	25	25	31	33	26	24	29	31
13	34	33	33	32	34	33	31	31
14	28	23	24	26	28	23	25	25
15	24	21	23	30	23	20	23	28
16	34	28	24	20	34	27	24	18
17	11	7	19	16	11	6	20	16
18	12	10	20	15	11	9	19	14
19	19	24	30	32	17	22	31	31
20	33	31	27	22	32	30	27	19
21	16	25	26	25	14	21	25	23
22	26	23	23	19	24	19	20	11
23	14	14	24	23	9	11	19	20
24	19	16	25	32	15	13	23	28
25	16	23	29	27	19	21	27	26
26	27	32	30	25	25	26	29	19
27	21	20	22	20	18	18	19	17
28	11	10	30	34	8	6	26	30
29	36	29	26	24	34	27	24	21
30	21	24	29	18	20	21	26	15
31	19	22	28	28	15	20	26	24

Averages for all days with data

Ave	22.0	21.5	25.0	23.9	20.4	19.8	24.0	21.5
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	22.0	21.5	25.0	23.9	20.4	19.8	24.0	21.5
Cases	31	31	31	31	31	31	31	31

Table 5.3A

Dew Point (F)

January 1976

Day	P03A				P07A			
	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)
	0100	0700	1300	1900	0100	0700	1300	1900
1	26	28	24	22	26	26	24	24
2	24	32	33	25	26	32	32	24
3	23	22	15	10	21	20	15	14
4	13	11	14	10	14	13	16	13
5	10	1	5	8	10	0	6	8
6	8	10	13	18	11	13	14	18
7	31	24	13	10	28	26	11	4
8	8	7	6	8	5	8	9	2
9	8	11	13	10	8	9	12	6
10	6	3	8	16	3	2	8	12
11	23	31	18	19	21	31	20	20
12	19	20	22	23	20	20	22	23
13	26	28	32	28	25	27	30	27
14	20	14	13	15	22	15	15	15
15	14	15	19	27	13	13	18	26
16	30	23	15	9	30	21	13	9
17	4	5	14	14	4	4	9	13
18	5	0	5	8	4	-1	2	5
19	10	10	27	28	8	10	20	29
20	29	24	21	17	29	23	21	14
21	14	21	21	19	12	20	22	17
22	18	13	13	12	19	14	16	9
23	7	9	15	16	5	8	14	15
24	14	13	20	27	13	11	18	25
25	16	23	21	26	19	21	19	24
26	27	29	26	17	24	25	25	13
27	14	14	15	12	11	13	10	10
28	5	5	21	30	3	1	16	23
29	33	22	17	17	31	19	18	16
30	15	22	20	13	16	20	16	10
31	15	18	20	20	13	16	16	16

Averages for all days with data

Ave	16.6	16.4	17.3	17.2	16.0	15.4	16.4	15.6
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	16.6	16.4	17.3	17.2	16.0	15.4	16.4	15.6
Cases	31	31	31	31	31	31	31	31

Table 5.1B  
Relative Humidity (%)  
February 1976

Day	P03A				P07A			
	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)
	0100	0700	1300	1900	0100	0700	1300	1900
1	94	98	74	88	94	97	69	84
2	79	75	72	69	84	85	78	72
3	62	79	65	73	60	75	62	73
4	86	74	66	74	87	74	63	74
5	77	66	67	78	77	67	69	79
6	86	94	70	71	88	97	67	68
7	63	78	62	73	64	80	49	64
8	72	69	65	69	74	68	61	59
9	97	84	67	66	99	75	63	66
10	65	73	65	99	61	72	65	99
11	99	82	58	65	95	80	55	59
12	70	56	50	70	68	58	49	70
13	90	83	64	78	94	77	46	75
14	92	100	46	48	94	90	44	49
15	58	93	84	72	54	97	76	57
16	99	100	92	100	100	100	96	100
17	99	94	85	87	99	91	85	86
18	92	97	92	87	93	94	90	83
19	79	98	79	90	71	98	74	84
20	91	100	59	72	89	98	57	55
21	86	98	98	94	82	96	96	92
22	85	72	64	81	83	76	70	72
23	65	76	53	60	75	85	56	59
24	75	76	40	52	75	74	43	53
25	50	63	44	62	53	64	40	59
26	81	95	88	95	73	94	58	89
27	60	99	43	47	74	95	45	39
28	94	87	57	82	90	98	44	55
29	62	90	83	91	59	89	59	86

Averages for all days with data

Ave	79.5	84.4	67.3	75.6	79.5	84.3	63.1	71.0
Cases	29	29	29	29	29	29	29	29

Averages for only those days with data for both stations

Ave	79.5	84.4	67.3	75.6	79.5	84.3	63.1	71.0
Cases	29	29	29	29	29	29	29	29



Table 5.2B

Temperature (F)

February 1976

Day	P03A				P07A			
	Time (EST)				Time (EST)			
	0100	0700	1300	1900	0100	0700	1300	1900
1	28	31	21	11	27	29	19	6
2	11	12	16	13	5	3	15	9
3	2	3	18	20	0	1	16	20
4	31	24	24	18	28	23	24	17
5	15	17	20	20	15	16	20	19
6	14	14	20	19	13	13	18	17
7	22	21	22	24	20	18	22	23
8	31	34	35	27	30	31	32	24
9	7	17	36	39	11	19	36	38
10	45	43	49	37	44	43	50	37
11	35	34	36	31	35	35	35	31
12	32	40	48	48	31	39	47	47
13	45	39	39	30	44	40	42	31
14	21	14	39	36	23	21	38	36
15	38	47	56	46	38	46	59	52
16	33	28	39	41	38	34	39	40
17	35	34	35	36	36	35	35	35
18	37	42	39	36	36	40	41	35
19	35	33	35	35	35	32	35	35
20	34	25	49	42	34	29	49	43
21	42	37	36	35	41	38	35	34
22	31	29	30	27	31	28	29	26
23	21	22	33	37	19	21	32	36
24	39	39	53	56	37	37	55	55
25	55	47	61	54	51	47	62	51
26	43	42	41	35	47	43	48	36
27	46	32	61	61	38	34	58	61
28	37	35	41	36	38	29	44	43
29	51	45	40	35	49	47	48	38

Averages for all days with data

Ave	31.5	30.3	36.9	34.0	30.8	30.0	37.3	33.7
Cases	29	29	29	29	29	29	29	29

Averages for only those days with data for both stations

Ave	31.5	30.3	36.9	34.0	30.8	30.0	37.3	33.7
Cases	29	29	29	29	29	29	29	29

Table 5.3B  
Dew Point (F)  
February 1976

Day	P03A				P07A			
	Time (EST)				Time (EST)			
	0100	0700	1300	1900	0100	0700	1300	1900
1	26	30	14	8	25	27	10	2
2	6	6	9	5	1	0	9	2
3	-7	-1	8	13	-10	-4	5	13
4	27	17	14	11	24	16	13	10
5	9	7	11	14	9	7	11	13
6	10	13	12	11	11	12	8	9
7	11	15	11	17	10	13	6	13
8	23	25	24	18	22	22	21	12
9	7	13	26	29	11	12	24	29
10	33	35	38	37	31	35	38	37
11	34	29	22	21	34	29	20	13
12	23	25	30	39	22	25	29	38
13	42	34	28	24	43	34	23	25
14	19	14	19	18	21	18	18	19
15	24	45	51	38	22	45	52	37
16	32	28	37	41	38	33	38	40
17	35	33	31	33	35	33	31	32
18	34	41	37	32	34	39	39	30
19	30	33	29	32	26	31	27	30
20	32	25	35	34	31	28	34	28
21	38	37	36	33	36	37	34	32
22	27	21	19	21	27	21	20	18
23	11	16	18	24	12	18	18	23
24	32	32	29	39	29	30	33	38
25	36	36	38	42	34	35	37	37
26	37	40	37	33	39	41	33	33
27	33	32	38	41	31	33	37	36
28	35	31	27	31	35	28	24	28
29	39	42	36	33	35	44	34	35

Averages for all days with data

Ave	25.5	25.9	26.4	26.6	24.8	25.6	25.1	24.6
Cases	29	29	29	29	29	29	29	29

Averages for only those days with data for both stations

Ave	25.5	25.9	26.4	26.6	24.8	25.6	25.1	24.6
Cases	29	29	29	29	29	29	29	29

Table 5.1C

## Relative Humidity (%)

March 1976

Day	P03A				P07A			
	Time (EST)				Time (EST)			
	0100	0700	1300	1900	0100	0700	1300	1900
1	100	96	92	95	100	98	93	96
2	95	96	98	99	98	98	97	97
3	99	100	98	93	98	97	93	94
4	94	98	97	93	95	96	97	79
5	98	75	71	69	97	60	68	68
6	72	65	59	72	71	63	54	65
7	66	74	68	57	64	73	67	57
8	56	68	45	63	70	77	44	57
9	98	86	43	72	72	77	41	58
10	72	95	92	79	69	94	87	78
11	100	98	48	50	76	95	46	46
12	67	99	73	89	66	97	74	87
13	96	79	73	77	98	81	77	73
14	72	72	99	81	77	75	97	71
15	68	65	54	68	65	68	45	63
16	81	67	58	59	78	94	55	74
17	60	57	48	53	68	57	50	45
18	67	69	48	58	60	66	51	54
19	55	71	56	67	54	74	51	62
20	84	81	72	77	87	83	70	67
21	77	79	94	75	68	79	89	71
22	96	96	58	66	100	100	54	47
23	82	96	57	52	68	90	53	51
24	60	70	47	77	57	71	45	75
25	66	73	52	42	64	70	45	44
26	83	94	60	61	87	100	56	54
27	84	97	81	84	87	97	79	74
28	98	100	53	62	96	98	52	60
29	79	75	76	99	75	75	78	98
30	98	94	66	80	99	95	59	68
31	82	91	70	87	72	84	60	79

Averages for all days with data

Ave	80.9	83.1	67.9	72.8	78.6	83.2	65.4	68.2
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	80.9	83.1	67.9	72.8	78.6	83.2	65.4	68.2
Cases	31	31	31	31	31	31	31	31

Table 5.2C

## Temperature (F)

March 1976

Day	P03A				P07A			
	0100	Time (EST)			0100	Time (EST)		
	0700	1300	1900		0700	1300	1900	
1	35	33	33	34	35	33	33	33
2	36	35	36	35	34	34	36	36
3	40	38	37	34	39	42	38	34
4	33	33	41	55	33	33	41	62
5	50	45	32	31	49	47	31	30
6	29	23	M	36	29	22	31	35
7	34	33	34	M	33	32	34	28
8	M	M	M	32	21	21	34	32
9	23	24	43	36	27	26	41	36
10	34	37	37	32	34	36	36	31
11	20	15	41	40	23	21	39	39
12	36	40	56	41	35	38	55	41
13	32	27	29	27	32	26	28	26
14	33	33	35	38	28	29	33	37
15	35	29	35	32	33	25	35	31
16	29	31	31	25	28	26	30	22
17	23	22	29	29	20	19	26	28
18	31	33	52	58	30	32	51	57
19	57	53	65	65	55	50	66	65
20	60	61	68	51	59	60	67	57
21	43	35	28	27	45	35	26	24
22	22	22	37	36	18	21	37	38
23	27	32	52	55	32	31	50	53
24	50	49	69	58	50	47	68	58
25	47	43	53	57	47	40	56	55
26	54	55	73	70	52	53	71	68
27	63	38	42	41	60	37	38	40
28	35	28	54	53	32	30	51	51
29	45	45	52	54	43	43	51	52
30	56	59	54	43	53	55	59	44
31	41	39	44	39	41	39	45	40

Averages for all days with data

Ave	38.5	36.4	44.5	42.1	37.0	34.9	43.1	41.5
Cases	30	30	29	30	31	31	31	31

Averages for only those days with data for both stations

Ave	39.0	37.0	44.8	42.7	38.0	36.0	44.2	42.5
Cases	28	28	28	28	28	28	28	28

Table 5.3C

Dew Point (F)

March 1976

Day	P03A				P07A			
	Time (EST)				Time (EST)			
	0100	0700	1300	1900	0100	0700	1300	1900
1	35	32	30	33	35	32	31	32
2	35	34	36	35	34	34	35	35
3	40	38	36	32	39	41	37	33
4	31	33	40	53	31	32	40	56
5	50	37	24	22	49	34	21	20
6	22	13	M	28	21	11	16	25
7	24	26	25	M	23	24	24	15
8	M	M	M	20	13	14	14	18
9	23	21	22	28	20	20	19	22
10	26	35	35	27	25	34	32	25
11	20	14	22	23	16	20	20	20
12	26	39	47	38	24	37	47	37
13	31	22	21	21	31	21	22	19
14	25	26	34	33	22	22	33	29
15	25	19	20	23	22	16	16	20
16	24	22	18	12	22	24	15	15
17	11	9	11	13	11	7	10	9
18	21	24	33	43	18	22	33	40
19	41	44	48	54	38	42	47	51
20	55	55	59	44	55	55	57	46
21	36	29	26	20	35	29	23	16
22	21	21	24	25	18	21	22	20
23	22	31	37	38	22	29	34	36
24	37	39	48	51	35	38	46	50
25	37	35	36	34	36	31	34	34
26	49	53	58	55	48	53	54	51
27	58	38	36	36	57	37	32	33
28	34	28	37	41	31	30	35	37
29	39	37	45	54	36	36	44	52
30	55	57	43	37	53	54	44	35
31	36	37	35	36	32	34	32	35

Averages for all days with data

Ave	33.0	31.6	34.0	33.7	30.6	30.1	31.3	31.1
Cases	30	30	29	30	31	31	31	31

Averages for only those days with data for both stations

Ave	33.7	32.4	34.3	34.3	31.9	31.5	32.7	32.4
Cases	28	28	28	28	28	28	28	28

Table 5.1D

## Relative Humidity (%)

April 1976

Day	P03A				P07A			
	Time (EST)				Time (EST)			
	0100	0700	1300	1900	0100	0700	1300	1900
1	98	93	97	93	99	96	97	95
2	88	84	56	57	87	82	47	51
3	100	70	44	59	82	74	42	57
4	77	99	66	80	77	95	40	57
5	100	100	55	47	99	99	41	46
6	59	99	69	58	63	98	42	48
7	100	98	69	59	94	79	51	51
8	82	75	60	63	62	84	46	57
9	100	98	44	57	100	98	36	40
10	100	56	41	34	61	51	32	34
11	97	72	50	67	97	72	37	66
12	69	88	46	54	69	87	36	45
13	100	99	41	38	89	75	37	37
14	51	51	45	52	47	50	44	47
15	78	90	65	58	75	93	64	60
16	93	72	42	47	94	77	43	46
17	59	64	52	46	57	67	51	42
18	60	65	52	93	58	65	51	73
19	98	87	67	62	92	86	59	54
20	94	84	96	71	75	74	95	70
21	65	94	63	92	61	97	59	96
22	99	89	60	84	98	84	51	73
23	100	100	51	70	97	96	46	63
24	86	95	73	99	87	94	74	97
25	96	97	100	94	95	92	97	97
26	78	80	70	69	96	86	68	64
27	74	69	65	72	86	66	61	76
28	88	81	68	65	99	98	53	54
29	100	99	39	58	99	98	36	42
30	100	100	46	63	95	62	44	63

Averages for all days with data

Ave	86.3	85.0	59.8	65.3	83.0	82.6	52.7	60.0
Cases	30	30	30	30	30	30	30	30

Averages for only those days with data for both stations

Ave	86.3	85.0	59.8	65.3	83.0	82.6	52.7	60.0
Cases	30	30	30	30	30	30	30	30

Table 5.2D

Temperature (F)

April 1976

Day	P03A				P07A			
	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)
	0100	0700	1300	1900	0100	0700	1300	1900
1	35	34	34	34	36	34	35	35
2	37	36	44	44	37	35	50	44
3	26	39	65	57	35	38	65	59
4	41	32	42	36	41	32	48	40
5	22	16	49	51	27	25	53	52
6	48	34	49	47	46	36	58	51
7	27	26	42	39	36	34	53	44
8	24	27	38	34	31	25	46	38
9	20	19	44	38	25	24	52	42
10	22	40	55	60	29	39	59	61
11	39	29	38	32	43	32	42	35
12	24	20	38	36	25	23	44	38
13	18	20	54	53	26	28	59	60
14	49	51	73	73	54	52	73	76
15	68	63	76	75	69	65	77	78
16	57	65	79	74	61	67	81	76
17	67	64	78	74	68	65	80	75
18	61	62	78	63	64	65	78	68
19	53	48	51	51	59	53	58	53
20	47	49	50	57	50	52	52	59
21	54	51	64	54	55	52	68	59
22	45	44	56	47	51	48	61	52
23	33	34	58	55	39	39	60	58
24	47	47	58	47	50	49	59	49
25	41	38	31	30	44	42	34	33
26	32	34	34	32	30	33	37	34
27	30	32	39	35	29	35	41	38
28	34	38	45	41	27	28	50	44
29	27	30	52	46	30	31	57	51
30	30	34	59	54	33	42	60	54

Averages for all days with data

Ave	38.7	38.4	52.4	49.0	41.6	40.7	56.4	51.8
Cases	30	30	30	30	30	30	30	30

Averages for only those days with data for both stations

Ave	38.7	38.4	52.4	49.0	41.6	40.7	56.4	51.8
Cases	30	30	30	30	30	30	30	30

Table 5.3D

Dew Point (F)

April 1976

Day	P03A				P07A			
	Time (EST)				Time (EST)			
	0100	0700	1300	1900	0100	0700	1300	1900
1	34	32	34	33	36	34	35	33
2	34	31	30	30	33	30	31	27
3	26	30	43	43	30	31	41	44
4	34	31	31	31	35	31	25	26
5	22	16	33	31	26	24	30	31
6	35	34	39	33	34	35	35	31
7	27	26	33	26	35	28	35	27
8	20	20	25	23	20	21	26	24
9	20	19	23	24	25	24	26	19
10	22	25	31	32	17	23	29	32
11	38	22	21	22	42	24	17	25
12	15	17	19	21	16	19	19	18
13	18	20	30	28	23	21	33	34
14	31	33	51	55	34	33	50	54
15	61	60	63	59	61	63	64	63
16	56	55	54	53	59	59	56	54
17	52	52	59	51	52	54	60	50
18	48	50	59	61	49	53	59	59
19	53	44	40	38	57	49	43	37
20	46	44	49	47	42	44	51	49
21	42	49	51	52	42	51	53	58
22	45	41	43	42	50	44	42	44
23	33	34	39	46	38	38	39	45
24	43	45	49	46	46	47	51	48
25	40	37	31	29	43	40	33	32
26	26	28	26	23	30	30	28	23
27	23	23	28	27	26	25	29	31
28	31	33	35	30	27	28	33	29
29	27	29	28	32	29	30	31	29
30	30	33	38	41	31	29	39	42

Averages for all days with data

Ave	34.3	33.8	37.8	36.9	36.2	35.4	38.1	37.2
Cases	30	30	30	30	30	30	30	30

Averages for only those days with data for both stations

Ave	34.3	33.8	37.8	36.9	36.2	35.4	38.1	37.2
Cases	30	30	30	30	30	30	30	30



Table 5.1E

## Relative Humidity (%)

May 1976

Day	P03A				P07A			
	Time (EST)				Time (EST)			
	0100	0700	1300	1900	0100	0700	1300	1900
1	89	93	72	57	93	96	49	45
2	100	100	96	88	98	86	97	85
3	83	66	62	71	86	65	63	67
4	100	87	45	38	96	86	37	36
5	46	56	52	64	45	57	47	58
6	97	99	96	94	96	96	96	96
7	99	90	70	60	99	94	51	56
8	100	74	54	47	98	95	45	45
9	60	63	52	50	72	60	50	51
10	64	66	44	50	79	77	41	45
11	79	83	72	68	97	80	72	47
12	96	100	44	44	100	97	38	41
13	100	61	36	90	70	59	36	63
14	95	96	81	82	95	95	71	67
15	91	96	94	95	91	96	95	96
16	95	93	79	95	96	93	62	86
17	100	97	81	71	98	97	89	68
18	64	77	67	59	78	74	53	47
19	99	96	44	52	82	71	39	47
20	55	65	71	74	71	66	66	70
21	82	75	72	66	95	71	65	61
22	100	71	70	70	97	73	58	65
23	100	70	73	88	98	78	64	65
24	99	70	80	80	85	80	59	60
25	100	96	64	72	100	98	61	60
26	100	96	46	58	96	98	49	51
27	100	98	46	49	99	98	42	46
28	71	71	56	98	64	75	55	96
29	95	95	91	94	94	94	93	94
30	95	96	91	94	94	94	80	93
31	96	96	87	93	96	96	76	91

Averages for all days with data

Ave	88.7	83.6	67.4	71.4	89.0	83.7	61.2	64.5
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	88.7	83.6	67.4	71.4	89.0	83.7	61.2	64.5
Cases	31	31	31	31	31	31	31	31

Table 5.2E

## Temperature (F)

May 1976

Day	P03A				P07A			
	Time (EST)				Time (EST)			
	0100	0700	1300	1900	0100	0700	1300	1900
1	48	47	53	55	47	45	58	56
2	37	36	38	41	40	43	39	42
3	38	38	41	40	38	37	39	40
4	32	35	55	61	36	36	59	61
5	56	60	74	67	56	59	76	68
6	46	39	40	40	48	40	41	41
7	32	30	47	42	32	33	51	43
8	30	33	51	54	31	36	54	55
9	53	53	63	68	49	55	66	68
10	59	57	70	68	56	55	72	69
11	55	47	45	47	56	48	49	50
12	37	37	54	54	33	35	59	56
13	35	49	72	62	42	50	71	65
14	57	50	56	54	61	53	64	62
15	54	63	66	64	58	64	67	64
16	63	58	65	57	63	61	69	62
17	47	47	50	48	49	49	53	50
18	43	47	51	51	40	43	55	52
19	34	35	55	65	39	41	60	67
20	62	62	66	66	53	63	70	70
21	56	54	53	52	55	53	61	56
22	35	44	53	50	39	45	59	53
23	35	43	53	48	38	44	61	54
24	43	48	50	49	50	50	59	56
25	36	41	58	53	43	47	63	58
26	38	42	65	59	44	46	68	62
27	40	45	70	67	44	47	73	67
28	55	57	69	55	59	58	70	61
29	58	58	61	59	58	58	62	61
30	58	58	65	62	60	59	69	62
31	56	59	65	58	60	62	70	60

## Averages for all days with data

Ave	46.1	47.4	57.3	55.4	47.7	48.9	60.9	57.8
Cases	31	31	31	31	31	31	31	31

## Averages for only those days with data for both stations

Ave	46.1	47.4	57.3	55.4	47.7	48.9	60.9	57.8
Cases	31	31	31	31	31	31	31	31

Table 5.3E

Dew Point (F)

May 1976

Day	P03A				P07A			
	Time (EST)				Time (EST)			
	0100	0700	1300	1900	0100	0700	1300	1900
1	45	45	44	40	45	44	39	35
2	37	36	37	37	40	39	38	38
3	33	28	29	31	34	27	27	30
4	32	32	34	35	35	32	32	34
5	36	44	56	54	35	43	54	52
6	45	39	39	38	47	39	40	40
7	32	28	37	29	32	31	34	28
8	30	26	35	35	30	35	33	34
9	40	41	45	48	40	41	47	49
10	47	45	47	49	49	48	47	47
11	49	42	37	37	56	42	40	30
12	36	37	32	33	33	35	33	32
13	35	36	44	59	33	36	42	52
14	56	49	51	49	60	52	54	51
15	51	62	64	63	56	63	66	63
16	61	56	58	55	62	59	55	58
17	47	46	45	39	49	48	50	40
18	32	40	40	38	34	35	38	33
19	34	34	34	47	34	32	35	46
20	45	50	57	58	44	51	59	59
21	51	46	45	41	53	44	50	43
22	35	35	43	41	38	37	45	41
23	35	34	45	44	38	37	49	42
24	43	39	44	43	46	44	45	42
25	36	39	46	44	43	46	49	44
26	38	41	43	44	43	46	47	44
27	40	45	48	47	44	47	48	46
28	46	48	53	55	47	50	53	60
29	57	57	58	58	57	56	60	60
30	57	57	62	60	58	57	62	60
31	55	58	61	56	59	60	62	58

Averages for all days with data

Ave	42.3	42.3	45.6	45.4	44.2	43.8	46.2	44.9
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	42.3	42.3	45.6	45.4	44.2	43.8	46.2	44.9
Cases	31	31	31	31	31	31	31	31

Table 5.1F

## Relative Humidity (%)

June 1976

Day	P03A				P07A			
	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)
	0100	0700	1300	1900	0100	0700	1300	1900
1	97	96	70	79	95	95	73	57
2	63	71	53	68	59	76	54	47
3	100	85	40	42	82	78	41	43
4	98	62	36	39	80	64	36	39
5	98	65	42	51	66	70	43	47
6	98	89	54	51	95	86	47	47
7	100	83	49	54	98	79	45	43
8	99	74	50	46	93	84	43	42
9	97	92	51	45	93	73	48	49
10	98	64	45	63	79	68	43	53
11	87	85	69	66	90	81	65	66
12	92	90	60	65	90	75	60	66
13	76	86	64	54	76	81	53	43
14	96	83	57	58	92	76	46	54
15	65	79	62	89	60	77	63	93
16	75	80	72	70	76	84	78	73
17	100	99	47	49	100	92	45	45
18	75	82	57	92	71	83	58	97
19	91	63	61	61	97	82	61	60
20	94	87	52	52	98	95	48	50
21	94	90	72	83	97	92	71	78
22	93	88	68	92	95	86	63	96
23	93	92	53	81	96	94	56	78
24	93	90	92	91	97	95	97	94
25	92	82	55	49	97	86	48	53
26	91	54	45	47	77	73	48	51
27	67	68	62	65	81	80	68	69
28	65	80	59	78	94	85	52	75
29	87	79	92	94	96	88	86	97
30	93	88	90	87	97	96	95	95

Averages for all days with data

Ave	88.9	80.8	59.3	65.4	87.3	82.3	57.8	63.3
Cases	30	30	30	30	30	30	30	30

Averages for only those days with data for both stations

Ave	88.9	80.8	59.3	65.4	87.3	82.3	57.8	63.3
Cases	30	30	30	30	30	30	30	30

Table 5.2F

## Temperature (F)

June 1976

Day	P03A				P07A			
	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)
	0100	0700	1300	1900	0100	0700	1300	1900
1	51	58	69	61	58	60	70	70
2	51	48	72	60	53	52	71	70
3	43	48	74	73	51	53	75	72
4	47	58	80	74	54	62	80	75
5	47	60	80	71	57	62	81	78
6	48	53	71	71	53	58	78	74
7	46	56	77	77	51	61	83	80
8	54	61	78	80	60	63	81	80
9	54	58	81	82	58	62	83	84
10	56	71	83	72	64	68	84	79
11	67	69	77	80	67	69	80	81
12	69	68	87	80	70	68	88	80
13	72	67	82	83	74	68	84	83
14	67	69	81	84	68	72	83	84
15	77	76	83	74	78	75	83	73
16	66	62	64	63	64	63	63	63
17	45	47	77	78	49	54	76	77
18	64	66	81	67	66	68	83	67
19	63	61	63	64	64	59	66	65
20	45	51	73	69	49	57	75	71
21	53	57	68	69	55	59	69	71
22	60	63	72	61	61	64	74	61
23	52	61	76	68	57	61	75	68
24	63	66	66	69	64	65	67	70
25	66	66	74	72	66	65	74	75
26	55	72	80	80	63	68	82	82
27	71	71	80	79	69	71	83	81
28	71	68	77	75	68	68	81	78
29	65	65	65	63	65	63	68	63
30	59	61	60	61	58	59	61	61

Averages for all days with data

Ave	58.1	62.0	75.0	72.0	61.2	63.3	76.7	73.9
Cases	30	30	30	30	30	30	30	30

Averages for only those days with data for both stations

Ave	58.1	62.0	75.0	72.0	61.2	63.3	76.7	73.9
Cases	30	30	30	30	30	30	30	30

Table 5.3F

Dew Point (F)

June 1976

Day	P03A				P07A			
	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)
	0100	0700	1300	1900	0100	0700	1300	1900
1	50	56	59	54	56	59	61	54
2	39	39	53	50	39	45	53	49
3	42	44	48	48	45	46	49	48
4	46	45	50	47	48	50	50	48
5	46	48	54	52	46	52	56	56
6	47	50	53	52	52	54	56	52
7	46	51	56	59	51	55	59	55
8	54	53	57	57	57	58	56	55
9	53	55	60	58	56	53	61	62
10	56	58	59	58	58	57	59	60
11	62	64	67	68	64	63	67	69
12	66	65	71	67	67	60	72	68
13	64	63	68	65	66	62	65	58
14	66	64	64	68	65	63	60	66
15	64	69	69	71	63	68	69	71
16	58	56	55	53	56	58	56	55
17	45	47	55	58	49	52	53	54
18	55	61	65	64	56	63	66	66
19	60	48	49	50	63	54	52	51
20	44	47	54	51	49	55	54	51
21	51	54	59	64	54	56	59	64
22	58	59	61	59	60	60	61	60
23	50	59	58	62	56	59	59	61
24	61	63	63	66	63	63	66	69
25	63	60	57	52	65	60	53	56
26	52	54	56	58	56	59	60	62
27	59	60	66	66	63	64	71	70
28	58	62	61	68	67	63	62	69
29	61	59	63	61	64	59	63	62
30	57	57	57	57	57	58	60	59

Averages for all days with data

Ave	54.5	55.7	59.0	58.7	57.1	57.6	59.6	59.3
Cases	30	30	30	30	30	30	30	30

Averages for only those days with data for both stations

Ave	54.5	55.7	59.0	58.7	57.1	57.6	59.6	59.3
Cases	30	30	30	30	30	30	30	30

Table 5.1G

## Relative Humidity (%)

July 1976

Day	P03A				P07A			
	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)
	0100	0700	1300	1900	0100	0700	1300	1900
1	70	75	67	62	85	86	64	55
2	93	92	33	51	98	97	41	49
3	94	86	59	79	97	93	52	66
4	93	83	57	81	98	90	50	68
5	94	88	55	60	80	92	49	57
6	95	95	38	47	95	96	45	53
7	95	68	57	84	88	83	54	86
8	93	93	58	70	98	97	47	63
9	94	82	63	56	98	80	66	57
10	68	74	58	62	68	80	59	58
11	65	84	66	56	68	78	70	55
12	85	71	61	60	92	84	61	62
13	82	86	52	44	100	84	45	42
14	94	65	49	79	72	75	50	74
15	92	86	57	73	97	86	52	69
16	90	66	61	53	96	80	55	54
17	94	61	51	46	96	92	53	46
18	94	68	48	42	72	85	50	46
19	77	74	46	54	81	79	49	60
20	67	65	63	92	76	78	62	97
21	92	91	55	65	97	92	53	59
22	92	92	70	91	87	92	69	95
23	93	91	78	75	96	97	80	67
24	93	88	62	64	98	92	56	55
25	93	92	46	46	97	98	49	58
26	94	70	48	62	86	75	52	71
27	93	93	77	57	99	99	71	58
28	95	95	86	93	98	93	86	95
29	93	91	86	89	97	95	88	89
30	94	95	76	73	98	97	58	72
31	94	95	66	76	97	97	72	79

Averages for all days with data

Ave	88.8	82.4	59.6	65.9	90.5	88.5	58.4	65.1
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	88.8	82.4	59.6	65.9	90.5	88.5	58.4	65.1
Cases	31	31	31	31	31	31	31	31

Table 5.2G

## Temperature (F)

July 1976

Day	P03A				P07A			
	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)
	0100	0700	1300	1900	0100	0700	1300	1900
1	61	60	66	66	58	58	67	67
2	47	50	75	72	50	55	76	74
3	49	52	70	66	53	53	76	72
4	51	54	72	66	55	56	80	72
5	52	59	76	72	61	59	81	76
6	54	54	81	78	57	58	82	80
7	56	71	77	74	63	68	78	72
8	58	60	78	70	61	63	81	73
9	52	68	79	81	57	68	78	80
10	77	78	87	83	77	77	88	87
11	81	75	82	80	81	78	83	84
12	62	60	68	66	60	57	68	65
13	61	47	71	72	50	49	74	73
14	56	75	87	76	61	72	91	78
15	69	69	83	76	67	71	86	79
16	70	66	69	66	67	65	68	66
17	54	61	73	72	54	57	72	73
18	50	69	76	80	59	61	79	77
19	64	66	81	78	68	67	83	77
20	73	75	80	72	73	72	85	72
21	72	68	77	72	72	68	81	74
22	61	68	78	74	65	67	78	74
23	73	73	78	80	73	73	78	84
24	70	67	77	75	70	67	83	76
25	55	58	81	79	58	60	81	81
26	59	73	83	81	66	69	84	80
27	68	70	78	77	68	67	80	79
28	56	62	76	77	59	63	76	76
29	72	70	72	70	69	70	70	70
30	58	62	76	75	61	61	79	77
31	67	66	71	67	67	65	72	68

Averages for all days with data

Ave	61.5	64.7	76.7	73.9	63.3	64.3	78.7	75.3
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	61.5	64.7	76.7	73.9	63.3	64.3	78.7	75.3
Cases	31	31	31	31	31	31	31	31



Table 5.3G

Dew Point (F)

July 1976

Day	P03A				P07A			
	Time	Time (EST)			Time	Time (EST)		
	0100	0700	1300	1900	0100	0700	1300	1900
1	51	52	55	52	54	54	54	50
2	45	48	44	52	50	54	51	53
3	47	48	55	59	52	51	57	60
4	49	49	56	60	55	53	60	61
5	50	55	59	57	54	57	60	60
6	53	52	53	56	56	57	58	61
7	55	60	60	69	60	62	60	67
8	56	58	62	59	60	62	59	59
9	50	62	65	64	56	61	66	63
10	66	69	71	68	66	70	72	70
11	67	70	69	63	69	71	72	66
12	58	51	54	51	58	52	54	52
13	55	43	53	49	50	44	51	49
14	55	63	66	69	52	64	69	68
15	66	65	66	66	66	66	66	68
16	67	54	55	49	66	59	51	49
17	53	48	53	50	53	55	54	51
18	48	58	55	55	50	57	59	55
19	56	57	58	60	62	61	62	62
20	61	63	67	70	65	64	70	71
21	69	66	60	60	71	66	62	59
22	58	66	67	71	62	65	67	72
23	70	70	70	71	72	72	72	72
24	68	63	63	62	70	65	66	59
25	53	55	57	57	58	59	60	64
26	58	62	61	67	61	60	64	70
27	66	68	70	61	68	67	69	63
28	55	61	72	75	58	61	71	75
29	70	67	67	67	68	68	66	67
30	57	60	68	66	60	60	63	68
31	65	65	59	59	66	64	62	61

Averages for all days with data

Ave	57.9	58.9	60.9	61.1	60.2	60.7	62.2	62.0
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	57.9	58.9	60.9	61.1	60.2	60.7	62.2	62.0
Cases	31	31	31	31	31	31	31	31

Table 5.1H

## Relative Humidity (%)

August 1976

Day	P03A				P07A			
	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)
	0100	0700	1300	1900	0100	0700	1300	1900
1	73	91	58	61	95	85	58	61
2	71	93	59	56	99	85	54	61
3	95	95	51	54	100	100	39	53
4	94	94	50	57	96	89	46	59
5	60	86	74	90	69	90	69	92
6	87	88	57	66	84	84	68	67
7	97	68	49	56	84	85	49	58
8	94	80	46	73	100	95	47	58
9	95	93	49	71	100	99	54	56
10	95	88	43	52	99	90	50	59
11	81	73	60	71	81	82	67	72
12	88	93	65	80	95	97	62	72
13	92	91	77	90	97	97	71	79
14	93	92	81	84	97	96	78	89
15	94	93	52	64	97	93	56	68
16	94	95	47	60	91	99	53	65
17	96	96	50	61	98	98	41	59
18	94	94	40	56	98	98	45	59
19	93	94	47	62	98	93	46	65
20	94	94	44	61	98	97	49	68
21	93	92	50	70	98	98	46	58
22	94	95	61	71	97	95	58	65
23	93	92	49	91	96	91	43	66
24	82	90	40	72	83	92	47	68
25	94	93	61	84	90	87	68	87
26	93	90	52	79	96	96	63	75
27	88	81	52	60	91	86	54	60
28	79	93	60	54	81	98	53	56
29	62	70	48	59	84	92	53	67
30	96	95	34	68	100	100	41	55
31	94	67	54	44	67	72	48	49

Averages for all days with data

Ave	88.7	88.6	53.5	67.0	92.3	92.3	54.1	65.4
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	88.7	88.6	53.5	67.0	92.3	92.3	54.1	65.4
Cases	31	31	31	31	31	31	31	31

Table 5.2H

## Temperature (F)

August 1976

Day	P03A				P07A			
	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)	Time (EST)
	0100	0700	1300	1900	0100	0700	1300	1900
1	59	57	71	68	58	57	74	71
2	62	56	70	65	55	56	72	67
3	48	51	73	70	51	52	76	70
4	50	54	76	74	54	57	76	73
5	70	68	77	69	69	67	78	71
6	66	62	71	67	65	63	68	67
7	49	54	71	66	55	54	73	66
8	53	53	73	68	51	51	76	68
9	50	54	78	72	53	60	80	74
10	52	56	79	78	56	57	80	78
11	68	71	81	80	70	71	83	79
12	74	71	81	76	73	71	82	77
13	72	72	79	70	71	71	81	72
14	63	67	72	66	64	67	74	65
15	55	55	70	66	57	56	72	65
16	48	46	72	65	50	50	73	66
17	46	45	75	69	50	48	77	72
18	48	50	80	73	52	50	81	76
19	56	56	82	74	58	60	84	76
20	56	54	86	77	60	61	86	76
21	55	58	84	75	62	63	87	78
22	61	60	81	78	64	63	85	80
23	63	64	80	75	67	66	86	77
24	65	59	85	74	66	62	84	77
25	60	61	82	75	63	66	81	75
26	64	71	85	79	69	70	85	79
27	71	73	86	85	72	74	87	86
28	78	69	76	74	78	69	77	71
29	66	53	66	61	58	53	66	61
30	41	40	72	72	44	43	72	71
31	51	62	78	80	60	62	79	80

Averages for all days with data

Ave	58.7	58.8	77.2	72.2	60.4	60.3	78.5	73.0
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	58.7	58.8	77.2	72.2	60.4	60.3	78.5	73.0
Cases	31	31	31	31	31	31	31	31

Table 5.3H

Dew Point (F)

August 1976

Day	P03A				P07A			
	Time (EST)				Time (EST)			
	0100	0700	1300	1900	0100	0700	1300	1900
1	50	54	56	54	56	52	58	56
2	52	55	55	48	54	51	54	53
3	46	49	54	53	51	52	49	52
4	48	52	55	57	53	53	54	57
5	56	64	68	66	58	64	67	69
6	62	59	55	55	60	58	58	55
7	48	43	51	50	50	50	53	51
8	51	47	51	59	51	50	54	53
9	48	52	57	62	53	59	61	57
10	51	52	54	59	56	54	59	62
11	62	62	66	70	64	65	71	70
12	70	69	68	70	71	70	67	68
13	70	70	70	66	70	70	70	66
14	61	65	66	61	63	66	67	62
15	54	53	52	54	56	54	55	54
16	46	44	51	51	48	50	55	54
17	45	43	55	55	49	48	52	57
18	46	48	53	56	51	50	58	60
19	54	54	59	60	58	57	61	63
20	55	53	62	63	59	61	64	65
21	54	56	63	65	61	62	63	62
22	59	58	66	68	63	62	68	67
23	61	62	59	72	65	63	60	65
24	59	56	58	65	60	59	62	66
25	58	59	67	70	60	62	69	71
26	62	68	65	72	68	69	71	71
27	68	67	66	70	69	70	68	71
28	71	67	61	56	71	68	58	55
29	53	43	46	46	53	51	48	50
30	40	38	42	62	44	43	47	55
31	49	51	60	56	49	53	58	59

Averages for all days with data

Ave	55.1	55.3	58.4	60.3	58.0	58.0	60.0	60.5
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	55.1	55.3	58.4	60.3	58.0	58.0	60.0	60.5
Cases	31	31	31	31	31	31	31	31

Table 5.1I

## Relative Humidity (%)

Sept. 1976

Day	P03A				P07A			
	0100	Time (EST)		1900	0100	Time (EST)		1900
		0700	1300			0700	1300	
1	75	81	65	64	74	94	75	73
2	85	95	39	72	87	97	43	72
3	70	84	54	54	71	92	57	62
4	61	61	52	67	75	97	51	66
5	92	75	49	60	98	97	46	64
6	96	96	32	52	100	95	38	65
7	93	62	45	57	67	71	38	48
8	93	94	56	77	86	77	50	78
9	94	95	93	70	85	99	96	84
10	93	54	41	71	98	99	44	71
11	84	75	64	67	75	83	60	79
12	71	87	38	63	97	85	40	71
13	94	95	41	51	93	86	47	72
14	68	83	50	87	77	83	53	81
15	90	85	57	81	98	95	58	86
16	95	93	73	92	100	99	85	95
17	88	80	67	88	98	88	59	94
18	95	82	62	88	98	98	60	90
19	92	92	40	77	97	96	48	74
20	91	82	53	57	97	95	66	83
21	89	52	51	47	99	97	59	68
22	96	94	41	43	100	100	49	50
23	86	75	47	49	89	84	51	71
24	95	94	36	61	100	96	41	71
25	95	95	41	79	99	93	46	92
26	82	92	92	92	94	97	96	96
27	91	92	68	81	96	95	66	86
28	84	96	41	85	99	100	48	79
29	80	73	59	91	82	95	55	89
30	78	94	65	89	100	99	51	80

Averages for all days with data

Ave	86.5	83.6	53.7	70.5	91.0	92.8	55.9	76.4
Cases	30	30	30	30	30	30	30	30

Averages for only those days with data for both stations

Ave	86.5	83.6	53.7	70.5	91.0	92.8	55.9	76.4
Cases	30	30	30	30	30	30	30	30

Table 5.2I

## Temperature (F)

Sept. 1976

Day	P03A				P07A			
	Time (EST)				Time (EST)			
	0100	0700	1300	1900	0100	0700	1300	1900
1	72	65	63	62	68	65	61	61
2	48	44	71	63	48	43	70	62
3	55	59	79	76	57	58	79	76
4	73	69	73	64	71	62	74	62
5	54	51	65	58	52	51	69	59
6	41	42	76	69	44	46	75	67
7	49	60	74	71	59	60	80	73
8	53	50	81	75	57	57	84	75
9	61	65	61	62	69	65	59	60
10	49	60	66	56	46	46	64	54
11	52	64	70	64	52	58	73	65
12	66	57	77	63	54	54	77	64
13	48	45	78	69	55	58	79	69
14	65	63	76	70	64	61	79	71
15	63	56	65	60	63	54	65	57
16	45	59	67	64	54	58	66	62
17	62	61	70	65	60	61	75	64
18	53	62	72	61	52	48	70	62
19	46	46	79	67	48	52	79	69
20	61	62	62	56	60	61	61	52
21	45	58	57	55	41	47	57	49
22	39	39	59	56	38	35	56	56
23	54	58	57	51	54	58	56	45
24	30	27	61	47	33	32	61	50
25	35	38	65	54	37	42	65	55
26	52	53	56	56	51	51	53	54
27	56	55	63	58	54	53	62	56
28	46	32	59	49	44	34	56	46
29	51	58	65	57	45	48	64	55
30	60	44	68	54	46	41	71	53

## Averages for all days with data

Ave	52.8	53.4	67.8	61.1	52.6	52.0	68.1	60.1
Cases	30	30	30	30	30	30	30	30

## Averages for only those days with data for both stations

Ave	52.8	53.4	67.8	61.1	52.6	52.0	68.1	60.1
Cases	30	30	30	30	30	30	30	30

Table 5.3I

Dew Point (F)

Sept. 1976

Day	P03A				P07A			
	Time (EST)				Time (EST)			
	0100	0700	1300	1900	0100	0700	1300	1900
1	63	59	51	50	59	63	53	52
2	44	43	44	53	44	43	46	53
3	45	54	61	58	47	56	63	62
4	59	55	54	53	63	62	55	51
5	52	43	45	44	52	50	47	47
6	40	41	44	50	44	45	47	55
7	47	47	51	55	48	50	53	52
8	51	48	64	67	53	50	63	68
9	59	64	59	52	64	65	58	55
10	47	43	41	47	46	45	41	45
11	48	56	57	53	45	53	58	58
12	56	53	49	51	53	50	51	54
13	46	43	52	49	53	53	57	59
14	54	57	56	66	57	56	61	65
15	60	51	49	54	62	53	50	53
16	44	56	58	61	54	57	62	61
17	58	55	59	61	60	57	59	62
18	52	57	58	58	51	48	56	59
19	44	44	53	59	48	51	58	60
20	59	57	45	41	60	59	50	47
21	42	41	39	35	41	46	43	39
22	38	37	36	34	38	35	37	38
23	50	50	37	32	51	53	38	36
24	29	26	34	34	33	31	38	40
25	34	36	41	48	37	40	43	52
26	47	51	54	54	50	51	52	53
27	54	52	53	52	53	51	50	52
28	41	31	35	44	44	34	36	40
29	45	50	50	54	40	47	47	52
30	53	42	56	50	46	40	51	47

Averages for all days with data

Ave	48.7	48.1	49.4	50.7	49.8	49.8	50.8	52.3
Cases	30	30	30	30	30	30	30	30

Averages for only those days with data for both stations

Ave	48.7	48.1	49.4	50.7	49.8	49.8	50.8	52.3
Cases	30	30	30	30	30	30	30	30

Table 5.1J

## Relative Humidity (%)

October 1976

Day	P03A				P07A			
	0100	Time (EST)	1300	1900	0100	Time (EST)	1300	1900
1	94	93	37	82	100	100	42	76
2	93	93	33	88	90	97	39	78
3	94	93	32	72	100	99	41	61
4	79	89	40	78	84	93	46	61
5	65	77	89	92	73	85	81	98
6	93	93	60	59	98	95	72	77
7	59	74	40	58	66	89	49	72
8	97	95	42	89	92	88	47	85
9	95	93	50	71	91	88	59	90
10	68	52	52	88	91	93	53	88
11	95	96	36	48	90	84	47	61
12	52	60	44	72	62	67	51	76
13	66	83	45	33	76	94	57	43
14	39	89	35	29	55	93	40	38
15	49	46	44	46	46	66	50	54
16	59	94	90	46	65	84	81	65
17	97	97	56	79	88	98	53	85
18	70	68	38	45	86	89	45	52
19	49	96	86	91	56	93	86	90
20	92	92	70	55	90	90	75	73
21	64	59	48	68	84	78	55	84
22	55	56	51	47	64	65	60	72
23	47	72	43	94	72	74	52	92
24	93	94	81	93	92	91	85	91
25	87	96	66	62	88	94	76	75
26	81	88	59	78	89	92	65	76
27	66	97	35	72	74	91	43	81
28	77	52	48	49	84	87	54	57
29	63	74	57	51	76	87	58	56
30	56	57	57	94	62	62	63	90
31	93	86	56	56	91	88	60	77

Averages for all days with data

Ave	73.7	80.8	52.2	67.3	79.8	86.9	57.6	73.4
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	73.7	80.8	52.2	67.3	79.8	86.9	57.6	73.4
Cases	31	31	31	31	31	31	31	31



Table 5.2J

## Temperature (F)

October 1976

Day	P03A				P07A			
	0100	Time (EST) 0700	1300	1900	0100	Time (EST) 0700	1300	1900
1	39	36	72	54	42	42	75	59
2	43	42	80	58	52	49	81	61
3	46	40	78	61	48	48	76	63
4	58	55	77	63	57	54	77	67
5	63	62	60	53	62	63	67	50
6	45	43	53	50	44	43	52	47
7	44	40	54	47	43	39	52	45
8	30	33	51	42	33	35	53	40
9	31	39	50	45	37	41	51	42
10	47	53	58	46	45	45	59	46
11	33	33	64	57	41	44	64	56
12	54	55	71	62	54	55	71	62
13	62	49	62	57	53	46	60	53
14	55	37	60	63	47	31	60	61
15	61	56	54	51	59	51	53	50
16	48	39	42	44	47	41	41	41
17	36	31	45	39	37	30	44	38
18	35	34	48	42	30	29	46	42
19	42	36	39	38	41	35	38	37
20	36	36	43	43	35	35	43	41
21	45	42	40	38	41	39	42	36
22	39	38	39	42	37	37	39	33
23	44	34	44	39	31	34	44	39
24	42	42	47	45	41	41	45	43
25	43	40	45	42	42	39	44	39
26	37	35	39	32	36	34	38	34
27	27	20	41	33	27	17	40	29
28	32	39	46	45	30	27	46	42
29	44	45	51	50	36	36	53	49
30	45	43	46	40	45	43	45	40
31	41	40	49	44	41	40	48	37

Averages for all days with data

Ave	43.5	41.0	53.2	47.3	42.3	40.1	53.1	45.8
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	43.5	41.0	53.2	47.3	42.3	40.1	53.1	45.8
Cases	31	31	31	31	31	31	31	31

Table 5.3J

Dew Point (F)

October 1976

Day	P03A				P07A			
	Time (EST)				Time (EST)			
	0100	0700	1300	1900	0100	0700	1300	1900
1	38	34	44	49	42	42	50	51
2	41	40	48	55	49	48	53	55
3	45	38	45	51	48	48	51	50
4	52	52	51	56	53	53	55	53
5	51	55	57	51	54	58	61	49
6	43	42	39	37	43	42	43	40
7	30	33	30	33	32	36	34	36
8	29	32	28	39	31	32	33	36
9	29	38	32	36	35	37	37	40
10	37	36	41	42	43	43	42	43
11	32	32	37	37	38	39	43	43
12	37	42	49	53	41	44	52	54
13	51	45	40	28	46	44	45	31
14	30	34	32	30	31	30	35	35
15	42	36	32	30	38	40	35	34
16	35	37	39	25	36	36	35	30
17	36	31	30	34	33	29	28	34
18	26	25	23	22	26	26	26	25
19	24	35	36	36	26	33	34	34
20	34	34	34	28	32	33	35	33
21	33	29	22	28	36	33	27	32
22	24	23	23	23	26	26	26	25
23	25	26	23	38	23	27	28	38
24	40	40	41	43	39	39	40	41
25	39	39	34	30	39	37	37	31
26	32	31	26	26	33	32	27	27
27	17	19	15	25	20	15	19	24
28	26	22	27	27	26	24	30	27
29	32	37	36	33	29	32	38	34
30	30	29	31	39	33	30	33	37
31	39	36	33	30	38	37	35	30

Averages for all days with data

Ave	34.8	34.9	34.8	35.9	36.1	36.3	37.6	37.2
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	34.8	34.9	34.8	35.9	36.1	36.3	37.6	37.2
Cases	31	31	31	31	31	31	31	31

Table 5.1K

## Relative Humidity (%)

November 1976

Day	P03A				P07A			
	0100	Time (EST) 0700	1300	1900	0100	Time (EST) 0700	1300	1900
1	93	94	39	64	94	96	50	67
2	57	56	63	78	64	63	66	80
3	42	45	41	69	47	59	51	91
4	94	93	73	92	92	92	85	90
5	94	94	47	51	92	92	54	66
6	53	64	63	49	62	79	73	80
7	56	51	51	59	69	60	62	66
8	59	90	52	54	91	94	70	70
9	43	54	60	53	58	62	64	64
10	68	66	64	63	77	76	86	92
11	95	94	54	67	94	93	65	69
12	91	90	64	59	93	92	78	78
13	60	70	71	63	93	77	68	77
14	75	77	66	74	77	91	66	77
15	62	60	51	60	87	97	57	75
16	53	82	58	91	86	94	52	62
17	62	68	88	72	63	68	83	75
18	53	64	50	43	57	75	53	51
19	69	54	50	56	56	59	56	82
20	60	60	52	85	92	91	54	79
21	51	64	85	70	75	76	82	86
22	52	61	77	61	60	68	78	66
23	66	64	69	61	70	70	71	75
24	64	63	62	76	76	70	67	80
25	70	84	54	64	72	84	68	71
26	90	88	91	89	88	88	91	90
27	92	86	76	79	92	92	79	77
28	67	73	69	62	73	75	79	73
29	77	74	71	71	84	89	83	81
30	76	76	57	47	90	87	72	61

Averages for all days with data

Ave	68.2	72.0	62.1	66.1	77.5	80.3	68.8	75.0
Cases	30	30	30	30	30	30	30	30

Averages for only those days with data for both stations

Ave	68.2	72.0	62.1	66.1	77.5	80.3	68.8	75.0
Cases	30	30	30	30	30	30	30	30

Table 5.2K

## Temperature (F)

November 1976

Day	P03A				P07A			
	0100	Time (EST) 0700	1300	1900	0100	Time (EST) 0700	1300	1900
1	29	22	50	42	26	22	49	39
2	44	44	51	48	42	43	52	45
3	48	44	45	38	47	38	45	35
4	34	30	39	30	33	28	37	31
5	25	34	41	40	23	31	42	37
6	41	41	45	47	39	33	46	39
7	42	37	38	32	38	35	36	29
8	29	25	35	31	24	24	34	29
9	35	33	43	46	33	32	42	41
10	41	39	39	35	39	37	37	32
11	29	28	30	31	29	28	31	27
12	28	28	34	35	27	27	33	30
13	36	35	38	36	31	31	39	31
14	33	32	36	30	31	25	37	28
15	33	33	39	36	24	18	39	30
16	39	30	44	31	24	24	44	34
17	34	32	36	43	33	33	37	41
18	42	38	43	47	40	35	45	47
19	47	43	43	42	46	40	43	31
20	40	39	43	28	23	24	42	28
21	39	34	32	33	32	30	30	28
22	31	31	29	33	30	29	29	32
23	31	29	29	30	30	28	28	26
24	29	28	30	31	25	26	29	30
25	35	32	46	50	35	32	44	48
26	53	54	45	43	54	54	48	44
27	38	38	36	31	38	36	35	31
28	25	21	20	18	25	20	19	17
29	17	14	14	19	15	13	14	17
30	20	19	18	18	17	16	18	15

Averages for all days with data

Ave	34.9	32.8	37.1	35.1	31.8	29.7	36.8	32.4
Cases	30	30	30	30	30	30	30	30

Averages for only those days with data for both stations

Ave	34.9	32.8	37.1	35.1	31.8	29.7	36.8	32.4
Cases	30	30	30	30	30	30	30	30

Table 5.3K

Dew Point (F)

November 1976

Day	P03A				P07A			
	Time (EST)				Time (EST)			
	0100	0700	1300	1900	0100	0700	1300	1900
1	27	20	26	30	25	21	31	29
2	29	30	39	42	31	31	41	39
3	26	24	23	29	28	25	28	33
4	32	28	31	28	31	26	33	28
5	23	32	22	23	22	29	26	26
6	25	30	34	29	27	27	37	34
7	27	21	21	19	29	23	25	19
8	16	23	19	16	22	22	25	20
9	14	19	30	30	20	20	31	30
10	31	28	28	24	32	31	33	30
11	28	27	15	21	27	26	21	18
12	26	25	23	22	25	25	27	24
13	24	26	29	25	29	25	30	24
14	26	26	25	23	25	23	27	21
15	22	20	23	23	20	17	25	23
16	23	25	30	28	21	22	28	22
17	22	22	33	35	22	23	32	33
18	26	27	26	26	26	28	29	29
19	38	27	26	27	32	26	29	26
20	27	26	27	24	21	22	27	22
21	22	23	28	24	25	24	25	24
22	15	19	23	21	18	20	23	22
23	21	19	20	18	22	19	20	20
24	18	16	19	24	19	18	19	25
25	26	28	30	38	26	27	35	39
26	51	51	42	40	50	50	45	42
27	36	34	29	25	36	34	29	24
28	16	14	12	8	17	13	14	10
29	11	7	7	11	11	11	10	13
30	13	12	5	1	15	13	11	4

Averages for all days with data

Ave	24.8	24.3	24.7	24.5	25.1	24.0	27.1	25.2
Cases	30	30	30	30	30	30	30	30

Averages for only those days with data for both stations

Ave	24.8	24.3	24.7	24.5	25.1	24.0	27.1	25.2
Cases	30	30	30	30	30	30	30	30

Table 5.1L

## Relative Humidity (%)

December 1976

Day	P03A				P07A			
	0100	Time (EST) 0700	1300	1900	0100	Time (EST) 0700	1300	1900
1	64	92	72	49	68	88	82	64
2	90	59	44	54	89	80	62	58
3	45	41	80	86	52	50	79	85
4	87	83	81	74	87	82	77	84
5	78	81	69	79	83	85	71	82
6	84	81	87	95	87	85	76	95
7	78	77	53	67	90	77	60	68
8	81	90	75	67	79	88	79	70
9	75	78	59	61	84	79	66	67
10	51	60	86	64	59	68	86	70
11	74	77	59	69	76	81	63	70
12	85	80	82	62	81	92	80	68
13	65	67	59	71	71	74	65	77
14	57	42	50	69	61	51	50	65
15	89	94	74	94	83	92	78	89
16	93	91	82	69	92	92	84	74
17	83	76	59	69	86	83	66	70
18	94	94	55	70	90	94	65	73
19	88	69	57	94	78	77	65	88
20	91	84	73	71	93	88	88	86
21	71	64	67	59	81	87	76	70
22	73	63	58	84	75	67	60	87
23	65	88	80	70	71	89	84	78
24	73	64	49	48	84	73	63	59
25	59	84	82	74	64	87	77	90
26	69	83	81	63	76	91	74	73
27	61	76	54	68	87	78	62	75
28	85	87	77	70	82	93	79	75
29	84	67	73	69	87	85	76	85
30	78	89	63	88	86	87	69	83
31	90	74	80	91	86	89	78	86

Averages for all days with data

Ave	76.1	76.0	68.4	71.5	79.6	81.7	72.3	76.2
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	76.1	76.0	68.4	71.5	79.6	81.7	72.3	76.2
Cases	31	31	31	31	31	31	31	31

Table 5.2L

## Temperature (F)

December 1976

Day	P03A				P07A			
	0100	Time (EST)		1900	0100	Time (EST)		1900
		0700	1300			0700	1300	
1	15	19	25	24	14	18	24	21
2	22	17	11	-5	21	15	8	-4
3	3	7	12	15	1	6	11	14
4	23	23	23	23	19	22	22	20
5	17	26	32	27	15	25	31	26
6	25	25	30	32	23	24	31	29
7	28	22	23	17	28	21	24	15
8	10	10	21	19	10	9	20	17
9	21	17	29	30	14	15	28	30
10	38	41	35	27	37	39	35	25
11	21	19	27	23	18	16	25	21
12	25	28	30	28	20	21	28	27
13	21	19	24	20	19	16	22	18
14	23	29	37	37	22	26	39	37
15	36	30	38	26	34	26	36	29
16	18	34	34	32	27	28	34	31
17	32	35	37	34	30	35	36	33
18	22	16	38	35	21	17	37	34
19	35	40	48	42	36	37	46	42
20	36	30	24	22	34	29	24	20
21	19	14	22	20	18	4	20	18
22	11	13	25	29	9	13	23	26
23	29	25	15	16	28	25	15	15
24	18	9	26	32	15	6	20	30
25	34	34	32	30	30	28	32	25
26	32	31	27	22	30	27	26	21
27	22	19	24	22	15	17	24	23
28	28	27	23	15	25	24	22	15
29	11	6	6	7	10	5	8	5
30	9	7	14	8	4	6	13	6
31	7	14	14	15	1	3	15	15

Averages for all days with data

Ave	22.2	22.2	26.1	23.3	20.3	19.5	25.1	22.0
Cases	31	31	31	31	31	31	31	31

Averages for only those days with data for both stations

Ave	22.2	22.2	26.1	23.3	20.3	19.5	25.1	22.0
Cases	31	31	31	31	31	31	31	31

Table 5.3L

Dew Point (F)

December 1976

Day	C03A				C10A			
	0100	Time (EST)			0100	Time (EST)		
		0700	1300	1900		0700	1300	1900
1	M	M	M	M	9	18	19	4
2	M	M	M	M	17	6	0	-15
3	M	M	M	M	-14	-11	5	12
4	M	M	M	M	18	17	14	12
5	M	M	M	M	8	19	21	20
6	M	M	M	M	18	19	21	29
7	M	M	M	M	21	15	9	7
8	M	M	M	M	5	9	13	9
9	M	M	16	19	4	12	17	19
10	22	28	32	17	20	26	29	20
11	12	12	14	15	12	12	14	12
12	19	24	23	17	17	21	23	18
13	13	10	12	9	13	9	10	9
14	8	7	17	25	8	9	18	24
15	28	27	27	25	27	26	27	26
16	25	28	25	21	26	30	25	21
17	25	28	25	22	23	29	24	25
18	22	19	23	27	21	20	24	28
19	30	29	34	43	32	30	36	43
20	33	25	16	12	35	28	19	12
21	12	14	11	8	13	13	15	6
22	2	4	10	19	1	2	9	18
23	17	20	7	7	18	19	8	9
24	2	0	9	16	0	0	11	15
25	18	28	25	22	19	24	25	22
26	22	27	24	12	22	25	21	11
27	10	7	9	16	9	8	8	15
28	23	22	14	7	22	21	14	7
29	6	0	0	0	5	0	-3	-1
30	2	4	6	8	1	4	6	8
31	5	6	6	7	2	8	5	5

Averages for all days with data

Ave	16.3	16.8	16.8	16.2	13.9	15.1	15.7	14.4
Cases	22	22	23	23	31	31	31	31

Averages for only those days with data for both stations

Ave	16.3	16.8	16.8	16.1	15.7	16.6	16.7	16.0
Cases	22	22	22	22	22	22	22	22



## VI. WIND SPEED AND DIRECTION

Wind speed and direction are measured at a height of about 3 meters with an R. M. Young Co. Model 1201 3-cup anemometer and a WeatherMeasure Model 104 wind vane, respectively, and recorded on twin Esterline-Angus recorders. Wind speed is reported to the nearest mile per hour and wind direction is reported to the nearest degree. For tabulation, digitized data are reduced to hourly averages of wind speed and direction.

The tabulated wind data are given in terms of percentage frequencies of joint occurrences of wind speed and direction in assigned categories. The categories for wind speed are in miles per hour and are: calm (less than 1 mph), 1-3, 4-7, 8-12, 13-18, and 19+. Wind direction is tabulated in 10-degree categories and in 22.5-degree categories. The 10-degree categories are used in the tabulated data and the 22.5-degree categories are used in the wind roses. There is also a category for a variable direction, the criterion for which is that the range of wind direction during an hour equal or exceed 180 degrees.

Joint percentage frequencies are determined by dividing the number of joint occurrences in each pair of categories by the total number of hours of data listed at the bottom of each table. The average speed for each direction is determined by adding all wind speeds for a particular direction category and dividing by the number of occurrences.

The average overall speed is the average of the speeds for all directions (weighted by frequency of occurrence) and zero mph (weighted by the frequency of calms). For months with a large amount of missing wind direction data and much more complete wind speed data, a second listing of percent calm and overall average speed is given, based on all wind speed data for the month.

A graphical portrayal of wind data is also shown for each month in the form of a wind rose graphed by computer. In the wind roses, the length of each line extending from the circumference of the center circle is proportional to the percent of time that the wind was from the direction. The lines are 22.5 degrees apart, and the lengths of alternating black and white sections of each line are proportional to the percent of time the speed was in a particular category as given in the legend at the bottom of each figure. The percent of calms is also shown.

Table 6.1A Palisades Network

Percentage Frequency of Wind Direction and Wind Speed  
at Station P03A for January 1976

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.1	0.6	0.3	0.0	0.0	1.0	5.8
020	0.0	0.7	1.3	0.3	0.0	2.2	9.0
030	0.1	0.4	1.1	0.0	0.0	1.7	7.9
040	0.3	0.8	0.1	0.0	0.0	1.3	4.9
050	0.4	0.3	0.3	0.1	0.0	1.1	5.6
060	0.1	0.3	0.3	0.1	0.0	0.8	8.2
070	0.4	1.1	0.4	0.1	0.0	2.1	6.5
080	0.3	0.6	0.0	0.0	0.0	0.9	4.5
090	0.1	0.3	0.1	0.0	0.0	0.6	5.8
100	0.0	0.3	0.8	0.0	0.0	1.1	7.8
110	0.0	0.6	1.0	0.0	0.0	1.5	8.1
120	0.3	1.0	1.0	0.6	0.0	2.9	8.7
130	0.3	1.0	2.0	0.4	0.0	3.6	8.5
140	0.3	0.4	0.4	0.3	0.0	1.4	7.3
150	0.3	1.0	1.4	0.1	0.0	2.8	7.6
160	0.1	0.8	0.7	0.4	0.0	2.1	8.1
170	0.4	0.4	2.4	0.4	0.0	3.6	9.0
180	0.1	2.6	4.9	0.8	0.0	8.5	9.0
190	0.1	1.0	3.8	0.4	0.0	5.3	9.6
200	0.0	0.1	1.8	0.1	0.0	2.1	10.6
210	0.0	0.6	0.8	1.3	0.0	2.6	11.2
220	0.0	0.3	0.1	1.5	0.0	2.0	13.0
230	0.1	0.3	0.7	0.8	0.0	2.0	11.0
240	0.0	0.3	1.1	1.0	0.0	2.4	11.5
250	0.0	0.3	1.3	3.6	0.0	5.2	12.9
260	0.0	0.1	1.3	1.3	0.4	3.1	13.5
270	0.0	0.8	2.0	1.5	0.0	4.3	11.0
280	0.0	1.4	3.1	2.6	0.0	7.1	10.6
290	0.0	1.1	1.7	1.0	0.0	3.8	9.6
300	0.0	1.1	1.7	1.0	0.0	3.8	10.0
310	0.0	0.8	0.8	0.3	0.0	2.0	8.7
320	0.0	0.0	0.7	2.4	0.3	3.3	14.4
330	0.0	0.1	0.8	1.5	0.0	2.5	13.6
340	0.3	0.1	0.6	1.0	0.0	2.0	11.2
350	0.0	0.1	0.3	1.4	0.1	2.0	14.6
360	0.0	0.3	0.4	0.1	0.1	1.0	10.7
Variable	0.8	0.1	0.0	0.0	0.0	1.0	1.7
Total	5.2	22.2	41.3	26.6	1.0	96.2	9.6
Percent Calm:						3.8	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 717 hours of data.

Table 6.2A Palisades Network

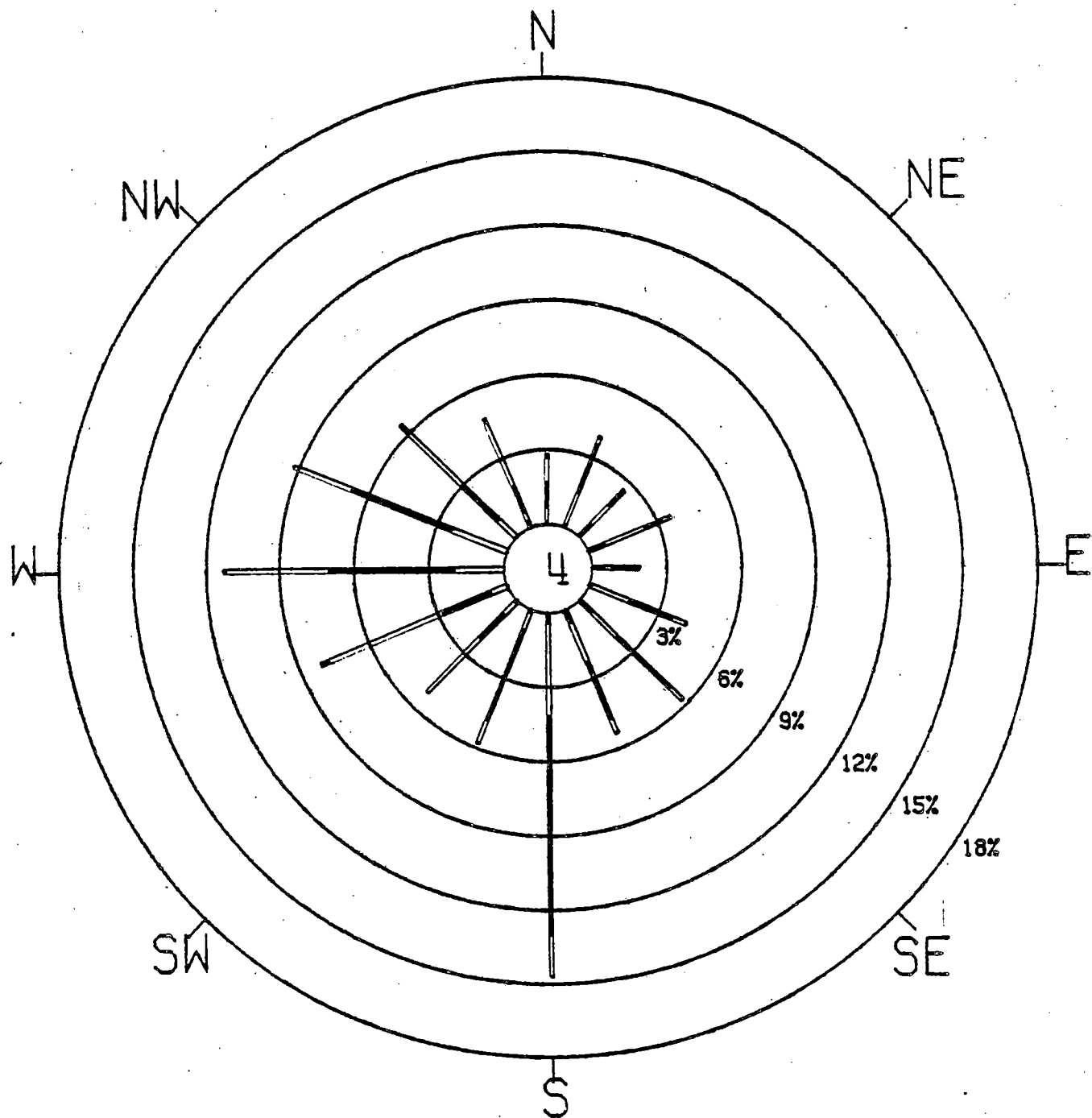
Percentage Frequency of Wind Direction and Wind Speed  
at Station P07A for January 1976

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.3	0.3	0.4	0.0	0.0	1.0	6.0
020	0.1	0.7	0.0	0.0	0.0	0.8	5.3
030	0.5	0.5	0.0	0.0	0.0	1.1	4.3
040	0.3	0.0	0.0	0.0	0.0	0.3	1.5
050	0.5	0.4	0.0	0.0	0.0	1.0	3.2
060	0.3	0.7	0.3	0.0	0.0	1.2	5.2
070	0.0	0.4	0.5	0.0	0.0	1.0	6.5
080	0.4	0.4	0.0	0.0	0.0	0.8	4.5
090	0.1	0.5	0.0	0.0	0.0	0.7	4.6
100	0.7	0.3	0.0	0.0	0.0	1.0	3.6
110	0.5	1.4	0.7	0.0	0.0	2.6	6.2
120	0.5	1.4	1.8	0.0	0.0	3.7	7.2
130	0.5	1.2	1.0	0.0	0.0	2.7	6.6
140	0.7	1.0	1.2	0.1	0.0	3.0	6.8
150	0.3	1.0	1.4	0.1	0.0	2.7	8.0
160	0.4	1.8	3.3	0.8	0.0	6.3	8.5
170	0.3	1.2	2.9	0.5	0.0	4.9	8.9
180	0.4	1.4	2.2	0.1	0.0	4.1	7.7
190	0.9	2.9	2.7	0.0	0.0	6.4	6.8
200	0.0	0.8	1.4	0.0	0.0	2.2	9.1
210	0.4	0.9	1.2	0.0	0.0	2.5	7.5
220	0.1	0.5	0.5	0.0	0.0	1.2	6.9
230	0.1	0.8	0.7	0.0	0.0	1.6	7.1
240	0.3	1.4	0.8	0.0	0.0	2.5	6.6
250	0.3	0.5	2.6	0.0	0.0	3.4	7.6
260	0.4	1.6	2.9	0.0	0.0	4.9	7.2
270	0.4	2.0	3.4	0.5	0.0	6.4	8.5
280	0.0	1.5	5.0	0.7	0.0	7.2	9.0
290	0.3	0.5	1.6	0.4	0.0	2.9	8.9
300	0.1	0.8	0.4	0.8	0.0	2.2	10.7
310	0.3	0.4	1.4	1.4	0.0	3.4	11.0
320	0.3	0.3	0.5	0.3	0.0	1.4	7.8
330	0.1	0.7	0.8	0.4	0.0	2.0	8.9
340	0.1	0.4	0.7	0.3	0.0	1.5	9.0
350	0.3	0.5	0.7	0.3	0.0	1.8	8.2
360	0.3	1.1	1.1	0.0	0.0	2.5	7.4
Variable	1.1	0.0	0.0	0.0	0.0	1.1	1.3
Total	12.7	32.2	44.0	6.8	0.0	95.6	7.3
Percent Calm:						4.4	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 734 hours of data.

# WIND ROSE - JANUARY 1976

## PALISADES NUCLEAR PLANT - STATION P03A



# WIND ROSE - JANUARY 1976

PALISADES NUCLEAR PLANT - STATION P07A

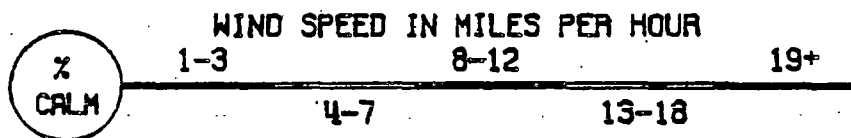
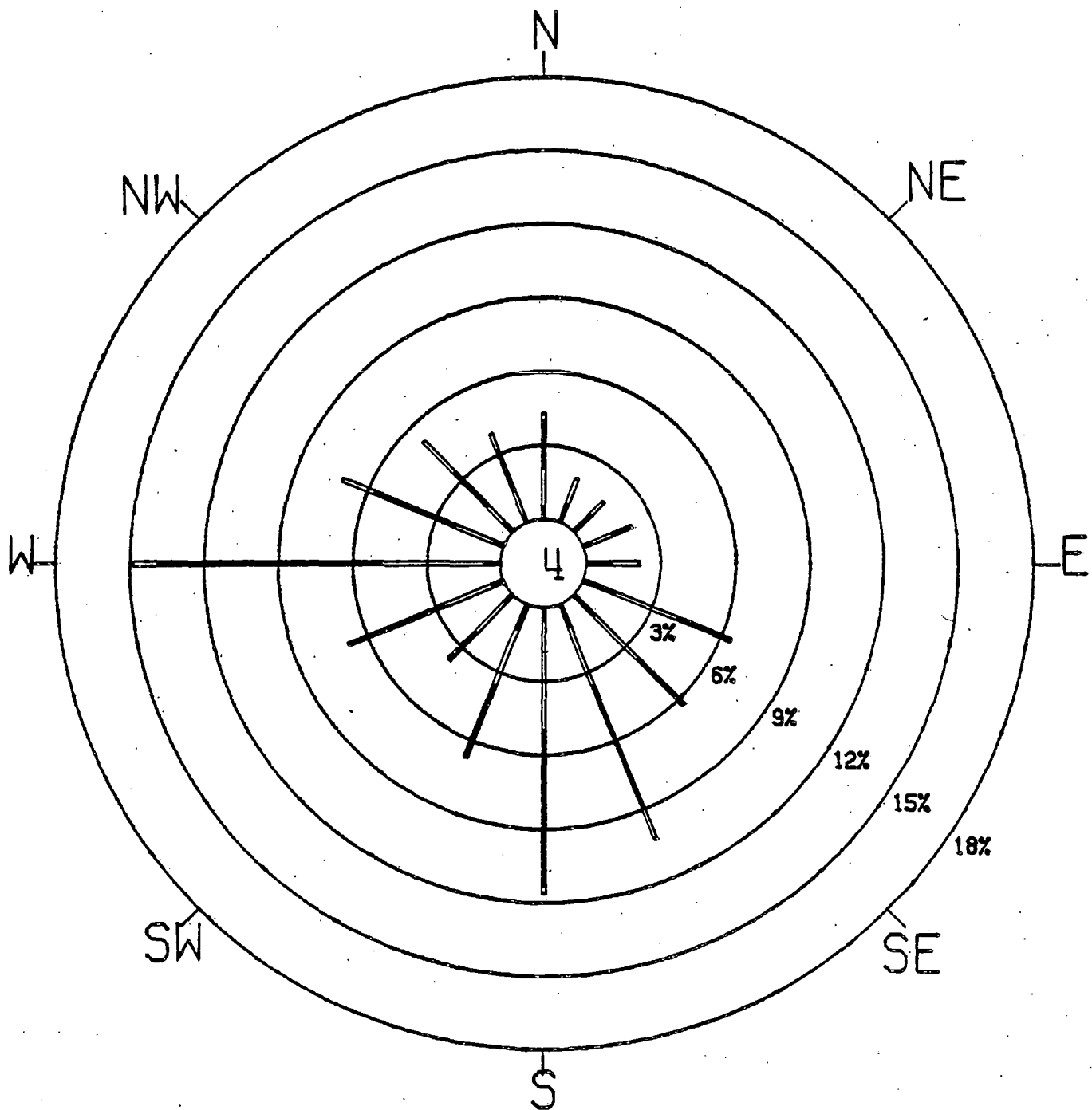


Table 6.1B Palisades Network

## Percentage Frequency of Wind Direction and Wind Speed

at Station P03A for February 1976

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.0	0.1	0.6	0.1	0.0	0.9	10.8
020	0.0	0.7	0.3	0.0	0.0	1.0	6.7
030	0.1	0.7	0.6	0.0	0.0	1.4	5.8
040	0.1	0.6	0.6	0.0	0.0	1.3	7.6
050	0.1	0.4	0.3	0.0	0.0	0.9	5.7
060	0.3	0.3	0.7	0.0	0.0	1.3	6.7
070	0.1	0.7	1.2	0.6	0.0	2.6	9.2
080	0.1	0.6	0.6	0.0	0.0	1.3	7.3
090	0.0	0.4	0.4	0.0	0.0	0.9	7.3
100	0.0	0.3	1.0	0.0	0.0	1.3	8.7
110	0.0	0.1	0.6	0.0	0.0	0.7	8.3
120	0.0	0.3	0.3	0.0	0.0	0.6	6.8
130	0.0	0.3	0.7	0.0	0.0	1.0	8.0
140	0.0	0.0	0.9	0.4	0.0	1.3	11.1
150	0.0	0.1	0.4	0.3	0.0	0.9	10.3
160	0.1	0.4	0.9	0.3	0.0	1.7	9.1
170	0.1	0.4	1.3	0.9	0.0	2.7	10.3
180	0.4	2.0	1.7	1.7	0.0	5.9	9.0
190	0.4	0.4	5.1	2.6	0.0	8.5	10.8
200	0.1	0.3	1.2	1.7	0.4	3.8	13.0
210	0.0	0.0	0.3	2.2	3.2	5.6	18.1
220	0.4	0.4	0.9	1.9	1.2	4.8	14.4
230	0.1	0.6	0.4	0.7	0.3	2.2	11.8
240	0.0	0.9	1.4	0.9	0.0	3.2	10.0
250	0.1	1.0	0.3	0.9	0.0	2.3	9.3
260	0.4	0.9	1.4	0.9	0.0	3.6	9.3
270	0.3	0.6	2.5	0.6	0.0	3.9	9.2
280	0.1	0.9	0.4	0.1	0.0	1.6	7.2
290	0.1	0.6	1.6	0.3	0.0	2.6	9.4
300	0.1	0.3	1.4	0.6	0.0	2.5	10.0
310	0.0	0.6	2.0	0.3	0.0	2.9	9.4
320	0.3	0.3	2.3	1.3	0.0	4.2	10.6
330	0.0	0.0	0.9	0.4	0.0	1.3	12.0
340	0.0	0.1	1.3	0.7	0.4	2.6	12.8
350	0.1	0.4	1.3	1.4	0.9	4.2	13.7
360	0.3	0.4	0.6	0.7	0.3	2.3	11.6
Variable	0.9	0.0	0.1	0.0	0.0	1.0	2.2
Total	5.8	17.3	38.4	22.5	6.6	90.8	9.7
Percent Calm:						9.2	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 692 hours of data.

Table 6.2B Palisades Network

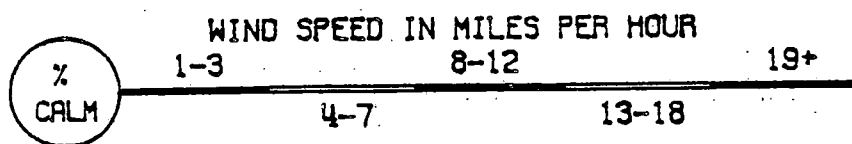
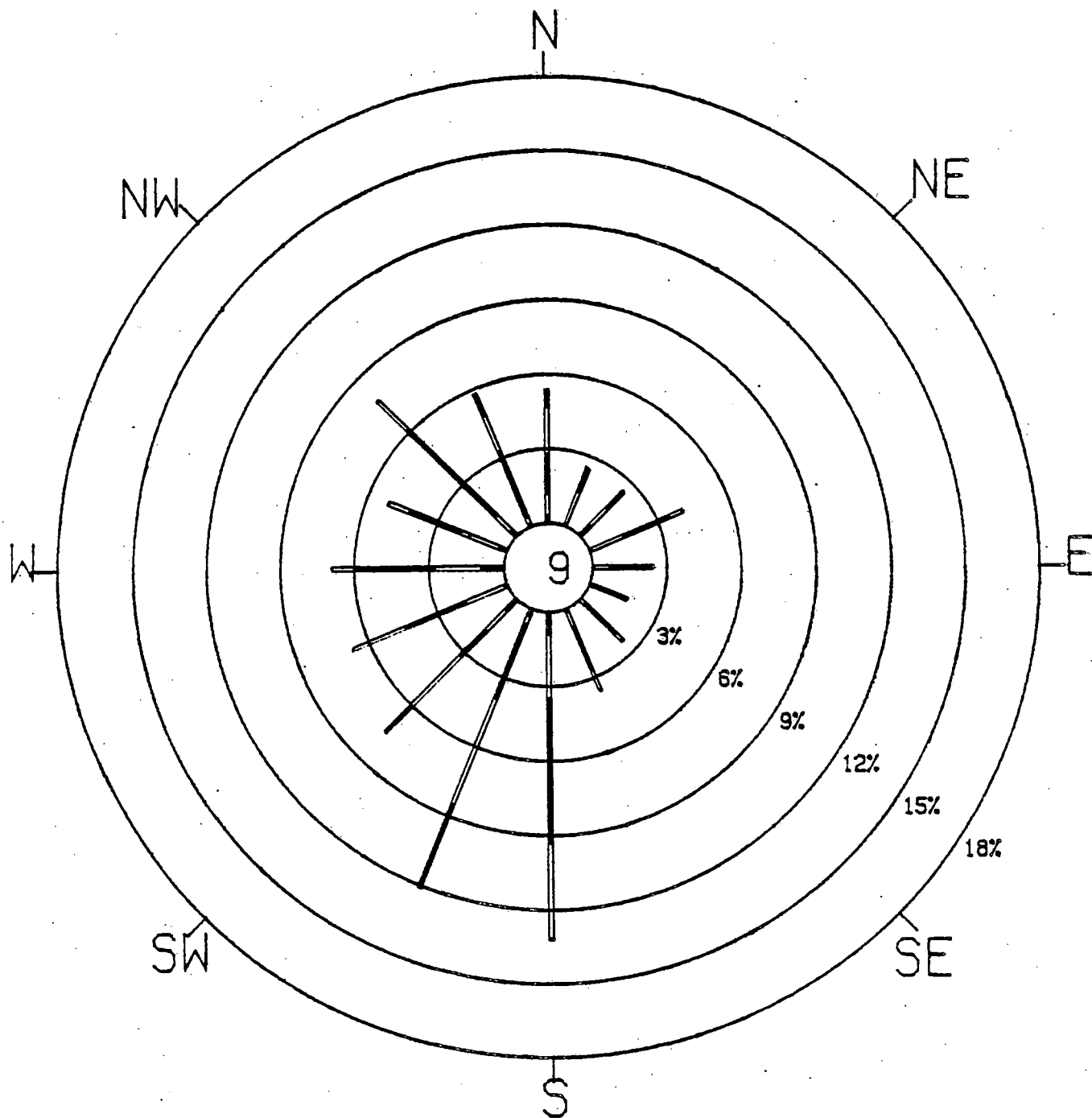
Percentage Frequency of Wind Direction and Wind Speed  
at Station P07A for February 1976

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.2	0.2	0.2	0.0	0.0	0.5	5.0
020	0.2	0.5	0.5	0.0	0.0	1.2	7.7
030	0.5	0.0	0.5	0.0	0.0	1.0	5.7
040	0.5	0.5	0.2	0.0	0.0	1.2	4.4
050	0.2	0.7	0.7	0.0	0.0	1.5	6.4
060	0.2	1.2	0.5	0.0	0.0	1.9	6.4
070	0.3	0.2	0.7	0.0	0.0	1.2	6.6
080	0.3	0.5	0.0	0.0	0.0	0.9	2.9
090	0.3	0.9	0.0	0.0	0.0	1.2	3.9
100	0.2	1.4	0.2	0.0	0.0	1.7	5.5
110	0.0	0.7	0.7	0.0	0.0	1.4	7.2
120	0.2	0.5	0.5	0.0	0.0	1.2	6.6
130	0.7	0.2	0.9	0.0	0.0	1.7	6.0
140	0.7	0.3	0.9	0.0	0.0	1.9	6.0
150	0.3	0.7	1.4	0.5	0.0	2.9	8.8
160	0.0	1.0	1.2	0.7	0.0	2.9	9.1
170	0.5	1.7	0.9	1.0	0.0	4.1	8.3
180	0.3	1.5	4.8	0.9	0.0	7.5	9.2
190	0.3	0.7	6.7	1.7	0.0	9.4	10.0
200	0.7	0.5	2.9	2.6	0.0	6.7	10.5
210	0.2	0.7	0.7	0.5	0.0	2.1	9.2
220	0.2	0.7	0.2	0.5	0.0	1.5	8.9
230	0.3	0.7	0.2	0.2	0.0	1.4	5.9
240	0.3	0.3	0.5	0.0	0.0	1.2	6.9
250	0.0	0.5	1.4	0.0	0.0	1.9	9.4
260	0.2	1.0	2.2	0.5	0.0	3.9	9.2
270	0.3	1.0	3.1	0.2	0.0	4.6	8.4
280	0.0	0.2	2.4	1.9	0.0	4.4	11.6
290	0.0	0.0	0.9	1.2	0.0	2.1	12.4
300	0.3	0.2	0.7	2.1	0.0	3.2	12.5
310	0.0	0.3	1.2	0.5	0.0	2.1	10.6
320	0.0	0.5	1.0	0.3	0.0	1.9	9.4
330	0.3	0.3	1.0	0.5	0.2	2.4	9.5
340	0.5	0.3	0.2	0.3	0.2	1.5	8.9
350	1.2	0.0	0.3	0.5	0.0	2.1	6.6
360	0.0	0.2	0.7	0.2	0.0	1.0	9.1
Variable	1.2	0.2	0.0	0.0	0.0	1.4	2.2
Total	11.8	21.0	40.7	16.8	0.3	90.6	7.9
Percent Calm:						9.4	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 585 hours of data.



WIND ROSE - FEBRUARY 1976  
PALISADES NUCLEAR PLANT - STATION P03A



WIND ROSE - FEBRUARY 1976  
PALISADES NUCLEAR PLANT - STATION P07A

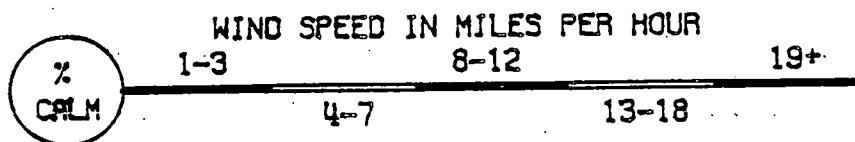
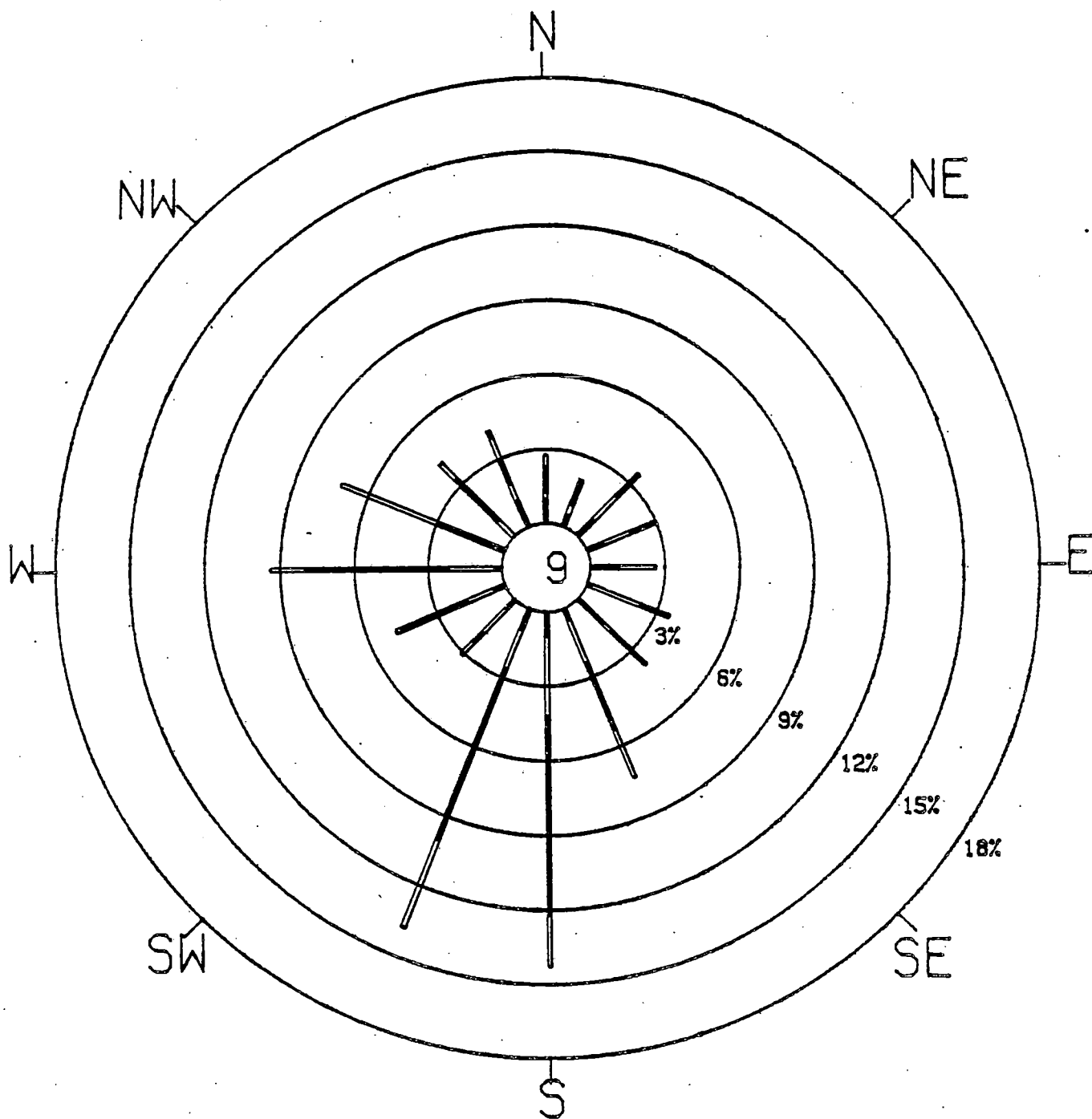


Table 6.1C Palisades Network

Percentage Frequency of Wind Direction and Wind Speed  
at Station P03A for March 1976

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.2	0.3	0.2	0.0	0.0	0.7	5.2
020	0.5	0.2	0.0	0.0	0.0	0.7	2.7
030	0.7	0.0	0.2	0.0	0.0	0.8	3.9
040	0.2	0.5	0.0	0.0	0.0	0.7	4.8
050	0.5	0.2	0.0	0.0	0.0	0.7	3.1
060	0.3	0.8	0.0	0.0	0.0	1.2	4.2
070	0.3	0.3	0.5	0.0	0.0	1.2	6.3
080	0.0	0.5	2.0	0.2	0.0	2.6	9.5
090	0.3	0.5	1.3	0.3	0.0	2.5	8.2
100	0.0	0.3	1.0	0.2	0.0	1.5	10.0
110	0.0	0.5	1.7	0.8	0.0	3.0	10.1
120	0.0	0.5	1.3	0.3	0.0	2.1	10.3
130	0.0	0.3	0.5	0.0	0.0	0.8	7.9
140	0.0	0.2	0.2	0.3	0.0	0.7	11.6
150	0.0	0.5	0.2	0.0	0.0	0.7	6.3
160	0.2	0.0	0.8	0.3	0.0	1.3	10.6
170	0.5	0.5	1.3	0.8	0.0	3.1	8.8
180	0.0	1.0	2.0	3.3	0.7	6.9	12.9
190	0.3	0.3	2.1	2.1	0.5	5.5	12.3
200	0.0	0.0	0.2	0.3	0.3	0.8	17.7
210	0.0	0.5	1.0	1.5	3.3	6.3	16.7
220	0.0	0.0	1.3	3.0	2.0	6.3	15.9
230	0.0	0.2	1.2	1.0	0.2	2.5	12.9
240	0.2	1.0	1.8	0.5	0.7	4.1	11.6
250	0.0	0.5	1.8	0.7	0.5	3.5	11.9
260	0.0	0.7	0.5	0.8	0.2	2.1	12.1
270	0.0	0.5	1.8	0.8	0.2	3.3	11.7
280	0.0	0.2	0.7	0.7	0.0	1.5	11.1
290	0.0	0.2	1.0	0.8	0.3	2.3	12.3
300	0.0	0.3	0.8	0.7	0.0	1.8	11.6
310	0.0	0.7	0.8	2.5	0.5	4.5	14.3
320	0.0	0.8	1.8	1.8	0.3	4.8	12.6
330	0.2	0.7	2.3	2.0	0.0	5.1	11.7
340	0.0	1.0	1.8	0.2	0.0	3.0	8.3
350	0.0	0.7	0.2	0.0	0.0	0.8	6.1
360	0.2	0.8	0.0	0.0	0.0	1.0	5.1
Variable	1.2	1.2	0.2	0.0	0.0	2.5	4.2
Total	5.6	17.2	34.4	26.0	9.6	92.7	10.6
Percent Calm:						7.3	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 605 hours of data.

Table 6.2C Palisades Network

## Percentage Frequency of Wind Direction and Wind Speed

at Station P07A for March 1976

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.5	0.2	0.0	0.0	0.0	0.7	3.3
020	0.0	0.3	0.2	0.0	0.0	0.5	6.1
030	0.0	0.2	0.0	0.0	0.0	0.2	6.0
040	0.3	0.0	0.0	0.0	0.0	0.3	2.6
050	0.0	0.2	0.0	0.0	0.0	0.2	4.8
060	0.0	0.0	0.0	0.0	0.0	0.0	0.0
070	0.2	0.2	0.0	0.0	0.0	0.3	2.6
080	0.7	0.5	0.0	0.0	0.0	1.2	2.7
090	0.0	0.3	0.0	0.0	0.0	0.3	5.0
100	0.3	0.2	0.0	0.0	0.0	0.5	3.3
110	0.7	0.3	2.3	0.0	0.0	3.4	8.0
120	0.5	1.7	2.7	0.0	0.0	4.9	7.6
130	0.5	0.8	2.8	0.2	0.0	4.4	8.1
140	0.2	0.7	0.8	0.2	0.0	1.8	7.3
150	0.3	0.2	1.2	0.0	0.0	1.7	7.2
160	0.2	0.8	1.5	1.2	0.0	3.7	10.6
170	0.3	1.0	1.2	2.0	0.0	4.5	10.4
180	0.5	0.8	2.2	4.5	0.0	9.0	12.0
190	0.3	0.7	2.5	1.8	0.2	5.5	10.9
200	0.2	1.0	1.7	1.2	0.7	4.7	11.3
210	0.2	0.2	0.5	0.8	0.2	1.8	11.7
220	0.0	0.2	1.3	0.5	0.0	2.0	10.6
230	0.0	0.3	1.5	0.3	0.0	2.2	10.2
240	0.2	0.7	0.3	0.3	0.0	1.5	7.8
250	0.3	1.2	1.3	0.5	0.0	3.4	8.3
260	0.5	0.8	1.0	0.3	0.0	2.7	7.7
270	0.0	0.7	2.8	1.2	0.0	4.7	10.1
280	0.0	0.0	2.0	0.8	0.0	2.8	11.7
290	0.0	0.0	1.0	3.2	0.5	4.7	14.8
300	0.2	0.5	0.7	1.5	1.0	3.9	13.6
310	0.0	0.2	1.5	3.0	0.7	5.4	14.2
320	0.2	0.8	1.2	1.0	0.0	3.2	9.9
330	0.3	0.5	0.2	0.0	0.0	1.0	5.0
340	0.2	0.7	0.0	0.0	0.0	0.3	4.1
350	0.5	0.3	0.0	0.0	0.0	0.8	3.1
360	0.2	0.3	0.0	0.0	0.0	0.5	3.3
Variable	1.2	1.3	0.0	0.0	0.0	2.5	3.5
Total	9.5	18.8	34.5	24.6	3.2	90.6	8.9
Percent Calm:						9.4	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 597 hours of data.

WIND ROSE - MARCH 1976  
PALISADES NUCLEAR PLANT - STATION P03A

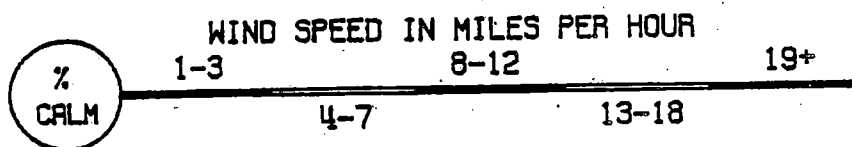
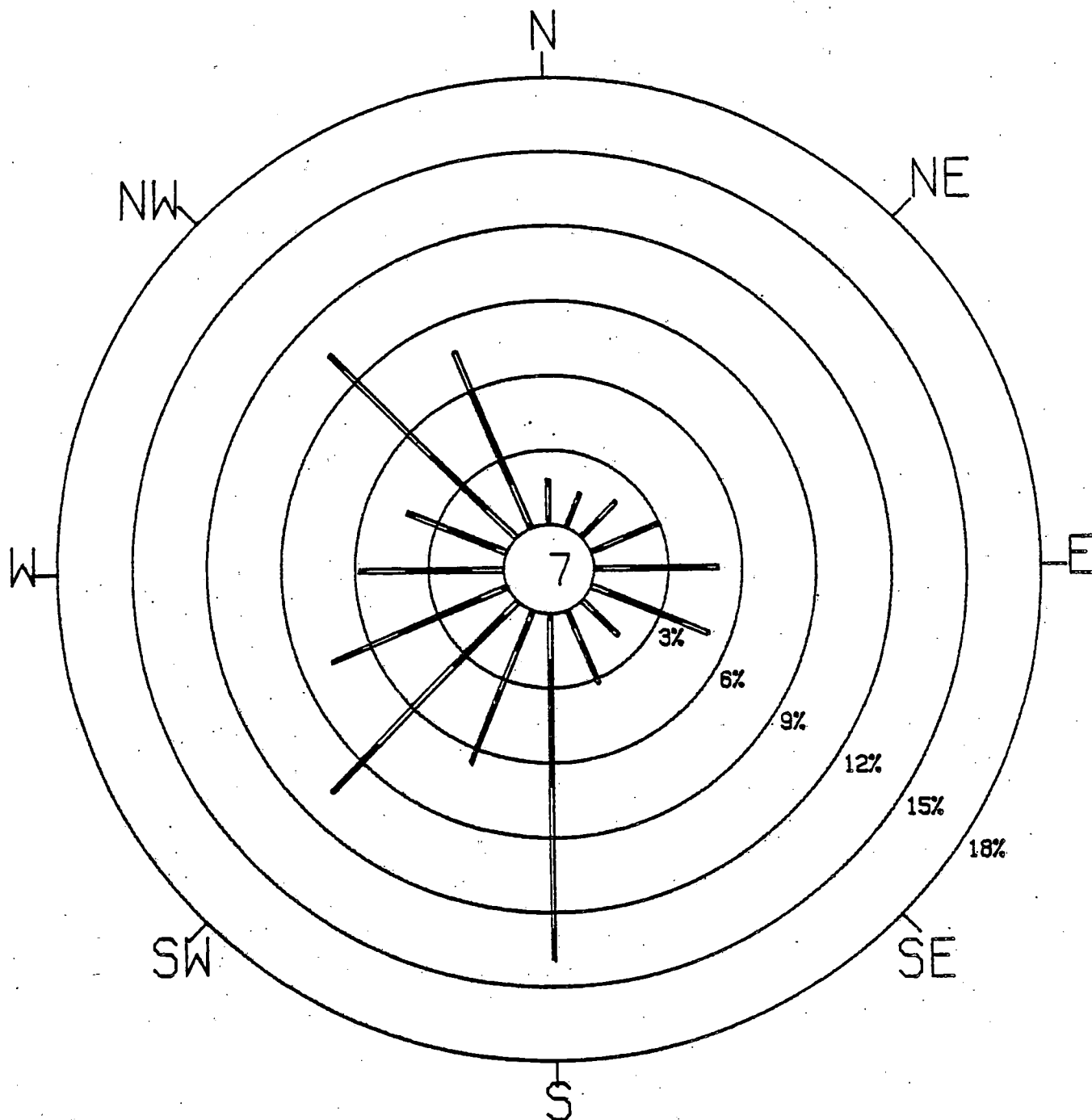


Fig. 5133  
WIND ROSE - MARCH 1976  
PALISADES NUCLEAR PLANT - STATION P07A

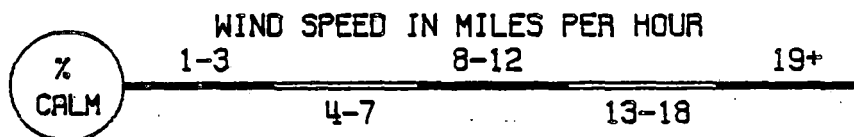
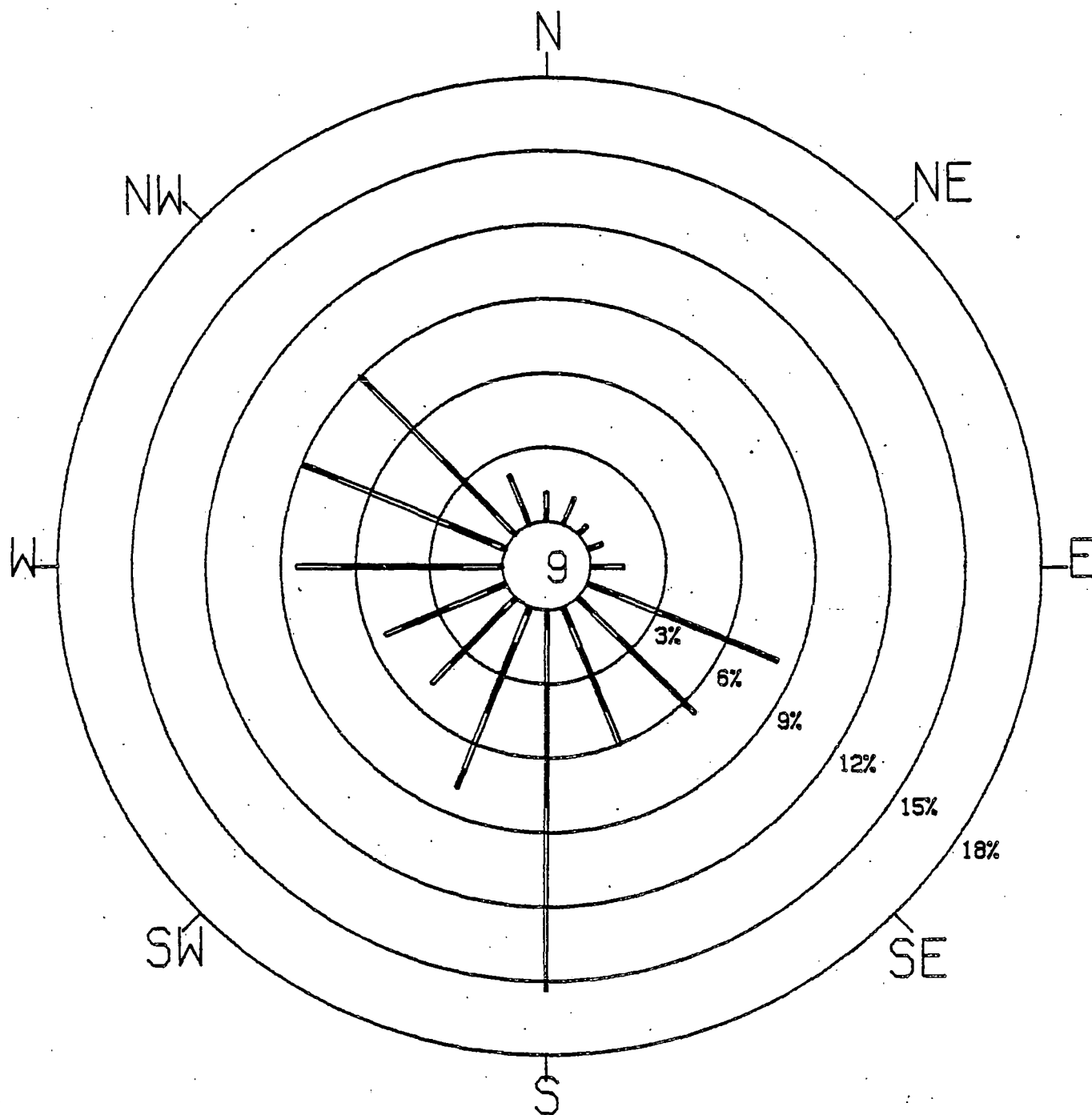


Table 6.1D Palisades Network

## Percentage Frequency of Wind Direction and Wind Speed

at Station P03A for April 1976

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.2	0.4	1.5	0.4	0.0	2.5	9.3
020	0.2	0.8	0.8	1.0	0.0	2.7	10.1
030	1.0	0.4	0.4	0.4	0.0	2.1	6.5
040	0.2	0.2	0.2	0.0	0.0	0.6	6.1
050	0.6	0.0	0.4	0.6	0.0	1.5	9.3
060	0.2	0.0	0.0	1.2	0.0	1.3	14.4
070	0.0	0.2	0.0	1.2	0.0	1.3	13.3
080	0.0	0.2	1.7	0.8	0.0	2.7	11.4
090	0.0	1.0	1.5	0.4	0.0	2.9	8.4
100	0.0	0.8	1.2	0.2	0.0	2.1	8.7
110	0.2	0.6	0.2	0.0	0.0	1.0	5.5
120	0.0	0.6	0.2	0.2	0.0	1.0	7.7
130	0.2	0.2	0.2	0.0	0.0	0.6	5.6
140	0.2	0.2	0.2	0.0	0.0	0.6	4.5
150	0.0	0.0	0.0	0.2	0.0	0.2	13.0
160	0.2	0.4	0.2	0.2	0.0	1.0	7.5
170	0.8	2.1	0.4	0.2	0.0	3.5	5.8
180	0.4	2.1	2.9	1.3	0.0	6.7	8.9
190	0.4	1.0	2.7	2.9	0.0	6.9	10.9
200	0.0	0.2	0.6	0.2	0.0	1.0	9.7
210	0.0	0.2	1.2	3.1	0.0	4.4	13.6
220	0.2	0.4	1.7	2.5	0.0	4.8	11.7
230	0.0	0.2	2.3	1.2	0.0	3.7	11.1
240	0.2	0.0	1.9	0.2	0.0	2.3	9.9
250	0.0	0.4	0.6	0.0	0.0	1.0	7.9
260	0.2	0.6	0.0	0.2	0.0	1.0	7.1
270	0.0	0.4	0.2	0.0	0.0	0.6	7.7
280	0.0	0.6	0.2	0.0	0.0	0.8	6.6
290	0.4	0.6	0.8	0.0	0.0	1.7	6.8
300	0.2	1.2	2.1	0.0	0.0	3.5	7.7
310	0.0	0.6	1.7	0.0	0.0	2.3	7.8
320	0.0	0.8	0.4	0.8	0.0	1.9	9.5
330	0.2	0.6	1.2	0.2	0.0	2.1	8.8
340	0.2	1.0	1.0	2.3	0.2	4.6	12.2
350	0.0	0.8	0.8	1.2	0.0	2.7	11.0
360	0.0	0.4	0.6	0.4	0.0	1.3	9.7
Variable	2.1	0.6	0.2	0.0	0.0	2.9	3.1
Total	8.3	20.2	31.9	23.1	0.2	83.7	7.9
Percent Calm:						16.3	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 520 hours of data.

Table 6.2D Palisades Network

Percentage Frequency of Wind Direction and Wind Speed  
at Station P07A for April 1976

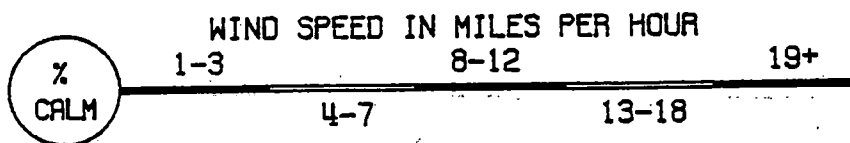
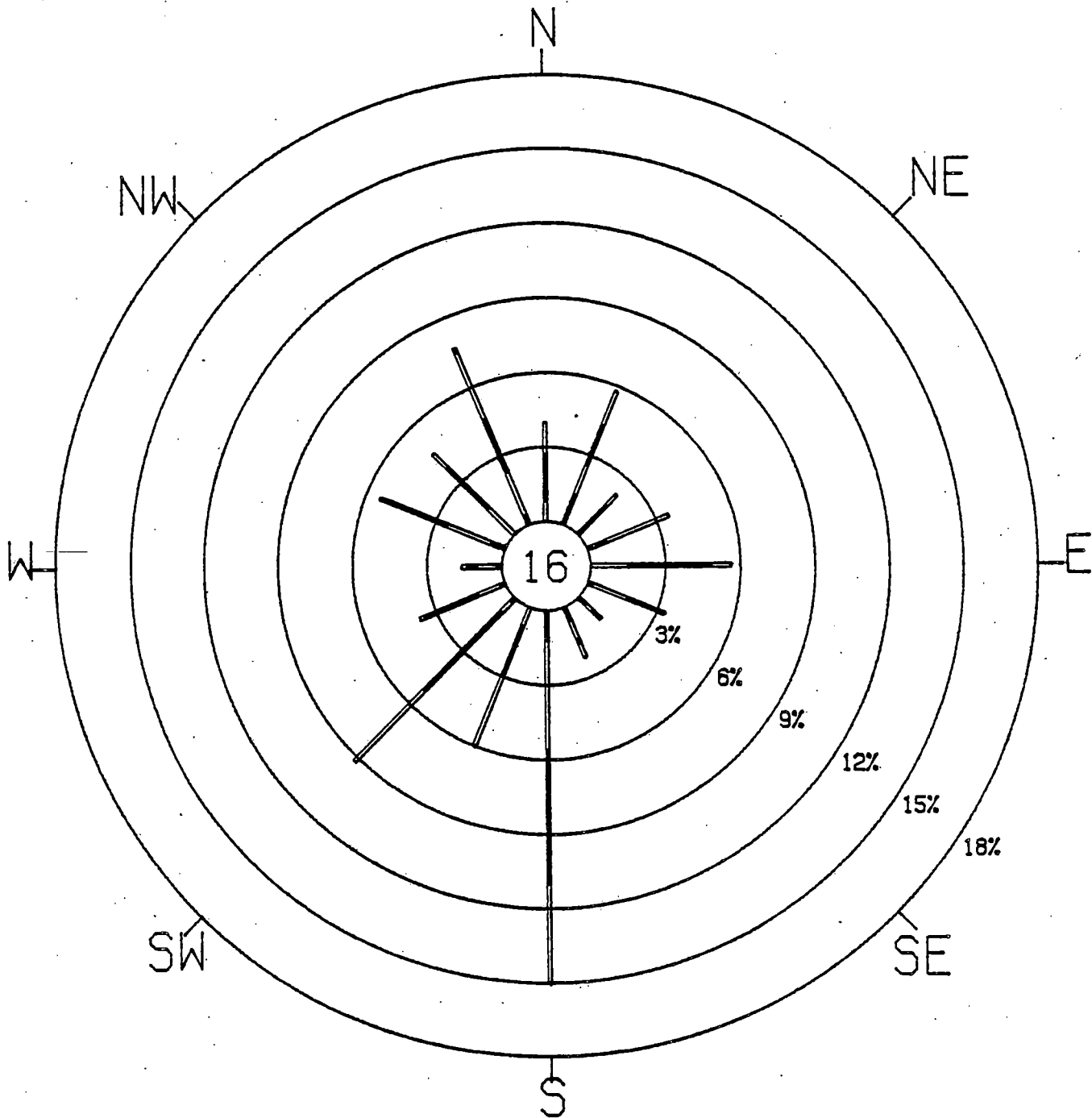
Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	1.0	0.6	1.3	0.6	0.0	3.4	7.8
020	0.4	0.4	0.8	0.3	0.0	2.0	7.9
030	0.1	0.0	0.6	0.3	0.0	1.0	9.0
040	0.0	0.1	0.4	0.1	0.0	0.7	10.5
050	0.0	0.0	1.1	0.4	0.0	1.6	11.0
060	0.0	0.0	0.3	0.1	0.0	0.4	11.0
070	0.0	0.6	0.4	0.0	0.0	1.0	8.3
080	0.3	0.4	0.3	0.0	0.0	1.0	5.1
090	0.7	1.0	0.4	0.0	0.0	2.1	4.8
100	0.8	1.4	0.6	0.0	0.0	2.8	5.0
110	0.4	1.3	0.6	0.0	0.0	2.3	5.8
120	0.1	0.7	0.3	0.0	0.0	1.1	6.3
130	0.8	0.4	0.1	0.0	0.0	1.4	4.0
140	0.1	0.3	0.3	0.1	0.0	0.8	7.9
150	0.1	0.6	0.1	0.0	0.0	0.8	5.7
160	0.4	1.7	0.4	0.1	0.0	2.7	5.9
170	0.1	1.7	1.1	0.4	0.0	3.4	7.8
180	0.3	1.7	1.7	0.6	0.0	4.2	8.2
190	0.8	0.3	2.0	1.6	0.0	4.7	9.7
200	0.4	0.4	2.5	0.1	0.0	3.5	8.8
210	0.0	0.7	0.4	0.0	0.0	1.1	8.2
220	0.1	0.7	1.0	0.0	0.0	1.8	7.8
230	0.0	0.6	0.6	0.0	0.0	1.1	8.1
240	0.0	0.6	0.6	0.0	0.0	1.1	7.5
250	0.1	0.7	0.4	0.0	0.0	1.3	6.1
260	0.1	0.4	1.3	0.0	0.0	1.8	7.5
270	0.4	0.0	0.7	0.0	0.0	1.1	6.1
280	0.3	1.0	1.3	0.0	0.0	2.5	7.3
290	0.1	0.4	2.1	0.6	0.0	3.2	10.0
300	0.3	1.0	3.0	0.8	0.0	5.1	9.4
310	0.6	1.1	1.7	1.3	0.0	4.7	9.5
320	0.4	0.4	1.1	0.8	0.0	2.8	9.6
330	0.4	1.3	1.1	0.1	0.0	3.0	6.9
340	0.3	0.7	0.4	0.0	0.0	1.4	6.4
350	0.8	0.6	1.1	0.0	0.0	2.5	6.4
360	0.8	0.4	0.8	0.3	0.0	2.4	7.4
Variable	1.7	1.4	0.1	0.0	0.0	3.2	3.0
Total	13.8	25.6	33.2	8.8	0.0	81.4	6.2
Percent Calm:						18.6	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 708 hours of data.



# WIND ROSE - APRIL 1976

PALISADES NUCLEAR PLANT - STATION P03A



# WIND ROSE - APRIL 1976

PALISADES NUCLEAR PLANT - STATION P07A

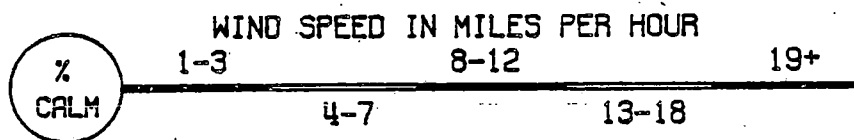
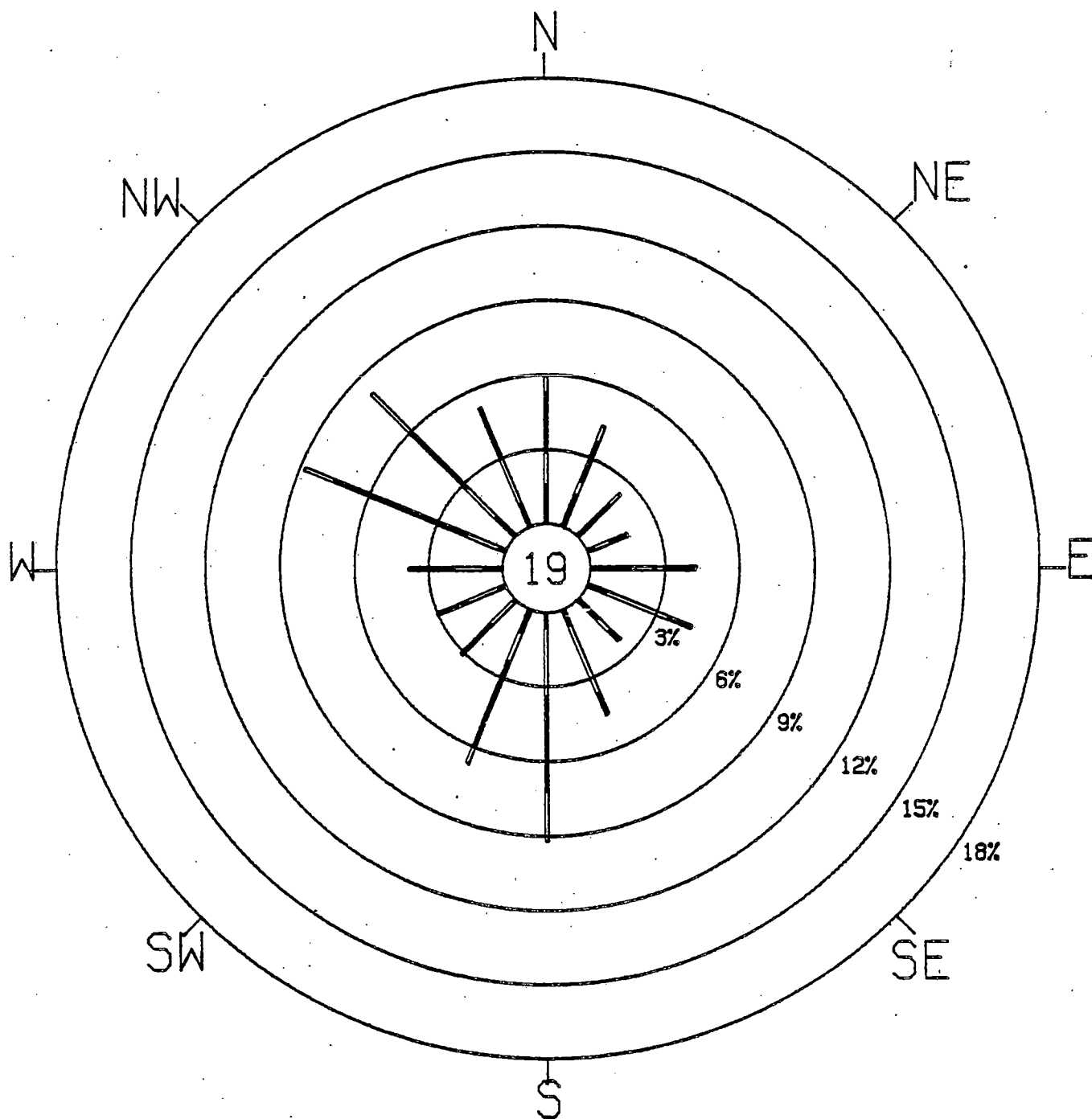


Table 6.1E Palisades Network

## Percentage Frequency of Wind Direction and Wind Speed

at Station P03A for May 1976

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.7	0.3	0.4	0.0	0.0	1.3	4.7
020	0.4	0.7	0.9	0.0	0.0	2.0	6.4
030	0.5	0.7	0.3	0.0	0.0	1.5	5.4
040	0.4	0.1	0.9	0.0	0.0	1.5	7.2
050	0.3	0.0	0.0	0.0	0.0	0.3	1.4
060	0.5	0.4	0.1	0.0	0.0	1.1	4.1
070	0.7	0.1	0.1	0.0	0.0	0.9	3.2
080	0.3	0.1	0.3	0.0	0.0	0.7	5.7
090	0.5	0.5	0.0	0.0	0.0	1.1	3.8
100	0.8	0.7	0.0	0.0	0.0	1.5	3.8
110	1.2	0.9	0.3	0.0	0.0	2.4	4.0
120	0.7	0.9	0.0	0.8	0.0	2.4	7.4
130	0.9	0.3	0.1	0.0	0.0	1.3	3.6
140	0.4	0.1	0.0	0.0	0.0	0.5	2.2
150	0.5	0.0	0.0	0.0	0.0	0.5	2.0
160	0.0	0.4	0.0	0.0	0.0	0.4	4.9
170	0.5	0.5	0.0	0.0	0.0	1.1	2.7
180	0.1	0.5	0.1	0.1	0.0	0.9	7.1
190	0.0	0.5	0.5	0.9	0.0	2.0	10.9
200	0.1	0.1	0.7	0.4	0.7	2.0	14.8
210	0.4	0.4	0.8	2.8	0.8	5.2	13.6
220	0.3	0.5	1.2	2.7	0.1	4.8	12.5
230	0.1	0.3	0.7	0.3	0.0	1.3	9.5
240	0.4	0.5	1.1	0.4	0.0	2.4	8.3
250	0.1	1.1	0.5	0.0	0.0	1.7	6.6
260	0.3	1.3	0.3	0.0	0.0	1.9	5.7
270	0.5	0.9	0.3	0.7	0.0	2.4	7.0
280	0.1	0.4	0.5	0.3	0.0	1.3	9.5
290	0.0	0.8	0.4	0.3	0.0	1.5	8.3
300	0.3	1.3	0.7	0.0	0.0	2.3	6.5
310	0.0	1.9	1.9	0.1	0.0	3.9	8.2
320	0.4	1.3	3.0	1.2	0.0	5.9	9.4
330	0.4	1.5	3.6	0.8	0.0	6.3	9.3
340	0.4	0.7	2.3	2.2	0.0	5.5	11.0
350	0.4	1.1	1.1	0.5	0.0	3.1	7.9
360	0.4	0.8	0.4	0.0	0.0	1.6	5.3
Variable	2.6	0.4	0.0	0.0	0.0	3.0	2.1
Total	16.8	23.4	23.6	14.5	1.6	79.9	6.5
Percent Calm:						20.1	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 743 hours of data.

Table 6.2E Palisades Network

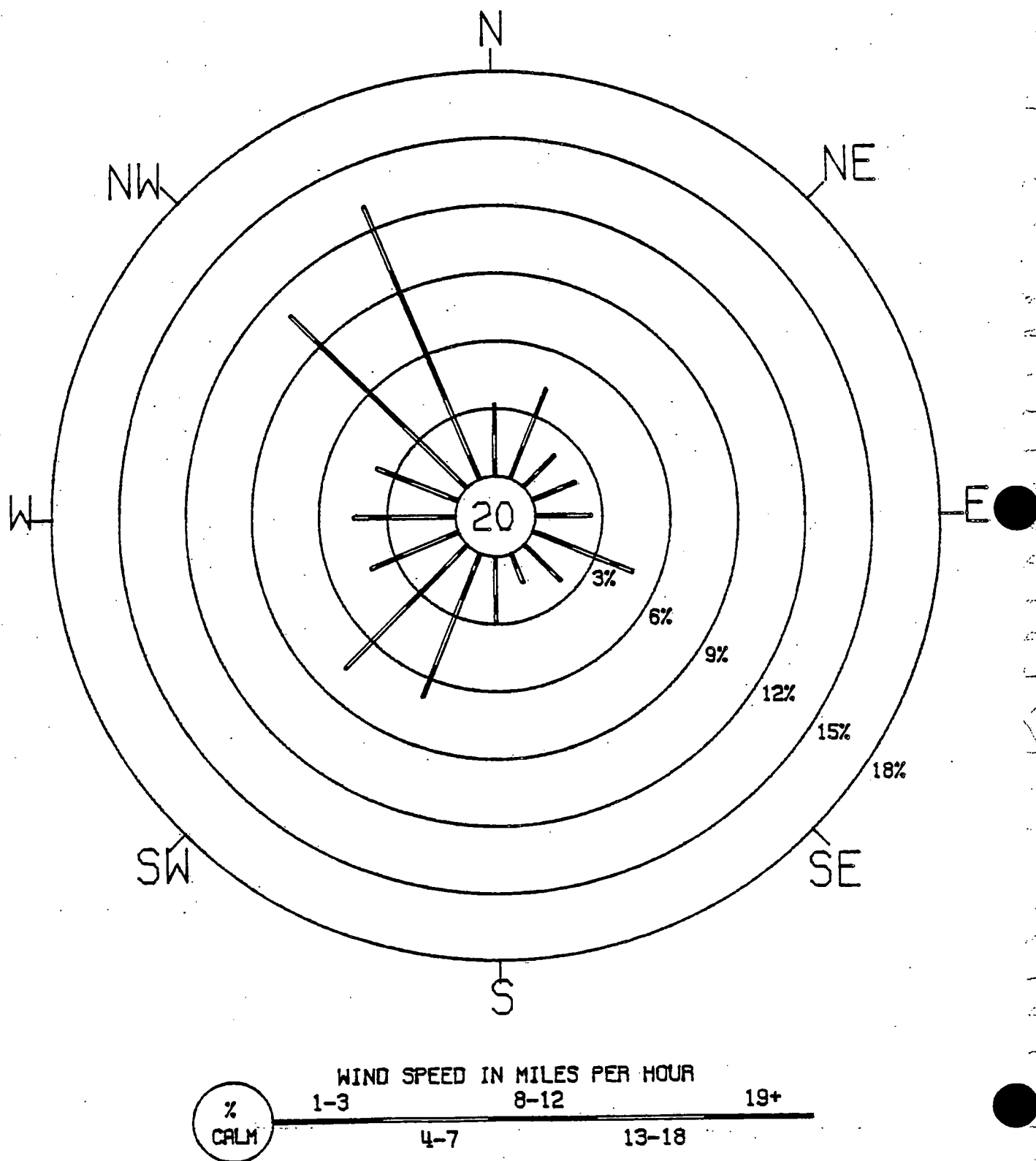
Percentage Frequency of Wind Direction and Wind Speed  
at Station P07A for May 1976

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.7	0.3	0.1	0.0	0.0	1.1	3.4
020	0.9	0.5	0.4	0.0	0.0	1.9	4.4
030	0.7	0.7	0.1	0.0	0.0	1.5	3.9
040	0.1	0.5	0.5	0.0	0.0	1.2	6.4
050	0.0	0.3	0.0	0.0	0.0	0.3	5.1
060	0.3	0.4	0.0	0.0	0.0	0.7	3.0
070	0.9	0.3	0.0	0.0	0.0	1.2	2.0
080	0.5	0.5	0.0	0.0	0.0	1.1	3.9
090	1.2	0.1	0.0	0.0	0.0	1.3	2.6
100	1.3	0.5	0.0	0.0	0.0	1.9	2.8
110	2.3	1.2	0.0	0.0	0.0	3.5	3.0
120	0.8	0.4	0.1	0.1	0.0	1.5	4.8
130	0.7	0.5	0.4	0.1	0.0	1.8	6.2
140	0.5	0.3	0.3	0.0	0.0	1.1	4.5
150	0.5	0.1	0.0	0.0	0.0	0.7	2.2
160	0.5	0.3	0.0	0.0	0.0	0.8	3.2
170	0.7	0.8	0.0	0.0	0.0	1.5	3.5
180	0.4	0.7	0.1	0.0	0.0	1.2	5.0
190	0.5	1.1	0.1	1.3	0.0	3.1	8.5
200	0.5	0.4	0.8	0.7	0.1	2.6	9.6
210	0.1	0.5	0.5	0.7	0.0	1.9	10.2
220	0.1	0.0	1.3	0.1	0.0	1.6	9.5
230	0.0	0.3	0.7	0.0	0.0	0.9	8.7
240	0.0	0.5	0.3	0.0	0.0	0.8	6.2
250	0.5	1.1	1.1	0.0	0.0	2.7	6.2
260	0.5	0.9	0.9	0.0	0.0	2.4	5.7
270	0.1	0.9	0.7	0.0	0.0	1.8	7.5
280	0.4	1.3	1.2	0.7	0.0	3.6	8.5
290	0.1	1.3	1.2	0.0	0.0	2.7	7.3
300	0.3	1.6	3.5	1.6	0.0	7.0	9.8
310	0.9	1.2	2.7	1.1	0.0	5.9	8.7
320	0.9	1.9	1.9	0.3	0.0	5.0	6.8
330	1.3	0.5	1.8	0.0	0.0	3.6	5.3
340	1.6	0.9	0.3	0.0	0.0	2.8	3.7
350	1.3	0.4	0.0	0.0	0.0	1.8	2.9
360	0.8	1.1	0.1	0.0	0.0	2.0	4.0
Variable	2.6	1.5	0.0	0.0	0.0	4.0	2.7
Total	26.1	26.1	21.3	6.7	0.1	80.5	4.9
Percent Calm:						19.5	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 742 hours of data.

Fig. 0.12  
WIND ROSE - MAY 1976

PALISADES NUCLEAR PLANT - STATION P03A



# WIND ROSE - MAY 1976

PALISADES NUCLEAR PLANT - STATION P07A

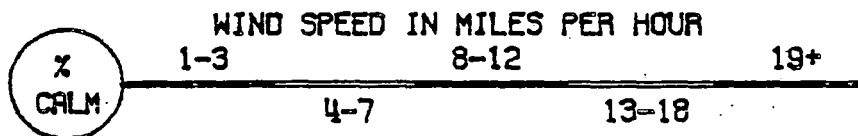
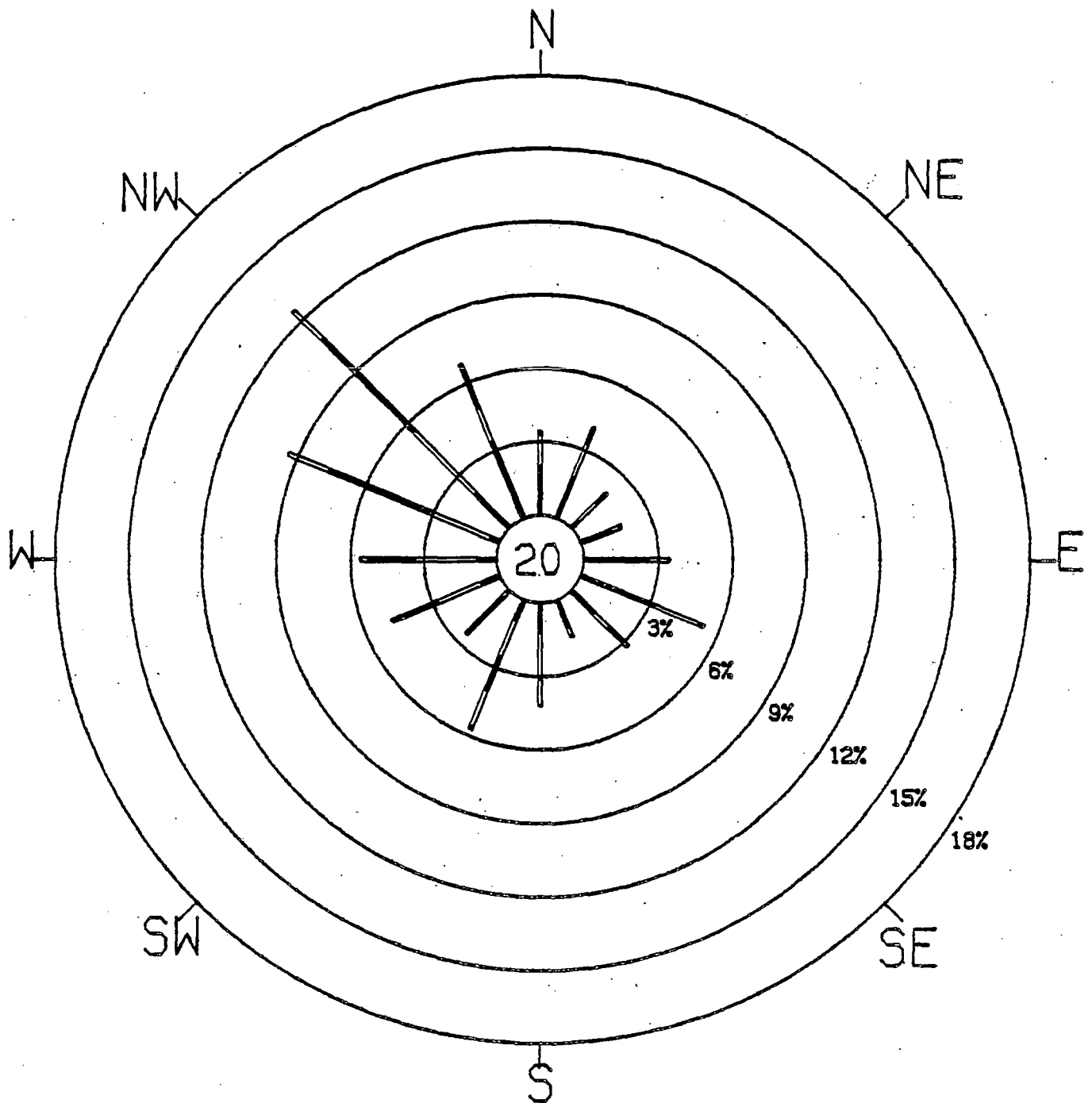


Table 6.1F Palisades Network  
Percentage Frequency of Wind Direction and Wind Speed  
at Station P03A for June 1976

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.3	0.0	0.5	0.0	0.0	0.8	6.0
020	0.3	0.2	0.0	0.0	0.0	0.5	3.3
030	0.6	0.0	0.2	0.0	0.0	0.8	2.8
040	0.6	0.6	0.0	0.0	0.0	1.2	3.6
050	0.2	0.8	0.3	0.0	0.0	1.2	5.7
060	0.6	0.5	0.8	0.0	0.0	1.8	5.8
070	0.6	0.5	0.9	0.0	0.0	2.0	6.0
080	0.9	0.6	0.0	0.2	0.0	1.7	4.1
090	0.5	1.1	1.1	0.0	0.0	2.6	7.0
100	0.8	0.6	0.5	0.0	0.0	1.8	4.6
110	0.8	0.6	0.5	0.0	0.0	1.8	5.1
120	0.3	0.9	0.3	0.0	0.0	1.5	5.4
130	0.5	0.5	0.2	0.0	0.0	1.1	4.1
140	0.2	0.5	0.8	0.0	0.0	1.4	6.6
150	0.6	0.0	0.3	0.0	0.0	0.9	4.9
160	0.8	0.0	0.0	0.0	0.0	0.8	1.9
170	0.8	1.2	0.5	0.2	0.0	2.6	5.5
180	0.5	1.5	2.2	0.5	0.0	4.6	8.0
190	0.8	0.8	0.6	0.6	0.0	2.8	7.4
200	0.6	0.5	1.4	0.5	0.0	2.9	7.8
210	0.0	0.6	3.2	1.5	0.0	5.4	10.6
220	0.3	2.2	2.8	1.2	0.0	6.5	8.8
230	0.3	1.2	1.2	0.2	0.0	2.9	7.4
240	0.9	1.1	0.5	0.0	0.0	2.5	4.8
250	1.1	1.4	0.5	0.0	0.0	2.9	4.9
260	0.5	2.2	0.2	0.0	0.0	2.8	5.0
270	0.6	0.8	0.0	0.0	0.0	1.4	4.3
280	0.3	0.2	0.0	0.0	0.0	0.5	3.4
290	0.5	0.3	0.0	0.0	0.0	0.8	3.4
300	0.0	0.5	0.0	0.0	0.0	0.5	5.5
310	0.2	0.9	1.4	0.0	0.0	2.5	7.3
320	0.2	0.6	1.5	0.6	0.0	2.9	9.3
330	0.2	1.2	0.8	0.6	0.0	2.8	8.7
340	0.9	0.9	0.9	0.6	0.0	3.4	7.6
350	0.3	0.0	0.0	0.0	0.0	0.3	2.8
360	0.2	0.9	0.2	0.0	0.0	1.2	6.4
Variable	3.1	0.8	0.2	0.0	0.0	4.0	2.5
Total	20.4	26.9	24.0	6.6	0.0	77.9	5.1
Percent Calm:						22.1	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 651 hours of data.

Table 6.2F Palisades Network

Percentage Frequency of Wind Direction and Wind Speed  
at Station P07A for June 1976

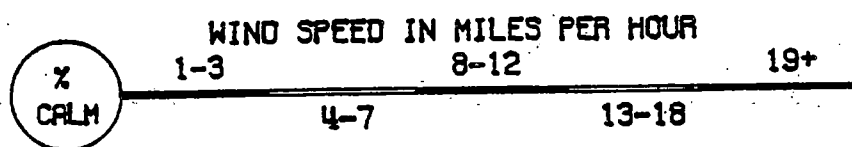
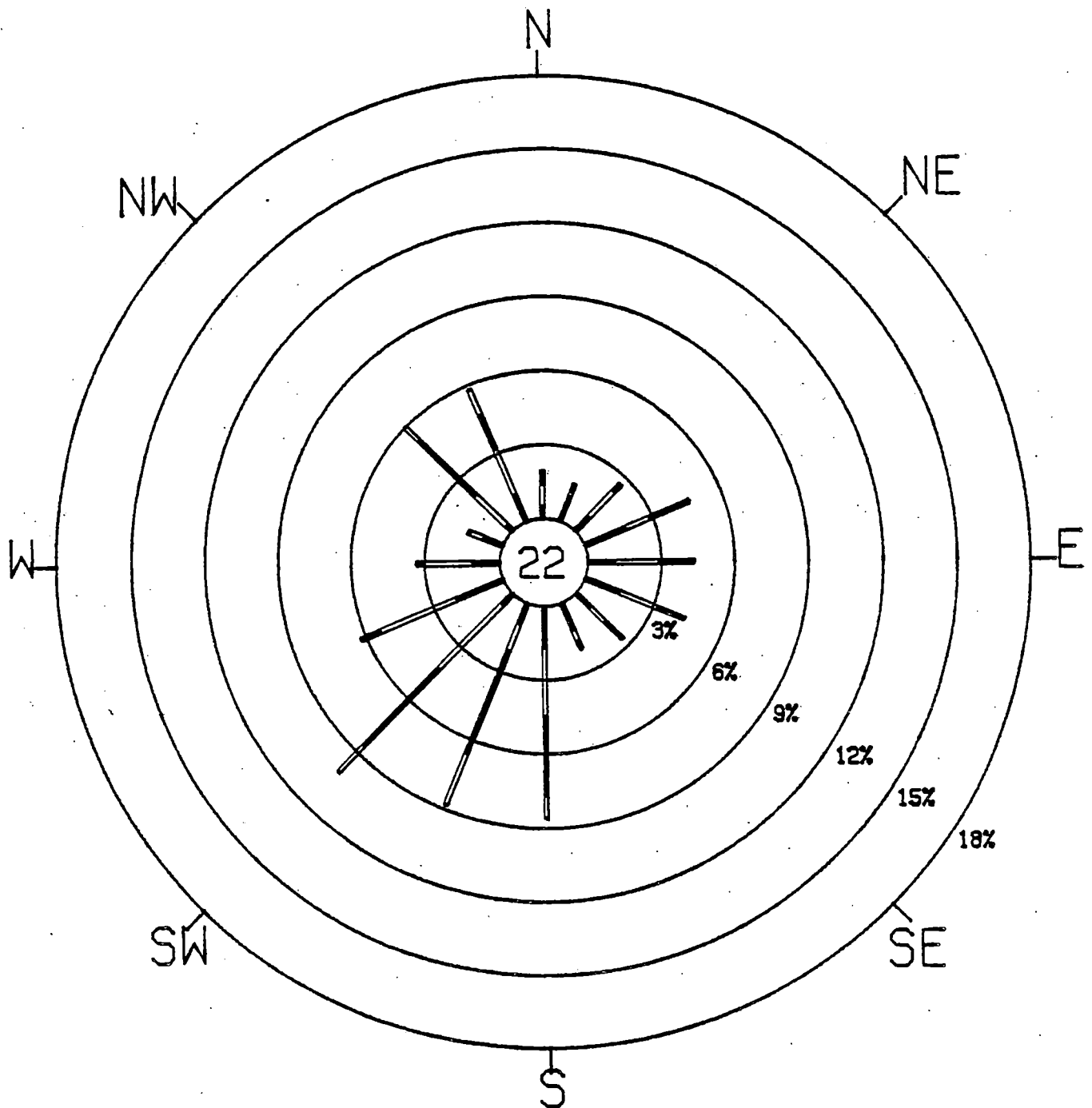
Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	1.0	0.0	0.0	0.0	0.0	1.0	1.5
020	0.4	0.1	0.0	0.0	0.0	0.6	2.1
030	0.7	0.6	0.0	0.0	0.0	1.3	3.4
040	0.4	0.8	0.1	0.0	0.0	1.4	4.2
050	1.1	1.9	0.0	0.0	0.0	3.1	4.2
060	1.3	1.0	0.0	0.0	0.0	2.2	3.4
070	0.7	0.7	0.0	0.0	0.0	1.4	4.0
080	1.1	0.0	0.0	0.0	0.0	1.1	1.4
090	0.6	0.4	0.1	0.0	0.0	1.1	3.9
100	1.1	0.6	0.6	0.0	0.0	2.2	4.4
110	0.7	1.7	0.1	0.0	0.0	2.5	4.7
120	1.0	1.1	0.0	0.0	0.0	2.1	3.6
130	0.6	1.1	0.3	0.0	0.0	1.9	4.8
140	0.3	1.1	0.0	0.0	0.0	1.4	4.9
150	1.1	1.7	0.3	0.0	0.0	3.1	4.3
160	0.3	1.9	0.8	0.0	0.0	3.1	6.2
170	0.8	0.4	0.4	0.0	0.0	1.7	4.8
180	0.6	1.0	0.8	0.3	0.0	2.6	7.2
190	0.7	1.9	1.5	0.3	0.1	4.6	7.5
200	1.0	0.7	1.0	0.7	0.0	3.3	7.7
210	1.1	1.1	0.1	0.0	0.0	2.4	4.0
220	0.7	1.0	0.7	0.0	0.0	2.4	5.8
230	0.6	1.1	1.4	0.0	0.0	3.1	6.6
240	0.7	0.8	1.0	0.0	0.0	2.5	6.1
250	0.4	0.8	0.4	0.0	0.0	1.7	5.0
260	0.3	2.4	0.4	0.0	0.0	3.1	5.7
270	0.6	1.7	0.3	0.0	0.0	2.5	5.9
280	0.4	1.5	0.4	0.0	0.0	2.4	5.6
290	0.0	1.0	0.3	0.0	0.0	1.3	5.9
300	0.1	0.6	1.0	0.0	0.0	1.7	8.0
310	0.0	0.0	1.0	0.1	0.0	1.1	10.4
320	0.4	0.8	1.3	0.3	0.0	2.8	7.7
330	0.4	1.0	1.0	0.7	0.0	3.1	8.6
340	0.8	0.4	0.4	0.0	0.0	1.7	5.0
350	0.7	0.3	0.0	0.0	0.0	1.0	2.7
360	0.0	0.6	0.1	0.0	0.0	0.7	6.5
Variable	4.6	0.3	0.0	0.0	0.0	4.9	1.8
Total	27.2	34.1	15.9	2.4	0.1	79.7	4.3
Percent Calm:						20.3	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 718 hours of data.



# WIND ROSE - JUNE 1976

PALISADES NUCLEAR PLANT - STATION P03A



WIND ROSE - JUNE 1976  
PALISADES NUCLEAR PLANT - STATION P07A

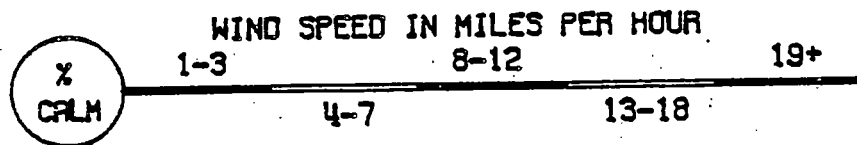
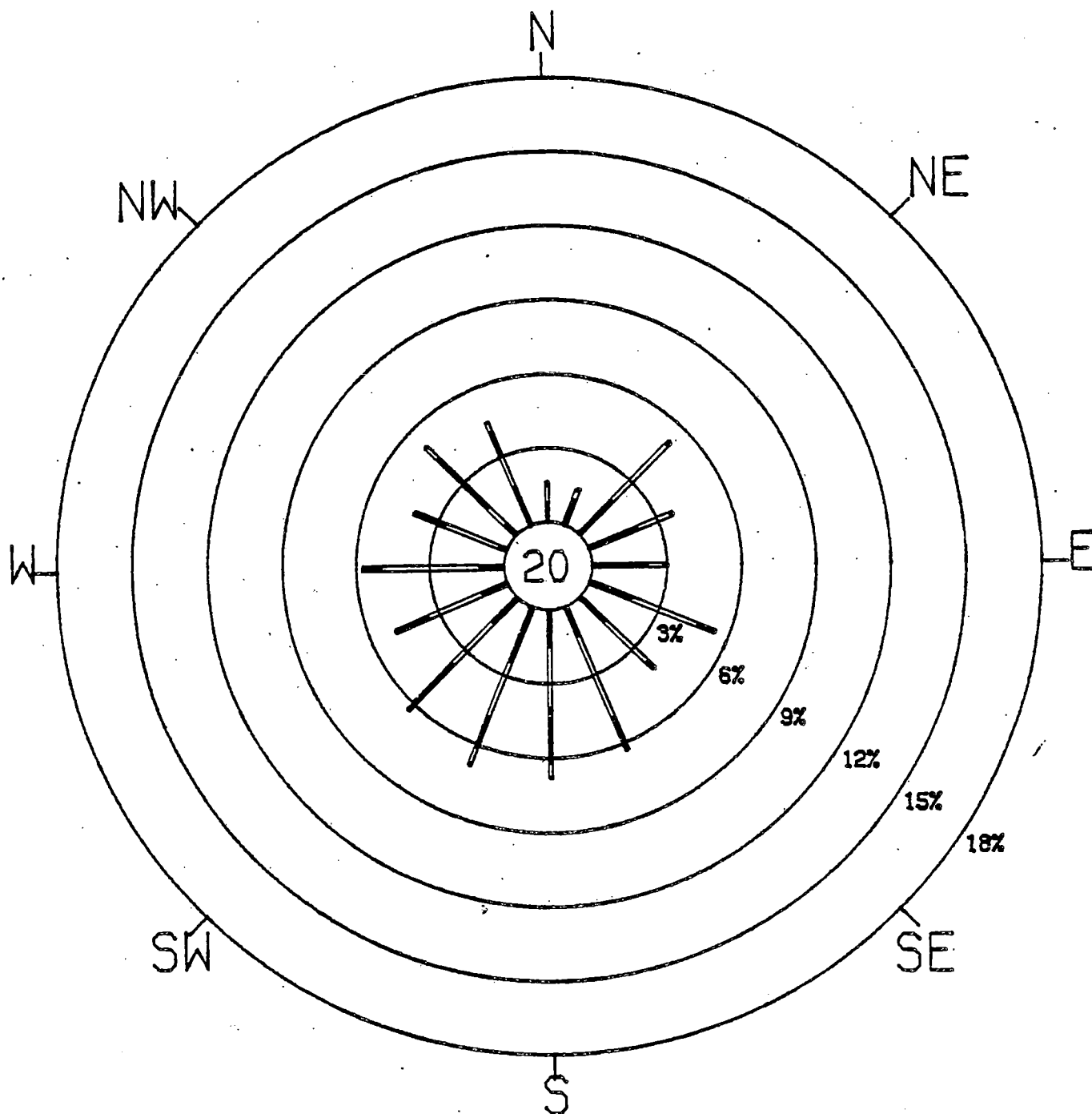


Table 6.1G Palisades Network

Percentage Frequency of Wind Direction and Wind Speed  
at Station P03A for July 1976

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.3	0.3	0.1	0.0	0.0	0.7	5.0
020	0.4	0.3	0.1	0.0	0.0	0.9	4.2
030	0.1	0.4	0.0	0.0	0.0	0.6	4.1
040	0.6	0.1	0.0	0.0	0.0	0.7	2.5
050	0.4	0.1	0.0	0.0	0.0	0.6	2.6
060	0.1	0.1	0.0	0.0	0.0	0.3	3.6
070	0.0	0.1	0.0	0.0	0.0	0.1	3.6
080	0.3	0.1	0.0	0.0	0.0	0.4	2.0
090	0.1	0.0	0.0	0.0	0.0	0.1	0.9
100	0.3	0.1	0.0	0.0	0.0	0.4	3.4
110	0.0	0.4	0.4	0.0	0.0	0.9	7.2
120	0.1	0.4	0.0	0.0	0.0	0.6	5.3
130	0.3	0.4	0.1	0.0	0.0	0.9	5.3
140	0.0	0.3	0.0	0.0	0.0	0.3	6.6
150	0.4	0.0	1.0	0.0	0.0	1.5	7.2
160	0.9	0.4	0.9	0.0	0.0	2.2	5.6
170	1.3	1.0	0.1	0.0	0.0	2.5	3.5
180	0.6	1.6	0.6	0.0	0.0	2.8	5.2
190	0.3	1.0	0.6	0.0	0.0	1.9	6.1
200	0.1	0.4	0.7	0.7	0.0	2.0	9.9
210	0.4	1.0	2.8	1.0	0.0	5.2	9.4
220	0.1	1.3	2.9	0.6	0.0	5.0	9.4
230	0.3	1.0	2.0	0.1	0.0	3.5	7.8
240	0.4	1.6	1.2	0.0	0.0	3.2	6.3
250	1.2	2.0	0.6	0.0	0.0	3.8	5.1
260	1.0	2.8	0.3	0.0	0.0	4.1	4.9
270	0.4	1.0	0.1	0.0	0.0	1.6	4.6
280	0.1	1.0	0.3	0.0	0.0	1.5	5.2
290	0.0	1.3	0.3	0.0	0.0	1.6	6.0
300	0.1	0.6	0.4	0.0	0.0	1.2	6.2
310	0.4	1.9	0.9	0.1	0.0	3.4	6.4
320	0.3	1.6	2.8	0.7	0.0	5.4	8.5
330	0.3	2.3	4.1	0.7	0.0	7.4	8.5
340	0.1	1.3	1.9	1.5	0.0	4.8	9.8
350	0.1	0.0	0.3	0.0	0.0	0.4	7.1
360	0.1	0.0	0.1	0.0	0.0	0.3	5.6
Variable	2.8	0.7	0.1	0.0	0.0	3.6	2.5
Total	15.3	29.6	25.9	5.5	0.0	76.4	5.2
Percent Calm:						23.6	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 686 hours of data.

Table 6.2G Palisades Network

## Percentage Frequency of Wind Direction and Wind Speed

at Station P07A for July 1976

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.3	0.9	0.0	0.0	0.0	1.2	4.2
020	0.4	0.7	0.0	0.0	0.0	1.1	3.5
030	1.1	0.7	0.0	0.0	0.0	1.7	2.8
040	0.7	0.1	0.0	0.0	0.0	0.8	2.5
050	0.3	0.1	0.0	0.0	0.0	0.4	2.4
060	0.3	0.0	0.0	0.0	0.0	0.3	3.2
070	0.7	0.0	0.0	0.0	0.0	0.7	1.5
080	0.4	0.0	0.0	0.0	0.0	0.4	0.8
090	0.4	0.0	0.0	0.0	0.0	0.4	0.8
100	0.5	0.0	0.0	0.0	0.0	0.5	1.3
110	0.4	0.1	0.0	0.0	0.0	0.5	1.7
120	0.3	0.1	0.0	0.0	0.0	0.4	3.2
130	0.8	0.5	0.0	0.0	0.0	1.3	3.5
140	0.7	0.3	0.1	0.0	0.0	1.1	3.0
150	0.5	0.7	0.4	0.0	0.0	1.6	4.9
160	0.9	0.4	0.4	0.0	0.0	1.7	4.7
170	1.7	0.8	0.5	0.0	0.0	3.1	4.6
180	0.8	1.1	0.7	0.0	0.0	2.6	5.3
190	1.5	1.2	0.3	0.0	0.0	3.0	4.2
200	0.4	0.8	0.8	0.0	0.0	2.0	5.7
210	0.7	1.3	1.1	0.0	0.0	3.1	6.3
220	0.4	0.8	0.3	0.0	0.0	1.5	5.8
230	0.5	1.2	1.3	0.0	0.0	3.1	6.6
240	0.4	1.2	0.0	0.0	0.0	1.6	4.2
250	0.3	2.3	0.5	0.0	0.0	3.1	6.0
260	0.4	1.6	0.5	0.0	0.0	2.6	6.1
270	0.4	1.2	0.4	0.0	0.0	2.0	5.6
280	0.7	1.6	0.5	0.0	0.0	2.8	5.3
290	0.3	1.3	0.9	0.0	0.0	2.6	6.8
300	0.3	1.6	1.3	0.0	0.0	3.2	7.1
310	0.1	1.5	2.3	0.4	0.0	4.3	8.6
320	0.8	3.0	2.2	0.5	0.0	6.5	7.5
330	0.5	2.2	1.7	0.1	0.0	4.6	7.2
340	0.8	1.1	0.9	0.0	0.0	2.8	5.6
350	0.4	0.5	0.4	0.0	0.0	1.3	5.9
360	0.8	1.1	0.1	0.0	0.0	2.0	4.3
Variable	3.0	0.7	0.1	0.0	0.0	3.8	2.6
Total	23.8	32.8	18.0	1.1	0.0	75.7	4.1
Percent Calm:						24.3	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 744 hours of data.

WIND ROSE - JULY 1976  
PALISADES NUCLEAR PLANT - STATION P03A

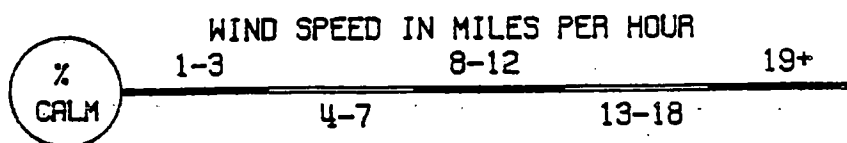
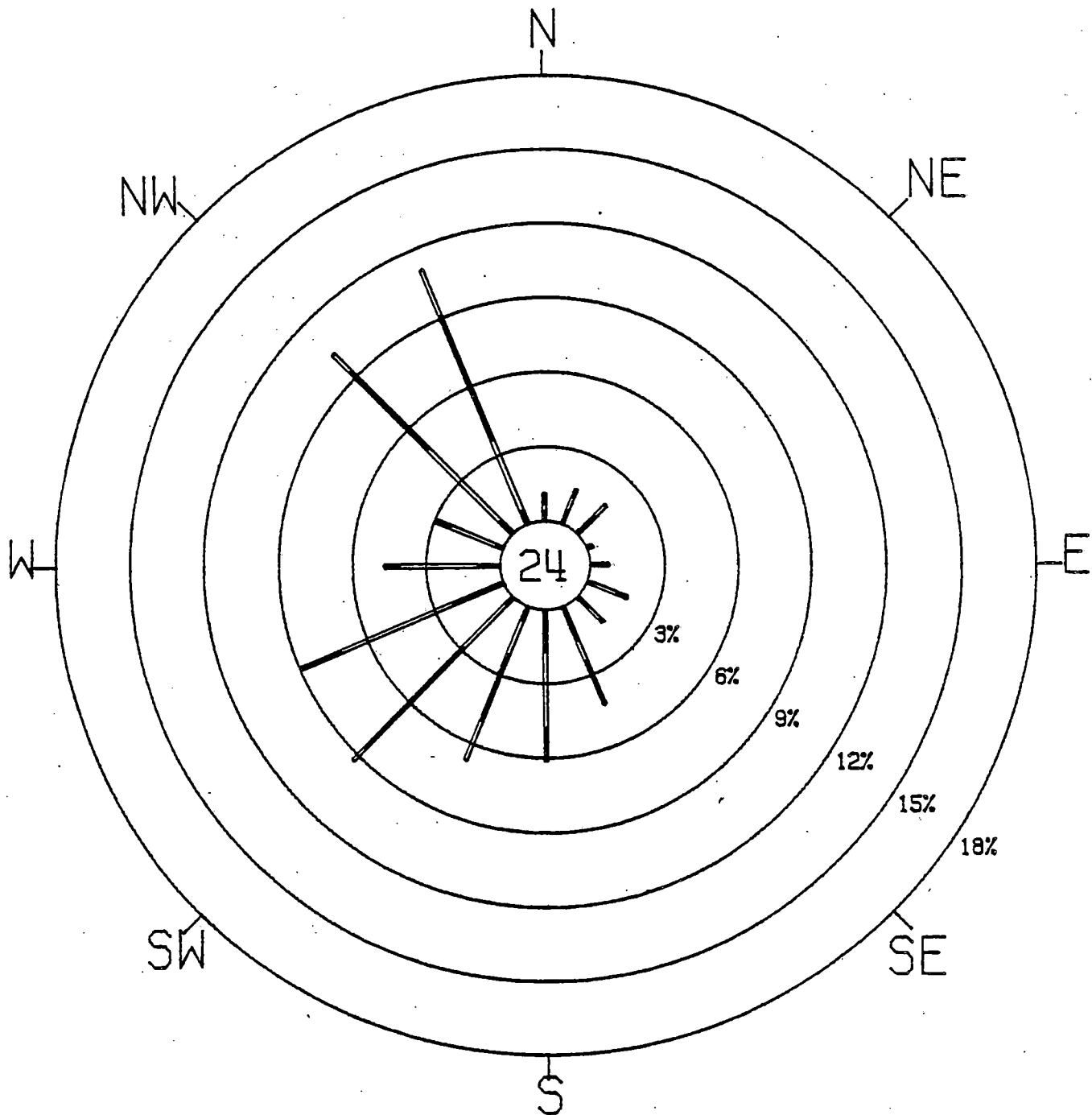


Fig. 0.20  
WIND ROSE - JULY 1976

PALISADES NUCLEAR PLANT - STATION P07A

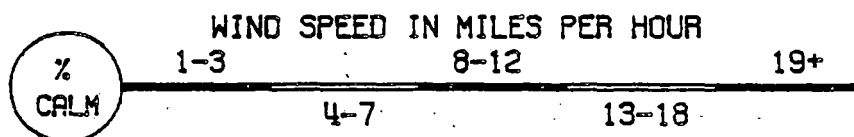
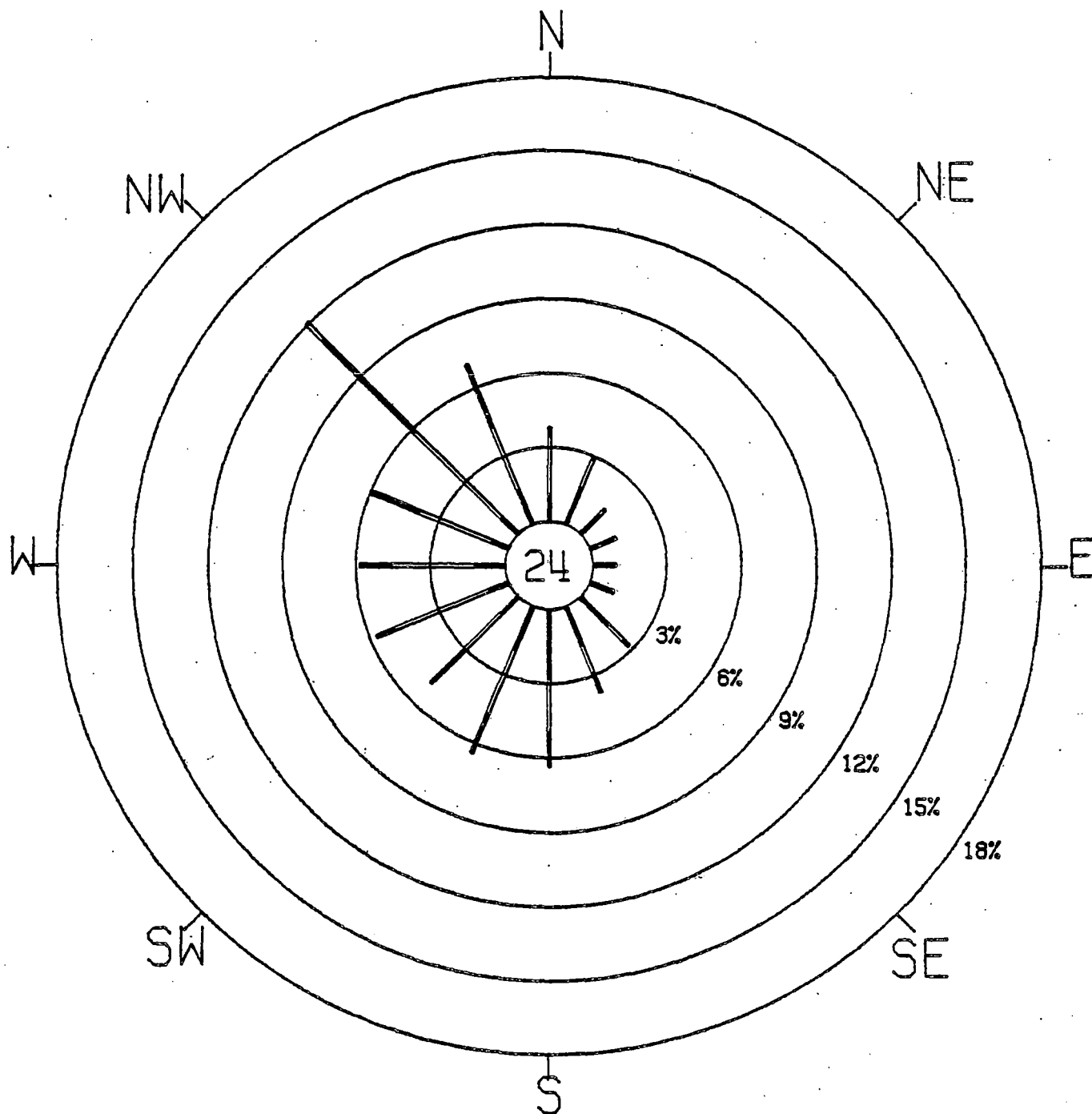


Table 6.1H Palisades Network

## Percentage Frequency of Wind Direction and Wind Speed

at Station P03A for August 1976

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.3	0.7	0.1	0.0	0.0	1.1	5.6
020	0.8	0.7	0.1	0.0	0.0	1.6	3.9
030	0.9	1.6	0.1	0.0	0.0	2.7	4.6
040	1.7	0.9	0.4	0.0	0.0	3.1	3.7
050	1.2	0.5	0.0	0.0	0.0	1.7	2.8
060	0.8	0.7	0.0	0.0	0.0	1.5	3.3
070	0.4	0.3	0.0	0.0	0.0	0.7	3.2
080	0.1	0.3	0.0	0.0	0.0	0.4	4.5
090	0.4	0.1	0.0	0.0	0.0	0.5	2.5
100	0.3	0.1	0.0	0.0	0.0	0.4	2.5
110	0.1	0.0	0.0	0.0	0.0	0.1	2.4
120	0.3	0.4	0.0	0.0	0.0	0.7	3.4
130	0.4	0.4	0.0	0.0	0.0	0.8	3.6
140	0.3	0.3	0.1	0.0	0.0	0.7	5.3
150	0.3	0.8	0.1	0.0	0.0	1.2	5.3
160	0.1	1.5	0.0	0.0	0.0	1.6	4.8
170	1.3	1.7	0.5	0.0	0.0	3.6	5.0
180	0.9	2.8	1.5	0.0	0.0	5.2	6.1
190	0.4	0.8	0.8	0.0	0.0	2.0	6.5
200	0.1	0.3	1.3	0.3	0.0	2.0	9.4
210	0.3	0.9	2.8	0.9	0.0	5.0	9.5
220	0.0	0.5	2.6	0.4	0.0	3.5	9.6
230	0.1	0.3	0.3	0.0	0.0	0.7	7.3
240	0.0	1.1	1.2	0.0	0.0	2.3	7.4
250	0.3	0.9	0.4	0.0	0.0	1.6	6.4
260	0.0	2.0	0.3	0.0	0.0	2.3	5.6
270	0.1	1.3	0.3	0.0	0.0	1.7	5.7
280	0.0	0.9	0.0	0.0	0.0	0.9	5.8
290	0.3	0.5	0.1	0.0	0.0	0.9	5.1
300	0.1	1.1	0.3	0.0	0.0	1.5	5.9
310	0.4	0.7	0.7	0.0	0.0	1.7	6.2
320	0.1	1.2	4.0	0.0	0.0	5.4	8.4
330	0.1	0.8	2.2	0.0	0.0	3.1	8.6
340	0.3	2.0	2.3	0.0	0.0	4.6	7.0
350	0.5	0.4	0.1	0.0	0.0	1.1	3.9
360	0.3	0.0	0.8	0.0	0.0	1.1	6.8
Variable	1.6	0.1	0.0	0.0	0.0	1.7	2.0
Total	15.9	29.8	23.5	1.6	0.0	70.8	4.4
Percent Calm:						29.2	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 744 hours of data.

Table 6.2H Palisades Network

Percentage Frequency of Wind Direction and Wind Speed  
at Station P07A for August 1976

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.5	0.8	0.0	0.0	0.0	1.3	4.1
020	1.7	0.4	0.5	0.0	0.0	2.7	4.0
030	1.5	1.1	0.0	0.0	0.0	2.6	3.2
040	1.1	1.1	0.1	0.0	0.0	2.3	3.9
050	1.5	0.4	0.0	0.0	0.0	1.9	2.8
060	1.1	0.8	0.0	0.0	0.0	1.9	3.0
070	0.4	0.4	0.0	0.0	0.0	0.8	3.0
080	0.3	0.3	0.0	0.0	0.0	0.5	3.5
090	0.7	0.4	0.0	0.0	0.0	1.1	2.6
100	0.3	0.0	0.0	0.0	0.0	0.3	2.6
110	0.1	0.1	0.0	0.0	0.0	0.3	2.2
120	0.5	0.0	0.0	0.0	0.0	0.5	1.6
130	0.7	0.0	0.0	0.0	0.0	0.7	1.5
140	0.4	0.3	0.0	0.0	0.0	0.7	3.0
150	1.5	0.5	0.0	0.0	0.0	2.0	3.2
160	0.7	0.8	0.0	0.0	0.0	1.5	4.0
170	0.9	2.8	0.4	0.0	0.0	4.2	4.6
180	0.8	3.8	0.3	0.0	0.0	4.8	5.1
190	0.3	1.7	0.7	0.0	0.0	2.7	6.5
200	0.5	1.7	0.4	0.0	0.0	2.7	5.6
210	0.9	1.7	0.3	0.0	0.0	3.0	4.7
220	0.3	1.7	0.5	0.0	0.0	2.6	6.0
230	0.7	0.7	0.5	0.0	0.0	1.9	5.5
240	0.0	0.7	0.4	0.0	0.0	1.1	7.0
250	0.0	0.4	0.3	0.0	0.0	0.7	7.2
260	0.0	0.9	0.1	0.0	0.0	1.1	6.3
270	0.1	0.9	0.1	0.0	0.0	1.2	5.9
280	0.0	0.4	0.1	0.0	0.0	0.5	5.8
290	0.1	0.7	0.4	0.0	0.0	1.2	6.0
300	0.0	1.7	0.4	0.0	0.0	2.2	6.5
310	0.3	1.9	0.7	0.0	0.0	2.8	5.7
320	0.8	1.5	1.9	0.1	0.0	4.3	7.3
330	0.5	1.7	1.5	0.0	0.0	3.8	6.7
340	0.8	1.2	0.1	0.0	0.0	2.2	4.5
350	1.1	0.5	0.1	0.0	0.0	1.7	3.3
360	0.5	0.7	0.1	0.0	0.0	1.3	4.3
Variable	4.4	0.9	0.0	0.0	0.0	5.4	2.5
Total	26.1	35.9	10.1	0.1	0.0	72.2	3.4
Percent Calm:						27.8	
						100.0	

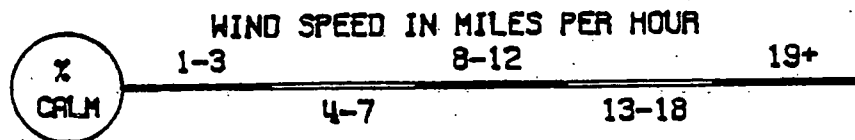
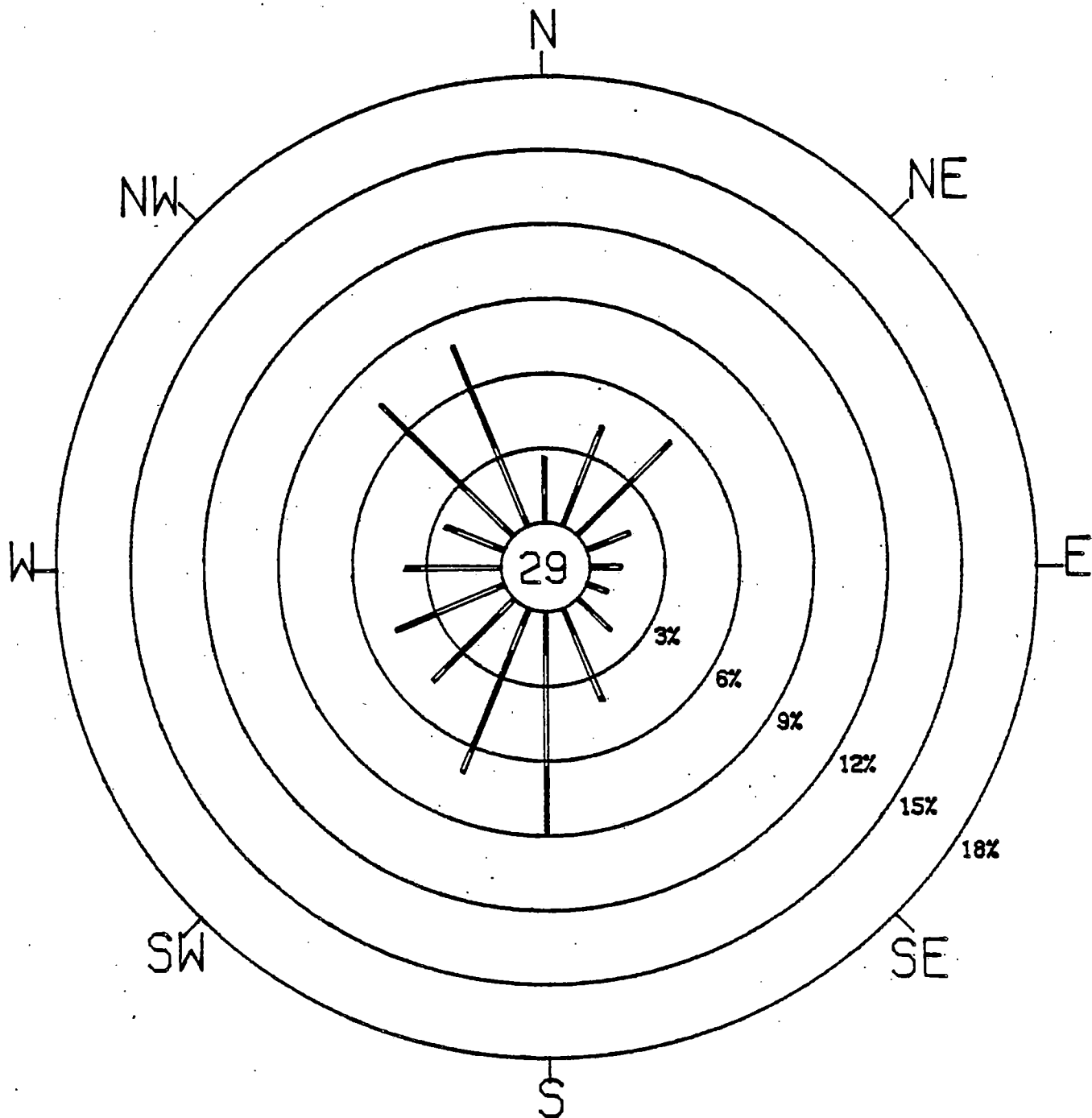
Note: Sensor height is 10 feet. Tabulated values are percent of 744 hours of data.



Fig. 0.1a

# WIND ROSE - AUGUST 1976

PALISADES NUCLEAR PLANT - STATION P03A



WIND ROSE - AUGUST 1976  
PALISADES NUCLEAR PLANT - STATION P07A

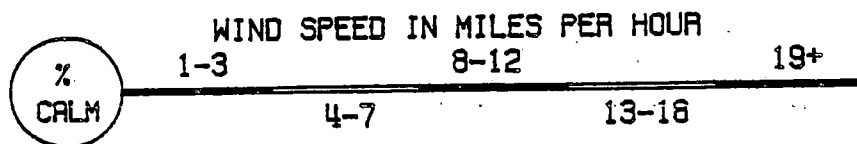
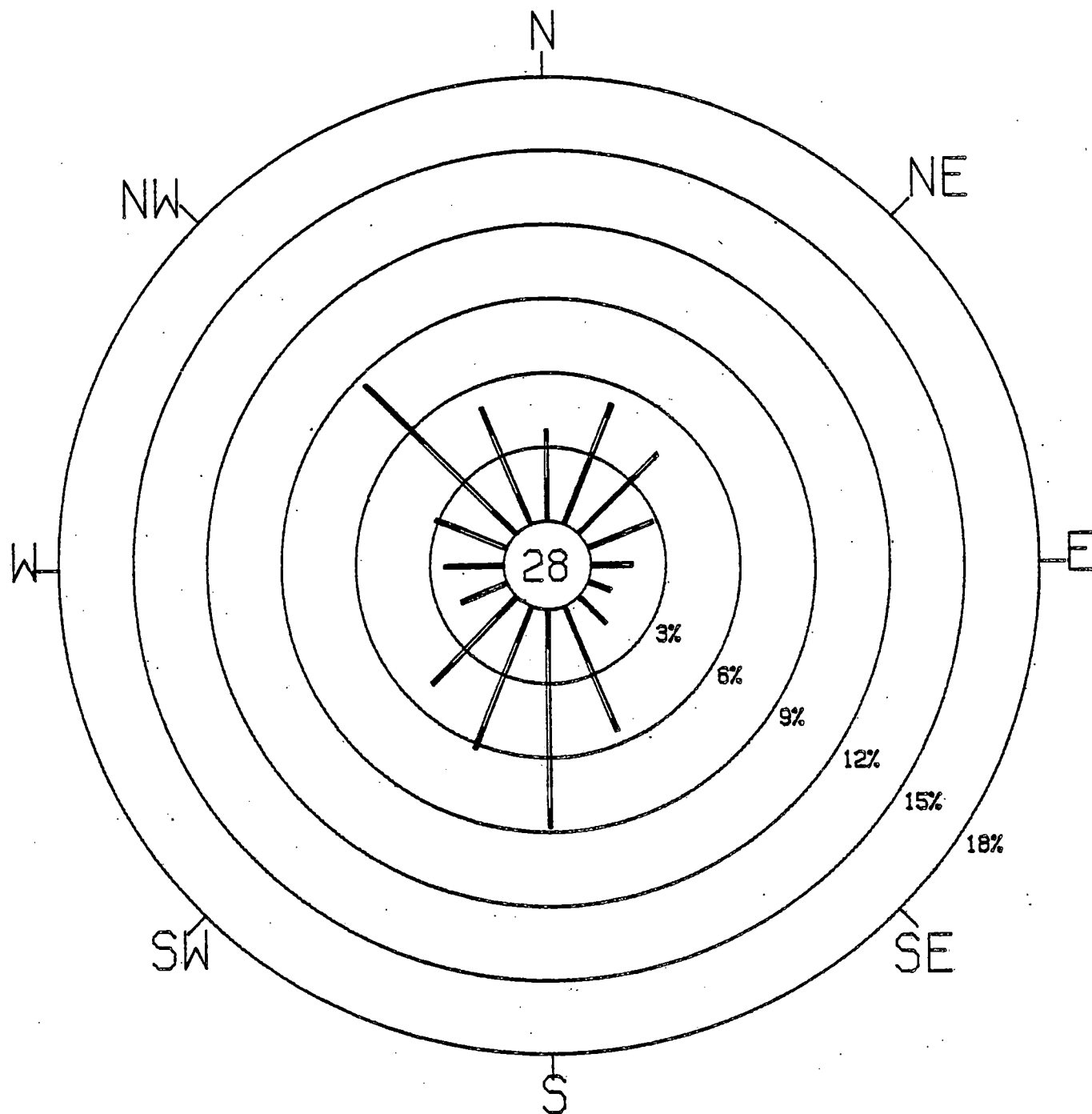


Table 6.1I Palisades Network

Percentage Frequency of Wind Direction and Wind Speed

at Station P03A for Sept. 1976

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.4	2.2	0.0	0.0	0.0	2.7	4.5
020	0.8	2.0	0.6	0.0	0.0	3.4	4.9
030	1.3	1.4	0.0	0.0	0.0	2.7	3.7
040	1.4	1.8	0.1	0.0	0.0	3.4	3.9
050	1.1	0.8	0.0	0.0	0.0	2.0	3.0
060	0.3	0.3	0.0	0.0	0.0	0.6	3.7
070	0.1	0.4	0.0	0.0	0.0	0.6	4.4
080	0.1	0.0	0.0	0.0	0.0	0.1	3.1
090	0.7	0.4	0.1	0.0	0.0	1.3	3.9
100	0.4	0.3	0.0	0.0	0.0	0.7	3.7
110	0.1	0.4	0.0	0.0	0.0	0.6	4.1
120	0.4	0.0	0.0	0.0	0.0	0.4	2.2
130	0.3	0.3	0.0	0.0	0.0	0.6	2.9
140	0.1	0.7	0.0	0.0	0.0	0.8	4.4
150	0.7	0.3	0.1	0.0	0.0	1.1	3.2
160	0.4	1.0	0.1	0.0	0.0	1.5	4.5
170	1.4	1.5	0.0	0.0	0.0	2.9	4.0
180	0.8	1.4	0.4	0.0	0.0	2.7	4.8
190	0.3	0.8	0.3	0.0	0.0	1.4	5.5
200	0.0	1.0	0.7	0.1	0.0	1.8	7.8
210	0.1	0.7	2.2	0.7	0.0	3.8	9.7
220	0.3	0.8	2.8	0.3	0.0	4.2	8.7
230	0.1	0.7	2.1	0.0	0.0	2.9	8.5
240	0.1	0.7	0.7	0.1	0.0	1.7	7.3
250	0.6	0.7	0.4	0.0	0.0	1.7	5.5
260	0.3	1.4	2.2	0.0	0.0	3.9	7.0
270	0.6	0.4	0.6	0.0	0.0	1.5	5.5
280	0.1	0.0	0.6	0.0	0.0	0.7	8.2
290	0.1	0.3	0.1	0.0	0.0	0.6	5.7
300	0.0	0.7	1.4	0.0	0.0	2.1	8.8
310	0.0	0.4	1.1	0.0	0.0	1.5	8.9
320	0.1	1.0	2.5	0.7	0.0	4.3	9.8
330	0.1	0.8	2.2	1.5	0.0	4.8	10.5
340	0.3	1.0	3.4	0.8	0.0	5.5	9.4
350	0.1	1.3	1.3	0.1	0.0	2.8	7.7
360	0.1	0.7	0.1	0.0	0.0	1.0	5.1
Variable	2.5	0.7	0.1	0.0	0.0	3.4	2.6
Total	17.1	29.4	26.4	4.5	0.0	77.3	5.1
Percent Calm:						22.7	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 715 hours of data.

Table 6.2I Palisades Network

## Percentage Frequency of Wind Direction and Wind Speed

at Station P07A for Sept. 1976

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	1.7	1.4	0.0	0.0	0.0	3.1	3.6
020	1.7	1.4	0.1	0.0	0.0	3.2	3.9
030	1.8	0.7	0.1	0.0	0.0	2.6	2.7
040	0.7	0.6	0.0	0.0	0.0	1.3	3.3
050	0.6	0.3	0.0	0.0	0.0	0.8	2.7
060	0.1	0.3	0.0	0.0	0.0	0.4	3.7
070	0.1	0.0	0.0	0.0	0.0	0.1	3.1
080	0.1	0.1	0.0	0.0	0.0	0.3	3.3
090	0.7	0.1	0.0	0.0	0.0	0.8	1.9
100	0.1	0.1	0.0	0.0	0.0	0.3	4.3
110	0.6	0.7	0.0	0.0	0.0	1.3	2.8
120	0.3	0.3	0.0	0.0	0.0	0.6	3.3
130	0.8	0.4	0.0	0.0	0.0	1.3	2.4
140	0.6	0.0	0.0	0.0	0.0	0.6	2.7
150	1.7	0.7	0.0	0.0	0.0	2.4	3.3
160	1.1	1.1	0.0	0.0	0.0	2.2	3.5
170	1.3	1.9	0.0	0.0	0.0	3.2	4.1
180	0.8	1.1	0.3	0.0	0.0	2.2	4.4
190	0.7	2.1	0.8	0.0	0.0	3.6	5.5
200	0.7	1.1	1.7	0.0	0.0	3.5	6.7
210	0.7	1.7	0.4	0.0	0.0	2.8	5.8
220	0.3	0.6	0.4	0.0	0.0	1.3	5.2
230	0.3	0.6	0.3	0.0	0.0	1.1	6.0
240	0.0	1.7	0.0	0.0	0.0	1.7	5.3
250	0.4	1.1	0.3	0.0	0.0	1.8	5.2
260	0.3	0.4	0.3	0.0	0.0	1.0	5.5
270	0.1	1.3	0.6	0.0	0.0	1.9	6.2
280	0.0	1.5	0.4	0.0	0.0	1.9	6.6
290	0.1	0.8	0.4	0.0	0.0	1.4	6.7
300	0.3	0.3	0.6	1.1	0.0	2.2	10.3
310	0.3	0.3	2.4	0.7	0.0	3.6	9.8
320	0.7	1.9	0.8	1.4	0.0	4.9	8.4
330	1.4	1.5	0.7	0.3	0.0	3.9	5.9
340	1.1	0.8	0.8	0.1	0.0	2.9	5.8
350	0.7	1.0	0.4	0.0	0.0	2.1	5.0
360	0.6	1.7	0.1	0.0	0.0	2.4	4.1
Variable	1.3	0.7	0.0	0.0	0.0	1.9	2.6
Total	24.6	32.2	11.9	3.6	0.0	72.4	3.9
Percent Calm:						27.6	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 720 hours of data.

WIND ROSE - SEPTEMBER 1976  
PALISADES NUCLEAR PLANT - STATION P03A

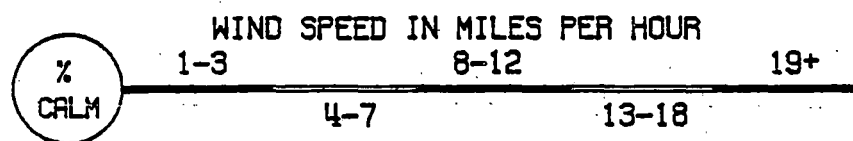
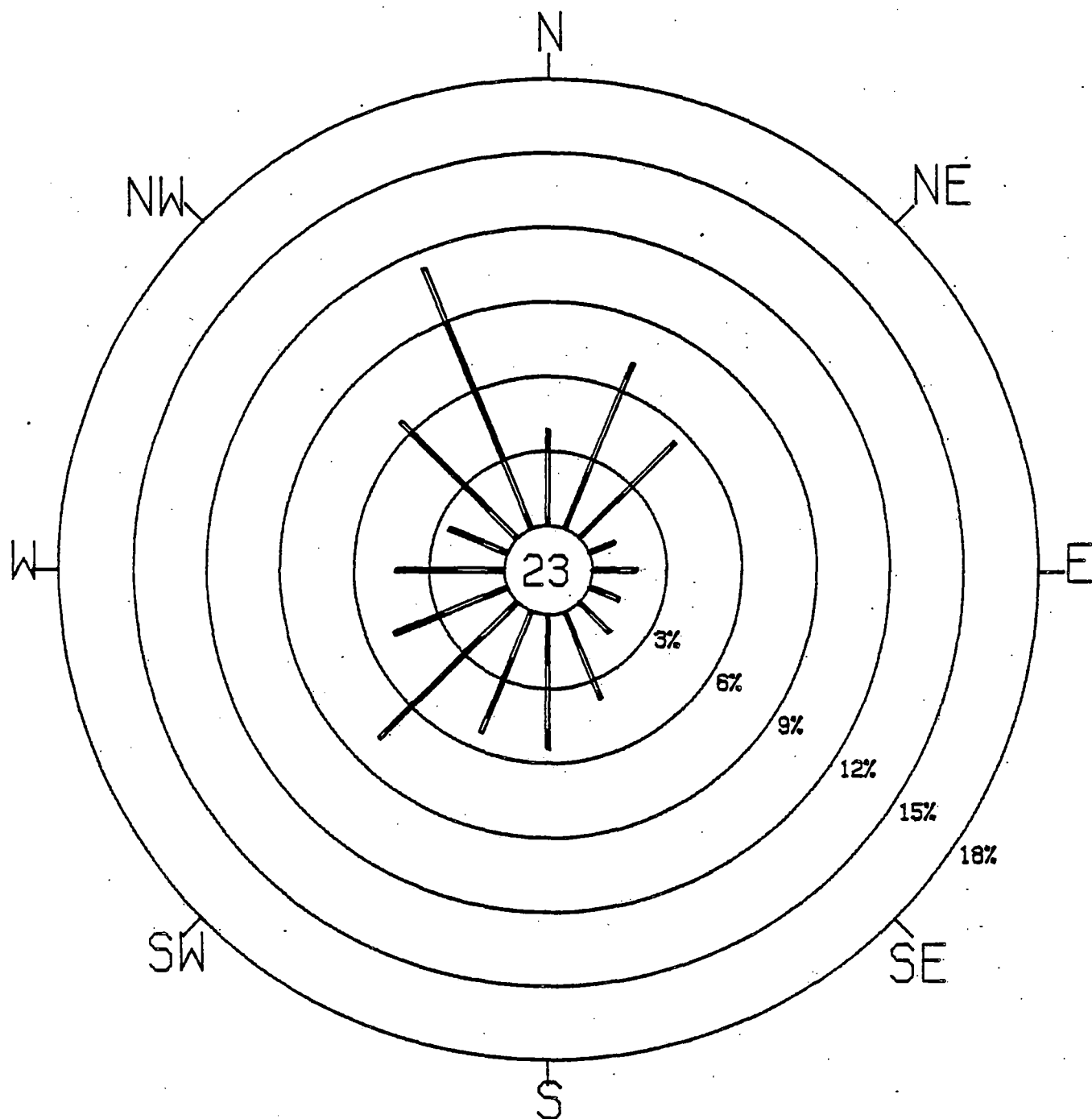


Fig. 6.21  
WIND ROSE - SEPTEMBER 1976

PALISADES NUCLEAR PLANT - STATION P07A

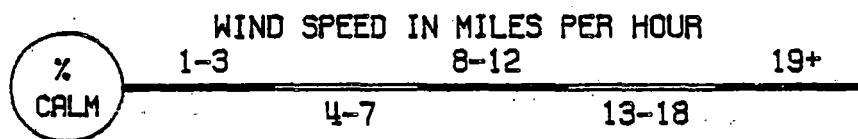
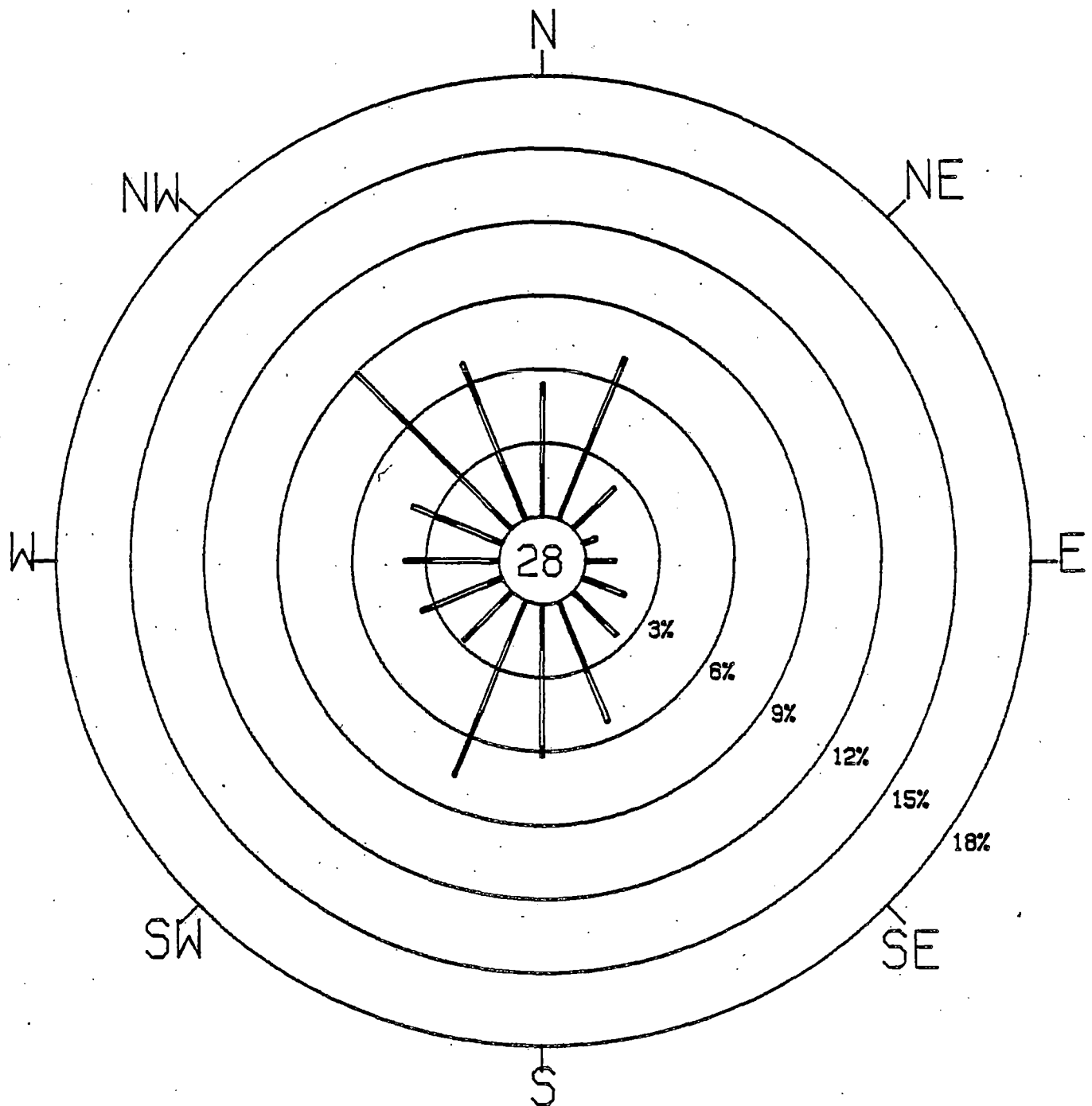


Table 6.1J Palisades Network

Percentage Frequency of Wind Direction and Wind Speed  
at Station P03A for October 1976

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.4	1.4	1.3	0.0	0.0	3.1	7.4
020	0.4	2.3	0.6	0.0	0.0	3.3	5.7
030	1.0	2.3	0.6	0.0	0.0	3.8	5.1
040	0.6	3.4	0.3	0.0	0.0	4.3	5.2
050	1.3	2.0	0.3	0.0	0.0	3.6	4.6
060	0.7	1.1	0.1	0.0	0.0	2.0	4.5
070	0.9	0.6	0.4	0.0	0.0	1.8	4.0
080	0.4	0.4	0.0	0.0	0.0	0.9	4.2
090	1.3	0.7	0.1	0.0	0.0	2.1	3.4
100	0.7	0.4	0.3	0.0	0.0	1.4	4.2
110	0.7	1.1	0.0	0.0	0.0	1.8	4.1
120	0.4	1.3	0.9	0.0	0.0	2.6	6.2
130	0.7	1.3	0.6	0.0	0.0	2.6	5.3
140	0.7	1.4	0.1	0.0	0.0	2.3	3.9
150	1.1	1.4	0.1	0.0	0.0	2.7	4.2
160	0.9	1.3	1.3	0.0	0.0	3.4	6.3
170	0.6	0.7	1.1	0.0	0.0	2.4	6.8
180	0.3	1.1	0.3	0.7	0.0	2.4	7.8
190	0.6	0.3	0.4	0.9	0.0	2.1	9.3
200	0.1	0.6	1.0	0.7	0.0	2.4	10.4
210	0.3	0.4	0.3	0.6	0.0	1.6	9.2
220	0.1	0.6	0.9	1.4	0.0	3.0	11.5
230	0.1	0.4	0.4	1.0	0.0	2.0	11.4
240	0.1	0.1	0.1	1.4	0.0	1.8	13.1
250	0.0	0.4	1.3	1.3	0.0	3.0	10.5
260	0.3	0.4	0.9	0.1	0.0	1.7	7.7
270	0.0	0.4	0.4	0.4	0.0	1.3	9.9
280	0.1	0.4	0.0	0.4	0.0	1.0	8.9
290	0.0	0.4	0.6	1.3	0.0	2.3	11.6
300	0.3	0.9	0.9	0.6	0.0	2.6	8.4
310	0.0	0.7	0.1	0.9	0.0	1.7	10.9
320	0.0	0.6	1.4	0.1	0.0	2.1	9.6
330	0.0	0.6	0.6	0.0	0.0	1.1	8.0
340	0.1	0.0	1.3	0.1	0.0	1.6	9.9
350	0.1	0.0	1.4	0.1	0.0	1.7	9.4
360	0.1	0.6	1.1	0.3	0.0	2.1	8.5
Variable	3.0	0.6	0.0	0.0	0.0	3.6	2.3
Total	18.6	32.7	21.4	12.4	0.0	85.1	6.1
Percent Calm:						14.9	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 704 hours of data.

Table 6.2J Pallsades Network

## Percentage Frequency of Wind Direction and Wind Speed

at Station P07A for October 1976

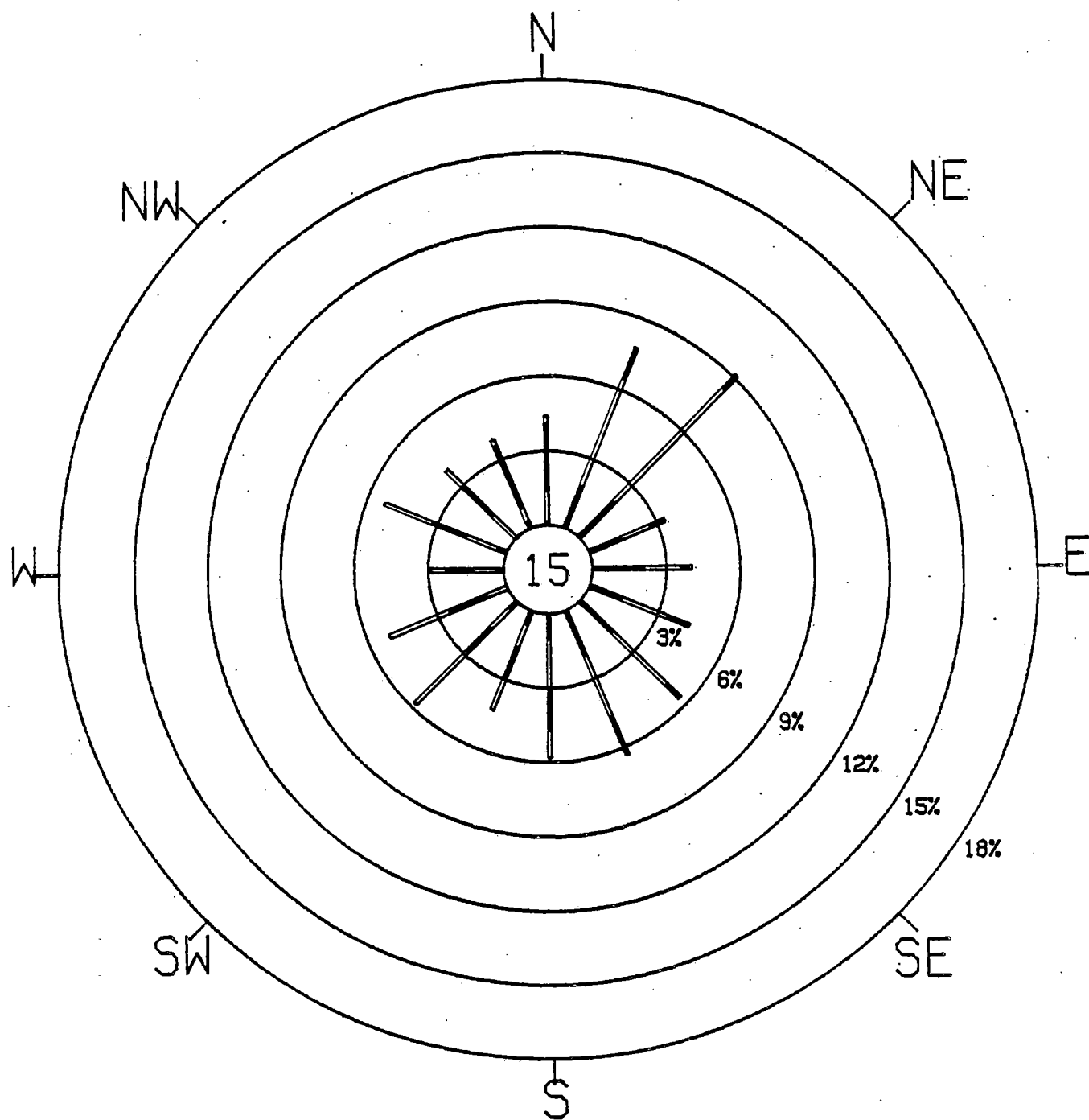
Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	1.9	0.9	0.5	0.0	0.0	3.4	3.6
020	1.2	2.0	0.3	0.0	0.0	3.5	4.2
030	1.6	1.4	0.3	0.0	0.0	3.2	4.1
040	0.7	0.7	0.0	0.0	0.0	1.4	3.2
050	0.4	0.4	0.0	0.0	0.0	0.8	4.1
060	0.4	0.1	0.0	0.0	0.0	0.5	2.3
070	0.7	0.1	0.0	0.0	0.0	0.8	1.7
080	1.2	0.3	0.0	0.0	0.0	1.5	1.9
090	0.7	0.5	0.0	0.0	0.0	1.2	2.7
100	1.2	0.7	0.0	0.0	0.0	1.9	3.1
110	0.7	1.2	0.0	0.0	0.0	1.9	3.6
120	1.6	1.8	0.0	0.0	0.0	3.4	3.5
130	1.2	1.1	0.0	0.0	0.0	2.3	3.5
140	1.4	1.5	0.0	0.0	0.0	2.8	4.0
150	0.7	1.5	0.4	0.0	0.0	2.6	5.0
160	0.4	1.2	0.7	0.0	0.0	2.3	5.9
170	0.3	0.3	1.1	0.0	0.0	1.6	7.4
180	0.5	0.8	1.5	0.0	0.0	2.8	7.5
190	0.4	2.8	0.8	0.0	0.0	4.1	5.9
200	0.5	1.1	1.2	0.0	0.0	2.8	7.0
210	0.1	0.5	0.5	0.1	0.0	1.4	7.1
220	0.4	0.3	0.5	0.0	0.0	1.2	6.4
230	0.1	0.1	0.4	0.0	0.0	0.7	8.1
240	0.0	0.1	0.0	0.0	0.0	0.1	4.7
250	0.1	0.3	0.5	0.0	0.0	0.9	8.0
260	0.0	0.7	0.1	0.0	0.0	0.8	6.4
270	0.3	1.2	1.4	0.1	0.0	3.0	7.4
280	0.3	0.7	1.9	1.8	0.0	4.6	10.9
290	0.5	0.5	0.5	0.8	0.0	2.4	9.5
300	0.7	0.4	0.5	0.8	0.1	2.6	9.3
310	0.4	0.7	0.7	0.3	0.0	2.0	7.5
320	0.4	1.2	0.3	0.0	0.0	1.9	5.3
330	0.5	0.4	0.4	0.0	0.0	1.4	5.8
340	0.8	0.8	1.2	0.0	0.0	2.8	5.9
350	0.7	1.2	0.8	0.0	0.0	2.7	6.0
360	1.5	1.6	0.7	0.0	0.0	3.8	4.5
Variable	1.4	0.1	0.0	0.0	0.0	1.5	1.9
Total	25.9	31.4	17.3	3.9	0.1	78.6	4.5
Percent Calm:						21.4	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 740 hours of data.



WIND ROSE<sup>Fig. 6.10</sup> - OCTOBER 1976

PALISADES NUCLEAR PLANT - STATION P03A



# WIND ROSE - OCTOBER 1976

## PALISADES NUCLEAR PLANT - STATION P07A

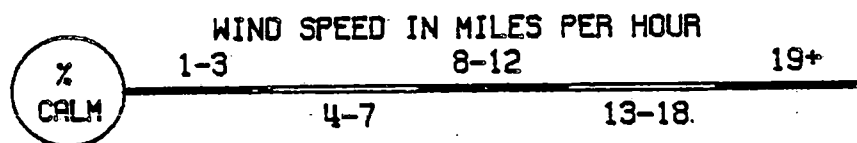
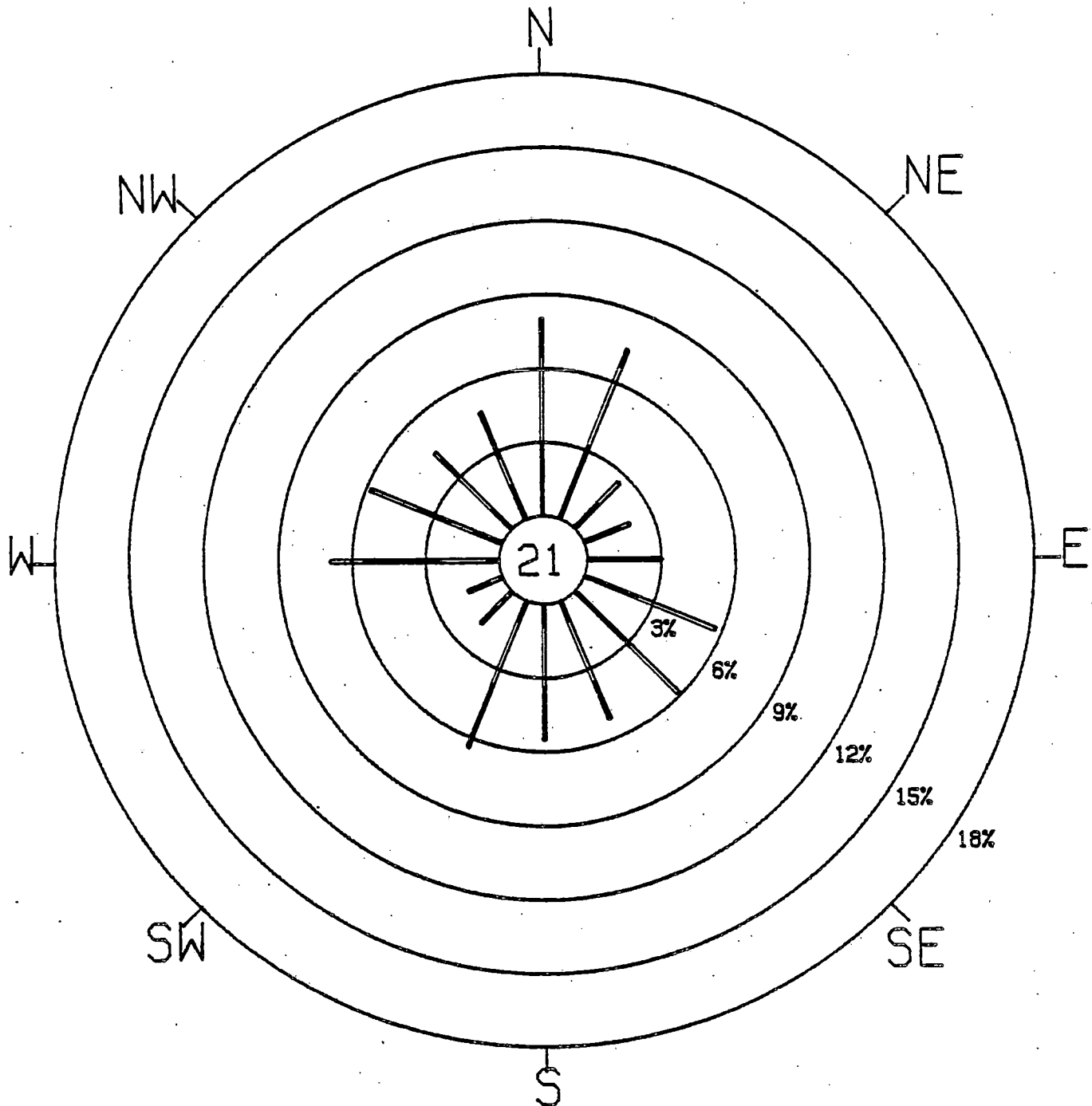


Table 6.1K Palisades Network

Percentage Frequency of Wind Direction and Wind Speed  
at Station P03A for November 1976

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.0	0.1	0.4	0.0	0.0	0.6	8.9
020	0.1	0.3	0.7	0.0	0.0	1.2	7.5
030	0.0	0.4	0.3	0.0	0.0	0.7	6.3
040	0.4	0.1	0.1	0.0	0.0	0.7	3.4
050	0.1	0.3	0.1	0.0	0.0	0.6	4.8
060	0.0	0.1	0.0	0.0	0.0	0.1	3.9
070	0.3	0.0	0.0	0.0	0.0	0.3	2.6
080	0.3	0.1	0.0	0.0	0.0	0.4	2.8
090	0.4	0.0	0.0	0.0	0.0	0.4	1.7
100	0.3	0.1	0.0	0.0	0.0	0.4	3.3
110	0.3	0.1	0.0	0.0	0.0	0.4	2.9
120	0.3	0.0	0.0	0.0	0.0	0.3	1.6
130	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140	0.1	0.3	0.0	0.0	0.0	0.4	5.0
150	0.3	0.1	0.1	0.0	0.0	0.6	4.8
160	0.7	0.4	0.9	0.0	0.0	2.1	6.1
170	1.0	0.9	0.6	0.1	0.0	2.7	5.4
180	0.6	2.5	1.8	0.4	0.0	5.3	7.5
190	0.0	1.2	1.8	1.0	0.0	4.0	9.9
200	0.0	0.3	0.1	0.6	0.0	1.0	11.5
210	0.1	0.6	1.2	1.0	0.0	3.0	10.8
220	0.0	0.6	0.7	1.8	0.0	3.1	12.0
230	0.0	0.1	2.7	1.5	0.3	4.6	12.0
240	0.0	0.4	3.9	1.6	0.3	6.2	11.2
250	0.0	0.7	4.3	1.9	0.0	7.0	10.7
260	0.0	1.0	4.2	2.4	0.0	7.6	11.2
270	0.0	1.5	2.8	1.5	0.0	5.8	10.0
280	0.0	1.2	1.5	1.0	0.0	3.7	9.8
290	0.0	0.4	2.5	2.2	0.0	5.2	11.6
300	0.0	0.7	4.3	2.8	0.0	7.9	11.1
310	0.0	1.5	3.1	2.4	0.0	7.0	11.3
320	0.0	0.6	0.7	2.2	0.0	3.6	12.4
330	0.0	0.1	1.2	1.0	0.0	2.4	12.2
340	0.1	0.6	0.6	0.3	0.0	1.6	8.2
350	0.0	0.3	0.1	0.1	0.0	0.6	8.4
360	0.0	0.0	0.1	0.0	0.0	0.1	9.1
Variable	1.3	1.2	0.0	0.0	0.0	2.5	3.6
Total	7.1	19.5	41.2	26.2	0.6	94.5	9.3
Percent Calm:						5.5	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 673 hours of data.

Table 6.2K Palisades Network

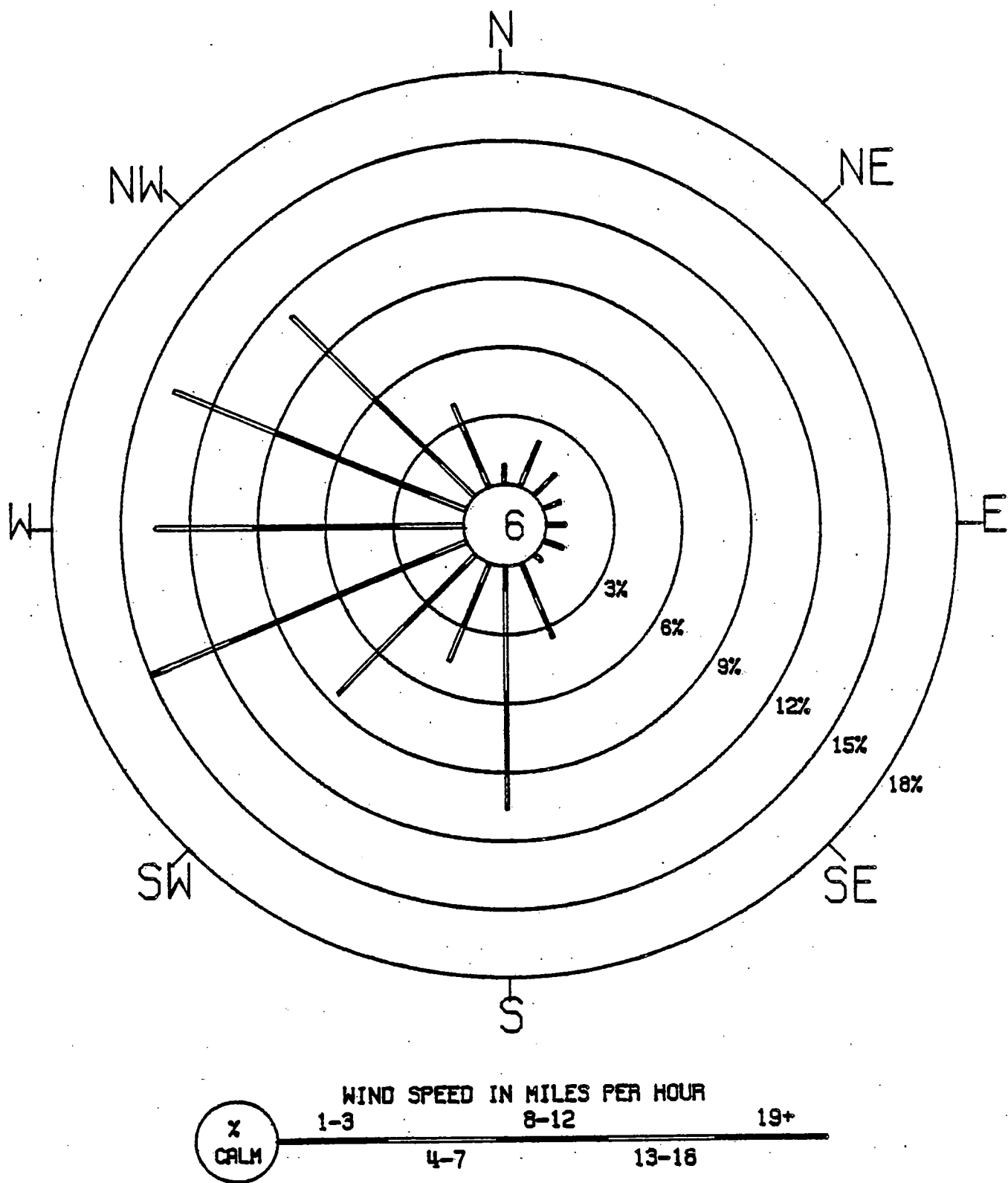
## Percentage Frequency of Wind Direction and Wind Speed

at Station P07A for November 1976

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.3	0.0	0.3	0.0	0.0	0.6	5.1
020	0.3	0.1	0.0	0.0	0.0	0.4	2.9
030	0.0	0.0	0.3	0.0	0.0	0.3	8.2
040	0.0	0.0	0.1	0.0	0.0	0.1	8.3
050	0.1	0.0	0.3	0.0	0.0	0.4	6.0
060	0.0	0.0	0.0	0.0	0.0	0.0	0.0
070	0.0	0.0	0.0	0.0	0.0	0.0	0.0
080	0.3	0.0	0.0	0.0	0.0	0.3	0.7
090	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100	0.3	0.0	0.0	0.0	0.0	0.3	0.8
110	0.3	0.0	0.0	0.0	0.0	0.3	0.8
120	0.1	0.0	0.0	0.0	0.0	0.1	1.2
130	0.1	0.0	0.0	0.0	0.0	0.1	2.5
140	0.4	0.3	0.0	0.0	0.0	0.7	2.7
150	1.0	1.5	0.0	0.0	0.0	2.5	4.2
160	0.3	0.8	1.0	0.0	0.0	2.1	7.0
170	1.0	1.4	0.4	0.0	0.0	2.8	4.9
180	0.4	2.5	1.3	0.0	0.0	4.2	6.5
190	1.3	3.3	0.7	0.8	0.0	6.1	6.7
200	1.0	1.4	1.0	0.4	0.0	3.8	7.2
210	0.6	1.0	0.3	0.0	0.0	1.8	5.3
220	0.4	1.1	0.8	0.0	0.0	2.4	6.6
230	0.7	1.5	0.4	0.0	0.0	2.6	5.3
240	0.3	3.5	0.7	0.0	0.0	4.5	5.8
250	0.4	2.8	0.8	0.0	0.0	4.0	6.2
260	0.6	2.8	2.4	0.0	0.0	5.7	6.9
270	0.3	3.2	3.3	0.0	0.0	6.8	7.4
280	0.1	2.2	6.0	0.7	0.0	9.1	9.1
290	0.3	0.7	4.5	1.8	0.0	7.3	10.7
300	0.4	0.1	1.5	1.7	0.0	3.8	11.6
310	0.0	1.4	0.7	0.6	0.0	2.6	9.0
320	0.1	0.4	0.7	0.3	0.0	1.5	8.7
330	0.1	0.1	0.0	0.0	0.0	0.3	3.3
340	0.1	0.4	0.3	0.1	0.0	1.0	7.1
350	0.3	0.6	0.4	0.0	0.0	1.3	6.5
360	0.6	0.6	0.1	0.0	0.0	1.3	4.8
Variable	0.8	0.1	0.1	0.0	0.0	1.1	2.6
Total	13.2	34.0	28.5	6.4	0.0	82.1	5.9
Percent Calm:						17.9	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 717 hours of data.

fig. 0.1A  
WIND ROSE - NOVEMBER 1976  
PALISADES NUCLEAR PLANT - STATION P03A



WIND ROSE - NOVEMBER 1976  
PALISADES NUCLEAR PLANT - STATION P07A

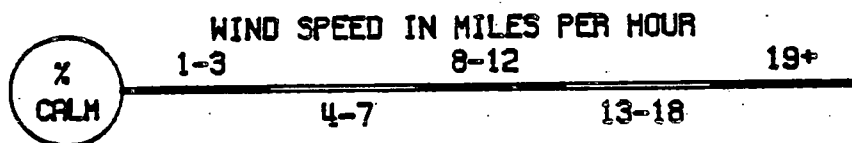
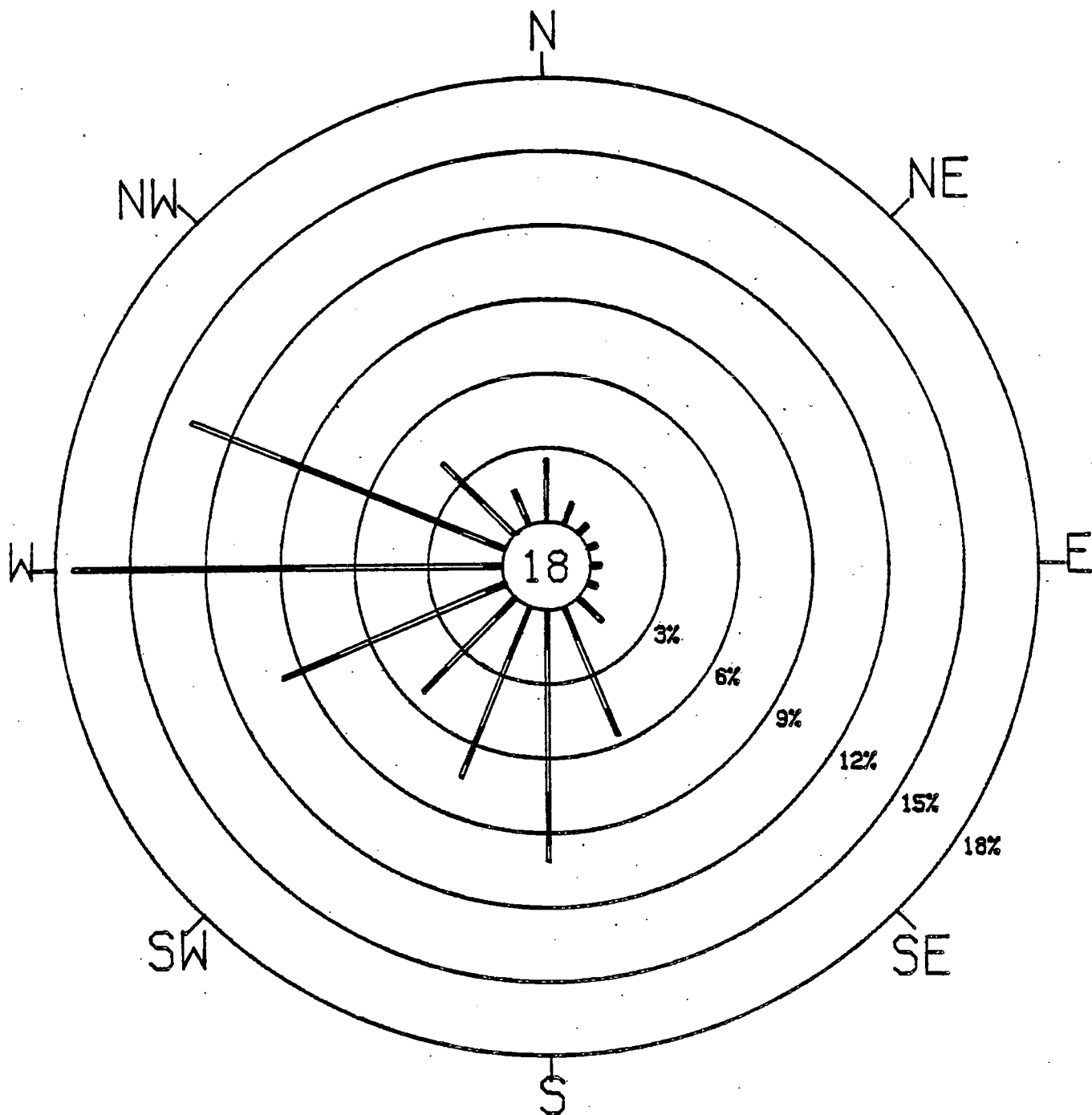


Table 6.1L Palisades Network  
Percentage Frequency of Wind Direction and Wind Speed  
at Station P03A for December 1976

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.0	0.0	0.2	0.0	0.0	0.2	7.7
020	0.0	0.7	0.2	0.0	0.0	0.9	6.2
030	0.4	0.7	0.2	0.0	0.0	1.3	5.0
040	0.0	0.2	0.0	0.0	0.0	0.2	6.2
050	0.2	0.2	0.0	0.0	0.0	0.4	4.1
060	0.2	0.0	0.0	0.0	0.0	0.2	2.8
070	0.2	0.2	0.0	0.0	0.0	0.4	3.9
080	0.2	0.0	0.0	0.0	0.0	0.2	2.4
090	0.2	0.0	0.0	0.0	0.0	0.2	2.6
100	0.2	0.4	0.0	0.0	0.0	0.6	3.8
110	0.6	0.0	0.0	0.0	0.0	0.6	2.8
120	0.4	0.0	0.0	0.0	0.0	0.4	1.7
130	0.2	0.4	0.2	0.0	0.0	0.7	5.4
140	0.9	0.4	1.1	0.0	0.0	2.4	6.3
150	0.0	0.4	0.6	0.4	0.0	1.3	9.5
160	0.4	0.6	0.7	0.7	0.0	2.4	9.1
170	0.4	2.0	3.5	0.9	0.0	6.9	8.7
180	0.4	2.6	3.9	1.7	0.0	8.5	9.2
190	0.0	0.6	0.6	1.5	0.6	3.1	13.8
200	0.0	0.2	0.7	1.7	1.3	3.9	14.8
210	0.0	0.4	1.3	2.0	0.2	3.9	12.7
220	0.0	0.7	0.7	1.7	0.0	3.1	11.5
230	0.0	0.7	2.0	0.7	0.0	3.5	10.5
240	0.2	0.9	2.8	0.9	0.0	4.8	10.1
250	0.0	0.0	1.9	2.6	0.0	4.4	12.9
260	0.2	0.2	1.7	2.8	0.0	4.8	12.4
270	0.0	0.0	1.1	0.7	0.2	2.0	13.2
280	0.0	0.2	0.9	1.3	0.0	2.4	12.7
290	0.0	0.7	0.7	3.5	0.6	5.6	13.8
300	0.0	0.2	0.9	3.3	0.6	5.0	14.1
310	0.0	0.7	1.5	1.7	0.2	4.1	11.7
320	0.0	0.2	2.4	3.1	3.3	9.1	15.4
330	0.0	0.4	0.4	1.3	0.6	2.6	14.5
340	0.0	0.0	1.1	0.6	0.0	1.7	11.6
350	0.0	0.4	0.4	0.0	0.0	0.7	7.6
360	0.0	0.2	0.0	0.0	0.0	0.2	6.0
Variable	1.1	0.4	0.4	0.0	0.0	1.9	4.0
Total	6.1	15.7	32.0	33.1	7.4	94.4	10.7
Percent Calm:						5.6	
						100.0	

Note: Sensor height is 10 feet. Tabulated values are percent of 540 hours of data.

Table 6 .2L Palisades Network

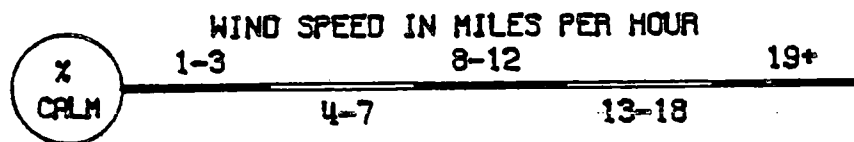
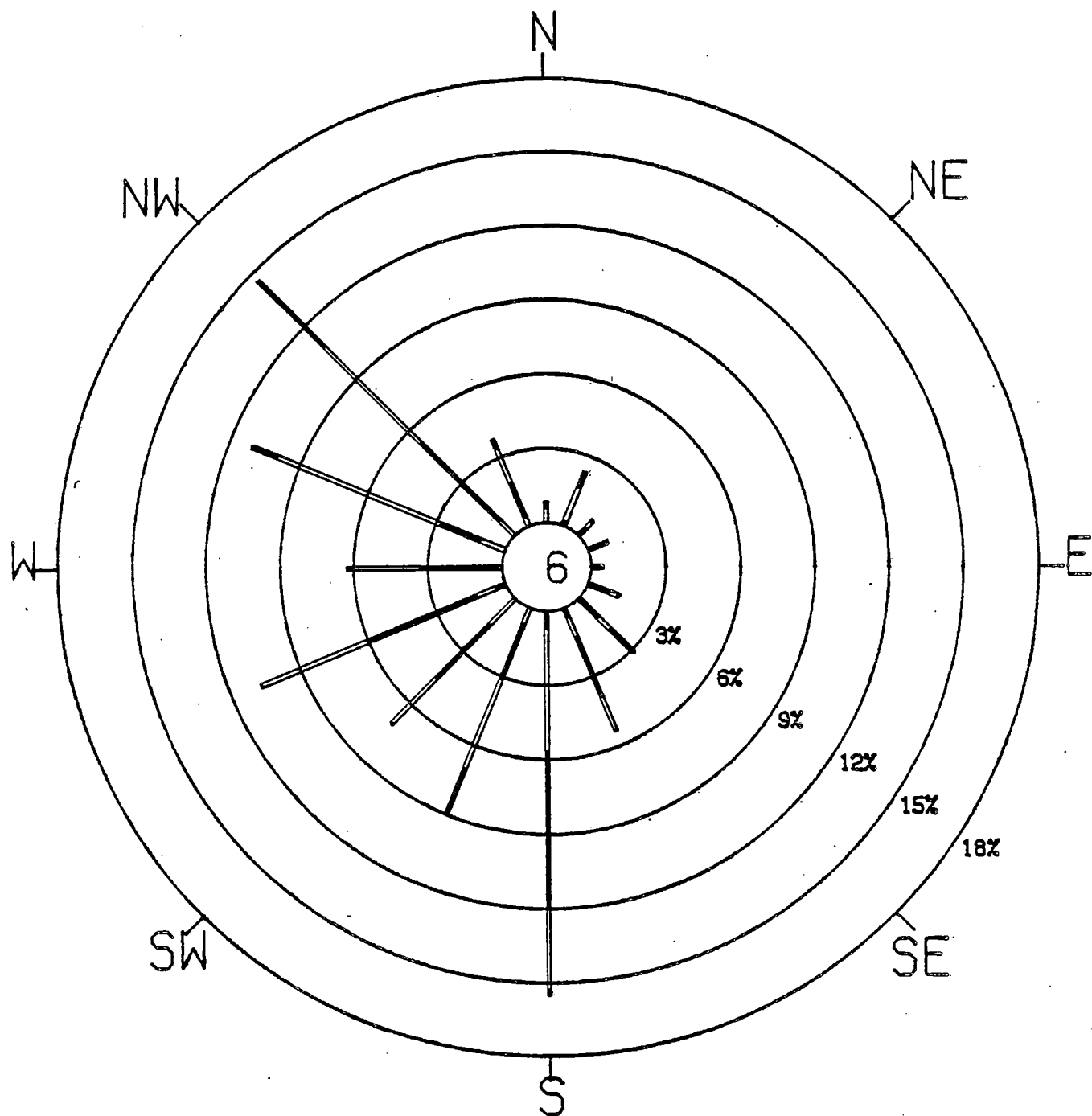
Percentage Frequency of Wind Direction and Wind Speed  
at Station P07A for December 1976

Wind Direction	Wind Speed, miles per hour					Total	Average Speed
	1-3	4-7	8-12	13-18	19+		
010	0.3	0.4	0.3	0.0	0.0	0.9	5.4
020	0.1	0.3	0.7	0.0	0.0	1.1	7.0
030	0.1	0.4	0.0	0.0	0.0	0.5	4.3
040	0.1	0.0	0.3	0.0	0.0	0.4	6.1
050	0.1	0.1	0.0	0.0	0.0	0.3	3.9
060	0.4	0.1	0.0	0.0	0.0	0.5	2.7
070	0.1	0.0	0.0	0.0	0.0	0.1	0.5
080	0.3	0.0	0.0	0.0	0.0	0.3	0.5
090	0.7	0.0	0.0	0.0	0.0	0.7	1.7
100	0.5	0.0	0.0	0.0	0.0	0.5	2.5
110	1.2	0.3	0.0	0.0	0.0	1.5	2.1
120	0.5	0.8	0.4	0.0	0.0	1.7	4.9
130	1.1	0.9	0.5	0.0	0.0	2.6	4.9
140	0.8	1.1	0.0	0.0	0.0	1.9	4.0
150	0.1	1.7	2.0	0.0	0.0	3.9	7.8
160	0.3	1.7	1.1	0.5	0.0	3.6	7.9
170	0.4	1.3	1.1	0.8	0.0	3.6	8.4
180	1.3	4.2	2.7	0.7	0.0	8.9	7.0
190	0.3	3.1	0.9	0.4	0.0	4.7	7.1
200	0.5	1.5	0.5	1.3	0.0	3.9	8.9
210	0.7	0.7	0.5	0.5	0.0	2.4	7.2
220	0.5	0.7	0.4	0.3	0.0	1.9	6.8
230	0.7	0.9	0.5	0.0	0.0	2.2	5.9
240	0.5	0.5	0.3	0.0	0.0	1.3	5.3
250	0.7	1.7	0.1	0.0	0.0	2.6	4.9
260	0.3	1.9	1.5	0.0	0.0	3.6	7.3
270	0.1	1.6	3.2	0.1	0.0	5.1	8.2
280	0.0	0.8	3.4	1.1	0.0	5.2	10.2
290	0.0	0.5	1.9	1.7	0.5	4.7	12.7
300	0.1	0.1	0.3	1.2	0.1	1.9	12.4
310	0.4	0.9	1.1	2.0	0.5	5.0	11.7
320	0.4	0.8	1.7	2.6	0.1	5.6	11.8
330	0.3	0.7	0.5	0.1	0.0	1.6	7.1
340	0.1	0.8	0.3	0.0	0.0	1.2	6.6
350	0.3	0.4	0.5	0.0	0.0	1.2	5.6
360	0.3	0.3	0.1	0.0	0.0	0.7	3.7
Variable	0.8	0.0	0.0	0.0	0.0	0.8	1.5
Total	15.6	31.5	26.9	13.4	1.3	88.7	7.0
Percent Calm:						11.3	
						100.0	

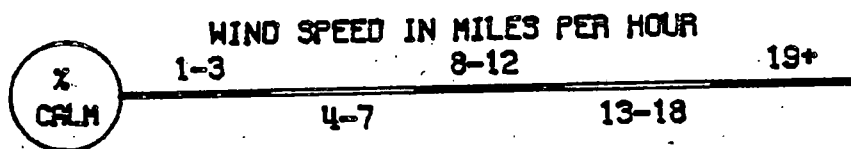
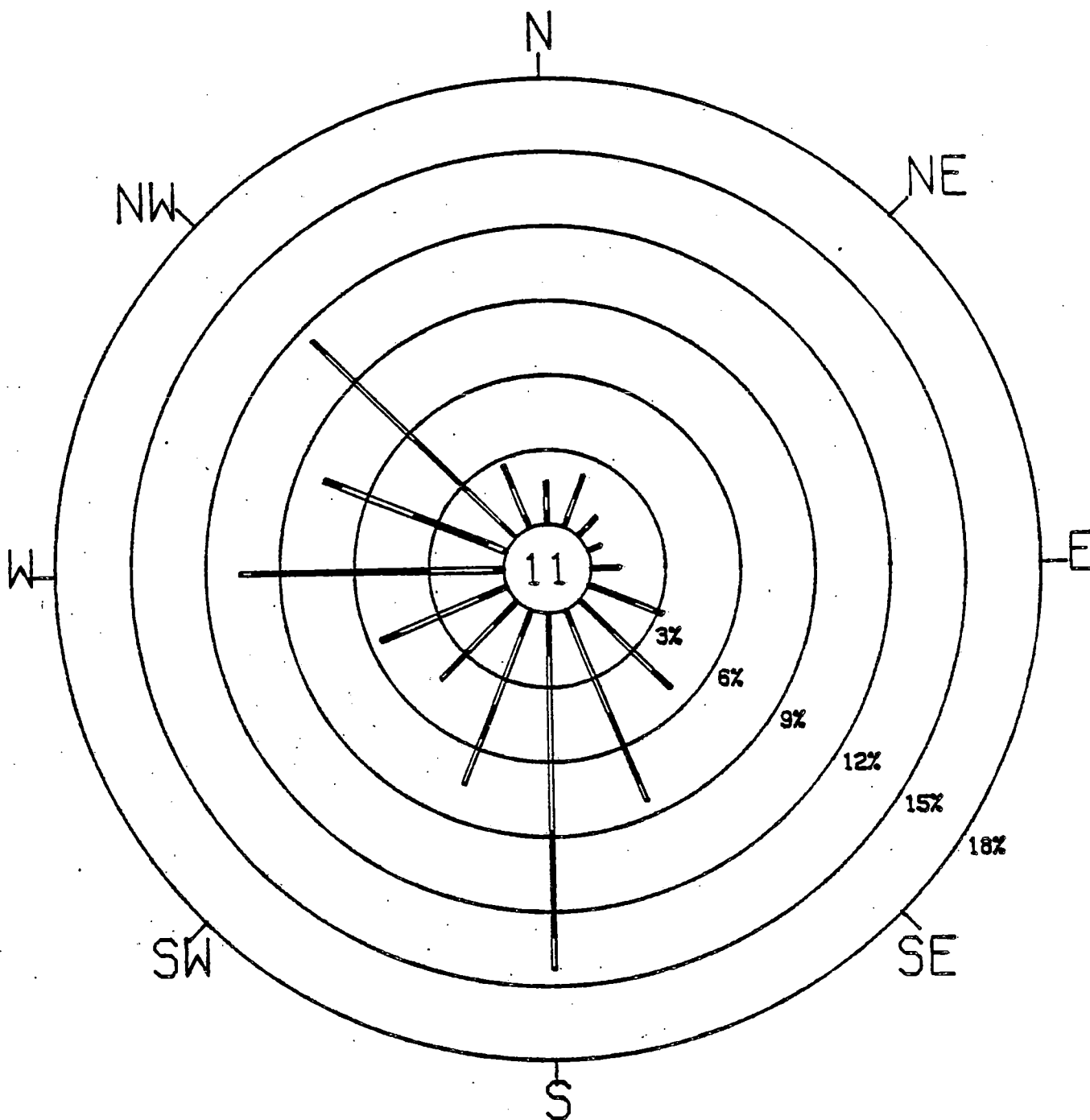
Note: Sensor height is 10 feet. Tabulated values are percent of 744 hours of data.



WIND ROSE - DECEMBER 1976  
PALISADES NUCLEAR PLANT - STATION P03A



WIND ROSE - DECEMBER 1976  
PALISADES NUCLEAR PLANT - STATION P07A



## VII. VISIBILITY

Visibility is measured at stations PO3A and PO7A with visiometer systems manufactured by Meteorology Research Incorporated, Palo Alto, California. Visibility data are recorded as voltages, converted to distances, and reported to the nearest 0.1 km. Digitized data are processed in terms of hourly values for tabulation. The data are classified by episodes during which an obstruction to visibility occurred, and are summarized for each month. Visibilities of 3 km, 1 km, and 0.5 km were used as critical distances for determining episodes for the following reasons:

- 1) The visiometer system was not sensitive to visibility changes which occurred at visibilities greater than about 3 km. In addition, the operational significance of visibilities greater than 3 km is small.
- 2) As visibility decreases to 1 km or less, its operational significance increases markedly. If the obstruction is caused by fog, visibilities of 0.5 km or less are classified as heavy fog at National Weather Service Stations.

In the data tabulations, the "onset" of an episode is the time at which the visibility decreased below 3, 1, or 0.5 km, having remained greater than that distance for at least 1/2 hour previously.

The "end" of an episode is the time at which the visibility increased above 3, 1, or 0.5 km and remained greater than that distance for at least 1/2 hour. "Duration" is defined as the total time elapsed between "onset" and "end".

"Accumulated time" is the total time during which the visibility was actually below that distance during a given episode. It can be noted that "duration" and "accumulated time" may differ significantly during periods of highly variable visibility.

The type of visibility obstruction is given for each episode of visibility less than 3 km, along with the minimum visibility and its time of occurrence.

A preliminary analysis of visibility data obtained during snow has shown occasional episodes with significant reductions in visibility but no measured precipitation associated with them. Possible reasons for this behavior, which occurs mainly during gusty winds, are that (1) the visibility may indeed be reduced, but sufficient snow has not entered the precipitation gage because of the gusty wind and/or (2) the water equivalent of the snow did not exceed the 0.01 inch sensitivity of the gage and/or (3) the actual visibility is greater than that indicated by the visiometer, which may over-respond to snow.

The type of obstruction to visibility was determined on the basis of (1) hourly weather observations made at Benton Harbor Airport between 0630 and 2030 each day and at Muskegon, Grand Rapids, and South Bend on a 24-hour basis and (2) measurements of precipitation and other variables within the meteorological network.

The visiometer at P07A was out of service in January and February 1976.

Table 7.1A  
VISIBILITY OBSTRUCTION AT STATION 003A  
JANUARY 1976  
INSTRUMENT IN OPERATION: 0000 1 JAN-2400 31 JAN  
TOTAL HOURS OF OPERATION: 744.0

DAY	OBSTR TYPE	ONSET (EST)	END (EST)	33 KM EPISODE DURATION (HR)	ACCUMULATED TIME 33 KM (HR)	ONSET (EST)	END (EST)	51 KM EPISODE DURATION (HR)	ACCUMULATED TIME 51 KM (HR)	ONSET (EST)	END (EST)	50.5 KM EPISODE DURATION (HR)	ACCUMULATED TIME 50.5 KM (HR)	MIN VIS FOR DAY (KM)	TIME OF MIN VIS (EST)
2	RAIN	0051	0104	0.21	0.14			NONE				NONE		1.4	0054
				0.21	0.14										
3	SHOW	1144	1257	1.22	0.27			NONE				NONE		1.2	2257
	SHOW	1728	1829	1.01	0.20			NONE				NONE			
	SHOW	1954	2146	1.87	0.50			NONE				NONE			
	SHOW	2251	2302	0.19	0.19			NONE				NONE			
	SHOW	2346	2400	0.24	0.13			NONE				NONE			
				4.53	1.30										
4	SHOW	0000	0330	3.50	1.01			NONE				NONE		0.5	1230
	SHOW	0817	0900	0.71	0.27			NONE				NONE			
	SHOW	0933	1440	5.12	2.82	1148	1307	1.32	0.30	1230	1230	0.00	0.00		
	SHOW	1610	1621	0.19	0.10			NONE				NONE			
				9.51	4.20			1.32	0.30			0.00	0.00		
6	SHOW	2341	2400	0.31	0.22			NONE				NONE		1.4	2350
				0.31	0.22										
7	SHOW	0000	0205	2.08	1.30			NONE				NONE		0.1	2048
	SHOW	0248	0642	3.89	3.72	0455	0600	1.09	1.09			NONE			
	SHOW	1526	2400	8.56	7.44	1714	1904	1.82	1.49	1715	1742	0.45	0.16		
										1825	1848	0.39	0.28		
						1957	2400	4.04	4.04	2009	2400	3.86	3.86		
				14.53	12.47			6.95	6.62			4.68	4.30		
8	SHOW	0000	0502	5.04	5.04	0000	0446	4.76	4.76	0000	0434	4.57	4.57	0.1	0000
	SHOW	0551	0642	0.86	0.30			NONE				NONE			
	SHOW	0819	0839	0.35	0.12			NONE				NONE			
	SHOW	1022	1236	2.33	0.58	1040	1059	0.32	0.02			NONE			
	SHOW	1957	2120	1.39	0.47			NONE				NONE			
	SHOW	2212	2235	0.37	0.17			NONE				NONE			
				10.24	6.68			5.08	4.78			4.57	4.57		
9	SHOW	0023	0038	0.25	0.03			NONE				NONE		1.7	0248
	SHOW	0247	0257	0.17	0.10			NONE				NONE			
	SHOW	1416	1447	0.51	0.04			NONE				NONE			
				0.92	0.17										
11	SHOW	0012	0033	0.35	0.35			NONE				NONE		1.2	0023
				0.35	0.35										
13	SHOW	0754	1736	9.70	8.72	0854	1120	2.43	2.04			NONE		0.1	1037
						1159	1218	0.31	0.04			NONE			
						1410	1652	2.70	2.63	1426	1651	2.92	2.42		
				9.70	8.72			5.44	4.71			2.42	2.42		
15	SHOW	1705	1802	0.94	0.51	1749	1752	0.04	0.04			NONE		0.7	1750
				0.94	0.51			0.04	0.04						
16	SHOW	1601	1739	1.64	0.53			NONE				NONE		1.3	1716
				1.64	0.53										
17	SHOW	1143	1355	2.20	1.78			NONE				NONE		0.3	1647
	SHOW	1427	1512	0.76	0.20			NONE				NONE			
	SHOW	1611	2111	5.01	5.01	1618	1955	3.61	3.19	1620	1742	1.36	1.18		
				7.97	6.99			3.61	3.19			1.36	1.18		
19	P/S	1309	1322	0.21	0.21			NONE				NONE		0.9	1520
	P/S	1458	1808	3.18	1.72	1520	1521	0.02	0.02			NONE			
				3.39	1.94			0.02	0.02						
20	SHOW	2340	2400	0.33	0.33			NONE				NONE		2.2	2400
				0.33	0.33										
21	SHOW	0000	0110	1.16	0.87			NONE				NONE		0.1	0421
	SHOW	0208	1320	11.20	9.53	0353	0750	3.95	3.95	0411	0707	2.95	2.95		
						1054	1215	1.34	0.14			NONE			
				12.36	10.40			5.29	4.10			2.95	2.95		
22	SHOW	1050	1102	0.20	0.07			NONE				NONE		2.1	1507
	SHOW	1425	1509	0.74	0.17			NONE				NONE			
				0.94	0.24										
24	FOG	2339	2345	0.11	0.11			NONE				NONE		2.1	2342
				0.11	0.11										
25	FOG	0043	0152	1.16	0.72	0108	0126	0.31	0.06	0124	0125	0.02	0.02	0.2	0124
	FOG	0302	0344	0.64	0.69			NONE				NONE			
	SHOW	1507	1650	1.72	0.95	1509	1524	0.25	0.11			NONE			
				3.57	2.36			0.56	0.17			0.02	0.02		
29	SHOW	1346	1351	0.08	0.08			NONE				NONE		1.6	1347
				0.08	0.08										

Table 7.1A (cont.)

DAY	OBSTB TYPE	ONSET		END	≤3 KM EPISODE DURATION	ACCUMULATED	ONSET		END	≤1 KM EPISODE DURATION	ACCUMULATED	ONSET		END	≤0.5 KM EPISODE DURATION	ACCUMULATED	MIN VIS	TIME OF
		(EST)	(EST)	(HR)	TIME ≤3 KM	(HR)	(EST)	(HR)	TIME ≤1 KM	(HR)	(EST)	(HR)	TIME ≤0.5KM	(HR)	FOR DAY	MIN VIS		
30	F/S	0108	0202		0.90	0.84				NONE							1.7	0118
	P/S	0309	0325		0.25	0.25				NONE								
					1.15	1.09												
					82.80	58.82				28.30	23.92				16.00	15.44		

PER CENT. OF TOTAL HOURS OF DATA WITH VISIBILITY EQUAL TO OR LESS THAN

	3 KM	1 KM	0.5 KM
FOG (F)	0.2	<0.1	<0.1
HAZE (H)	0.0	0.0	0.0
DRIZZLE (L)	0.0	0.0	0.0
RAIN (R)	<0.1	0.0	0.0
SNOW (S)	7.3	3.2	2.1
FEH	0.0	0.0	0.0
FEL	0.0	0.0	0.0
FER	0.0	0.0	0.0
FES	0.4	<0.1	0.0
TOTAL	7.9	3.2	2.1

Table 7.18  
VISIBILITY OBSTRUCTION AT STATION POJA  
FEBRUARY 1976  
INSTRUMENT IN OPERATION: 0000 1 FEB-2400 29 FEB  
TOTAL HOURS OF OPERATION: 696.0

DAY	OBSER TYPE	ONSET (ZST)	END (ZST)	≤3 KM		ONSET (ZST)	END (ZST)	≤1 KM		ONSET (ZST)	END (ZST)	≤0.5 KM		MIN VIS FOR DAY (KM)	TIME OF MIN VIS (ZST)
				EPISODE DURATION (HR)	ACCUMULATED TIME ≤3 KM (HR)			EPISODE DURATION (HR)	ACCUMULATED TIME ≤1 KM (HR)			EPISODE DURATION (HR)	ACCUMULATED TIME ≤0.5 KM (HR)		
1	SNOW	0225	0241	0.28	0.28			NONE				NONE		0.1	0820
	SNOW	0354	0517	1.39	0.63			NONE				NONE			
	SNOW	0703	0840	1.62	1.62	0714	0833	1.33	1.10	0736	0832	0.93	0.93		
	SNOW	0924	0944	0.34	0.20			NONE				NONE			
	SNOW	1333	2400	10.44	9.43	1529	2400	8.52	7.90	1612	2400	7.80	7.45		
				14.06	12.14			9.85	9.00			9.74	9.38		
2	SNOW	0000	0839	8.65	8.65	0000	0746	7.77	7.77	0000	0723	7.39	7.39	0.1	0000
	SNOW	1012	1133	1.35	0.49			NONE				NONE			
	SNOW	1221	1415	1.91	0.79	1310	1330	0.33	0.12			NONE			
				11.91	9.93			8.10	7.89			7.39	7.39		
6	SNOW	0638	0641	0.04	0.04			NONE				NONE		1.8	0634
	SNOW	0925	0941	0.24	0.10			NONE				NONE			
				0.29	0.14										
7	HAZE	1537	1554	0.28	0.17			NONE				NONE		1.9	1542
				0.28	0.17										
15	FOG	0647	0649	0.03	0.03			NONE				NONE		2.0	0644
				0.03	0.03										
16	FOG	0538	0557	0.32	0.32			NONE				NONE		0.7	2357
	F/H	1938	1958	0.34	0.19			NONE				NONE			
	FOG	2313	2400	0.78	0.78	2353	2358	0.08	0.08			NONE			
				1.44	1.29			0.08	0.08						
17	FOG	0000	0015	0.25	0.25			NONE				NONE		1.6	0000
				0.25	0.25										
20	FOG	0427	0521	0.91	0.91	0428	0516	0.80	0.46	0446	0455	0.14	0.07	0.4	0454
	FOG	0611	0624	0.22	0.22			NONE				NONE			
				1.13	1.13			0.80	0.46			0.14	0.07		
22	SNOW	1441	1445	0.07	0.07			NONE				NONE		2.4	1444
				0.07	0.07										

29.46 25.16 18.83 17.43 16.26 15.84

PER CENT OF TOTAL HOURS OF DATA WITH VISIBILITY EQUAL TO OR LESS THAN

	3 KM	1 KM	0.5 KM
FOG (F)	0.4	0.1	<0.1
HAZE (H)	<0.1	0.0	0.0
DRIZZLE (L)	0.0	0.0	0.0
RAIN (R)	0.0	0.0	0.0
SNOW (S)	3.2	2.4	2.3
F88	0.0	0.0	0.0
F5L	0.0	0.0	0.0
F6B	<0.1	0.0	0.0
F6S	0.0	0.0	0.0
TOTAL	3.6	2.5	2.3

Table 7.1C  
VISIBILITY OBSTRUCTION AT STATION 003A  
MARCH 1976  
INSTRUMENT IN OPERATION: 0000 1 MAR-0500 9 MAR:  
1200 9 MAR-1800 19 MAR:  
0100 20 MAR-1830 25 MAR:  
0830 26 MAR-2400 31 MAR:  
TOTAL HOURS OF OPERATION: 690.0

DAY	OBSTP TYPE	ONSET (EST)	END (HR)	31 KM EPISODE DURATION (HR)	ACCUMULATED TIME 31 KM (HR)	ONSET (EST)	END (HR)	31 KM EPISODE DURATION (HR)	ACCUMULATED TIME 31 KM (HR)	ONSET (EST)	END (HR)	50.5 KM EPISODE DURATION (HR)	ACCUMULATED TIME 50.5 KM (HR)	MIN VIS FOR DAY (KM)	TIME OF DAY VIS (EST)
1	P/R	0157	0325	1.47	0.72			NONE	0.01			NONE		0.6	1931
	P/R	1929	1934	0.08	0.08	1931	1932	0.01	0.01			NONE			
				1.56	0.81			0.01	0.01						
2	FOG	0744	0750	0.10	0.10	0746	0746	0.00	0.00			NONE		1.0	0746
	P/R	2327	2342	0.26	0.17			NONE				NONE			
				0.36	0.26			0.00	0.00						
3	FOG	0451	0529	0.62	0.62			NONE				NONE		1.0	1102
	FOG	0607	0630	0.38	0.38			NONE				NONE			
	FOG	0753	0841	0.80	0.74			NONE				NONE			
	FOG	0925	1207	2.71	2.29			NONE				NONE			
				4.51	4.03										
4	P/R	2354	2357	0.05	0.05			NONE				NONE		2.0	2356
				0.05	0.05										
5	P/R	0120	0127	0.12	0.12			NONE				NONE		1.8	0121
				0.12	0.12										
10	P/S	0923	1027	1.06	0.35			NONE				NONE		1.8	0925
				1.06	0.35										
13	SNOW	0008	0036	0.47	0.21			NONE				NONE		1.5	0919
	SNOW	0753	0942	1.81	0.43			NONE				NONE			
	SNOW	1016	1036	0.34	0.06			NONE				NONE			
				2.63	0.71										
14	SNOW	1236	1306	0.49	0.22			NONE				NONE		1.4	1303
				0.49	0.22										
16	SNOW	1515	1528	0.22	0.22	1517	1519	0.04	0.04			NONE		0.5	1517
				0.22	0.22			0.04	0.04						
20	RAIN	1506	1517	0.18	0.14			NONE				NONE		1.2	1510
				0.18	0.14										
21	SNOW	1209	1323	1.24	0.29			NONE				NONE		2.0	1249
				1.24	0.29										
26	FOG	0857	0901	0.05	0.05			NONE				NONE		1.8	0854
				0.05	0.05										
27	RAIN	0937	0947	0.18	0.08			NONE				NONE		1.8	0944
				0.18	0.08										
28	FOG	0238	0252	0.24	0.24	0423	0438	0.24	0.02			NONE		0.6	0437
	FOG	0330	0440	1.16	0.42			0.24	0.02			NONE			
				1.41	0.67			0.24	0.02						
				14.06	8.00			0.29	0.07			0.0	0.0		

PER CENT OF TOTAL HOURS OF DATA WITH VISIBILITY EQUAL TO OR LESS THAN

	3 KM	1 KM	0.5 KM
FOG (P)	0.7	0.0	0.0
HAZE (H)	0.0	0.0	0.0
DRIZZLE (L)	0.0	0.0	0.0
RAIN (R)	<0.1	0.0	0.0
SNOW (S)	0.2	<0.1	0.0
PSH	0.0	0.0	0.0
PGL	0.0	0.0	0.0
PBR	0.2	<0.1	0.0
WES	0.1	0.0	0.0
TOTAL	1.2	<0.1	0.0



Table 7.2C  
VISIBILITY OBSTRUCTION AT STATION 207A  
MARCH 1976  
INSTRUMENT IN OPERATION: 1330 5 MAR-2400 31 MAR  
TOTAL HOURS OF OPERATION: 634.5

DATE	OBSTN TYPE	ONSET (EST)	END (EST)	3 KM EPISODE DURATION (HR)	ACCUMULATED TIME 3 KM (HR)	ONSET (EST)	END (EST)	1 KM EPISODE DURATION (HR)	ACCUMULATED TIME 1 KM (HR)	ONSET (EST)	END (EST)	0.5 KM EPISODE DURATION (HR)	ACCUMULATED TIME 0.5 KM (HR)	MIN VIS FOR DAY (KM)	TIME OF NEW VIS (EST)
7	FOG	0804	0849	0.75	0.31			NONE				NONE		1.6	0819
				0.75	0.31										
10	F/S	0947	1105	1.31	1.31	1019	1019	0.00	0.00			NONE		1.0	1019
				1.31	1.31			0.00	0.00						
13	SNOW	0805	0957	1.85	1.10			NONE				NONE		0.8	1112
	SNOW	1033	1228	1.92	0.89	1112	1138	0.43	0.02			NONE			
				3.78	1.99			0.43	0.02						
14	SNOW	1246	1334	0.80	0.66	1249	1306	0.27	0.02			NONE		0.8	1305
				0.80	0.66			0.27	0.02						
16	SNOW	1548	1613	0.42	0.12			NONE				NONE		0.4	2126
	SNOW	2204	2332	1.48	0.68	2207	2253	0.76	0.08			NONE			
						2325	2331	0.09	0.07	2326	2327	0.01	0.01		
				1.90	0.80			0.85	0.15			0.01	0.01		
20	RAIN	1531	1601	0.49	0.42	1534	1600	0.42	0.16	1534	1559	0.42	0.08	0.2	1559
				0.49	0.42			0.42	0.16			0.42	0.08		
21	SNOW	1109	1452	3.73	2.46	1143	1253	1.17	0.34	1152	1202	0.18	0.00	0.5	1202
						1340	1416	0.60	0.03			NONE			
				3.73	2.46			1.77	0.37			0.18	0.00		
27	F/B	0855	1025	1.51	0.51	1001	1002	0.02	0.02			NONE		0.8	1002
				1.51	0.51			0.02	0.02						
				14.26	8.47			3.77	0.73			0.60	0.09		

PER CENT OF TOTAL HOURS OF DATA WITH VISIBILITY EQUAL TO OR LESS THAN

	3 KM	1 KM	0.5 KM
FOG (F)	<0.1	0.0	0.0
HAZE (H)	0.0	0.0	0.0
DRIZZLE (L)	0.0	0.0	0.0
RAIS (R)	0.1	<0.1	<0.1
SNOW (S)	0.9	0.1	<0.1
FSH	0.0	0.0	0.0
FSL	0.0	0.0	0.0
FGR	0.1	<0.1	0.0
FSS	0.2	<0.1	0.0
TOTAL	1.3	0.1	<0.1

Table 7.1D  
VISIBILITY OBSTRUCTION AT STATION 003A  
APRIL 1976  
INSTRUMENT IN OPERATION: 0000 1 APR-1700 3 APR;  
0900 6 APR-2045 21 APR;  
0910 22 APR-2400 30 APR  
TOTAL HOURS OF OPERATION: 643.6

DAY	OBSTR TYPE	ONSET (EST)	END (EST)	3 KM EPISODE DURATION (HR)	ACCUMULATED TIME 3 KM (HR)	ONSET (EST)	END (EST)	1 KM EPISODE DURATION (HR)	ACCUMULATED TIME 1 KM (HR)	ONSET (EST)	END (EST)	0.5 KM EPISODE DURATION (HR)	ACCUMULATED TIME 0.5 KM (HR)	MIN VIS FOR DAY (KM)	TIME OF DAY VIS (EST)
1	SNOW	1303	1414	1.20	0.19			NONE				NONE		1.7	1351
				1.20	0.19										
7	FOG	0119	0139	0.34	0.15	0257	0333	NONE				NONE		0.5	0333
	FOG	0254	0441	1.78	0.81			0.60	0.29			NONE			
				2.11	0.95			0.60	0.29						
10	RAIN	2322	2354	0.55	0.21			NONE				NONE		2.4	2323
				0.55	0.21										
15	RAIN	2114	2204	0.83	0.83	2122	2146	0.41	0.17	2124	2125	0.02	0.02	0.4	2124
				0.83	0.83			0.41	0.17			0.02	0.02		
18	RAIN	1845	1850	0.10	0.10	1848	1849	0.02	0.02	1848	1848	0.00	0.00	0.5	1848
	RAIN	2000	2026	0.43	0.24			NONE				NONE			
				0.53	0.33			0.02	0.02			0.00	0.00		
19	FOG	0039	0039	0.01	0.01			NONE				NONE		2.7	0039
				0.01	0.01										
22	FOG	2125	2400	2.58	2.45	2138	2355	2.28	1.46	2140	2317	1.61	0.37	0.3	2247
				2.58	2.45			2.28	1.46			1.61	0.37		
23	FOG	0000	0144	1.74	1.25	0105	0120	0.25	0.25			NONE		0.2	0412
	FOG	0228	0629	4.02	3.21	0341	0554	2.21	0.44	0406	0514	0.14	0.14		
				5.76	4.46			2.46	0.69			0.14	0.14		
24	FOG	0254	0718	4.40	4.32			NONE				NONE		1.9	1647
	P/R	1645	1649	0.06	0.06			NONE				NONE			
				4.46	4.38										
25	SNOW	0945	1053	1.13	0.05			NONE				NONE		0.2	1417
	SNOW	1241	1643	4.04	2.43	1345	1519	1.55	0.30	1416	1423	0.12	0.08		
	FOG	2311	2333	0.37	0.37			NONE				NONE			
				5.53	2.88			1.55	0.30			0.12	0.08		
28	FOG	2110	2245	1.58	0.47	2139	2204	0.42	0.08			NONE		0.7	2203
				1.58	0.47			0.42	0.08						
29	FOG	2153	2241	0.80	0.53	2222	2239	0.29	0.04			NONE		0.5	2239
	FOG	2314	2359	0.76	0.76	2319	2355	0.59	0.29			NONE			
				1.56	1.29			0.88	0.33						
30	FOG	0000	0312	3.20	1.88	0002	0148	1.76	0.60	0046	0056	0.17	0.06	0.5	0049
				3.20	1.88			1.76	0.60			0.17	0.06		
				29.91	20.31			10.38	3.94			2.06	0.68		

PER CENT OF TOTAL HOURS OF DATA WITH VISIBILITY EQUAL TO OR LESS THAN

	3 KM	1 KM	0.5 KM
FOG (F)	2.5	0.5	0.1
HAZE (H)	0.0	0.0	0.0
DRIZZLE (L)	0.0	0.0	0.0
RAIN (R)	0.2	<0.1	<0.1
SNOW (S)	0.4	0.0	0.0
PBR	0.0	0.0	0.0
PBL	0.0	0.0	0.0
PBR	<0.1	0.0	0.0
PBS	0.0	0.0	0.0
TOTAL	3.2	0.6	0.1

Table 7.2D  
VISIBILITY OBSTRUCTION AT STATION 907A  
APRIL 1976  
INSTRUMENT IN OPERATION: 0000 1 APR-1740 24 APR;  
2150 24 APR-2400 10 APR  
TOTAL HOURS OF OPERATION: 715.8

DAY	OBSTR TYPE	ONSET (EST)	END (EST)	53 KM EPISODE DURATION (HR)	ACCUMULATED TIME 53 KM (HR)	ONSET (EST)	END (EST)	51 KM EPISODE DURATION (HR)	ACCUMULATED TIME 51 KM (HR)	ONSET (EST)	END (EST)	50.5 KM EPISODE DURATION (HR)	ACCUMULATED TIME 50.5 KM (HR)	MIN VIS FOR DAY (KM)	TIME OF MIN VIS (EST)
1	SNOW	1235	1429	1.89	0.30	1410	1411	0.01	0.01			NONE		0.9	1410
				1.89	0.30			0.01	0.01						
4	HAZE	0559	0659	0.99	0.42			NONE				NONE		1.6	0611
				0.99	0.42										
10	HAZE	2313	2400	0.78	0.78			NONE				NONE		2.0	2352
				0.78	0.78										
11	HAZE	0000	0030	0.50	0.50			NONE				NONE		2.5	0000
				0.50	0.50										
15	HAZE	2109	2204	0.92	0.92	2111	2203	0.86	0.23	2201	2202	0.02	0.02	0.3	2201
				0.92	0.92			0.86	0.23			0.02	0.02		
22	FOG	2251	2301	0.17	0.17			NONE				NONE		0.5	2400
	FOG	2349	2400	0.18	0.18	2355	2400	0.08	0.08	2400	2400	0.00	0.00		
				0.35	0.35			0.08	0.08			0.00	0.00		
23	FOG	0000	0133	1.55	0.79			NONE				NONE		0.4	0626
	FOG	0349	0639	2.83	2.50	0408	0503	0.90	0.37			NONE			
						0536	0629	0.87	0.23	0625	0626	0.03	0.03		
				4.39	3.30			1.77	0.60			0.03	0.03		
25	P/R	0818	0842	0.40	0.27			NONE				NONE		0.1	1056
	SNOW	1017	1204	1.78	1.65	1000	1202	1.37	1.34	1048	1158	1.17	1.06		
	SNOW	1253	1718	4.42	3.42	1259	1340	0.68	0.49	1312	1338	0.44	0.44		
						1502	1536	0.56	0.37	1517	1533	0.27	0.27		
						1615	1627	0.19	0.09			NONE			
				6.60	5.34			2.80	2.29			1.88	1.77		
29	FOG	0232	0239	0.12	0.12	0233	0234	0.01	0.01			NONE		0.9	0233
				0.12	0.12			0.01	0.01						

16.45 12.08 5.55 3.23 1.93 1.82

PER CENT OF TOTAL HOURS OF DATA WITH VISIBILITY EQUAL TO OR LESS THAN

	3 KM	1 KM	0.5 KM
FOG (F)	0.5	0.1	<0.1
HAZE (H)	0.0	0.0	0.0
DRIZZLE (L)	0.0	0.0	0.0
RAIN (R)	0.4	<0.1	<0.1
SNOW (S)	0.7	0.3	0.2
PSH	0.0	0.0	0.0
PSL	0.0	0.0	0.0
PSR	<0.1	0.0	0.0
PS	0.0	0.0	0.0
TOTAL	1.7	0.4	0.3

Table 7.12  
VISIBILITY OBSTRUCTION AT STATION 003A  
MAY 1976  
INSTRUMENT IN OPERATION: 0000 1 MAY-1645 1 MAY;  
0930 4 MAY-2400 31 MAY  
TOTAL HOURS OF OPERATION: 679.2

DAY	OBSTR TYPE	ONSET (EST)	END (EST)	53 KM EPISODE DURATION (HR)	ACCUMULATED TIME 53 KM (HR)	ONSET (EST)	END (EST)	51 KM EPISODE DURATION (HR)	ACCUMULATED TIME 51 KM (HR)	ONSET (EST)	END (EST)	50.5 KM EPISODE DURATION (HR)	ACCUMULATED TIME 50.5 KM (HR)	MIN VIS FOR DAY (KM)	TIME OF MIN VIS (EST)
5	F/R	2337	2339	0.04	0.04			NONE				NONE		2.3	2338
				0.04	0.04										
6	F/R	1354	1357	0.06	0.06			NONE				NONE		1.8	1356
				0.06	0.06										
7	FOG	0253	0353	1.01	0.67	0302	0315	0.20	0.20			NONE		0.7	0303
				1.01	0.67			0.20	0.20						
8	FOG	0121	0146	0.41	0.37			NONE				NONE		1.2	0136
				0.41	0.37										
10	F/R	2135	2156	0.36	0.05			NONE				NONE		2.7	2156
				0.36	0.05										
11	FOG	2156	2302	1.11	0.58	2207	2213	0.09	0.09	2208	2210	0.08	0.08	0.4	2208
				1.11	0.58			0.09	0.09			0.08	0.08		
12	FOG	0821	0550	1.48	1.41	0828	0855	0.45	0.28			NONE		0.5	0534
						0532	0535	0.06	0.06	0534	0534	0.00	0.00		
				1.48	1.41			0.51	0.30			0.00	0.00		
18	FOG	0857	0704	2.11	1.92			NONE				NONE		1.1	0543
				2.11	1.92										
15	F/R	1116	1134	0.29	0.29			NONE				NONE		0.8	2148
	F/R	1640	1712	0.53	0.53			NONE				NONE			
	F/R	1945	2017	0.53	0.53			NONE				NONE			
	F/R	2146	2156	0.15	0.15	2148	2148	0.01	0.01			NONE			
				1.50	1.50			0.01	0.01						
16	FOG	0830	0116	0.77	0.77			NONE				NONE		0.2	0827
	FOG	0236	0316	0.66	0.66	0243	0300	0.28	0.28			NONE			
	FOG	0408	0507	1.38	1.38	0411	0457	0.77	0.77	0412	0455		0.56		
	FOG	1858	1928	0.50	0.25			NONE				NONE			
	FOG	2019	2125	1.10	1.10			NONE				NONE			
	FOG	2215	2400	1.75	1.75			NONE				NONE			
				6.76	6.52			1.06	1.06			0.71	0.56		
17	FOG	0000	0337	3.62	3.62	0011	0151	1.67	1.30			NONE		0.6	0056
				3.62	3.62			1.67	1.30						
19	FOG	0320	0425	1.08	0.16			NONE				NONE		0.9	2285
	FOG	0513	0524	0.19	0.10			NONE				NONE			
	FOG	2235	2248	0.22	0.18	2245	2245	0.00	0.00			NONE			
				1.49	0.43			0.00	0.00						
20	RAIN	1037	1047	0.16	0.09	1044	1045	0.01	0.01			NONE		0.6	1044
	FOG	2130	2144	0.23	0.22			NONE				NONE			
	FOG	2240	2256	0.27	0.19			NONE				NONE			
				0.66	0.51			0.01	0.01						
21	FOG	0519	0529	0.17	0.15			NONE				NONE		1.7	2353
	FOG	2343	2354	0.18	0.10			NONE				NONE			
				0.35	0.25										
22	FOG	0034	0102	0.47	0.47	0040	0059	0.31	0.08	0058	0058	0.00	0.00	0.5	0054
	FOG	0356	0523	1.47	0.85			NONE				NONE			
	FOG	2320	2349	0.48	0.19			NONE				NONE			
				2.42	1.51			0.31	0.08			0.00	0.00		
23	FOG	0001	0012	0.20	0.15			NONE				NONE		0.4	0159
	FOG	0146	0243	0.96	0.38	0158	0200	0.03	0.03	0159	0159	0.01	0.01		
	FOG	0318	0345	0.45	0.16			NONE				NONE			
	FOG	0425	0511	0.77	0.38			NONE				NONE			
	FOG	2250	2309	0.32	0.32			NONE				NONE			
				2.70	1.35			0.03	0.03			0.01	0.01		
24	FOG	0313	0411	0.98	0.62	0340	0357	0.27	0.14	0354	0355	0.02	0.02	0.4	0354
	FOG	0511	0530	0.32	0.32			NONE				NONE			
	FOG	2312	2331	0.32	0.16			NONE				NONE			
				1.62	1.10			0.27	0.14			0.02	0.02		
25	FOG	0059	0127	0.47	0.31			NONE				NONE		0.2	0442
	FOG	0255	0350	0.91	0.27			NONE				NONE			
	FOG	0436	0532	0.94	0.94	0440	0518	0.64	0.41	0441	0456	0.24	0.24		
				2.32	1.51			0.64	0.41			0.24	0.24		
26	FOG	0026	0152	1.43	0.38			NONE				NONE		1.0	2330
	FOG	2237	2400	1.38	0.43	2330	2330	0.00	0.00			NONE			
				2.82	0.82			0.00	0.00						

Table 7.1E (cont.)

DAY	OBST# TYPE	3 KM				5 KM				50.5 KM				BIN VIS FOR DAY (KM)	TIME OF BIN VIS (EST)					
		ONSET (EST)	END (EST)	EPISODE DURATION (HR)	ACCUMULATED TIME 3 KM (HR)	ONSET (EST)	END (EST)	EPISODE DURATION (HR)	ACCUMULATED TIME 5 KM (HR)	ONSET (EST)	END (EST)	EPISODE DURATION (HR)	ACCUMULATED TIME 50.5KM (HR)							
27	POG	0000	0151	1.85	1.14	0042	0058	0.27	0.11			NONE		0.7	0052					
	POG	0315	0513	1.97	1.10			NONE												
				3.82	2.24			0.27				0.11								
28	F/R	1900	2213	3.22	3.12			NONE				NONE		1.4	2017					
				3.22	3.12															
29	F/R	0206	0302	0.94	0.41			NONE				NONE		1.7	0643					
	F/R	0352	0732	3.66	2.24			NONE												
				4.60	2.66															
30	POG	0026	0058	0.54	0.32	0141	0355	NONE	2.04	0150	0318	NONE	1.46	0.2	0218					
	POG	0131	0803	6.53	6.31			2.23				NONE				1.46				
					0426			0722				2.92				2.92	0428	0637	2.16	1.78
	F/R	1207	1230	0.38	0.28			NONE				NONE				NONE	NONE			
	F/R	1551	1635	0.72	0.26			NONE				NONE				NONE	NONE			
				8.16	7.13			5.15				4.97				3.62	3.24			
31	POG	0008	0114	1.10	1.10	0019	0044	0.50	0.50	0016	0034	0.30	0.08	0.3	2241					
	POG	2204	2400	1.93	1.93			1.85				1.85				2210	2315	1.09	1.09	
				3.03	3.03			2.35				2.35						1.39	1.13	
				55.66	42.39			12.59	11.08			6.03	5.23							

PER CENT OF TOTAL HOURS OF DATA WITH VISIBILITY EQUAL TO OR LESS THAN

	3 KM	5 KM	50.5 KM
POG (P)	5.1	1.6	0.8
HAZE (H)	0.0	0.0	0.0
DRIZZLE (L)	0.0	0.0	0.0
RAIN (R)	<0.1	<0.1	<0.1
SNOW (S)	0.0	0.0	0.0
F6H	0.0	0.0	0.0
F6L	0.0	0.0	0.0
F6H	1.2	<0.1	0.0
F6S	0.0	0.0	0.0
TOTAL	6.2	1.6	0.8

Table 7.2E  
VISIBILITY OBSTRUCTION AT STATION P07A  
MAY 1976  
INSTRUMENT IN OPERATION: 0000 1 MAY-2400 31 MAY  
TOTAL HOURS OF OPERATION: 744.0

DAY	OBSTR TYPE	ONSET (EST)	END (EST)	≤3 KM EPISODE DURATION (HR)	ACCUMULATED TIME ≤3 KM (HR)	ONSET (EST)	END (EST)	≤1 KM EPISODE DURATION (HR)	ACCUMULATED TIME ≤1 KM (HR)	ONSET (EST)	END (EST)	≤0.5 KM EPISODE DURATION (HR)	ACCUMULATED TIME ≤0.5 KM (HR)	MIN VIS FOR DAY (KM)	TIME OF MIN VIS (EST)
1	FOG	0453	0724	2.52	2.27			NONE				NONE		1.4	0648
				2.52	2.27										
2	RAIN	0951	0952	0.01	0.01			NONE				NONE		2.7	0951
				0.01	0.01										
5	F/R	2159	2219	0.34	0.13			NONE				NONE		2.2	2200
				0.24	0.13										
6	F/R	1514	1624	1.14	0.21			NONE				NONE		1.9	1514
				1.18	0.21										
7	FOG	0158	0331	1.56	1.22	0201	0208	0.11	0.11	0203	0206	0.06	0.06	0.4	0205
				1.56	1.22			0.11	0.11			0.06	0.06		
10	FOG	2243	2400	1.28	0.83			NONE				NONE		2.1	2311
				1.28	0.83										
11	FOG	2354	2400	0.10	0.05			NONE				NONE		1.6	2400
				0.10	0.05										
12	FOG	0002	0025	0.38	0.38	0017	0020	0.05	0.05	0019	0020	0.02	0.02	0.4	0019
	FOG	0229	0303	0.56	0.07			NONE				NONE			
	FOG	0907	0504	0.96	0.73	0409	0500	0.85	0.15			NONE			
				1.91	1.19			0.90	0.20			0.02	0.02		
14	FOG	0319	0841	5.37	4.97			NONE				NONE		1.5	0537
	FOG	0931	1031	1.00	1.00			NONE				NONE			
				6.38	5.97										
15	F/R	1726	1752	0.44	0.44			NONE				NONE		1.0	1752
	F/R	1853	2030	1.61	1.31			NONE				NONE			
	F/R	2146	2246	1.00	1.00			NONE				NONE			
				3.05	2.75										
16	FOG	0051	0117	0.44	0.44			NONE				NONE		0.4	1415
	FOG	0301	0336	0.57	0.57			NONE				NONE			
	FOG	0453	0536	0.72	0.58	0501	0511	0.17	0.07			NONE			
	FOG	1403	1451	0.79	0.79	1407	1446	0.62	0.34	1408	1418	0.16	0.05		
	FOG	2254	2400	1.10	1.10			NONE				NONE			
				3.62	3.48			0.79	0.41			0.16	0.05		
17	FOG	0000	0726	7.44	7.40	0012	0551	5.65	4.83	0026	0107	0.69	0.43	0.4	0041
				7.44	7.40			5.65	4.83			0.69	0.43		
20	RAIN	0951	1002	0.18	0.18	0953	0958	0.09	0.09	0955	0955	0.01	0.01	0.5	0955
	FOG	2155	2222	0.46	0.46			NONE				NONE			
	FOG	2345	2400	0.25	0.25			NONE				NONE			
				0.89	0.89			0.09	0.09			0.01	0.01		
21	FOG	0000	0114	1.23	1.23	0106	0107	0.02	0.02			NONE		0.8	0107
	FOG	0440	0453	0.20	0.20			NONE				NONE			
				1.44	1.44			0.02	0.02						
25	FOG	0015	0121	1.11	0.77	0018	0028	0.17	0.17			NONE		0.2	0509
						0107	0117	0.17	0.17			NONE			
	FOG	0310	0626	3.27	2.77	0335	0521	1.78	1.62	0339	0520	1.68	0.95		
				4.38	3.54			2.12	1.96			1.68	0.95		
27	FOG	0233	0614	3.68	3.25	0509	0525	0.27	0.07			NONE		0.8	0510
				3.68	3.25			0.27	0.07						
28	F/R	1745	2400	6.26	6.26	1938	2012	0.57	0.57			NONE		0.6	1956
				6.26	6.26			0.57	0.57						
29	F/R	0000	0827	8.45	8.45			NONE				NONE		1.0	0500
	F/R	1203	2400	11.95	11.94			NONE				NONE			
				20.40	20.39										
30	FOG	0000	0821	8.35	8.35	0222	0718	4.94	4.26	0237	0659	4.39	3.49	0.2	0330
	F/R	1315	1458	1.72	1.67	1329	1408	0.66	0.37	1330	1346	0.26	0.23		
	F/R	1536	1648	1.20	1.20	1538	1548	0.17	0.09			NONE			
	F/R	1817	1912	0.91	0.91			NONE				NONE			
	FOG	2342	2400	0.30	0.30			NONE				NONE			
				12.49	12.44			5.76	4.72			4.64	3.72		
31	FOG	0000	0022	0.36	0.36			NONE				NONE		0.4	2321
	FOG	0236	0328	0.46	0.46			NONE				NONE			
	FOG	0502	0730	2.30	2.28			NONE				NONE			
	FOG	1949	2400	4.19	4.19	2254	2400	1.09	1.09	2312	2323	0.19	0.19		
				7.71	7.68			1.09	1.09			0.19	0.19		
				86.64	81.42			17.40	14.06			7.44	5.77		

Table 7.2E (cont.)

PER CENT OF TOTAL HOURS OF DATA WITH VISIBILITY EQUAL TO OR LESS THAN

	<u>3 KM</u>	<u>1 KM</u>	<u>0.5 KM</u>
FOG (F)	6.4	1.7	0.7
HAZE (H)	0.0	0.0	0.0
DRIZZLE (L)	0.0	0.0	0.0
RAIN (R)	<0.1	<0.1	<0.1
SNOW (S)	0.0	0.0	0.0
F&H	0.0	0.0	0.0
F&L	0.0	0.0	0.0
F&R	4.5	0.1	<0.1
F&S	0.0	0.0	0.0
TOTAL	10.9	1.9	0.7

Table 7.1F  
 VISIBILITY OBSTRUCTION AT STATION 001A  
 JUNE 1976  
 INSTRUMENT IN OPERATION: 0000 1 JUN-2030 12 JUN;  
 0800 13 JUN-2400 10 JUL  
 TOTAL HOURS OF OPERATION: 708.5

DAY	OBSTR TYPE	ONSET (EST)	END (EST)	5.3 KM EPISODE DURATION (HR)	ACCUMULATED TIME 5.3 KM (HR)	ONSET (EST)	END (EST)	5.1 KM EPISODE DURATION (HR)	ACCUMULATED TIME 5.1 KM (HR)	ONSET (EST)	END (EST)	50.5 KM EPISODE DURATION (HR)	ACCUMULATED TIME 50.5 KM (HR)	MIN VIS FOR DAY (KM)	TIME OF MIN VIS (EST)
1	FOG	0000	0407	4.11	3.64	0000	0248	2.80	2.41	0117	0228	1.20	0.95	0.2	0136
				4.11	3.64			2.80	2.41			1.20	0.95		
2	FOG	2219	2400	1.68	1.58	2221	2400	1.64	0.78	2323	2341	0.29	0.07	0.5	2340
				1.69	1.59			1.64	0.78			0.29	0.07		
3	FOG	0000	0645	6.76	6.76	0000	0027	0.44	0.10	0504	0504	0.01	0.01	0.5	0504
						0113	0530	4.28	2.50						
				6.76	6.76			4.73	2.64			0.01	0.01		
4	FOG	0206	0508	3.04	1.42	0254	0256	0.02	0.02			NONE		0.8	0255
				3.04	1.42			0.02	0.02						
6	FOG	0015	0553	5.62	3.74	0212	0225	0.22	0.14			NONE		0.2	2109
						0259	0336	0.61	0.05			NONE			
						0418	0539	1.34	0.62	0421	0516	0.91	0.12		
	FOG	2219	2400	1.68	1.06	2250	2310	0.33	0.10	2307	2309	0.03	0.03		
				7.30	4.79			2.50	0.92			0.94	0.15		
7	FOG	0000	0515	5.26	4.62	0000	0249	2.81	1.19	0017	0026	0.15	0.11	0.2	0025
										0117	0246	1.47	0.27		
	FOG	2210	2357	1.80	0.78	0333	0353	0.34	0.32			NONE			
				7.05	5.41			3.15	1.50			NONE			
8	FOG	0026	0249	2.39	2.12			NONE				NONE		1.3	0050
	FOG	2206	2223	0.27	0.27			NONE				NONE			
	FOG	2304	2400	0.93	0.34			NONE				NONE			
				3.60	2.74										
9	FOG	0000	0543	5.72	4.61			NONE				NONE		1.1	0037
	FOG	2239	2342	1.04	0.36			NONE				NONE			
				6.77	4.98										
10	FOG	0004	0021	0.29	0.29	0009	0009	0.02	0.02			NONE		0.8	0009
				0.29	0.29			0.02	0.02						
11	FOG	2207	2288	0.69	0.34			NONE				NONE		1.2	2220
				0.69	0.34										
12	F/R	0147	0151	0.07	0.07			NONE				NONE		1.6	0149
				0.07	0.07										
13	RAIN	2317	2346	0.49	0.04			NONE				NONE		2.5	2318
				0.49	0.04										
15	RAIN	1543	1551	0.12	0.12	1547	1549	0.03	0.03	1548	1548	0.00	0.00	0.4	1548
				0.12	0.12			0.03	0.03			0.00	0.00		
16	FOG	2139	2400	2.36	1.26	2200	2335	1.59	0.41	2241	2241	0.01	0.01	0.5	2241
				2.36	1.26			1.59	0.41			0.01	0.01		
17	FOG	0000	0018	0.30	0.14	0014	0015	0.02	0.02			NONE		0.6	0014
	FOG	0435	0505	0.50	0.17			NONE				NONE			
				0.80	0.31			0.02	0.02						
19	FOG	0034	0042	0.13	0.13	0036	0040	0.07	0.07			NONE		0.6	0040
	FOG	2147	2233	0.75	0.33			NONE				NONE			
	FOG	2313	2353	0.66	0.23			NONE				NONE			
				1.55	0.74			0.07	0.07						
20	FOG	0006	0031	0.43	0.27	0018	0019	0.02	0.02			NONE		0.9	0018
	FOG	0108	0204	0.95	0.45			NONE				NONE			
	FOG	0417	0428	0.18	0.18			NONE				NONE			
				1.55	1.00			0.02	0.02						
21	FOG	0102	0110	0.14	0.13			NONE				NONE		2.0	0104
				0.14	0.13										
22	RAIN	1536	1554	0.29	0.22	1548	1550	0.04	0.04	1548	1549	0.01	0.01	0.3	1549
	RAIN	1635	1659	0.40	0.40			NONE				NONE			
	FOG	2107	2400	2.89	2.80	2113	2335	2.37	1.73	2116	2129	0.22	0.21		
										2224	2327	1.04	0.14		
				3.58	3.42			2.41	1.78			1.27	0.40		
23	FOG	0000	0255	2.91	2.85	0019	0248	2.47	1.61	0046	0108	0.36	0.27	0.3	0218
										0145	0246	1.02	0.10		
	RAIN	1503	1517	0.23	0.23			NONE				NONE			
				3.14	3.09			2.47	1.61			1.24	0.37		
28	RAIN	2109	2118	0.17	0.17	2111	2113	0.03	0.03			NONE		0.5	2112
				0.17	0.17			0.03	0.03						



Table 7.1F (cont.)

DAY	OBSTR TYPE	ONSET (EST)	END (EST)	≤3 KM EPISODE DURATION (HR)	ACCUMULATED TIME ≤3 KM (HR)	ONSET (EST)	END (EST)	≤1 KM EPISODE DURATION (HR)	ACCUMULATED TIME ≤1 KM (HR)	ONSET (EST)	END (EST)	≤0.5 KM EPISODE DURATION (HR)	ACCUMULATED TIME ≤0.5 KM (HR)	MIN VIS FOR DAY (KM)	TIME OF MIN VIS (EST)
29	RAIN	2000	2013	0.22	0.22			NONE				NONE		1.2	2010
				0.22	0.22										
30	RAIN	1012	1028	0.27	0.22			NONE				NONE		1.2	1014
				0.27	0.22										
				55.73	42.72			21.50	12.26			6.72	2.35		

## PER CENT OF TOTAL HOURS OF DATA WITH VISIBILITY EQUAL TO OR LESS THAN

	3 KM	1 KM	0.5 KM
FOG (F)	5.8	1.7	0.3
HAZE (H)	0.0	0.0	0.0
DRIZZLE (L)	0.0	0.0	0.0
RAIN (R)	0.2	<0.1	<0.1
SNOW (S)	0.0	0.0	0.0
F&H	0.0	0.0	0.0
F&L	0.0	0.0	0.0
F&R	<0.1	0.0	0.0
F&S	0.0	0.0	0.0
TOTAL	6.0	1.7	0.3

Table 7.2F  
VISIBILITY OBSTRUCTION AT STATION P07A  
JUNE 1976  
INSTRUMENT IN OPERATION: 0000 1 JUN-2400 30 JUN  
TOTAL HOURS OF OPERATION: 720.0

DAY	OBSTR TYPE	ONSET (EST)	END (EST)	53 KM EPISODE DURATION (HR)	ACCUMULATED TIME 53 KM (HR)	ONSET (EST)	END (EST)	51 KM EPISODE DURATION (HR)	ACCUMULATED TIME 51 KM (HR)	ONSET (EST)	END (EST)	50.5 KM EPISODE DURATION (HR)	ACCUMULATED TIME 50.5 KM (HR)	MIN VIS POP DAY (KM)	TIME OF MIN VIS (EST)
1	FOG	0000	0718	7.29	7.29	0000	0543	5.72	5.72	0011	0511	4.99	4.99	0.1	0252
				7.29	7.29			5.72	5.72			4.99	4.99		
6	FOG	0125	0140	0.24	0.24			NONE				NONE		0.9	0454
	FOG	0340	0630	2.83	2.83	0449	0455	0.10	0.10			NONE			
	FOG	2348	2400	0.20	0.20			NONE				NONE			
				3.27	3.27			0.10	0.10						
7	FOG	0000	0640	6.67	6.67	0207	0245	0.64	0.23			NONE		0.3	0343
						0335	0518	1.71	0.95	0338	0345	0.11	0.11		
				6.67	6.67			2.35	1.18			0.11	0.11		
10	RAIN	2257	2327	0.40	0.28	2259	2300	0.01	0.01			NONE		0.9	2259
				0.40	0.28			0.01	0.01						
15	FOG	1544	1636	0.88	0.88	1547	1633	0.75	0.73	1551	1630	0.65	0.22	0.2	1627
				0.88	0.88			0.75	0.73			0.65	0.22		
16	FOG	2210	2400	1.84	1.84			NONE				NONE		2.0	2400
				1.84	1.84										
17	FOG	0000	0605	6.09	6.09	0153	0211	0.29	0.07			NONE		0.6	0423
						0421	0431	0.16	0.16			NONE			
				6.09	6.09			0.46	0.23						
18	RAIN	1537	1800	2.38	1.93	1558	1602	0.06	0.06			NONE		0.7	1559
				2.38	1.93			0.06	0.06						
19	FOG	0025	0113	0.80	0.80			NONE				NONE		0.8	2344
	FOG	2342	2400	0.30	0.30	2344	2345	0.01	0.01			NONE			
				1.10	1.10			0.01	0.01						
20	FOG	0012	0407	3.92	3.02	0015	0048	0.55	0.08			NONE		0.6	0211
						0210	0308	0.97	0.06			NONE			
	FOG	0450	0508	0.31	0.31	0344	0403	0.32	0.02			NONE			
								NONE				NONE			
				4.22	3.33			1.84	0.16						
22	RAIN	1625	1722	0.94	0.71	1632	1714	0.70	0.31			NONE		0.3	2307
	FOG	2043	2400	3.28	3.28	2123	2335	2.20	1.51	2125	2139	0.22	0.03		
										2226	2325	1.00	0.57		
				4.23	3.99			2.90	1.82			1.22	0.60		
23	FOG	0000	0623	6.38	6.38	0223	0247	0.39	0.34			NONE		0.5	0228
	RAIN	1530	1607	0.61	0.61			NONE				NONE			
				7.00	7.00			0.39	0.34						
24	F/R	0000	0703	7.05	7.05			NONE				NONE		1.3	0214
	F/R	0942	1416	4.56	4.56			NONE				NONE			
	F/R	1528	1552	0.41	0.41			NONE				NONE			
	FOG	2137	2400	2.39	2.39			NONE				NONE			
				14.41	14.41										
25	FOG	0000	0201	2.68	2.68			NONE				NONE		2.2	0000
				2.68	2.68										
27	RAIN	2117	2349	2.53	2.53	2322	2327	0.08	0.08			NONE		0.7	2324
				2.53	2.53			0.08	0.08						
28	RAIN	2116	2132	0.26	0.26	2118	2128	0.17	0.17	2119	2127	0.14	0.09	0.3	2124
				0.26	0.26			0.17	0.17			0.14	0.09		
29	RAIN	1824	1836	0.20	0.20	1828	1831	0.06	0.06			NONE		0.7	1831
				0.20	0.20			0.06	0.06						
30	FOG	0013	0032	0.32	0.32			NONE				NONE		0.4	1210
	F/R	0954	1008	0.25	0.25			NONE				NONE			
	F/R	1207	1214	0.11	0.11	1209	1210	0.02	0.02	1210	1210	0.00	0.00		
				0.68	0.68			0.02	0.02			0.00	0.00		
				66.14	64.45			14.92	10.69			7.11	6.00		

Table 7.2F (cont.)

PER CENT OF TOTAL HOURS OF DATA WITH VISIBILITY EQUAL TO OR LESS THAN

	3 KM ----	1 KM ----	0.5 KM -----
FOG (F)	6.3	1.4	0.8
HAZE (H)	0.0	0.0	0.0
DRIZZLE (L)	0.0	0.0	0.0
RAIN (R)	0.9	0.1	<0.1
SNOW (S)	0.0	0.0	0.0
F&H	0.0	0.0	0.0
F&L	0.0	0.0	0.0
F&R	1.7	<0.1	<0.1
F&S	0.0	0.0	0.0
TOTAL	9.0	1.5	0.8

TOTAL HOURS OF OPERATION: 605.7

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Table 7.1G (cont.)

PER CENT OF TOTAL HOURS OF DATA WITH VISIBILITY EQUAL TO OR LESS THAN

	<u>3 KM</u>	<u>1 KM</u>	<u>0.5 KM</u>
FOG (F)	4.6	1.8	0.9
HAZE (H)	0.0	0.0	0.0
DRIZZLE (L)	0.0	0.0	0.0
RAIN (R)	0.2	<0.1	0.0
SNOW (S)	0.0	0.0	0.0
F&H	0.0	0.0	0.0
F&L	0.0	0.0	0.0
F&R	0.7	0.2	0.1
F&S	0.0	0.0	0.0
TOTAL	5.5	2.1	1.0

Table 7.2G  
 VISIBILITY OBSTRUCTION AT STATION P07A  
 JULY 1976  
 INSTRUMENT IN OPERATION: 0000 1 JUL-2230 15 JUL;  
 1000 19 JUL-2400 31 JUL  
 TOTAL HOURS OF OPERATION: 660.5

DAY	OBSTR TYPE	ONSET (ZST)	END (ZST)	51 KM EPISODE DURATION (HR)	ACCUMULATED TIME 51 KM (HR)	ONSET (ZST)	END (ZST)	51 KM EPISODE DURATION (HR)	ACCUMULATED TIME 51 KM (HR)	ONSET (ZST)	END (ZST)	50.5 KM EPISODE DURATION (HR)	ACCUMULATED TIME 50.5 KM (HR)	SIN VIS FOR DAY (KM)	TIME OF SIN VIS (ZST)
2	FOG	0100	0634	5.57	5.57	0213	0235	0.17	0.05			NONE		0.8	0400
	FOG	2303	2400	0.95	0.95	0359	0401	0.04	0.04			NONE			
				6.51	6.51			0.41	0.09						
3	FOG	0000	0138	1.63	1.63	0304	0307	NONE	0.05			NONE		0.7	0305
	FOG	0232	0638	4.12	4.05			NONE				NONE			
	HAZE	1046	1122	0.59	0.31			NONE				NONE			
	HAZE	1210	1314	1.07	1.04			NONE				NONE			
	HAZE	1612	1631	0.32	0.32			NONE				NONE			
				7.73	7.35			0.05	0.05						
4	FOG	0419	0620	2.03	1.28	0514	0554	0.66	0.20	0531	0532	0.01	0.01	0.5	0532
	HAZE	0804	0904	0.99	0.75			NONE				NONE			
	HAZE	1141	1953	3.21	2.71			NONE				NONE			
	HAZE	2013	2057	0.72	0.72			NONE				NONE			
				6.95	5.47			0.66	0.20			0.01	0.01		
5	FOG	0418	0626	2.13	2.13	0526	0530	0.07	0.07			NONE		0.9	0527
				2.13	2.13			0.07	0.07						
6	FOG	0330	0435	1.07	1.07			NONE				NONE		2.6	0354
				1.07	1.07										
7	FOG	2313	2400	0.78	0.78	2333	2400	0.45	0.11	2358	2400	0.04	0.04	0.3	2359
				0.78	0.78			0.45	0.11			0.04	0.04		
8	FOG	0000	0740	7.67	7.67	0000	0156	1.94	0.91	0141	0153	0.20	0.20	0.1	0526
						0234	0644	4.17	3.70	0238	0634	3.93	2.38		
				7.67	7.67			6.11	4.61			4.13	2.58		
13	FOG	0300	0309	0.15	0.15	0303	0306	0.04	0.04	0304	0305	0.01	0.01	0.4	0305
	FOG	0418	0442	0.41	0.20			NONE				NONE			
				0.55	0.35			0.04	0.04			0.01	0.01		
14	RAIN	1923	1924	0.02	0.02			NONE				NONE		2.8	1923
				0.02	0.02										
15	FOG	0228	0237	0.16	0.16			NONE				NONE		1.2	0230
				0.16	0.16										
20	RAIN	1650	1816	1.45	1.41	1700	1812	1.20	0.41	1759	1759	0.00	0.00	0.4	1759
	RAIN	1918	1939	0.35	0.35			NONE				NONE			
				1.80	1.76			1.20	0.41			0.00	0.00		
21	FOG	0109	0304	1.93	1.93			NONE				NONE		1.2	0441
	FOG	0409	0513	1.07	1.07			NONE				NONE			
				2.99	2.99										
23	FOG	0559	0759	2.01	2.01	2145	2215	NONE	0.04	2213	2214	NONE	0.01	0.4	2213
	HAZE	2144	2219	0.59	0.18			0.50				0.01			
				2.60	2.19			0.50	0.04			0.01	0.01		
25	FOG	0428	0627	2.06	2.06	0426	0613	1.78	1.45	0427	0543	1.27	1.27	0.2	0500
				2.06	2.06			1.78	1.45			1.27	1.27		
26	F/R	2108	2244	1.60	1.60	2111	2206	0.92	0.92	2112	2203	0.86	0.75	0.2	2158
	F/R	2350	2400	0.17	0.17			NONE				NONE			
				1.77	1.77			0.92	0.92			0.86	0.75		
27	FOG	0002	0651	6.82	6.59	0120	0239	1.33	1.05	0126	0223	0.55	0.14	0.1	0456
						0312	0625	3.23	3.23	0313	0610	2.95	2.80		
				6.82	6.59			4.56	4.28			3.90	2.94		
28	F/R	0941	1013	0.53	0.26	1004	1011	0.11	0.11	1005	1005	0.01	0.01	0.4	1005
	F/R	1044	1054	0.18	0.18			NONE				NONE			
				0.71	0.44			0.11	0.11			0.01	0.01		
29	FOG	2054	2400	3.10	3.10	2138	2400	2.37	1.78	2209	2400	1.84	0.88	0.2	2240
				3.10	3.10			2.37	1.78			1.84	0.88		
30	FOG	0000	0654	6.90	6.55	0000	0552	5.87	5.11	0000	0152	1.87	1.48	0.2	0058
										0234	0440	2.10	0.89		
										0515	0532	0.28	0.28		
				6.90	6.55			5.87	5.11			4.24	2.65		
31	F/R	0020	0101	0.68	0.68			NONE				NONE		0.8	0431
	FOG	0353	0448	0.91	0.91	0430	0432	0.04	0.04			NONE			
	FOG	0529	0558	0.48	0.48			NONE				NONE			
				2.06	1.99			0.04	0.04						
				66.00	66.98			25.13	19.30			16.31	11.14		

Table 7.2G (cont.)

PER CENT OF TOTAL HOURS OF DATA WITH VISIBILITY EQUAL TO OR LESS THAN

	<u>3 KM</u>	<u>1 KM</u>	<u>0.5 KM</u>
FOG (F)	7.6	2.7	1.6
HAZE (H)	0.9	0.0	0.0
DRIZZLE (L)	0.0	0.0	0.0
RAIN (R)	0.3	0.1	<0.1
SNOW (S)	0.0	0.0	0.0
F&H	0.0	0.0	0.0
F&L	0.0	0.0	0.0
F&R	0.4	0.2	0.1
F&S	0.0	0.0	0.0
TOTAL	9.2	2.9	1.7

Table 7.1H  
VISIBILITY OBSTRUCTION AT STATION P03A  
AUGUST 1976  
INSTRUMENT IN OPERATION: 0000 1 AUG-2400 31 AUG  
TOTAL HOURS OF OPERATION: 744.0

DAY	OBSTR TYPE	ONSET (EST)	END (EST)	13 KM EPISODE DURATION (HR)	ACCUMULATED TIME 13 KM (HR)	ONSET (EST)	END (EST)	51 KM EPISODE DURATION (HR)	ACCUMULATED TIME 51 KM (HR)	ONSET (EST)	END (EST)	50.5 KM EPISODE DURATION (HR)	ACCUMULATED TIME 50.5 KM (HR)	MIN VIS FOR DAY (KM)	TIME OF DAY (EST)
1	FOG	0455	0502	0.13	0.13			NONE				NONE		2.1	0500
				0.13	0.13										
2	FOG	2215	2254	0.65	0.22			NONE				NONE		1.8	2358
	FOG	2326	2359	0.56	0.29			NONE				NONE			
				1.21	0.52										
3	FOG	0405	0447	0.71	0.09			NONE				NONE		0.3	2246
	FOG	2050	2340	2.84	1.24	2137	2200	0.39	0.10			NONE			
						2246	2302	0.27	0.10	2246	2301	0.25	0.01		
				3.54	1.34			0.66	0.20			0.25	0.01		
4	FOG	0018	0301	2.72	1.81	0022	0024	0.04	0.04			NONE		0.6	0023
						0106	0155	0.82	0.30			NONE			
						0232	0258	0.44	0.13			NONE			
	FOG	0345	0519	1.56	0.71			NONE				NONE			
				4.28	2.51			1.30	0.46						
5	RAIN	0457	0500	0.05	0.05			NONE				NONE		1.9	0457
				0.05	0.05										
8	FOG	2124	2400	2.60	1.57	2147	2240	0.87	0.25	2214	2239	0.40	0.04	0.3	2238
						2327	2400	0.55	0.17			NONE			
				2.60	1.57			1.43	0.42			0.40	0.04		
9	FOG	0000	0338	3.64	3.26	0000	0227	2.46	1.09	0035	0138	1.05	0.31	0.3	0523
						0307	0317	0.17	0.05			NONE			
	FOG	0412	0716	3.07	2.86	0420	0507	1.79	1.39	0422	0540	1.31	0.30		
	FOG	2024	2245	2.35	1.46	2035	2155	1.33	0.44			NONE			
	FOG	2317	2400	0.71	0.43	2341	2400	0.31	0.14			NONE			
				9.77	8.02			6.06	3.12			2.36	0.61		
10	FOG	0000	0116	1.27	0.58	0000	0006	0.09	0.09			NONE		0.6	0000
						0051	0112	0.35	0.13			NONE			
	FOG	0151	0218	0.44	0.21			NONE				NONE			
	FOG	0251	0343	0.87	0.34			NONE				NONE			
	FOG	0458	0510	0.21	0.21			NONE				NONE			
				2.79	1.34			0.44	0.23						
13	FOG	2304	2316	0.20	0.20			NONE				NONE		1.0	2312
				0.20	0.20										
14	FOG	0043	0059	0.27	0.27			NONE				NONE		0.8	0354
	Z/B	0345	0426	0.67	0.41	0352	0356	0.06	0.06			NONE			
				0.94	0.68			0.06	0.06						
15	FOG	0108	0634	5.42	4.67	0115	0312	1.95	1.09			NONE		0.3	0506
						0408	0629	2.42	1.39	0438	0536	0.96	0.10		
				5.42	4.67			4.36	2.49			0.96	0.10		
16	FOG	0315	0406	0.85	0.19			NONE				NONE		0.4	2135
	FOG	0448	0555	1.12	0.43			NONE				NONE			
	FOG	2059	2400	3.01	1.73	2118	2137	0.31	0.05	2135	2136	0.00	0.00		
						2302	2315	0.22	0.07			NONE			
				4.98	2.35			0.52	0.12			0.00	0.00		
17	FOG	0000	0029	0.48	0.25	0000	0027	0.44	0.01			NONE		0.3	2109
	FOG	0116	0221	1.08	0.45			NONE				NONE			
	FOG	0304	0407	1.04	0.33			NONE				NONE			
	FOG	0526	0555	0.49	0.27			NONE				NONE			
	FOG	2104	2400	2.92	2.06	2107	2357	2.83	0.86	2108	2109	0.02	0.02		
										2212	2244	0.52	0.07		
										2328	2342	0.23	0.03		
				6.03	3.95			3.27	0.87			0.77	0.11		
18	FOG	0017	0102	0.75	0.59			NONE				NONE		0.3	2241
	FOG	0201	0322	1.35	0.37	0207	0307	0.99	0.07			NONE			
	FOG	0424	0558	1.57	1.12			NONE				NONE			
	FOG	2024	2400	3.60	3.43	2028	2115	0.79	0.16	2053	2113	0.34	0.04		
						2212	2246	0.58	0.26	2215	2242	0.46	0.08		
						2326	2336	0.17	0.17			NONE			
				7.27	6.07			2.53	0.66			0.80	0.12		
19	FOG	0000	0714	7.23	6.96	0018	0103	0.76	0.12			NONE		0.2	2334
						0315	0345	0.50	0.18			NONE			
	FOG	2046	2400	3.23	2.97	2231	2346	1.24	0.56	2232	2335	1.04	0.13		
				10.45	9.93			2.51	0.86			1.04	0.13		
20	FOG	0000	0616	6.27	6.09	0102	0217	1.25	0.55	0128	0215	0.79	0.10	0.1	2159
						0258	0559	3.01	0.55	0415	0454	0.65	0.08		
	FOG	1954	2400	4.10	4.10	2046	2400	3.23	3.14	2049	2400	3.18	2.76		
				10.37	10.19			7.49	3.24			4.62	2.89		
21	FOG	0000	0656	6.94	6.94	0000	0517	5.29	3.21	0000	0108	1.14	0.48	0.2	0106
										0139	0227	0.81	0.31		
										0402	0424	0.36	0.10		
	FOG	1923	2400	4.61	4.61	2208	2400	1.87	0.85	2337	2400	0.38	0.29		
				11.55	11.55			7.16	4.06			2.69	1.19		



Table 7.1H (cont.)

DAY	OBSTR	ONSET	END	3 KM	ACCUMULATED	ONSET	END	1 KM	ACCUMULATED	ONSET	END	0.5 KM	ACCUMULATED	MIN VIS	TIME OF
	TYPE	(EST)	(EST)	DURATION	TIME 3 KM	(EST)	(EST)	DURATION	TIME 1 KM	(EST)	(EST)	DURATION	TIME 0.5 KM	FOR DAY	MIN VIS
22	FOG	0000	0751	7.85	7.85	0000	0104	1.06	0.93	0000	0058	0.97	0.92	0.1	0001
						0234	0303	0.49	0.27			NONE			
						0433	0443	0.17	0.17			NONE			
						0515	0550	0.59	0.19			NONE			
	FOG	1954	2400	4.10	4.10	2126	2206	0.67	0.60	2132	2203	0.52	0.20		
				11.95	11.95			2.98	2.16			1.49	0.62		
23	FOG	0000	0728	7.46	7.46			NONE				NONE		0.4	1954
	FOG	1945	2007	0.37	0.37	1952	1957	0.08	0.08	1954	1954	0.01	0.01		
				7.84	7.84			0.08	0.08			0.01	0.01		
24	FOG	2058	2400	3.03	3.03			NONE				NONE		1.9	2357
				3.03	3.03										
25	FOG	0000	0304	3.73	3.73			NONE				NONE		0.1	2242
	FOG	1846	2400	5.24	5.24	2037	2343	3.10	2.66	2042	2301	2.31	1.84		
				8.97	8.97			3.10	2.66			2.31	1.84		
26	FOG	0000	0817	8.29	8.29	0008	0055	0.79	0.31	0052	0053	0.03	0.03	0.4	0053
		1200	1341	1.70	1.70	0158	0210	0.20	0.20			NONE			
	HAZE	1925	2400	4.59	4.59			NONE				NONE			
	FOG			14.57	14.57			0.99	0.51			0.03	0.03		
27	FOG	0000	0345	3.75	3.75			NONE				NONE		2.6	0000
				3.75	3.75										
28	RAIN	0605	0647	0.70	0.70			NONE				NONE		1.0	0618
				0.70	0.70										
29	FOG	2300	2400	1.00	0.57	2358	2400	0.04	0.04	2359	2359	0.00	0.00	0.5	2359
				1.00	0.57			0.04	0.04			0.00	0.00		
30	FOG	0000	0006	0.11	0.11	0000	0001	0.02	0.02			NONE		0.5	0000
	FOG	0041	0113	0.54	0.20			NONE				NONE			
	FOG	0147	0210	0.37	0.09			NONE				NONE			
	FOG	0509	0525	0.27	0.27			NONE				NONE			
	FOG	2100	2151	0.85	0.25			NONE				NONE			
				2.14	0.92			0.02	0.02						

135.51      117.01      45.01      23.25      17.72      7.70

PER CENT OF TOTAL HOURS OF DATA WITH VISIBILITY EQUAL TO OR LESS THAN

	3 KM	1 KM	0.5 KM
FOG (F)	15.4	3.1	1.0
HAZE (H)	0.2	0.0	0.0
DRIZZLE (L)	0.0	0.0	0.0
RAIN (R)	0.1	0.0	0.0
SNOW (S)	0.0	0.0	0.0
FSH	0.0	0.0	0.0
PSL	0.0	0.0	0.0
FSH	0.1	<0.1	0.0
PSL	0.0	0.0	0.0
TOTAL	15.7	3.1	1.0

Table 7.2H  
VISIBILITY OBSTRUCTION AT STATION P07A  
AUGUST 1976  
INSTRUMENT IN OPERATION: 0000 1 AUG-2400 31 AUG  
TOTAL HOURS OF OPERATION: 744.0

DAY	OBSTN TYPE	ONSET (EST)	END (EST)	51 KM EPISODE DURATION (HR)	ACCUMULATED TIME 51 KM (HR)	ONSET (EST)	END (EST)	51 KM EPISODE DURATION (HR)	ACCUMULATED TIME 51 KM (HR)	ONSET (EST)	END (EST)	50.5 KM EPISODE DURATION (HR)	ACCUMULATED TIME 50.5 KM (HR)	MIN VIS FOR DAY (KM)	TIME OF MIN VIS (EST)
5	RAIN	0523	0528	0.08	0.08			NONE				NONE		1.9	0528
				0.08	0.08										
8	FOG	2312	2359	0.79	0.53	2335	2340	0.09	0.09	2337	2339	0.03	0.03	0.2	2339
				0.79	0.53			0.09	0.09			0.03	0.03		
9	FOG	0003	0623	6.33	3.95	0007	0117	1.17	0.31	0008	0021	0.22	0.11	0.2	0116
						0236	0308	0.53	0.05	0116	0117	0.01	0.01		
						0356	0408	0.86	0.33	0359	0413	0.24	0.00		
						0518	0549	0.52	0.35	0523	0548	0.42	0.05		
				6.33	3.95			3.08	1.03			0.89	0.18		
13	FOG	0228	0746	5.30	5.30			NONE				NONE		1.5	0601
				5.30	5.30										
14	FOG	0425	0443	0.30	0.26			NONE				NONE		1.7	0438
				0.30	0.26										
15	FOG	0619	0621	0.03	0.03			NONE				NONE		2.9	0619
				0.03	0.03										
18	FOG	0049	0122	0.55	0.50	0051	0052	0.02	0.02			NONE		0.7	0051
	FOG	0547	0620	0.54	0.29			NONE				NONE			
	FOG	2147	2400	2.22	2.22			NONE				NONE			
				3.32	3.00			0.02	0.02						
19	FOG	0000	0633	6.55	6.55	0318	0329	0.19	0.06			NONE		0.2	0443
						0407	0559	1.86	1.00	0421	0445	0.40	0.12		
	FOG	2133	2400	2.45	2.45			NONE				NONE			
				9.00	9.00			2.05	1.06			0.40	0.12		
20	FOG	0000	0701	7.01	6.50			NONE				NONE		0.2	2237
	FOG	2037	2400	3.39	3.39	2149	2400	2.19	1.81	2230	2308	0.64	0.29		
				10.40	9.89			2.19	1.81			0.64	0.29		
21	FOG	0000	0810	8.17	8.17	0000	0709	7.15	6.71	0118	0137	0.32	0.06	0.1	0347
	FOG	1942	2400	4.31	4.31	2257	2400	1.05	1.05	0220	0352	1.53	0.31		
				12.48	12.48			8.19	7.76	0439	0636	1.96	1.73		
												3.61	2.69		
22	FOG	0000	0743	7.72	7.72	0000	0515	5.25	5.10	0839	0840	0.02	0.02	0.5	0440
	FOG	1937	2400	4.39	4.39	2215	2308	0.87	0.87			NONE			
				12.11	12.11			6.12	5.97			0.02	0.02		
23	FOG	0000	0657	6.95	6.95	0403	0609	2.10	1.59			NONE		0.7	0548
				6.95	6.95			2.10	1.59						
25	HAZE	1507	1746	2.65	2.65			NONE				NONE		0.5	2245
	FOG	1838	2400	5.36	5.36	2213	2310	0.95	0.95			NONE			
				8.01	8.01			0.95	0.95						
26	FOG	0000	0806	8.10	8.10			NONE				NONE		1.3	0406
				8.10	8.10										
27	HAZE	0005	0656	6.82	6.82			NONE				NONE		2.7	0600
				6.82	6.82										
28	RAIN	0624	0710	0.77	0.32	0635	0702	0.45	0.02			NONE		0.7	0635
				0.77	0.32			0.45	0.02						
				90.78	86.83			25.24	20.30			5.79	3.32		

Table 7.2H (cont.)

PER CENT OF TOTAL HOURS OF DATA WITH VISIBILITY EQUAL TO OR LESS THAN

	<u>3 KM</u>	<u>1 KM</u>	<u>0.5 KM</u>
FOG (F)	10.3	2.7	0.4
HAZE (H)	1.3	0.0	0.0
DRIZZLE (L)	0.0	0.0	0.0
RAIN (R)	0.1	<0.1	0.0
SNOW (S)	0.0	0.0	0.0
F&H	0.0	0.0	0.0
F&L	0.0	0.0	0.0
F&R	0.0	0.0	0.0
F&S	0.0	0.0	0.0
TOTAL	11.7	2.7	0.4

Table 7.11  
VISIBILITY OBSTRUCTION AT STATION 003A  
SEPTEMBER 1976  
INSTRUMENT IN OPERATION: 0000 1 SEP-2400 30 SEP  
TOTAL HOURS OF OPERATION: 720.0

DAY	OBSER TYPE	ONSET (EST)	END (EST)	13 KB EPISODE DURATION (HR)	ACCUMULATED TIME < 13 KB (HR)	ONSET (EST)	END (EST)	11 KB EPISODE DURATION (HR)	ACCUMULATED TIME < 11 KB (HR)	ONSET (EST)	END (EST)	50.5 KB EPISODE DURATION (HR)	ACCUMULATED TIME < 50.5 KB (HR)	MIN VIS FOR DAY (KB)	TIME OF MIN VIS (EST)
2	FOG	2027	2112	0.76	0.30	2102	2105	0.07	0.07	2103	2104	0.02	0.02	0.3	2103
				0.76	0.30			0.07	0.07			0.02	0.02		
4	FOG	0509	0540	0.51	0.51			NONE	0.06			NONE	0.00	0.5	2112
	FOG	2106	2346	2.67	1.99	2111	2114	0.06	0.06	2112	2112	NONE	0.00		
						2158	2229	0.50	0.09			NONE			
						2303	2341	0.64	0.08			NONE			
				3.18	2.50			1.20	0.22			0.00	0.00		
5	FOG	2125	2145	0.33	0.22			NONE	0.01			NONE		0.9	2342
	FOG	2336	2356	0.33	0.24	2342	2343	0.01	0.01			NONE			
				0.66	0.47			0.01	0.01						
6	FOG	0039	0054	0.25	0.21			NONE				NONE		0.6	2213
	FOG	2208	2218	0.17	0.17	2213	2214	0.03	0.03			NONE			
				0.42	0.38			0.03	0.03						
8	FOG	1919	2400	4.68	4.68	2114	2122	0.14	0.14	2116	2119	0.05	0.05	0.2	2117
				4.68	4.68			0.14	0.14			0.05	0.05		
9	FOG	0000	0211	2.18	2.16	0108	0151	0.73	0.34	0115	0148	0.55	0.07	0.3	0146
	F/H	0547	0653	1.11	1.08			NONE				NONE			
				3.29	3.24			0.73	0.34			0.55	0.07		
10	FOG	0128	0145	0.28	0.22	0140	0140	0.00	0.00			NONE		0.9	0140
				0.28	0.22			0.00	0.00						
12	FOG	2014	2400	3.77	3.02	2105	2319	2.24	0.79	2108	2226	1.30	0.33	0.3	2158
				3.77	3.02			2.24	0.78			1.30	0.33		
13	FOG	0000	0709	7.15	6.94	0000	0519	5.31	2.27	0005	0034	0.48	0.14	0.3	0319
										0110	0210	1.00	0.19		
										0316	0320	0.07	0.07		
										0416	0517	1.03	0.10		
	FOG	2023	2036	0.21	0.21			NONE				NONE			
	FOG	2130	2143	0.22	0.22			NONE				NONE			
				7.58	7.37			5.31	2.27			2.57	0.49		
14	FOG	1955	2212	2.28	2.28	2127	2208	0.70	0.66	2129	2208	0.63	0.38	0.2	2151
				2.28	2.28			0.70	0.66			0.63	0.38		
15	FOG	2031	2304	2.55	1.59	2047	2201	1.23	0.36	2115	2129	0.22	0.07	0.3	2116
						2236	2257	0.35	0.10			NONE			
				2.55	1.59			1.58	0.46			0.22	0.07		
18	FOG	0041	0330	2.82	2.01	0045	0222	1.62	0.64			NONE		0.3	1929
	FOG	1914	2353	4.66	3.72	1927	1931	0.07	0.07	1928	1930	0.02	0.02		
						2006	2147	1.69	0.83	2008	2121	1.21	0.16		
				7.48	5.73			3.39	1.54			1.23	0.18		
19	FOG	0040	0355	3.26	2.33	0101	0130	0.49	0.07			NONE		0.5	0103
	FOG	1954	2400	4.10	4.10			NONE				NONE			
				7.37	6.43			0.49	0.07						
20	FOG	0000	0205	2.09	2.09			NONE				NONE		2.7	0151
				2.09	2.09										
22	FOG	0117	0122	0.09	0.09			NONE				NONE		2.1	0118
				0.09	0.09										
26	F/H	0459	0527	0.46	0.22			NONE				NONE		2.0	0500
	F/H	1137	1201	0.40	0.40			NONE				NONE			
	F/H	1245	1433	1.80	1.23			NONE				NONE			
				2.66	1.85										
28	FOG	0520	0708	1.80	0.81			NONE				NONE		1.1	1953
	FOG	1941	2211	2.50	1.04			NONE				NONE			
				4.29	1.85										
29	FOG	1850	2310	4.34	4.34	1906	2153	2.79	1.89	1909	2120	2.19	1.21	0.2	2014
				4.34	4.34			2.79	1.89			2.19	1.21		
30	FOG	1913	2045	1.53	0.87	1951	1958	0.12	0.12	1952	1957	0.08	0.08	0.4	1953
	FOG	2116	2129	0.21	0.21			NONE				NONE			
	FOG	2203	2238	0.59	0.23			NONE				NONE			
	FOG	2342	2355	0.21	0.21			NONE				NONE			
				2.53	1.52			0.12	0.12			0.08	0.08		
				60.31	49.93					18.78	8.59	9.26	2.88		

Table 7.11 (cont.)

PER CENT OF TCTAL HOURS OF DATA WITH VISIBILITY EQUAL TO OR LESS THAN

	3 KM ----	1 KM ----	0.5 KM -----
FOG (F)	6.5	1.2	0.4
HAZE (H)	0.0	0.0	0.0
DRIZZLE (L)	0.0	0.0	0.0
RAIN (R)	0.0	0.0	0.0
SNOW (S)	0.0	0.0	0.0
F&H	0.0	0.0	0.0
F&L	0.0	0.0	0.0
F&R	0.4	0.0	0.0
F&S	0.0	0.0	0.0
TOTAL	6.9	1.2	0.4

Table 7.21  
VISIBILITY OBSTRUCTION AT STATION 007A  
SEPTEMBER 1976  
INSTANT IN OPERATION: 0000 1 SEP-1105 7 SEP:  
1230 10 SEP-2400 30 SEP:  
TOTAL HOURS OF OPERATION: 686.6

DAY	OBSTR TYPE	ONSET (EST)	END (EST)	3.0 KM EPISODE DURATION (HR)	ACCUMULATED TIME 3.0 KM (HR)	ONSET (EST)	END (EST)	1.0 KM EPISODE DURATION (HR)	ACCUMULATED TIME 1.0 KM (HR)	ONSET (EST)	END (EST)	0.5 KM EPISODE DURATION (HR)	ACCUMULATED TIME 0.5 KM (HR)	MIN VIS FOR DAY (KM)	TIME OF DAY VIS (EST)
9	FOG	0556	0733	1.58	1.53	0625	0710	0.75	0.71	0626	0704	0.63	0.38	0.1	0656
	FOG	2306	2342	0.59	0.28			NONE				NONE			
				2.17	1.81			0.75	0.71			0.63	0.38		
14	FOG	2101	2400	2.98	2.98	2210	2307	0.95	0.69	2238	2239	0.02	0.02	0.5	2238
				2.98	2.98			0.95	0.69			0.02	0.02		
15	FOG	0000	0041	0.68	0.68			NONE				NONE		2.3	0000
				0.68	0.68										
16	FOG	0550	0829	2.65	2.49			NONE				NONE		1.3	0652
				2.65	2.49										
17	FOG	2033	2400	3.45	3.35	2058	2136	0.65	0.33	2107	2122	0.25	0.11	0.4	2117
				3.45	3.35			0.65	0.33			0.25	0.11		
18	FOG	0000	0719	7.32	7.32	0057 0138	0.62	0.23				NONE		0.1	2150
						0437 0457	0.27	0.38				NONE			
						0647 0659	0.20	0.20				NONE			
	FOG	1929	2400	4.51	4.51	2016 2103	0.80	0.51	2017 2100	0.71	0.34	0.34			
						2134 2400	2.44	1.82	2137 2305	1.46	0.81	0.81			
									2345 2400	0.24	0.03	0.03			
				11.83	11.83			4.39	3.02			2.42	1.18		
19	FOG	0000	0817	8.28	8.28	0000 0255	2.92	0.81	0000 0008	0.13	0.13	0.13	0.13	0.3	0005
						0522 0533	0.19	0.19		NONE		NONE			
	FOG	2000	2400	3.99	3.99			NONE				NONE			
				12.28	12.28			3.11	1.00			0.13	0.13		
20	FOG	0000	0453	4.88	4.88			NONE				NONE		1.4	0226
				4.88	4.88										
26	F/R	1140	1152	0.20	0.20			NONE				NONE		2.5	1146
				0.20	0.20										
28	FOG	0732	0753	0.35	0.34			NONE				NONE		1.6	0734
				0.35	0.34										
29	FOG	1946	2400	4.23	4.23	2221 2400	1.66	0.78	2227 2228	0.03	0.03	0.03	0.03	0.4	2227
				4.23	4.23			1.66	0.78			0.03	0.03		
30	FOG	0000	0817	8.28	8.28	0000 0740	7.67	6.67	0051 0720	6.48	4.45	4.45	4.45	0.1	0316
				8.28	8.28			7.67	6.67			6.48	4.45		
				53.99	53.36			19.17	13.20			9.95	6.30		

PER CENT OF TOTAL HOURS OF DATA WITH VISIBILITY EQUAL TO OR LESS THAN

	3 KM	1 KM	0.5 KM
FOG (F)	8.2	2.0	1.0
HAZE (H)	0.0	0.0	0.0
DRIZZLE (L)	0.0	0.0	0.0
RAIN (R)	0.0	0.0	0.0
SNOW (S)	0.0	0.0	0.0
FBR	0.0	0.0	0.0
FSL	0.0	0.0	0.0
FBR	<0.1	0.0	0.0
FSS	0.0	0.0	0.0
TOTAL	8.3	2.0	1.0

Table 7.1 J  
VISIBILITY OBSTRUCTION AT STATION P03A  
OCTOBER 1976  
INSTRUMENT IN OPERATION: 0000 1 OCT-1300 26 OCT;  
1215 29 OCT-2400 31 OCT  
TOTAL HOURS OF OPERATION: 672.2

DAY	OBSTR TYPE	ONSET (PST)	END (PST)	43 KM EPISODE DURATION (HR)	ACCUMULATED TIME 43 KM (HR)	ONSET (EST)	END (EST)	51 KM EPISODE DURATION (HR)	ACCUMULATED TIME 51 KM (HR)	ONSET (EST)	END (EST)	50.5 KM EPISODE DURATION (HR)	ACCUMULATED TIME 50.5 KM (HR)	MIN VIS FOR DAY (KM)	TIME OF MIN VIS (EST)
1	FOG	2003	2121	1.29	0.61	2009	2010	0.01	0.01			NONE		0.9	2009
	FOG	2310	2321	0.19	0.19			NONE				NONE			
				1.48	0.80			0.01	0.01						
2	FOG	0528	0544	0.26	0.26			NONE				NONE		0.1	2352
	FOG	1900	2400	5.00	4.93	1908	2131	2.37	1.19	1910	2121	2.19	0.50		
						2304	2400	0.93	0.39	2330	2400	0.50	0.20		
				5.26	5.19			3.30	1.58			2.69	0.71		
3	FOG	0000	0719	7.32	7.32	0000	0547	5.79	5.69	0000	0542	5.70	5.18	0.1	0003
	FOG	0749	0805	0.26	0.26			NONE				NONE			
				7.58	7.58			5.79	5.69			5.70	5.18		
6	RAIN	0048	0049	0.02	0.02			NONE				NONE		2.9	0048
				0.02	0.02										
8	FOG	2240	2245	0.09	0.09			NONE				NONE		1.8	2242
				0.09	0.09										
10	FOG	1943	2310	3.44	2.07	2038	2042	0.06	0.06			NONE		0.5	2040
				3.44	2.07			0.06	0.06						
11	FOG	0001	0103	1.04	0.48			NONE				NONE		1.1	0034
	FOG	0642	0726	0.74	0.74			NONE				NONE			
				1.77	1.21										
13	FOG	0454	0523	0.48	0.26			NONE				NONE		1.1	0455
				0.48	0.26										
16	RAIN	0948	0950	0.04	0.04			NONE				NONE		2.6	0948
				0.04	0.04										
30	F/S	1532	1537	0.08	0.02			NONE				NONE		2.8	1532
				0.08	0.02										

20.25 17.28 9.16 7.34 8.39 5.88

PER CENT OF TOTAL HOURS OF DATA WITH VISIBILITY EQUAL TO OR LESS THAN

	3 KM	1 KM	0.5 KM
FOG (F)	2.6	1.1	0.9
RAIN (R)	0.0	0.0	0.0
DRIZZLE (L)	0.0	0.0	0.0
RAIN (S)	<0.1	0.0	0.0
SNOW (S)	0.0	0.0	0.0
FSE	0.0	0.0	0.0
FSL	0.0	0.0	0.0
FSE	<0.1	0.0	0.0
FES	0.0	0.0	0.0
TOTAL	2.6	1.1	0.9

Table 7.2J  
VISIBILITY OBSTRUCTION AT STATION P07A  
OCTOBER 1976  
INSTRUMENT IN OPERATION: 0000 1 OCT-2400 31 OCT  
TOTAL HOURS OF OPERATION: 744.0

DAY	OBST TYPE	ONSET (EST)	END (EST)	3 KM EPISODE DURATION (HR)	ACCUMULATED TIME 3 KM (HR)	ONSET (EST)	END (EST)	1 KM EPISODE DURATION (HR)	ACCUMULATED TIME 1 KM (HR)	ONSET (EST)	END (EST)	0.5 KM EPISODE DURATION (HR)	ACCUMULATED TIME 0.5 KM (HR)	MIN VIS FOR DAY (KM)	TIME OF MIN VIS (EST)
1	FOG	0601	0755	1.90	1.47	0643	0643	0.00	0.00			NONE		1.0	0643
				1.90	1.47			0.00	0.00						
2	FOG	2300	2400	0.99	0.81			NONE				NONE		1.7	2327
				0.99	0.81										
3	FOG	0000	0330	3.50	3.33	0242	0255	0.21	0.21	0245	0248	0.05	0.05	0.3	0246
	FOG	0502	0816	3.22	3.22			NONE				NONE			
				6.72	6.55			0.21	0.21			0.05	0.05		
6	RAIN	0309	0357	0.81	0.58			NONE				NONE		1.7	0335
				0.81	0.58										
13	FOG	0412	0700	2.79	2.79	0416	0623	2.12	1.21	0417	0527	1.17	0.41	0.2	0520
										0611	0622	0.19	0.15		
				2.79	2.79			2.12	1.21			1.36	0.56		
19	FOG	2030	2200	1.50	1.50			NONE				NONE		2.0	2100
				1.50	1.50										
20	FOG	0000	0010	0.16	0.16			NONE				NONE		2.7	0000
				0.16	0.16										
21	SNOW	2108	2139	0.53	0.22			NONE				NONE		0.5	2226
	SNOW	2217	2237	0.33	0.33	2220	2232	0.21	0.14			NONE			
				0.86	0.55			0.21	0.14						
23	F/L	2130	2149	0.32	0.32			NONE				NONE		2.6	2130
				0.32	0.32										
24	F/L	0627	0907	2.68	2.59			NONE				NONE		2.0	0655
				2.68	2.59										
30	F/R	1551	1721	1.50	1.42			NONE				NONE		1.4	1631
	F/R	1754	2010	2.28	2.28			NONE				NONE			
	F/R	2158	2217	0.32	0.32			NONE				NONE			
				4.09	4.01										
31	F/R	0131	0238	1.12	1.12			NONE				NONE		2.9	0201
				1.12	1.12										
				23.94	22.45			2.54	1.56			1.41	0.61		

PER CENT OF TOTAL HOURS OF DATA WITH VISIBILITY EQUAL TO OR LESS THAN

	3 KM	1 KM	0.5 KM
FOG (F)	1.8	0.2	0.1
HAZE (H)	0.0	0.0	0.0
DRIZZLE (L)	0.0	0.0	0.0
RAIN (R)	0.1	0.0	0.0
SNOW (S)	0.7	<0.1	0.0
FSH	0.0	0.0	0.0
FSL	0.4	0.0	0.0
FSS	0.7	0.0	0.0
FSS	0.0	0.0	0.0
TOTAL	3.0	0.2	0.1



Table 7.1K  
 VISIBILITY OBSTRUCTION AT STATION 203A  
 NOVEMBER 1976  
 INSTRUMENT IN OPERATION: 0000 1 NOV-0205 2 NOV:  
 0600 2 NOV-0330 11 NOV:  
 1230 11 NOV-1930 25 NOV:  
 0520 26 NOV-2400 30 NOV  
 TOTAL HOURS OF OPERATION: 697.3

DAY	OBSTN TYPE	ONSET (EST)	END (EST)	51 KH EPISODE DURATION (HR)	ACCUMULATED TIME 51 KH (HR)	51 KH EPISODE DURATION (HR)	ACCUMULATED TIME 51 KH (HR)	50.5 KH EPISODE DURATION (HR)	ACCUMULATED TIME 50.5 KH (HR)	AIR VIS FOR DAY (KM)	TIME OF AIR VIS (EST)
3	F/S	2008	2043	0.59	0.21	2159	2159	NONE	0.01	0.9	2159
	F/S	2157	2208	0.18	0.18			NONE	0.01		
				0.77	0.40			0.01	0.01		
4	F/S	0000	0156	1.96	1.76	0002	0158	1.92	1.20	0.057	0150
	F/S	0724	1008	2.73	1.61	0806	0823	0.29	0.14	0.89	0.36
						0937	1005	0.68	0.03	0.18	0.1
	F/S	1044	1105	0.35	0.35	1050	1101	0.18	0.18		0058
				5.05	3.72			2.85	1.55		
								0.89	0.36		
5	F/S	0447	0509	0.38	0.38			NONE			
				0.38	0.38			NONE		1.1	0458
7	SHOW	1416	1420	0.08	0.08			NONE		2.0	1417
				0.08	0.08			NONE			
10	SHOW	1656	1703	0.21	0.21			NONE			
	SHOW	2120	2253	1.55	1.55	2134	2244	1.16	0.60	2137	2242
	SHOW	2337	2400	0.39	0.29			NONE	1.09	0.11	0.2
				2.15	2.06			1.16	0.60	1.09	0.11
11	SHOW	0000	0252	2.86	1.81	0028	0217	1.81	0.58	0030	0033
								0.114	0.144	0.04	0.04
				2.86	1.81			0.55	0.09	0.3	0031
12	SHOW	0245	0312	0.45	0.27			NONE			
	SHOW	0915	0935	0.34	0.34			NONE		1.1	0247
				0.79	0.61			NONE			
21	SHOW	0403	0515	1.19	0.47	0406	0430	0.40	0.00		
	SHOW	0747	0756	0.16	0.16	0750	0752	0.03	0.03	0.5	0751
	SHOW	1223	1323	1.00	0.65			NONE			
	SHOW	2011	2041	0.49	0.16			NONE			
				2.85	1.43			0.43	0.07		
22	SHOW	1239	1241	0.03	0.03			NONE		2.4	1240
				0.03	0.03			NONE			
26	F/E	2158	2243	0.75	0.37			NONE		1.5	2231
				0.75	0.37			NONE			
27	F/E	0010	0031	0.35	0.35			NONE		1.5	0026
	F/E	0104	0128	0.39	0.39			NONE			
				0.75	0.75			NONE			
28	SHOW	0935	0955	0.34	0.34			NONE		0.8	2137
	SHOW	1940	2213	2.54	0.67	2137	2138	0.02	0.02		
	SHOW	2253	2336	0.71	0.22			NONE			
				3.59	1.23			0.02	0.02		
29	SHOW	0059	0122	0.37	0.26			NONE		0.6	0406
	SHOW	0303	0338	0.58	0.29			NONE			
	SHOW	0431	0454	0.38	0.24	0445	0447	0.03	0.03		
	SHOW	0611	1547	9.60	4.63	1142	1157	0.24	0.01		
				10.93	5.43			0.28	0.04		
30	SHOW	0011	0443	6.53	5.65	0135	0303	1.66	0.63	0137	0158
						0407	0426	0.31	0.06		
	SHOW	0831	1204	3.55	1.42	1142	1155	0.22	0.02		
				10.08	7.07			1.99	0.71	0.35	0.05
								0.35	0.05		
				41.05	25.34			8.54	3.54	2.87	0.61

Table 7.1K (cont.)

PER CENT OF TOTAL HOURS OF DATA WITH VISIBILITY EQUAL TO OR LESS THAN

	<u>3 KM</u>	<u>1 KM</u>	<u>0.5 KM</u>
FCG (F)	0.0	0.0	0.0
HAZE (H)	0.0	0.0	0.0
DRIZZLE (I)	0.0	0.0	0.0
RAIN (R)	0.0	0.0	0.0
SNOW (S)	2.8	0.3	<0.1
F&H	0.0	0.0	0.0
F&L	0.0	0.0	0.0
F&R	0.2	0.0	0.0
F&S	0.6	0.2	0.1
TOTAL	3.6	0.5	0.1

Table 7.2K  
VISIBILITY OBSTRUCTION AT STATION P07A  
NOVEMBER 1976  
INSTRUMENT IN OPERATION: 0000 1 NOV-2400 3 NOV:  
1000 4 NOV-0600 11 NOV:  
1245 11 NOV-2400 10 NOV  
TOTAL HOURS OF OPERATION: 703.2

DAY	OBST TYPE	ONSET (EST)	END (EST)	33 KM EPISODE DURATION (HR)	ACCUMULATED TIME 33 KM (HR)	ONSET (EST)	END (EST)	51 KM EPISODE DURATION (HR)	ACCUMULATED TIME 51 KM (HR)	ONSET (EST)	END (EST)	50.5 KM EPISODE DURATION (HR)	ACCUMULATED TIME 50.5 KM (HR)	MIN VIS FOR DAY (KM)	TIME OF DAY VIS (EST)	
3	F/S	2057	2400	3.04	3.04	2100	2400	3.00	2.89	2113	2400	2.79	2.66	0.1	2141	
				3.04	3.04			3.00	2.89			2.79	2.66			
7	SHOW F/S	1513 2252	1553 2400	0.46 1.13	0.25 1.00			NONE NONE				NONE NONE		1.0	2335	
				1.79	1.25											
8	SHOW SHOW	0031 0134	0055 1020	0.40 8.77	0.23 8.77	0138	1014	NONE 8.60		0139	1013	NONE 8.57	8.49	0.1	0232	
				9.17	9.01			8.60	8.60			8.57	8.49			
10	F/S F/S F/S	1132 1622 2308	1147 1701 2319	0.24 0.65 0.18	0.24 0.65 0.06	1142	1142	0.01 NONE NONE	0.01			NONE NONE NONE		0.8	1142	
				1.07	0.95			0.01	0.01							
11	F/S F/S F/S F/S	0255 0412 0623 2210	0307 0600 2117 2400	0.20 1.80 0.90 1.83	0.20 1.60 0.90 1.83	0442	0552	NONE 1.17 NONE 0.32	0.98	0444	0551	NONE 1.11 NONE 0.26	0.83	0.2	0527	
				4.74	4.54	2314	2332	1.40	1.28	2314	2330	1.36	0.93			
12	F/S F/S F/S F/S F/S SHOW F/S	0001 0458 0648 0748 0932 1240 2150	0046 0510 0638 0850 1034 1259 2235	0.76 0.19 0.16 1.10 1.03 0.30 0.76	0.27 0.19 0.16 0.94 0.54 0.30 0.53	0649	0651	NONE NONE 0.03 NONE 0.17 0.04 0.04	0.03			NONE NONE NONE NONE NONE NONE		0.5	0649	
				4.30	2.44	2204	2218	0.44	0.12							
16	FOG FOG	0745 1022	0832 1039	0.79 0.29	0.79 0.29			NONE NONE				NONE NONE		2.2	0800	
				1.07	1.07											
21	F/S F/S	0336 0624	0351 0648	0.25 2.39	0.25 2.07	0440	0534	NONE 0.91				NONE NONE		0.2	2050	
	SHOW SHOW SHOW SHOW	1301 1638 1751 2020	1351 1704 1814 2121	0.83 0.45 0.37 1.01	0.83 0.17 0.38 0.78	1305	1335	0.50 NONE NONE 0.57	0.24			NONE NONE NONE 0.04	0.04			
				5.29	4.43	2022	2056	1.38	0.84	2050	2053	0.84	0.04			
23	SHOW	1140	1153	0.22	0.08			NONE				NONE		1.8	1141	
				0.22	0.08											
24	SHOW	0902	0933	0.52	0.15			NONE				NONE		1.5	0905	
				0.52	0.15											
26	F/S F/S	2016 2213	2126 2220	1.16 0.13	1.16 0.13			NONE NONE				NONE NONE		2.4	2216	
				1.29	1.29											
27	F/S	0027	0125	0.96	0.49	0031	0040	0.15	0.04			NONE		0.8	0031	
				0.96	0.49			0.15	0.04							
28	SHOW SHOW SHOW SHOW SHOW	1032 1217 1410 2018 2315	1138 1336 1423 2155 2400	1.10 1.32 0.21 1.62 0.75	0.45 0.42 0.21 0.63 0.47	2022	2023	NONE NONE NONE 0.02 NONE				NONE NONE NONE NONE NONE		0.6	2023	
				4.99	2.18			0.02	0.02							
29	SHOW SHOW SHOW	0104 0306 0425	0209 0353 2400	1.09 0.78 19.58	0.83 0.78 17.32	0105 0312 0458 0617 0823	0124 0323 0522 0746 1411	0.32 0.20 0.41 1.48 5.79	0.17 0.20 0.08 0.41 2.65		0837 1124 1347 1448	1040 1249 1408 2400	2.04 1.42 0.35 9.20	0.17 0.41 0.11 8.73	0.1	1623
						1447	2400	9.22	9.17							
				21.46	18.92			17.41	12.68			13.00	9.42			
30	SHOW SHOW	0000 0855	0815 1509	8.25 6.24	8.25 4.00	0000 0859 0948 1047	0811 0914 1012 1413	8.19 0.24 0.41 3.43	8.14 0.03 0.05 1.18	0000 1048	0802	8.03 NONE NONE 1.45	8.03 0.28	0.1	0000	
				1.29	1.29											
				15.78	13.54			12.26	9.40			9.48	8.32			
				75.71	63.39			45.36	35.87			35.24	29.86			

Table 7.2K (cont.)

## PER CENT OF TOTAL HOURS OF DATA WITH VISIBILITY EQUAL TO OR LESS THAN

	<u>3 KM</u>	<u>1 KM</u>	<u>0.5 KM</u>
FOG (F)	0.2	0.0	0.0
HAZE (H)	0.0	0.0	0.0
DRIZZLE (L)	0.0	0.0	0.0
RAIN (B)	0.0	0.0	0.0
SNOW (S)	6.6	4.4	3.7
F&H	0.0	0.0	0.0
F&L	0.0	0.0	0.0
F&R	0.3	<0.1	0.0
F&S	2.0	0.7	0.5
TOTAL	9.0	5.1	4.2

Table 7.1L  
 VISIBILITY OBSTRUCTION AT STATION P03A  
 DECEMBER 1976  
 . SUSPENSE IN OPERATION: 0000 1 DEC-0915 1 DEC;  
 1600 1 DEC-1525 7 DEC  
 TOTAL HOURS OF OPERATION: 152.7

DAY	ONSET TYPE	END (EST)	53 KM EPISODE DURATION (HR)	ACCUMULATED TIME 53 KM (HR)	ONSET (EST)	END (EST)	51 KM EPISODE DURATION (HR)	ACCUMULATED TIME 51 KM (HR)	ONSET (EST)	END (EST)	50.5 KM EPISODE DURATION (HR)	ACCUMULATED TIME 50.5 KM (HR)	MIN VIS FOR DAY (KM)	TIME OF MIN VIS (EST)
1	P/S SHOW	0700 2319	0915 2333	2.25 0.24	0846	0915	0.49 NONE	0.49	0857	0915	0.29 NONE	0.29	0.2	0915
				2.49			0.49	0.49			0.29	0.29		
2	SHOW SHOW SHOW SHOW	0002 0352 0516 0810	0220 0434 0631 1019	2.29 0.70 1.24 2.15	0356	0430	NONE 0.56 NONE 0.31	0.14	0357	0359	NONE 0.04 NONE NONE	0.04	0.3	0358
				6.39			0.86	0.29			0.04	0.04		
3	SHOW SHOW SHOW	1022 1328 1710	1243 1542 2400	2.34 2.24 6.84	1722	2053	NONE NONE 3.51	3.39			NONE NONE NONE		0.6	1749
				11.43			3.51	3.39						
4	SHOW	0000	0109	1.15			NONE				NONE		1.8	0000
				1.15										
6	P/S P/S P/S	1322 2207 2307	2131 2236 2350	8.14 0.49 0.71	1731	2050	3.31 NONE NONE	2.57	1827	2034	2.12 NONE NONE	2.06	0.1	1858
				9.34			3.31	2.57			2.12	2.06		
				30.80			8.18	6.74			2.65	2.39		

PER CENT OF TOTAL HOURS OF DATA WITH VISIBILITY EQUAL TO OR LESS THAN

	3 KM	1 KM	0.5 KM
FOG (F)	0.0	0.0	0.0
HAZE (H)	0.0	0.0	0.0
DRIZZLE (L)	0.0	0.0	0.0
RAIN (R)	0.0	0.0	0.0
SNOW (S)	9.2	2.4	<0.1
PSS	0.0	0.0	0.0
P61	0.0	0.0	0.0
P62	0.0	0.0	0.0
P63	6.7	2.0	1.5
TOTAL	15.9	4.4	1.6

Table 7.2L  
 VISIBILITY OBSTRUCTION AT STATION P07A  
 DECEMBER 1976  
 INSTRUMENT IN OPERATION: 0000 1 DEC-0540 5 DEC;  
 1422 7 DEC-1020 20 DEC;  
 1530 22 DEC-2000 22 DEC;  
 0800 23 DEC-1930 29 DEC;  
 1345 30 DEC-2400 31 DEC  
 TOTAL HOURS OF OPERATION: 627.7

DAY	OBSTR TYPE	ONSET (EST)	END (EST)	33 KH EPISODE DURATION (HR)	ACCUMULATED TIME 33 KH (HR)	ONSET (EST)	END (EST)	51 KH EPISODE DURATION (HR)	ACCUMULATED TIME 51 KH (HR)	ONSET (EST)	END (EST)	50.5 KH EPISODE DURATION (HR)	ACCUMULATED TIME 50.5 KH (HR)	H2O VIS FOR DAY (K)	TIME OF H2O VIS (EST)
1	F/S	0614	0636	0.36	0.16			NONE				NONE		0.1	0906
	F/S	0717	1115	3.98	3.98	0838	1102	2.40	2.40	0844	1059	2.25	2.25		
	SNOW	1229	1316	0.77	0.77			NONE				NONE			
	SNOW	2340	2400	0.33	0.33			NONE				NONE			
				5.45	5.24			2.40	2.40			2.25	2.25		
2	SNOW	0002	0301	2.99	2.41	0120	0138	0.30	0.10			NONE		0.1	0754
	SNOW	0350	0641	2.85	1.88	0408	0431	0.38	0.38	0408	0428	0.33	0.20		
	SNOW	0721	1022	3.02	2.73	0738	0957	2.31	2.23	0740	0953	2.22	1.72		
				8.84	7.02			2.99	2.71			2.55	1.93		
3	SNOW	1033	1442	4.10	3.08	1130	1132	0.08	0.04			NONE		0.9	1131
	SNOW	1547	1600	0.22	0.22			NONE				NONE			
	SNOW	1718	2332	6.23	6.23			NONE				NONE			
				10.59	9.53			0.08	0.04						
8	SNOW	0838	1256	4.30	4.30	0903	1227	3.41	3.09	0928	1209	2.68	2.68	0.1	0937
				4.30	4.30			3.41	3.09			2.66	2.66		
10	HAZE	1312	1332	0.32	0.32			NONE				NONE		2.4	1319
				0.32	0.32										
12	SNOW	2310	2400	0.84	0.55			NONE				NONE		1.3	2341
				0.84	0.55										
13	SNOW	0000	0040	0.47	0.37			NONE				NONE		1.2	1039
	SNOW	1036	1111	0.58	0.42			NONE				NONE			
				1.25	0.80										
15	FOG	0345	1115	7.49	7.49	0451	1027	5.60	3.31	0452	0518	0.44	0.02	0.1	0752
										0551	0657	1.10	0.41		
										0749	0759	0.16	0.16		
										0925	1013	0.79	0.77		
	FOG	1904	2039	1.58	1.58			NONE				NONE			
	FOG	2119	2400	2.69	2.69			NONE				NONE			
				11.76	11.76			5.60	3.31			2.50	1.36		
16	FOG	0000	0845	8.76	8.76	0447	0456	0.15	0.15			NONE		0.6	0450
				8.76	8.76			0.15	0.15						
19	F/R	1909	2400	4.85	4.85	1946	2102	1.27	1.18	1956	2100	1.07	0.80	0.2	2052
						2141	2154	0.21	0.21			NONE			
						2319	2400	0.69	0.69			NONE			
				4.85	4.85			2.17	2.03			1.07	0.80		
20	F/R	0000	0301	3.02	3.02			NONE				NONE		0.3	1006
	SNOW	0819	0832	0.21	0.21			NONE				NONE			
	SNOW	0612	1020	4.13	3.99	0615	0635	0.34	0.24			NONE			
						0710	0737	0.46	0.13	0924	1020	0.92	0.36		
						0835	1020	1.74	1.03			0.92	0.36		
				7.37	7.22			2.54	1.39			0.92	0.36		
22	SNOW	2003	2400	3.95	3.89			NONE				NONE		0.0	1738
				3.95	3.89			3.03	3.03			3.81	3.81		
23	SNOW	0800	1718	9.31	9.20	0800	1713	9.21	7.88	0800	1517	7.28	5.60	0.1	0839
	SNOW	1749	2108	3.32	2.76	1811	1829	0.30	0.26	1548	1627	0.65	0.19		
	SNOW	2158	2400	2.03	1.31	1924	1949	0.41	0.20	1813	1823	0.17	0.04		
				14.65	13.28			9.92	8.34			8.10	5.82		
24	SNOW	0000	0200	2.00	2.00			NONE				NONE		1.4	0119
				2.00	2.00										
26	SNOW	0347	0440	0.88	0.52			NONE				NONE		0.3	1122
	SNOW	0704	0836	1.55	1.55			NONE				NONE			
	SNOW	0917	1009	0.87	0.49			NONE				NONE			
	SNOW	1041	1627	5.78	3.78	1055	1135	0.47	0.23	1057	1122	0.41	0.05		
						1317	1340	0.38	0.06			NONE			
	SNOW	1703	1731	0.46	0.27			NONE				NONE			
	SNOW	1815	1918	1.06	0.37			NONE				NONE			
	SNOW	2011	2101	0.83	0.44			NONE				NONE			
	SNOW	2152	2206	0.23	0.23			NONE				NONE			
				11.65	7.60			1.05	0.28			0.41	0.05		
27	SNOW	0812	0923	1.18	0.82	0848	0913	0.41	0.25			NONE		0.6	0905
				1.18	0.82			0.41	0.25						

Table 7.2L (cont.)

DAY	OBSTN TYPE	53 KH		53 KH		51 KH		51 KH		50.5 KH		50.5 KH		HIS VIS FOR DAY (KM)	TIME OF HIS VIS (ZST)
		ONSET	END (ZST)	EPISODE DURATION (HR)	ACCUMULATED TIME 53 KH (HR)	ONSET	END (ZST)	EPISODE DURATION (HR)	ACCUMULATED TIME 51 KH (HR)	ONSET	END (ZST)	EPISODE DURATION (HR)	ACCUMULATED TIME 50.5KH (HR)		
28	T/S	0846	1308	4.16	4.23	0938	1222	2.72	1.66					0.3	2338
	SHOW	1339	1817	4.64	3.91	1344	1416	0.52	0.13						
						1530	1811	2.68	0.93	1729	1754	0.43	0.14		
	SHOW	1922	2400	4.63	4.46	2023	2111	0.80	0.30						
						2257	2400	1.05	0.88	2305	2400	0.92	0.33		
				13.63	12.60			7.76	3.89			1.35	0.46		
29	SHOW	0000	0542	5.70	5.08	0000	0426	4.44	3.97	0000	0040	0.67	0.60	0.1	0136
										0118	0258	1.66	1.30		
						0505	0532	0.45	0.13	0506	0530	0.39	0.03		
	SHOW	0626	1943	13.29	12.58	0640	0735	0.91	0.73	0643	0718	0.58	0.20		
						0813	0857	0.73	0.25						
						0934	1943	10.14	8.99	0936	1943	10.13	6.90		
				18.98	17.66			16.67	14.07			13.44	9.03		
31	SHOW	0038	0056	0.29	0.29			NONE				NONE		0.2	1211
	SHOW	0505	0547	0.71	0.56			NONE				NONE			
	SHOW	0721	0809	0.80	0.51			NONE				NONE			
	SHOW	0842	1530	6.80	6.15	0858	1039	1.68	0.40			NONE			
						1114	1438	3.40	1.11	1210	1330	1.33	0.15		
	SHOW	1734	2136	4.04	3.57	1950	2048	0.97	0.26			NONE			
	SHOW	2215	2244	0.48	0.45			NONE				NONE			
	SHOW	2321	2352	0.51	0.19			NONE				NONE			
				13.63	11.72			6.06	1.77			1.33	0.15		
				143.99	129.92			64.21	46.77			40.39	28.68		

PER CENT OF TOTAL HOURS OF DATA WITH VISIBILITY EQUAL TO OR LESS THAN

	3 KB	1 KB	0.5 KB
FOG (F)	3.3	0.6	0.2
HAZE (H)	0.1	0.0	0.0
DRIZZLE (L)	0.0	0.0	0.0
RAIN (R)	0.0	0.0	0.0
SNOW (S)	14.8	5.4	3.3
FSH	0.0	0.0	0.0
FSL	0.0	0.0	0.0
FSH	1.3	0.3	0.1
FSS	1.3	0.6	0.3
TOTAL	20.7	7.0	4.5

## VIII. TOTAL SOLAR RADIATION

Total solar radiation (direct plus diffuse on a horizontal surface) is measured with a WeatherMeasure Model R411 pyranometer at the two main stations of each network. Data from the pyranometers in both the Cook and Palisades networks are included in this report for completeness. Data are reported in Langleys (Ly), where  $1 \text{ Ly} = 1 \text{ g cal cm}^{-2}$ .

Data are tabulated by month, showing the daily totals of total solar radiation received. To allow for chart changes, calibration and routine maintenance, a daily total is not considered missing if 1) the instrument was out of operation for only a few hours at most, and 2) an accurate estimate of the incident solar radiation received at the station during the down-time can be made from the data at the other stations. Totals for such days are listed within parentheses.

An earlier analysis of measured values of solar radiation compared to reference values for clear days (see Third Annual Report) showed that the data from the WeatherMeasure pyranometers were 5% to 15% low. A side-by-side comparison of each of the WeatherMeasure pyranometers to a calibrated Eppley pyranometer confirmed that the output from the WeatherMeasure pyranometers was low. The comparisons, however, did not cover a wide enough range of conditions to determine the magnitude of new correction factors. Until such comparisons can be made, the previously-computed correction factor for each instrument will continue to be used.



Table 8.1A: Daily totals of incident solar radiation  
(direct plus diffuse) on a horizontal  
surface at the ground (Langleys/day).

<u>Jan 76</u>					<u>Feb 76</u>				
<u>Day</u>	<u>Station</u>				<u>Day</u>	<u>Station</u>			
	<u>C03A</u>	<u>C10A</u>	<u>P03A</u>	<u>P07A</u>		<u>C03A</u>	<u>C10A</u>	<u>P03A</u>	<u>P07A</u>
1	177	169	152	113	1	125	147	98	130
2	81	72	64	63	2	183	235	143	161
3	26	46	22	35	3	212	215	178	160
4	54	90	50	98	4	179	194	144	184
5	177	173	155	181	5	86	98	84	102
6	100	103	97	118	6	209	197	151	159
7	51	114	96	114	7	232	243	191	226
8	65	106	67	85	8	(203)	212	215	220
9	99	131	54	75	9	256	250	221	234
10	89	99	63	79	10	197	198	159	175
11	18	29	16	27	11	264	271	245	236
12	154	147	138	151	12	282	273	267	261
13	M	23	16	27	13	174	174	233	229
14	M	184	147	178	14	319	302	314	313
15	M	82	60	79	15	222	192	203	187
16	82	105	89	125	16	52	60	62	69
17	166	169	108	160	17	84	85	64	63
18	228	200	180	207	18	51	46	58	58
19	64	85	50	72	19	166	147	116	91
20	55	86	49	63	20	269	275	242	263
21	86	128	70	91	21	23	29	33	37
22	109	157	144	150	22	149	149	144	127
23	193	208	90	111	23	341	333	323	315
24	83	104	71	95	24	304	308	281	289
25	41	62	39	56	25	302	298	288	304
26	61	91	43	62	26	303	M	303	309
27	150	190	108	135	27	324	M	314	310
28	164	173	143	158	28	326	M	334	325
29	158	171	115	122	29	174	M	175	184
30	199	201	189	196					
31	217	216	158	173					
Total		3907	2843	3399	Total (6011)			5583	5721

Table 8.1B: Daily totals of incident solar radiation (direct plus diffuse) on a horizontal surface at the ground (Langleys/day).

<u>March 76</u>					<u>April 76</u>				
Day	Station				Day	Station			
	<u>C03A</u>	<u>C10A</u>	<u>P03A</u>	<u>P07A</u>		<u>C03A</u>	<u>C10A</u>	<u>P03A</u>	<u>P07A</u>
1	48	M	71	90	1	100	M	133	181
2	50	M	46	52	2	543	M	517	516
3	109	M	85	79	3	481	M	465	468
4	86	M	56	62	4	M	M	540	542
5	180	M	181	153	5	M	M	505	518
6	393	M	391	386	6	M	553	535	516
7	305	M	251	221	7	M	564	555	552
8	384	M	391	395	8	M	570	556	552
9	409	M	378	358	9	590	578	558	549
10	120	M	165	137	10	M	509	465	474
11	407	M	405	405	11	M	M	577	570
12	175	M	146	147	12	M	M	594	588
13	205	M	186	213	13	M	570	551	526
14	274	M	258	275	14	501	500	491	503
15	360	M	309	312	15	383	381	355	348
16	313	M	333	342	16	M	455	473	472
17	455	M	419	408	17	M	422	435	436
18	277	M	254	260	18	M	422	M	429
19	437	M	415	413	19	M	543	M	526
20	134	M	132	118	20	250	262	M	225
21	176	M	142	156	21	356	361	334	345
22	503	M	443	391	22	492	496	455	481
23	451	M	451	449	23	419	428	385	417
24	311	M	305	315	24	277	273	255	(275)
25	447	M	423	427	25	65	85	52	67
26	372	M	298	290	26	463	390	420	384
27	187	M	158	148	27	405	357	457	402
28	496	M	477	463	28	659	634	633	638
29	130	M	125	145	29	634	621	626	630
30	258	M	305	292	30	344	333	348	308
31	346	M	354	267					
Total	8798		8353	8169	Total				(13438)

Table 8.1C: Daily totals of incident solar radiation  
(direct plus diffuse) on a horizontal  
surface at the ground (Langleys/day).

<u>May 76</u>					<u>June 76</u>				
<u>Day</u>	<u>Station</u>				<u>Day</u>	<u>Station</u>			
	<u>C03A</u>	<u>C10A</u>	<u>P03A</u>	<u>P07A</u>		<u>C03A</u>	<u>C10A</u>	<u>P03A</u>	<u>P07A</u>
1	622	613	(592)	585	1	344	323	M	401
2	148	145	(116)	M	2	673	599	654	657
3	314	325	312	M	3	720	690	684	677
4	643	658	621	(618)	4	709	675	658	654
5	443	407	463	470	5	685	665	652	641
6	79	87	M	106	6	(682)	660	643	643
7	661	665	(657)	654	7	M	660	637	584
8	680	678	643	647	8	(678)	M	635	635
9	651	641	618	618	9	(638)	614	607	608
10	M	613	604	605	10	546	534	526	520
11	M	683	(674)	664	11	(616)	(597)	619	618
12	(688)	676	659	661	12	M	M	M	526
13	474	463	450	483	13	M	M	M	574
14	371	326	446	428	14	M	M	M	575
15	163	191	103	106	15	369	M	M	389
16	496	499	453	385	16	664	M	588	461
17	339	320	342	194	17	(698)	M	668	678
18	720	696	681	685	18	318	M	M	(389)
19	695	662	667	598	19	719	M	699	M
20	429	380	440	452	20	713	665	680	M
21	705	676	665	665	21	341	302	227	M
22	666	653	600	596	22	337	340	323	M
23	692	669	669	641	23	465	425	481	M
24	694	673	677	650	24	176	168	158	M
25	677	591	673	539	25	M	587	655	M
26	682	620	660	601	26	M	625	625	M
27	(545)	(518)	559	528	27	M	549	546	M
28	163	172	155	158	28	M	445	492	M
29	127	98	89	133	29	349	341	264	M
30	200	251	141	185	30	250	243	174	M
31	365	347	(390)	385					
Total		(14996)							

Table 8.1D: Daily totals of incident solar radiation (direct plus diffuse) on a horizontal surface at the ground (Langleys/day).

<u>July 76</u>					<u>August 76</u>				
<u>Day</u>	<u>Station</u>				<u>Day</u>	<u>Station</u>			
	<u>C03A</u>	<u>C10A</u>	<u>P03A</u>	<u>P07A</u>		<u>C03A</u>	<u>C10A</u>	<u>P03A</u>	<u>P07A</u>
1	708	666	670	M	1	663	643	631	586
2	697	647	661	M	2	664	631	628	598
3	684	647	650	M	3	646	634	615	617
4	683	642	629	M	4	508	505	517	497
5	665	607	638	M	5	362	332	482	441
6	656	611	625	M	6	217	194	325	326
7	M	(312)	400	M	7	591	547	563	537
8	708	M	598	M	8	637	622	593	601
9	470	(458)	405	M	9	613	596	587	578
10	577	(556)	(481)	M	10	513	499	476	466
11	577	M	(577)	M	11	371	357	M	390
12	714	(670)	670	M	12	416	423	424	399
13	669	624	601	M	13	525	541	(479)	491
14	605	580	(568)	M	14	460	M	M	370
15	490	(458)	M	M	15	609	M	M	563
16	613	557	(636)	M	16	606	600	M	583
17	690	649	651	M	17	612	588	M	568
18	666	621	635	M	18	570	566	545	544
19	490	478	417	M	19	555	551	516	509
20	373	358	M	M	20	479	504	514	520
21	538	M	585	M	21	512	479	471	476
22	158	170	261	M	22	506	501	499	499
23	557	467	433	M	23	448	463	383	436
24	671	656	628	M	24	467	480	472	467
25	651	634	604	M	25	250	233	234	215
26	560	543	529	M	26	411	384	393	346
27	606	595	(590)	M	27	395	414	380	365
28	261	262	M	213	28	497	469	488	464
29	134	145	M	154	29	504	482	531	510
30	564	519	547	521	30	522	516	489	479
31	496	442	504	456	31	469	453	451	448
Total					Total	15598			14889

Table 8.1E: Daily totals of incident solar radiation (direct plus diffuse) on a horizontal surface at the ground (Langleys/day).

<u>September 76</u>					<u>October 76</u>				
<u>Day</u>	<u>Station</u>				<u>Day</u>	<u>Station</u>			
	<u>C03A</u>	<u>C10A</u>	<u>P03A</u>	<u>P07A</u>		<u>C03A</u>	<u>C10A</u>	<u>P03A</u>	<u>P07A</u>
1	244	234	226	210	1	382	378	357	365
2	533	519	515	516	2	369	371	346	349
3	466	472	463	452	3	366	362	344	351
4	528	518	497	504	4	308	329	308	321
5	520	517	508	509	5	115	135	111	132
6	511	488	479	477	6	106	136	195	196
7	481	480	455	456	7	352	318	343	354
8	446	410	433	437	8	212	218	182	220
9	122	125	119	112	9	134	113	133	144
10	395	412	430	391	10	308	295	282	200
11	492	474	462	475	11	326	329	298	293
12	486	480	460	460	12	299	299	285	282
13	463	468	445	449	13	329	319	300	294
14	394	393	360	384	14	298	285	225	258
15	397	361	354	352	15	302	(282)	270	259
16	175	183	174	189	16	86	101	83	65
17	323	291	306	362	17	221	233	249	244
18	404	367	395	356	18	272	271	244	277
19	360	373	350	359	19	75	64	77	59
20	191	180	269	247	20	60	M	81	122
21	364	349	309	337	21	111	111	119	131
22	412	423	393	377	22	198	166	104	106
23	394	406	411	418	23	67	70	101	107
24	444	439	433	425	24	76	62	71	72
25	208	206	220	225	25	160	M	154	172
26	24	32	40	41	26	99	98	128	118
27	308	279	310	297	27	257	272	277	268
28	425	413	400	376	28	268	261	246	263
29	302	290	337	308	29	253	249	223	228
30	397	395	370	380	30	40	43	47	49
					31	233	229	236	229
Total	11209	10977	10923	10881	Total	6682		6419	6528

Table 8.1F: Daily totals of incident solar radiation  
(direct plus diffuse) on a horizontal  
surface at the ground (Langleys/day).

<u>November 76</u>					<u>December 76</u>				
<u>Day</u>	<u>Station</u>				<u>Day</u>	<u>Station</u>			
	<u>C03A</u>	<u>C10A</u>	<u>P03A</u>	<u>P07A</u>		<u>C03A</u>	<u>C10A</u>	<u>P03A</u>	<u>P07A</u>
1	219	217	206	213	1	69	80	64	102
2	203	188	178	181	2	159	163	150	184
3	194	167	167	164	3	72	87	66	82
4	96	122	120	151	4	96	105	48	66
5	187	188	155	149	5	74	95	55	79
6	202	197	203	213	6	55	69	33	61
7	116	112	122	133	7	140	(155)	143	176
8	205	215	158	193	8	59	87	46	69
9	195	186	178	188	9	166	154	131	144
10	99	99	59	60	10	35	47	33	41
11	87	111	103	151	11	178	169	160	177
12	125	142	92	99	12	82	85	75	79
13	226	204	175	186	13	130	(160)	145	159
14	198	202	184	179	14	162	150	149	163
15	214	206	197	218	15	174	164	141	144
16	206	(197)	191	186	16	39	42	27	37
17	127	136	65	95	17	119	112	100	122
18	204	M	175	194	18	187	184	174	185
19	208	M	185	191	19	151	144	128	148
20	210	M	143	135	20	53	73	59	77
21	87	108	108	130	21	75	83	76	125
22	54	59	27	44	22	132	133	96	122
23	44	49	27	45	23	74	88	57	93
24	89	93	96	94	24	140	134	112	128
25	134	(131)	129	136	25	61	80	58	71
26	22	18	39	34	26	62	75	66	88
27	39	45	34	36	27	133	129	129	149
28	97	120	80	90	28	40	59	46	70
29	(50)	81	55	96	29	82	104	72	92
30	134	147	82	138	30	86	140	91	125
					31	94	121	53	85
Total	(4271)		3733	4122	Total	3179	(3471)	2783	3443

## IX. SUMMARY

This section summarizes the data presented in this report. Monthly totals or averages for all stations are presented for data from January 1976 through December 1976. Table 9.1A shows monthly totals of precipitation throughout the network. Table 9.1B gives the prevailing wind direction (defined as the wind direction which occurs most frequently during the month), the average wind speed, and the percentage of onshore (SW through N) and offshore (NE through S) winds for each month at the two main stations. Table 9.1C summarizes the percentage of time visibility was reduced to or below given distances, by month for the two main stations. Table 9.1D gives the monthly average of daily total solar radiation only for stations which had no missing data during a given month.

Table 9.1A

## Monthly Total Precipitation (inches)

<u>Month</u>	<u>P01A</u>	<u>P02A</u>	<u>P03A</u>	<u>P04A</u>	<u>P05A</u>	<u>P06A</u>	<u>P07A</u>	<u>P08A</u>	<u>P09A</u>	<u>P10A</u>	<u>P11A</u>	<u>P12A</u>	<u>P13A</u>
JAN 76	2.20	2.28	1.39	1.75	1.64	1.85	1.56	1.92	1.57	1.76	1.82	1.47	1.40
FEB 76	2.26	2.21	2.02	2.12	2.20	2.47	3.01	2.15	2.10	2.15	2.14	2.32	2.64
MAR 76	4.50	4.47	4.11	3.97	4.56	4.21	3.66	4.32	4.13	4.10	4.34	4.40	(3.76)
APR 76	4.57	4.30	4.44	4.81	4.50	4.41	3.86	4.63	4.26	4.61	4.90	4.42	3.97
MAY 76	4.84	4.82	4.76	4.89	5.32	5.72	6.09	5.12	4.95	5.17	5.32	5.58	(6.27)
JUN 76	3.93	3.98	3.67	3.59	3.51	3.01	4.42	3.60	3.61	3.25	3.28	3.50	4.76
JUL 76	4.47	4.58	4.55	4.50	4.73	5.41	4.96	5.46	5.52	4.76	4.97	5.07	5.20
AUG 76	1.05	(1.15)	1.14	1.17	1.14	1.09	0.71	0.95	0.85	1.25	1.49	1.40	1.06
SEP 76	2.06	(2.03)	1.79	1.65	1.61	1.82	2.34	1.89	1.62	1.76	1.59	1.49	1.61
OCT 76	2.05	2.04	1.90	1.84	1.81	1.85	1.93	2.06	1.75	1.88	1.90	1.82	(1.81)
NOV 76	2.95	2.96	2.62	2.54	2.62	(2.82)	2.97	2.84	(2.49)	M	2.58	2.51	(2.35)
DEC 76	(1.93)	(1.85)	(1.14)	1.46	1.51	1.46	1.40	1.73	1.28	1.62	M	1.23	M



Table 9.1B

## MONTHLY MEAN WIND SPEEDS AND DIRECTIONS

P03A						P07A				
1976	hours of data/hours in month	prevailing direction	average speed (mph)	% onshore	% offshore	hours of data/hours in month	prevailing direction	average speed (mph)	% onshore	% offshore
JAN	717/744	S	9.6	47.6	37.9	734/744	W	7.3	45.9	40.1
FEB	692/696	S	9.7	45.1	30.1	585/696	S	7.9	35.8	37.9
MAR	605/744	S	10.6	48.2	33.9	597/744	S	8.9	40.2	38.6
APR	520/720	S	7.9	36.1	32.8	708/720	S	6.2	38.0	29.1
MAY	743/744	NNW	6.5	47.5	18.2	742/744	NW	4.9	45.1	21.6
JUN	651/720	SW	5.1	34.4	29.0	718/720	S,SSW	4.3	32.0	34.5
JUL	686/744	NNW	5.2	48.4	16.1	744/744	NW	4.1	45.2	17.3
AUG	744/744	S	4.4	33.7	24.1	744/744	S,NW	3.4	29.7	25.5
SEP	715/720	NNW	5.1	41.1	20.5	720/720	NW	3.9	35.6	20.2
OCT	704/744	NE	6.1	31.0	38.5	740/744	N	4.5	33.3	30.0
NOV	673/720	WSW	9.3	66.7	18.3	717/720	W	5.9	54.4	18.4
DEC	540/744	S	10.7	54.1	27.2	744/744	S	7.0	44.3	33.5

Table 9.1C MONTHLY VISIBILITY PERCENTAGES

1976	P03A				P07A			
	<u>hours of operation</u>	<u>3 km</u>	<u>1 km</u>	<u>0.5 km</u>	<u>hours of operation</u>	<u>3 km</u>	<u>1 km</u>	<u>0.5 km</u>
JAN	744.0	7.9	3.2	2.1	0.0			
FEB	696.0	3.6	2.5	2.3	0.0			
MAR	690.0	1.2	<0.1	0.0	634.5	1.3	0.1	<0.1
APR	643.6	3.2	0.6	0.1	715.8	1.7	0.4	0.3
MAY	679.2	6.2	1.6	0.8	744.0	10.9	1.9	0.7
JUN	708.5	6.0	1.7	0.3	720.0	9.0	1.5	0.8
JUL	605.7	5.5	2.1	1.0	660.5	9.2	2.9	1.7
AUG	744.0	15.7	3.1	1.0	744.0	11.7	2.7	0.4
SEP	720.0	6.9	1.2	0.4	646.6	8.3	2.0	1.0
OCT	672.2	2.6	1.1	0.9	744.0	3.0	0.2	0.1
NOV	697.3	3.6	0.5	0.1	703.2	9.0	5.1	4.2
DEC	152.7	15.9	4.4	1.6	627.7	20.7	7.0	4.0

Note: Entries in this table are percent of total hours of operation for the given month with visibility equal to or less than the given distance.

Table 9.1D: Monthly Averages of Daily Total  
Solar Radiation for Stations with  
Complete Data for Entire Month  
(Langleys).

	C03A	C10A	P03A	P07A
<u>1976</u>				
January	-	126	92	110
February	(207)	-	193	197
March	284	-	269	264
April	-	-	-	(448)
May	-	(484)	-	-
June	-	-	-	-
July	-	-	-	-
August	503	-	-	480
September	374	366	364	363
October	216	-	207	211
November	(142)	-	124	137
December	103	(112)	90	111

APPENDIX C

DEPARTMENT OF ATMOSPHERIC & OCEANIC SCIENCE

The University of Michigan  
College of Engineering  
Space Research Building  
2455 Hayward  
Ann Arbor, Michigan 48109

313/ 764-3335

July 26, 1977

Report No. 320158-15-L

Consumers Power Company  
1945 W. Parnall Road  
Jackson, Michigan 49201

Attention: Dr. John Z. Reynolds  
Director of Environmental Planning

Subject: Quarterly Progress Letter Report for DRDA  
Contract Number 72-1221-KB2 "Meteorological  
Impact of Cooling Towers at the Palisades  
Nuclear Plant."

Dear Sir:

The following is a brief summary of work performed on subject contract for the quarter 1 April through 30 June and includes some work performed but not reported for the previous quarter which ended 31 March.

(1) Papers and reports

- (a) The fourth data report containing summaries, tabulations and illustrations of meteorological network data for the period 1 January through 31 December 1975 was submitted in March.
- (b) The fifth data report, containing 1976 data, was nearly completed.
- (c) The fifth annual report was submitted.
- (d) A paper entitled "Advection-radiation fog near Lake Michigan" was published in the June issue of Atmospheric Environment.
- (e) A paper entitled "An observation of cooling tower plume effects on total solar radiation" was accepted for publication in Atmospheric Environment and is in press.

(2) Plume observations and photographs

Changes in characteristics of the cooling tower plume occurred in the quarter which accompanied the changes in meteorological conditions from spring to summer. In general, the plume changed from the winter-spring type which was usually continuous for long distances, with a density that did not show a marked diurnal variation and which downwashed frequently, to a summer-fall type which was usually only long at night and early morning, which evaporated near the cooling towers after midday and which downwashed less frequently as average wind speeds became lighter.

As determined by the presence of a plume in the time-lapse photographs from the turbine building, the nuclear plant operated for 79 days in the quarter. A total of 271 plume questionnaires was completed in that time. Of the 271 questionnaires,

- (a) 73 (27%) reported observations of downwash and 67 (25%) reported observations of plume fog on site. A sorting of the fog observations into cases for which natural fog also occurred was not completed due to lateness in receiving Benton Harbor Airport hourly weather observations from the National Climatic Center.
- (b) 34 cases of the plume length exceeding about 2 miles were reported.
- (c) the last observation of icing caused by the plume was reported on 9 April when a minimum temperature of 19°F was measured. It was reported on objects near the towers and extended about 80 meters in a NNE direction.
- (d) For this reporting period, no cases of plume fog or icing were detected or reported off-site.

(3) Field operations

- (a) Complete calibration checks of all precipitation gages were made.
- (b) As a check on the recordings of total solar radiation, a pyranometer used as a secondary standard was allowed to record for at least 2-week periods next to the field pyranometers at stations P03A and P07A. These data are being processed.
- (c) In a 2-day period, the wind speed systems at P03A and P07A were decommissioned, returned to Ann Arbor for calibration in the UM wind tunnel, and reinstalled in the field.

(4) Data collection and processing

- (a) The table below summarizes the percent possible data recorded in the last quarter.

		April	May	June
Precip.		99	98	93
Temp.		99	97	98
Rel. Hum.		99	97	97
Solar Rad.	P03A	100	99	100
	P07A	100	100	67
Wind Dir.	P03A	100	97	100
	P07A	100	100	93
Wind Speed	P03A	100	100	73
	P07A	100	100	93
Visibility	P03A	100	100	100
	P07A	100	100	100

- (b) Digitizing of 1977 network data was begun.

(5) Administrative

An advisory board meeting was held at the UM Chrysler Center on 25 March. It was attended by 21 people representing:

Consumers Power Company  
Indiana & Michigan Power Company  
American Electric Power Service Corporation  
The University of Michigan  
US Energy Research and Development Administration  
Illinois State Water Survey  
Smith-Singer Meteorologists

Presentations were made by individuals from The University of Michigan, Consumers Power Company and Smith-Singer Meteorologists. The morning session was devoted to a discussion of the Palisades study and allied work, and the afternoon session was devoted to the study at the Donald C. Cook Nuclear Plant.

(6) Plans for the next quarter

- (a) The fifth data report, containing 1976 data will be completed and submitted.

Dr. John Z. Reynolds

-4-

July 26, 1977

- (b) Data collection, processing and analysis will continue. With the completion of data processing for 1976, increased use of statistical techniques will be made in comparing pre-operational data with the 1975 and 1976 operational data.

Respectfully submitted

*Edward Ryznar*

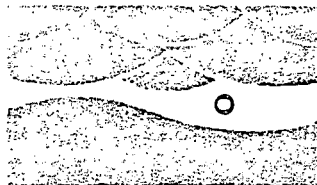
Edward Ryznar  
Project Director

ER/blw

Distribution: Addressee (o + 4 c.)  
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Dr. Fred Nurnberger  
Mr. Thomas Miskimen  
Dr. Harry Moses  
Dr. Donald J. Portman



DEPARTMENT OF ATMOSPHERIC & OCEANIC SCIENCE



The University of Michigan  
College of Engineering  
Space Research Building  
2455 Hayward  
Ann Arbor, Michigan 48109

313/ 764-3335

November 7, 1977

Report No. 320158-16-L

Consumers Power Company  
1945 W. Parnall Road  
Jackson, Michigan 49201

Attention: Dr. John Z. Reynolds  
Director of Environmental Planning

Subject: Quarterly Progress Letter Report for DRDA  
Contract Number 72-1221-KB2 "Meteorological  
Impact of Cooling Towers at the Palisades  
Nuclear Plant."

Dear Sir:

The following is a brief summary of work performed  
on subject contract for the quarter 1 July through 30 September.

(1) Papers and reports

- (a) The fifth data report containing summaries, tabulations and illustrations of meteorological network data for the period 1 January through 31 December 1976 was submitted.
- (b) Two papers were prepared for presentation at the May 1978 Conference on Climate and Energy: Climatological Aspects and Industrial Operations, sponsored by the American Meteorological Society. Abstracts for both papers are given below.

ABSTRACT

A Comparison of the Amounts of Solar and Wind Energy Available  
by  
Harry Moses\*, Dennis Baker<sup>†</sup>, Edward Ryznar<sup>†</sup>, and David Young<sup>°</sup>

A study was made of the amounts of wind and solar energy available for a location 2 km from the lakeshore of western Michigan near South Haven for the period from July 1973 through June 1974. Hourly values of available energy in units of watt-hours per square meter were determined to develop frequency distributions, averages, and other relevant

statistical parameters for each month and for the four seasons. There were marked differences in the distribution of amounts of available solar and wind energy both seasonally and daily. An interesting finding was that during the winter the available solar energy about equals the available wind energy, but that during the summer, values of the available solar energy are more than 10 times as large.

\*U.S. Department of Energy, <sup>†</sup>University of Michigan, <sup>°</sup>Computer Data Systems, Inc.

#### ABSTRACT

Seasonal Variations in Temperature in the  
Vicinity of Two Nuclear Power Plants:  
A Comparison of Operational and Preoperational Data  
by  
Michael R. Weber

Temperature data have been recorded continuously since December 1972 at 25 stations in the vicinity of two nuclear power plants located on the eastern shore of Lake Michigan. The data are analyzed to determine whether air temperatures near the plants have increased due to operation of their cooling systems. Seasonal plots of the diurnal variation of the difference in temperature between stations near the plants and those well inland show that differences between data obtained prior to and during operation of the cooling systems are generally less than 0.3°C. By use of the Student-t distribution, it is shown that the magnitude of a statistically significant (1% level) temperature change is on the order of 0.5-1.5°C.

- (c) A paper entitled "Average diurnal wind variation in Southwestern Lower Michigan" was prepared by Michael R. Weber and was submitted for publication in the Journal of Applied Meteorology.

#### (2) Plume observations and photographs

As determined by the presence of a plume in the time lapse photographs taken from the roof of the turbine building, the cooling towers were in operation for 81 days in the quarter. In that time, a total of 161 plume questionnaires was completed as compared to 271 in the previous quarter. The smaller number of questionnaires may reflect the more subdued summertime behavior of the plume. It usually consisted of a rapidly evaporating plume during daytime because of

lower relative humidities and one which downwashed infrequently because of lighter average wind speeds. Of the 161 questionnaires,

- (a) 47 (29%) reported observations of downwash and 57 (35%) reported observations of plume fog on site. Of the 57 reports of plume fog, 40 (70%) occurred with natural fog.
- (b) 18 cases of a plume length exceeding about 2 miles were reported.
- (c) No cases of plume fog were observed off-site during the reporting period, but one observation made at 0800 EDT on 7 July reported drift under the plume about 1200 meters southeast of the cooling towers on the Blue Star Highway. No unusual meteorological conditions were present at the time which could account for the large distance that drift was transported downwind. There were high broken clouds, normally high morning humidities, and the wind was NNW at 10 mph. Time lapse photographs showed a dense plume moving out of the fields of view of both cameras. More detailed information on the status of operation of the cooling towers is being obtained.

(3) Field operations

- (a) All precipitation gages were winterized with self-mixing methanol-ethylene glycol-water solutions.
- (b) The hygrothermograph at station P12A was vandalized and was recovered in a damaged condition. It was repaired and reinstalled.
- (c) Four hygrothermographs were calibrated in humidity chambers and reinstalled.
- (d) The visiometer at station P03A was repaired.

(4) Data analysis

- (a) Hourly averages of specific humidity comprising diurnal variations for groups of stations near the cooling towers and farther inland were averaged by season for 1974, 1975 and 1976 and categorized according to onshore or offshore winds. Methods of quantifying the results are being developed.

- (b) Computer plots of humidity values for all network stations have been made for 30 cases in December 1976 for which the wind direction was about 290°, which would have taken the plume over P03A. Analysis of the humidity fields is underway to determine plume effects downwind.
- (c) A modified version of the plume model described in the Third Annual Report was applied to determine the magnitude of temperature and humidity changes which might be expected at the distance of station P03A.
- (d) Lake breeze occurrences were analyzed for March through August, 1977. There were 1 in March, 6 in April, 4 in May, 6 in June, 4 in July and 5 in August. Each occurrence was studied in terms of temperature and humidity changes caused by movement of the lake breeze front inland.
- (e) A summary of temperature and humidity conditions conducive to apple scab infections was completed for 1976 using weather data for Muskegon County Airport.

(5) Data collection and processing

- (a) The table below summarizes the percent possible data recorded in the last quarter.

		July	August	September
Precip.		93	96	93
Temp.		93	95	97
Rel. Hum.		91	94	97
Solar Rad.	P03A	100	100	100
	P07A	96	99	100
Wind Dir.	P03A	94	100	100
	P07A	94	100	100
Wind Speed	P03A	94	100	100
	P07A	94	100	100
Visibility	P03A	100	100	100
	P07A	100	100	100

November 7, 1977

- (b) Digitizing and processing of 1977 data continued. Digitizing of precipitation and visiometer data has been completed through July, temperature and humidity through February, wind through March and solar radiation through February.
- (6) Plans for the next quarter
  - (a) Data collection, processing and analysis will continue.
  - (b) Work will begin on an outline for the sixth annual report.

Respectfully submitted,

*Edward Ryznar*  
Edward Ryznar  
Project Director

ER:bw

Distribution: Addressee (o+4)  
Dr. John Ayers  
Dr. Fred Nurnberger  
Mr. Thomas Miskimen  
Dr. Harry Moses  
Dr. Donald J. Portman

DEPARTMENT OF ATMOSPHERIC & OCEANIC SCIENCE

The University of Michigan  
College of Engineering  
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2455 Hayward  
Ann Arbor, Michigan 48109  
313/ 764-3335

February 3, 1978

Report No. 320158-17-L

Consumers Power Company  
1945 W. Parnall Road  
Jackson, Michigan 49201

Attention: Dr. John Z. Reynolds  
Director of Environmental Planning

Subject: Quarterly Progress Letter Report for DRDA  
Contract Number 72-1221-KB2 "Meteorological  
Impact of Cooling Towers at the Palisades  
Nuclear Plant."

Dear Sir:

The following is a brief summary of work performed on  
subject contract for the period 1 October through 31 December.

(1) Papers and reports

- (a) The paper by M. Weber and the paper by H. Moses, D. Baker, E. Ryznar and D. Young whose abstracts had been accepted for the American Meteorological Society's Conference on Climate and Energy were prepared and submitted for publication in the proceedings of the conference. Abstracts for both papers were in Quarterly Report No. 320158-16-L.
- (b) A topic outline for the Sixth Annual Report was completed.

(2) Plume observations and photographs

As determined by the presence of a plume in the time lapse photographs taken from the roof of the turbine building, the cooling towers were in operation for approximately 88 days in the quarter. A total of 174 questionnaires was completed. Of the 174 questionnaires

- (a) 93 (53%) reported observations of downwash and 108 (62%) reported observations of plume fog on site. Of the 108 reports of plume fog, about 28 cases were associated with natural fog.

- (b) 63 (36%) reported plume lengths exceeding 2 miles.
- (c) The first reports of icing due to the plume occurred on 12 November and occurred with average temperatures of  $-1^{\circ}\text{C}$  and offshore winds of about 12 mph. Of the 96 questionnaires received since then, 32 (33%) reported icing. The six additional questionnaires received in January before the cooling towers ceased operation on 6 January all reported icing on-site. On 20-23 December, there were several reports of drift and icing at various locations on the access road which caused slippery driving conditions. No icing due to the plume was reported off-site, however.

Compared to the first reports of icing on 12 November the first occurrences in 1975 and 1976 were reported on 26 November and 28 November, respectively.

(3) Data collection and processing

- (a) The table below summarizes the percent possible data recorded in the last quarter

		October	November	December
Precip.		98	93	86
Temp.		98	98	99
Rel. Hum.		98	98	99
Solar Rad.	P03A	100	100	100
	P07A	100	100	98
Wind Dir.	P03A	100	100	100
	P07A	100	100	90
Wind Speed	P03A	100	88	73
	P07A	100	100	41
Visibility	P03A	84	98	79
	P07A	92	98	90

- (b) Digitizing of all temperature and humidity for 1977 was completed. Further processing of these data will continue as hygrothermographs are returned from the field for calibrations so that before and after calibration factors can be applied. Digitizing of precipitation data has been completed through October, solar radiation through April, wind speed and direction through May and visibility through April.

(4) Field operations

- (a) With the temporary suspension of cooling tower operation beginning 6 January the visiometer at station P07A was returned to Ann Arbor for repair and calibration and plans were made for returning the P03A unit for the same purpose.
- (b) Wind speed systems from stations P03A and P07A were returned to Ann Arbor on 5 January, calibrated in the wind tunnel on 6 January and reinstalled at each station on 7 January.
- (c) Temperature ranges on all hygrothermographs were changed from the summer (+10 to 110°F) to the winter (-30 to 70°F) range. Two units were calibrated and reinstalled. Anti-freeze solutions were added to all precipitation gages.

(5) Data analysis

Work continued on the topics of data analysis listed in Quarterly Report 320158-16-L.

(6) Administrative

Work on a proposal for continuing the study for another year was begun. Final details of the proposed work and cost estimates will be completed when the extent and scheduling of the measurement program for the next contract year are determined.

7. Plans for 1978



Dr. John Z. Reynolds

-4-

February 3, 1978

(7) Plans for the next quarter

- (a) A proposal for the 1978-79 contract year will be submitted.
- (b) Data collection, processing and analysis will continue.
- (c) Work will begin on the text of the Sixth Annual Report.

Respectfully submitted,

*Edward Ryznar*  
Edward Ryznar  
Project Director

ER:bw

Distribution: Addressee (o+4)  
Dr. John Ayers  
Dr. Fred Nurnberger  
Mr. Thomas Miskimen  
Dr. Harry Moses  
Dr. Donald J. Portman

APPENDIX D

FIFTH ANNUAL REPORT

*An Investigation of the  
Meteorological Impact of  
Mechanical-Draft Cooling Towers  
at the Palisades Nuclear Plant*

EDWARD RYZNAR  
MICHAEL R. WEBER  
DENNIS F. KAHLBAUM  
WILLIAM G. SNELL

June 1977

Under contract with:

Consumers Power Company  
Jackson, Michigan



College of Engineering  
Department of Atmospheric and Oceanic Science

THE UNIVERSITY OF MICHIGAN  
COLLEGE OF ENGINEERING  
Department of Atmospheric and Oceanic Science

Fifth Annual Report  
AN INVESTIGATION OF THE METEOROLOGICAL IMPACT  
OF MECHANICAL-DRAFT COOLING TOWERS AT THE  
PALISADES NUCLEAR PLANT

by

Edward Ryznar  
Michael R. Weber  
Dennis F. Kahlbaum  
William G. Snell

DRDA Project 320158

under contract with:

CONSUMERS POWER COMPANY  
JACKSON, MICHIGAN

administered through:  
The Division of Research Development and Administration

June 1977

## PREFACE

This is the fifth annual report on the investigation of the meteorological impact of mechanical-draft cooling towers at the Palisades Nuclear Plant. It elaborates on aspects of the work discussed briefly in quarterly letter reports issued in the past project year which ended 31 March 1977.

The report also supplements four annual reports submitted in May 1973, June 1974, June 1975 and May 1976, respectively. The first report describes the meteorological network and the equipment installed. The second interprets work by others on the meteorological effects of cooling towers and discusses natural meteorological variability near Lake Michigan, data processing procedures and hygromograph calibration methods. The third discusses the results of improving and applying a cooling tower plume model to compute fog occurrences and reductions to visibility, the results of lake breeze analyses and preparations for plume observations. The fourth discusses analyses of preoperational data and plume observations and photographs obtained in 1975.

Additional reports submitted as part of the project thus far are the first data report (February 1975) consisting of a summary of meteorological measurements for the period October, 1972 through June 1973; the second data report (August 1975) for the period July 1973 through December 1973; the third data report (March 1976) for the year 1974 and its supplement (October 1976) containing temperature and humidity data for the year 1974; and the fourth data report

(March 1977) for the year 1975.

The authors would like to thank many people who contributed to the work in various ways during the past year. Dr. Dennis G. Baker, principal investigator on the project, was on sabbatical leave for most of the project year, but contributed valuably to data processing and analysis as well as to decisions involving the conduct of the work. Our special appreciation is expressed to Dr. Harry Moses of the U.S. Energy Research and Development Administration for his interest in the work and for providing ideas and suggestions in data analysis. Those people who made important contributions to data processing are: Michael St. Peter, Gary Rizzo, Craig Wilkes and Robert Kessler. Michael St. Peter, Paul Titus and Donald Perason capably handled the operation of the meteorological network and data collection.

Special thanks are also expressed to Tim McBride, Larry Kenaga and Tom Meek at the Palisades Nuclear Plant for maintaining the time lapse camera on the roof of the turbine building through times of the worst winter weather. Many security and engineering personnel at the plant took time to observe the behavior and effects of the cooling tower plume and to record their observations on plume questionnaires. They completed a total of 782 questionnaires in about 290 days of operation.

Ms. Barbara Walunas capably typed this report and handled other project correspondence and reports in the past project year.

## ABSTRACT

The fifth year of work on a study of the meteorological impact of mechanical-draft cooling towers at the Palisades Nuclear Plant is described. It consists of analyses and comparisons of results using both pre-operational and operational network data and climatological data, summaries of observations of cooling tower plume behavior and effects for the 1976-77 operational period and brief descriptions of the status of network data collection and equipment performance in the 1976-77 project year. Results of each of these efforts are presented and discussed.

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## I. INTRODUCTION

### Background

The investigation was initiated in 1971 by a request from the NOAA State Climatologist for Michigan in cooperation with Consumers Power Company and Indiana & Michigan Power Company for a study of meteorological effects of cooling systems at two nuclear power plants in southwestern Lower Michigan. The investigation was to be concerned with Consumers Power Company's Palisades Nuclear Plant, which was to use mechanical-draft cooling towers, and Indiana & Michigan Power Company's Donald C. Cook Nuclear Plant, which was to use a once-through cooling system. Water from Lake Michigan was to be used in the cooling systems, both of which were under construction at the time.

The Palisades Nuclear Plant has 36 cooling tower cells arranged in two blocks of 18 cells each. The two blocks are 200 meters long, parallel to each other in a W-E line and about 150 meters apart. In the operation of mechanical-draft cooling towers the evaporation of water in the cooling process results in heated water droplets, usually in the form of a visible plume, injected directly into the atmosphere at a height of about 20 meters. If the plant has an average generator load at its full capacity of about 700 megawatts, a maximum amount of cooling is required and as many as 12,000 gallons per minute may enter the atmosphere directly (USAEC, 1972). Aerial photographs showing the cooling towers prior to and during their operation are given in Fig. 1 and 2.

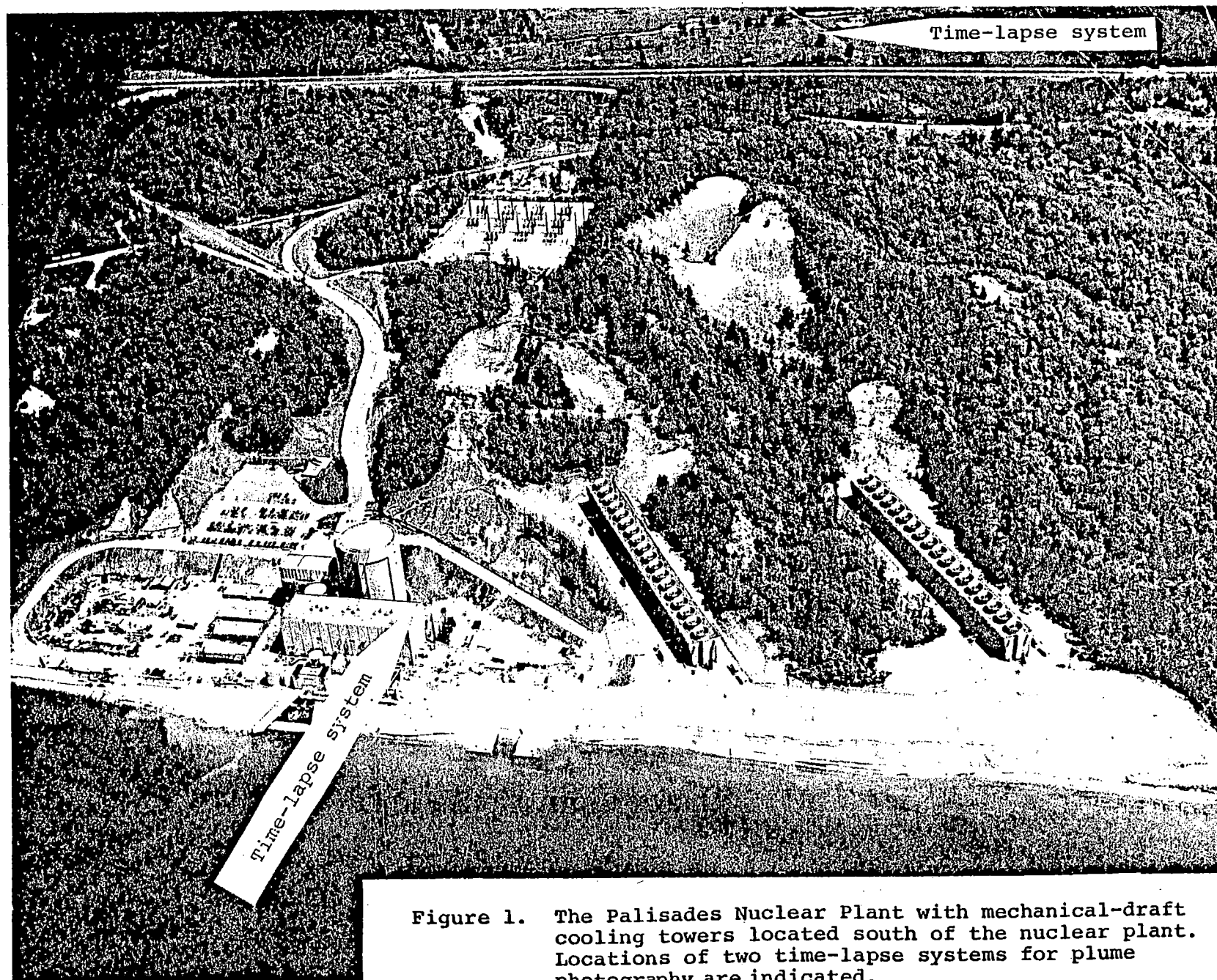


Figure 1. The Palisades Nuclear Plant with mechanical-draft cooling towers located south of the nuclear plant. Locations of two time-lapse systems for plume photography are indicated.

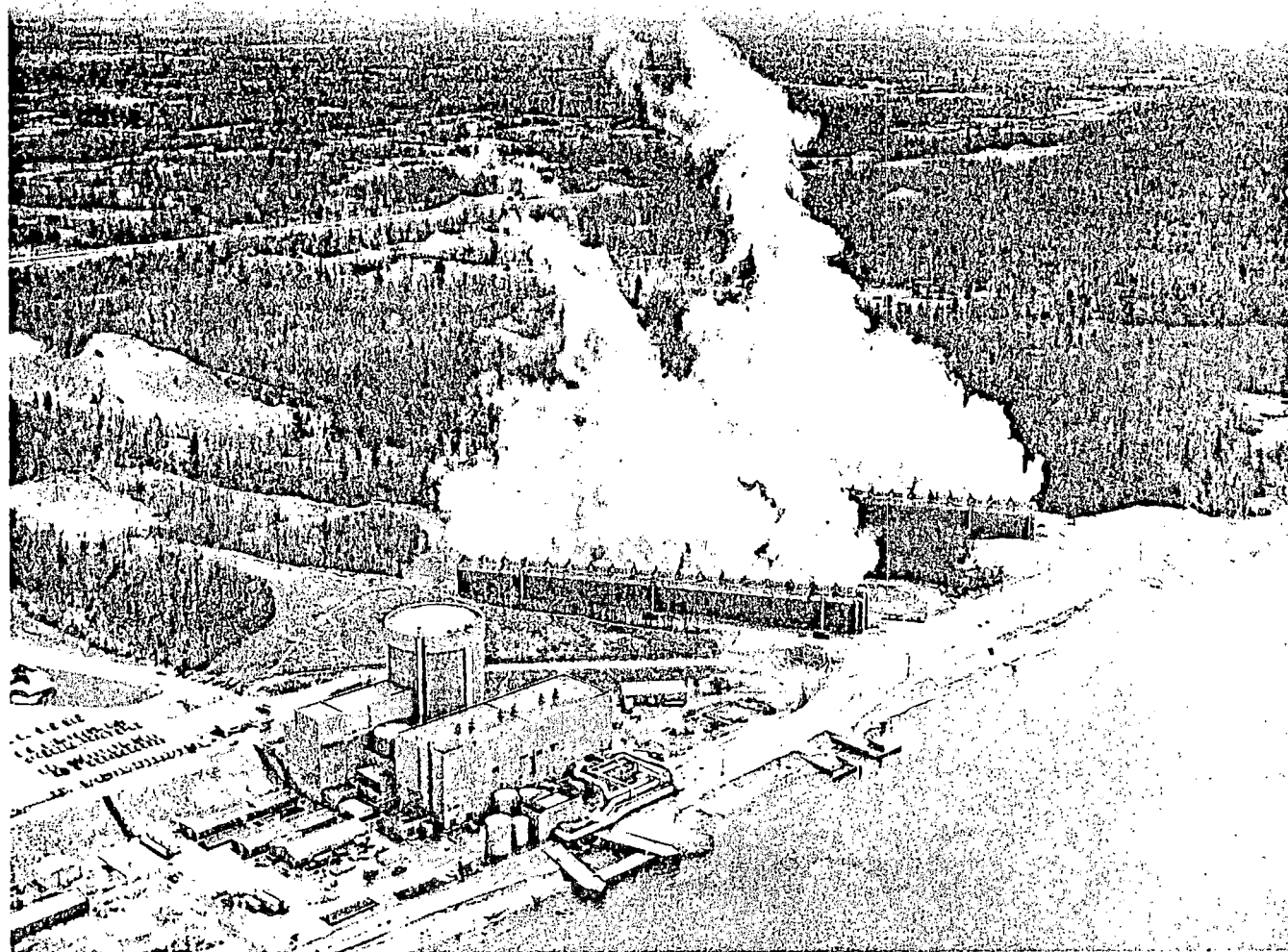


Fig. 2. Aerial photograph of the Palisades cooling towers during operation.

In the operation of the once-through system at the Cook Nuclear Plant, water is taken from Lake Michigan at a projected rate of about 1,645,000 gallons per minute (USAEC, 1973). It becomes heated in cooling the condensers, and the heated water is returned to Lake Michigan. An area of warm water, or thermal plume, spreads out from the discharge point and heat and moisture are lost to the atmosphere by conductive, radiative and turbulent transfer processes as the air passes over it. According to Carson (1976) the energy flux per unit area into the atmosphere with a lake cooling method is about 3 orders of magnitude less than the energy flux from the top of a cooling tower.

The planning of the study took into account the fact that even though the meteorological effects of the two methods of cooling were expected to be different in degree, a study of the effects of one system could supplement the other in many ways, since both nuclear plants were located on the Lake Michigan shoreline and separated by a distance of about 33 km. The two investigations were set up as similar 5-year projects, therefore, and work on them began in April, 1972. A 4-year measurement program consisting of 2 years of measurements before the cooling systems began operation and 2 years during operation was planned.

#### Purpose and approach

The goal of the cooling tower investigation is to determine (1) if they significantly affect meteorological

conditions inland from the nuclear plant and (2) if so, how and to what extent several meteorological variables will be affected. Of major interest and concern, for example, is the possibility that when the cooling tower plume is moving inland it may, under certain conditions, increase atmospheric moisture near the ground for prolonged periods and, in addition, cause or enhance not only fog and/or icing at the surface, but also cloud growth and precipitation. These effects could have deleterious impacts on spraying operations for disease prevention in the fruit belt inland from the cooling towers and on the trafficability of the Interstate 196 Freeway located about 0.8 km from them.

An observational approach was taken, therefore, which was designed to provide basic information on possible cooling tower effects on fog, solar radiation, cloudiness, precipitation, temperature, humidity and to the extent possible, icing. The nearest National Weather Service Station which could provide adequate and somewhat representative information on most of these variables, however, was at Muskegon County Airport located about 112 km north of Palisades and out of range of cooling tower influence. To obtain the information closer to the towers a special network of 13 meteorological stations extending from near the tower site to about 19 km inland was established (Ryznar et.al., 1976).

A map showing locations of the stations comprising both the Palisades and Cook networks and stations having other



types of meteorological data is shown in Fig. 3. Most of the open-circled stations have valuable long-term temperature and precipitation data that are used here in determining natural variability. Of particular relevance to the Palisades study is the station at South Haven, for example, which is only about 9 km north of the network and has over 40 years of data representative of near-shore conditions.

A map showing locations of the Palisades network stations on a larger scale is given in Fig. 4. Temperature, relative humidity and precipitation are measured at all stations. At the two main stations, #3 and #7 (called P03A and P07A in this report), wind velocity, visibility, and incident (solar (direct plus diffuse) radiation and total incoming (solar plus atmospheric) radiation are also measured. The network instrumentation and calibration schedules are given in Table 1.

Station P03A is located in a flat field about 1.3 km ESE of the cooling towers and near the Interstate-196 Freeway. Time lapse photographs of the plume are made from this station as well as from the roof of the turbine building on-site. Together with measurements of visibility and the other variables, the time lapse photographs are especially significant for determining cooling tower downwash occurrences and their possible effects on freeway trafficability. Station P07A has the same equipment as P03A except for the time lapse camera, but because it is about 19 km inland, it is out of range of direct cooling tower effects. In this way, its measurements act as "control station" measurements.

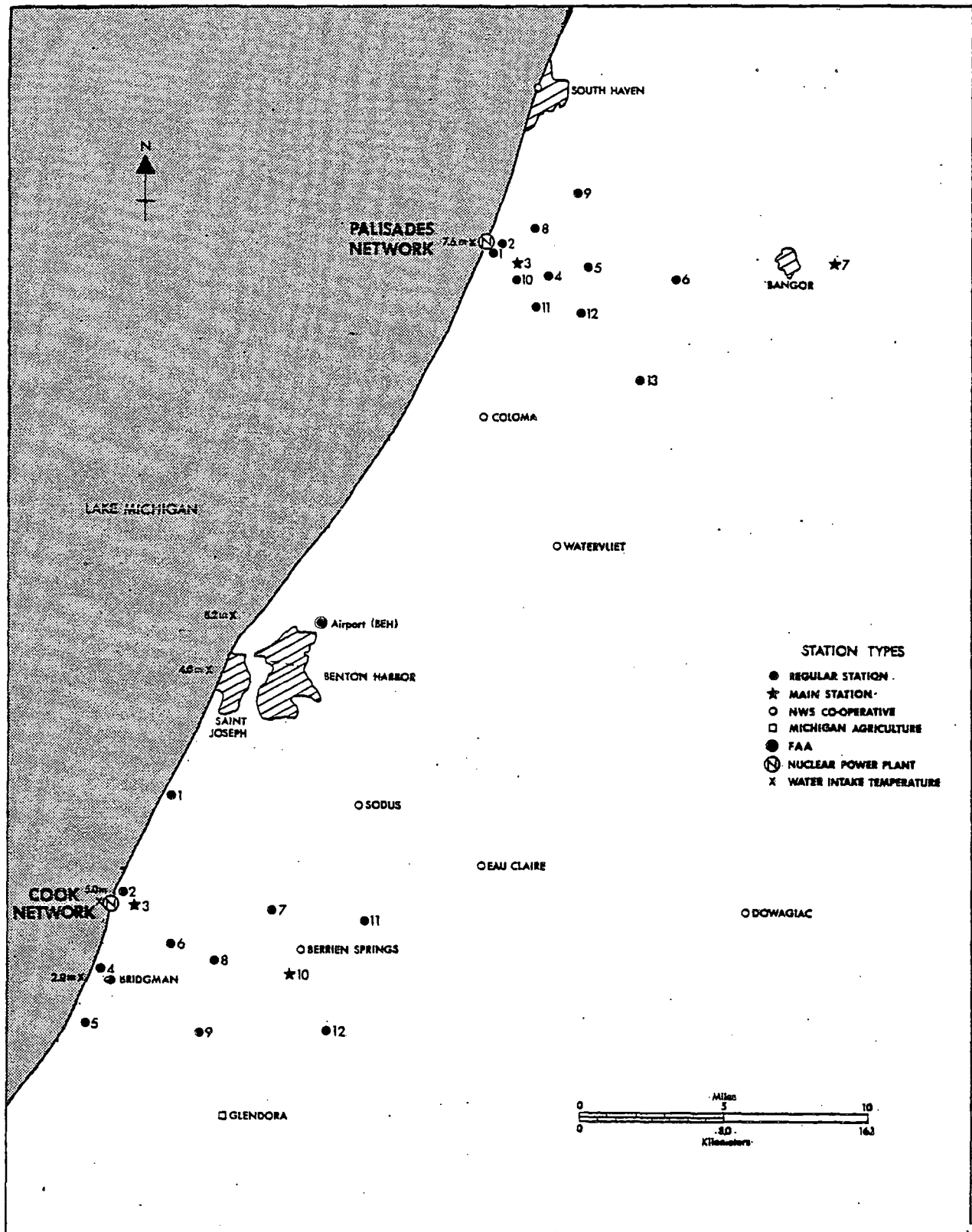


Fig. 3. Location of meteorological stations in the Palisades and Cook networks and other stations having various meteorological data.

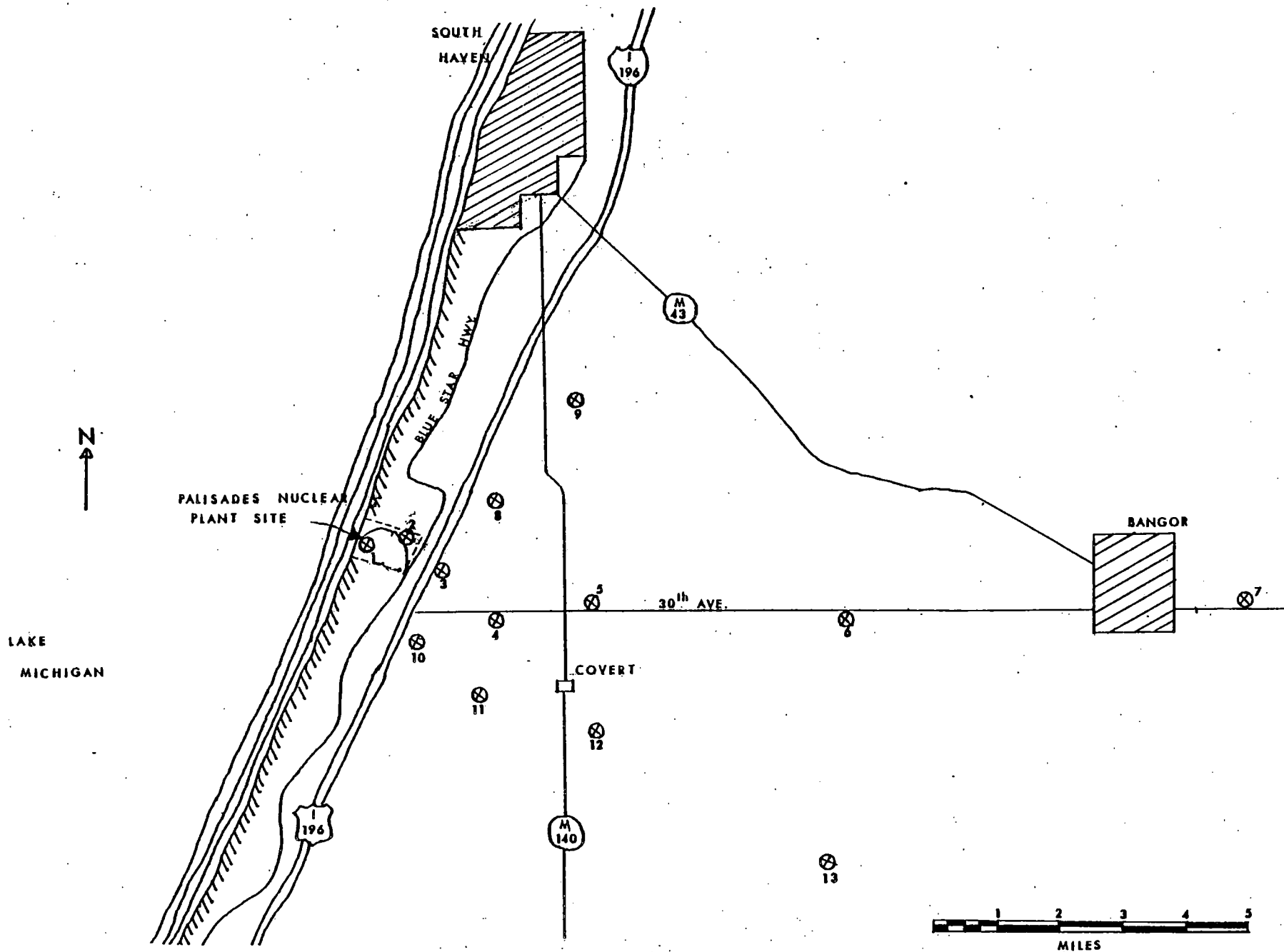


Figure 4. Locations of meteorological network stations.

Table 1. Network Instrumentation  
and calibration schedule

<u>Variable</u>	<u>Instrument and manufacturer</u>	<u>Height above ground (meters)</u>	<u>Date installed</u>	<u>Months between calib.</u>	<u>Calib. technique</u>
Precipitation	Weighing gauge Belfort Inst. Co.	1	10/72	6	Static weights
Temperature Rel. Hum.	Hygrothermograph Model 5-594 Belfort Inst. Co.	1.5	2/73	6	Calib. chamber
Wind Speed	Gill 3-cup. Anemometer Model 12101 R.M. Young Co.	3	2/73	6	Wind tunnel
Wind Direction	Wind Vane Model 104 WeatherMeasure Corp.	3	2/73	6	Circular linearity
Visibility	Visiometer Model 1580 Meteorology Research Inc.	1.5	10/72 (P-3) 3/73 (C-3) 5/73 (P-7)	12-18	Manufact.
Solar Rad.	Pyranometer Model R411 WeatherMeasure Corp.	1	10/72 (P-3) 12/72 (C-3) 3/73 (P-7) 12/72 (C-10)	12	Comparison with standard

with which those made at station P03A can be compared.

The nuclear plant began test operations on 1 April 1975 and gradually increased to 80% load later that month. Outages lasting from a few hours to a few days were experienced, but the plant remained on line until 20 December, when it was shut down for an estimated three months for refueling and steam generator eddy current testing. It resumed continuous operation on 18 May 1976 and except for occasional outages has maintained an average generator load of 700 MW(e).

In keeping with the original plan of the investigation, the final evaluation of the meteorological impact of the cooling towers will be based on (1) an analysis and comparison of all pre-operational and operational data and (2) case studies, observations, and photographs of plume behavior and effects. The present report is structured according to this plan in that it contains analyses of pre-operational and operational network data and a summary of plume observations obtained for the operational period between 18 May 1976 and 31 March 1977.

## II. PLUME BEHAVIOR AND EFFECTS

### Results of plume observations\*

Observations and photographs of the cooling tower plume resumed when the cooling towers resumed continuous operation on 18 May 1976, and continued throughout the contract year. In the plume observation program, security and engineering personnel working at the plant site entered their observations of plume behavior and effects onto questionnaires. In the plume photography program, time-lapse photographs of the plume were taken simultaneously from station P03A with a camera facing lakeward and from the roof of the turbine building with another camera facing inland. Results of an interpretation of the visual and photographic observations for the operational period of the 1976-77 contract year are given below.

On the 318 days between 18 May 1976 and 31 March 1977, the cooling towers were in operation, as determined by a visible plume photographed by the turbine building camera, for a total of 290 days. A total of 782 plume questionnaires were completed in that time period as summarized in Table 2.

Table 2  
Summary of Plume Questionnaire Reports

<u>Time Period</u>	<u># Quest.</u>	<u># down- wash</u>	<u># plume fog</u>	<u># icing</u>
5/18/77-7/30-76	85	22	14	0
6/1/76-9/30/76	69	18	28	0
10/1/76-12/31/76	226	100	127	67
1/1/77-3/31/77	402	181	147	134
TOTAL	782	321	316	201

\* by Edward Ryznar

The number of questionnaires completed was usually proportional to the behavior and effects of the plume. The more it affected the environment, such as by extending far inland, by downwashing or by causing icing, the greater the number of questionnaires that were received. On several days in January 1977 when icing was common, for example, as many as 7 were received. On summer days when it evaporated rapidly, usually one or two were received.

An example of a completed questionnaire is shown in Fig. 5. The format of the one shown in the example is a revised version of the one used previously and has been used since 5/18/76. It requests answers to the same general questions as the former version but is more condensed and understandable. The example shown was completed at 1350 EST on 26 January 1977 by a member of the security staff. Information derivable from the questionnaire is that

- 1) it was cloudy and snowing,
- 2) the plume was dense and estimated to be more than 4 miles long,
- 3) downwash was occurring and causing fog on site,
- 4) there was heavy drift,
- 5) the snow observed was natural snow,
- 6) icing was occurring on all objects and surfaces on site as far as about 200 meters downwind of the cooling towers and
- 7) the access road on the plant site was icy.

Name

*Julie Steffes*

Date

*1/26/77*

Time

*1350*

1. In the list of types of weather given below, encircle one or more which best describe the general weather during your observation of the plume.

clear partly cloudy fog rain thunderstorm snow freezing rain

2. Was there a visible plume? Yes No

3. If you passed near the end of it, how far from the power plant would you estimate that it ended?

on site site to 2 miles 2-4 miles more than 4 miles

*No visibility - guess*

4. If it ended at a location on the map, place a 4 at that location.

5. Was the wind strong enough to bring the plume to the ground?  
Yes No

6. If it was, place a 6 on the map where you saw the plume contacting the ground.

7. Did you pass through the plume? Yes No

If you did, place a 7 at that location.

8. Did you pass under the plume? Yes No

If you did, place an 8 at that location.

9. If you passed through, under, or near the plume, did you observe drizzle from it? Yes / No

10. If you observed fog, do you think it was natural fog or fog caused by the plume?

Natural fog ☐

plume fog ☒

both ☐

If the fog was caused by the plume, place a 10 at that location.

*in area 6 where plume was contacting the ground*



11. Did you observe snow falling from the plume only and not from clouds? Yes ☒ No

If you did, place an (11) at that location.

12. Did you observe icing on objects in the vicinity of the plume? ☒ Yes No

13. If you observed icing caused by the plume, check one or more of the types of surfaces on which you observed it.

☒ a. trees and other vegetation

☒ b. roads

☒ c. utility lines and towers

☒ d. others, please list:

*fences  
automobiles*

14. Place a (14) on the map where you observed icing.

15. If you drove to or from the plant, did you notice changes in road conditions?

Yes ☒ No

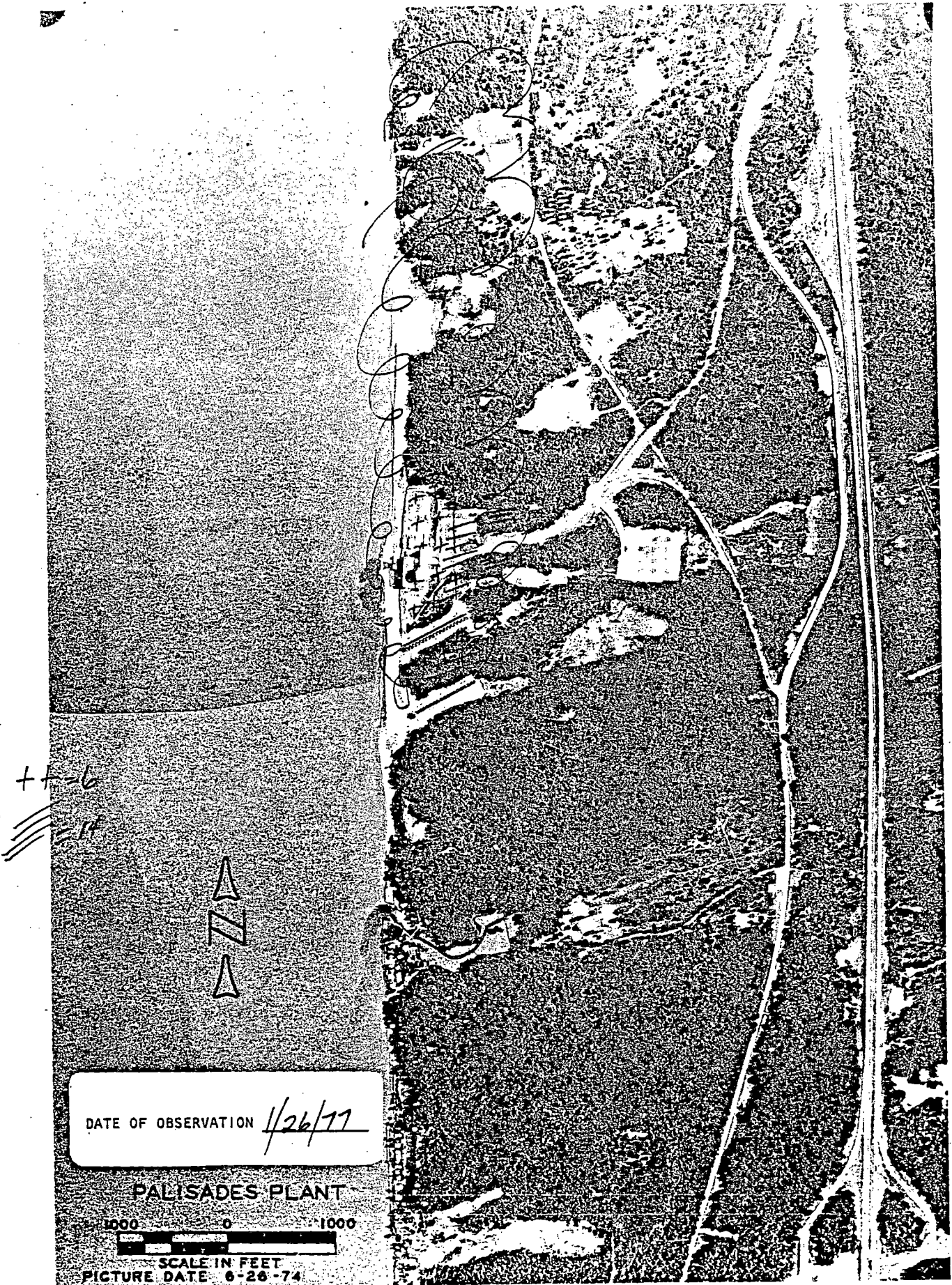
If yes, please briefly describe what they were and where.

*Perhaps a bit slicker on the plant end of  
the access road because of moisture*

16. On the map, please sketch the plume as you saw it.

Thanks for your help!

Fig. 5 (cont.)



Each questionnaire was documented with temperature, humidity, wind velocity and information concerning natural fog or precipitation. For the one shown, natural snow was occurring along the eastern shore of Lake Michigan, the temperature was  $-4^{\circ}\text{C}$ , the dew point was  $-5^{\circ}\text{C}$  and the wind velocity was SSW 15 mph gusting to 25 mph. Most questionnaires were not as detailed in their descriptions and illustrations of plume behavior and effects as the one shown, but significant information was nevertheless obtainable from them. Some of the results obtained from a compilation of the observations entered is given below. Of the 782 questionnaires received,

1) 41% of them had affirmative answers to the question "did the plume contact the ground", which is an indication of the frequency of plume downwash. The percentages were 26% for the period 18 May - 30 June 1976, 25% for the period 1 July - 30 September 1976, 44% for the period 1 October - 31 December 1976, and 45% for the period 1 January - 31 March 1977. These percentages are nearly the same as those obtained for the 1975 operational period. Also, results for both years showed a similar seasonal variation in the frequency of downwash. The least frequent occurrences were observed in the warm months (June-September) and the most frequent were in the cold months (October-May), which is in keeping with the normal seasonal variation of wind speed.

2) 40% of them had affirmative answers to the question "if you observed fog, do you think it was due to the plume".

By quarter, the percentages were 16, 41, 56, and 36. Of the 316 plume fog observations, natural fog, as determined from observations recorded at the FAA station at Benton Harbor Airport and from visiometer data, was present for 59.

Most observations of plume fog coincided with observations of downwash. In January and February, 1977, there were four observations of plume fog at the surface extending as far as the Blue Star Highway, about 400 meters downwind, and one observation of drift reaching it. When the largest downwind extent of drift was reported, natural fog was widespread and wind speeds were only about 4 mph.

3) From the time icing caused by the plume was first reported on 29 November 1976, until 31 March 1977, it was reported on 201 (36%) of the 565 questionnaires received. The large percentage of icing observations, most of which were reported in December and January, was caused mainly by the fact that air temperatures did not exceed freezing from 24 December 1976 until 9 February 1977. In addition, the strongest and most persistent winds accompanying the low temperatures were from the SW and NW quadrants, causing large on-site accumulations of freezing drift and plume on objects and surfaces downwind.

Although ice accumulations near the towers were large and consisted mainly of glaze ice caused by freezing drift, they decreased with distance from the towers. Their reported downwind extent did not exceed more than about 200 meters except in very few cases. Beyond that distance, a less dense type of rime ice was reported on vegetation

and was apparently caused by freezing of the plume rather than of the larger droplets comprising drift. No cases of icing caused by the plume were observed off-site and none extended as far as the Blue Star Highway. On-site, the access road was commonly observed to be icy and several cases of road icing were reported in the vicinity of the substation near the entrance to the plant site.

### Climatological occurrences of icing conditions\*

The meteorological network was not designed to measure plume icing effects directly, but as discussed in the previous section, significant icing information has been obtained from the observation program. Mainly on the basis of this information, the general meteorological conditions conducive to icing were determined. The frequency of occurrence of such conditions was computed using Muskegon weather data. Results of the computations are discussed below.

The meteorological variables which play the most important roles in conditions conducive to icing are temperature, wind speed, and dew point depression. The reasons are that: 1) the lower the temperature below freezing, the quicker that drift and plume will become supercooled and freeze upon impact with natural surfaces, 2) the higher the wind speed, the more it causes downwash and cooling of drift and plume by evaporation and 3) the smaller the dew point depression, the closer the air is to saturation and the less likely that significant evaporation of drift and/or plume near the towers will occur.

To estimate the average frequency with which the above conditions occur, a computer program was written to read meteorological data from National Weather Service tapes and count joint occurrences of specified values of these three variables. The program was applied to 5 winters (Dec. 1948-Feb. 1953) of data for Muskegon County Airport, and statistics for an average winter were computed. The program was designed

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\*by Michael R. Weber and Edward Ryznar

to allow for different choices of limiting values for the three variables listed above.

Initially, the limiting values used were: temperature  $\leq 20^{\circ}\text{F}$ ; dew point depression  $\leq 5^{\circ}\text{F}$ ; and wind speed  $\geq 15$  miles per hour. These restrictive values were chosen on the basis of an analysis of conditions for the first observed case of heavy icing caused by the plume. It took place on 18-19 December 1975, and is described in detail in Section 4.11.6e and Appendix D of the First Annual Report of Operations for the Palisades Nuclear Plant submitted by Consumers Power Company to the Nuclear Regulatory Commission in March 1976.

Table 3 summarizes the average frequency of occurrence of those conditions. The column headed "Average Number of Hours, Winter" refers to the Average frequency of winds from the given directions during December, January and February. The right-hand column gives the average number of hours during which the specified meteorological conditions, interpreted here as icing conditions, were met. The average duration per episode was obtained by dividing the total number of hours of icing conditions by the number of individual episodes. The beginning of an individual episode was defined as the hour at which the values of all three variables met their limiting values, and the end of an episode was defined as the first hour thereafter where the value of any one of the variables fell outside the limiting value. The duration of an individual episode, then, is the number of hours that values of all three of the variables were continuously within their limiting values.

The table shows that the average number of hours of joint occurrences of these apparently extreme conditions is only 17 hours per winter, and the average duration is only 2.2 hours. It would thus appear that severe icing conditions such as those which occurred on 18-19 December 1975 occur quite infrequently and that the persistence of such conditions occur almost exclusively with onshore winds (especially WSW through NNW), meaning that the area affected by icing would most likely be similar to that of 18-19 December.

Table 3

SUMMARY OF OCCURRENCES OF ICING CONDITIONS  
BASED ON MUSKEGON DATA, 1948 - 1953

TEMPERATURE, DEGREES F      < 20  
DEW POINT DEPRESSION, DEG F      < 5  
WIND SPEED, MILES PER HOUR      > 15

WIND DIRECTION	AVERAGE NUMBER OF HOURS, WINTER	AVERAGE NUMBER OF HOURS OF ICING CONDITIONS
N	101.4	0.2
NNE	54.2	0.2
NE	127.4	0.4
ENE	112.0	0.4
E	242.2	0.4
ESE	71.8	0.0
SE	104.0	0.0
SSE	79.8	0.8
S	121.6	0.6
SSW	104.0	0.4
SW	125.0	0.2
WSW	164.2	3.2
W	238.2	5.2
WNW	205.4	2.0
NW	140.0	1.6
NNW	96.0	1.4
ALL	2087.2	17.0

AVERAGE DURATION OF AN ICING EPISODE: 2.2 HOURS



It is unlikely, however, that icing is limited to conditions as restricted as those imposed above since it can take place at temperatures 32°F or below. In fact, natural icing due to freezing rain usually occurs at temperatures between 30°F and 32°F. Furthermore, regarding wind effects, icing from drift has been observed on-site in nearly calm wind conditions. Finally, use of any dew point depression criterion may actually be unnecessary, since observations indicate that the most severe icing occurs near the cooling towers and is due to freezing drift. Because of the large droplet size of drift compared to that of plume, drift is much less likely to evaporate before impacting on a surface, even in a relatively dry atmosphere.

The above reasoning led to a relaxation of the limiting values of the variables. Table 4, for example, shows the results of increasing the temperature and dew point depression by 5°F each, to 25°F and 10°F, respectively, and decreasing the wind speed from 15 mph to 10 mph. These seemingly small changes resulted in a 14-fold increase in total hours of icing conditions. The 253.6 hours represent 11.3% of all the hours in winter. The distribution of icing hours by wind direction shows that icing occurs most often with winds from WSW through NW. With NNW, ENE and E winds, however, its frequency is also quite high. The average duration of these conditions is 3.8 hours.

Finally, an upper limit to the expected hours of icing conditions during an average winter was set by running the

Table 4

SUMMARY OF OCCURRENCES OF ICING CONDITIONS  
BASED ON MUSKEGON DATA, 1948 - 1953

TEMPERATURE, DEGREES F                    ≤ 25  
DEW POINT DEPRESSION, DEG F           ≤ 10  
WIND SPEED, MILES PER HOUR           ≥ 10

WIND DIRECTION	AVERAGE NUMBER OF HOURS, WINTER	AVERAGE NUMBER OF HOURS OF ICING CONDITIONS
N	101.4	6.6
NNE	54.2	5.8
NE	127.4	4.8
ENE	112.0	13.0
E	242.2	20.8
ESE	71.8	3.8
SE	104.0	3.2
SSE	79.8	7.4
S	121.6	7.4
SSW	104.0	1.6
SW	125.0	7.4
WSW	164.2	27.2
W	238.2	49.0
WNW	205.4	46.2
NW	140.0	24.6
NNW	96.0	14.8
ALL	2087.2	243.6

AVERAGE DURATION OF AN ICING EPISODE: 3.8 HOURS

program with the least possible restriction: no wind speed or dew point criteria and for all temperatures 32°F or below. As shown in Table 5, the average number of hours of subfreezing weather in winter is over 1400, which is about 68% of the time. The average duration of such conditions is 20 hours.

Table 5

SUMMARY OF OCCURRENCES OF ICING CONDITIONS  
BASED ON MUSKEGON DATA, 1948 - 1953

TEMPERATURE, DEGREES F

≤32

WIND DIRECTION	AVERAGE NUMBER OF HOURS, WINTER	AVERAGE NUMBER OF HOURS OF ICING CONDITIONS
N	101.4	83.4
NNE	54.2	46.0
NE	127.4	106.8
ENE	112.0	94.6
E	242.2	189.2
ESE	71.8	52.0
SE	104.0	69.2
SSE	79.8	50.0
S	121.0	55.2
SSW	104.0	22.2
SW	125.0	46.6
WSW	164.2	86.0
W	238.2	167.6
WNW	205.4	155.4
NW	140.0	116.0
NNW	96.0	83.0
ALL	2087.2	1423.2

AVERAGE DURATION OF AN ICING EPISODE: 20.0 HOURS

These numbers can be placed in perspective by considering the record cold of the 1976-1977 winter. It contained one episode of continuous sub-freezing weather lasting about 1150 hours. Although such an occurrence is infrequent and the assumption cannot be made that icing will occur continuously whenever the temperature is below 32°F, it is

important, nevertheless, to note that under whatever conditions icing occurs, significant reduction of the accumulated ice will not take place until the temperature reaches at least 32°F.

Without more quantitative information on the exact conditions under which icing occurs, it is not possible to state exactly how many hours it can be expected in an average winter. The discussion above has shown that icing is possible about 2/3 of the time. On the other-hand, a slight tightening of restrictions on the relevant variables reduces the expected occurrences of such conditions by a factor of 10 to 100. Thus, the estimates obtained by using only a sub-freezing temperature criterion are average upper limits to the number of hours that icing can occur. Detailed measurements during icing conditions are needed to refine the estimates and improve their accuracy.

Plume effects on total solar radiation\*

Total solar radiation (direct plus diffuse) on a horizontal surface is measured with pyranometers at station P03A, which is 0.9 km east-southeast of the cooling towers and at station P07A, 19 km east of them. With a west-northwest wind direction the cooling tower plume passes over the nearer station. If the sun, plume and pyranometer happen to be in alignment, a reduction of total solar radiation as recorded by the pyranometer normally occurs. Such an occurrence was described in the fourth annual report.

On 7 March 1977, a condition was observed in which the plume occasionally passed between the sun and pyranometer for most of a cloudless morning but the average total solar radiation recorded was greater than that expected with a cloudless sky. The timing of the occurrence was such that the author was at the station and was able to verify that 1) except for a short time near 0800 EST when scattered altocumulus clouds passed over the station the sky was completely cloudless except for the cooling tower plume, and 2) the pyranometer was level, clean and matched to a calibrated recorder.

Characteristics of the plume. Throughout most of the morning period of recording, characteristics of the plume were noted. In general, as the plume was passing over the station it was becoming fragmented and evaporating rapidly, with complete evaporation taking place about 500 m farther downwind. It was

\* by Edward Ryznar

estimated to be about 200 m above the ground and 30 m thick. Because of its small thickness and high transparency, the shadowing of the ground produced by it was hardly discernible. It was not possible, furthermore, to look at the plume in line with the sun long enough to try to match features of the radiation recording with plume behavior. Its average position as it moved east-southeast appeared to be slightly north of an imaginary line connecting sun and pyranometer. It remained nearly over the station until about 1300 EST when the wind shifted gradually to west-southwest, causing its average position to move well north of the station.

Characteristics of the recording. The recording of total solar radiation for 7 March 1977 is shown in Fig. 6. It was obtained with a WeatherMeasure Model 411 pyranometer and a Leeds and Northrup Speedomax H recorder. The recording for the time interval between 0830 and 1400 EST shows effects of the plume as it passed either directly between the sun and pyranometer or slightly north or south of an imaginary line connecting them. The solid smooth line drawn through the actual recording is the curve estimated for that day if there were no clouds and no plume.

The estimated clear day curve is based on two separate assumptions, each of which gave identical values. One assumption was that because the afternoon was cloudless without the plume affecting solar radiation after about 1400 EST, symmetry of the morning and afternoon recordings around solar

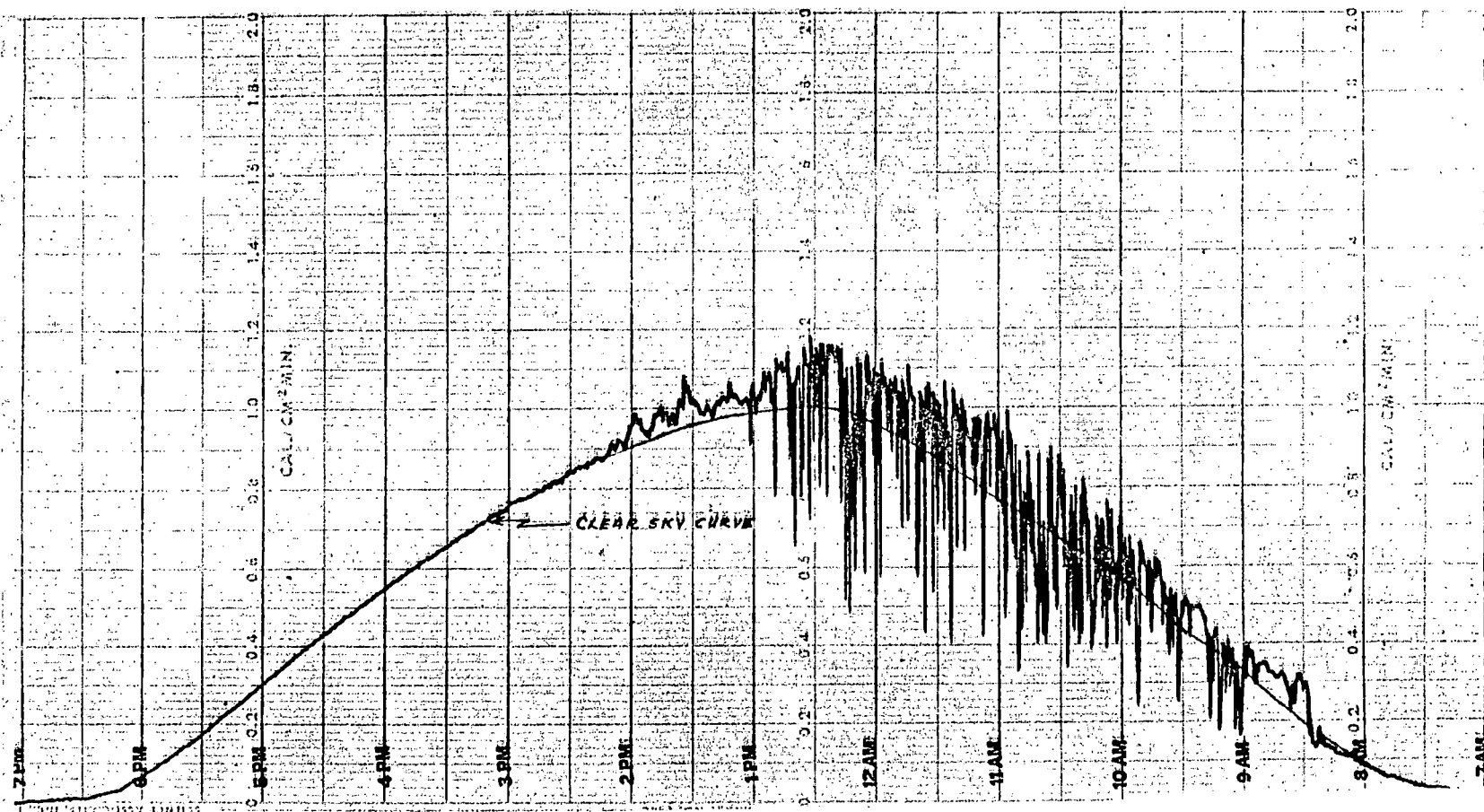


Fig. 6. Recording of total solar radiation for 7 March 1977 at station P03A. The smooth curve drawn through the recording is estimated for a cloudless sky.

noon could be assumed. This assumption allowed the cloudless afternoon section of the recording to be matched in time with the corresponding morning section to obtain the curve for a complete cloudless day. The other was that since most of the morning of the following day was also cloudless but uninfluenced by the plume, values of solar radiation could be assumed to be the same as those for the day shown. Additional corroborative information was obtained from total solar radiation recordings made simultaneously at the station 19 km inland where the sky was also cloudless, there were no plume effects and the same general air mass was present.

Reasons for additive effects. A comparison of the actual and estimated recordings shows that the average total solar radiation with the plume is greater than that for a cloudless sky for most of the morning. Occasional values exceeding cloudless values were expected, but a higher average was not. For example, observations reported by others have shown that with certain cloud types and distributions, total solar radiation can briefly exceed cloudless values due to the component reflected from the sides of clouds added to that received directly through a clear portion of the sky. Observations of this type have been reported by Gates (1965), who measured values which even exceeded the solar constant at elevations of about 3000 m during scattered cumulus cloud conditions. Kondrat'yev (1965) also cites observations made near Moscow which show total solar radiation with "sun and clouds" exceeding cloudless values. Because of the random



spatial distribution of most natural cumulus clouds however, shadowing causes average values to become less than cloudless values as the averaging time is increased.

It is likely that the large values observed on 7 March were caused by conditions similar to those produced by natural cumuliform clouds. Unlike the random distributions of most clouds of this type, however, the plume held an average position which apparently maintained a large enough component of reflected radiation to produce the observed result. In fact, even though the plume's average position gradually moved northward, it meandered close enough occasionally to cause the longer-lasting increases shown on the recorder trace between 1300 and 1400 EST.

Additional recordings of total solar radiation suspected of having plume and sky conditions similar to those described above are being evaluated. Because such occurrences are infrequent and an observer is at the station only twice each week to service it, there is a lack of not only descriptions of plume behavior over the station but also definitive information on the absence of cloudiness. The importance of such information is evident in the above example, which shows that it is possible for a combination of plume characteristics and positions to cause significant additive effects on solar radiation.

## III. NETWORK DATA COLLECTION

Percent possible data recorded

Percentages of possible data recorded for each month between 1 April 1976 and 31 March 1977 are given in Table 6. The percentages listed for precipitation, temperature and relative humidity are monthly averages for the 13 network stations, and those listed for solar radiation, wind speed, wind direction and visibility are for each of the two main stations as indicated.

Recordings of total hemispherical (solar plus atmospheric) radiation on a horizontal surface were made throughout the contract year with radiometers at stations P03A and P07A but they are not reported in Table 6. The reason is that the radiometers produced unreasonable recordings of total radiation occasionally during periods of high relative humidity. Because the sensor is unshielded from above, sporadic behavior is expected during precipitation but not without it. Efforts to eliminate the problem were successful to some degree, and although most data are reasonable, they are not considered to be reliable enough to be used quantitatively.

The increased loss of data in the winter months of 1976-1977 was due to the general severity of the winter. In addition to the travel problems in servicing the network caused by successive blizzard conditions, sensor problems such as frozen anemometers and wind vanes were encountered.

Table 6. Percent possible data recorded

	1976									1977		
	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR
Precipitation	100	98	100	100	95	97	98	96	96	86	87	98
Temperature	99	100	99	96	99	99	95	100	94	94	92	100
Rel. Hum.	100	100	99	95	99	99	96	100	94	94	88	99
Solar Rad. P03A	94	93	99	88	85	100	100	99	100	80	93	100
P07A	99	92	99	15	100	100	100	100	100	100	99	100
Wind Dir. P03A	73	100	92	95	100	99	95	99	100	74	93	100
P07A	99	99	100	100	100	100	100	100	100	100	99	100
Wind Speed P03A	100	100	100	93	100	100	98	90	73	74	88	100
P07A	99	99	100	100	100	100	99	100	100	100	96	100
Visibility P03A	90	91	98	80	99	99	92	98	22	34	44	79
P07A	99	100	100	100	100	90	100	99	91	83	97	100

### Accuracy and calibration of the hair hygrometer\*

In this study, atmospheric moisture is determined from relative humidity measurements using Belfort Instrument Company Model 5-594 hygrothermographs. These instruments use chemically treated human hairs in a banjo-spread configuration for the moisture sensors. To maintain the accuracy of the hygrothermographs a calibration program was undertaken which included the construction of four calibration chambers in November and December, 1974. A description of the calibration procedure is found in Baker and Ryznar (1974). An assessment of the accuracy and adequacy of the calibration procedure in improving measurements of realative humidity is described below.

The performance of the hygrometer is dependent on the characteristics of the hair sensing element. Changes in the amount of moisture in the air will cause the hairs nonlinearly to lengthen if moisture increases or shorten if it decreases. The linkage system of the instrument will compensate for much of the nonlinearity, but because the nonlinearity depends on temperature, stress on the hairs, and the hair's recent history of exposure to humidity, the magnitude of the nonlinearity will change.

MacHattie (1958) first reported on the dependence of a hair hygrometer on its previous exposure. He found that a hair hygrometer exposed to a low humidity and then

\* by William G. Snell

exposed to a high humidity will read high. Similarly, when exposed to a high humidity and then exposed to a low humidity, it will read low. He showed that the magnitude of this error is dependent on both the past and present exposure of the hair, and that it may approach 10-20% relative humidity in extreme situations.

Kobayashi (1960) researched the temperature effect and concluded that corrections were either zero or negative for temperatures greater than 0°C and positive for temperatures less than 0°C. His results are summarized below, for a range of 30 to approximately 90% relative humidity.

Temperature (°C)	20	10	0	-10	-20
Correction (%R.H.)	0	-1	0	5-10	10-30

Kobayashi's research also indicated that the longer a hygrometer was exposed to a given temperature, the smaller the correction factor would be. This is not significant for values above 0°C, but for values below 0°C it could become quite significant.

The calibration procedure is a stepwise cycle of high to low to high humidity that enables the "recent exposure" effect to be producible for both decreasing and increasing humidities. The errors obtained through this calibration cycle permit close monitoring of the hygrometer's performance. To obtain the desired level of humidity throughout the calibration cycle, saturated salt solutions are used. Table 7 lists the salt solutions in

Table 7. Mean, standard deviation, maximum and minimum of relative humidity from calibrations made with each salt solution. Psychrometric relative humidity readings (%) from laboratory calibration procedure. All values rounded to nearest 0.5%.

Order of Use	Salt Solution	Mean Value	Std Dev	Minimum Value	Maximum Value	Number of Cases
1	K <sub>2</sub> SO <sub>4</sub>	90.5	1.5	85.0	98.5	198
2	ZnSO <sub>4</sub>	83.5	1.5	76.0	87.0	97
3	NaCl	74.0	2.5	68.0	88.0	195
4	Na <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	56.0	3.5	51.0	70.0	200
5	MgCl <sub>2</sub>	37.0	2.0	32.0	44.0	123
6	Ambient Air	34.5	11.0	13.0	58.0	111
7	Na <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	55.0	3.0	51.0	67.5	200
8	NaCl	73.0	2.5	70.0	91.0	196
9	ZnSO <sub>4</sub>	82.5	1.5	78.5	87.0	194
10	K <sub>2</sub> SO <sub>4</sub>	90.5	1.5	86.0	94.0	195

the order in which they are used. Also included are the mean relative humidities produced by each salt solution, the standard deviation, and the maximum and minimum. All chamber humidities are measured by matched wet- and dry-bulb thermometers that are accurate to  $0.1^{\circ}\text{C}$ . As shown in Table 7, the calibration is from approximately 35% to 90% relative humidity.

There are several reasons why the total number of cases for each step in the calibrating cycle are not the same. One is that seldom are both  $\text{MgCl}_2$  and ambient air used in a calibration cycle.  $\text{MgCl}_2$  was used initially, but since calibrations have been conducted in a temperature-controlled building beginning in January 1975, it has been found that if the chambers were kept closed, ambient air could be used without encountering the problems created by changing air temperatures.

Similarly,  $\text{ZnSO}_4$  was not used in the first half of a calibration cycle because in the short time it took to place this solution in the chamber, the humidity would drop below its final value. This meant that the humidity would have to be raised from a lower value, which resulted in a temporary shrinking of the hairs, to the high value created by  $\text{ZnSO}_4$ . It was desired to avoid this to keep the hairs stretching only. Eventually, though, this effect on the hygrometer was found to be inconsequential.  $\text{ZnSO}_4$  was therefore placed in the first half of the cycle to give more symmetry to the results.

Besides the above two reasons, other discrepancies in the number of cases between each step of the calibration cycle resulted because of erroneous psychrometric or relative humidity readings which were not used.

The time lag in the calibration cycle is ignored because the salt solutions are left in the chambers until the hygrometer comes to equilibrium. This usually takes from 30 to 90 minutes. However, the time constant of the hygrometer (which is the time it takes to reach 63.2% of the actual change) is approximately one to three minutes (Kobayashi, 1960).

Hair stress and temperature effects are also ignored. Changing the hair stress would be a complex problem and would not necessarily improve the hygrometer's accuracy. Although temperature effects do exist, their magnitudes are too difficult to determine, especially for temperatures less than 0°C.

The calibration process is carried out both before a hygrothermograph is installed in the field and after it is removed. The time between installation and removal averages 6 to 10 months. The data obtained from the two laboratory calibrations are then incorporated in an averaging scheme to determine correction factors for the field relative humidity measurements.

This is accomplished in the following manner. First, the error at each step in the calibration cycle is found by subtracting the psychrometric reading from the corresponding hygrothermograph reading. Next, the average



error for the entire cycle is determined by adding the errors at each step and dividing by the total number of errors. The average error is computed in this manner for both the initial and final calibrations. The two average errors are then used as the initial and final correction factors. By knowing the dates of calibration, appropriate interpolations can be made to obtain corrections for all values of relative humidity.

The magnitudes of the errors are shown in Tables 8 and 9. Table 8 shows the minimum, maximum, mean and standard deviation of the difference between hygrothermograph readings and psychrometric readings for various salt solutions. By comparing the standard deviations for the "before installation" errors with those for the "after removal" errors, it is readily seen that the errors after removal are nearly twice those before installation in all cases but one.

Table 9 is the same as Table 8 except the correction factors have been applied. This was accomplished by finding the mean error (which is the correction factor), for the individual calibrations and subtracting it from the error at each step of the calibration process.

Closer examination shows the average of the standard deviations for the data without the correction factors subtracted to be 1.8 for the calibrations before installation and 4.6 for the calibrations after removal. After the correction factors have been applied the average

Table 8.

Hygrothermograph relative humidity minus psychrometric  
relative humidity for laboratory calibration procedure.  
Data as obtained from calibration to nearest 0.5 % .

## Calibration Before Installation

<u>Salt Solution</u>	<u>Mean Value</u>	<u>Std Dev</u>	<u>Minimum Value</u>	<u>Maximum Value</u>	<u>Number of Cases</u>
K <sub>2</sub> SO <sub>4</sub>	-0.4	0.9	-3.0	2.5	106
ZnSO <sub>4</sub>	-0.1	1.4	-3.5	3.0	59
NaCl	-0.8	1.6	-5.0	3.0	105
Na <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	-1.6	1.9	-7.5	3.0	106
MgCl <sub>2</sub>	0.8	2.2	-6.5	4.5	69
Ambient	1.5	2.7	-4.0	8.0	61
Na <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	-0.4	2.1	-7.0	4.0	106
NaCl	1.5	1.8	-3.0	8.0	105
ZnSO <sub>4</sub>	2.3	1.7	-2.0	8.0	106
K <sub>2</sub> SO <sub>4</sub>	0.6	1.6	-3.0	5.0	106

## Calibration After Removal

<u>Salt Solution</u>	<u>Mean Value</u>	<u>Std Dev</u>	<u>Minimum Value</u>	<u>Maximum Value</u>	<u>Number of Cases</u>
K <sub>2</sub> SO <sub>4</sub>	-1.5	4.6	-17.0	11.5	92
ZnSO <sub>4</sub>	0.9	3.8	-11.5	13.5	38
NaCl	-1.9	4.6	-14.5	13.0	90
Na <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	-2.8	4.8	-15.0	10.0	94
MgCl <sub>2</sub>	-1.7	5.0	-13.0	7.5	54
Ambient	0.7	4.3	-9.5	10.5	50
Na <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	-1.9	5.2	-15.0	12.0	94
NaCl	0.9	5.0	-12.0	15.5	91
ZnSO <sub>4</sub>	1.8	4.6	-11.0	13.0	88
K <sub>2</sub> SO <sub>4</sub>	-0.4	4.4	-13.0	10.0	89

Table 9. Hygrothermograph relative humidity minus psychrometric relative humidity for laboratory calibration procedure. Data have the individual calibration mean errors subtracted out.

#### Calibration Before Installation

Salt Solution	Mean Value	Std Dev	Minimum Value	Maximum Value	Number of Cases
K <sub>2</sub> SO <sub>4</sub>	-0.6	1.3	-2.9	4.1	106
ZnSO <sub>4</sub>	-0.5	1.2	-3.3	2.8	59
NaCl	-1.1	1.1	-3.8	2.1	105
Na <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	-1.8	1.2	-6.4	0.6	106
MgCl <sub>2</sub>	0.4	1.7	-4.4	3.4	69
Ambient	1.2	2.0	-2.9	5.7	61
Na <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	-0.7	1.4	-5.4	3.0	106
NaCl	1.3	1.1	-1.5	5.4	105
ZnSO <sub>4</sub>	2.0	1.3	-1.7	5.4	106
K <sub>2</sub> SO <sub>4</sub>	0.3	1.7	-3.8	7.1	106

#### Calibration After Removal

Salt Solution	Mean Value	Std Dev	Minimum Value	Maximum Value	Number of Cases
K <sub>2</sub> SO <sub>4</sub>	-0.6	2.0	-8.0	6.3	92
ZnSO <sub>4</sub>	-0.2	1.8	-3.3	6.4	38
NaCl	-1.2	1.3	-3.8	2.7	90
Na <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	-2.1	1.8	-6.8	4.9	94
MgCl <sub>2</sub>	0.2	2.6	-6.1	9.4	54
Ambient	0.5	2.8	-7.1	10.2	50
Na <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	-1.2	1.8	-6.1	2.7	94
NaCl	1.6	1.4	-3.1	6.4	91
ZnSO <sub>4</sub>	2.7	1.6	-1.8	5.9	88
K <sub>2</sub> SO <sub>4</sub>	0.6	2.0	-3.9	6.2	89

standard deviations become 1.4 for the calibrations before installation and 1.9 for the calibrations after removal. The decrease in the standard deviation is important because it shows that hygrometer errors due to the "recent exposure" effect can be reduced significantly. Application of the correction factors improves the average of the mean values also. Once the correction factors were applied, the average of the mean values from all the levels improved from 0.34 to 0.05 for the before installation calibrations and from -0.59 to 0.03 for the after removal calibrations. This indicates that the errors are distributed around a mean which is closer to zero.

Improvement is also found in the maximum and minimum values. In both the before installation and after removal calibrations the average of the maximum values has decreased (4.9 to 4.0 and 11.7 to 6.1), respectively and the average of the minimum values has decreased (-4.5 to -3.6 and -13.2 to -5.0), respectively.

The "recent exposure" effect becomes evident by examination of Tables 8 and 9. Comparing results obtained using the first four solutions in the cycle with those using the last four shows a definite tendency for low readings on the decreasing side of the cycle and for high readings on the increasing side. Averages of these and other data from Tables 8 and 9 are given in Table 10.

To check the calibration procedure, a comparison was made against several months of psychrometric readings

Table 10. Summary of data from Tables 8 and 9. Values are the averages of the hygrothermograph relative humidities minus the psychrometric relative humidities.

Calibration Before Installation or After Removal		Data as Obtained from Calibration	Data with Correction Factor Subtracted
Standard Deviations	Before	1.8	1.4
Standard Deviations	After	4.6	1.9
Mean Values	Before	.34	.05
Mean Values	After	-.59	.03
Maximum	Before	4.9	4.0
Maximum	After	11.7	6.1
Minimum	Before	-4.5	-3.6
Minimum	After	-13.2	-5.0
Recent Exposure Going Down	Before	-.73	-1.00
Recent Exposure Going Up	Before	1.00	.73
Recent Exposure Going Down	After	-1.33	-1.03
Recent Exposure Going Up	After	.10	.93

taken from field observations. Checking was accomplished by using weekly field readings for each month to obtain an average error during that month. Monthly average errors were then compared to the calibration processed values. As can be seen in Table 11 a good correlation was found in almost all cases. After the laboratory correction factors were subtracted, twenty-two of twenty-six cases were within  $\pm 2\%$  and only two cases were worse than  $\pm 4\%$ . Before that, only twenty of the cases were within  $\pm 2\%$  and four were greater than  $\pm 4\%$ . Application of the correction factor made six of the twenty-six cases worse, but only two were worse by greater than 0.5%, with 1.5% the extreme.

To determine the accuracy of the hygrothermographs, histograms containing percent frequency of occurrence of the errors are given in Figures 7-9. These figures summarize all the data in Tables 8 and 9. An accuracy of  $\pm 4\%$  relative humidity was used for reference. The data in Figures 7 through 9 can be reduced to this accuracy range as follows:

Percentage of data between $\pm 4\%$ RH		
	Before Installation	After Removal
Before Correction Factor Applied	95.0%	67.1%
After Correction Factor Applied	97.2%	92.4%

Table 11.

Comparison of field observations to laboratory correction factors. Values are hygromograph relative humidities minus psychrometric relative humidities (%).

Station	Serial Number	Field Observations : 1975					Average	Laboratory Correction Factor	Laboratory Factor Minus Average
		June 2	June 9	June 16	June 23	June 30			
C01B	7756	0.0	3.5	1.0	-	3.0	1.9	2.7	0.8
C03A	7423	-2.0	1.5	3.0	-2.0	4.5	1.0	1.9	0.9
C04A	7468	4.5	2.0	2.5	3.0	3.0	3.0	2.4	-0.6
C05A	7471	0.0	0.0	0.0	2.0	-1.0	0.2	0.9	0.7
C06A	7415	5.0	5.0	4.0	4.0	7.0	5.0	2.5	-2.5
C07A	7416	-6.0	0.0	-2.0	0.0	5.0	-0.6	-0.4	0.2
C08A	7477	-1.0	1.0	3.0	3.5	0.0	1.3	2.7	1.4
C09A	7755	0.0	3.5	-	-	-	1.8	3.1	1.3
C09A	7480	-	-	-8.0	-6.0	-7.5	-7.2	-0.5	6.7
C10A	7478	3.0	5.0	-	-	-	4.0	-	-
C10A	7469	-	-	-6.0	-4.0	-5.5	-5.2	-1.9	3.3
C11A	7413	-0.5	-1.5	2.0	-1.5	5.5	0.8	0.4	-0.4
C12A	7470	3.0	0.0	4.0	0.5	-1.0	1.3	2.1	0.8
		June 3	June 10	June 17	June 24	July 1			
P01A	7425	0.5	3.5	-1.0	0.0	-2.5	0.1	1.7	1.6
P02A	7479	-1.0	4.0	5.0	0.0	1.0	1.8	1.9	0.1
P03A	7472	-1.0	3.5	5.5	2.0	1.0	2.2	1.3	-0.9
P04A	7424	-7.0	3.0	-	-	-	-2.0	-3.6	-1.6
P04A	7417	-	-	1.0	-0.5	-2.5	-0.7	-1.0	-0.3
P05A	7422	-0.5	2.0	4.0	2.0	-1.0	1.3	0.0	-1.3
P06A	7473	-1.0	4.0	4.0	1.0	2.0	2.0	1.4	-0.6
P07A	7412	-0.5	3.5	-	-	-	1.5	0.0	-1.5
P07A	7418	-	-	3.0	-3.5	-1.5	0.7	-1.2	-1.9
P08A	7419	-3.0	3.0	4.5	-1.0	1.0	0.9	2.2	1.3
P09A	7754	-2.5	2.0	5.0	-0.5	-2.5	0.3	-0.2	-0.5
P10A	7474	-3.0	3.0	4.5	-1.0	0.5	0.8	0.7	-0.1
P11A	4985	-7.5	-2.5	-2.0	-10.0	-	-5.5	-0.8	4.7
P12A	7475	0.5	3.0	3.0	-0.5	0.0	1.2	-	-
P13A	7421	2.0	4.0	6.0	1.0	2.0	3.0	2.4	-0.6

Figure 7. Hygrothermograph relative humidity minus psychrometric relative humidity for laboratory calibration procedure.  
Data as obtained from calibrations to nearest 0.5% .

Calibration Before Installation

Interval	Frequency(%)	Cases	(Each X=7 cases)
-10.0 to -9.1	0.0	0	+
-9.0 to -8.1	0.0	0	+
-8.0 to -7.1	0.2	2	+X
-7.0 to -6.1	0.3	3	+X
-6.0 to -5.1	0.2	2	+X
-5.0 to -4.1	1.0	9	+XX
-4.0 to -3.1	2.6	24	+XXXX
-3.0 to -2.1	5.1	47	+XXXXXXX
-2.0 to -1.1	11.6	108	+XXXXXXXXXXXXXXXXXX
-1.0 to -0.1	19.7	183	+XXXXXXXXXXXXXXXXXXXXXXXXXX
0.0 to 1.0	29.7	276	+XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.1 to 2.0	12.4	115	+XXXXXXXXXXXXXXXXXX
2.1 to 3.0	8.5	79	+XXXXXXXXXXX
3.1 to 4.0	5.5	51	+XXXXXXX
4.1 to 5.0	2.4	22	+XXX
5.1 to 6.0	0.2	2	+X
6.1 to 7.0	0.2	2	+X
7.1 to 8.0	0.4	4	+X
8.1 to 9.0	0.0	0	+
9.1 to 10.0	0.0	0	+
<u>Total</u>	<u>100.0</u>	<u>929</u>	Total Amount $\pm$ 4% = 95.0%



Figure 8. Hygrothermograph relative humidity minus psychrometric relative humidity for laboratory calibration procedure. Data as obtained from calibrations to nearest 0.5% .

## Calibration After Removal

Interval	Frequency(%)	Cases	(Each X=4 cases)
-20.0 to -19.1	0.0	0	+
-19.0 to -18.1	0.0	0	+
-18.0 to -17.1	0.0	0	+
-17.0 to -16.1	0.1	1	+X
-16.0 to -15.1	0.0	0	+
-15.0 to -14.1	0.5	4	+X
-14.0 to -13.1	0.6	5	+X
-13.0 to -12.1	1.0	8	+XX
-12.0 to -11.1	0.9	7	+XX
-11.0 to -10.1	1.3	10	+XXX
-10.0 to -9.1	1.8	14	+XXXX
-9.0 to -8.1	1.8	14	+XXXX
-8.0 to -7.1	3.3	26	+XXXXXXXX
-7.0 to -6.1	2.8	22	+XXXXXXXX
-6.0 to -5.1	4.2	33	+XXXXXXXX
-5.0 to -4.1	2.9	23	+XXXXXX
-4.0 to -3.1	4.2	33	+XXXXXXXX
-3.0 to -2.1	4.6	36	+XXXXXXXX
-2.0 to -1.1	7.9	62	+XXXXXXXXXXXXXXXXXX
-1.0 to -0.1	8.7	68	+XXXXXXXXXXXXXXXXXX
0.0 to 1.0	17.7	138	+XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.1 to 2.0	10.4	81	+XXXXXXXXXXXXXXXXXXXXXXXXXXXX
2.1 to 3.0	7.4	58	+XXXXXXXXXXXXXXXXXXXX
3.1 to 4.0	6.0	47	+XXXXXXXXXXXX
4.1 to 5.0	3.6	28	+XXXXXX
5.1 to 6.0	2.9	23	+XXXXXX
6.1 to 7.0	1.8	14	+XXXXX
7.1 to 8.0	1.4	11	+XXXX
8.1 to 9.0	0.4	3	+X
9.1 to 10.0	0.4	3	+X
10.1 to 11.0	0.1	1	+X
11.1 to 12.0	0.3	2	+X
12.1 to 13.0	0.3	2	+X
13.1 to 14.0	0.3	2	+X
14.1 to 15.0	0.0	0	+
15.1 to 16.0	0.1	1	+X
16.1 to 17.0	0.0	0	+
17.1 to 18.0	0.0	0	+
18.1 to 19.0	0.0	0	+
19.1 to 20.0	0.0	0	+
Total	100.0	780	Total Amount $\pm$ 4% = 67.1%

Figure 9. Hygrothermograph relative humidity minus psychrometric relative humidity for laboratory calibration procedure. Data have the individual calibration mean errors subtracted out.

### Calibration Before Installation

Interval	Frequency(%)	Cases	(Each X=5 cases)
-10.0 to -9.1	0.0	0	+
-9.0 to -8.1	0.0	0	+
-8.0 to -7.1	0.0	0	+
-7.0 to -6.1	0.1	1	+X
-6.0 to -5.1	0.2	2	+X
-5.0 to -4.1	0.3	3	+X
-4.0 to -3.1	1.9	18	+XXXX
-3.0 to -2.1	9.3	86	+XXXXXXXXXXXXXXXXXXXX
-2.0 to -1.1	18.7	174	+XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
-1.0 to -0.1	21.5	200	+XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
0.0 to 1.0	19.1	177	+XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.1 to 2.0	15.7	146	+XXXXXXXXXXXXXXXXXXXXXXXXXXXX
2.1 to 3.0	7.6	71	+XXXXXXXXXXXX
3.1 to 4.0	3.3	31	+XXXXXX
4.1 to 5.0	1.4	13	+XXX
5.1 to 6.0	0.5	5	+X
6.1 to 7.0	0.1	1	+X
7.1 to 8.0	0.1	1	+X
8.1 to 9.0	0.0	0	+
9.1 to 10.0	0.0	0	+
Total	100.0	929	Total Amount $\pm$ 4% = 97.2%

### Calibration After Removal

Interval	Frequency(%)	Cases	(Each X=4 cases)
-10.0 to -9.1	0.0	0	+
-9.0 to -8.1	0.0	0	+
-8.0 to -7.1	0.3	2	+X
-7.0 to -6.1	0.6	5	+XX
-6.0 to -5.1	0.5	4	+X
-5.0 to -4.1	0.9	7	+XX
-4.0 to -3.1	5.0	39	+XXXXXXXX
-3.0 to -2.1	11.3	88	+XXXXXXXXXXXXXXXXXXXX
-2.0 to -1.1	16.9	132	+XXXXXXXXXXXXXXXXXXXXXXXXXXXX
-1.0 to -0.1	17.2	134	+XXXXXXXXXXXXXXXXXXXXXXXXXXXX
0.0 to 1.0	15.1	118	+XXXXXXXXXXXXXXXXXXXXXXXXXXXX
1.1 to 2.0	12.4	97	+XXXXXXXXXXXXXXXXXXXX
2.1 to 3.0	9.5	74	+XXXXXXXXXXXXXXXXXXXX
3.1 to 4.0	5.0	39	+XXXXXXXX
4.1 to 5.0	3.2	25	+XXXXXX
5.1 to 6.0	1.2	9	+XX
6.1 to 7.0	0.6	5	+X
7.1 to 8.0	0.0	0	+
8.1 to 9.0	0.0	0	+
9.1 to 10.0	0.1	1	+X
10.1 to 11.0	0.1	1	+X
Total	100.0	780	Total Amount $\pm$ 4% = 92.4%

The improvement in the results is very significant for calibrations made after the hygrothermographs were removed from the field. This is encouraging considering that the instruments that were removed were the ones that gave the poorest results as determined through field checks with a psychrometer once a week. In averaging the results, it was found that approximately 95% of the data obtained could be corrected to obtain an accuracy of  $\pm 4\%$  relative humidity for values above  $0^{\circ}\text{C}$ . Below  $0^{\circ}\text{C}$  the results are probably not as good. This accuracy applies only to data that have had correction factors applied (digitized and computer processed data). Taking into consideration an additional error of about 1.5% from the digitizing procedure, a final accuracy of the processed data can be given as about  $\pm 5\%$  relative humidity.

#### IV. ANALYSES OF NETWORK AND CLIMATOLOGICAL DATA

##### Climatological comparisons of 1973-74 and 1975 temperatures.\*

The sections to follow discuss results of analyses of network meteorological data for 1973-74, which were pre-operational years and 1975, which was an operational year. The analyses are more meaningful if the years are first compared in terms of their climatological normality. Seasonal and annual averages of temperature for 1973-74 and 1975, for example, can be compared with long-term data using representative stations in the Palisades area to provide information concerning departures from normal and variations inland. Such a comparison is discussed below, with precipitation discussed in a following section.

In the comparison of 1974 and 1975 temperature data with data for climatological stations, certain criteria had to be applied in selecting which climatological stations could be used. The criteria are the results of recent work by Schall and Dale (1977) on the effects of station relocation and changes in observation time on temperature records.

The criteria are:

- 1) the station must have been in continuous operation during the period of climatological record and during the years analyzed,
- 2) the station must not have had a major relocation during this time and
- 3) the station must have maintained a constant (within 2 hrs) time of observation during the period of record.

\* by Dennis F. Kahlbaum

Only two climatological stations in the general area of Palisades met these criteria. One was at South Haven, located 10 km NNE of Palisades and about 1 km from Lake Michigan, and the other was at Eau Claire, 29 km SSE of Palisades and about 22 km from Lake Michigan. Both stations are shown on the map in Fig. 3.

The climatological period used was 1941-1970, which has been adopted as a 30-year standard by the World Meteorological Organization. Table 12 summarizes the normal seasonal and annual temperatures for the two stations for this period. In addition, the standard deviations of the averages are given to allow evaluation of the degree of confidence associated with each average.

Table 12

Mean Temperatures (°F) and Standard Deviations  
of the Mean for South Haven and Eau Claire  
for 1941-1970

	Winter	Spring	Summer	Autumn	Annual
South Haven	28.2 $\pm$ .45	46.1 $\pm$ .37	69.0 $\pm$ .31	53.4 $\pm$ .31	49.2 $\pm$ .20
Eau Claire	26.8 $\pm$ .48	47.8 $\pm$ .36	71.3 $\pm$ .29	53.1 $\pm$ .35	49.8 $\pm$ .21

The temperatures in Table 12 show that climatologically, South Haven is warmer than Eau Claire during the autumn and winter and cooler during the spring and summer seasons. Annually, Eau Claire is slightly warmer than South Haven.

An aid in comparing temperatures for 1974 and 1975 to climatology and to one another is the departures from normal, their respective probability classes and the actual mean temperatures. These are given in Table 13 for South Haven and Eau Claire.

It can be seen from Table 13 that in 1974 both Eau Claire and South Haven experienced a normal winter, a warmer than normal spring and cooler than normal summer. However, during autumn 1974, South Haven was much below normal as opposed to a below normal autumn at Eau Claire. Overall, temperatures for 1974 averaged below normal near Lake Michigan as represented by South Haven and normal farther inland as represented by Eau Claire.

For 1975, only the spring and summer departure classes agree for the two stations. Both stations were below normal and near normal for spring and summer, respectively. The winter season ranged from above normal at South Haven to much above normal at Eau Claire. Eau Claire was also warmer in autumn, with below average temperatures at South Haven and near average temperatures at Eau Claire. Overall, temperatures for 1975 averaged from normal along the coast to above normal farther inland.

A general comparison of the two years shows that, with the exception of spring, all seasons were at least one departure class warmer in 1975 than in 1974. The 1975 spring was two departure classes colder than that of 1974. Overall, both stations were about 0.5°F warmer in 1975 than in 1974.

Table 13

Mean Temperature (°F), Departures from Normal, and Associated Probability Classifications for South Haven and Eau Claire for 1974 and 1975. (N = normal, AN = above normal, BN = below normal, MAN = much above normal, and MBN = much below normal.)

Station, Year	Winter	Spring	Summer	Autumn	Annual
South Haven, 1974	27.6,-0.6,N	46.5,-0.4,AN	68.0,-0.1,BN	51.5,-1.9,MBN	48.6,-0.6,BN
Eau Claire, 1974	26.8,+0.0,N	68.3,+0.5,AN	70.5,-0.8,BN	51.3,-1.8,BN	49.5,-0.3,N
South Haven, 1975	29.7,+1.5,AN	44.7,-1.4,BN	69.4,+0.5,N	52.8,-0.6,BN	49.0,-0.2,N
Eau Claire, 1975	28.8,+2.0,MAN	46.7,-1.1,BN	71.4,+0.1,N	53.2,+0.1,N	50.0,+0.2,AN

These examples of the natural variability of temperature are particularly relevant to the discussion in the next section. They are the same order of magnitude as the increase in temperature required at stations near the cooling towers relative to stations farther inland to be statistically significant.



Seasonal variations in temperature with distance inland -- a comparison of operational and preoperational data\*

Introduction. One of the possible effects of cooling tower operation is an increase in average air temperature which may result from the large amount of waste heat injected into the atmosphere. Depending on its magnitude, a temperature change may be detected by comparing operational with preoperational temperature data for the stations near the plant. Since the seasonal average temperature at those stations can vary greatly from year to year due to natural causes only, it is necessary to incorporate additional data into the analysis to minimize such natural variability. The network stations a few kilometers inland, for example, are affected by the same large-scale weather patterns as those near the lake, but are probably far enough away so that their temperatures are not affected by cooling tower operation. By grouping stations and calculating differences in temperature between stations near the towers and those well inland, it is possible to obtain information on temperature effects by comparing results from the operational period to those from the preoperational period.

The analysis of the data involves three main phases: sorting, display, and interpretation. The data are initially sorted and stratified into groups to minimize the effects of natural or random variation. For this purpose, temperatures from stations 1, 2, 3, 8, and 10 are averaged to give a

\*by Michael R. Weber

representative near-plant or near-shoreline temperature. These stations range in distance from 0.5 km to 2 km from the plant and are labelled the 1-km group. Stations 6, 7, and 13 are at an average distance of about 14 km from the plant, and act as a control group for comparison of temperatures. Intermediate stations 4, 5, 9, 11 and 12 are an average distance of about 5 km from the plant. If a temperature effect exists, this group provides a measure of its inland extent.

For any particular hour, the average temperature for the 5-km group and that for the 14-km group are each subtracted from the 1-km group average. After temperatures are grouped and differences calculated, the temperature difference ( $\Delta T$ ) data are further sorted by wind direction and hour of the day. The wind direction (WD) sorting is into two categories: offshore ( $45^\circ \leq WD < 180^\circ$ ) and onshore ( $225^\circ \leq WD < 360^\circ$ ). This sorting was done because if there is an increase in temperature near the plant, the possibility of detecting it in the station data exists only during periods of onshore winds. Thus, the  $\Delta T$  data for offshore winds provide a control which may be compared to the  $\Delta T$  data for onshore winds. The final sorting, by hour of the day, provides a convenient means of displaying the data and guarantees the independence of the data for the statistical tests described below.

The second phase of the analysis is the visual display of the  $\Delta T$  data. Four graphs are produced for each of the standard meteorological seasons: offshore and onshore winds for  $\Delta T_{1-5}$  and offshore and onshore for  $\Delta T_{1-14}$ . The subscript

notation  $\Delta T_{i-j}$  refers to the temperature difference obtained by subtracting the average temperature for station group  $j$  from that for station group  $i$ . The graphs show the average  $\Delta T$  as a function of time of day. The curves for the data during the operational period are compared to those for the preoperational period, and examined for obvious differences. If there is a local heating effect, one would expect the on-shore operational  $\Delta T$  curves to be displaced upward (i.e., more positive  $\Delta T$ ) from the preoperational curves, with no corresponding displacement of the offshore operational curves.

The final phase of the analysis is the application of the Student-t test to evaluate the statistical significance of any observed differences. The Student-t test has been used by Martin (1974) to show that emissions from eight natural-draft cooling towers at a 2000 MW power station in central England did not affect values of total rainfall, hours of bright sunshine, or incidence of morning fog at nearby climatological stations. The test requires that the observations in the data sample be independent and approximately normally distributed. Hourly observations of most meteorological variables, however, are generally not independent, since the value of a variable at one hour is usually very similar to the value for the previous hour. Since, however, the data are sorted by hour of the day, the observations within any particular hour grouping (sample) are separated by at least 24 hours (and often longer, due to the wind direction restriction) and the problem of non-independence

within a sample is avoided. The Student-t test is then applied at each hour of the day. Although the results for any particular hour are closely related to the results for the hours immediately preceding and following it, the overall results from the 24 samples give more information than the results from any individual sample.

Results for Spring 1973 through Winter 1975-76. Network data from March 1973 through February 1976 were analyzed in this manner. During that period, the Palisades plant was operational between 4 April 1975 and 20 December 1975. Since the data have been plotted by season, only summer and autumn seasons of 1975 have complete sets of operational data. It should be noted, however, that part of the justification for a seasonal rather than monthly grouping was that significant month-to-month differences were not found in preliminary monthly plots.

Missing temperature data were handled as follows: if temperature data from more than half the stations in a particular group were missing at any given hour, no average temperature was calculated for that group at that hour, and no  $\Delta T$  was formed involving that station group. This restriction reduced the size of the data samples only during the first year of preoperational data.

Data from P03A were used for the wind direction sorting. On the infrequent occasions when those data were unavailable, the wind direction at the "next-best" station (C10A or P07A, in that order) was used. This resulted in better than 99% data recovery for wind direction.

Graphs of  $\Delta T$  as a function of time of day for spring (March, April, May) are shown in Fig. 10a-d. In this and the following figures, each one labelled "a" shows  $\Delta T_{1-5}$  for offshore winds; "b" shows  $\Delta T_{1-5}$  for onshore winds; "c" shows  $\Delta T_{1-14}$  for offshore winds and "d" shows  $\Delta T_{1-14}$  for onshore winds. In all figures, data from 1973 are plotted as closed circles connected by solid lines; data from 1974 are plotted as open circles connected by solid lines; and data from 1975 are plotted as stars connected by solid lines.

As shown in Fig. 10, there are only minor year-to-year differences between the curves for onshore winds. At night, temperatures are quite uniform across the network, while during the day the 5-km group averages  $0.5 - 1.0^{\circ}\text{F}$  warmer than the 1-km group, and the 14-km group averages  $2.0 - 2.5^{\circ}\text{F}$  warmer. The effect of the relatively cold lake in moderating daytime temperatures near the shoreline is clearly seen.

The plots of  $\Delta T$  for offshore winds show a slight tendency for the 1-km stations to be warmer than both of the inland station groups during the day and cooler at night. Except for 1975, the magnitude of the day/night difference is about  $1^{\circ}\text{F}$ . In 1975, the daytime offshore  $\Delta T$ 's are similar to those of the two previous years, but the nighttime absolute values are about  $1.0^{\circ}\text{F}$  larger for the 5-km group and  $2^{\circ}\text{F}$  larger for the 14-km group. Possible reasons for this behavior are discussed below.

Graphs for summer (June, July, August) are shown in Fig. 11a-d. The onshore graphs are similar to those for spring in

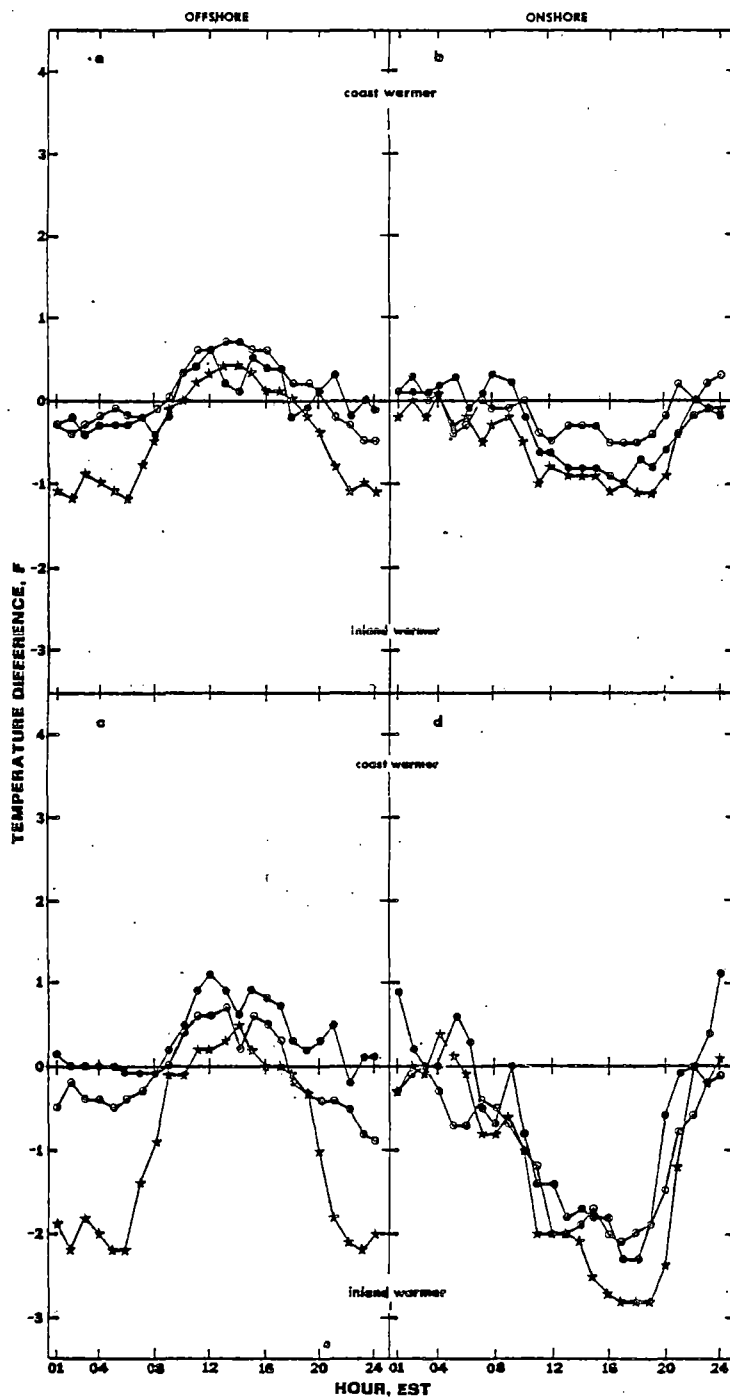


Fig. 10. Difference in temperature (°F) between coastal and inland stations during spring versus time of day for a)  $\Delta T_{1-5}$ , offshore wind; b)  $\Delta T_{1-5}$ , onshore wind; c)  $\Delta T_{1-14}$ , offshore wind; d)  $\Delta T_{1-14}$ , onshore wind. Darkened circle - 1973, open circles - 1974, stars - 1975.

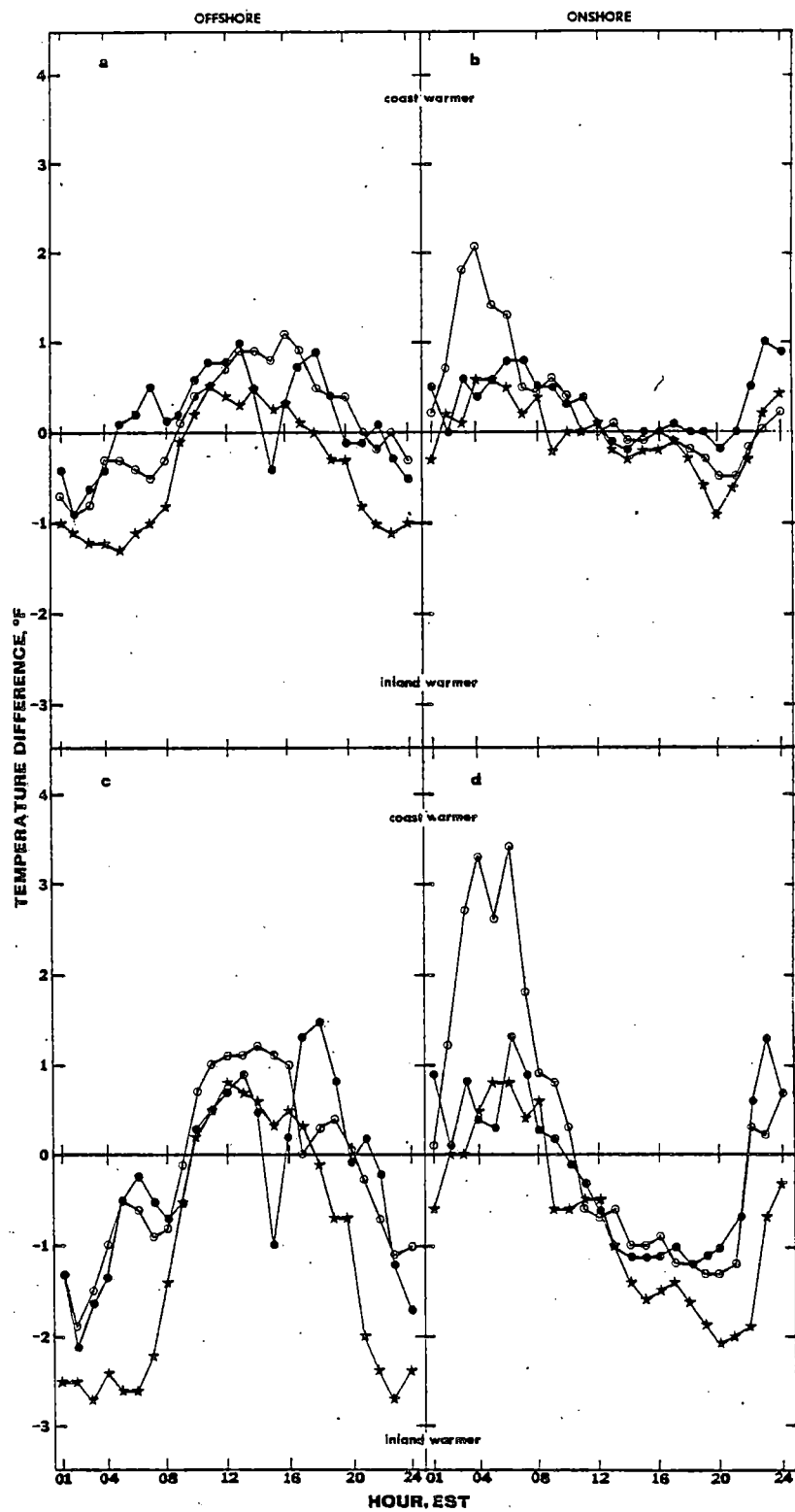


Fig. 11. Same as Fig. 10 except for the summer season.

the magnitude of the day/night differences in  $\Delta T$ . The curves are shifted upward, however, by about  $0.5 - 1.0^{\circ}\text{F}$ . This is due to the fact that the lake is warmer in summer than in spring, causing the near-plant stations to be somewhat warmer than the inland stations at night, but still cooler during the day. In response to the increased length of daylight the curves also begin their drop towards warmer inland temperatures earlier in the morning and climb towards warmer near-plant temperatures later in the evening.

The shapes of the summer offshore curves are similar to those of the spring curves, but their amplitudes are more pronounced. The daytime  $\Delta T$ 's for summer are quite similar to those for spring, while at night,  $\Delta T_{1-14}$ , for example, is about  $1^{\circ}\text{F}$  larger than in spring.

The graphs for autumn (September, October, November) are shown in Fig. 12a-d. The shaded areas in Fig. 12c and 12d are described later. The onshore plots are very similar in shape and magnitude to those for spring, but are displaced upward. In autumn, the lake is generally warmer than the land, so the near-plant stations tend to be warmer than the inland stations at all times except for a few hours in the afternoon. The 5-km curves are displaced about  $1^{\circ}\text{F}$  upward from those for spring, and the 14-km curves are displaced upward by about  $2^{\circ}\text{F}$ . Again, there are no major year-to-year differences. The offshore curves for autumn are very similar to the respective spring curves in all respects.



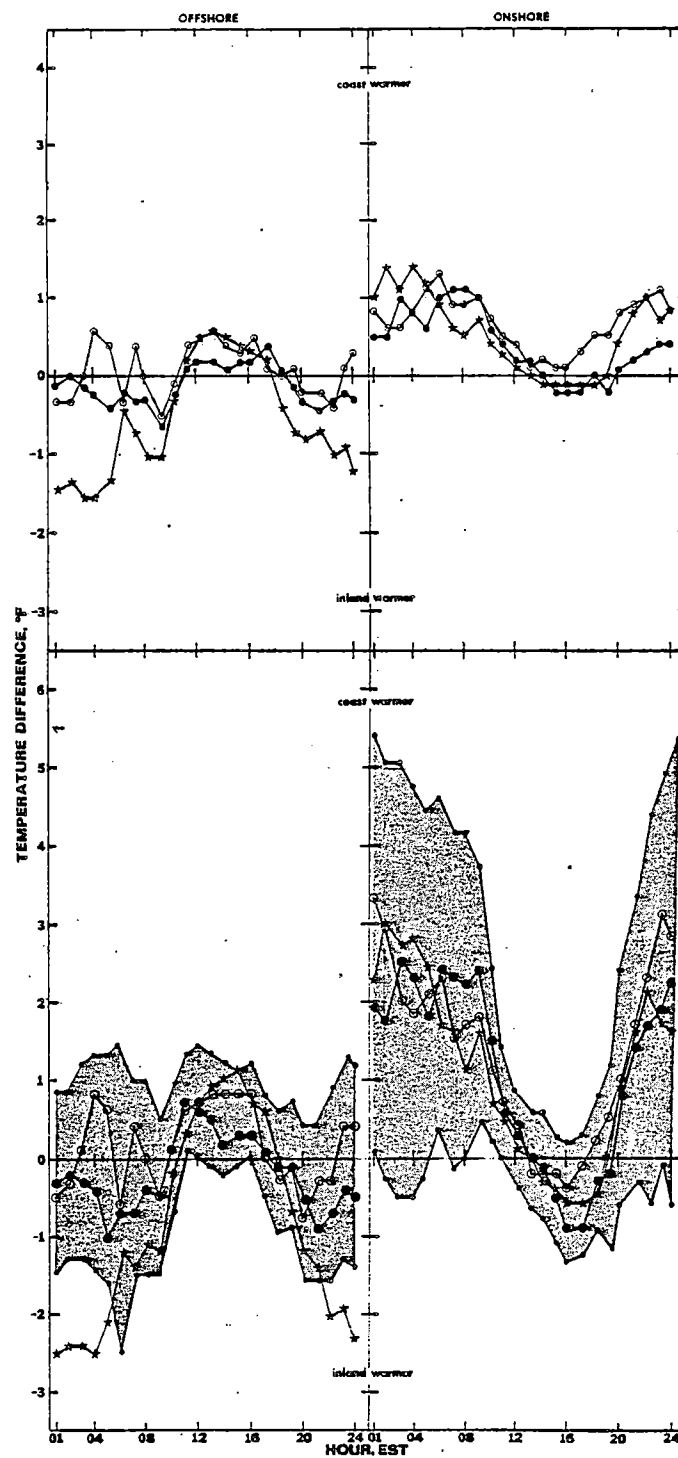


Fig. 12. Same as Fig. 10 except for the autumn season.

The winter (December, January, February) graphs (Fig. 13a-d) show the smallest diurnal trends of all the seasons. In fact, with the exception of the 14-km onshore curves, all of the curves are quite flat and average slightly above zero. This lack of diurnal variation was expected because once there is a uniform snow cover on land and ice extending many kilometers into the lake, the zone of horizontal temperature contrast perpendicular to the shoreline has moved lakeward with the water-ice boundary. The small magnitude of the day/night variation for the 14-km stations is probably due to a few days of clear skies and no snow cover at the inland stations. The fact that the onshore curves average above zero for both the 5-km and 14-km stations indicates the effect of open water, especially in early winter, in keeping the near-plant stations somewhat warmer than those farther inland.

The hour-to-hour and year-to-year uniformity of  $\Delta T$  for winter offshore winds is not surprising, since there are no meteorological or physical factors which would contribute to diurnal or annual variations in  $\Delta T$  for these stations. These curves also shed some light on the apparent diurnal variations in  $\Delta T$  for offshore winds in the other seasons. Re-examination of those curves shows that the daytime portion of each curve is quite consistent for all seasons. The 1-km to 5-km  $\Delta T$  is about  $0.5^{\circ}\text{F}$  and  $\Delta T_{1-14}$  is about  $1^{\circ}\text{F}$ . Since the stations farther inland are at generally higher elevations than those near the plant and air moving downslope warms adiabatically, offshore winds tend to produce slightly warmer temperatures near the plant.

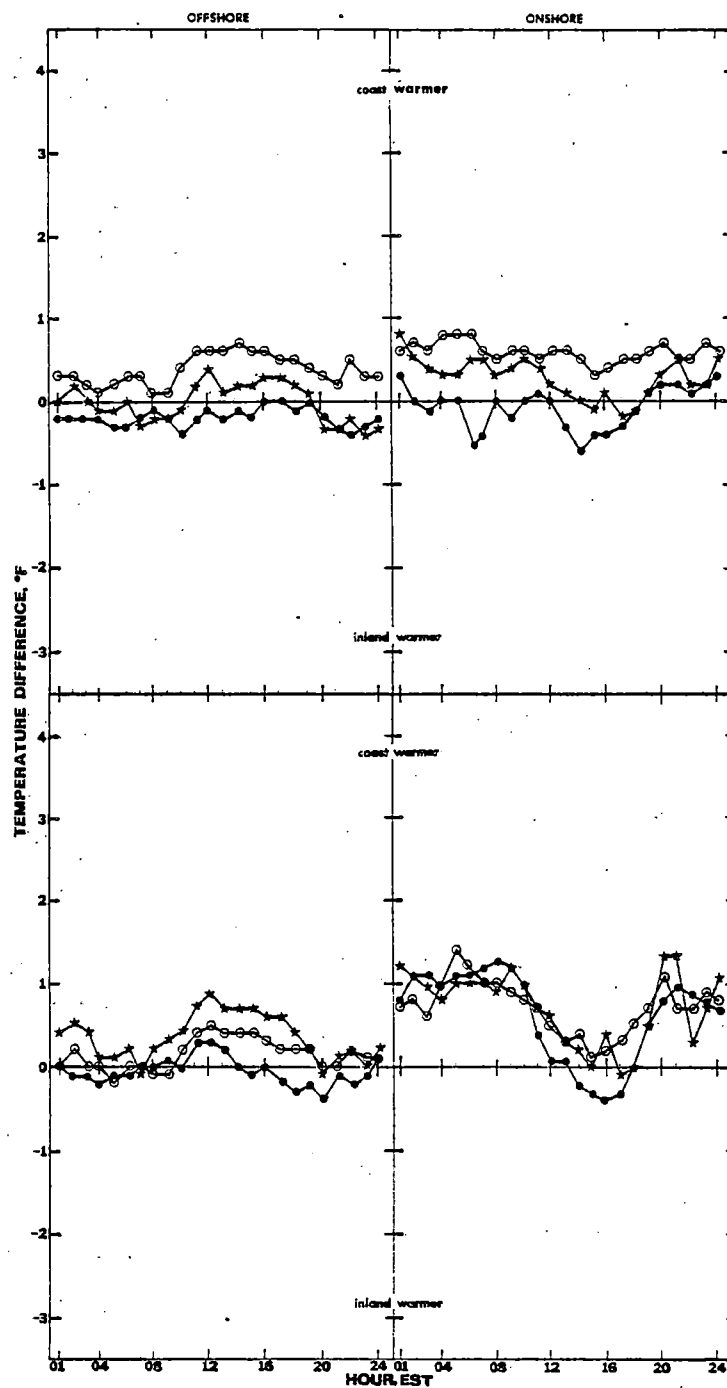


Fig. 13. Same as Fig. 10 except for the winter season.

The fact that the consistency noted above occurs in the daylight hours of all seasons and at all hours in the winter indicates that the large negative  $\Delta T$ 's observed at night, especially in summer, are probably related to wind speed. When wind speeds are high, the air is well-mixed both vertically and horizontally, and differences in temperature between the station groups are smaller than when winds are light. In light wind conditions, which occur most frequently on summer and autumn nights, local differences between the station groups play an important role. Of the five near-plant stations, all but station 2 are located in low-lying terrain. Station 1 is located in a depression among sand dunes, and stations 3, 8, and 10 are all located in a large low-lying area which rises gradually to the east and is bounded sharply on the west by sand dunes. The terrain farther inland, on the other hand, is higher and more rolling. It is likely that temperatures of the near-plant stations are affected to a greater degree by cool-air drainage. This process, in which colder air tends to sink and drain to low-lying areas (in the absence of other forces), can cause differences in temperature of  $5 - 10^{\circ}\text{F}$  over short distances. This local effect could reasonably account for the large negative  $\Delta T$ 's seen at night.

There are two main reasons why the Spring 1975 offshore curves show large nighttime negative  $\Delta T$ 's not evident in the other two years. One is that calm or light wind conditions occurred much more frequently in the Spring 1975 than in 1974 or 1973. For example, in 1975 the average nighttime

wind speed at F03A was about 1 mph less than in the two previous years, and calms were recorded an average 1 out of every 3 nights. Calms occurred only 1 out of every 6 nights in 1974 and 1 out of every 4 nights in 1973. As mentioned above, light wind conditions are conducive to the large nighttime negative  $\Delta T$ 's associated with offshore wind directions.

The second contributing cause is a difference in wind direction coding. For data prior to 1 January 1975, wind direction was coded "calm" when wind speed was zero. Since then, the actual wind direction has been digitized at all times, even during calm periods. Because the analysis presented here has not used wind speed data per se, the 1975 data set includes many hours of data during calm conditions which were not included in the 1973 and 1974 data sets. The effect of this change in coding technique can be seen in Table 14, which shows the average number of observations per hour for each season, both day and night, for offshore and onshore winds. In Spring 1975, there were 14% more nighttime observations than in 1974, and 129% more than in 1973. The effect is even more evident in the large number of nighttime offshore observations in Summer 1975 and Autumn 1975 compared to the other two years. Because of this change in coding, it appears that the daytime offshore  $\Delta T$ 's provide the best control group for comparison.

In summary, there were only minor season-to-season and year-to-year differences among the daytime offshore  $\Delta T$  data.

Table 14

Average Number of Observations per Hour

		NIGHT(2000-0500)		DAY(0800-1700)	
		Offshore	Onshore	Offshore	Onshore
Spring	73	17	11	19	19
	74	31	25	32	38
	75	37	27	27	48
Summer	73	11	9	14	29
	74	12	14	20	50
	75	39	15	22	45
Autumn	73	20	23	24	38
	74	17	21	23	38
	75	36	16	26	33
Winter	73-74	26	19	31	19
	74-75	32	32	32	35
	75-76	28	31	27	37

Although there were obvious differences between the seasons for the onshore  $\Delta T$  data, those differences were expected because of lake effects on temperature. There was, however, no noticeable difference between the onshore operational and preoperational data in any of the seasons.

Magnitude of a Statistically Significant Result. Even though examination of the graphs above showed no discernible difference between results using operational and preoperational data, the Student-t test described above was applied to determine the magnitude of a temperature increase that is statistically significant. One  $\Delta T$  comparison for one season was made to illustrate the use of the test. Using the two years of preoperational data as a basis, the shaded area of Fig. 12c and 12d shows a 99% confidence interval for the mean of  $\Delta T_{1-14}$  as a function of time of day in autumn. In the case of onshore winds, the curve for operational data falls well within the confidence interval, meaning that there are no statistically significant differences (at the 1% level) between preoperational and operational data. It can also be seen that the magnitude of a statistically significant difference varies from about  $0.5^{\circ}\text{F}$  during the day to nearly  $3^{\circ}\text{F}$  at night. For offshore winds, the magnitudes are about  $0.5^{\circ}\text{F}$  during the day and  $1.5^{\circ}\text{F}$  at night. Significant differences due to the differences in coding mentioned above, however, can be noted between 2200 and 0500.

The daytime comparisons for both offshore and onshore are more reliable than those for nighttime due to higher wind speeds

and/or larger number of observations. For the daytime data then, the statistical test described above shows that an increase in  $\Delta T$  of about  $0.5^{\circ}\text{F}$  is significant. As stated above, no increase of such a magnitude was observed in the first year of operational data.

Conclusions. Based on the above analysis, it may be concluded that operation of the cooling towers caused no increase in temperature at stations near the plant during 1975. Since the plant and cooling towers were in operation only part of the year, and even then at less than 100% capacity, it is not yet possible to make a general statement as to the effects of operation of the cooling towers on temperature. Data from 1976 and 1977 will be analyzed as above and should provide a basis for a more definitive conclusion.

Finally, it should be noted that the statistical test used here shows only whether an apparent change in temperature is either real or can be explained as the result of random variation. It does not explain the cause of a significant difference. The choice of data and restrictions mentioned above are designed to eliminate causes of variation other than the hypothesized effect. Yet, if a significant difference in temperature does occur as shown by these tests, the test results would only be supporting evidence (and not proof) that the cooling towers were the actual cause. Determination of the actual cause in such a case would require analysis and interpretation of additional information.



A comparison of season and annual precipitation in 1975  
with long-term means\*

A concern in the operation of the large number of mechanical-draft cooling towers at Palisades is that the addition of heat and moisture into the atmosphere may increase cloudiness and precipitation. As Carson (1976) points out in his review of recent findings, both natural and mechanical-draft cooling towers may cause such effects, but they are difficult to separate from natural variabilities. The Palisades cooling towers, because of their location near Lake Michigan, are in a region where natural precipitation patterns and types are significantly affected by the lake itself, particularly in late autumn and winter. A large natural variability in precipitation is the result.

To obtain information on precipitation patterns and their natural variability in the Palisades area, long-term precipitation data from representative National Weather Service stations and data from the Palisades network were analyzed both by season and by year. The analyses for 1975 discussed below supplement those for 1973 and 1974 discussed in the fourth annual report.

Figure 14 shows the locations of the network stations (numbered 1 through 13) and climatological stations used in the analysis. Shown beside each climatological station is the span of years for which it has precipitation data. It can be noted that record lengths range from 14 years for

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\*by Dennis F. Kahlbaum

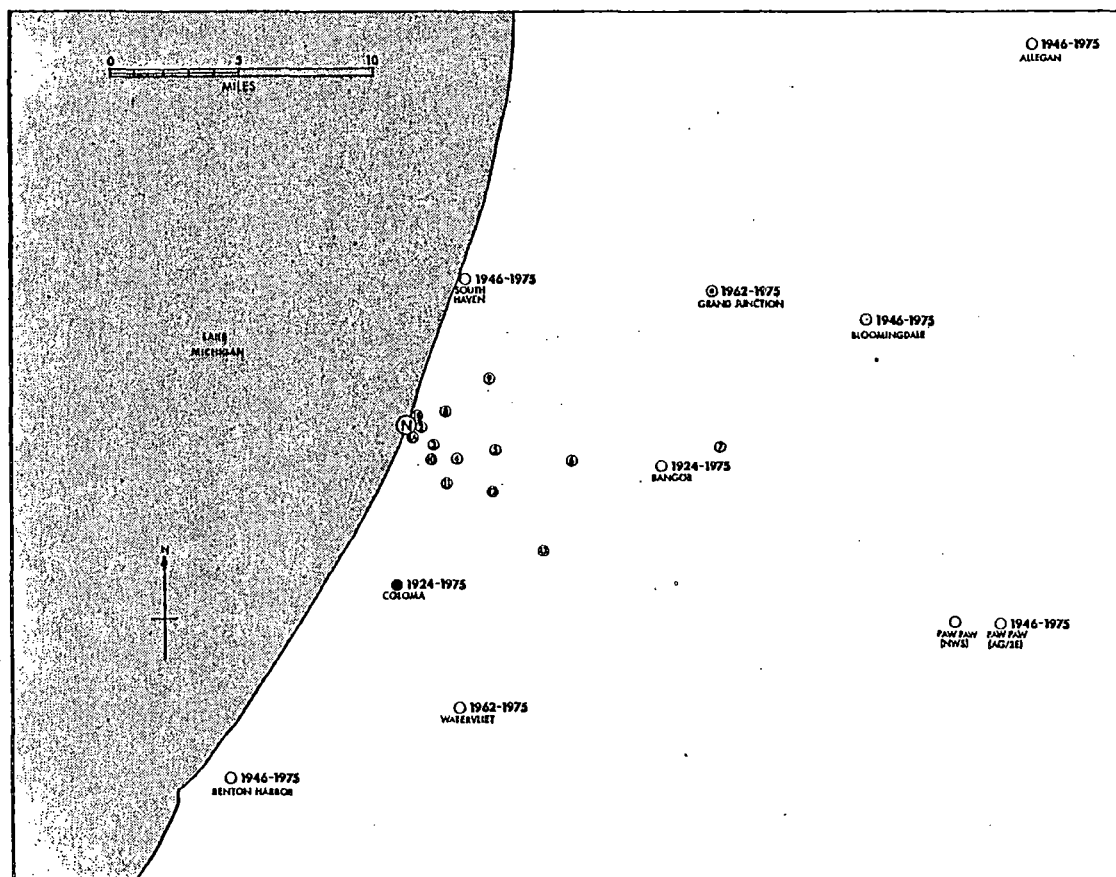


Fig. 14. Network and climatological stations used in precipitation analysis. Periods of records are shown for each station. Types of stations in addition to network stations are:

- National Weather Service station with recording gage;
- National Weather Service station with 8-inch standard stick gage;
- ⊙ Agricultural station with stick gage - only for April through October;
- Ⓝ Palisades Nuclear Plant.

Watervliet and Grand Junction to thirty years for most other stations. Those stations with record lengths exceeding 30 years have substantial discontinuities in records, but data from these stations are considered sufficiently accurate for qualitative comparisons with network data for 1974 and 1975.

Winter. Precipitation for the winter of 1974-75 is shown at the bottom of Fig.15. It increased from the coastline inland. In addition, large spatial variability is evident. For example there is a 1.25" difference between South Haven, with 7.75", and network station P09A with 9.00", even though they are separated by only 6.4 km.

A comparison of the distribution of precipitation for winter 1974-75 with that based on climatology (top illustration of Fig.15 ) reveals good agreement. Both show an increase in precipitation from the coastline inland. They also show a comparable degree of spatial variability along the coastline. However, the region received an average 1.6" more precipitation than the climatological mean of 7.3".

Spring. The precipitation pattern for the spring of 1975 is shown in Fig. 16. It is dominated by a large maximum stretching from Watervliet and Coloma northeastward to Bloomingdale. This pattern is the result of thunderstorm activity on the evening of April 18th. Twenty-four hour precipitation amounts on that day ranged from a maximum of

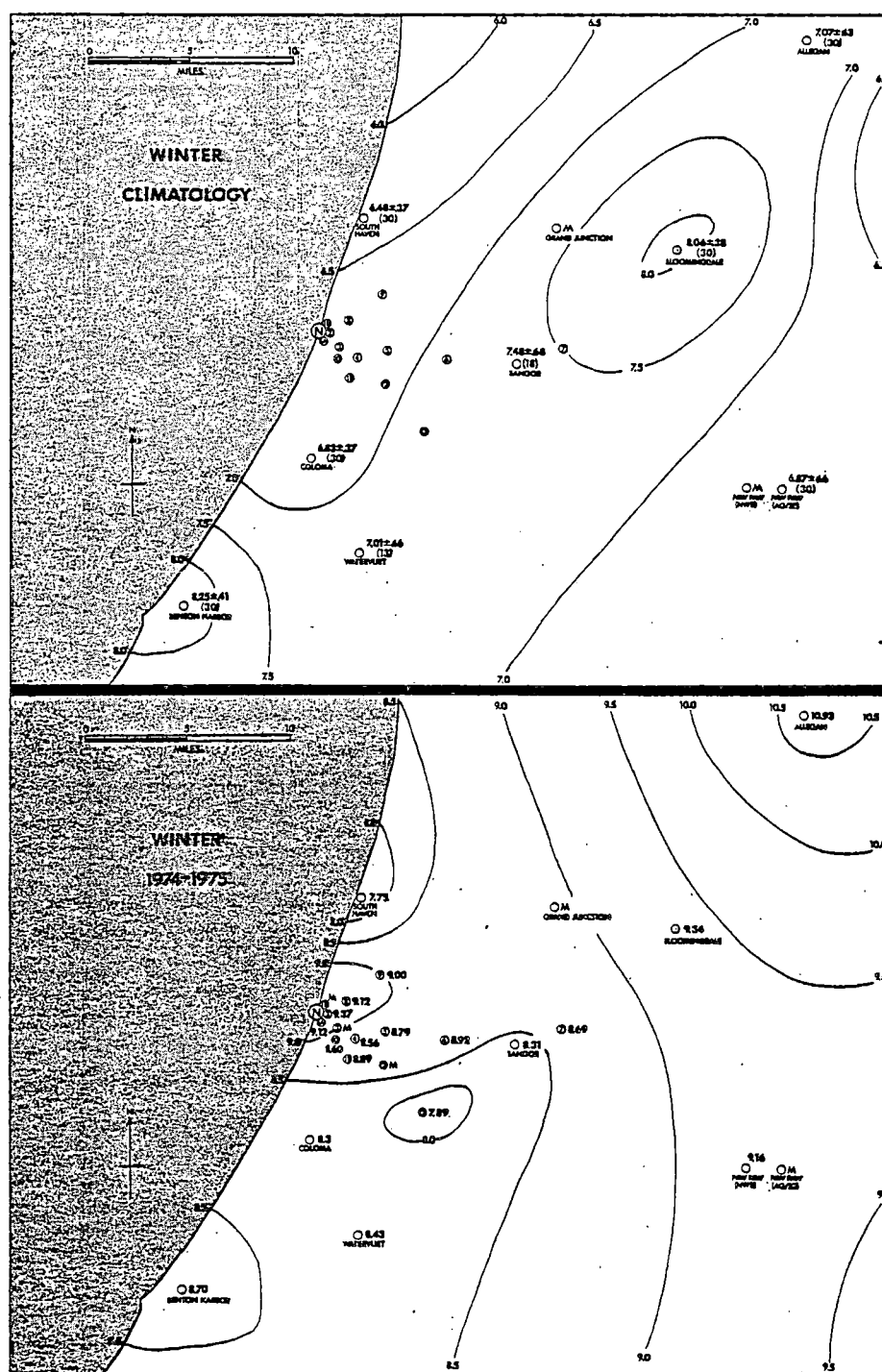


Fig. 15. Isohyets for the 1974-75 winter and a climatological winter. For climatological data, the length of record is in parenthesis and standard deviation are to the right of the amounts.



4.70" at Bloomingdale to a minimum of 2.81" at Allegan. The stations are 19 km apart. Over 70% of the rain fell within 3 hours of onset. The final result of this storm was extensive flooding and crop/property damage. In addition to this storm there were 10 other thunderstorm days. Three of these storms produced at least 1.0" rainfalls or more and another three produced hail.

Because severe weather of this type tends to be localized, the precipitation pattern for this season bears little resemblance to climatology. Furthermore, the region in general received an average of 3.8" more than the climatological mean of 9.4".

Summer. The precipitation pattern for the summer of 1975 is shown in Fig.17 . It is also dominated by the effects of frequent convective activity. At least 26 thunderstorm days occurred, with 4 producing over 1.0" of rainfall each. Some of those storms were particularly noteworthy. In particular, those on June 18th and July 12th produced hail while one on August 21 caused 3.29" of rain in 24 hours in Bloomingdale. This convective activity also produced a high degree of spatial variability. The 2.98" difference between stations P04A and P05A which are separated by only 2.4 km is an example.

As with the spring precipitation pattern, that for the summer of 1975 is different from the climatological pattern. Moreover, the region in general received an average 5.9" of precipitation above the climatological mean of 9.7".

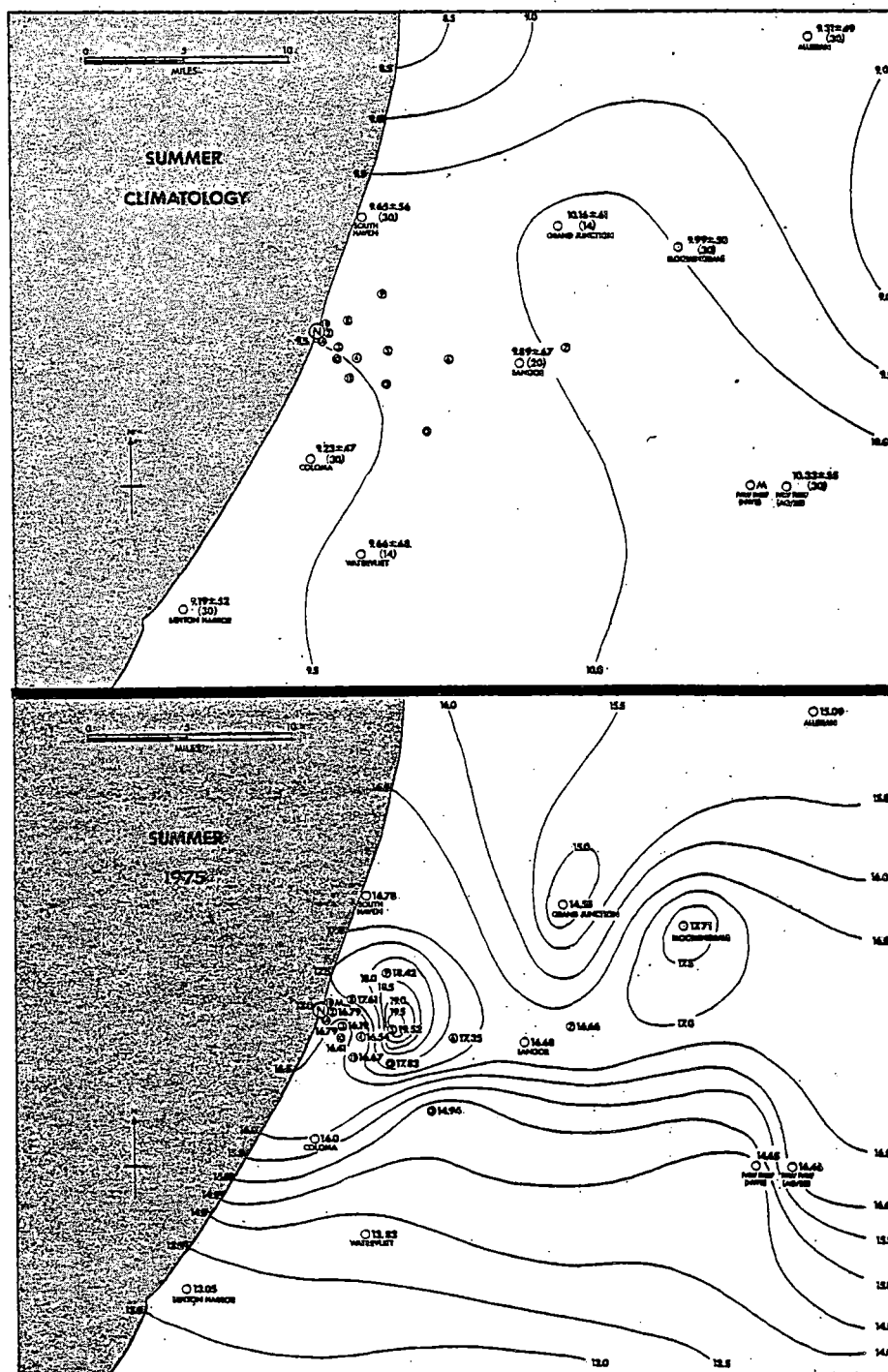


Fig. 17. Isohyets for the 1975 summer and a climatological summer. For climatological data the length of record is in parenthesis and standard deviation are to the right of the amounts.

Autumn. In autumn, convective activity subsided greatly, resulting in a smoother precipitation pattern shown in Fig. 18. Precipitation over the northern portion of the region increased with distance inland. Over the southern portion, however, there was little spatial variation.

The small spatial variability and gradual increase of precipitation inland from the coast are also evident in the climatological pattern. In general, as a whole, the region received about 2.2" less precipitation than the climatological mean of 9.0".

Annual. The distributions and amounts of precipitation for the year 1975 are shown in Fig. 19. As would be expected, they were determined primarily by the enhanced convective activity. In all, 45 thunderstorm days occurred in the area during the year, which is 7 days greater than normal. Their influence in producing spatial variability is evident. For example, there is a 5.06" difference between network stations P04A and P05A, which are separated by only 2.4 km.

Aside from the maximum precipitation region centered around Bloomingdale, the 1975 precipitation pattern is quite different from that based on climatology. Moreover, the region averaged 10.6" above the climatological mean of 35.5"

Departure of 1975 precipitation totals from normal. Table 15 summarizes the seasonal and annual totals for the Palisades network area. The totals for the Palisades network were



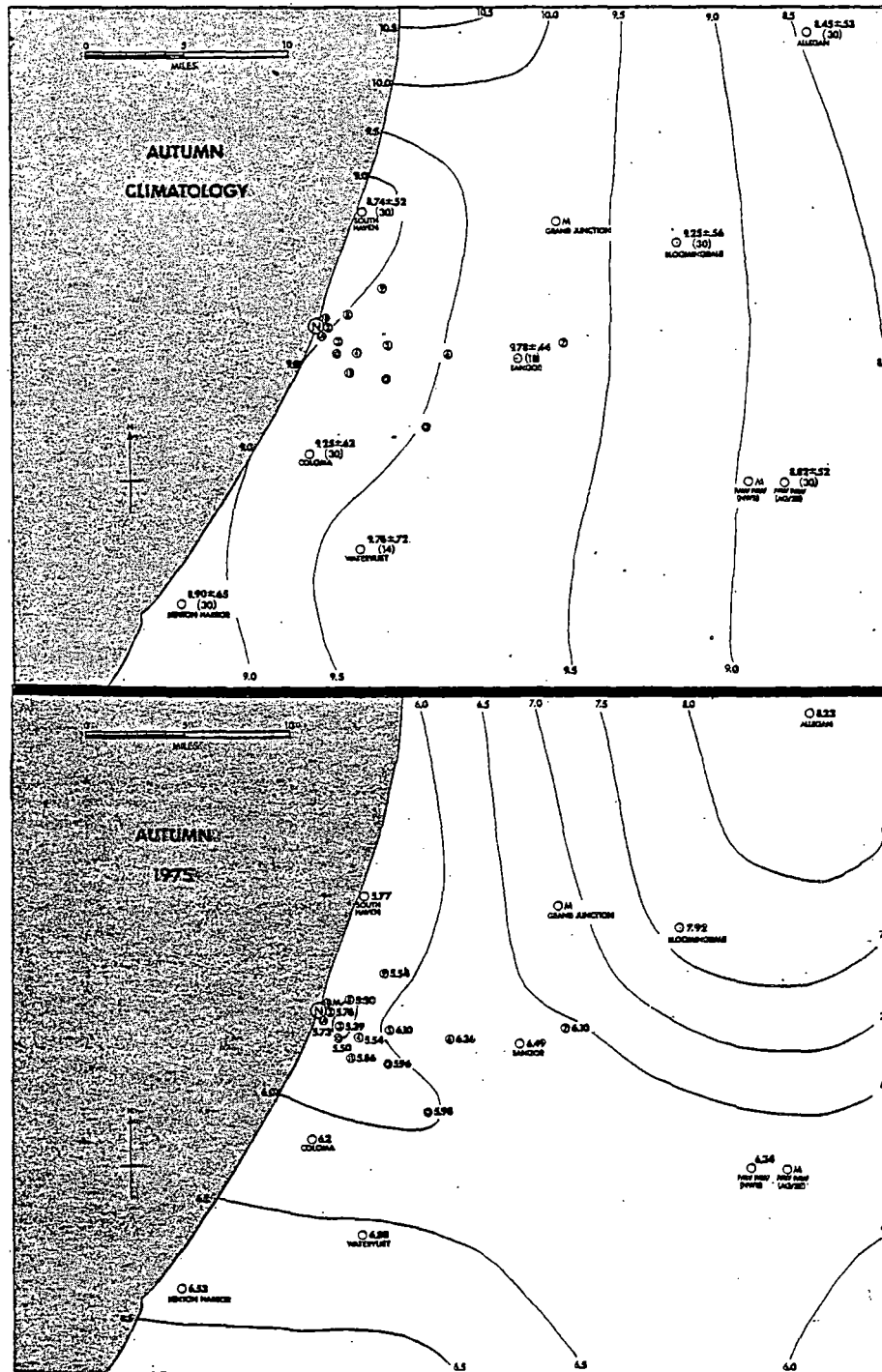


Fig. 18. Isohyets for the 1975 autumn and a climatological autumn. For climatological data the length of record is in parenthesis and standard deviation are to the right of the amounts.



TABLE 15

Total precipitation and departure from climatology for  
the Palisades network and South Haven

<u>Palisades Network</u>		<u>South Haven</u>			
Season	Average Total for Network (inches)	1975 (inches)	Climatology (inches)	Departure	Departure Class
Winter 1974-75	8.81	7.75	6.48	+1.27	Above
Spring 1975	13.39	12.15	8.85	+3.30	Much Above
Summer 1975	17.05	16.74	9.65	+7.09	Much Above
Autumn 1975	5.79	5.77	8.74	-2.97	Below
Annual 1975	45.70	44.13	33.82	+10.31	Much Above

obtained by averaging the seasonal totals for each station. The totals for South Haven, the nearest representative NWS cooperative station, are taken from Climatological Data (U.S. Environmental Data Service, 1975).

Climatologically, according to data for South Haven, winter is the driest season and summer is the wettest. In the period from December, 1974, through November, 1975, summer was the wettest and autumn the driest seasons for both South Haven and the Palisades network.

Since only a limited number of seasons of data can be obtained from the network, it is important to know how representative the seasons of operation are of average long-term conditions. The probability of occurrence method used by Baker and Ryznar (1974), was used here to determine the significance of 1975 departures from normal. The probability classes into which the seasonal totals fell are given in Table 15. . It can be noted that 1975 received a much above normal amount of precipitation. Furthermore, all seasons except for autumn, which was below normal, had either an above normal or much above normal amount of precipitation.

At this time, statements cannot be made about cooling tower effects on precipitation. The analyses of preoperational and operational (1975) data conducted thus far show that additional operational data are needed to enable possible effects to be treated statistically. Case studies are in progress, but the statistics of case studies are quite different from the statistics of long-term average effects.

Occurrences of Apple Scab Infection Conditions\*

An aspect of the study which deals directly with the meteorological impact of the cooling towers is that of humidity conditions and their effects on apple orchards. Of major importance, for example, is the possibility that cooling tower operation may increase humidity enough to cause an increase in conditions conducive to apple scab infections. As discussed below, unique combinations of temperature, humidity and precipitation are required for germination and infection to occur. Since all three variables are measured at each network station and at all first-order National Weather Service stations it was possible to determine how often infection conditions have occurred naturally in the past and if any increases have occurred since the cooling towers began operation which did not occur naturally.

Apple scab is a parasitic fungus disease which damages both the leaves and fruit of apple trees (Jones, 1971). It overwinters in an immature stage in dead apple leaves on the ground. The advent of warmer temperatures in the spring cause a renewal of growth of spore sacs until the spores within them are mature. When the leaves become wet, moisture is absorbed by the spore sacs and causes them to swell and burst, discharging the spores into the air. Maximum spore discharge occurs within 30 minutes of wetting;

\*by Edward Ryznar

complete discharge requires about 2 hours.

Germination begins as soon as a spore lands on twigs, leaves or fruit which are wet. The rate of germination and infection on the wet surface depends on temperature as shown in Table 16. The table shows that the temperature range most conducive to germination and infection is between 63°F and 75°F. For those temperatures, for example, light infection occurs only 9 hours after the start of precipitation and severe infection occurs in 18 hours.

Since an infection period is considered to start at the beginning of precipitation, the final criteria used to determine its severity were that the temperature remain above freezing during precipitation and that the relative humidity remain equal to or greater than 85% following the end of precipitation. Precipitation amounts greater than a trace were used in the analysis. The reason for choosing the relative humidity criterion is that for the temperature range considered, leaves and bark which are wet from precipitation are likely to remain wet as long as the humidity is 85% or greater even though precipitation has ended, thus adding to the duration of the period of infection.

The number of hours which fulfilled these criteria was totaled for each occurrence of precipitation from February through August. If an occurrence met a set of duration and temperature requirements given in Table 16, it was categorized as being conducive to light, moderate, or heavy infection. The number of

Table 16

Durations of wet conditions for  
various temperatures required to produce  
various degrees of apple scab infections\*

Average Temperature	Degree of Infection		
	Light	Moderate	Heavy
<u>°F</u>	<u>hrs</u>	<u>hrs</u>	<u>hrs</u>
78	13	17	26
77	11	14	21
76	9 1/2	12	19
63 to 75	9	12	18
62	9	12	19
61	9	13	20
60	9 1/2	13	20
59	10	13	21
58	10	14	21
57	10	14	22
56	11	15	22
55	11	16	24
54	11 1/2	16	24
53	12	17	25
52	12	18	26
51	13	18	27
50	14	19	29
49	14 1/2	20	30
48	15	20	30
47	17	23	35
46	19	25	38
45	20	27	41
44	22	30	45
43	25	34	51
42	30	40	60
33 to 41	2 days		

\*taken from Jones (1971).

occurrences of each type of infection was totaled for each month.

Natural occurrences were based on computations performed for Muskegon County Airport using 5 years (1948-1952) of data and 1974 (preoperational) and 1975 (operational) data. Muskegon was chosen because it is the only station having climatological data which are complete enough and representative of the Palisades area. The years 1948-1952 were chosen because the station has hourly weather observations made on a 24-hour basis available on magnetic tape only for those years. The results for 1974 and 1975 were obtained by screening the hourly observations and manually tabulating episodes fulfilling the criteria given above.

Occurrences of the precipitation and humidity criteria conducive to various degrees of apple scab infections are given in Table 17. Totals for individual months between February and August are listed for 1948 through 1952 for Muskegon and for 1974 and 1975 for Muskegon and station P05A. Data for this station were chosen for more detailed analysis because this station is located in an apple orchard about 5 km ESE of the cooling towers. For purposes of comparison, totals for each infection category for 1974 and 1975 are also listed at the bottom of the table for several other stations and Muskegon.

Significant features of Table 17 are the following:

- 1) Based on Muskegon data for 1948-52,



Table 17

## Occurrences of Apple Scab Infection Conditions

Muskegon County Airport

	LIGHT (L)								MODERATE (M)								HEAVY (H)							
	F	M	A	M	J	J	A	Tot	F	M	A	M	J	J	A	Tot	F	M	A	M	J	J	A	Tot
1948	0	0	1	0	3	2	0	6	0	1	1	3	3	0	1	9	0	0	0	0	1	0	0	1
1949	0	1	0	1	1	1	1	5	0	0	0	1	2	1	2	6	0	0	0	1	0	1	0	2
1950	0	0	0	1	2	1	0	4	0	0	0	1	3	1	2	7	0	0	0	0	0	2	4	6
1951	0	0	0	1	1	1	2	5	0	0	2	1	3	3	4	13	0	1	0	0	1	0	2	4
1952	0	0	1	3	3	2	3	12	0	0	0	1	0	2	3	6	0	0	0	1	0	2	0	3
Tot	0	1	2	6	10	7	6	32	0	1	3	7	11	7	12	41	0	1	0	2	2	5	6	16
1974	0	0	1	0	5	1	0	7	0	0	1	2	3	1	1	8	0	1	1	2	0	1	0	5
1975	0	0	1	2	3	1	1	8	0	0	1	3	3	2	2	11	0	0	0	0	1	0	3	4
<u>Station P05A</u>																								
1974	0	0	1	2	0	1	2	6	0	0	1	0	5	0	2	8	0	0	0	1	1	1	2	5
1975	0	0	1	3	3	4	1	12	0	0	0	3	3	1	3	10	0	0	0	2	0	0	2	4

## Totals for Other Stations

<u>Station</u>	<u>1974</u>			<u>1975</u>		
	L	M	H	L	M	H
P03A	4	9	2	4	15	3
P04A	3	12	3	3	15	3
P05A	6	8	5	12	10	4
P06A	4	11	5	7	13	5
P07A	5	10	3	9	12	3
MKG	7	8	5	8	11	4

the average annual occurrences of all categories were 18, consisting of about 7 light, 8 moderate, and 3 heavy types. There were as few as 13 (1949) and as many as 21 (1951 and 1952). In 1974 there were 20 and in 1975 there were 23. The months having the largest number were June (7), July (4) and August (5).

2) The average of the total number of occurrences for the five network stations listed was 18 for 1974 and 24 for 1975.

The main reason for the larger number of occurrences in 1975 is that the months of February through August were wetter and more humid than they were in 1974. This was true not only for the area between Palisades and Muskegon but also for southwestern lower Michigan in general. Days with precipitation were more frequent and the average duration of precipitation episodes was longer. For the 7-month period, for example, Muskegon had 21.13 inches of precipitation in 1974 and 27.13 inches in 1975. South Bend, Indiana had 20.95 inches in 1974 and 29.91 inches in 1975 for the same months.

Based on the preliminary analysis conducted so far, it is concluded that increases in apple scab infection conditions between 1974 and 1975 were due to natural meteorological events and not to cooling tower operation. Similar analyses of the 1976 data are being conducted which will increase the statistical significance of the results.

### True Lake Breeze Occurrences and Behavior\*

This section describes results of a continuing study of true lake breeze characteristics determined from an analysis of temperature, humidity and wind data from both the Cook and Palisades meteorological networks. The results for 1976 described below supplement those for 1973 and 1974 discussed in the third annual report and for 1975 discussed in the fourth annual report. Their importance to the present study is that the change from land to lake air accompanying the passage of a lake breeze front affects not only the cooling tower plume but all coastal diffusion processes. Information on lake breeze meteorological changes, frequency of occurrence and penetration inland, therefore, is important.

As in the analyses described in previous reports, a true lake breeze is defined as lake air which moves inland against an offshore gradient wind. The Lake Michigan shoreline in the vicinity of the meteorological networks is oriented approximately NNE-SSW, so a true lake breeze as defined here moves inland against a wind from any direction between northeast clockwise through south. Its passage is most reliably detected by a wind shift from offshore to onshore, usually to the northwest quadrant. Although it is not considered here, a type of lake breeze also forms which enhances an existing onshore gradient wind. Because onshore gradient winds are more common than offshore winds, it

\*by Edward Ryznar

has been observed with greater frequency than the true lake breeze. In this case, an impetus is added to the gradient wind and is detectable mainly as an increase in wind speed. In addition, changes in temperature, humidity, wind direction, and thermal stability are less than those accompanying a true lake breeze front.

Occurrences for 1973 through 1976. In general, the months of March through September have the largest number of occurrences of true lake breezes, since the condition of cool water and warm land necessary to set up the lake breeze circulation is most common in those months. Occurrences between 1973 and 1976 are listed for these months by year in Table 18.

Table 18

Monthly occurrences of true lake breezes for  
1973 through 1976

	March	April	May	June	July	August	Sept.	Tot.
1973	5	3	2	2	2	3	1	18
1974	3	1	4	5	7	10	5	35
1975	1	3	4	4	5	7	3	27
1976	<u>2</u>	<u>2</u>	<u>5</u>	<u>4</u>	<u>4</u>	<u>8</u>	<u>4</u>	<u>29</u>
Tot.	11	9	15	15	18	28	13	109

The results for 1976 are similar to those for the previous years shown. July and August had the largest number of occurrences on the average because climatologically, as

described in detail in the fourth annual report, they have the highest monthly average maximum temperatures, the least average daytime cloudiness and the lowest average wind speeds. Each of these factors is individually conducive to lake breeze formation, but the fact that they occur together in those two months, on the average, explains the observed results.

Penetration inland. Once a true lake breeze forms, the distance that it moves inland depends mainly on the speed of the offshore wind it is moving against. Table 19 shows the 109 occurrences broken down into the number that reached maximum distances inland.

Table 19

Number of True Lake Breezes Reaching  
Maximum Distances Inland

	1 km	1-5 km	5-11 km	11-19 km	>19 km
1973	3	2	2	3	8
1974	3	3	6	10	13
1975	1	6	6	5	9
1976	<u>1</u>	<u>2</u>	<u>7</u>	<u>7</u>	<u>12</u>
Tot	8	13	21	25	42

Of the 109 true lake breeze occurrences listed in Table 19, 42, or nearly half of them moved at least as far inland as the farthest station, which was P07A at 19 km.

In these results if a lake breeze passed the farthest inland station of the Cook network, which was 12 km, and station P07A in the Palisades network, which was 19 km, it was assumed that it reached at least 19 km in general.

Local behavior. A summary of the behavior of true lake breezes in relation to other meteorological conditions is given below. It is based on the measurements accompanying all occurrences in 1973 through 1976 and supplements the climatological behavior described in the fourth annual report.

- 1) A true lake breeze will form if the sky is cloudless or nearly so and if the speed of the wind blowing lakeward does not exceed about  $6 \text{ m sec}^{-1}$ . It will usually form between 0900 and 1100 local time and move inland at a speed of about  $1\text{-}1.5 \text{ m sec}^{-1}$ .
- 2) If the sky is cloudless but the gradient wind speed is  $5\text{-}7 \text{ m sec}^{-1}$  a true lake breeze is likely to form but is not likely to reach more than one mile inland. Whatever distance inland the front reaches, it is likely to be forced back by the gradient wind, often back to the lake itself. In addition, its time of formation is delayed until the maximum water-land temperature difference can be attained, which is usually early afternoon.
- 3) It will not form if the sky is cloudy (greater than  $7/10$  of the sky covered with clouds) or if the wind blowing lakeward exceeds about  $7 \text{ m sec}^{-1}$ , even if the sky is cloudless.

4) The duration of the lake breeze as measured near the shoreline is typically nine hours in the summer months. The wind shifts from offshore to onshore about 1000 local time and back to offshore about 1900 local time.

Vertical structure. The synoptic meteorological conditions accompanying the true lake breezes described here are very similar to those for which Olsson et.al. (1968) made detailed measurements of lake breeze structure south of Grand Haven, Michigan. Because some of their findings are relevant to the present work, they are summarized below.

Their observations made on 25 June 1965 showed that

1) The maximum depth of the layer of onshore wind was 400 m near the lake breeze front in late afternoon. The maximum onshore wind of about  $4 \text{ m sec}^{-1}$  occurred in a layer about 200 m high immediately inland from the shore in late afternoon.

2) Strong upward vertical air motion exceeding  $200 \text{ cm sec}^{-1}$  coupled with low level horizontal convergence occurred near the lake breeze front. The average vertical motion in the onshore wind was less than about  $50 \text{ cm sec}^{-1}$  over land. Downward motion was observed in the onshore wind about 1.2 km offshore.

3) The return flow layer aloft (offshore wind in lake breeze circulation) was more than 2000 m thick at the shore, with a maximum offshore wind component of about  $5 \text{ m sec}^{-1}$ . Vertical velocities varied from

+70 cm sec<sup>-1</sup> (up) to -70 cm sec<sup>-1</sup> (down) in the return flow layer, with vertical convergence layers observed near the lake breeze front.

Some of these characteristics have been observed as effects on the cooling tower plume. For example, time lapse photographs have shown that the plume usually becomes denser and longer accompanying the temperature decrease and humidity increase with the lake breeze front. The change in wind direction from offshore to onshore also is evident. Unlike photographs of particulate plumes from tall stacks near lakeshore however, no photographs of the plume have shown it to penetrate the layer of onshore wind and move lakeward in the return flow. Evaporation, plus the lack of enough buoyancy and momentum to reach the return flow, are possible reasons.



Occurrences of advection-radiation fog\*

An analysis of occurrences of advection-radiation fog (hereafter referred to as a-r fog) at stations P03A and P07A was described in the fourth annual report. Data for 1973 and 1974, both of which were preoperational years, were used. The analysis provided necessary information on natural occurrences of a-r fog at the two stations and meteorological conditions responsible for fog formation. Information was also obtained on effects of onshore winds, particularly true lake breezes, on the variation of a-r fog occurrences with distance inland. The work described below extends the analysis to include data obtained in 1975 during which the cooling towers were in operation from 4 April to 20 December. The data used were those tabulated in the visibility section of the 1975 data report.

The results of classifying fog occurrences as a-r fog and compiling their durations for each month of 1975 are shown in Table 20. It lists the number of hours of a-r fog by month which decreased the sensor-equivalent visibility to each of the following distances or less: 3 km, 1 km and 0.5 km. Also listed is the number of hours of data available. An asterisk above a month means that both stations had at least 85% data recovery.

The table shows that except for the fall months, the number of hours of a-r fog at P03A with visibilities of 3 km

\*by Edward Ryznar

Table 20

Hours of Radiation Fog by Month  
for Stations P03A and P07A for 1975

1975	P03A				P07A			
	Avail. Data (Hr)	Visibility (km)			Avail. Data (Hr)	Visibility (km)		
		<u>&lt;3</u>	<u>&lt;1</u> (Hr)	<u>&lt;0.5</u>		<u>&lt;3</u>	<u>&lt;1</u> (Hr)	<u>&lt;0.5</u>
Jan	738	None	None	None	0			
Feb	670	None	None	None	226	None	None	None
Mar*	744	19.5	1.3	0.5	744	None	None	None
Apr	720	9.4	4.5	1.5	526	0.22	0.05	0.0
May*	577	26.5	14.0	7.8	744	11.9	4.2	0.4
Jun	676	74.6	53.3	24.5	720	32.6	9.7	0.2
Jul	605	120.3	62.9	38.4	744	31.0	6.7	5.4
Aug*	713	60.2	25.8	17.7	660	31.9	17.1	8.7
Sep*	626	51.2	19.9	2.4	687	43.3	18.6	8.7
Oct*	744	45.5	24.2	12.0	744	28.6	20.2	11.2
Nov	636	25.4	19.7	11.6	489	26.9	23.1	20.6
Dec	646	None	None	None	0			

\*Greater than 85% Data Recovery at Both Stations

or less is at least twice that at P07A. For July, P03A had about 4 times as many fog hours even though it had 81% data recovery and P07A had 100%.

These results are very similar to those obtained from the analysis of 1973 and 1974 data. Station P03A had about twice the number of hours of a-r fog of P07A during the summer months, when this type of fog is the most frequent. In 1973 the month with the maximum number of fog hours was August (104 hours); in 1974 it was September (119 hours) and in 1975 it was July (120 hours).

Table 21 shows a breakdown of the hours with a-r fog for 1975 in the form of a tetrachoric contingency table. For comparison, the table for 1973 and 1974 data which was described in the fourth annual report is also shown. Presenting the fog data in this way provides significant information concerning the simultaneity of fog occurrences by dealing only with hours when there was fog at one or both of the stations. If there was fog at one station but coincident data were missing for the other, however, the occurrence is not considered.

It can be noted from the table showing results using available data for 1973 and 1974 that for the 130 days with a-r fog episodes there were 338 hours when there was fog at P03A but not at P07A, yet there were only 44 hours when there was fog at P07A but not at P03A. In 1975 for the data available there were occurrences of a-r fog at one or both of the stations on 102 days, so there were 2448 possible hours which could have had fog on those days.

Table 21

Tetrachoric table of hours of radiation fog  
at P03A and P07A for visibility  $\leq 3$  km

1973-1974

		P03A		Total
		fog	no fog	
P07A	fog	158.9	44.3	203.2
	no fog	337.8	2579	2916.8
Total		496.7	2623.3	3120

1975

P03A

		fog	no fog	Total
P07A	fog	150.9	54.6	205.5
	no fog	287.6	1954.9	2242.5
Total		438.5	2009.5	2448

Results in Table 21 show that for 1975:

1. there were 150.9 hours when there was fog at both P03A and P07A,
2. there were 54.6 hours when there was fog at P07A but not at P03A,
3. there were 287.6 hours when there was fog at P03A but not at P07A and
4. there was not fog at either station for 2009.5 (80%) of the possible 2448 hours.

Preliminary Evaluation of Cooling Tower Effects. A more detailed comparison of the preoperational and operational results led to a preliminary evaluation of cooling tower effects on fog. The reasoning was that if the cooling towers enhance or cause fog, the expected observed effect would be an increase in the duration and occurrences of fog in the average downwind direction from the towers. An evaluation of any increase observed, however, requires that a determination be made that the increase was due to cooling tower operation and not to natural meteorological causes. Station P03A is near the towers and downwind, on the average. If fog is increased by the cooling towers, data from this station should indicate an increase above natural occurrences. The results for station P07A, because it is 19 km inland, are assumed to be representative of those caused by natural processes. If an increase in a-r fog from 1973-1974 to 1975 is observed at P03A without a corresponding increase at P07A, the cooling tower plume could be the cause.

Information obtained from a comparison of results from the contingency tables for the preoperational and operational years shows that operation of the cooling towers did not increase fog at station P03A. For example, considering those hours with fog at either or both stations, the percentage that P07A had fog alone increased 5% between the preoperational and operational years. In 1973-74 the percentage was  $\frac{44.3}{203.2} = 22\%$  of the hours and in 1975 it was  $\frac{54.6}{205.5} = 27\%$ . For station P03A, there was a 2% decrease; from  $\frac{337.8}{496.7} = 68\%$  in 1973-74 to  $\frac{287.6}{438.5} = 66\%$  in 1975.

Similar results were obtained by dividing the number of hours of fog at one station alone by the total number of hours fog was observed. The ratios for P07A increased from  $\frac{44.3}{541} = 8\%$  for 1973-74 to  $\frac{54.6}{493} = 11\%$  for 1975. Those for P03A decreased from  $\frac{337.8}{541} = 62\%$  for 1973-74 to  $\frac{287.6}{493} = 58\%$  in 1975.

Although these results indicate that the cooling towers did not increase a-r fog at station P03A, they cannot be interpreted to mean that the cooling towers do not affect fog in general. As described in section II, fog caused by plume downwash is a common occurrence, especially in the winter season. In most cases, however, it does not extend more than about 200 m downwind. Also, the nuclear plant in 1975 operated at levels up to 80% of capacity. How the increase in water vapor leaving the cooling towers as a result of the 100% operating level of the plant in 1976 affects these results will be determined by an analysis of 1976 data.

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APPENDIX A.  
Project Publications and Reports

Journal Articles

Ryznar, E., D.G. Baker and H. Moses, 1976: "Coastal meteorological networks to determine effects of nuclear plant cooling systems". Bull. Amer. Meteor. Soc., 57, 1441-1446.

Ryznar, E., "Advection-radiation fog near Lake Michigan." Atmos. Env., (in press).

Ryznar, E., "An observation of cooling tower plume effects on total solar radiation." Atmos. Env., (in press).

Weber, M.R., "Average diurnal wind variations in southwestern Lower Michigan." (in preparation for submission to J. App. Meteor.)

Moses, H., D.G. Baker and E. Ryznar, "Wind-solar power relations near Lake Michigan." (in preparation).

Annual Reports

All project reports come under the general heading of "An investigation of the meteorological impact of mechanical-draft cooling towers at the Palisades Nuclear Plant", DRDA Project 320158, University of Michigan.

1973 Ryznar, E. and D.G. Baker: First Annual Progress Report, 42 pp.

1974 Ryznar, E. and D.G. Baker: Second Annual Report, 78 pp.

1975 Ryznar, E., M.R. Weber, and D.G. Baker: Third Annual Report, 59 pp.

1976 Ryznar, E., M.R. Weber, D.G. Baker and D.F. Kahlbaum, Fourth Annual Report, 102 pp.

Data Reports

1975 Ryznar, E., D.G. Baker, M.R. Weber, R. Kessler, and J.A. Baron: Data Report No. 1: Summary of Meteorological Measurements for the Period October 1972 through June 1973. 99 pp.

- 1975 Weber, M.R., R. Kessler, W.G. Snell, D.C. Dismachek, and D.F. Kahlbaum: Data Report No. 2: Summary of Meteorological Measurements for the Period July 1973 through December 1973. 100 pp.
- 1976 Weber, M.R., R. Kessler, W.G. Snell, D.F. Kahlbaum: Data Report No. 3: Summary of Meteorological Measurements for the Period January 1974 through December 1974. 172 pp.
- 1976 Snell, W.G. and D.F. Kahlbaum: Data Report No. 3.1: Summary of Temperature and Humidity Measurements for the Period January 1974 through December 1974. 37 pp.
- 1977 Weber, M.R., D.F. Kahlbaum, R. Kessler and C.R. Wilkes: Data Report No. 4: Summary of Meteorological Measurements for the Period January 1975 through December 1975. 215 pp.

APPENDIX E

COMPOSITIONAL, STRUCTURAL AND CHEMICAL CHANGES  
TO FOREST VEGETATION FROM FRESH WATER

WET COOLING TOWER DRIFT

John J. Rochow<sup>(1)</sup>

ABSTRACT

A five year study to assess the impact of wet mechanical draft cooling towers on forest communities was conducted at the Palisades Nuclear Plant. Sampling plots located at various distances from the cooling towers were sampled for plant species compositional and structural analysis. Leaf tissue and soil samples were collected for chemical analysis. Areas within 90 m of the cooling towers have suffered severe compositional and structural changes as a result of ice and chemically induced damage. Calculation of diversity indices show that there has been a reduction in species diversity within 60 m of the cooling towers. Calcium, sodium and sulfur loadings for plant tissue show significant ( $P = 0.05$ ) increases within 60 m, and in some cases up to 85 m, of the cooling towers. Leaching of soil bases appear not to have increased by an increased deposition of anions.

BACKGROUND

An alternative to once-through cooling at electric generating stations is the use of cooling towers. Cooling towers lessen the impact to the aquatic system by essentially closing the cooling water loop. Consequently, less water is required, thermal discharges to the receiving water are reduced, and impingement and entrainment of aquatic organisms is reduced. However, the operation of wet cooling towers has the potential to cause an adverse impact to the terrestrial system through the effects of drift. Drift may adversely affect the terrestrial ecosystem by: (1) adding an increased chemical load to vegetation in the vicinity of the cooling towers, (2) increasing leaching of soil cations (bases) by excess anions and (3) adding a physical stress to vegetation through ice accumulation during the winter months.

To assess the potential environmental impacts of operating cooling towers at the Palisades Nuclear Plant (Consumers Power Company), a study was designed to quantify compositional, structural and chemical changes in the vegetation and soil that may result from cooling tower drift deposition.

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The Palisades Nuclear Plant is located on Lake Michigan in southwestern Michigan, USA. Two mechanical draft wet cooling towers, each with 18 cells (Figure 1), were constructed during 1972-73 as a retrofit to the Plant, which was initially designed and operated with once-through cooling using Lake Michigan water. Each cooling tower is 198 m long, 15.2 m wide and 19.8 m high, and is designed to cool 757,000 liter min<sup>-1</sup> of condenser cooling water. While the towers are operating 16% sodium hypochlorite (NaOCl) is added to the cooling water at an average rate of 472 liter day<sup>-1</sup> to control biofouling in the condensers and cooling towers. Sulfuric acid (H<sub>2</sub>SO<sub>4</sub>) is added to the cooling water at an average rate of 2,620 liter day<sup>-1</sup> to maintain suitable pH to inhibit scaling in the condensers and cooling towers.

Lake Michigan water averages 33.6 ppm calcium, 10.6 ppm sodium, 9.0 ppm chloride and 22.2 ppm sulfate.<sup>(1)</sup> The cooling tower basin water averaged 100 ppm calcium, 28 ppm chloride and 435 ppm sulfate over a 28 month period.

Sand dunes that rise up to 60 m above Lake Michigan surround the cooling towers. These dunes are classified as the coastal blowout type that are generally aligned at right angles to the shoreline often with very steep slopes. The cooling towers were constructed in interdunal depressions; consequently, much of the surrounding terrain is at a higher elevation than the top of the cooling towers (Figure 1).

The dominant forest community at the study site is comprised of red oak (Quercus rubra L.), sugar maple (Acer saccharum Marsh.) and beech (Fagus grandifolia Ehrh.) typical of much of the successional advanced sand dune communities along the eastern shores of Lake Michigan. However, the forests surrounding the cooling towers are dominated by red oak, white pine (Pinus strobus L.), sassafras (Sassafras albidum [Nutt.] Nees.) and white ash (Fraxinus americana L.), typical of earlier successional communities on stabilized sand dunes.

## PROCEDURES

The study was initiated during 1973 while the cooling towers were under construction in order to obtain at least one year of preoperational data. However, due to extended outages at the Palisades Plant, preoperational data were collected during 1973 and 1974. The cooling towers became operational in April of 1975 and continued into December 1975 at which time the Plant was shut down for repairs. During May 1976 the Plant resumed operation and continued through December 1977.

Fifteen circular sampling plots were established at selected distances from the cooling towers to examine compositional, structural, and chemical changes to the vegetation and soil as a result of cooling tower operation (Table I). One plot was eliminated from the vegetation sampling soon after the study began due to destruction from construction activities. Each plot is 0.008 ha in size, in which the occurrence of all plant species was recorded. Within this plot, four-m<sup>2</sup> quadrats were located in the four cardinal directions 3 m from the plot center. All species present in each of the quadrats were counted and recorded. Percentage cover was recorded for

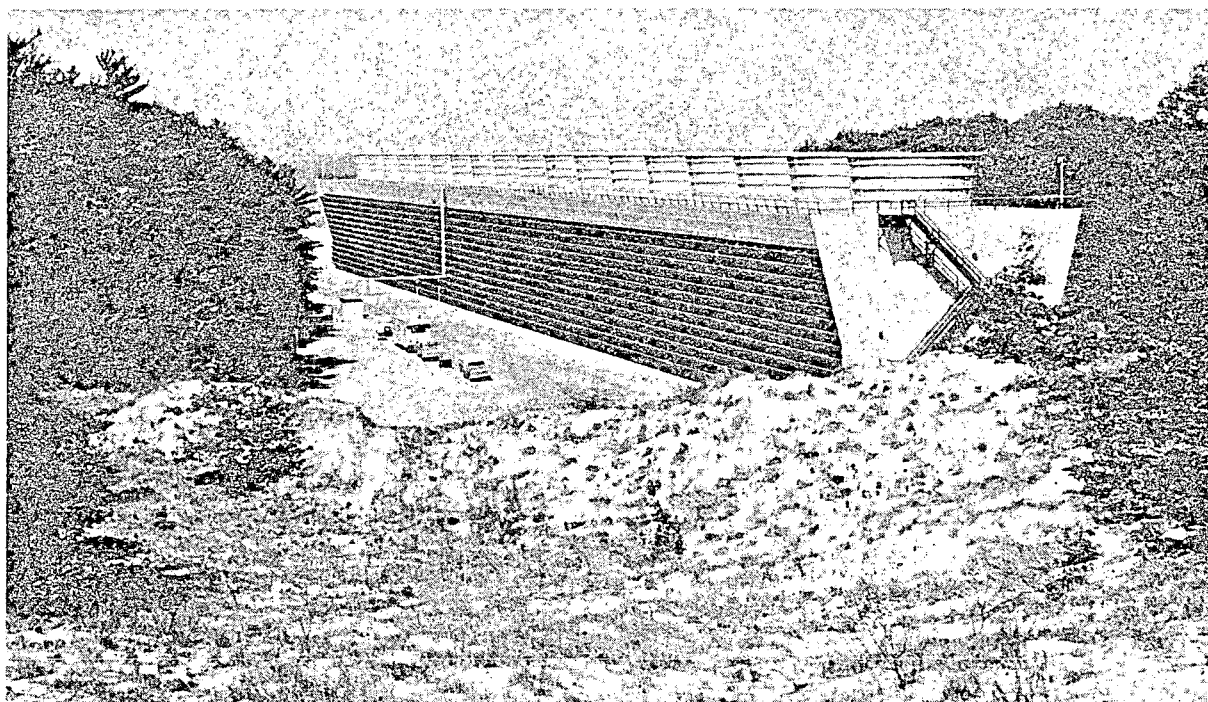


Figure 1. One of two mechanical draft cooling towers at the Palisades Plant site.

TABLE I  
Palisades Drift Study: Sampling Plot Locations

<u>Plot No</u>	<u>Distance From Nearest Cooling Tower (M)</u>
1	30.5
2	61.0
3	121.9
4	182.9
5	61.0
6	182.9
7*	30.5
8	56.4
9	45.7
10	83.8
11	36.6
12	61.0
13	143.3
14 (Control)	670.6
15 (Control)	823.0

\*Eliminated from vegetation sampling due to disturbance from construction activities.

mosses in each quadrat.

Leaf samples of Q. rubra and S. albidum were collected on each plot at three levels (upper, middle and lower) in the canopy for chemical analysis of Ca, K, Cu, Fe, Mg, Mn, Na, Zn, P and S. These two species were selected because they were present on all sample plots. Additionally, the above-ground parts of a herbaceous species were collected from each plot for the same chemical analysis. Inconsistency in the forest floor species composition between plots resulted in five different herbaceous species being sampled across the 14 plots. Smilacina stellata (L.) Desf. was sampled most frequently on 6 plots of the 14 plots.

Plant tissue samples were oven-dried at 70°C for 24 hours, ground in a blender and stored in Whirlpak bags prior to chemical analysis. Plant tissue was not washed prior to chemical analysis. Hence, results are reported as total ion load.<sup>(2)</sup>

Concentrations of Ca, K, Cu, Fe, Mg, Mn, Na and Zn in plant tissue were determined by ashing a 1.0 g sample at 500°C for 8 hours. The ash was dissolved in 5.0 ml of 20% HCl, filtered and brought to 50 ml with distilled water. Elemental levels were then determined by atomic absorption spectrophotometry. To eliminate chemical interferences, 0.5% lanthanum was added to the sample for Ca and Mg analyses.

On each plot a soil sample was collected by taking twelve to fifteen 1.9 cm diameter soil cores to a depth of 15 cm. The soil cores were thoroughly mixed and a representative sample taken for chemical analysis of Ca, K, Cu, Fe, Mg, Mn, Na, Zn, Cl and S. Immediately following collection the soil samples were air-dried and sieved through a 2 mm mesh screen.

Extractable soil Ca, K, Cu, Fe, Mg, Mn, Na and Zn were determined by shaking 5.0 g of soil and 20 ml of 0.05 N HCl + 0.025 N H<sub>2</sub>SO<sub>4</sub> for 15 minutes, allowed to stand overnight, and shaking again for 5 minutes. The mixture was filtered, brought to 50 ml with the acid extraction solution, and analyzed by atomic absorption spectrophotometry. Sulfur content of plant tissue and soil was determined by the Leco high-frequency combustion titration method.

Compositional sampling was conducted once during the last week of April or first week of May, to include Spring ephemerals, and once during the last two weeks of June. Sampling of plant tissue and soil for chemical analyses took place during the last two weeks of June. A total of five years (1973-1977) is included in the sample period, two preoperational and three operational years.

## RESULTS

### Visible Structural Changes

About 3 to 4 months after the initial start-up of the cooling towers, P. strobus trees began showing visible signs of chemically induced injury in areas up to 90 m from the cooling towers. Continued operation of the cooling towers during the following season aggravated the injury to P.

strobis trees so that by the end of the summer most were nearly defoliated (Figure 2). Deciduous tree species began showing visible signs of chemical injury during the second summer of operation (Figure 3) so that by the end of the summer, defoliation of deciduous tree species up to 90 m from the towers was well advanced (Figure 4). High deposition rates of sulfate in this area is presumed to be responsible for leaf necrosis and subsequent defoliation of the arborescent species.<sup>(3)</sup>

Severe icing conditions during the winter of 1976-77 added to vegetation injury by breaking branches and tree crowns (Figure 5). By the third summer (June 1977) of operation the forest canopy had been nearly eliminated in the more severely impacted areas by the combination of cooling tower drift chemicals and ice (Figure 6). Herbaceous ground cover and woody sprouts comprised most of the remaining vegetational cover.

### Compositional Changes

Compositional changes in species number and densities at the study site that may have resulted from the effects of cooling tower drift are quantified by the use of the Shannon diversity index<sup>(4)</sup> (Figure 7). The Shannon index is expressed as follows:

$$H = - \sum_{i=1}^n (P_i \log P_i)$$

where H = diversity index (amount of entropy)

$P_i$  = relative importance of each species as a fraction of the total community, or the abundance of each species as a fraction of the abundance of all species combined.

Those sample plots which are less than 60 m from the cooling towers show a definite trend toward reduction in plant species diversity between 1975 and 1977. In general the reduction in species diversity in these areas resulted from nearly complete elimination of the forest canopy (Figure 6) and a subsequent reduction and/or elimination of the shade tolerant species and an increase in density of shade intolerant species in the understory. For example, the average density for Solidago caesia more than doubled from 1975 to 1977 while Taxus canadensis was nearly eliminated in those areas less than 60 m from the cooling towers. This downward trend in plant species diversity is expected to continue to a point where only a few resistant species are able to tolerate high deposition rates of sulfate. Ammophila breviligulata (beach grass), from observation, appears to be somewhat resistant to the high deposition rates, whereas all other indigenous species appear to be affected to some degree. The sulfate deposition rate in areas less than 60 m from the cooling towers averages between 8 and 12 g m<sup>-2</sup> month<sup>-1</sup>.<sup>(3)</sup>

It may also be postulated that a reduction in plant species diversity will take place in the forested areas 60 to 85 m from the cooling towers as a result of continued cooling tower operation. Canopy defoliation and resultant reduction in plant species diversity appears to be progressing





Figure 2. Chemically induced necrosis and defoliation of Pinus strobus during the first summer of cooling tower generation.



Figure 3. Chemically induced injury to deciduous species (Fagus grandifolia) during the second summer of cooling tower operation.



Figure 4. Defoliation of deciduous species (Quercus rubra) during the second summer of cooling tower operation.



Figure 5. Ice damage to vegetation during the winter of 1976-77.

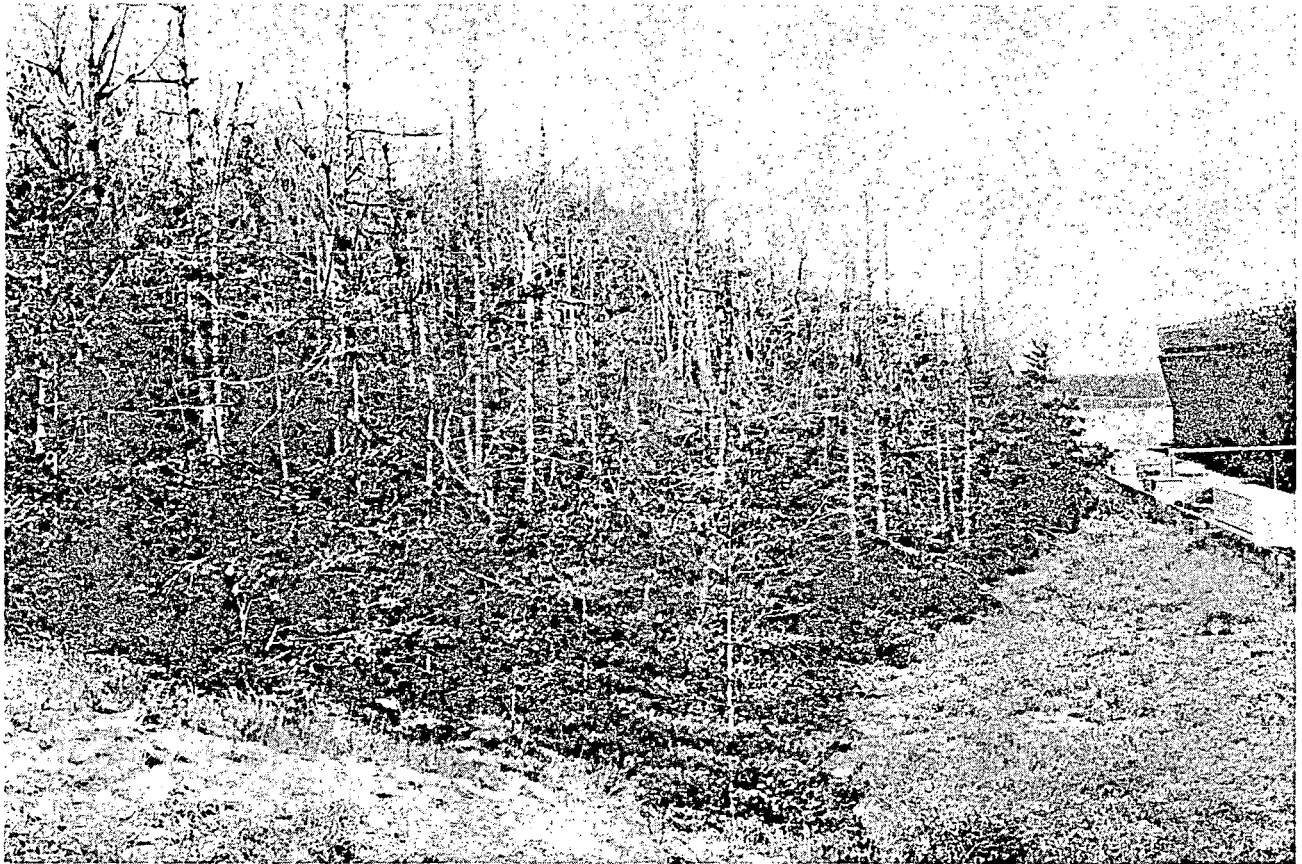


Figure 6. Nearly complete canopy elimination in the more severely impacted areas (June 1977). Compare this area after 22 months of cooling tower operation with the same area prior to operation on the left side of Figure 1.

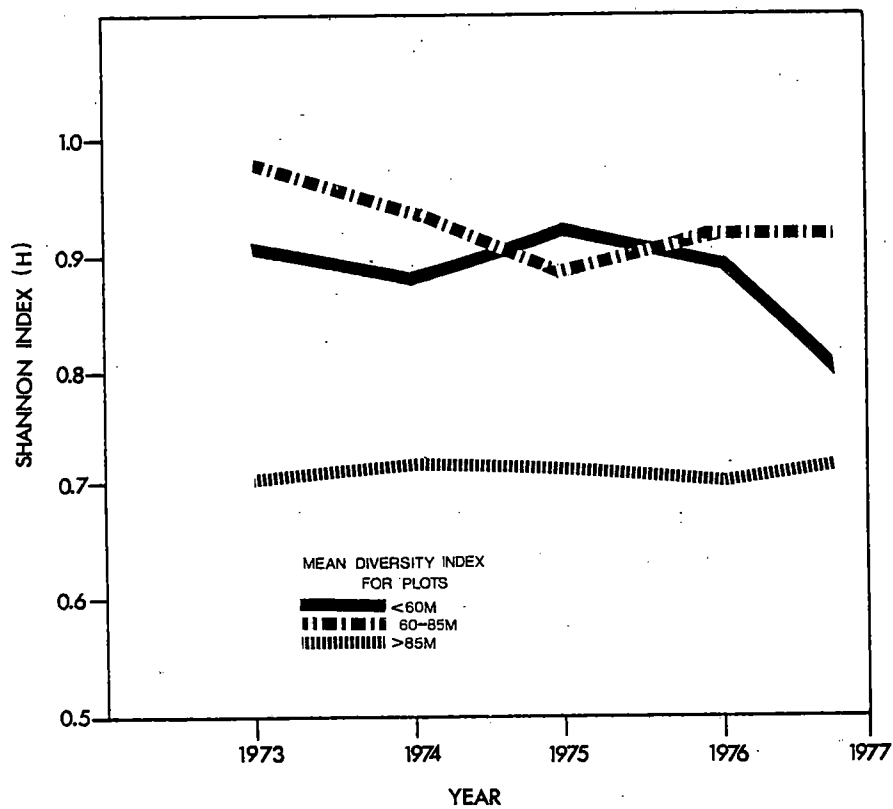


Figure 7. Annual variations in plant species diversity. Diversity indices calculated from plot quadrat data.

further from the cooling towers. As the canopy is removed the understory is exposed to the chemical effect.

Although significant alterations in percentage moss cover were not seen in the data, the mosses on those plots where the canopy was reduced or eliminated appeared somewhat necrotic and generally dehydrated.

### Chemical Changes

Of all the elements examined in leaf tissue, calcium, sodium and sulfur showed major changes in concentration through the period of study (Figures 8, 9 and 10 and Table II). Each of the points on the curves are mean values for 4, 4, and 6 plots in the less than 60 m, 60 to 85 m, and greater than 85 m categories, respectively.

Although there is a trend to increasing concentration of calcium for the three species examined during the study period, there is a general decrease in mean calcium loadings for these three species from 1974 (pre-operational) to 1975 (Figure 8). This decrease can be attributed to the added rinsing effect during the month of the 1975 sampling period. During the month of the 1974 sampling period about 2.5 cm of precipitation fell, while during the month of the 1975 sampling period over 10 cm of precipitation fell. The especially inconsistent trends for the S. stellata curves (Figure 8) are the result of few samples. In many cases the point plotted on the graph for S. stellata is the result of only one or two analytical values. Using the t-test <sup>(5)</sup> all three species show a significant ( $P = 0.05$ ) increase in calcium loadings from 1974 through 1977 for the less than 60 m curves.

Average sodium loadings for the three species and the three distance groupings show definite trends of increasing amounts in leaf tissue during the study period (Figure 9). Average sodium loadings during 1977 for leaf tissue on those plots within 60 m of the cooling towers were found to be over  $600 \mu\text{g g}^{-1}$  for all three species (Table II). These average loadings are considerably higher than sodium loadings reported for Virginia pine growing along the saline Patuxent River. <sup>(2)</sup> Mean sodium values plotted for the curves representing distances less than 60 m and 60 to 85 m are significant at  $P = 0.05$  for all three species. Highest sodium value found in an individual sample was  $1500 \mu\text{g g}^{-1}$  (dry weight).

Sulfur loadings on the three plant species examined also showed significant ( $P = 0.05$ ) increases from 1974 levels to 1977 levels within 60 m of the cooling towers (Figure 10). Sulfur increase for Q. rubra is also significant ( $P = 0.05$ ) for the plots from 60 to 85 m. In the areas close to the cooling towers sulfur loadings on leaf tissue have nearly doubled for Q. rubra to more than tripled for S. stellata from 1974 to 1977 (Table II).

It is suspected that sulfur as sulfate is responsible for the acute vegetation damage in these areas which show high sulfur loadings in leaf tissue. As stated earlier these areas receive high deposition rates of sulfate. Other salts, such as  $\text{CaCl}_2$ , or  $\text{NaCl}$ , acting alone or synergistically with sulfate compounds possibly could be responsible for part of the

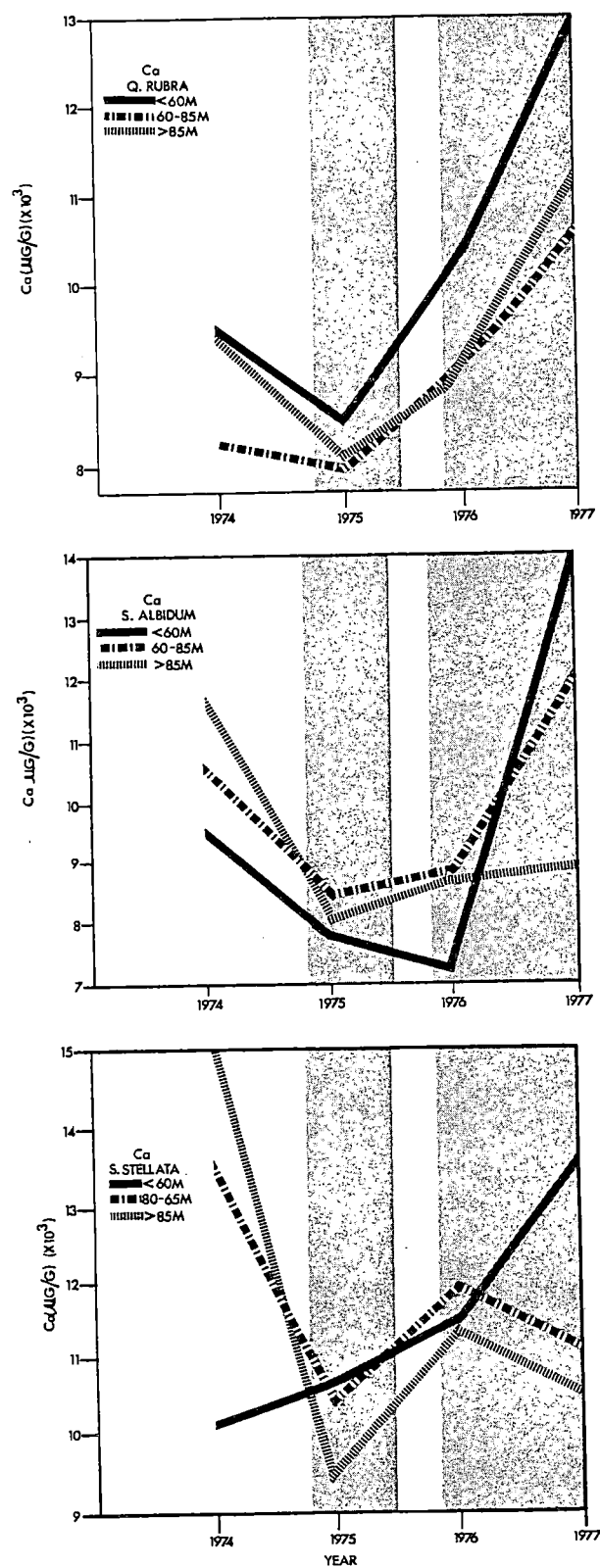


Figure 8. Annual variations in calcium levels in leaf tissue for three plant species. The shaded areas indicate periods of cooling tower operation.

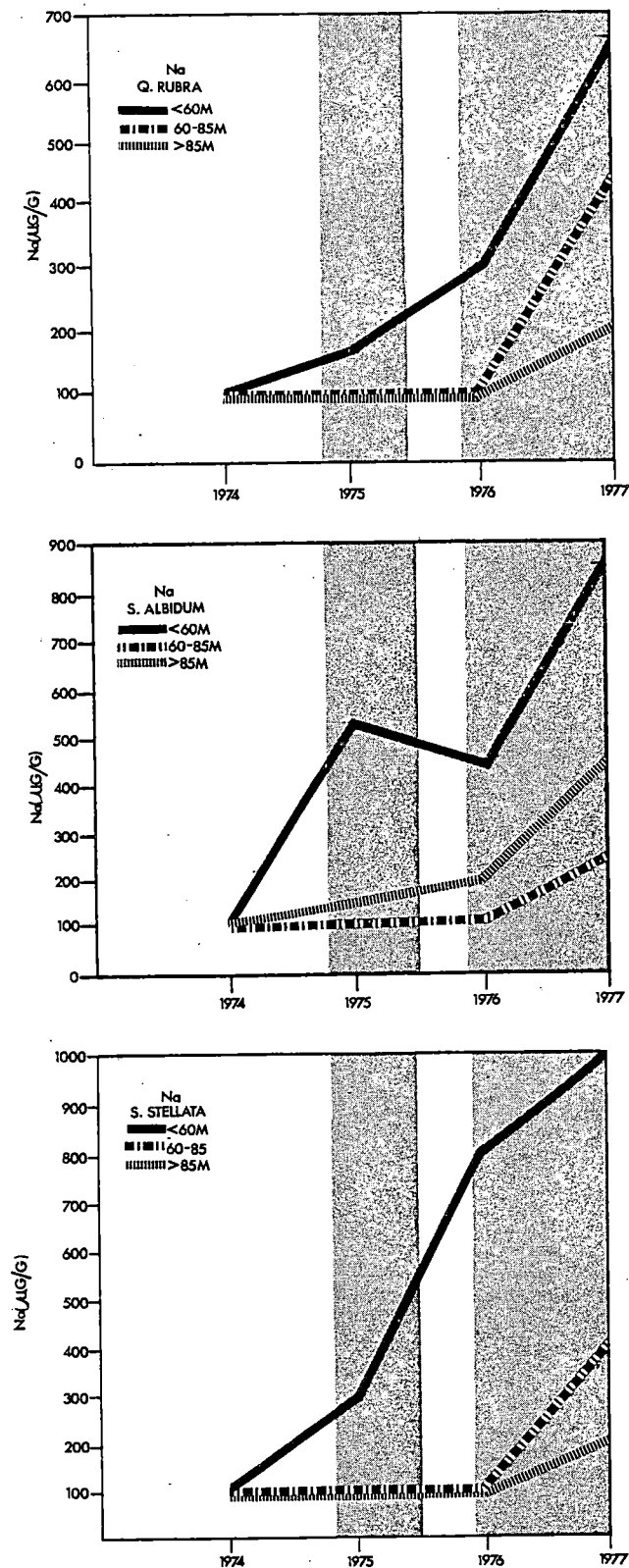


Figure 9. Annual variations in sodium levels in leaf tissue for three plant species. The shaded areas indicate periods of cooling tower operation.



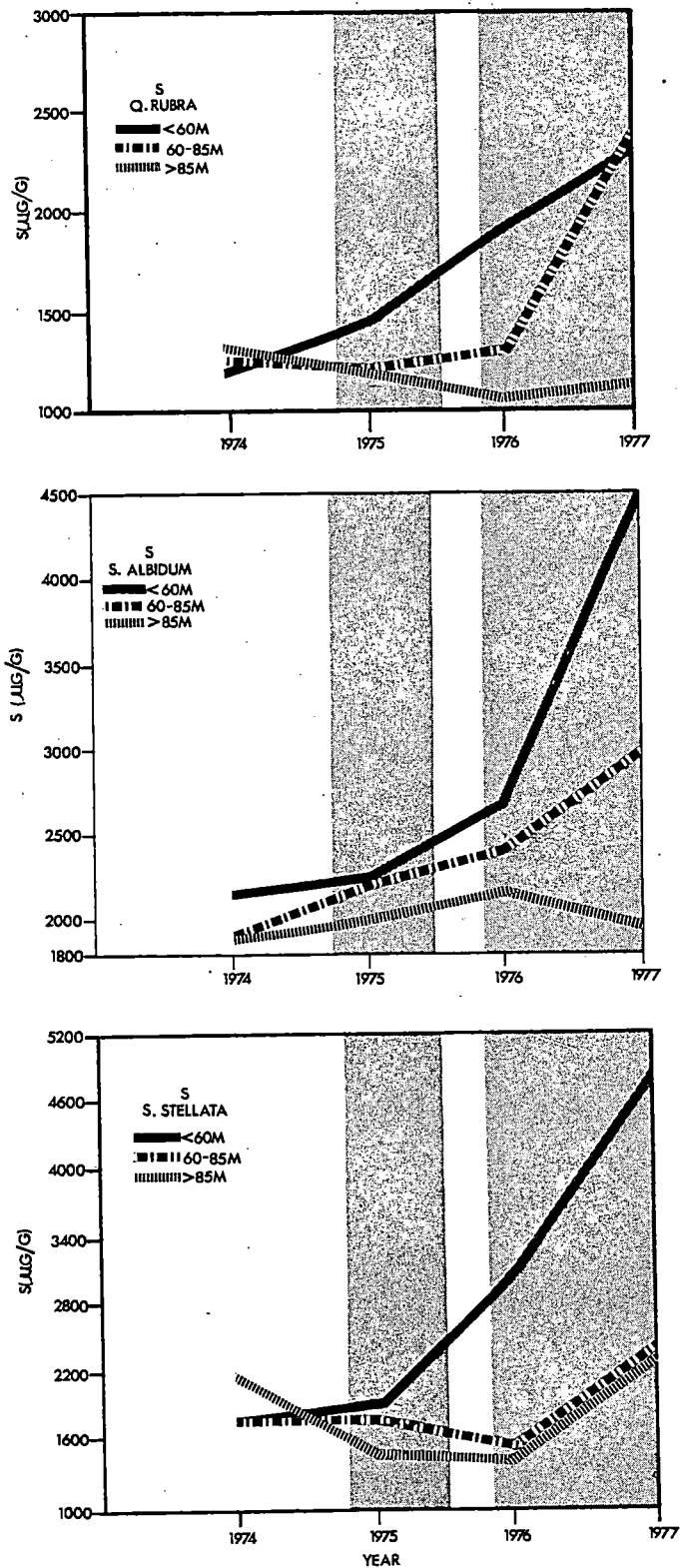


Figure 10. Annual variations in sulfur levels in leaf tissue for three plant species. The shaded areas indicate periods of cooling tower operation.

TABLE II

Palisades Drift Study: Mean chemical loadings for  
leaf tissue within 60 m of the cooling towers ( $\mu\text{g g}^{-1}$  dry weight)\*

	1974**	1975	1976	1977
		<u>Calcium</u>		
Q. rubra	9,570	8,375	10,500	12,900
S. albidum	9,600	7,730	7,200	14,170
S. stellata	10,200	10,550	11,450	13,700
		<u>Sodium</u>		
Q. rubra	100	150	300	670
S. albidum	100	525	450	870
S. stellata	100	300	850	1,100
		<u>Sulfur</u>		
Q. rubra	1,130	1,475	1,850	2,170
S. albidum	2,050	3,130	3,170	4,600
S. stellata	1,700	1,900	3,100	5,900

\* These data constitute the <60 m curves in Figures 8, 9 and 10.

\*\*Preoperational

vegetation damage; however, this is not probable. To explicitly identify the chemical(s) that is responsible for the vegetation damage, an experiment is presently in progress. The experiment is designed to spray simulated cooling tower water on plants under greenhouse conditions.

Copper in S. albidum leaves was the only other element examined that showed a definite increasing trend (significant at  $P = 0.05$ ) throughout the study period for those plots less than 60 m from the cooling towers (Figure 11).

Figures 12 and 13 show soil calcium, sodium, potassium and sulfate-sulfur levels throughout the study period. These graphs are typical of all elements examined. Generally, little or no significant trends are evident except for an increase in soil sulfate-sulfur. The increase in soil sulfate-sulfur for the plots less than 60 m is significant at  $P = 0.05$ . The suspected leaching of soil cations (bases) by excess anions evidently is not occurring. Also noteworthy is the infertile nature of these sand dune soils as shown by the rather low levels of all soil elements.

#### SUMMARY

Observational and quantitative analyses show that drift emanating from the mechanical draft cooling towers at the Palisades Nuclear Plant has caused vegetation damage to the sand dune forests within 90 m of the towers. The damage has been the result of a combination of chemical deposition and icing. In the more severely impacted areas plant species diversity has been reduced by elimination or reduction of the shade tolerant species with an accompanying increase in density of the shade intolerant species.

The loadings of calcium, sodium, sulfur and copper in one species (S. albidum) have significantly increased in leaf tissue from the preoperational (1974) sampling period through the operational sampling periods (1975-1977), especially in those areas within 60 m of the cooling towers. Although calcium and sodium have increased significantly in leaf tissue, it is suspected that the high deposition rates of sulfate are responsible for the vegetation damage.

Only soil sulfate-sulfur appears to have increased significantly during the study period. Other elements show little or no change in soil.

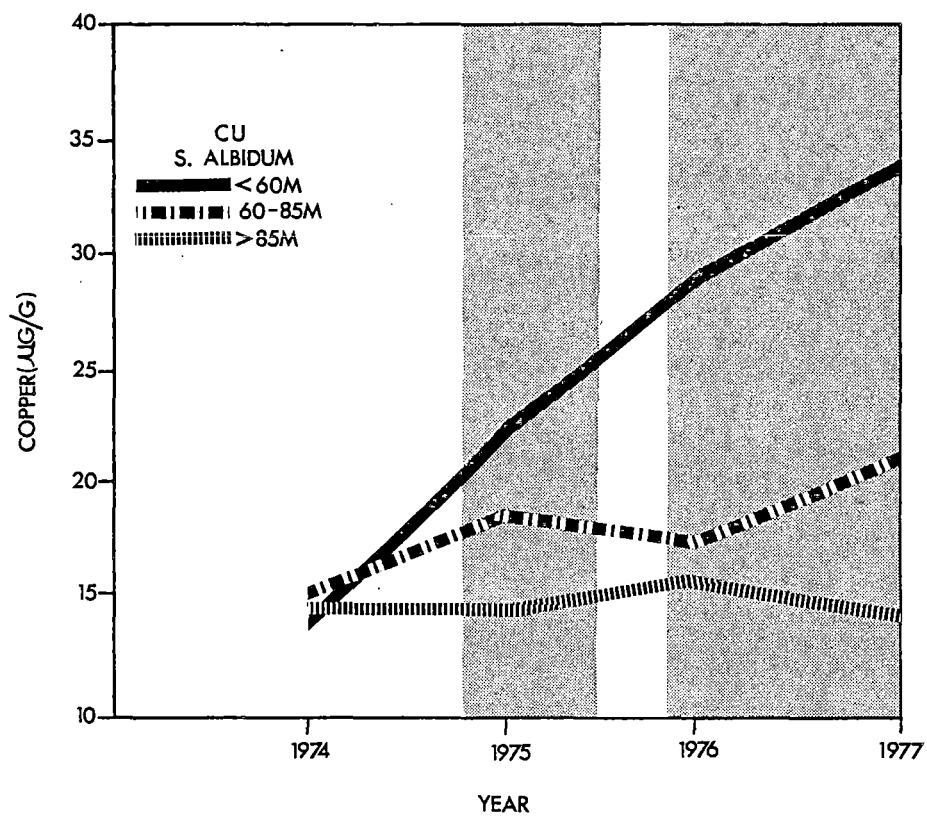


Figure 11. Annual variations in copper levels in Sassafras albidum leaf tissue. The shaded areas indicate periods of cooling tower operation.

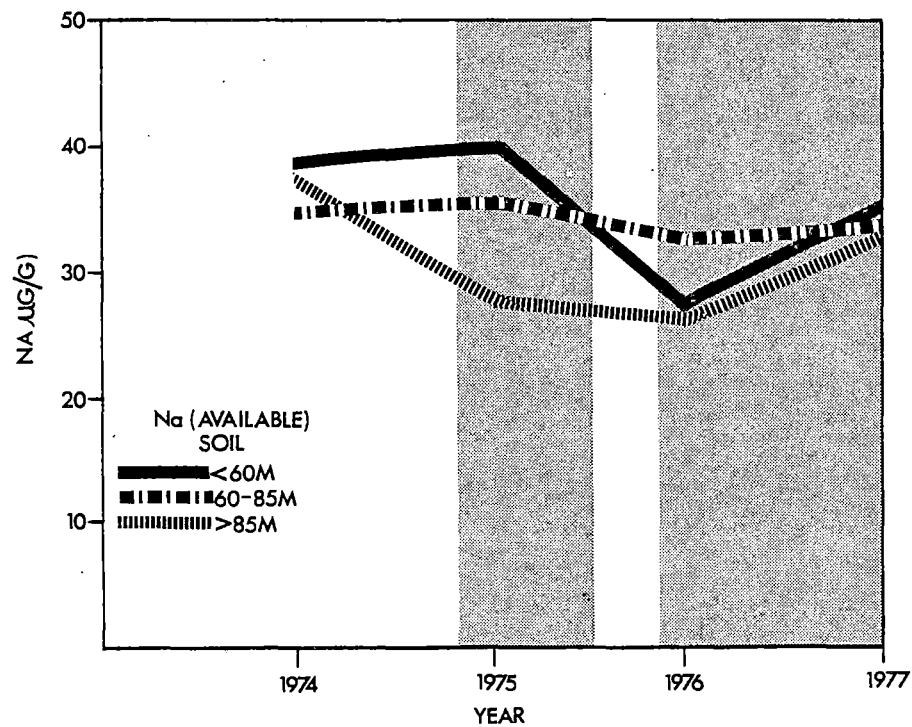
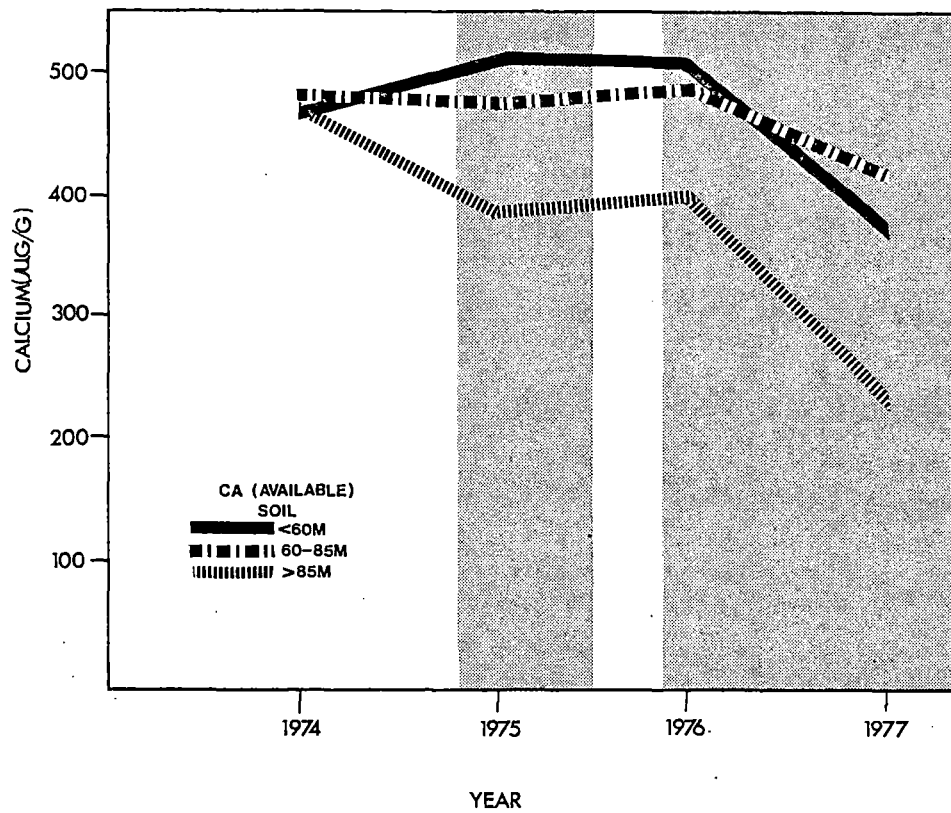


Figure 12. Annual variations in available soil calcium and sodium. The shaded areas indicate periods of cooling tower operation.

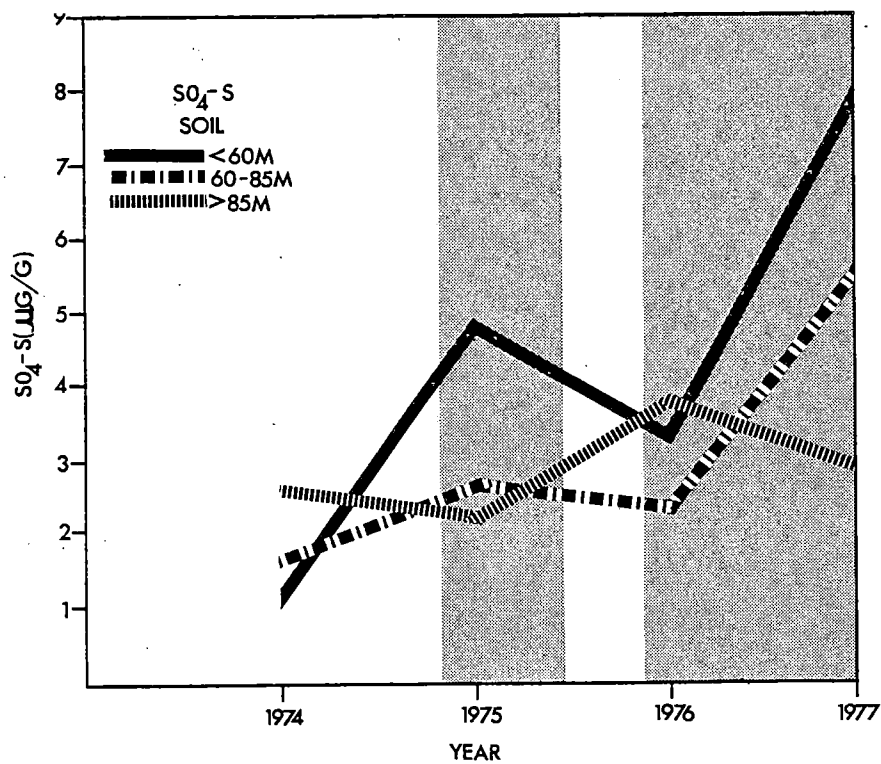
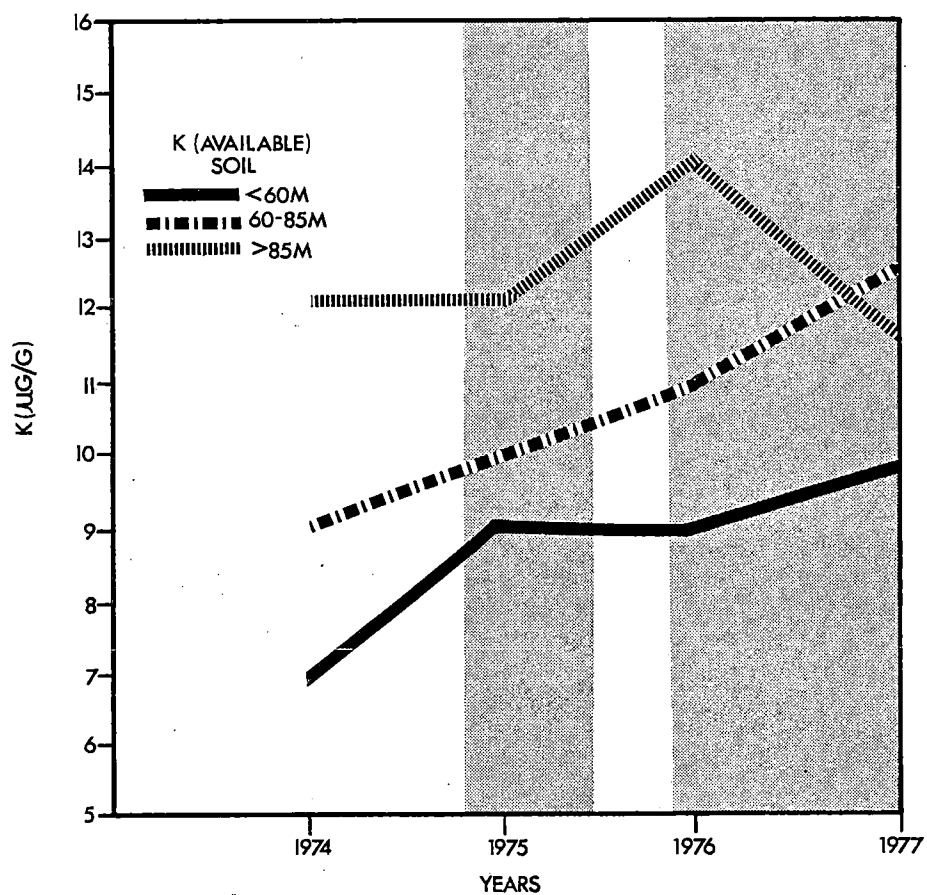


Figure 13. Annual variations in available soil potassium and sulfate-sulfur. The shaded areas indicate periods of cooling tower operation.

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