

From: Clark, Phyllis
Sent: Tuesday, January 4, 2022 4:14 PM
To: PointBeach-SLRDocsPEm Resource; PointBeach-SLRSEIS Resource
Subject: FW: Comments of Michael J Keegan on DSEIS Point Beach

From: Michael J Keegan <mkeeganj@comcast.net>
Sent: Monday, January 03, 2022 11:59 PM
To: Clark, Phyllis <Phyllis.Clark@nrc.gov>; mkeeganj <mkeeganj@comcast.net>
Subject: [External_Sender] Comments of Michael J Keegan on DSEIS Point Beach

Issuance of subsequent renewed facility operating licenses DPR-24 and DPR-27 for Point Beach Nuclear Plant, Units 1 and 2 (Point Beach), in Two Rivers, WI

Statement Draft Supplemental Environmental Impact Statement

Phyllis M. Clark
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Dear Phyllis Clark,

Please accept these Comments on Draft Supplemental Environmental Impact Statement for Point Beach Units 1 and 2.

The DSEIS does not address impact consequence of strait line winds, high winds, tornadoes and serial derecho at Point Beach. Please provide an impact analysis of these severe weather events. Please provide Design Basis analysis demonstrating that Point Beach could survive a direct hit of derecho.

Below is brief compilation of the recent serial derecho articles from mid December 2021, these are provided for the record.

Respectfully Submitted,

Michael J. Keegan
Don't Waste Michigan

<https://weather.com/safety/thunderstorms/news/2021-12-16-december-windstorm-derecho-severe-outbreak>

THUNDERSTORM SAFETY AND PREPAREDNESS

The Most Bizarre and Notable Things From the December Windstorm and Severe Outbreak

By [Jonathan Erdman](#)

December 20, 2021

Expert Breakdown of Wednesday's Derecho

Meteorologist Ari Sarsalari takes a deep dive into what happened with the severe outbreak on Wednesday.

At a Glance

- One of the most bizarre December storms whipped through the Rockies, Plains and Midwest.
- Severe weather is extremely rare for December in parts of the upper Midwest.
- All-time December record warmth was recorded in several cities.
- Wildfire smoke was even transported hundreds of miles from the Plains to the Great Lakes.

Wednesday's widespread windstorm, severe weather outbreak and unusual heat from the Rockies and Plains into the upper Midwest were so bizarre for December that even weather historians were in awe.

"I can say with some confidence that this event - the heat and tornadoes - is among the most, if not the most, anomalous weather events ever on record for the upper Midwest," weather historian Christopher Burt said.

So here are the many strange and record-breaking aspects of this event that made it so notable for this time of year.

First December Tornado in the Land of 10,000 Lakes

Prior to this outbreak, there hadn't been a December tornado documented in Minnesota dating to 1950.

There had only been one [severe thunderstorm warning issued in Minnesota in December](#) prior to this storm, according to tornado researcher Harold Brooks at the National Severe Storms Laboratory.

Dec. 15, 2021, shattered that.

Numerous severe thunderstorm and tornado warnings were issued as the squall line roared across southeast Minnesota.

Damage in [Hartland, Minnesota](#), was from an [EF2 tornado](#), just one of 11 others in the state.

Rare December Derecho

A squall line of severe thunderstorms raced [about 660 miles in 10 hours](#) from Kansas and Nebraska to northern Wisconsin with destructive winds and embedded tornadoes.

This easily met the criterion for a [derecho](#): a widespread damaging windstorm produced from thunderstorms.

Derechos are very rare in December; they're typically a late spring to summer phenomenon. [Only about 1% of derechos in the U.S. have happened in December](#), according to NOAA's Storm Prediction Center.

This serial derecho was driven by an intense cold front slicing into unusually warm and humid air for mid-December. (More on that warmth later.)

The SPC also noted Wednesday had the [most 75+ mph thunderstorm wind gusts](#) in any 24-hour period since at least 2004. As the NWS-La Crosse, Wisconsin, [pointed out](#), "Damage would have been much, much worse had trees been leafed out."

<https://www.weather.gov/dmx/StormyandWindyWednesdayDecember152021>

Des Moines, IA
Weather Forecast Office

Severe Storms and Extreme Winds - December 15, 2021

[Weather.gov](#) > [Des Moines, IA](#) > Severe Storms and Extreme Winds - December 15, 2021

Overview

The first derecho in December anywhere in the United States, the first moderate risk of severe thunderstorms in December in Iowa since known records, unofficially the most tornadoes in Iowa in a single day and most EF-2/F-2 or stronger in Iowa in a single day since 1950, and preliminarily breaking

the all-time December record high temperature for Iowa are just a few reasons why the December 15, 2021 event is unprecedented and a historic event for the state of Iowa.

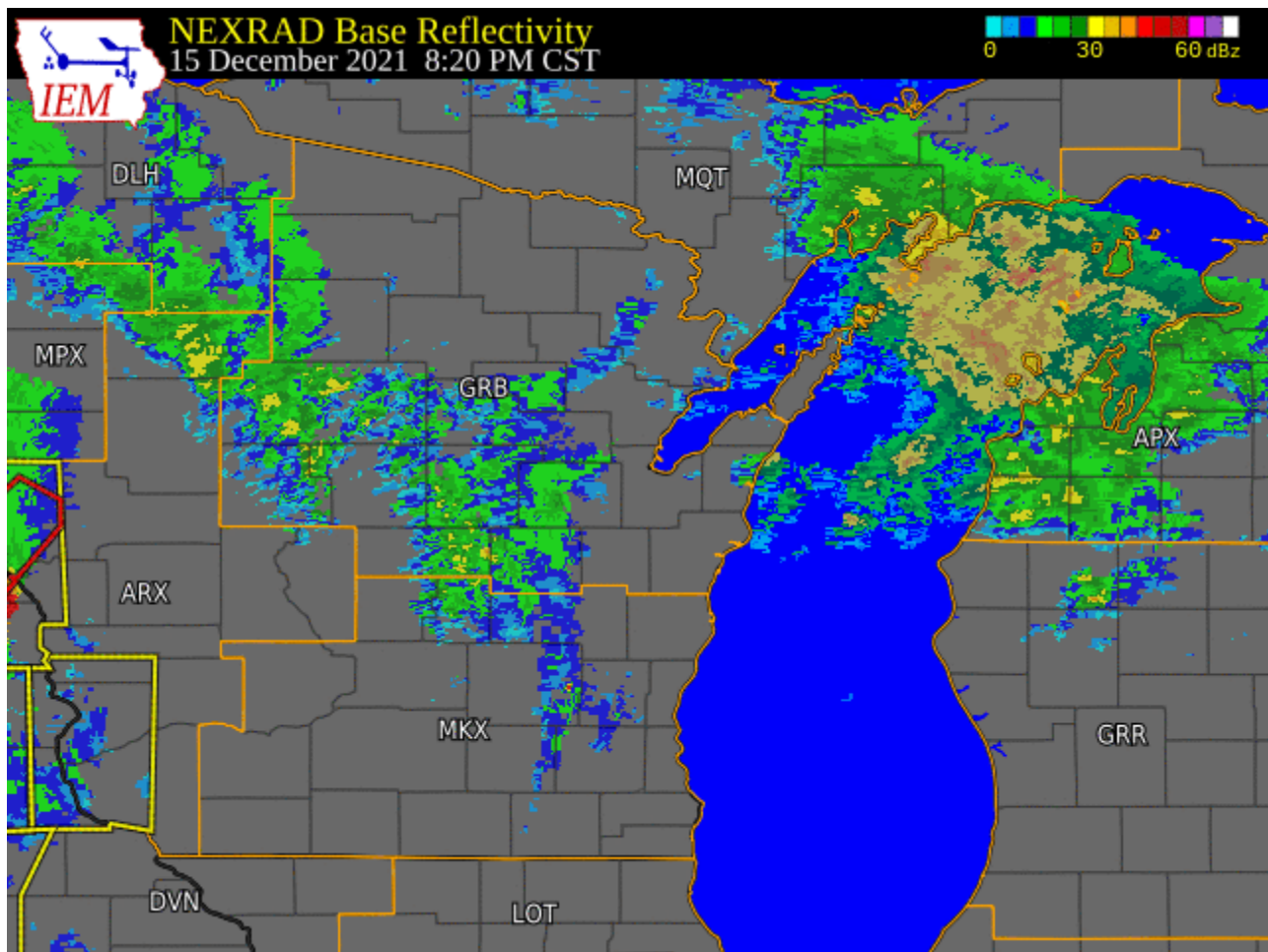
The main feature was a powerful low pressure that rapidly moved from the Colorado Rockies into Siouxland and eventually over western Lake Superior on December 15, 2021. Gusty, environmental winds preceded a line of severe thunderstorms, which produced numerous tornadoes and thunderstorm wind gusts across the state and region. As of December 23, 2021, there are at least 43 confirmed tornadoes that occurred in Iowa with 17 of those tornadoes being rated EF-2. Forty-three tornadoes is unofficially the most tornadoes in Iowa in a single day with the previous being 35 tornadoes on August 31, 2014 ([2014 Iowa Tornadoes](#) | [Journal Article](#)). Further, 17 EF-2 tornadoes is unofficially the most EF-2/F-2 or stronger tornadoes in a single day with the previous being 16 tornadoes on June 7, 1984 ([Tornado Tracks](#) | [NOAA Technical Memo](#)). Prior to this event, a total of 5 tornadoes had occurred in Iowa in December since 1950 with all of them in southeastern Iowa. To have nearly nine times that many tornadoes in one day occur across the state is unprecedented in any month let alone the month of December. Straight line wind gusts associated with these thunderstorms were in excess of 80 mph with Audubon reporting the highest gust in Iowa at 88 mph. This storm also met the criteria for a derecho, which makes it the first derecho on record in the month of December anywhere in the United States.

After the line of storms had passed, numerous strong, non-thunderstorm wind gusts over 70 mph occurred overnight. The top three non-thunderstorm wind gusts were 83 mph in Decatur City, 81 mph in Marshalltown, and 80 mph in Johnston. The Des Moines International Airport recorded a 74 mph non-thunderstorm wind gust, which is the highest non-thunderstorm wind gust at this location since 1970.

In addition to the severe weather and strong non-thunderstorm winds, the temperatures were remarkable and record setting. Numerous record daily highs were broken and by many degrees at that. In addition and preliminarily, the all-time December record high temperature for Iowa of 74 degrees that was set in Thurman, IA on December 6, 1939 was broken with four sites reaching 75 degrees (Oskaloosa, Muscatine, Iowa City, and Ottumwa).

Derecho on Lake Michigan December 15, 2021 goes right past Point Beach
Green Bay Weather

https://www.weather.gov/grb/121521_severe_wind_event



Green Bay, WI

Weather Forecast Office

December 15-16 Severe Weather / Wind / Record Temperatures

A historical event unfolded across the central United States on 12/15 as a strong storm system tracked across the central Plains and up across the Upper Mississippi Valley. Record warmth was observed across the state of Wisconsin ahead of this system, as temperatures soared into the 60s. A few locations across southwest Wisconsin even saw temperatures warm into the lower 70s.

Strong wind gusts of 55 to 75 mph were observed as a weakening line of thunderstorms moved into central Wisconsin. Peak winds created pockets of tree damage and numerous power outages, leaving over 50,000 people without power in northeast Wisconsin, and over 100,000 across the entire state.

The storm system was so powerful, it even transported smoke from numerous large wildfires from western and central Kansas all the way up into Wisconsin! There were reports of seeing haze from the smoke and some were even able to smell a hint of smoke in the atmosphere.

<https://www.woodtv.com/weather/the-great-derecho-of-1998/>

The Great Derecho of 1998

Posted: May 31, 2020 / 01:17 AM EDT / Updated: May 31, 2020 / 01:17 AM EDT

Today is the 22nd anniversary of the [famous “derecho” thunderstorm outbreak of 1998](#). A derecho (Spanish for “straight”) is a fast-moving line of severe thunderstorms that produces a wide and long swath of significant wind damage. Around 5 AM that Sunday morning, the storms blasted through West Michigan with winds estimated as high as **130 mph** in Grand Haven, Spring Lake and Walker. According to the Storm Prediction Center, this episode ranks as one of the top thunderstorm events in world history!

Wind damage reports from May 31, 1998

A large area of significant wind damage occurred from South Dakota all the way to the East Coast. In Michigan, there were 4 fatalities and 153 people were injured. At one point, not a single stoplight was working between Grand Rapids and Baldwin. The toll would have been much worse if the storms came in the afternoon instead of in the early morning when most people were asleep in their homes.

I went out to visit Spencer, S.D. where the worst tornado occurred as the supercells first formed. That small town was pretty much wiped out. Only two blocks in the entire town were spared significant tornado damage. The tornado was an EF4 and was the most destructive tornado in the history of the state. The tornado occurred at sunset and afterward it was soon dark. It was mid-morning before some of the victims were found. A portable Doppler radar indicated winds of 220 mph with that tornado. In a town of 315, there were six fatalities and nearly half the town residents who were there that night were injured. The population of the town dropped to 145 after the tornado.

Radar loop of the Derecho

The supercells eventually formed the line that raced from eastern S.D. to Massachusetts and out into the Atlantic Ocean. Eighteen years later you can still identify swaths where most of the trees were blown over (White Lake exit on US 31 – the Spring Lake Cemetery). Here’s [a radar loop from S. Dakota to Michigan](#). Read more [here](#), [here](#), and [here](#). Storm Reports [here](#) (pages 2 – 8). The 1998 storm was a “once in a lifetime event”. The storm line formed in S. Dakota and the line went 400 miles out into the Atlantic Ocean before the storms dissipated.

Wider view of the radar from 5 30-31 2020

The numbers on this map are wind gusts from the storm...in red those were measured gusts, in tan, they were estimated wind gust speeds. I would be surprised if we saw an event of that intensity (130 mph wind gusts in Grand Haven and Walker) and widespread area again in my lifetime. Here’s [pictures from Grand Haven after the storm](#).

A final note.... In 1998, there were four major derechos across the Great Lakes states...this one was the worst. Storm Team 8 will be tracking storms this summer.

We've had a pretty quiet spring for severe weather in Michigan so far. Let's how that continues.

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