375E

SCIENTIFIC NOTEBOOK 375E

SCIENTIFIC NOTEBOOK 375 E

Douglas Reingold

SCIENTIFIC NOTEBOOK

Douglas Reingold
Bayesian Systems, Inc.
18310 Montgomery Village Ave., Suite 615
Gaithersburg, MA, 20879
(301) 987-5400
Fax: (301) 987-9387
Doug@bayes.com
http://www.bayes.com

for

Center for Nuclear Waste Regulatory Analyses
Southwest Research Institute
San Antonio, Texas

INITIAL ENTRIES

Scientific Notebook 375

Issued to Doug Reingold

Issue Date: November 11, 1999

Account Number: 20.01402.762

Participants: Douglas Reingold
Bayesian Systems, Inc.
Gaithersburg, MD

Development of a Graphic Post-processor for TPA Version 4.0 Code

Objective: document activities related to the development of a graphic post-processor for TPA Version 4.0 Code.

1999-11-28:
Regarding 11-16 kickoff meeting, the following areas were discussed which probably go outside the functionality of the tools envisioned in 08-06 proposal:

1. Describing each chunk of the model to the level of granularity at which it is "transparent".

2. Characterizing the "dominant sequences", individually or collectively, but separately from other sequences.

3. Characterizing each component ("conceptual model", "TPA module") with fixed or standard inputs.

4. Integrating TPA control smoothly into the GUI.

2000-01-15: Common Tool selection criteria include

Favorable Licensing
source code availability
minimum restrictions on government usage
minimum restrictions on commercial usage
minimum licensing cost
Stability
maturity of the code, other than dependability
user base (as measured by inbound links)
support facilities (user groups, mailing lists)
under active development / maintenance
Usability
comprehensiveness of user needs anticipation
user documentation
ease of use
ease of learning
end-user suitability
Inter-operability
interfaces
standards compliance
Manageability
portability, including ease of deploying on NT and Solaris.
Availability of
binaries for those platforms.
maintainability
programming languages
dependencies
documentation other than user

scalability
modularity (ability to use part)
testability
security issues
composability
understandability
Performance
resource requirements
execution speed
dependability
Functionality
needs satisfaction
Extensibility
data formats
dimensions (functions of more than one parameter)
metadata
networked data sources
analytical capabilities
inference / decision capability
web deployment
animation
user interaction
simulation
auto-update

2000-01-18:
memo from OP on 2000-01-24, paragraph 4 (beginning "The GPP will") states the need to show how A influences B. Our approach is to show B as a family of curves, parametrized by A.

Regarding bullet points beginning "What are the important...".

Item 1 ("What are the imporant ...") -> yes.
Item 2 ("Are these elements ...") -> query not well-defined.
Items 3-7 -> standard data analysis techniques, yes.
Item 8 ("What situation ...") -> easy.

2000-02-15: Resources potentially useful for GPP:

1. Coding: Java

2. Plotting: VisAD, PtPlot, OpenDX (opendx.org), DISLIN

3. Scripting: Python, Yorick (LLNL)

4. Data Formats: XML, netCDF

5. Math Functions: Colt

2000-03-21:
It will be desirable to simplify the propagation of updates among the components, to enable GPP plots to be updated upon changes to either underlying data or plotting parameters.

We want to write components which are reusable wven though they get input data, options, or processing parameters from more than one place. This implies visibility of those several other components, which limits reuse.

We want to write components which are reulsable even though their output may be needed in more than one format. For example, numerical results may be needed as
a. a plot for display, or for imbedding in a document as jpeg;
b. ascii or xml text; or
c. in-memory array for use by another component.

We want to be able to tell a data consumer component how to get its first data item, and how to get the next data item, and how to tell when there is no more data, without its needing to know about the identity or the specifics of the data producer.

2000-03-22:
If collaboration facilities are needed, they are available in Colt, Diva, Java, Habanero, Infobus (Sun), JSpaces, Ptolemy, Python, Tecate, Tuplespaces (IBM), VisAD.

200-04-16:
We been able to follow the following guidelines without significant impact:
1. No 'C' involved in building, for portability. Rules out NumPy.

2. No costly licenses, which cramp distribution.

3. No X/Motif, which is poorly implemented on NT/Win.

Desiderada:
1. Enable adapting new technologies after GPP is implemented.

2. Scaling to process very large amounts of data.

3. Reliability, usability

4. Manageability: adaptable, readily developed, easily maintined, extensibile, low resource requirements, composable (ability to achieve desired result by selecting new combinations of components), interoperable with existing systems.

5. Verifyability

2000-04-16 approx:
Potential:
A. Functions
1. Plot control
2. Widgets,
3. Function control,
4. Data extraction adapters,
5. Data archival, compression,
6. Data access functions,
7. Testing framework,
8. Logger
9. TPA control,
10. Session / User / Preference / Result data management,
11. Rudimentary data browse,
12. GUI
13. Find
14. Snap

B. Data
1. Select a set of data to target;
2. Define questions to answer;
3. Identify the forms the data files take;
4. Express TPA.inp in a programmable format;
5. Define the TPA run control interface.

2000-04-17: Data Store dimensions:
1. Transfer of data (e.g., from TPA to GPP);

2. Retention of metadata (e.g., parameters pertaining to the TPA run, or the realization(s) from which a particular piece of data is derived;

3. Persistence of state (retention of intermediate results, or context.

2000-04-17 Crunch Functions:

Arithmetic (mean, e.g.), Cumulate, Decimate, Interpolate, Join, Math (standard functions such as log), Math (special,

custom functions), Merge, Missing Values (accomodate), Quantile, Round, Retype, Scale (affine), Select, Sort, Statistics (usual sample stats), Units (conversion), Window (crop data whose values fall outside a range)

2000-04-17:
1. Want to trace variations in parameters through the system.

2. How does selecting the high infiltration realizations show up in the dose?

3. How does the effect show up in different stages of the model?

4. My suggestion was to
   a. provide a utility function based on a repository performance measure, such as (TPA output) Dose;
   b. Partition the realizations into quantilews, based on that utility;
   c. Show, a parameter such as precipitation, for each of the realizations in the "high" group. If there is not difference between the precipitation for those realizations, versus the precipitation for the other realizations, then that demonstrates the (lack of) importance of the parameter.
   d. Show how the variables interace.

5. It was sugested to consider "varying" a calculated TPA variable such as near field temperature.

2000-04-19:

1. Some object deinitions for Repository Performance Visualization (GPP)

Distribution

Map
a function from V^N -> V.

Quantity
a physical entity such as Time, or Distance.

RealizationParameter

RealizationSet

RealizationClassifier

RealizationSetPartition

Scalar
a variable holding single value, e.g., "3.14" or "true".

TpaRun

TpaRunParameter

TpaVariable
a tuple of numbers, each of which represents the same quantity (dose, e.g.), uses the same units. A Variable represents a function of some domain quantity, say Time, and successive elements of the tuple represent a monotonically increasing sequence of domain values.

Trajectory

Unit
identifier for a scale for measuring the value of a quantity.

Viewer
a location where GPP places information for viewing. It may be a window on a local display device, or a page in a document, or an applet.

Attributes:

PlotBox attributes: border, legend, grid, title, bgcolor, style.

PlotStyle enumeration: curves, bars, points, surface, iso-contour,

PlotAxis attributes: tick_set, log, label, range, color.

Realization attributes: determined_conditions, random_conditions, random_conditions_values

TpaRunParameter

Variable attributes: long_name, offset, scale_factor, units, valid_range, value_meaning_data_missing, title, history, FORTRAN_format.

2000-04-22 other objects
Buffer, Classifier, Comparator, Context, DataInterface,
Editor, Fact, Form, Locator, Log, Predicate,
Transform.

Inheritance:

```
Box
 +-<|-- Control
|     |
|     +-<|-- Button
|     |
|     +-<|-- ListInput
|     |
|     +-<|-- Slider
|     |
|     +-<|-- TextInput
|
+-<|-- ImageBox
|
+-<|-- PlotBox
|
+-<|-- TextBox

TpaRunParameter

Viewer
|
+-<|-- Applet
|
+-<|-- HtmlFrame
|
+-<|-- WindowFrame
```

Heuristics:

1. Pass TPA data among routines wherever possible as as arrays of elementary (built-in) data types (float, double, etc) rather than as individual values or arrays of (composite) objects.

2. Expose the smallest possible set of primitive object types from which the application may be composed.

3. To the extent feasible in the time available for development, assure that any function performable by the user using a user interface may

be performed alternatively by a script.

4. Wherever possible, move data among routines "pull" (on demand), so that e.g. example, only the fields required for the current operation are read from input files. Consistent with "just-in-time" data initialization, and with retention of data as composites of (sequences or arrays), each of which represents an individual field (e.g., the dose variable) and contains its values for all (say, 201 time points), rather than as sequences of (records or objects) each of which contains data for multiple fields.

5. Characterize data forms (formats), and create a set of parametrizable adapters, each of which is adapted to reading data one format.

6. If we create intermediate data, wherever possible we can store it in an InflatorInputStream (gzip or zip input stream).

7. If performance dictates, we can use instead serialized objects.

2000-05-08

TPA file formats can be characterized by "blocks", each of which is a sequence, selection, or iteration of blocks. In most cases, each block is either a sequence a sequence or an iteration. "Selection" here means that it is not known at any given time, which type of block comes next, until it has been read. The selection will generally be among only a few allowable types.

To characterize actual TPA file formats (as opposed to "as documented"), it is convenient to reduce the volume of the data first. For most purposes, the range and precision of the data is immaterial. A reasonable approach is to

1. replace each fixed-point (integral) positive or negative number by the string "9", and replate each (positive or negative) floating-point number by the string "9.";

2. compress any sequences of spaces (' ') to a single space.

3. recursively replace any sequence of (now) identical (input) blocks by a single (output) block indicating the number of repetitions of the block were juxtaposed in the input.

A reasonable first step in performing (3) is to use as a block a single line in a TPA input file. This alone changes the volume of TPA output (from TPA 3.3 for 30 runs) from 132 Megabytes to 7 Megabytes.

A (Python) script for doing this is (shown below with four leading spaces prepended to each line):

```
# tpa_file_format_reveal_step_1.py
import glob,sys,os,re,string
out_dir_name = "..\\clean"

filespecs = sys.argv[1:]
files = []
for spec in filespecs:
   somefiles = glob.glob(spec)
   somefiles.sort()
   files = files + somefiles

fnumber = "[\+\-]?[0-9][0-9]*\.[0-9][0-9]*(E[\+\-][0-9][0-9])?"
inumber = "[0-9][0-9]*"
for file_name in files:
    fi = open(file_name, "r")
    out_file_name = os.path.join(out_dir_name, file_name)
    sys.stdout = open(out_file_name, "w")
    #line_no = 0   # for testing
    previous = "aeiou"
    count = 0
    while 1:
      # if line_no > 250: break
      #line_no = line_no + 1
      line = fi.readline()
      if not line:
         break
      fields = string.split(line)
      str = ""
      for field in fields:
         #if number.match():
         if re.match(fnumber, field):
            #field = re.sub('[0-9]', '9', field)
            #field = re.sub('\+', '-', field)
            field = '9.9'
         elif re.match(inumber, field):
            field = '9'
         str = str + field + ' '
      if str == previous:
         count = count + 1
      else:
         if count == 1:
            print previous
```

```
            elif count > 1:
               print '<rep n="' + 'count' + '">' + previous[:-1] +
'</rep>'
            previous = str
            count = 1
         if count == 1:
            print previous
         elif count > 1:
            print '<rep n="' + 'count' + '">' + previous[:-1] + '</rep>'

      # end of script
```

2000-06-02:
To parametrize TPA by "diversion" can use mean precipitation multiplier.

2000-06-06
Notes on GPP User Interface

1. Context

This is about what kinds of gadgets need to be on the UI and how they might function.

2. How many Viewers and Plots are there?

I think the following statements still apply whether or not we allow more than one Viewer (Frame or Applet, or as a future, a Browser Frame) to be open at once, or if so, whether there currently is one or more than one. I think the same goes for whether there is more than one plot currently displayed in any of the viewers, except that some of the considerations become irrelevant.

3. How many control windows

It seems simplest if at any time the control window applies to only one plot. Seems most reasonable for it to apply to "the current plot" if there is more than one around, but it could also work that each viewer, say, gets its own control window. This might (how rarely I don't know) be more convenient if in the same session the user is tweaking more than one plot (provided she placed them in separate windows). The user may want to do this if she is contrasting two contexts or views or analytical approaches or repository assumptions.

4. Retention of State associated with a Control Window

Even if we do disallow more than one control window to be visible at the same time (which is perfectly reasonable way to go), we very likely want the "state" (memory) of the controls each of "the current set of plots" to be retained separately. Issue is like having two documents open in Word, and thinking about what it would be like if after covering the Doc A Window Doc B window, then going back to Doc A, the program

didn't remember where you were in the file, or what the current font or margins are. People I guess have come to accept that if you have browsed for 5 minutes to locate Document A, then browse for 5 minutes to find Document B, then if you want to look for another doc in the same place you found A, or to save A back where you found it, the program acts as if all memory of that location was purged once you searched for Document B. I expect GPP will be much more usable than that.

5. How does the user signal her intention to create a Control Window?

Under most conditions, it might be ok if the only way (from the GUI) to bring up a control window is for every plot to have some magic hot spot, which when clicked, if the control window is not already up brings it up, and/or if it is covered or assigned to another plot, brings it forward and assigns it to the touched plot. The only wrinkle I see with this is what if there is no plot currently visible, which is mentioned in Paragraph 4.

6. PlotList

I think it might be safe to consider the "current set of plots" referred to in Paragraph 2 Line 3) to be identical to the set of plots currently "open", which obviously should include minimized viewers but less obviously might include "hidden" plots or viewers if we provide for such a thing. "Hidden" means here created by request or default but either hidden by request (if we allow it) or not yet added or made visible. There is the question of whether to allow a (the?) control window to make adjustments to such a hidden window. If so, then we need to be able to bring up the control window.

7. Multiple TPA Runs

want to try to dodge for as long as possible considering the issues associated with having data from more than one TPA run visible at the same time, unless we can go with some brute force approach such as having each application or applet know about only one at a time. My main concern with this is that if more than one is open at once, then almost every thing in sight needs to be qualified according to "which TPA run are you talking about?". In data-base-ese, that means adding another part to every key, but in user-interface-ese, it probably means adding 20% to the impenetrability factor. Therefore I consider TPARun in 9-11 to be "read-only".

8. The following info should be visible on the control window, or reachable from the control window, in possibly some subwindow or something.

9. Definitions used in 10,11

"R"
"visible and read-only",

"RW"
"visible and writable", and

"W"
"must be writable (updatable), but does not necessarily have to be visible, because its effect can be seen by looking at the associated plots and things (provided the user is sufficiently "expert" in the use of the program.

"Card" (Column 2 heading)
"Cardinality", indicating how many are possible per associated whatever.

Percentiles
List of quantiles (times 100) included in the calculation of results for any variables on the given plot. The first number in the list corresponds to the lowest curve plotted, and the last number in the list corresponds to the highest curve plotted. The default should be the list [10,30,50,70,90]. This results in a set of curves (a) containing the median curve; (b) including the 10% and 90% curves, which is a fairly standard way to exclude clutter caused by "outliers", or unlikely data; and (3) results in 4 ribbons (curvy bands) each containing an equal number of realizations, so to first approximation, equally likely.

PlotBox
Identifier for which PlotBox the ControlWindow applies to.

Raw
For all variables in the plot, show one curve for each realization.

TimeRangeMag
Magnification of left end of time range relative to right end. "1.0" means "linear". Default to value set in TPA.inp file. In the instances of Tpa.inp I have seen, this has been set to 100, meaning that if for simplicity the time tange is 1000 to 100,000 AD, then the distance on the screen between the years 1000 to 1,010 is about the same as the distance between the years 99,000 and 100,000. It enables controlling in a continuous fashion the extent to which extending the range, to, say, 1,000,000 years crushes the rest of the plot.

TpaRun
Identify the TpaRun from which all data viewed is derived. See constraint a.

UsePeakTime
For any variable to be plotted, restrict the time range to only the one time for which the variable has attained its maximum value.

10. Constraints:

a. Per Paragraph 7, we assume (at least until commanded to do otherwise) that there is at most one TPA run per viewer. If we relax this constraint, I recommend that we relax it to the constraint that there be at most one TPA run per Plot. I suggest "at most one"

rather than "exactly one" to allow for a ControlWindow to exist, be visible, and be consistent with its constraints *before* a TPA run has been assigned, however that is accomplished. This is consistent with a "pull" model of data management.

b. "TimeRange" and "UsePeakTime" are mutually exclusive.

c. "Percentiles" and "Raw" are mutually exclusive.

d. ParamRange cannot go outside the range specified in TPA.INP.

11. Gadjets:

Item	Card.	Access	Widget-type
DisplayRange	1/variable	W	TextInput + RangeWidget The lowest and highest values of the variable which are visible (at their respective edges) of a plot.
NewPlot	1/viewer	W	Button. It will be convenient to invent a gesture the user can use to indicate which viewer the plot is to be created within.
NewViewer	1 per local display (Can assume unique)	W	Button.
Parameter	0-n per (Variable,Plot)	RW	Multi-select list, with one entry considered "current".
ParamPercentiles	0-1 list per (Param,Var., Plot)	RW	TextInput.
ParamRange	0-1 pair of numbers per (Param,Var, Plot)	RW	TextInput + RangeWidget
Percentiles	0-1 list/plot	RW	TextInput. List of numbers, each of which is an integer between 0 and 100. It would be convenient if when disabling the list upon selection of Raw Mode, any numbers entered by the user are NOT forgotten.
PlotBox	1/plot	R	label
Raw	0-1/plot	RW	Button.
ShowMean	1/variable	RW	Button
Snap	1/controlWin	W	Momentary. Take a picture of the

			contents of a Viewer. It is TBD how a file name is created, and what format (JPEG, PNG, EPS) is chosen.
TimeRange	0-1/plot	RW	TextInput + RangeWidget. Default to entire time range of TPA run.
TimeRangeMag	0-1/plot	RW	TextInput + RangeWidget Magnification of left end of time range relative to right end. "1.0" means "linear". Default to value set in TPA.inp file.
TpaRun	0-1/viewer	R	label
UsePeakTime	0-1/plot	RW	button
Values	1/plot	RW	Button. Elect to create and emit ascii text representing the plotted data.
Variable(name)	1/plot	RW	TextInput
View	1/plot	RW	button bringing up a View-Controls subwindow, or absent and replaced by the set of View-Control gadgets needed to control appearance of plots and the variables they contain.

- end -

2000-07-10

<variable_and_file_info>

<variables>
<variable name='mean_annual_temperature'
long_name='Mean annual temperature' file='dcagw.ech'/>
<variable name='mean_annual_precipitation'
long_name='Mean annual precipitation' file='dcagw.ech'/>
<variable name='infiltration_per_subarea'
long_name='Infiltration per subarea' file='uzflow.rlt'/>
<variable name='ave_infiltration_per_repos'
long_name='Average infiltration per repository' file='infilper.res'/>
<variable name='ave_reflux_per_repository'
long_name='Average reflux per repository' file='infilper.res'/>
<variable name='ave_diversion_per_repository'
long_name='Average diversion per repository' file='infilper.res'/>
<variable name='water_entering_drift'
long_name='Water entering drift (related data)' file='ebsflo.dat'/>
<variable name='water_hitting_drip_shield'
long_name='Water hitting drip shield' file='not_available'/>
<variable name='canister_failure_time'
long_name='Canister failure time' file='ebsfail.rlt'/>
<variable name='drip_shield_failure_time'
long_name='Drip shield failure time' file='tpa.inp'/>

```
 <variable name='water_hitting_waste_package'
  long_name='Water hitting waste package'    file='nfenv.rlt'/>
 <variable name='repository_temperature'
  long_name='Repository temperature'        file=' nfenv.rlt'/>
 <variable name='waste_package_temperature'
  long_name='Waste package temperature'     file=' nfenv.rlt'/>
 <variable name='waste_package_relative_humid'
  long_name='Waste package relative humidity' file=' nfenv.rlt'/>
 <variable name='water_entering_waste_package'
  long_name='Water entering waste package'   file='not_available'/>
 <variable name='water_exiting_waste_package'
  long_name='Water exiting waste package'    file='not_available'/>
 <variable name='waste_package_inventory'
  long_name='Waste package inventory'       file='not_available'/>
 <variable name='rel_from_eng_bar_sys_per_sa'
  long_name='Release from engineered barrier system per subarea' file='ebsrel.rlt'/>
 <variable name='rel_from_eng_bar_sys_per_repos'
  long_name='Release from engineered barrier system per repository' file='cumrel.res'/>
 <variable name='lower_uz_ground_water_trav_time'
  long_name='Lower unsaturated zone ground water travel time' file='not_available'/>
 <variable name='rel_from_lower_uz_per_sa'
  long_name='Release from lower unsaturated zone per subarea' file='uzft.rlt'/>
 <variable name='rel_from_lower_uz_per_repos'
  long_name='Release from lower unsaturated zone per repository' file='cumrel.res'/>
 <variable name='sz_ground_water_trav_time'
  long_name='Saturated zone ground water travel time' file='not_available'/>
 <variable name='rel_from_sz_per_sa'
  long_name='Release from saturated zone per subarea' file='szft.rlt'/>
 <variable name='rel_from_sz_per_repos'
  long_name='Release from saturated zone per repository' file='cumrel.res'/>
 <variable name='cur_biosph_dose_conv_factors'
  long_name='Current biosphere dose conversion factors' file='gw_cb_ad.dat'/>
 <variable name='pluv_biosph_dose_conv_factors'
  long_name='Pluvial biosphere dose conversion factors' file='gw_pb_ad.dat'/>
 <variable name='total_dose'
  long_name='Total dose'                file='totdose.res'/>
 <variable name='peak_dose_for_compliance_period'
  long_name='Peak dose for compliance period' file='gwpkds_c.res'/>
</variables>
<!-- ------------------------------------------------------------------ -->
<files>
 <file name='cumrel.res' nvars='3'/>
 <file name='dcagw.ech' nvars='2'/>
 <file name='ebsfail.rlt'/>
 <file name='ebsflo.dat'/>
 <file name='ebsrel.rlt'/>
 <file name='gwpkds_c.res'/>
 <file name='gw_cb_ad.dat'/>
 <file name='gw_pb_ad.dat'/>
 <file name='infilper.res' nvars='3'/>
 <file name='nfenv.rlt' nvars='4'/>
 <file name='szft.rlt'/>
 <file name='totdose.res'/>
 <file name='tpa.inp'/>
 <file name='uzflow.rlt'/>
 <file name='uzft.rlt'/>
```

```
</files>
<!-- ================================================================== -->
<file_forms>

<!--
 notation: Data Block Names beginning with the letters 'N', 'R', 'S',
 and 'T' refer, respectively, to (usually nestable) file sections each
 instance of which refers to a single Nuclide, Realization, Subarea, or
 Time, respectively. Block names beginning withy A, B, etc. are
 special.

 The shorthand notation '8+R*S*T' means that files using the pattern
 contain 8 non-data lines, followed by nested loops, the outermost of
 which is realization, containing subareas, containing times. Code
 to read files of this pattern might look like:

   skip_lines(8)
   for (r=1; r <= R; r++)
    for s=1; s <= S; s++)
     for (t=1; t <= T; t++)
      read_line()

 The pattern '-3+R*(6+T...) indicates that each T group is preceded by 6
 lines of non-data, except for the first which is preceded by only 3.

 Note that the pattern can be read as an arithmetic expression yielding
 the expected number of lines in the file.  In this case, consider
 N == n_nuclides, r == n_realizations, s == n_subareas, and T == n_times.
-->

<!-- ------------------------------------------------------------------ -->

 <file_pattern name='1' pattern='15+N'>
  <file_form name='gw_cb_ad.dat'>
   <block name='N'>
    <col name='nuclide_name'/>
    <col name='dir_exp'/>
    <col name='inh'/>
    <col name='ing_ani_prod'/>
    <col name='ing_crop'/>
    <col name='ing_dw'/>
    </block></file_form>
  <file_form name='gw_pb_ad.dat'>
   <block name='N'>
    <col name='nuclide_name'/>
    <col name='dir_exp'/>
    <col name='inh'/>
    <col name='ing_ani_prod'/>
    <col name='ing_crop'/>
    <col name='ing_dw'/>
    </block></file_form></file_pattern>

<!-- ------------------------------------------------------------------ -->

 <file_pattern name='2' pattern='8+R'>
  <file_form name='gwpkds_c.res'>
```

```
    <block name='R' n_cols='25'>
     <col name='realization_index'/>
     <col name='pktime'/>
     <col name='pktede'/>
     <etc />
     <col name=''/>
     <col name=''/>
     <col name=''/>
     <col name=''/>
      <tbd>
       Cm9de U9de  Cm9de Am9de Np9de Am9de Pu9de Pu9de
       U9de  Th9de Ra9de Pb9de Cs9de I9de Tc9de Ni9de
       C9de  Se9de Nb9de Cl9de timedwpk drnkh9
      </tbd>
     </block></file_form></file_pattern>

<!-- ------------------------------------------------------------------ -->

 <file_pattern name='3' pattern='8+N*R'>
  <file_form name='cumrel.res '>
   <block name='R' n_rows='tpa_run.n_realizations'>
    <col name='realization_index'/>
    <col name='nuclide'/>
    <col name='ebscumrl'/>
    <col name='uzcumrl'/>
    <col name='szcumrl'/>
    </block></file_form></file_pattern>

<!-- ------------------------------------------------------------------ -->
 <file_pattern name='4' pattern='5+R*(3+S*(5+T))'>
  <file_form name='nfenv.rlt'>
   <block name='T'>
    <col name='time_index'/>
    <col name='time'/>
    <col name='temprep'/>
    <col name='tempwp'/>
    <col name='relhumwp'/>
    <col name='phwp_not_used'/>
    <col name='clwp'/>
    <col name='qm3miss_yr_wp_sa'/>
    <col name='qm3hit_yr_wp_sa'/>
    </block></file_form></file_pattern>

<!-- ------------------------------------------------------------------ -->

 <file_pattern name='5' pattern='5+R*(3+S*(3+T))'>
  <file_form name='uzflow.rlt'>
   <block name='T'>
    <col name='time_index'>
    <col name='time'/>
    <col name='uzflow?'/>
    </block></file_form>
  <file_form name='uzft.rlt'>
   <block name='T'>
    <col name='time_index'>
    <col name='time'/>
```

```
    <col name='uzft?' />
    </block></file_form></file_pattern>

<!-- ------------------------------------------------------------------ -->

 <file_pattern name='6' pattern='A+B+T'>
  <file_form name='ebsflo.dat'>
    <block name='A' n_rows=1>
     <col name='flow_factor' />
     </block>
    <block name='B' n_rows=1>
     <col name='n_rows_to_follow' />
     </block>
    <block name='T' n_rows=tpa_run.n_times>
     <col name='time' />
     <col name='drip_rate_wp' />
     </block></file_form></file_pattern>

<!-- ------------------------------------------------------------------ -->

 <file_pattern name='7' pattern='8+R*C'>
  <file_form name='infilper.res'>
    <block>
   <col name='realization_index'>
   <col name='time' />
   <col name='avinfil' />
   <col name='avreflus' />
   <col name='avdivert' />
   </block></file_form>

 <file_pattern name='8' pattern='8+R*T'>
 <file_form name='totdose.res'>
  <block>
   <col name='realization_index'>
   <col name='time' />
   <col name='tede' />
   <col name='dilutvol' />
   </block></file_form></file_pattern>

<!-- ------------------------------------------------------------------ -->
 <file_pattern name='9' pattern='5+R*(3+S*(4+T))'>
  <file_form name='ebsfail.rlt'>
    <block>
     <col name='time_index' />
     <col name='time' />
     <col name='fraction_wps_failed' />
     </block></file_form></file_pattern>

<!-- ------------------------------------------------------------------ -->

 <file_pattern name='10' pattern='5+R*(3+S*(9+T1+3+T2+3+T3+3+T4))'>
  <file_form name='ebsrel.rlt'>
    <block name=T1 n_rows='tpa_version.n_times'>
     <col name='time_index' />
     <col name='time' />
     <col name='value_for_nuclide[0]' />
```

```
        <col name='value_for_nuclide[1]'/>
        <col name='value_for_nuclide[2]'/>
        <col name='value_for_nuclide[3]'/>
        <col name='value_for_nuclide[4]'/>
        </block></file_form>
       <etc />

    <file_form name='szft.rlt'>
      <block name=T1 n_rows='tpa_version.n_times'>
       <col name='time_index'/>
       <col name='time'/>
       <col name='value_for_nuclide[0]'/>
       <col name='value_for_nuclide[1]'/>
       <col name='value_for_nuclide[2]'/>
       <col name='value_for_nuclide[3]'/>
       <col name='value_for_nuclide[4]'/>
       </block>
      <etc /></file_form></file_pattern>

<!-- ------------------------------------------------------------------ -->
 <file_pattern name='11' pattern='14+A+2+N-3+R*(9+T1+4+3+T2+3+T3+3+T4+3+T5)'>
  <file_form name='dcagw.ech'>
   <block name='A' n_rows='1'>
    <col name='maxntime'/>
    <col name='maxnucl'/>
    <col name='ntim'/>
    <col name='nnucl'/>
    </block>
  <block name='N' n_rows='tpa_version.n_nuclides'>
   <col name='nuclide_index'/>
   <col name='nuclide_name'/>
   </block>
  <block name='T1' n_rows='tpa_run.n_times'>
   <col name='time'/>
   <col name='AAT'/>
   <col name='AAP'/>
   </block>
  <block name='T2' n_rows='tpa_version.n_times'>
   <col name='time_index'/>
   <col name='time'/>
   <col name='value_for_nuclide[0]'/>
   <col name='value_for_nuclide[1]'/>
   <col name='value_for_nuclide[2]'/>
   <col name='value_for_nuclide[3]'/>
   <col name='value_for_nuclide[4]'/>
   </block>
  <etc. /></file_form></file_pattern>

<!-- ------------------------------------------------------------------ -->

 </file_patterns>
<!-- ================================================================== -->
<file_types>
 <file_type name='nfenv_rlt_file_type'>
  <file_names>
   <file_name='nfenv.rlt'/>
```

```
  </file_names>
 <file_format encoding='ascii' line_separator='crlf' />
 <line/>
 <line/>
 <line>
  <token expect= 'TPA' />
  <token name='tpa_version' type='string' />
  <token />
  <token />
  <token />
  <token />
  <token name='day_of_week' type='string' />
  <token name='month_name' type='string' />
  <token name='day_of_month' type='string' />
  <token name='time_of_day' type='string' />
  <token name='year' type='string' />
  </line>
 <line expect=' NFENV Results' />
 <line />

 <line expect='' />

 <repetition name='realization' count='tpa_run.number_of_realizations>
  <line>
   <token expect='REALIZATION' />
   <token name='realization_number' type='int' />
   </line>
  <line expect='' />
  <line expect='' />
  <repetition name='subarea' count=tpa_version.number_of_subareas'>
   <line>
    <token expect='SUBAREA' />
    <token name='subarea_number' type='int' />
    </line>
   <line expect='' />
   <line expect='' />
   <line>
    <repetition name='column' count='8'>
     <token name='col_name' type='string' />
     </repetition>
                        <!-- expected_contents='time temprep tempwp relhumwp phwp(not used) clwp
qm3miss/yr/wp/sa qm3hit/yr/wp/sa' -->
    </line>
   <repetition name='time' count='tpa_run.number_of_times'>
    <line>
     <token name='time_no' type='int' />
     <token name='time' type='float' />
     <token name='temprep' type='float' />
     <token name='tempwp' type='float' />
     <token name='relhumwp' type='float' />
     <token name='phwp' type='float' />
     <token name='clwp' type='float' />
     <token name='qm3miss_yr_wp_sa' type='float' />
     <token name='qm3hit_yr_wp_sa' type='float' />
     </line>
     </repetition>          <!-- end rep. of times -->
```

```
    <line expected_contents="/>
    </repetition>              <!-- end rep. of subareas -->
   </repetition>               <!-- end rep. of realizations -->
  <file_type>
  <!-- ------------------------------------------------------------ -->
 <file_type name='infilper_res_file_type'>
  <file_format encoding='ascii' line_separator='crlf'/>
  <file_names>
   <file_name='infilper.res'/>
   </file_names>
   <line/>
   <line/>
   <line>
    <token expect= TPA'/>
    <token name='tpa_version' type='string'/>
    <token />
    <token />
    <token />
    <token />
    <token name='day_of_week' type='string'/>
    <token name='month_name' type='string'/>
    <token name='day_of_month' type='string'/>
    <token name='time_of_day' type='string'/>
    <token name='year' type='string'/>
    </line>
   <line name='line4' expect=' Subarea Averaged Infiltration/Deep Percolation Including'/>
   <line name='line5' expect=' After Reflux and Diversion - Values for Each Vector'/>

  <line expect="/>

  <line>                    <!-- expect='  vector      time      avinfil      avreflux      avdivert' -->
   <repetition name='col_names' count='5'>
    <token name='col_name' type='string'/>
    </repetition></line>
  <line>                    <!-- expect='  unitless    yr        mm/yr        mm/yr         mm/yr' -->
   <repetition name='col_units' count='5'>
    <token name='col_unit' type='string'/>
    </repetition></line>

  <repetition name='subarea' count='tpa_version.number_of_subareas'>
   <repetition name='time' count='tpa_run.number_of_times_over_ten'>
                        <!-- count is actually 1+ (n_times-1)10 -->
    <line>
     <token name='realization_number' type='int'/>
     <token name='time' type='float'/>
     <token name='avinfil' type='float'/>
     <token name='avreflux' type='float'/>
     <token name='avdivert' type='float'/>
     </line>
    </repetition>              <!-- end rep. of time -->
   </repetion>                 <!-- end rep. of subarea -->
  </file_type>
  <!-- ------------------------------------------------------------ -->

 <file_type name='cumrel_res_file_type'>
  <file_format encoding='ascii' line_separator='crlf'/>
```

```
  <file_names>
   <file_name='cumrel.res'/>
   </file_names>
  <line/>
  <line/>
  <line>
   <token expect='TPA'/>
   <token name='tpa_version' type='string'/>
   <token count='4'/>
   <token name='day_of_week' type='string'/>
   <token name='month_name' type='string'/>
   <token name='day_of_month' type='string'/>
   <token name='time_of_day' type='string'/>
   <token name='year' type='string'/>
   </line>
  <line name='line4' expect='Cumulative Releases from EBS, UZ, and SZ by Nuclide'/>
  <line name='line5' expect='Summed Over All Subareas - Values for Each Vector'/>

  <line expected_contents=''/>

  <line>                    <!-- expect='  vector     nuclide     ebscumrl     uzcumrl     szcumrl'--
>
   <repetition name='col_names' count='5'>
    <token name='col_name' type='string'/>
    </repetition></line>
  <line>                    <!-- expect='  unitless     unitless     Ci     Ci     Ci'-->
   <repetition name='col_units' count='5'>
    <token name='col_unit' type='string'/>
    </repetition></line>
  <repetition name='nuclide' count='tpa_version.number_of_nuclides'>
   <line>
    <token name='realization_number' type='int'/> <!-- expect first='1' increment='1'-->
    <token name='nuclide' type='string'/>     <!-- expect prev='first' value = 'prev'-->
    <token name='ebscumrel' type='float'/>
    <token name='uzcumrel' type='float'/>
    <token name='szcumrel' type='float'/>
    </line></repetition>
  </file_type>
  <!-- ------------------------------------------------------------ -->

 <file_type name='dcagw_ech_file_type'>
  <file_format encoding='ascii' line_separator='crlf'/>
  <file_names>
   <file_name='dcagw.ech'/>
   </file_names>
  <line/>
  <line/>
  <line>
   <token expect='TPA'/>
   <token name='tpa_version' type='string'/>
   <token count='4'/>
   <token name='day_of_week' type='string'/>
   <token name='month_name' type='string'/>
   <token name='day_of_month' type='string'/>
   <token name='time_of_day' type='string'/>
   <token name='year' type='string'/>
```

```
 </line>
<line name='line4' expect='Echo of DCAGW Input Values'/>

<line  expected_contents=''/>

<repetition name='TBD' count='TBD'>
<line>
 <token expect='REALIZATION'/>
 <token name='realization_number' type='int' expect='1'/>
 </line>
<line expect=''/>
<line expect=''/>
<line expect='ALL SUBAREAS'/>
<line expect=''/>

<if index_of='TBD' equals='1'>
<line/>  <!-- expect='(same names and values for all vectors)'/>
<line expect=''/>
<line>
 <token name='col_label_1' expect='maxntime'/>
 <token name='col_label_2' expect='maxnnucl'/>
 <token name='col_label_3' expect='ntim'/>
 <token name='col_label_4' expect='nnucl'/>
 </line>
<line>
 <token name='maxntime'/>
 <token name='maxnnucl'/>
 <token name='ntim'/>
 <token name='nnucl'/>
 </line>
<line expect=''/>
<line>
 <token name='col_label_5' expect='index'/>
 <token name='col_label_6a' expect='nuclide'/>
 <token name='col_label_6b' expect='name'/>
 </line>
<repetition name='nuclide' count=20 >
 <line>
  <token name='index' type='int'/>
  <token name='nuclide' type='string'/>
  </line>
<line expect=''/>
<line expect='(the following values are for each vector)'/>
<line expect=''/>
</if>

<if index_of='' not_equals ='1'>
 <line expect=''/>
 </if>
<line>
 <token name='col_label_7' expect='time'/>
 <token name='col_label_8' expect='AAT'/>
 <token name='col_label_9' expect='AAP'/>
 </line>
<line expect=''/>
```

```
<repetition name='time' count='tpa_run.number_of_times>
 <line>
  <token name='time_index' type='int' />
  <token name='time' type='float' />
  <token name='AAT' type='float' />
  <token name='AAP' type='float' />
  </line></repetition>

<line expect='' />
<line expect='All Aqueousnuclides - ciperyrallsafromsz' />
<line expect='(Ci/yr for all subareas from the saturated zone)' />
<line expect='' />


 <line>  <!--expect='  time  Cm246  U238  Cm245  Am241  Np237' -->
  <repetition name='column' count='6'>
   <token name='col_name' type='string' />
   </repetition></line>
 <line expect='' />
 <repetition name='time_nuclide_set_1' count='tpa_run.number_of_times>
  <line>
   <token name='time_index' type='int' />
   <token name='time' type='float' />
   <token name='value_for_nuclide_01' type='float' />
   <token name='value_for_nuclide_02' type='float' />
   <token name='value_for_nuclide_03' type='float' />
   <token name='value_for_nuclide_04' type='float' />
   <token name='value_for_nuclide_05' type='float' />
   </line></repetition>
 <line expect='' />

 <line>  <!-- expect='  time  Am243  Pu239  Pu240  U234  Th230' -->
 <line expect='' />
 <repetition name='time_nuclide_set_2' count='tpa_run.number_of_times>
  <line>
   <token name='time_index' type='int' />
   <token name='time' type='float' />
   <token name='value_for_nuclide_06' type='float' />
   <token name='value_for_nuclide_07' type='float' />
   <token name='value_for_nuclide_08' type='float' />
   <token name='value_for_nuclide_09' type='float' />
   <token name='value_for_nuclide_10' type='float' />
   </line></repetition>
 <line expect='' />

 <line>  <!-- expect='  time  Ra226  Pb210  Cs135  I129  Tc99' />
 <line expect='' />
 <repetition name='time_nuclide_set_2' count='tpa_run.number_of_times>
  <line>
   <token name='time_index' type='int' />
   <token name='time' type='float' />
   <token name='value_for_nuclide_11' type='float' />
   <token name='value_for_nuclide_12' type='float' />
   <token name='value_for_nuclide_13' type='float' />
   <token name='value_for_nuclide_14' type='float' />
   <token name='value_for_nuclide_15' type='float' />
```

```
    </line></repetition>
   <line expect="/>

   <line>   <!-- expect='    time    Ni59     C14      Se79     Nb94     Cl36'/>
   <line expect="/>
   <repetition name='time_nuclide_set_2' count='tpa_run.number_of_times>
    <line>
     <token name='time_index' type='int'/>
     <token name='time' type='float'/>
     <token name='value_for_nuclide_16' type='float'/>
     <token name='value_for_nuclide_17' type='float'/>
     <token name='value_for_nuclide_18' type='float'/>
     <token name='value_for_nuclide_19' type='float'/>
     <token name='value_for_nuclide_20' type='float'/>
     </line></repetition>
   <line expect="/>
   </repetition> <!-- end of rep. over realizations -->
  </file_type>

 <file_types>

</variable_and_file_info>
```

2000-08-16 14:38:01 gpp getting past null pointer error in think tparun.java, in code from JE.

2000-08-16 adding colored point plotterby way of simplifying colored curves plotter, decreasing number of data references.

2000-08-17 Test Results for TPA Data Loader on a subset of the variables.

Function 2.1 Loading TPA Variables from TPA Output Files
Function 2.1.7 Loading TPA Variable "Fraction of canisters failed"
Passed: Data loaded matches contents of respective TPA Output File.

Output from Module TPADataLoader.java

```
* begin
*********************************************************************
fractionWpsFailed:
Each data value corresponds to an individual time.
Actual data dimensions: [201,30,7]
Strides requested:      [30,6,3]

subar 1
realzn 1
  0.002303  0.002303  0.002303  0.002303  0.002303  0.002303  0.002303
realzn 7
 0.0043055 0.0043055 0.0043055 0.0043055 0.0043055 0.0043055 0.0043055
realzn 13
   0.00996   0.00996   0.00996   0.00996   0.00996   0.00996   0.00996
realzn 19
 0.0046304 0.0046304 0.0046304 0.0046304 0.0046304 0.0046304 0.0046304
realzn 25
```

```
 0.0015518 0.0015518 0.0015518 0.0015518 0.0015518 0.0015518 0.0015518


subar 4
realzn 1
  0.002303  0.002303  0.002303  0.002303  0.002303  0.002303  0.002303
realzn 7
 0.0043055 0.0043055 0.0043055 0.0043055 0.0043055 0.0043055 0.0043055
realzn 13
   0.00996   0.00996   0.00996   0.00996   0.00996   0.00996   0.00996
realzn 19
 0.0046304 0.0046304 0.0046304 0.0046304 0.0046304 0.0046304 0.0046304
realzn 25
 0.0015518 0.0015518 0.0015518 0.0015518 0.0015518 0.0015518 0.0015518


subar 7
realzn 1
  0.002303  0.002303  0.002303  0.002303  0.002303  0.002303  0.002303
realzn 7
 0.0043055 0.0043055 0.0043055 0.0043055 0.0043055 0.0043055 0.0043055
realzn 13
   0.00996   0.00996   0.00996   0.00996   0.00996   0.00996   0.00996
realzn 19
 0.0046304 0.0046304 0.0046304 0.0046304 0.0046304 0.0046304 0.0046304
realzn 25
 0.0015518 0.0015518 0.0015518 0.0015518 0.0015518 0.0015518 0.0015518
* end
**********************************************************************

typical input data, from file ebsfail.rlt
* begin
**********************************************************************
 Input file tpa.inp as supplied with TPA Version 3.3 Code.
 Base case
 TPA 3.3 PVM capable, Job started: Sun Mar 05 14:30:41 2000
 EBSFAIL Results
 with the output mode specified in "tpa.inp"

REALIZATION    1


SUBAREA    1


Fraction of Waste Packages Initially Defective and Failed by Corrosion

       time      fraction wps failed
   1  0.0000E+00  2.3030E-03
   2  2.3102E+00  2.3030E-03
   3  4.6744E+00  2.3030E-03
   4  7.0940E+00  2.3030E-03
   5  9.5702E+00  2.3030E-03
...
REALIZATION    7
```

```
SUBAREA    1


Fraction of Waste Packages Initially Defective and Failed by Corrosion

       time      fraction wps failed
   1  0.0000E+00  4.3055E-03
   2  2.3102E+00  4.3055E-03
   3  4.6744E+00  4.3055E-03
   4  7.0940E+00  4.3055E-03
   5  9.5702E+00  4.3055E-03
...
* end
**********************************************************************

Function 2.1.19 Loading TPA Variable "Current Biosphere Dose Conversion
Factors"
Passed: Data loaded matches contents of respective TPA Output File.

 Output from Module TPADataLoader.java
* begin
**********************************************************************
Current Biosphere Dose Conversion Factors
Each data value corresponds to an individual nuclide.
Actual data dimensions: [33,5,1]
Strides requested:      [1,1,1]

 1
type 1
     840.0      27.0     110.0     700.0      12.0      26.0      26.0
56000.0     130.0    4400.0    7500.0      13.0    5800.0    1400.0
13000.0    3000.0       0.2     960.0    6300.0      25.0   11000.0
31.0      28.0      23.0    7300.0      0.18   19000.0       1.2
530.0
67000.0     170.0   56000.0       0.0
type 2
     310.0    1200.0    1100.0    1120.0    1100.0     340.0     880.0
22.0      51.5     800.0    1200.0    1200.0     320.0    3500.0
18100.0
1200.0      22.8    1200.0    1500.0     350.0    5850.0     640.0
1200.0
330.0    1840.0     0.078     0.077     0.012      0.24     0.264
0.0311
0.12     0.033
type 3
   23100.0   15000.0    2000.0    6340.0    1900.0   26000.0     650.0
270000.0  403000.0    9900.0    6510.0    2100.0   24100.0   14000.0
79000.0   15000.0      40.7    6500.0  200000.0   26000.0   28800.0
7900.0    2100.0   25000.0  121000.0      75.0  160000.0   23000.0
850000.0
64400.0    7100.0    1200.0     310.0
type 4
  256000.0 3600000.0 3200000.0 3410000.0 3080000.0  270000.0  530000.0
910000.0 5390000.0 2400000.0 3500000.0 3400000.0  251000.0     1.0E7
1.31E7 3600000.0   66000.0 3500000.0 5000000.0  280000.0 3570000.0
1900000.0
3400000.0  260000.0 1310000.0     370.0   46000.0    6700.0  240000.0
```

```
20100.0    2190.0    9900.0     150.0
type 5
  190000.0 2700000.0 2400000.0 2600000.0 2350000.0  210000.0  400000.0
690000.0 3900000.0 1800000.0 2600000.0 2600000.0  190000.0 7700000.0
1.0E7 2700000.0   50400.0 2600000.0 3800000.0  210000.0 2600000.0
1500000.0
2600000.0  200000.0  960000.0     280.0   35000.0    5000.0  180000.0
14000.0    1100.0    7900.0     110.0
* end
**********************************************************************


Function 2.1.20. Loading TPA Variable "Pluvial Biosphere Dose
Conversion
Factors"
 Output from Module TPADataLoader.java
Passed: Data loaded matches contents of respective TPA Output File.

* begin
**********************************************************************
Pluvial Biosphere Dose Conversion Factors
Each data value corresponds to an individual nuclide.
Actual data dimensions: [33,5,1]
Strides requested:      [1,1,1]

 1
type 1
     600.0      19.0      76.0     490.0       8.3      18.0      18.0
40000.0      88.0    3100.0    5300.0       8.8    4000.0     980.0
9000.0    2100.0      0.13     670.0    4600.0      18.0    7600.0
22.0
20.0      16.0    5300.0      0.12   13000.0      0.83     360.0
47000.0
120.0   38000.0       0.0
type 2
     210.0     860.0     781.0     813.0     749.0     240.0     620.0
16.0      35.9     580.0     840.0     820.0     220.0    2400.0
13000.0
860.0      15.6     840.0    1000.0     240.0    4130.0     450.0
820.0
230.0    1300.0     0.057     0.057    0.0085      0.17     0.193
0.0227
0.088     0.024
type 3
   14100.0    8500.0    1100.0    3720.0    1090.0   16000.0     380.0
160000.0  240000.0    5700.0    3800.0    1200.0   15000.0    8300.0
45700.0    8500.0      23.3    3800.0  120000.0   16000.0   17400.0
4600.0    1200.0   15000.0   72300.0      43.0   94000.0   14000.0
490000.0
39000.0    4300.0     720.0     180.0
type 4
  123000.0 1800000.0 1600000.0 1710000.0 1540000.0  140000.0  260000.0
460000.0 2700000.0 1200000.0 1700000.0 1700000.0  131000.0 5100000.0
6760000.0 1800000.0   33000.0 1700000.0 2500000.0  140000.0 1790000.0
960000.0 1700000.0  130000.0  637000.0     190.0   23000.0    3300.0
120000.0    9960.0    1080.0    4900.0      76.0
type 5
```

```
  190000.0 2700000.0 2400000.0 2600000.0 2350000.0  210000.0  400000.0
690000.0 3900000.0 1800000.0 2600000.0 2600000.0  190000.0 7700000.0
1.0E7 2700000.0   50400.0 2600000.0 3800000.0  210000.0 2600000.0
1500000.0
2600000.0  200000.0  960000.0     280.0   35000.0    5000.0  180000.0
14000.0    1100.0    7900.0     110.0
* end
**************************************************************************


Function 2.1.22. Loading TPA Variable "Peak dose for compliance period"

 Output from Module TPADataLoader.java

* begin
**************************************************************************

Peak Dose for Compliance Period
Each data value corresponds to an individual realization.
Actual data dimensions: [30,1,1]
Strides requested:      [1,1,1]

 1
 1
 2.7122E-7 2.9896E-7 3.2325E-9 5.2183E-9 5.5694E-6 6.9925E-6 1.9004E-6
4.5702E-6 7.6709E-9 1.0143E-7 1.1214E-6 1.4802E-7 3.3753E-7 1.5548E-5
8.7407E-8 3.4674E-6 8.3208E-6 7.6376E-13 6.4497E-7   2.52E-5 2.0696E-7
2.1971E-8 1.0617E-6 1.0641E-9 3.2885E-8 4.1963E-7 6.2874E-7 2.0933E-7
1.5938E-6 2.9182E-10
* end
**************************************************************************

representative contents of file gwpkds_c.res
* begin
...
     vector          pktime          pktede          Cm246de
    unitless            yr           rem/yr           rem/yr
          1       1.0000E+04      2.7122E-07      0.0000E+00 ...
          2       1.0000E+04      2.9896E-07      0.0000E+00
          3       8.1013E+03      3.2325E-09      0.0000E+00
...
         30       1.0000E+04      2.9182E-10      0.0000E+00
* end



2000-08-31 16:30:01
Priorities:
Rollup nuclides,sa; tpa4; missing variables; variable influence on
raw(3), and on
reg(8); scatter(5); logscale (6); jpeg(3); (font arial; shorten yaxis
labels);
sci notebook; tpa error: change seed. accompany test results by inp,
outp. data;
sample input and output. sci notebook.
```

defer: instead of 1E1, show exponent as superscript; tabular fmt(10), side-by-side,
legend(8), bgcolor(1), param-longname(2),borders(1),;

installation notes
download jre 2
download java3d
install jre2000-09-04 09:00:05 2000-09-04 16:31:00 2000-09-05 09:01:00 2000-09-05 16:31:00 2000-09-06 09:01:00 2000-09-06 16:30:59 2000-09-07 09:01:01 2000-09-07 16:30:58
2000-09-08 09:45 or so. Talked with Ron Janetzke mailto:rjanetzke@swri.edu . Ron uses c-shell. Will install first on nt, on his desk then ostvaldo's. Ron asked about the size of the image files. I could test capturing
jpeg files of different sizes.
in visad, for filled curves, see delaunay custom, irregular 2D set, on gridded 2D set. 2000-09-08 16:31:00 2000-09-13 16:31:00 at bayes ofc. financial, + gpp influenced.rtf.

--

--
9/2
John --
Waste package failure information from TPA4 is ending up in the captured
stdout, which I arbitrarily named _TPA.OUT. From the script I use to invoke TPA, lines such as the following get written:

```
Simulation-run-start-time              2000-08-29 16:47:16
307 NumberOfRealizations               60
324 DurationOfCompliancePeriod[yr]     1.0e5
328 MaximumTime[yr]                    1.0e5
Work-directory                         F:\tpa_work\e5r060
```

Following that, there are lines such as:

```
================================================================================
         exec: Welcome to TPA Version 4.0
       Job started: Tue Aug 29 16:47:17 2000
================================================================================
REPOSITORY DESIGN INFORMATION
Subarea   Area       Waste    Number of WP
   #      [m^2]      [MTU]
   1    723591.3    14200.8        1455
   2    784763.0    15303.7        1568
   3    390372.0     7564.0         775
   4    207581.3     4157.8         426
   5    378972.8     7417.6         760
   6    424872.5     8305.8         851
   7    163938.3     3152.5         323
   8    393468.9     7944.6         814

Total Area [acre]          =      856.822384630614
```

```
Total Buried Waste [MTU]  =      68046.7200000000
Repository AML [MTU/acre] =      79.4175329923666

Specified Global Parameters:

             Compliance Period = 100000.0 (yr)
        Maximum Simulation Time = 100000.0 (yr)

...

And peppered among the remaining output are lines like:

    subarea   1 of   8           realization    1 of   60
exec: failed WPs from INITIAL   event =      5 at time =      0.0 yr
    subarea   2 of   8           realization    1 of   60
exec: failed WPs from INITIAL   event =      5 at time =      0.0 yr
    subarea   3 of   8           realization    1 of   60
exec: failed WPs from INITIAL   event =      3 at time =      0.0 yr
    subarea   4 of   8           realization    1 of   60
exec: failed WPs from INITIAL   event =      1 at time =      0.0 yr
    subarea   5 of   8           realization    1 of   60
exec: failed WPs from INITIAL   event =      3 at time =      0.0 yr
    subarea   6 of   8           realization    1 of   60
exec: failed WPs from INITIAL   event =      3 at time =      0.0 yr
    subarea   7 of   8           realization    1 of   60
exec: failed WPs from INITIAL   event =      1 at time =      0.0 yr
    subarea   8 of   8           realization    1 of   60
exec: failed WPs from INITIAL   event =      3 at time =      0.0 yr
    subarea   1 of   8           realization    2 of   60
exec: failed WPs from INITIAL   event =      1 at time =      0.0 yr
exec: failed WPs from CORROSION event =   1454 at time =  59709.1 yr


I wrote a script using grep, etc., to produce the extract at the end
of this message. I suspect that before I or we translate it to java,
or something like that, I should ask Ron or Ostvaldo about it.   Joanne
suggested passing on it.  For a run of 30 realizations, I got the
data:

sa n_sa rz n_rz fail_type num_failed yr [fail_type num_failed yr]
 1 8 1 30 INITIAL 1 0.0 CORROSION 1454 68749.8
 2 8 1 30 INITIAL 2 0.0 CORROSION 1566 68749.8
 3 8 1 30 INITIAL 1 0.0 CORROSION 774 68749.8
 4 8 1 30 CORROSION 426 67154.5
 5 8 1 30 INITIAL 1 0.0 CORROSION 759 67154.5
 6 8 1 30 INITIAL 1 0.0 CORROSION 850 68749.8
 7 8 1 30 CORROSION 323 67154.5
 8 8 1 30 INITIAL 1 0.0 CORROSION 813 67154.5
 1 8 2 30 INITIAL 10 0.0 CORROSION 1445 44991.9
 2 8 2 30 INITIAL 11 0.0 CORROSION 1557 44991.9
 3 8 2 30 INITIAL 5 0.0 CORROSION 770 44991.9
 4 8 2 30 INITIAL 3 0.0 CORROSION 423 44991.9
 5 8 2 30 INITIAL 5 0.0 CORROSION 755 44991.9
 6 8 2 30 INITIAL 6 0.0 CORROSION 845 44991.9
 7 8 2 30 INITIAL 2 0.0 CORROSION 321 44991.9
 8 8 2 30 INITIAL 6 0.0 CORROSION 808 44991.9
 1 8 3 30 INITIAL 4 0.0 CORROSION 1451 61130.1
```

```
2 8 3 30 INITIAL 4 0.0 CORROSION 1564 61130.1
3 8 3 30 INITIAL 2 0.0 CORROSION 773 61130.1
4 8 3 30 INITIAL 1 0.0 CORROSION 425 61130.1
5 8 3 30 INITIAL 2 0.0 CORROSION 758 61130.1
6 8 3 30 INITIAL 2 0.0 CORROSION 849 61130.1
7 8 3 30 INITIAL 1 0.0 CORROSION 322 61130.1
8 8 3 30 INITIAL 2 0.0 CORROSION 812 61130.1
1 8 4 30 INITIAL 13 0.0
2 8 4 30 INITIAL 14 0.0
3 8 4 30 INITIAL 7 0.0
4 8 4 30 INITIAL 4 0.0
5 8 4 30 INITIAL 7 0.0
6 8 4 30 INITIAL 8 0.0
7 8 4 30 INITIAL 3 0.0
8 8 4 30 INITIAL 7 0.0
1 8 5 30 INITIAL 14 0.0 CORROSION 1441 95432.5
2 8 5 30 INITIAL 15 0.0 CORROSION 1553 97689.8
3 8 5 30 INITIAL 7 0.0 CORROSION 768 97689.8
4 8 5 30 INITIAL 4 0.0 CORROSION 422 95432.5
5 8 5 30 INITIAL 7 0.0 CORROSION 753 95432.5
6 8 5 30 INITIAL 8 0.0 CORROSION 843 97689.8
7 8 5 30 INITIAL 3 0.0 CORROSION 320 95432.5
8 8 5 30 INITIAL 8 0.0 CORROSION 806 95432.5
1 8 6 30 INITIAL 3 0.0 CORROSION 1452 67154.5
2 8 6 30 INITIAL 4 0.0 CORROSION 1564 67154.5
3 8 6 30 INITIAL 2 0.0 CORROSION 773 67154.5
4 8 6 30 INITIAL 1 0.0 CORROSION 425 65595.7
5 8 6 30 INITIAL 2 0.0 CORROSION 758 65595.7
6 8 6 30 INITIAL 2 0.0 CORROSION 849 67154.5
7 8 6 30 INITIAL 1 0.0 CORROSION 322 65595.7
8 8 6 30 INITIAL 2 0.0 CORROSION 812 65595.7
1 8 7 30 INITIAL 12 0.0 CORROSION 1443 75513.2
2 8 7 30 INITIAL 13 0.0 CORROSION 1555 75513.2
3 8 7 30 INITIAL 7 0.0 CORROSION 768 77304.2
4 8 7 30 INITIAL 4 0.0 CORROSION 422 75513.2
5 8 7 30 INITIAL 7 0.0 CORROSION 753 75513.2
6 8 7 30 INITIAL 7 0.0 CORROSION 844 75513.2
7 8 7 30 INITIAL 3 0.0 CORROSION 320 75513.2
8 8 7 30 INITIAL 7 0.0 CORROSION 807 75513.2
1 8 8 30 INITIAL 7 0.0 CORROSION 1448 72053.3
2 8 8 30 INITIAL 7 0.0 CORROSION 1561 72053.3
3 8 8 30 INITIAL 4 0.0 CORROSION 771 72053.3
4 8 8 30 INITIAL 2 0.0 CORROSION 424 70382.4
5 8 8 30 INITIAL 3 0.0 CORROSION 757 70382.4
6 8 8 30 INITIAL 4 0.0 CORROSION 847 72053.3
7 8 8 30 INITIAL 1 0.0 CORROSION 322 70382.4
8 8 8 30 INITIAL 4 0.0 CORROSION 810 70382.4
1 8 9 30 INITIAL 1 0.0 CORROSION 1454 84897.3
2 8 9 30 INITIAL 1 0.0 CORROSION 1567 84897.3
3 8 9 30 CORROSION 775 84897.3
4 8 9 30 CORROSION 426 84897.3
5 8 9 30 CORROSION 760 84897.3
6 8 9 30 CORROSION 851 84897.3
7 8 9 30 CORROSION 323 82932.7
8 8 9 30 CORROSION 814 84897.3
1 8 10 30 INITIAL 3 0.0 CORROSION 1452 51840.4
2 8 10 30 INITIAL 3 0.0 CORROSION 1565 51840.4
```

```
3 8 10 30 INITIAL 2 0.0 CORROSION 773 51840.4
4 8 10 30 INITIAL 1 0.0 CORROSION 425 51840.4
5 8 10 30 INITIAL 2 0.0 CORROSION 758 51840.4
6 8 10 30 INITIAL 2 0.0 CORROSION 849 51840.4
7 8 10 30 INITIAL 1 0.0 CORROSION 322 51840.4
8 8 10 30 INITIAL 2 0.0 CORROSION 812 51840.4
1 8 11 30 INITIAL 5 0.0 CORROSION 1450 56963.9
2 8 11 30 INITIAL 6 0.0 CORROSION 1562 56963.9
3 8 11 30 INITIAL 3 0.0 CORROSION 772 56963.9
4 8 11 30 INITIAL 2 0.0 CORROSION 424 56963.9
5 8 11 30 INITIAL 3 0.0 CORROSION 757 55638.2
6 8 11 30 INITIAL 3 0.0 CORROSION 848 56963.9
7 8 11 30 INITIAL 1 0.0 CORROSION 322 55638.2
8 8 11 30 INITIAL 3 0.0 CORROSION 811 55638.2
1 8 12 30 INITIAL 11 0.0 CORROSION 1444 77304.2
2 8 12 30 INITIAL 12 0.0 CORROSION 1556 77304.2
3 8 12 30 INITIAL 6 0.0 CORROSION 769 77304.2
4 8 12 30 INITIAL 3 0.0 CORROSION 423 77304.2
5 8 12 30 INITIAL 6 0.0 CORROSION 754 77304.2
6 8 12 30 INITIAL 6 0.0 CORROSION 845 77304.2
7 8 12 30 INITIAL 2 0.0 CORROSION 321 77304.2
8 8 12 30 INITIAL 6 0.0 CORROSION 808 77304.2
1 8 13 30 INITIAL 2 0.0 CORROSION 1453 91071.6
2 8 13 30 INITIAL 2 0.0 CORROSION 1566 91071.6
3 8 13 30 INITIAL 1 0.0 CORROSION 774 91071.6
4 8 13 30 INITIAL 1 0.0 CORROSION 425 91071.6
5 8 13 30 INITIAL 1 0.0 CORROSION 759 88965.7
6 8 13 30 INITIAL 1 0.0 CORROSION 850 91071.6
7 8 13 30 CORROSION 323 88965.7
8 8 13 30 INITIAL 1 0.0 CORROSION 813 91071.6
1 8 14 30 INITIAL 9 0.0 CORROSION 1446 81012.9
2 8 14 30 INITIAL 9 0.0 CORROSION 1559 81012.9
3 8 14 30 INITIAL 5 0.0 CORROSION 770 81012.9
4 8 14 30 INITIAL 3 0.0 CORROSION 423 81012.9
5 8 14 30 INITIAL 5 0.0 CORROSION 755 81012.9
6 8 14 30 INITIAL 5 0.0 CORROSION 846 81012.9
7 8 14 30 INITIAL 2 0.0 CORROSION 321 81012.9
8 8 14 30 INITIAL 5 0.0 CORROSION 809 81012.9
1 8 15 30 INITIAL 5 0.0 CORROSION 1450 73763.2
2 8 15 30 INITIAL 5 0.0 CORROSION 1563 73763.2
3 8 15 30 INITIAL 3 0.0 CORROSION 772 73763.2
4 8 15 30 INITIAL 1 0.0 CORROSION 425 72053.3
5 8 15 30 INITIAL 3 0.0 CORROSION 757 72053.3
6 8 15 30 INITIAL 3 0.0 CORROSION 848 73763.2
7 8 15 30 INITIAL 1 0.0 CORROSION 322 72053.3
8 8 15 30 INITIAL 3 0.0 CORROSION 811 72053.3
1 8 16 30 INITIAL 8 0.0 CORROSION 1447 65595.7
2 8 16 30 INITIAL 9 0.0 CORROSION 1559 65595.7
3 8 16 30 INITIAL 4 0.0 CORROSION 771 65595.7
4 8 16 30 INITIAL 2 0.0 CORROSION 424 64072.6
5 8 16 30 INITIAL 4 0.0 CORROSION 756 64072.6
6 8 16 30 INITIAL 5 0.0 CORROSION 846 65595.7
7 8 16 30 INITIAL 2 0.0 CORROSION 321 64072.6
8 8 16 30 INITIAL 5 0.0 CORROSION 809 64072.6
1 8 17 30 INITIAL 12 0.0
2 8 17 30 INITIAL 12 0.0
3 8 17 30 INITIAL 6 0.0
```

```
4 8 17 30 INITIAL 3 0.0
5 8 17 30 INITIAL 6 0.0
6 8 17 30 INITIAL 7 0.0
7 8 17 30 INITIAL 3 0.0
8 8 17 30 INITIAL 6 0.0
1 8 18 30 INITIAL 1 0.0 CORROSION 1454 48297.3
2 8 18 30 INITIAL 1 0.0 CORROSION 1567 48297.3
3 8 18 30 CORROSION 775 48297.3
4 8 18 30 CORROSION 426 47169.9
5 8 18 30 CORROSION 760 47169.9
6 8 18 30 CORROSION 851 48297.3
7 8 18 30 CORROSION 323 47169.9
8 8 18 30 CORROSION 814 47169.9
1 8 19 30 INITIAL 7 0.0 CORROSION 1448 82932.7
2 8 19 30 INITIAL 7 0.0 CORROSION 1561 82932.7
3 8 19 30 INITIAL 4 0.0 CORROSION 771 82932.7
4 8 19 30 INITIAL 2 0.0 CORROSION 424 82932.7
5 8 19 30 INITIAL 4 0.0 CORROSION 756 82932.7
6 8 19 30 INITIAL 4 0.0 CORROSION 847 82932.7
7 8 19 30 INITIAL 2 0.0 CORROSION 321 82932.7
8 8 19 30 INITIAL 4 0.0 CORROSION 810 82932.7
1 8 20 30 INITIAL 11 0.0
2 8 20 30 INITIAL 12 0.0
3 8 20 30 INITIAL 6 0.0
4 8 20 30 INITIAL 3 0.0
5 8 20 30 INITIAL 6 0.0
6 8 20 30 INITIAL 6 0.0
7 8 20 30 INITIAL 2 0.0
8 8 20 30 INITIAL 6 0.0
1 8 21 30 INITIAL 13 0.0 CORROSION 1442 62584.3
2 8 21 30 INITIAL 14 0.0 CORROSION 1554 62584.3
3 8 21 30 INITIAL 7 0.0 CORROSION 768 62584.3
4 8 21 30 INITIAL 4 0.0 CORROSION 422 62584.3
5 8 21 30 INITIAL 7 0.0 CORROSION 753 62584.3
6 8 21 30 INITIAL 7 0.0 CORROSION 844 62584.3
7 8 21 30 INITIAL 3 0.0 CORROSION 320 62584.3
8 8 21 30 INITIAL 7 0.0 CORROSION 807 62584.3
1 8 22 30 INITIAL 2 0.0 CORROSION 1453 54342.9
2 8 22 30 INITIAL 2 0.0 CORROSION 1566 54342.9
3 8 22 30 INITIAL 1 0.0 CORROSION 774 54342.9
4 8 22 30 INITIAL 1 0.0 CORROSION 425 54342.9
5 8 22 30 INITIAL 1 0.0 CORROSION 759 54342.9
6 8 22 30 INITIAL 1 0.0 CORROSION 850 54342.9
7 8 22 30 CORROSION 323 53077.2
8 8 22 30 INITIAL 1 0.0 CORROSION 813 54342.9
1 8 23 30 INITIAL 14 0.0 CORROSION 1441 62584.3
2 8 23 30 INITIAL 15 0.0 CORROSION 1553 62584.3
3 8 23 30 INITIAL 8 0.0 CORROSION 767 64072.6
4 8 23 30 INITIAL 4 0.0 CORROSION 422 62584.3
5 8 23 30 INITIAL 7 0.0 CORROSION 753 62584.3
6 8 23 30 INITIAL 8 0.0 CORROSION 843 62584.3
7 8 23 30 INITIAL 3 0.0 CORROSION 320 62584.3
8 8 23 30 INITIAL 8 0.0 CORROSION 806 62584.3
1 8 24 30 INITIAL 9 0.0
2 8 24 30 INITIAL 10 0.0
3 8 24 30 INITIAL 5 0.0
4 8 24 30 INITIAL 3 0.0
```

```
 5 8 24 30 INITIAL 5 0.0
 6 8 24 30 INITIAL 6 0.0
 7 8 24 30 INITIAL 2 0.0
 8 8 24 30 INITIAL 5 0.0
 1 8 25 30 INITIAL 8 0.0 CORROSION 1447 59709.1
 2 8 25 30 INITIAL 8 0.0 CORROSION 1560 59709.1
 3 8 25 30 INITIAL 4 0.0 CORROSION 771 59709.1
 4 8 25 30 INITIAL 2 0.0 CORROSION 424 59709.1
 5 8 25 30 INITIAL 4 0.0 CORROSION 756 59709.1
 6 8 25 30 INITIAL 4 0.0 CORROSION 847 59709.1
 7 8 25 30 INITIAL 2 0.0 CORROSION 321 59709.1
 8 8 25 30 INITIAL 4 0.0 CORROSION 810 59709.1
 1 8 26 30 INITIAL 5 0.0 CORROSION 1450 88965.7
 2 8 26 30 INITIAL 5 0.0 CORROSION 1563 88965.7
 3 8 26 30 INITIAL 3 0.0 CORROSION 772 88965.7
 4 8 26 30 INITIAL 1 0.0 CORROSION 425 88965.7
 5 8 26 30 INITIAL 3 0.0 CORROSION 757 88965.7
 6 8 26 30 INITIAL 3 0.0 CORROSION 848 88965.7
 7 8 26 30 INITIAL 1 0.0 CORROSION 322 88965.7
 8 8 26 30 INITIAL 3 0.0 CORROSION 811 88965.7
 1 8 27 30 INITIAL 4 0.0 CORROSION 1451 73763.2
 2 8 27 30 INITIAL 5 0.0 CORROSION 1563 73763.2
 3 8 27 30 INITIAL 2 0.0 CORROSION 773 73763.2
 4 8 27 30 INITIAL 1 0.0 CORROSION 425 73763.2
 5 8 27 30 INITIAL 2 0.0 CORROSION 758 73763.2
 6 8 27 30 INITIAL 2 0.0 CORROSION 849 73763.2
 7 8 27 30 INITIAL 1 0.0 CORROSION 322 73763.2
 8 8 27 30 INITIAL 2 0.0 CORROSION 812 73763.2
 1 8 28 30 INITIAL 9 0.0 CORROSION 1446 68749.8
 2 8 28 30 INITIAL 10 0.0 CORROSION 1558 68749.8
 3 8 28 30 INITIAL 5 0.0 CORROSION 770 68749.8
 4 8 28 30 INITIAL 3 0.0 CORROSION 423 68749.8
 5 8 28 30 INITIAL 5 0.0 CORROSION 755 68749.8
 6 8 28 30 INITIAL 5 0.0 CORROSION 846 68749.8
 7 8 28 30 INITIAL 2 0.0 CORROSION 321 68749.8
 8 8 28 30 INITIAL 5 0.0 CORROSION 809 68749.8
 1 8 29 30 INITIAL 12 0.0 CORROSION 1443 54342.9
 2 8 29 30 INITIAL 13 0.0 CORROSION 1555 54342.9
 3 8 29 30 INITIAL 6 0.0 CORROSION 769 54342.9
 4 8 29 30 INITIAL 3 0.0 CORROSION 423 54342.9
 5 8 29 30 INITIAL 6 0.0 CORROSION 754 54342.9
 6 8 29 30 INITIAL 7 0.0 CORROSION 844 54342.9
 7 8 29 30 INITIAL 3 0.0 CORROSION 320 54342.9
 8 8 29 30 INITIAL 7 0.0 CORROSION 807 54342.9
 1 8 30 30 INITIAL 6 0.0 CORROSION 1449 56963.9
 2 8 30 30 INITIAL 7 0.0 CORROSION 1561 56963.9
 3 8 30 30 INITIAL 3 0.0 CORROSION 772 56963.9
 4 8 30 30 INITIAL 2 0.0 CORROSION 424 56963.9
 5 8 30 30 INITIAL 3 0.0 CORROSION 757 56963.9
 6 8 30 30 INITIAL 4 0.0 CORROSION 847 56963.9
 7 8 30 30 INITIAL 1 0.0 CORROSION 322 56963.9
 8 8 30 30 INITIAL 4 0.0 CORROSION 810 56963.9
```

--
9/3
John --

I scoured the docs, examples, code, and mailing list concerning log scales. The only thing I discovered are messages msg01273.htm and msg01276.htm, both from Bill Hibbard. The bottom line is:

1. Q&D (mine, not Bill's): Take the log10 of the data
   log10(x) = log(x) / log(10)
and plot that. It will show 1.0E-6 as -6.0, etc.

2. Use visad.CoordinateSystem to introduce a nonlinear mapping.

The messages:

>From: Bill Hibbard <hibbard@facstaff.wisc.edu>
>Organization: SSEC
>Keywords: 200008021348.e72DmDT22328

Hi All-

>> We would like to extend VisAD, in order to change axes'depiction, like havin
> g a label for each graduation.
>>
>> We thought of extending the ScalarMap class, in order to overide the method
> makeScale that builds scales.
>> But most attributs and methods are private or have package privacy, we can't
> then inherit it in another package.
>>
>> Is there another way to modify axis depiction, or can some attributs of the
> ScalarMap class become protected?
>> thanks
>
>I have just modified ScalarMap.java in the source on the VisAD
>ftp server, to declare the makeScale() method as public. Please
>let me know if there are any other methods that you need public.
>
>Another way to draw custom scales is to construct data objects
>(probably just Real or RealTuple) with a RealType mapped to
>Display.Shape, then to draw your custom scale as a VisADLineArray
>passed to the corresponding ShapeControl.setShape(). Note something
>like this is done in visad/bom/TrackManipulation.java.

Louise's question is timely as I was just contemplating how to make custom scales in VisAD. This question comes up frequently on the VisAD list, and the reply has never really been satisfactory (create a VisADLineArray, use ShapeControl).

I was looking into this the other day and think that VisAD needs a

higher level (than VisADLineArray) Scale component which can be used to create custom scales. Looking at the makeScale method in ScalarMap, it seems like that logic could be encapsulated and enhanced in a new class and have makeScale enhanced to pass a Scale object to the display renderer. I have not tried this yet, but I thought the properties of a Scale should be:

Color - color of the scale
Font - font used (Bill, can this be done now that you've added font support to TextControl?)
Major Tick Spacing - Tick mark spacing used for major Ticks
Minor Ticks Spacing - Tick mark spacing used for minor ticks
Tick Mark visibility - whether ticks are visible or not
Tick Labels - which ticks are labeled
Min/Max values - min/max of values
(The five above are like what a JSlider has for settable properties)
Label - Axis label
Position - X, Y or X axis
Ordinal position - position on the axis (first, second, third, etc)
CoordinateSystem - CS used to convert values to linear positions on the scale. For example, if you wanted to have a logP axis, you would provide the CS to create the position of the non-linear spacing of the pressure values on the axis

Are there others? Internally, the actual scale would be a VisADLineArray akin to what makeScale creates now. I'm not sure when I'd get around to this, but if anyone else wants to run with this and contribute it to the cause, be my guest. Like I said, I just started looking at this, so haven't thought it through to much. Additional input would be appreciated. I think this would be a valuable enhancement to VisAD given the number of times this question has come up and would make the scale creation more object oriented (and easier to deal with).

Don

****
Don Murray UCAR Unidata Program
dmurray@unidata.ucar.edu P.O. Box 3000
(303) 497-8628 Boulder, CO 80307
****
Unidata WWW Server http://www.unidata.ucar.edu/
McIDAS Demonstration Machine http://mcdemo.unidata.ucar.edu/
****

Follow-Ups:
Re: 20000802: Scales
From: Bill Hibbard <hibbard@facstaff.wisc.edu>

and

To: Don Murray <dmurray@unidata.ucar.edu>
Subject: Re: 20000802: Scales
From: Bill Hibbard <hibbard@facstaff.wisc.edu>
Date: Wed, 02 Aug 2000 10:27:08 -0500
CC: Louise CHAN <louise_chan@effix.fr>, visad-list@ssec.wisc.edu
References: <200008021446.e72EksT24079@unidata.ucar.edu>

Hi Don,

This is an excellent idea. You have done a good job of describing the required functionality, although it would be interesting to see if there are other suggestions.

Note that currently "ordinal position" (I assume this is the same as axis_ordinal inside ScalarMap) is determined in the DisplayRenderer (which is global over all ScalarMaps in the DisplayImpl). Providing this as a application-settable parameter could be a bit tricky.

I hope you do get a chance to implement this. The good news is that the changes can probably be localized to ScalarMap.java. It should just be a question of ScalarMap.makeScale() constructing an appropriate VisADLineArray passed to DisplayRenderer.setScale().

Cheers,
Bill

--
9/3
initial lines jumbled

Plot of a variable versus time: user interface, application logic

For an individual variable (call it 'v') plotted against time, GPP implements the following cases:

1. Plot For an individual variablePlot of the individual realizations versus time

2. Plot of regularized percentile contours versus time
    1.1.1 default
    1.1.2
  1.2 percentiles
-raw
  1.1 Visualize
 influence of a parameter
parameter vs. variable-percentile
variable vs. variable-raw
variable vs. variable-percentile
....

- - - -
the GPP SRD lists 22 TPA output variables.

?, of which one (Drip shield failure time) is really a TPA input.

In the sequence in which they are enumerated in the SRD, they are:

V. No.	Variable name	TPA output file
1.	'Mean annual temperature'	'dcagw.ech'
2.	'Mean annual precipitation'	'dcagw.ech'
3.	'Infiltration per subarea'	'uzflow.rlt'
4.	'Average infiltration per repository'	'infilper.res'
5.	'Average reflux per repository'	'infilper.res'
6.	'Average diversion per repository'	'infilper.res'
7.	'Fraction of canisters failed', derived from 'Canister failure time'	'ebsfail.rlt'
8.	'Drip shield failure time'	'tpa.inp'
9.	'Water hitting waste package'	'nfenv.rlt'
10.	'Repository temperature'	'nfenv.rlt'
11.	'Waste package temperature'	'nfenv.rlt'
12.	'Waste package relative humidity'	'nfenv.rlt'
13.	'Release from ebs per subarea'	'ebsrel.rlt'
14.	'Release from eebs per repository'	'cumrel.res'
15.	'Release from lower uz per subarea'	'uzft.rlt'
16.	'Release from lower uz per repository'	'cumrel.res'
17.	'Release from sz per subarea'	'szft.rlt'

18. 'Release from sz per repository' 'cumrel.res'
19. 'Current biosphere dose conversion factors' 'gw_cb_ad.dat'
20. 'Pluvial biosphere dose conversion factors' 'gw_pb_ad.dat'
21. 'Total dose' 'totdose.res'
22. 'Peak dose for compliance period' 'gwpkds_c.res'

Notation:

N1. Indices. Let N, R, S, and T represent, respectively, the sets of nuclides, and let n,r,s, and t be integral indices which identify, respectively, an individual nuclide, subarea, realization, and time, respectively.

N2. Let V,W represent any two (scalar) variables.

N3. Let B represent any parameter.

N4. Let u be some tuple formed from a subset of the coordinates listed in N1, and let U be the set of such tuples u. For example, u might be the tuple (r,s,t), and U would be the set of combinations of (realization, subarea, time). Then modeling V as V[u], or in the example, as

V[r,s,t]

represents the assertion that for a given TPA run, for every tuple u there exists a unique value of the variable V. Visad describes this relationship as U -> V, meaning that "V is a function of U".

For any of the variables V included in the SRD, V may be considered as a scalar. The case of Peak Dose and Peak time merits comment. In order to convince Visad to plot Peak Dose versus Peak Time as a "point plot", we tell it that the data may be considered to be related as:

realization -> (peak_dose, peak_time);

Therefore we can either:

a. consider the variable peak_dose to be simply a function of time, like most of the other variables, but with those times being the peak times, rather than the ones used in almost all the other cases. The cardinality of the set of peak times is tpa_run.number_of_realizations, rather than the usual tpa_run.number_of_times. In this case, we would describe the structure of the data as peak_dose(peak_time).
Since I have have had some difficulty in controlling "Point Mode" versus "Line Mode", using the setPointMode() and/or setPolygonMode() calls which apply to an entire visad.Display, we may tell Visad that the data is structured as

realization -> (peak_dose, peak_time).

b. Allow our description of the data model to be more complex, for this case, and consider the variable to be a tuple, a (peak_dose,peak_time), which is itself a function of realization. We would write this as (peak_dose,peak_time)[realization].

We will assume we are using alternative a. This requires us when plotting peak_dose, to accomodate use of a time set (with cardinality tpa_run.n_realizations) which differs from the time set (with cardinality tpa_run.n_times) used for other variables.

With the 5 or so dose conversion factors, rather than considering there to be a vector-valued 5-tuple for each nuclide, or a scalar which is a function of the tuple (nuclide, dcf_type), we may say instead that we have 5 individual scalar variables, each of which is a function of nuclide.

In terms of how the data is structured, and how it might be represented visually, there is no essential difference among n (nuclide), and s (subarea). Each is an identifier, associated with a given "problem domain" set, and may be considered to be a label, with no intrinsic quantitative significance or ordering relationship. Of course, each of the two identifiers refers to a different body of knowledge, but for modeling purposes the indices n and s may be replaced by generic indices g and h. These indices serve identification purposes only, as they do not refer to a numerical quantity, and they may be considered to be labels from defined sets.

Consideration of the dependency of a TPA variable upon nuclide and subarea *jointly* is well out of scope for the current phase. The models presented below can be extended in a straightforward manner to accomodate that in the future if ever desired.
For data which is available only for all (nuclide,subarea) pairs, we assume that we "roll the data up" (aggregate) the data by one or the other coordinate, leaving a variable which is a function of either nuclide or of subarea.

For ANY of the variables V we have considered, its data is structured in one of the patterns D1-D6 below, and for any parameter B, its data is structured as in D7.

GPP Data Model 1

D1. T[t]
D2. V[t]
D3. V[r,t]
D4. V[g,r,t]
D5. V[r]
D6. V[g]
D7. V[g,r]
D8. B[r]

For data structuring and visualization purposes, there is no need to

distinguish cases D5 from D8, and therefore we will drop one of them. Rearranging, we get

GPP Data Model 2

D1. T[t]
D2. V[t]
D3. V[r,t]
D4. V[g,r,t]
D5. V[g,r]
D5. V[r]
D6. V[g]

Without loss of generality, we may associate with a variable V[g,r,t], a set of variables of the form { Vg[r,t] | g in G }, where G is some finite set of identifiers not referring to a numeric quantity. Each element of the set {Vg[r,t]} is simply a variable of the form V[r,t]. In a similar fashion, V[g,r] may be considered to be a set of variables { Vg[r] | g in G}.

Therefore the model forms become

GPP Data Model 3

D1. T[t]
D2. V[t]
D3. { Vg[r,t] | g in G } G is a singleton set representing nothing, or is a set of nuclides, or G is a set of subareas.
D4. { V[r] | g in G } G is singleton, or Nuclides, or Subareas.
D5. V[g]

For the initial releases of GPP, data in the form D3 or D4 will be rolled up over individual nuclides or subareas, and the model becomes:

GPP Data Model 4

D1. T[t]
D2. V[t]
D3. V[r,t]
D4. V[r]
D5. V[g]

For some variable V[R], we may want to find:

a. the smallest number V0 for which V[r] <= V0 for 10% of the realizations.
b. the smallest number V1 for which V[r] <= V1 for 50% of the realizations.
c. the smallest number V2 for which V[r] <= V2 for 90% of the realizations.

We say that we have a set Q = {0.1, 0.5, 0.9} of percentiles (or "quantiles"), indexed by q in {0,1,2}. Q has to be ascending (if q1 < q2, then Q[q1] < Q[q2]), with all values between 0.0 and 1.0, inclusive. Then given this Q, for any variable v[r] we can derive a variable V'[q]. Perhaps V ranges between 150.0 and 1500.0, V'[10%] = 207.0. That means that 207.0 is the smallest value V0 for which the smallest 10% of the values of V do not exceed V0. Then 10% is an estimate of the value of the cumulative probability distribution of V at the point 207.0. So, from a set Q of quantiles, and a Variable V[r], we can derive a variable V'[q], and thereby augment model 3:

GPP Data Model 5

raw data:
D1. T[t]
D2. V[t]
D3. V[r,t]
D4. V[r]
D5. V[g]

analyst-generated
D6. Q[q]

derived-data
D7. V'[q]

For a given set of quantiles Q, the variable V'[q] assigns to each index q a number in the range of V. The set Q subdivides the interval [0,1] any way we want. Therefore, V'[] determines a nondecreasing function from the unit interval to the range of V, and with suitable definitions, we may define an inverse function C which takes any number in the range of V and maps it to a number in the unit interval, which estimates the cumulative probability distribution of V. Similarly, we can derive a function P which estimates the Probability Density Function of V.

Repeating this for each t in a set of times T, we can derive from a variable V[r,t] a variable V'[q,t], producing model

GPP Data Model 6

raw data:
D1. T[t]
D2. V[t]
D3. V[r,t]
D4. V[r]
D5. V[g]

analyst-generated
D6. Q[q]

derived-data
D7. V'[q]
D8. V'[q,t]

Note that 'g' and 'r' both refer to non-numeric identifiers (labels). The difference in the roll played by 'g' and 'r' is that 'g' identifies something real in the problem domain (a subarea or a nuclide), whereas 'r' identifies an individual sampling of a set of parameters, from which we can derive measures of how the values of the variable might be distributed.

The roles played by 'q' and 't' are likewise similar. They both represent ordinals, and Q and T represent increasing sequences of scalars. For clarity they will continue to be distinguished when referring to the data model, but to simplify the machinery of visualization, we will (below) be able to exploit these similarities and reduce the types of data to be considered to 5 types:

GPP Data Model 7

D1. Real-valued Ascending sequence: T[t], Q[q], V'[q]
D2. Real-valued function of real argument: V[t]
D3. Finite set of real-valued functions of a real argument: V[r,t],
and in future releases, V[g,t], g a nuclide or subarea.
D4. Real-Valued function of two real arguments: V'[q,t]
D5. Finite set of identified real-values: V[r],V[g]

For clarity in describing g the Data Visualization Models, we will begin with Data Model 6 and not the more abstract Model 7.

GPP Data Visualization Models

For the visualization Model, there are some simplifications. Some of the distinctions made in the data model are not needed.

Both r and g serve merely as identifiers, and do not refer to numeric quantities, and the distinction between them can be dropped, now adding Realization to Subarea and Nuclide, for which we use the letters {g,h} as indices.

Further, both t and q index ascending sets of numeric values, and may be identified. Let us use letters {i,j,k} to denote them. So

r, g become g,h
t, q become i,j,k

and the Visualization Data Model becomes

GPP Data Visualization Model 1

V1. T[i] from T[t]
V2. Q[i] from Q[q]
V3. V[g,i] from V[r,t]
V4. V[g] from V[r], V[f]
V5. V[i] from V'[q]
V6. V[i,j] from V'[q,t].

Since f is merely a label, we can, without loss of generality, replace V[g,i] with a set { V[i] } of functions, with one V[i] for each g.

For purposes of describing the visualization machinery, we may consider the V' to be merely another instance of a V.

GPP Data Visualization Model 2

V1. T[i] from T[t]
V2. Q[i] from Q[q]
V3. { V[i] } from V[r,t], V'[q]
V4. V[g] from V[r], V[g]
V5. V[i,j] from V'[q,t].

The above model considers "TPA Parameters" (data in the form V4), and TPA variables (data in the form V5, both referring to Model 5) individually. In order to support visualization of the influences of TPA parameters and variables upon other TPA variables, GPP must, in addition, consider certain combinations. Therefore, we augment Data Visualization Model 2 to yield:

GPP Data Visualization Model 3

In the following, unless otherwise stated, all references to Data Models refer to GPP Data Model 6.

V1. T[i]. This means "a finite sequence of times, where the index "i" is expected to represent an ordinal integral variable. Used in conjunction with Data Model D1.

This form can be used to visualize data in the form It can be thought of as a 1-dimensional array, with a set of constraints. It can also be thought of as a function, whose domain is a finite set of integers beginning with 0, and which represents an ordinal variable; whose range is a finite set of date-times ("time stamps", not "time intervals"); and with the constraint that if I < j, then t[I] <= t[j].

By "ordinal", we mean that their "order" (sequence) is significant. We do not, for example, use movel V1 to represent a set containing a time for each nuclide, or for each realization, or for each subarea.

A special case of ordinal variable is cardinal variable, where the variable represents "how many" of something. By convention, we may assume that the array is non-decreasing. For visualizing the variables referred to in the SRD, the times are not only non-decreasing, but also they are increasing.

Among the cases referred to in the SRD, there is little value in plotting a relationship of the form V1 by itself. Rather, it is used in conjunction with other information.

V2. Q[i]. An array of quantiles. Used to represent Data Model D5.

Semantics are very similar to those of case V1, if we substitute "quantile" for "time". The range is a number between 0 and 1, inclusively. It is distinguished from V1 for the sake of clarity.

V3. { Vg[i] | g in G } A set of one dimensional finite sequences Vg[i]. Used for visualization of Data Model D2. Used also for visualization of data models D3 The set can be a singleton.

Each element of the set is a finite sequence representing a scalar function of an ordinal variable. The Set G is never considered to be a set of numbers, but rather to be a set of identifiers or labels. For example, { Vr[I] | r in R }, where R is a set of realizations. Another example is a single finite sequence V1[q].

Remainder is TBD:

V4. V[g] from V[r], V[f]
V5. V[i,j] from V'[q,t].
V6. V[g,i] AND W[f] from V[r,t] AND W[r]
V7. V[g,i] AND W[f,i] from V[r,t] AND W[r,t]
V8. V[i,j] AND W[f] from V'[q,t] AND W[r]
V9. V[i,j] AND W[f,j] from V'[q,t] AND W[r,t]

Release 1 Mappings from Data to Plot Coordinates:

V1 -> x-axis, and for each i, Q[i] -> y axis.
T[i] -> x-axis and V

--
9/4

```
class Log
{  public static final double LOG10 = Math.log(10.0);
   public static final double MAX_RANGE = 1.0e8;

   public static double log10(double inp)
   { return Math.log(inp) / LOG10;
   }

    public static double[] RemoveOutliers(double[] v)
    { double[] out = new double[v.length];

      /* calculate a threshold value (values to be considered negligable,
       * based on maximum value. Treat values below threshold as if they
       *  have threshold value
       */

      double maxv = Double.MIN_VALUE;    // max value
      int i;
      for (i = 0; i < v.length; i++)   // find max
        if(v[i] > maxv)
          maxv = v[i];

      double threshold = maxv / MAX_RANGE;

      /*  */

      for (i = 0; i < v.length; i++)
        if (v[i] < threshold)
          out[i] = threshold;
        else
          out[i] = v[i];

   return out;
  }

  public static void main(String args[])
  { double[] raw = {1.1e-19, 2.2e-15, 3.3e-9, 4.4e-07, 5.5e-04, 6.6e-03};
    double[] clean = RemoveOutliers(raw);

    System.out.println("raw   log-of-raw   clean   log-of-clean");
    for (int i = 0; i < raw.length; i++)
     System.out.println(raw[i] + " " + log10(raw[i]) + " " +
           clean[i] + " " + log10(clean[i]));

  /* produces the following output
```

```
E:\work\log>java Log
raw  log-of-raw  clean  log-of-clean
1.1E-19 -18.95860731484177 6.6E-11 -10.18045606445813
2.2E-15 -14.657577319177792 6.6E-11 -10.18045606445813
3.3E-9 -8.481486060122112 3.3E-9 -8.481486060122112
4.4E-7 -6.356547323513812 4.4E-7 -6.356547323513812
5.5E-4 -3.259637310505756 5.5E-4 -3.259637310505756
0.0066 -2.1804560644581312 0.0066 -2.1804560644581312
*/
 }
}

--
2000-09-05

package com.bayes.gpp;

import java.io.File;
import java.io.FileNotFoundException;
import java.io.FileReader;
import java.io.IOException;
import java.io.LineNumberReader;
import java.util.Hashtable;
import java.util.NoSuchElementException;
import java.util.StringTokenizer;

public class TPAParameter
{ public static final String TPA_PARAMS_REL_FILE_NAME = "tpa.inp";
 public static final int TPA_PARAMS_MAX_FILE_SIZE = 1000000;
 private static Hashtable all_tpa_params = new Hashtable(50);
 private static Hashtable all_tpa_params_readers = new Hashtable(10);

 public TPAParameter() {}

 public static int getNumberOfNuclides(String tpa_path)
 { return getIntParameter(tpa_path, "aqueousnuclides");
 }

 public static int getNumberOfRealizations(String tpa_path)
 { return getIntParameter(tpa_path, "NumberOfRealizations");
 }

 public static int getNumberOfSubareas(String tpa_path)
 { return getIntParameter(tpa_path, "subarea");
 }
```

```
public static int getNumberOfTimes(String tpa_path)
{ return getIntParameter(tpa_path, "NumberOfTimeStepsInCompliancePeriod");
}

public static float[] getTimes(String tpa_path)
{ float[] times = new float[ getNumberOfTimes(tpa_path) ];
 // tbd
 return times;
}

public static int getIntParameter(String tpa_path, String param_name)
{ int value;
 String full_param_name = tpa_path + ":" + param_name;
 boolean found = all_tpa_params.containsKey(full_param_name);
 if (found)
  value = ((Integer)(all_tpa_params.get((Object)full_param_name))).intValue();
 else
 { LineNumberReader in = getReader(tpa_path);
  try
  { in.reset(); // rewind (to prev. mark, assumed to be at file top
  } catch (IOException e)
  { System.err.println(e);
   System.err.println("could not reset stream for params file in " +
    tpa_path );
  }

  String line = findLineStartingWith(in, param_name);
  line = findLineNotStartingWith(in, "**");
  value = Integer.parseInt(line);
  all_tpa_params.put((Object) full_param_name, new Integer(value));
 }                          // else havent already read it
  return value;
}

public static String findLineStartingWith (LineNumberReader in, String prefix)
{ String line;
 while(true)
 { line = readLine(in);
  if (line.startsWith(prefix))
   return line;
 }
}

public static String findLineNotStartingWith (LineNumberReader in, String prefix)
{ String line;
 while(true)
```

```
  { line = readLine(in);
    if ( !line.startsWith(prefix) )
      return line;
  }
 }

 static LineNumberReader getReader(String tpa_path)
 { LineNumberReader in = null;
  boolean found = all_tpa_params_readers.containsKey(tpa_path);
  if (found)
  { in = (LineNumberReader) all_tpa_params_readers.get((Object)tpa_path);
  }
  else
  { String sep = System.getProperty("file.separator");
    String tpa_params_abs_file_name = tpa_path + sep +
TPA_PARAMS_REL_FILE_NAME;
    File tpa_params_file = null;
    try
    { tpa_params_file = new File(tpa_params_abs_file_name);
    } catch (NullPointerException e)
    { System.err.println(e);
     // System.err.println(e.getMessage() ); // same as above?
     System.err.println("trouble finding " + tpa_params_abs_file_name );
     return null;
    }

    try
    { in = new LineNumberReader(new FileReader(tpa_params_file));
    } catch (FileNotFoundException e)
    { System.err.println("could not find file " + tpa_params_abs_file_name);
     return null;
    }

    try
    { in.mark(TPA_PARAMS_MAX_FILE_SIZE); // pass readahead limit
    } catch (IOException e)
    { System.err.println(e);
     System.err.println("could not mark stream for " + tpa_params_abs_file_name );
    }

    all_tpa_params_readers.put((Object) tpa_path, in);
  }                          // if reader not already initialized

  return in;
 }
```

```
public static String readLine(LineNumberReader in)
{   String line = null;
    try
    { line = in.readLine();
    }
    catch (IOException ioe) // TBD handle end of file better
    { System.err.println(ioe + " line " + in.getLineNumber() );
    }
    return line;
}

public static void main(String[] args)
{  if (args.length < 1)
   { System.out.println("Usage example: \n" +
     "java com.bayes.gpp.TPAParameter e:/my_tpa_runs/00 f:/her_tpa_runs/03");
      System.exit(1);
   }

   int n_runs = args.length;

   for (int i = 0; i < n_runs; i++)
   {
    String tpa_path = args[i];
    System.out.println("\nTPA run:       " + tpa_path);
    int n_nuclides = TPAParameter.getNumberOfNuclides(tpa_path);
    System.out.println("n_nuclides:    " + n_nuclides );

    int n_realizations = TPAParameter.getNumberOfRealizations(tpa_path);
    System.out.println("n_realizations: " +  n_realizations);

    int n_subareas = TPAParameter.getNumberOfSubareas(tpa_path);
    System.out.println("n_subareas:    " +  n_subareas);

    int n_times = TPAParameter.getNumberOfTimes(tpa_path);
    System.out.println("n_times:       " + n_times );

    /* tbd
    float[] times = TPAParameter.getTimes(tpa_path);
    System.out.print("times: ");     // print newline when t == 0
    for (int t = 0; t < n_times; t++)
    { if (t % 5 == 0 )
       System.out.println();
      System.out.print("" + times[t] + " ");
    }                          // for all times
    */
   }                           // for all tpa runs
```

```
  }                    // main()
}                      // class TPAParameter
```

--

Installing the TPA Graphical Post-Processor Version 2000-09-06

0.0 Summary

This note describes installation of TPA GPP Version 2000-09-06. GPP requires Java and some some third-party libraries (opengl, java3d, visad, and colt), which are on the GPP distribution CD and may be obtained also from the internet. It is best if opengl, java3d, and visad are installed in that sequence. Section 1 describes installation of Java, Section 2 of the required libraries, and Section 3 of GPP itself.

1.0 Installing the Java Runtime Environment

1.1 Supported Platforms

The GPP is designed to run on any platforms that fully support JavaTM 2 and Java 3DTM. Currently we are targeting mainly the Windows and Solaris platforms. Other platforms supporting Java 2 and Java 3D, such as Linux RedHat 6.1, will also work. The requirement that the platform support the java3D library enables gpp to be extended in the future, in ways that are very useful for interactive exploration of multidimensional data, but the initial release of GPP does not expose any of the 3D functionality.

Installing the JavaTM 2 Platform, Standard Edition (J2SETM) Java 2 Platform, Standard Edition (J2SE) provides a complete, secure foundation for building and deploying applications ranging from the PC desktop computer up to the workgroup server. The J2SE is implemented by the Java 2 Software Development Kit (SDK) , Standard Edition and the Java 2 Runtime Environment, Standard Edition.

You need the Java 2 Platform, Standard Edition (J2SE) to run GPP. applications. We are using the latest versions of Java 2 from Sun. On Windows, that's version 1.3. If you don't have a version of Java 2 already, you can find the "Production Release" of the Java Runtime Environment (JRE) or if you plan to do development, get the Java Development Kit (JDK), on the GPP distribution CD, or you can download it from the internet. Keep track of where you actually install it, as you will need to install the Java 3D package in the same directory.

Solaris users may need to install certain system patches for Java 2 to work correctly.

1.2 Non-Developers can install the Java Runtime Environment (JRE)

1.2.1 Obtaining the JRE

If you are a user and not a developer, you need to have the Java 2 Runtime Environment ("JRE") installed on the host on which you will be running the GPP. If you have access to the GPP Distribution CD Version 2000-09-06 (henceforth referred to as "the CD"), you can find a copy of the self-extracting JRE installation program for use with Windows 9x/2000/NT 4, at

o java/jre/download/j2re1_3_0-win.exe .

The directory java/jre contains potentially useful information pertaining to the JRE, including a description of the JRE, a data sheet, feature descrption, downloading instructions, installation troubleshooting, licensing information, and changes in the current release. For several other operating systems, you can readily find corresponding files at sources such as java.sun.com, listed in Appendix A.

Copy the file to a temporary directoryon your host.

1.2.2 Running the JRE Install Program

Run the Java JRE installation package, by either double clicking on it in Windows explorer, or bringing up a command console. To bring up a command console, either:

o From graphical shell, select Start Menu, Click Run, Enter "command" (without the quotes) or

o From the Graphical Shell, Double Click on the icon you use for a shortcut to c:\windows\command.com, usually called "MS-DOS Prompt" in Start | Programs.

Installation is self-explanatory, except that your life will be somewhat easier if you install it to a directory such as "c\jre1.3" which does not contain spaces in its name, than if you select an installation path under "C:\Program Files", which contains spaces. In the following we refer to the directory where you have installed the JRE as $JAVA_HOME.

1.3. Developers may want the full Java Development Kit (JDK)

1.3.1 Obtaining the JDK

If you are a developer or want the tools for building java applications, you may want a copy of the Java Development Kit ("JDK"), which includes the JRE. There is a copy of the JDK installation program for Windows 9X/2000/NT 4 on the CD as java/jdk/download/jdk130.exe . T For other environments, see Appendix A. Copy the file to a temporary directory on a volume accessable to the host on which you will be installing java.

1.3.2 Running the JDK Install Program

Run the Java JDK installation package, by either double clicking on it in Windows explorer, or bringing up a command prompt. To bring up a command prompt, either:

o From graphical shell, select Start Menu, Click Run, Enter "command" (without the quotes) or

o From the Graphical Shell, Double Click on the icon you use for a shortcut to c:\windows\command.com, usually called "MS-DOS Prompt" in Start | Programs.

Installation is self-explanatory, except that we recommend you install it to a directory such as "c\jdk1.3"which does not contain spaces in its name, than if you select an installation path under "C:\Program Files", which contains spaces.

In the following we refer to the directory where you have installed the JDK (and not the location of the jre directory it contains) as $JAVA_HOME.

Adding the "bin" directory that is under JAVA_HOME, say c:\jre1.3\bin or c:\jdk1.3\bin, to your PATH environment variable will let you type "java" to run the javainterpreter without having to specify the path to the Java executable each time you run it. You can do that by adding a lines such as

o set JAVA_HOME=c:\jre1.3
o PATH=%JAVA_HOME%\bin;%PATH% to your autoexec file.

2. Installing Libraries required by GPP

2.1 OpenGL

For Windows 9x platforms, there is a copy of OpenGl on the CD as

o libraries/opengl95.exe

and it is freely available from

o ftp://ftp.microsoft.com/Softlib/MSLFILES/OPENGL95.EXE .

For Windows NT, it is already incorporated into the operating system.
You can freely download OpenGL for Sparc Solaris, from

o http://www.sun.com/solaris/opengl/ .

For other platforms, it is available from

o http://opengl.org .

2.2 Java3D

The Java 3DTM 1.1 API is a set of classes for writing three-dimensional graphics applications and 3D applets. Parts of the VisAD library used by GPP use version 1.1.x of Java 3D and you will need to install a compatible version. Do not install the newly released version 1.2 of Java 3D. There are several incompatibilities with this new release and only the 1.1.X version is supported by GPP. For Windows, there is an installation package for Java3D on the CD as

o java3d1_1_2-win32-opengl-sdk.exe

For Windows and Solaris (SPARC) you can download a 1.1.X version from Sun MicroSystems . Versions for other platforms (when available) can be downloaded from the suppliers of those versions. Install it under the same directory that you installed Java TM 2. Java 3D requires OpenGL. NOTE: On Solaris system, there is currently an incompatibility between Java 3D 1.1.* and OpenGL 1.2: moving or resizing a window will cause a program to crash. We've reported this bug to Sun. Until the bug is fixed, the workaround is to use OpenGL 1.1.2 rather than OpenGL 1.2. Solaris users may need to install system patches for Java 3D to work. See the documentation accompanying the release for a list of required patches.

When The Java3D installation asks for the name of a directory into which to install Java3D, tell it the directory chosen as the $JAVA_HOME directory. There is extensive documentation, and tutorials, on Java3d at

o http://java.sun.com/java-media/3D/

2.3 Visad

The visad library is available on the CD as

o libraries/visad/download/visad.jar

This should be copied to the Java Extensions directory which is, if the JRE was installed,

o $JAVA_HOME/lib/ext

or, if the JDK was installed,

o $JAVA_HOME/jre/lib/ext .

Do not "expand" the archive visad.jar.

Documentation, examples, source, and a tutorial for visad are on the CD as

o libraries/visad/download/v-doc.jar
o libraries/visad/download/v-eg.jar
o libraries/visad/download/v-src.jar
o libraries/visad/download/v-tutor.jar

The Visad library ("visAD, Visualization for Algorithm Development") by programmers at the SSEC Visualization Project at the University of Wisconsin-Madison Space Science and Engineering Center, and by programmers at the Unidata Program Center. VisAD is a Java class library for interactive and collaborative visualization and analysis of numerical data. References below are given in pairs, first an on-line, followed by a snapshot on the CD.

It is licensed using the GNU Public License at the Free Software Foundation

o <http://www.fsf.org/>.
o libraries/visad/top-doc/GNU-Public-License.txt

The home page, and local copy, for visad are at

o <http://www.ssec.wisc.edu/~billh/visad.html>
o libraries/visad/top-doc/v-home.htm

Frequently asked questions

- o http://www.ssec.wisc.edu/~curtis/visad-faq.html local copy VisAD 2.0 FAQ
- o libraries/visad/top-doc/faq.htm

downloadable S/W download directory

- o ftp://www.ssec.wisc.edu/pub/visad-2.0/visad.jar
- o libraries/visad/download/visad.jar

installation instructions

- o http://www.ssec.wisc.edu/~billh/README
- o libraries/visad/top-doc/readme.txt

developer's guide

- o http://www.ssec.wisc.edu/~billh/guide.html
- o libraries/visad/top-doc/guide.htm

tutorial, browsable

- o http://www.ssec.wisc.edu/~billh/tutorial/index.html
- o libraries/visad/tutorial/index.html

tutorial, downloadable

- o ftp://www.ssec.wisc.edu/pub/visad-2.0/vistutor.jar
- o libraries/visad/download/v-tutor.jar

application programming interface, html

- o http://brutus.ssec.wisc.edu/~dglo/visad/
- o libraries/visad/docs/index.html

application programming interface, downloadable

- o ftp://www.ssec.wisc.edu/pub/visad-2.0/visad_doc-2.0.jar
- o libraries/visad/download/v-doc.jar

examples, downloadable

- o ftp://www.ssec.wisc.edu/pub/visad-2.0/visad_examples.jar
- o libraries/visad/download/v-eg.jar

mailing list archive

- o http://ww.unidata.ucar.edu/staff/russ/visad/threads.html
- o libraries/visad/mail/thread.html

source code

- o ftp://www.ssec.wisc.edu/pub/visad-2.0/visad_src-2.0.jar local copy
- o libraries/visad/download/v-doc.jar

2.4 Colt

The colt library is available on the CD as

- o libraries/colt/download/colt1.0.1.zip

It can be expanded to a temporary directory, and the contained colt.jar file can be copied to the Java Extensions directory as was done with visad.

The colt home page is

- o http://tilde-hoschek.home.cern.ch/~hoschek/colt/index.htm
- o libraries/colt/colt-home.htm

3.0 Installing GPP

3.1 The GPP Distribution Files

Compiled code for GPP may be found on the CD under

- o gpp/com

The GPP classes need to be copied to either to a local or a network volume. Use of a network volume facilitates distribution of software updates, but builds in a reliance on the network's being operational in order for the Java programs to run, and could slow performance. The GPP classes are found on the CD under directory gpp/com. On the cd, there is a program util/win31/xcpy.bat which makes it convenient to copy a directory tree. We assume that such utilities have been put somewhere along the path. To get a list of its options, type

xcpy

Select a directory into which to install GPP, lets call it $GPP_HOME
To copy the GPP classes in Windows, where the value of $GPP_HOME
is represented as %GPP_HOME%, type

o xcpy gpp\com $GPP_HOME\com

Software documentation in HTML is available for GPP on the CD as

o gpp/api-docs/index.html

There, the GPP classes are specified. In this release, the software documentation for GPP is integrated with the documentation of the parts of the Visad library it uses. The documentation is not yet integrated with the Colt documentation.

Source code for GPP is available on the CD under

o gppp/source

It is convenient to execute the application from a script file, for which a link may be connected to a convenient location such as the Windows Desktop. A prototype for such a script, for the Windows Environment, is available on the CD as

o util/win32/gpp-gui.bat

3.2 GPP Configuration Needs

To run GPP, there are five places that must be located:

o the java interpreter
o the libraries required by GPP
o the GPP classes
o the GPP properties files
o the TPA directories

3.2.1 Finding the java interpreter

As per the instructions in Section 1 above, the directory containing the java interpreter should be either among the directories listed in the PATH environment variable, or may be specified explicitly in a script file invoking GPP, as in

```
set JAVA_HOME=c:\jre1.3
%JAVA_HOME%\bin\java  [options] com.bayes.gpp.GPPApplet
```

3.2.2 Finding the Libraries Required by GPP

If the required libraries were installed as described above, to the jre\lib\ext directory under $JAVA_HOME, then the Java interpreter should find them automatically.

An alternative approach is to list the libraries, or JAR ("Java Archive") files, in the CLASSPATH environment variable. If they are, for example, in a directory identified as %L%, then the statement
set CLASSPATH=%L%/colt.jar;%L%j3dcore.jar; \ (continued)
%L%/j3dutils.jar;%L%/vecmath.jar;%L%colt.jar;%L%/visad.jar"

will enable Java to find them. Alternatively, they may be included in a "-cp" command-line option when invoking the interpreter.

3.2.3 Finding the GPP classes

The directory directly above the "com" directory containing the GPP classes can be included in the CLASSPATH environment variable, or listed among the places mentioned in the -cp option.

3.2.4 Finding the GPP Properties Files

GPP looks for them using the current value of the Java System property "user.dir", which defaults to the current working directory at the time the Java interpreter is invoked.

3.2.5 Finding the TPA Runs

GPP uses a FileChooser dialog, which is initialized to the value of the Java System property "user.home", which on Windows systems, defaults to "c:\windows".

Appendix A. Obtaining the JRE or JDK from the internet.

Navigate to www.javasoft.com, then select "Products and APIs" from the left menu, which will probably take you to http://www.javasoft.com/products/index.html . Then under the heading 'JavaTM Development Kit Software' select 'JavaTM 2 Runtime Environment, Standard Edition, v 1.3' which will probably take you to http://www.javasoft.com/products/jdk/1.3/jre/index.html . For Windows, Select http://www.javasoft.com/products/jdk/1.3/jre/download-windows.html Java 2 Runtime Environment Windows 95/98/NT Production Release Select US

English version of Java Runtime Environment, radio button "one large bundle" That will take you to http://www.javasoft.com/cgi-bin/download3.cgi called License and Export for Java Runtime Environment 1.3. Accept the license agreement, select the HTTP download, and save the file to a directory such as C:\windows\temp which we will refer to as %temp% .

Solaris (SPARC/Intel)

o http://java.sun.com/products/jdk/1.2/
- JDK 1.2.2 for Solaris

o http://java.sun.com/products/JDK/1.1/
- JDK 1.1.8 for Solaris

o http://java.sun.com/products/java-media/3D/index.html
- Java 3D 1.1.3 for Solaris SPARC

Windows 95/98/NT

o http://java.sun.com/products/jdk/1.2/
- JDK 1.2.2 for Windows (SUN)

AIX

o http://www.ibm.com/java/jdk/download/index.html
- JDK 1.2.2 for AIX

o http://www.ibm.com/java/jdk/download/index.html
- JDK 1.1.8 for AIX

HPUX

o http://www.unixsolutions.hp.com/products/java/hpux11_releases.html
- JDK 1.2.2

o http://www.unixsolutions.hp.com/products/java/hpux11_releases.html
- Java 3D 1.1.3

IRIX

o http://www.sgi.com/developers/devtools/languages/java.html
- JDK 1.2.x for IRIX

o http://www.sgi.com/developers/devtools/languages/java.html
- Java 3D 1.1.3 for IRIX

True 64 Unix (formerly Digital Unix)<p>

o http://www.digital.com/java/download/index.html
- JDK 1.2.x

o http://www.digital.com/java/download/index.html
- JDK 1.1.8

Linux

o http://www.blackdown.org/java-linux/jdk1.2-status/
- JDK 1.2.x (from Blackdown.org)

o http://java.sun.com/products/jdk/1.2/
- JDK 1.2.x (from SUN)

o http://www.blackdown.org/java-linux.html
- JDK 1.1.7 (Blackdown)

o http://www.blackdown.org/java-linux.html
- Java 3D 1.1.3 (Blackdown)

2000-09-13 Note on revealing influences of parameters, % associations among variables

1. Notation

For clarity, assume we are plotting variable v, that there are 300 realizations, that the parameter in question is Parameter g; that a second variable in question is w; that we consider g and w with respect to quintiles, and consider v with respect to quartiles.

2. Showing the influence of a TPA parameter g upon variable v.

2.1 When v is displayed as "raw" data

2.1.1 Calculate quintiles for g. Suppose that the 300 values of g fall between 1.0 and 2.0, and that, if sorted into ascending order, the 60th, 120th, 180th, 240th, and 300th values are, respectively, 1.20, 1.45, 1.55, 1.70, and 2.0. Suppose that the 60th value occurred for Realization 21. The value 1.20 is the smallest number greater than or equal to all of the lowest 60 values. We can write this as g', or, since it is a function of realization, as g'(r).

2.1.2 For each of the 5 values of g' (0,1,2,3,4), there are 60 realizations, and therefore 60 curves. The strategy is to enable visual differentiation of the curves in these 5 sets.

2.1.3 Identify for each curve which of the 5 values of g' it corresponds to by choosing for each curve a hue based on g'. Can use the pickAColor() method. A method consistent with all the other cases below, is to send the plotting software for each curve, not v as a function, but the tuple (v,u) as a function of time, where u is one of the numbers between 0 and 4. Then we can map u to the hue. It turns out that in his case, for each curve, u is constant. Exploiting that fact could be used to render the data more efficiently, but implies that identical plotting code could not be used for all cases, which is probably more significant.

2.1.4 Ostvaldo mentioned that the style described in 2.1.3 will not suffice for color-blind users, and he is sensitized to that issue. An alternative style is, using the same tuple (v,u) as in 2.1.3, instead of having for each curve u being a constant function of time, u could represent one of 5 patterns, which corresponds to the common strategy of differentiating among curves by having one in dashes, one in dots, one in dot-dashes, etc. For g' == 0, u(t) could have values which creates "dots", for example,

1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 ...

For g' == 1, u(t) could take on values which will create "dashes":

1 1 1 1 1 1 1 0 0 0 1 1 1 1 1 1 1 0 0 0 1 1 1 1 1 1 1 0 0 0 ...

2.2. When v is displayed as "Regularized" ("Percentile") data

2.2.1 The same strategy described in 2.1 applies. For each value of g' (0, 1, 2, 3, 4) there is a set of realizations, and a set of curves to plot Again, all the curves to be plotted for, say, to g' == 0 will be identified by using the same color or pattern. The only difference is that in 2.1, there was a curve for each realization. In 2.2, there is a curve for each of the four quantiles for v. Everything else is identical. For consistency with the display of the association of variables described in 3.2 below, do not exploit the fact that the color happens to be constant for each curve, but rather, represent the data as a (v,u) tuple as described in 2.1.3.

2.2.2 This paragraph compares the strategy to a complementary strategy, and is included here because it is a convenient place to contrast the two. This strategy compares the values of the variable for different ranges of the parameter. The complementary strategy compares the values of the parameter for different ranges of the variable. The essential goal in visualizing "influence" is to support determination of the extent to which g discriminates among values of v. Using this strategy, the values of v for different values of g may be readily compared. If the goal were, instead, to determine the extent to which v discriminates among the values of g, then we would use a different visualization strategy. We would use that strategy if we wanted to consider for each time the 75

realizations, say, for which the value of v at that time is among the top quartile among the 300 values of v. We might want to know for one or more of the parameters, whether its distribution for these 75 realizations differed significantly from random. Such a strategy might enable us to contrast, in one display, any or all of the parameters, with respect to variable v. Or, to ask for each time how the distribution of g for the 75 realizations with the highest v compares to the distribution of g for the 75 realizations with the lowest v. But it would not strictly answer the question of how influential the parameter is.

2.2.3 This paragraph compares the plotting style currently implemented for visualizing the distribution of a variable, to an alternative. At each time t, we have 300 values of v. We divide these into 4 ranges. Our style of displaying these ranges is to represent each by its boundary values, resulting in a set of non-overlapping curves. We could just as well represent each of these ranges as a "band". There is no essential difference in the information content. The style employed here results in higher contrast depictions. The "band" style, though perhaps more intuitive, is less readily reproduced. If desired, in a later release, the style employed could be a user's preference.

3. Display the association between two TPA variables "v" and "w".

3.1 The strategy described in 2.1 applies

3.1 When v is displayed as "raw" data

3.1.1 Proceed as in 2.1, replacing parameter g by variable w, only calculate quintiles for w at each time. The coordinate "u" described for each curve in 2.1.3 can be used in exactly the same manner, only this time it happens to be a non-constant function of time. Represent each
curve for v in a hue indicative of the value of w' at time t. Use quantiles for w, as in 2.1.3, not raw numbers, as is currently implemented in GPP, so that the set of colors is discrete (numbering 5, say), not continuous.

3.1.2 The style described in 2.1.4 is not applicable to this case.

3.2 When v is displayed as "Regularized" ("Percentile") data

3.2.1 The approach described in 2.2.1 suffices for this case. The only difference is that the values of the derived variable u are not constant for each curve.

-- end of 2000-09-13 note

Entries into Scientific Notebook No. 375E for the period November 11, 1999 to September 12, 2000 have been made by

_____

Douglas Reingold Date

Entries into Scientific Notebook No. 375E for pages 1 to 68 have been made by

_____

Douglas Reingold Date

No original text entered into this Scientific Notebook has been removed.

_____

Douglas Reingold Date

Entries into Scientific Notebook No. 375E for the period September 12, 2000 to April 11, 2001 have been made by

_____

Douglas Reingold Date

Entries into Scientific Notebook No. 375E for pages 69 to 69 have been made by

_____

Douglas Reingold Date

No original text entered into this Scientific Notebook has been removed.

_____

Douglas Reingold Date

TPA GPP Test Results
Version 2001-02-01
Tested by D. Reingold

SCIENTIFIC NOTEBOOK 375

Douglas Reingold

SCIENTIFIC NOTEBOOK

Douglas Reingold
Bayesian Systems, Inc.
18310 Montgomery Village Ave., Suite 615
Gaithersburg, MA, 20879
(301) 987-5400
Fax: (301) 987-9387
Doug@bayes.com
http://www.bayes.com

for

Center for Nuclear Waste Regulatory Analyses
Southwest Research Institute
San Antonio, Texas

INITIAL ENTRIES

Scientific Notebook 375

Issued to Doug Reingold

Issue Date: November 11, 1999

Account Number: 20.01402.762

Participants: Douglas Reingold
Bayesian Systems, Inc.
Gaithersburg, MD

Development of a Graphic Post-processor for TPA Version 4.0 Code

Objective: document activities related to the development of a graphic post-processor for TPA Version 4.0 Code. 2001-01-26 Results of Acceptance Testing of the Repository Performance Visualization tool TPA GPP ("Graphical Post-Processor").

Test Approach Unless otherwise stated, each requirement was tested on the same data, by using the GUI (Graphical User Interface). Version tested gpp-01-01-01

Test data used:

f	#	date---	--time--	-file-size	crc32---	file-name-prefix----------	exten	h	dir-name
f		2000-10-13	22:52:58	156687	0bbe89ae	CUMREL	RES	7	.
f		2000-10-13	22:52:58	14044348	2423c8dc	DCAGW	ECH	7	.
f		2000-10-13	22:52:58	9405632	21496eca	EBSFAIL	RLT	7	.
f		2000-10-13	22:51:54	27829	f403afae	EBSFLO	DAT	7	.
f		2000-10-13	22:52:58	41135	94404a6d	GWPKDS_C	RES	7	.
f		2000-10-13	22:52:58	320487	793a2185	INFILPER	RES	7	.
f		2000-10-13	22:52:58	2486855	7974c9a1	TOTDOSE	RES	7	.
f		2000-10-13	22:52:50	714100	4a13940e	dcf	cum	7	.
f		2000-10-13	22:52:58	99140832	6c22d3ad	ebsrel	rlt	7	.
f		2000-10-13	22:52:58	33464832	35c27711	nfenv	rlt	7	.
f		2000-10-13	14:53:16	4044	df3b7e5f	nuclides	dat	7	.
f		2000-10-13	14:53:16	26365	5611fd5a	samplpar	hdr	7	.
f		2000-10-13	22:52:58	507541	7f6a6ea0	samplpar	res	7	.
f		2000-10-13	22:52:58	99145632	d1a9583b	szft	rlt	7	.
f		2000-10-13	14:53:08	58628	79230627	tpa	inp	7	.
f		2000-10-13	22:52:58	9340832	047eaa86	uzflow	rlt	7	.

Summary of test results

Summary of test results				
test set	p/f	require-ement	description	notes
1.0	follows	2.1, 2.2 1	Plotting of Variables	1,2
1.01	pass		Average diversion over repository=Avg divert per Repo	
1.02	pass		Average infiltration over repository=Avg infil per Repo	
1.03	pass		Average reflux over repository=Avg reflux per Repo	
1.04	pass		Canister failure time=Canister FT	
1.05	pass		DCF nonpluvial direct exposure=DCV npluv dir exp	3
1.06	pass		DCF nonpluvial drinking water=DCV npluv water	
1.07	pass		DCF nonpluvial ingestion animal prod=DCV npluv animals	
1.08	pass		DCF nonpluvial ingestion crops=DCV npluv crops	
1.09	pass		DCF nonpluvial inhalation=DCV npluv inhale	
1.10	pass		DCF nonpluvial milk=DCV npluv milk	
1.11	pass		DCF pluvial direct exposure=DCV pluv dir exp	
1.12	pass		DCF pluvial drinking water=DCV pluv water	
1.13	pass		DCF pluvial ingestion animal prod=DCV pluv animals	
1.14	pass		DCF pluvial ingestion crops=DCV pluv crops	
1.15	pass		DCF pluvial inhalation=DCV pluv inhale	
1.16	pass		DCF pluvial milk=DCV pluv milk	
1.17	pass		Infiltration by subarea=Infil per SA	
1.18	pass		Mean annual precipitation=Mean AP	
1.19	pass		Mean annual temperature=Mean AT	
1.20	pass		Peak dose for compliance period=Pk dose for comp pd	
1.21	pass		Release from engineered barrier system over repository=Rel from EBS per Repo	
1.22	pass		Release from engineered barrier system by subarea=Rel from EBS per SA	
1.23	pass		Release from lower unsaturated zone over repository=Rel from LUZ per Repo	
1.24	pass		Release from saturated zone over repository=Rel from SZ per Repo	
1.25	pass		Release from saturated zone by subarea=Rel from SZ per SA	
1.27	pass		Time of peak dose for compliance period=Time Pk Dose	

			for comp pd	
1.28	pass		Total Dose=Total Dose	
1.29	pass		Waste Package Relative Humidity=WP Rel Humid	
1.30	pass		Waste Package Temperature=WP Temp	
1.31	pass		Water Hitting Waste Package=Water Hitting WP	
1.32	pass		Water entering drift=Water entering drift	
2.0	follows	2.2	Capabilities required of the plotting of any TPA output variables versus time	
2.1	pass	2.2.1	Realization bundles	
2.2	pass	2.2.2	Median	
2.3	pass	2.2.3	Percentiles	
2.4	pass	2.3, 2.31, 2.32, 2.4, 3.4.6	Parametrization	
2.5	see note	2.5	Rollup	4
3.0	pass	3.1	Object-Oriented Programming	5
4.0	pass	3.2	Coding	
5.0	pass	3.3	Custom coding	6
6.0	fol.	3.4	User Controls	7,10
6.1	pass	3.4.1	Control of windows	
6.2	fol.	3.4.2	Control of plots	8
6.2.1	pass		background	
6.2.2	pass		box	
6.2.3	pass		legend	
6.2.4	pass		title	
6.3	fol.	3.4.3	Control of axes	
6.3.1	pass		Scale	
6.3.2	pass		label	
6.3.3	pass		color	
6.3.4	pass		mapping	
6.3.5	pass		range	
6.3.6	pass		field	11
7.0	follows		Import/export	
7.1	pass	3.4.4	Export of images ("snap")	
7.2	fail	3.4.5	Export of tabular data	9
(4.0)	pass	3.4.6	Parametrization	
8.0	pass	3.4.7	Side-by-side comparison	

Testing Notes

testing notes	
1	Approach used with test sets 1.01 - 1.32: Using "log" scaling for both x and y axes, attempt to plot each variable in the order listed in the list of variables presented in the Plot Control Window in the GUI.
2	Expected results with test sets 1.01 - 1.32: A plot which appears "reasonable", and is consistent with the values of the data contained in the tabular export file.
3	Attempts to create continuous plots (curves) AFTER having AFTER having plotted variables displayed as discrete points or bars, usually causes the program to crash.
4	**"Roll-up"** The software implements the behavior of "rolling-up", which is to say "aggregating over" subareas and nuclides. The user has a limited degree of control over this function through manual editing of a control file. Implementation of a facility for convenient user slicing and aggregating data was deferred via recorded communications between representatives of CNWRI and the organization responsible for software development, in favor of capabilities deemed to be of higher priority.
5	**"Object-Oriented Programming"** Other requirements address areas of Need Satisfaction (effecteness and correctness) and Performance (security, reliability, usability and capacity). The requirement for "Object-Oriented" programming addresses the product's Maintainability (simplicity, structuredness and readability) and Adaptability (compatibilty, openness, portability, scalability, extensibility, and composability). Maintainability addresses the cost of fixing it when it breaks, and to some degree the cost of determining whether it meets its specifications. Adaptability addresses the cost of getting it to work with other software, in other environments, with higher volumes of data; to add new features; and to use it as a building block in a larger framework. What progress in addressing these concerns has been made over the past two decades involves adhering to a collection of interrelated heuristics and architectural principles generally known as "Object-Oriented" or "Pattern-Oriented" programming. It is possible to state some favorable and unfavorable aspects of the GPP architecture, with respect to these concerns. Inevitably, weighing them against one another, and against functionality, and schedule and budget issues subjective. **Favorable:** • Plotting part is implemented by extending high-quality, mature, open-source software packages. • The software is written in Java. • Some semblance of conceptual integrity is detectable.

- To some degree, the software is partitioned into Data, User Interface, and Plotting portions. A coarsely grouped list of the classes provided is given in "6" below.
- Two standard export formats are provided, JPEG for plot images, and CSV (comma-separated values) for the data from which plots are derived.

Unfavorable:

- Services of the data management and transformation modules are not available independent of the user interface. For example, it would be desirable to utilize the knowledge of TPA file formats which resides among the data modules, for extracting data for script-driven analysis using other tools.
- It is not at all self-evident how one would extend the program to script operations that are currently enabled through the user interface. For example, if one wanted to enumerate, for each of the available parameters, the extent to which it influences one particular variable such as Total Dose, and represent the result by a table along the lines of the following hypothetical table:

parameter
degree of influence

ArealAverageMeanAnnualInfiltrationAtStart
0.17

MeanAveragePrecipitationMultiplierAtGlacialMaximum
0.23

MeanAverageTemperatureIncreaseAtGlacialMaximum
0.02

FractionOfCondensateRemoved
0.42

FractionOfCondensateTowardRepository
0.00

FractionOfCondensateTowardRepositoryRemoved
0.01

TemperatureGradientInVicinityOfBoilingIsotherm
0.00

ThermalConductivityofYMRock
0.00

- It is not at all self-evident how one might add a hook for importing user data for plotting.
- Hooks for common data manipulation steps are not evident. This implies that extending the application (without compromising its conceptual integrity) in these ways may require some "expert" knowledge. Such extension might include script-driven:

  Annotating
  associating with any data element some associated data, such as a user's comment, or historical information such as how it was derived, or some facts obtained programmatically in the course of analysis
  Combining
  deriving a table by applying elementary arithmetical operators such as plus or minus to two data tables
  Comparing
  Determining how two tables differ
  Editing
  modifying individual values either interactively or progamatically
  Evaluating
  validating: e.g., that data values lie within a given range; measuring: e.g., common statistics for any produced column
  Extending
  deriving a table by appending rows of one table to the rows of another
  Filtering
  e.g., selecting a subset of the rows of any table for a subrange of times, or for decimated (every nth) time, or for a subset of realizations, subareas, or or nuclides, or data for which some criterion is met
  Intersecting
  finding elements ocurring in all of a set of columnns. Useful to implement finding elements (parameters, say) which satisfy more than one condition
  Joining
  deriving a table by combining selected rows from input tables.
  Marking
  recording the elements of a list which satisfy a specified predicate (condition)
  Morphing
  e.g., affine or log rescaling
  Projection
  extraction of selected columns from any table, or extracting, say, temperature but not relative humidity, from an input file
  Reversing
  putting the rows of any table into reverse order
  Sorting
  resequencing a table into ascending or descending order based on any column

	• In general, too much functionality is dependent upon the user interface portion. As it turns out, user interface logic is inherently difficult to trace, because processing steps are driven by the events (mouse clicks, keystrokes, etc of the user), rather than being layed out in an orderly progression resulting from the programmer's analysis of the requirements.
6	**Coding** Data Management Constants, DataSet, FArray, Field, Lines, Parameter, ParameterReference, PlottableData, PlottableRawData, RegularizedTPAData, TPAData, TPAOutputLoadStrategy, TPAOutput, TPAParameter, TPARun, Variable TPA-Specific File Processing TPADCAGWInputValuesOutputLoadStrategy, TPADCFOutputLoadStrategy, TPANoRealizationsOutputLoadStrategy, TPANuclideOnlyOutputLoadStrategy, TPAPeakDosePeakTimeOutputLoadStrategy, TPASinglePointByNuclideOutputLoadStrategy, TPASparseTimeOutputLoadStrategy, TPASubareaByTimeOutputLoadStrategy, TPASubareaNuclideByTimeOutputLoadStrategy Data Transformation Fmt, PlottableRegularizedData Glue GPPApplet, Utils Plotting Legend, MultiFamilyTimeBasedPlot, PlotSpecification, PlotterBase, PtolemaicInput, CmdLineArgException, EditablePlot, EditListener, EPSGraphics, PlotApplet, PlotApplication, PlotBox, PlotFrame, PlotPoint, Plot History Appender, Category, FileAppender, ILog, Layout, Log, MyLayout, NDC, NOPLog, ObjectProperties, Priority, QuietWriter, SimpleLayout, TracerPrintWriter, Tracer User Interface FieldPanel, Place, PlotControlFrame, PromptDialog, PromptDialog2, ViewControlFrame, View Included in the delivered application are two required libraries, "VisAD" for data visualization, and "Colt", for certain mathematical operations. This code (Colt includes on the order of 70,000 lines) is not at all modified for use with this application, and so is not included in the following code counts. The Logging package is implemented in 2721 lines of Java source code. It was derived from IBM's freeware "Log for Java" package, requiring only about 6% customization. The "Ptolomy" plotting packag is implemented in 5962 lines of Java source code. It required on the order of 5% customation. The bayes/gpp package includes about 9948 lines of custom code.

```
d  # newest- -------- ----dir-size ----dir-sizeR  nf -nfilR nd -ndirR h dir-name
d 2000-12-27 23:01:50         8011        449454   7     64  3     13 7 .
d 0000-00-00 00:00:00            0        350476   0     41  2      5 7 .\com
d 0000-00-00 00:00:00            0        350476   0     41  1      1 7 .\com\bayes
d 2000-12-25 11:01:48       350476        350476  41     41  0      0 7 .\com\bayes\gpp
d 0000-00-00 00:00:00            0         90967   0     16  1      2 7 .\net
d 2000-11-13 01:09:30         6048         90967   1     16  1      1 7 .\net\mirabile
d 2000-11-27 10:13:56        84919         84919  15     15  0      0 7 .\net\mirabile\logger

f  # date--- --time-- -file-size file-name-prefix----------------- exten h dir-name----------
f 2000-11-27 01:34:54           93 gpp                              prop* 7 .
f 2000-11-27 21:41:50          390 log                              prop* 7 .
f 2000-11-27 11:20:12         1593 logCriteria                      prop* 7 .
f 2000-10-14 13:39:46         1148 outputfiles                      prop* 7 .
f 2000-12-27 23:01:50         1535 variable_abbrevs                 prop* 7 .
f 2000-10-14 13:40:46         1043 variables-orig                   prop* 7 .
f 2000-11-27 09:54:00         2209 variables                        prop* 7 .
f 2000-09-23 15:14:08          466 Constants                        java  7 .\com\bayes\gpp
f 2000-11-26 17:31:36        14848 DataSet                         java  7 .\com\bayes\gpp
f 2000-11-19 20:31:58        11903 FArray                          java  7 .\com\bayes\gpp
f 2000-11-26 20:07:12         3632 Field                           java  7 .\com\bayes\gpp
f 2000-09-23 15:14:14         8827 FieldPanel                      java  7 .\com\bayes\gpp
f 2000-09-23 15:14:16        19272 Fmt                             java  7 .\com\bayes\gpp
f 2000-11-27 11:10:52        20010 GPPApplet                       java  7 .\com\bayes\gpp
f 2000-10-12 23:29:56         3622 Legend                          java  7 .\com\bayes\gpp
f 2000-11-07 23:07:04         2190 Lines                           java  7 .\com\bayes\gpp
f 2000-11-27 11:34:48         9748 MultiFamilyTimeBasedPlot        java  7 .\com\bayes\gpp
f 2000-11-26 18:23:12         9132 Parameter                       java  7 .\com\bayes\gpp
f 2000-10-01 12:08:44         1425 ParameterReference              java  7 .\com\bayes\gpp
f 2000-10-11 22:52:06          427 Place                           java  7 .\com\bayes\gpp
f 2000-11-26 17:42:30        36693 PlotControlFrame                java  7 .\com\bayes\gpp
f 2000-11-27 13:28:22        24536 PlotSpecification               java  7 .\com\bayes\gpp
f 2000-09-23 15:14:32         2458 PlottableData                   java  7 .\com\bayes\gpp
f 2000-09-28 23:04:34         6472 PlottableRawData                java  7 .\com\bayes\gpp
f 2000-11-27 01:48:18         4525 PlottableRegularizedData        java  7 .\com\bayes\gpp
f 2000-11-27 14:39:40        10702 PlotterBase                     java  7 .\com\bayes\gpp
f 2000-09-23 15:14:36         6852 PromptDialog                    java  7 .\com\bayes\gpp
f 2000-09-23 15:14:38         6864 PromptDialog2                   java  7 .\com\bayes\gpp
f 2000-12-21 22:04:28         1436 PtolemaicInput                  java  7 .\com\bayes\gpp
f 2000-11-27 09:59:10         3647 RegularizedTPAData              java  7 .\com\bayes\gpp
f 2000-11-19 21:06:24         5241 TPADCAGWInputValuesOutputLoadStra* java  7 .\com\bayes\gpp
f 2000-12-25 10:06:00         7660 TPADCFOutputLoadStrategy        java  7 .\com\bayes\gpp
f 2000-11-27 01:16:48        10984 TPAData                         java  7 .\com\bayes\gpp
f 2000-11-20 22:20:52         5335 TPANoRealizationsOutputLoadStrate* java  7 .\com\bayes\gpp
f 2000-12-25 11:01:48         5062 TPANuclideOnlyOutputLoadStrategy java  7 .\com\bayes\gpp
f 2000-11-20 21:47:46        13896 TPAOutput                       java  7 .\com\bayes\gpp
f 2000-09-23 15:14:46         1341 TPAOutputLoadStrategy           java  7 .\com\bayes\gpp
f 2000-09-23 15:14:48         7538 TPAParameter                    java  7 .\com\bayes\gpp
f 2000-11-19 21:19:46         5156 TPAPeakDosePeakTimeOutputLoadStra* java  7 .\com\bayes\gpp
f 2000-11-19 22:51:00         5916 TPARun                          java  7 .\com\bayes\gpp
f 2000-11-19 21:22:08         4996 TPASinglePointByNuclideOutputLoad* java  7 .\com\bayes\gpp
f 2000-11-19 21:26:02         6461 TPASparseTimeOutputLoadStrategy java  7 .\com\bayes\gpp
f 2000-11-26 17:27:42         5229 TPASubareaByTimeOutputLoadStrategy java  7 .\com\bayes\gpp
f 2000-11-19 21:29:10         5867 TPASubareaNuclideByTimeOutputLoad* java  7 .\com\bayes\gpp
f 2000-11-28 01:02:10         1442 Utils                           java  7 .\com\bayes\gpp
f 2000-11-26 17:29:38        14289 Variable                        java  7 .\com\bayes\gpp
f 2000-11-26 17:35:18        20595 View                            java  7 .\com\bayes\gpp
f 2000-11-26 19:43:12        13781 ViewControlFrame                java  7 .\com\bayes\gpp
f 2000-11-13 01:09:30         6048 Util                            java  7 .\net\mirabile
f 2000-11-12 15:16:00          638 Appender                        java  7
.\net\mirabile\logger
f 2000-11-12 15:16:00         9515 Category                        java  7
.\net\mirabile\logger
f 2000-11-17 13:10:50         7983 FileAppender                    java  7
.\net\mirabile\logger
f 2000-11-17 13:10:52         7293 ILog                            java  7
.\net\mirabile\logger
f 2000-11-12 15:16:00          562 Layout                          java  7
.\net\mirabile\logger
f 2000-11-27 10:13:56        26736 Log                             java  7
.\net\mirabile\logger
f 2000-11-13 01:12:56         4353 MyLayout                        java  7
.\net\mirabile\logger
f 2000-11-12 15:16:00         6210 NDC                             java  7
.\net\mirabile\logger
f 2000-11-12 21:06:04         4264 NOPLog                          java  7
.\net\mirabile\logger
f 2000-11-12 15:16:02         5298 ObjectProperties                java  7
.\net\mirabile\logger
```

```
f 2000-11-12 15:16:00       6448 Priority                       java  7
.\net\mirabile\logger
f 2000-11-12 15:16:02       1102 QuietWriter                    java  7
.\net\mirabile\logger
f 2000-11-12 15:16:00       1351 SimpleLayout                   java  7
.\net\mirabile\logger
f 2000-11-12 15:16:02       1562 Tracer                         java  7
.\net\mirabile\logger
f 2000-11-12 15:16:00       1604 TracerPrintWriter              java  7
.\net\mirabile\logger
```

7

User Controls

Several Program Behaviors thwart Users' attempts to avoid the instability described in Note 1, or their attempts to understand the state of the Program.

7.1 The user may be notified that she is not allowed to mix different kinds of things on the same plot, or may be notified that she is not allowed to plot more than one discrete variable at a time, even when she had no intention of doing so. It is very easy for a user to become confused as to whether he needs to delete some Variable, or some Plot, or some View, or to change which one is "current".

7.2 This greatly increases the likelihood that the User will attempt to delete things, like whatever Variable, Plot, or View might be interfering. The implementation issues associated with deletion, and in general, "what belongs to what", and "which thing member of some list is current?" therefore become more important than they would be otherwise.

7.3 After attempting to delete all variables from a Plot, the Plot Control Window display implies that they have all been deleted. But upon reselecting the Plot, one or more of the supposedly deleted Variables reappears.

7.4 After the user revises a Plot, instead of its View being updated, the program atttempts to add it to some View, possibly one displayed recently. But the user does not appear to be in control of which View a plot is to be added to.

7.5 Once the program has decided to add a second Plot to a View, it is difficult to remove the Plot from that View. In general, it is difficult to understand or control what Plots exist, what Views exist, and how Plots are associated with Views.

7.6 The Program lists the Variables in each Plot. Therefore it might be expected to list the Plots in each View. It doesn't.

7.7 The User might consider that the "Delete" button in the View Conntrol Panel could be used to delete something, perhaps the View listed on "Select View". But apparantly, nothing at all happens unless the name of the View to be deleted is highlighted within the Pulldown at the same time the user taps the "Apply" button which resides in a different part of the Panel. Even in this case, apparantly, nothing gets deleted, as described in the following paragraph.

7.8 Repeated attempts to delete a View might result in its disappearance from within the Window Menu. But, even in this case, any supposedly deleted Views are are still listed in both the Plot Control Panel and the View Control Panel. Possibly,

	they remain the targets of new plots the user might attempt to create. 7.9 The identities of the the current View, and of the current Plot, differ in different places. 7.10 Names stamped on a produced plot might not match its content. For example, at any given time, the Plots identified in (a) the View Control Panel's Select Plot widget, and (b) the Plot Control Panel's "Plot" widget, differ. Further, when the user taps the "Apply" button, a third Plot might become updated or replaced. 7.11 Apparantly, a View can contain more than one Plot. But the View Control "Select Plot" button identifies only one Plot.
8	General note concerning Variables, Plots etc. The organization of the information to be rendered is: A View has Plots (and eventually Plot Images and Tables). A Plot has Variables (0-n dependent, 1 independent). A Variable has Curves (eg, 1/real'zn, or 1/percentile). A Curve has Points (and some identifier(s), such as the realization number, the percentile number, or the value of an influencing parameter).
9	Non-produced Program Output. When the program is displaying a Discrete Plot, such as a Box and Whiskers Plot, if the user requests that a tabular ("Comma Separated Values") file be produced, the program notifies the user that such a file has been produced, and specifies a file name, yet produces no such file.
10	Minor Usability Issues 10.1 The program produces no "WORKING..." acknowledgement of a User's request (traditionally, an hourglass, akin illuminating an elevator-call button when pressed). Further, the program produces no "DONE" indication of whether it thinks it has completed its response to a User's request. Therefore, one or more minutes after having requested a plot, the user may not know whether the program heard the request, whether it is still working on it, whether it thinks it has fulfilled the request, or whether it has died. 10.2 The default names for the Plots are so long that in the Plot List (in the View Control Panel), they all show as "Repository Performance Visualization Plot N" (remainder truncated). 10.3 Which Tabular-data file is associated with which variable, is flashed on the screen, then appears only in the log file where it is buried among many details of program operation. If the user is expected to record the name of the file manually,

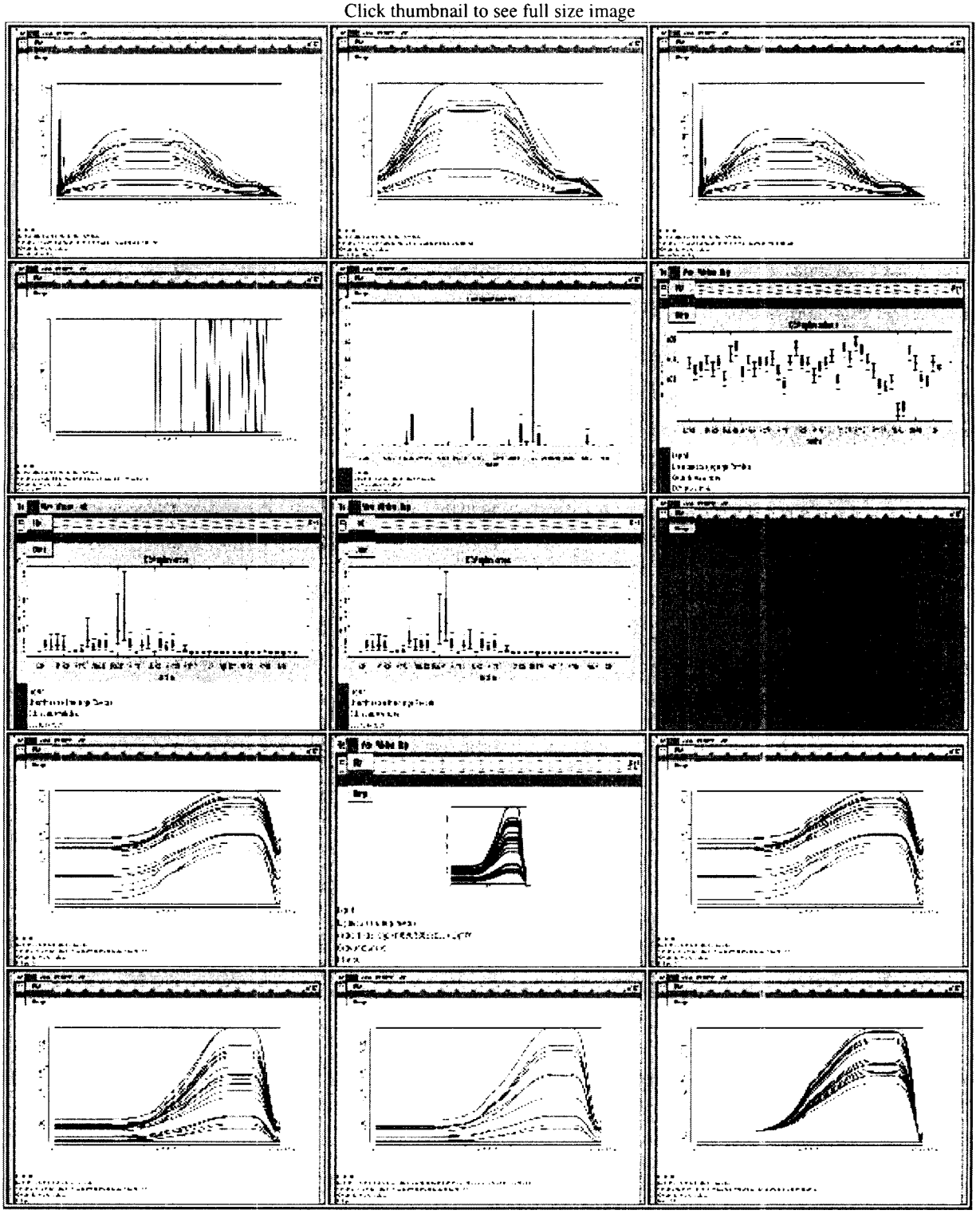
	note that the names are typist-hostile (30 or so characters long). 10.4 Each plot is almost always displayed within an area occupying only about 1/3 of the width and 1/2 the height of its View Panel, which itself occupies only half the height of the Application Frame, which implies that the plot occupies some 8% of the Application Frame, which itself occupies only a fraction of the screen. 10.5 The "Choose Background Color" button appears within the same box as "Title" in the Plot Control Panel, and so the user might assume the chosen color applies to that plot. It apparantly means something else. 10.6 Each time a file is exported, the user is required to respond to a Confirmation Dialog, announcing the export. It would be preferable to display a message on a "Status Line" on the bottom of the Application Frame. 10.7 Useful information is emitted to the console ("standard output") window which, unless the user is sophisticated, scrolls off and disappears. 10.8 The program depends in some ways upon the user's "Present Working Directory" being a certain directory (the one which contains the .properties files), and that directory differs for each release. 10.9 Variable name is not included in the Tabular Data (CSV) files. 10.10 Users are is required to specify the location of the TPA data directory each time the program is run, even if they execute dozens of such runs which refer to the same directory. 10.11 There is no visible indication of how subareas and/or nuclides are being selected or aggregated. 10.12 There is no visible indication of how much memory the program requires, or how much user has available, or how much of the user's memory the program has already consumed. 10.13 The program makes significant demands upon the user's time. 10.14 For neither linear or logarithmic rendering of the time axis, no indication is given of the time values of the tick marks other than the first and the last. If time runs betwen 0 and 100K years, is half-way-across 50K years? 30K years? 10.15 The User has no control over any of several factors which significantly determine legibility. Specifically, for alphabetic axis labels and numeric scale labels, neither the font face, font size, nor font color are controllable. Further, in many cases, the "default" fonts provided are of marginal legibility.
11	Early prototypes of user interfaces for GPP exposed the capability for the user to "map any variable to any axis". The ambiguity so introduced fused with the ambiguities, complexities, and confusion associated with the other capabilities. It was soon determined that the value of drastically simplifying the user interface in

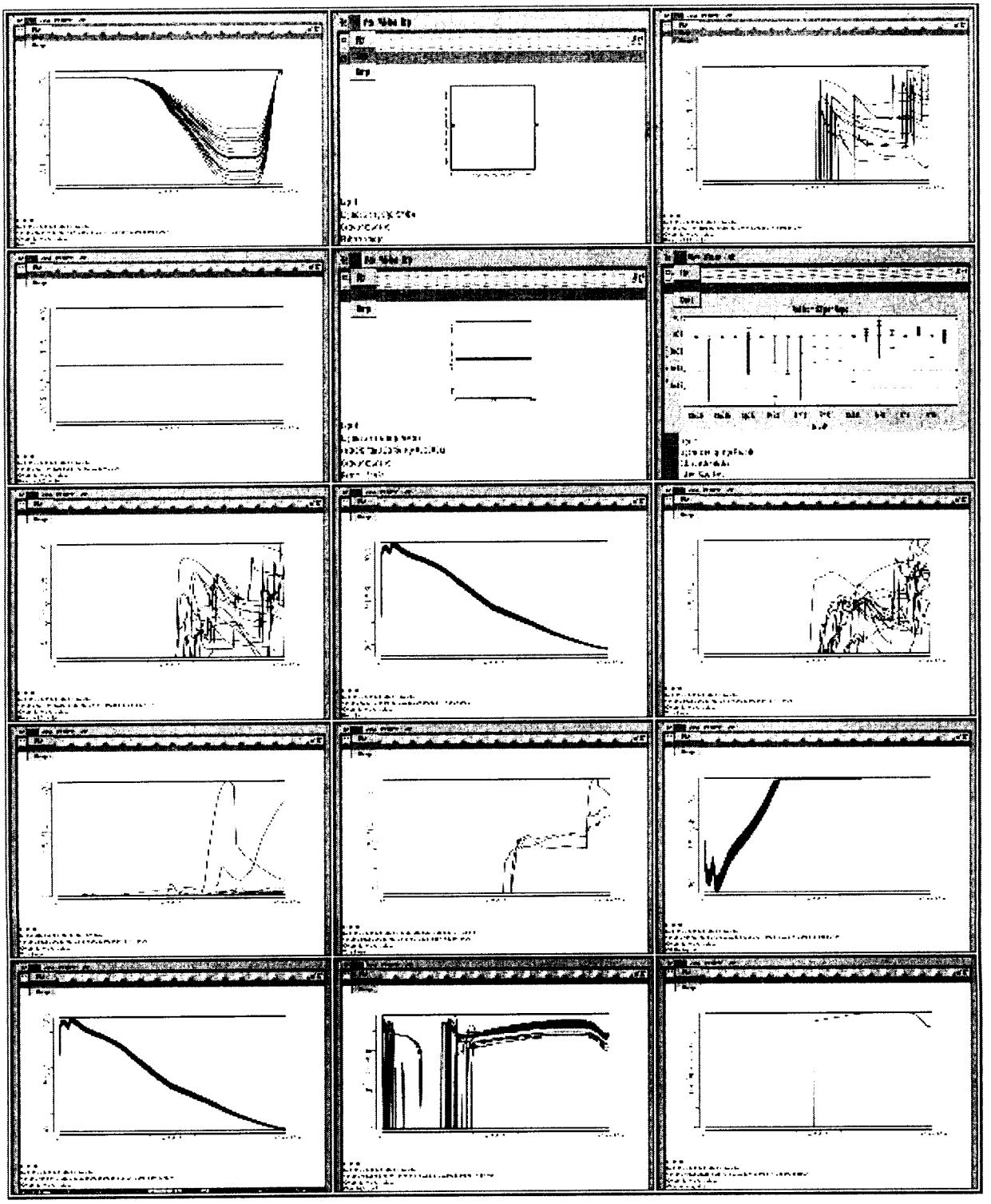
	the early releases far outweighed the impact of the implied limitations in functionality. The convention was adapted that where applicable: • A TPA output variable is represented as a function of time, or v(t). Otherwise put, the TPA output variable is considered as a dependent variable, and time is considered as an independent variable. • When time is involved, it is by convention mapped to position along the x-axis. • For relationships involving more than one independent variable, v(t,x), the relationship is represented whenever possible as a family of curves vi(t), rather than as a surface revealed as a 3-d or contour plot. • When a second independent variable belongs to a set where order is significant, and it is not the case that x0 v(t,x0) <= v(t,x1), then members of the family of curves should be distinguished visually. A convenient mapping is that the second independent variable is mapped to the hue of the curve. An example of an independent variable where "order is significant" is percentile. An example where it is not significant is "realization number". When the "percentile" independent variable means the percentile of the dependent variable's value, then x0 v(t,x0) <= v(t,x1), the curves never cross, and it is not necessary to label the curves with separate colors.

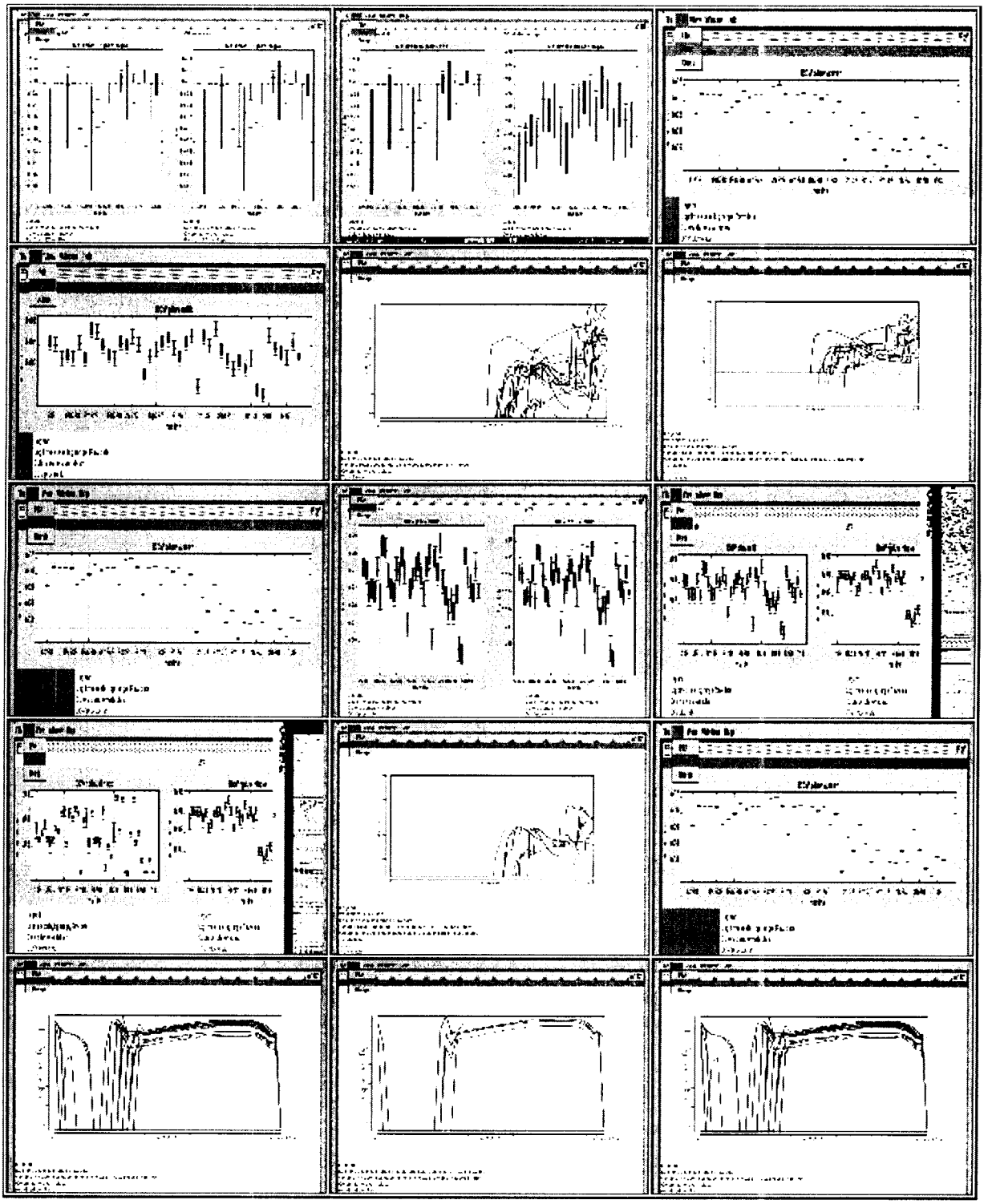
Program Output from Test Runs

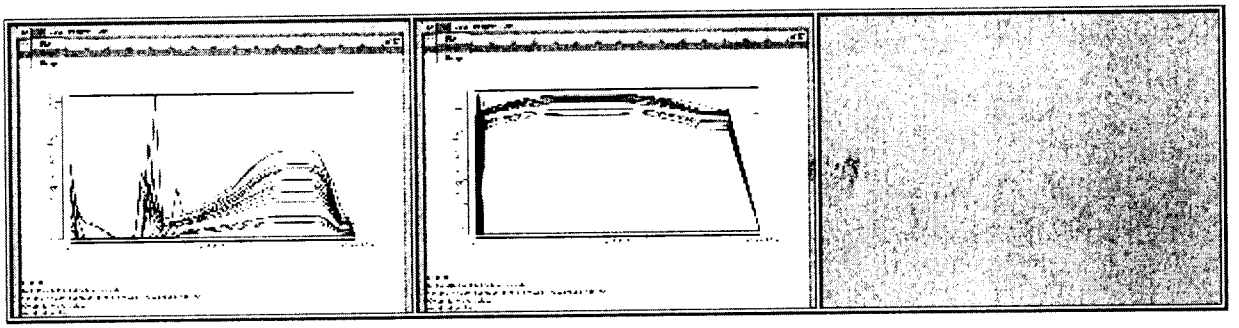
gif thumbnails

Click thumbnail to see full size image



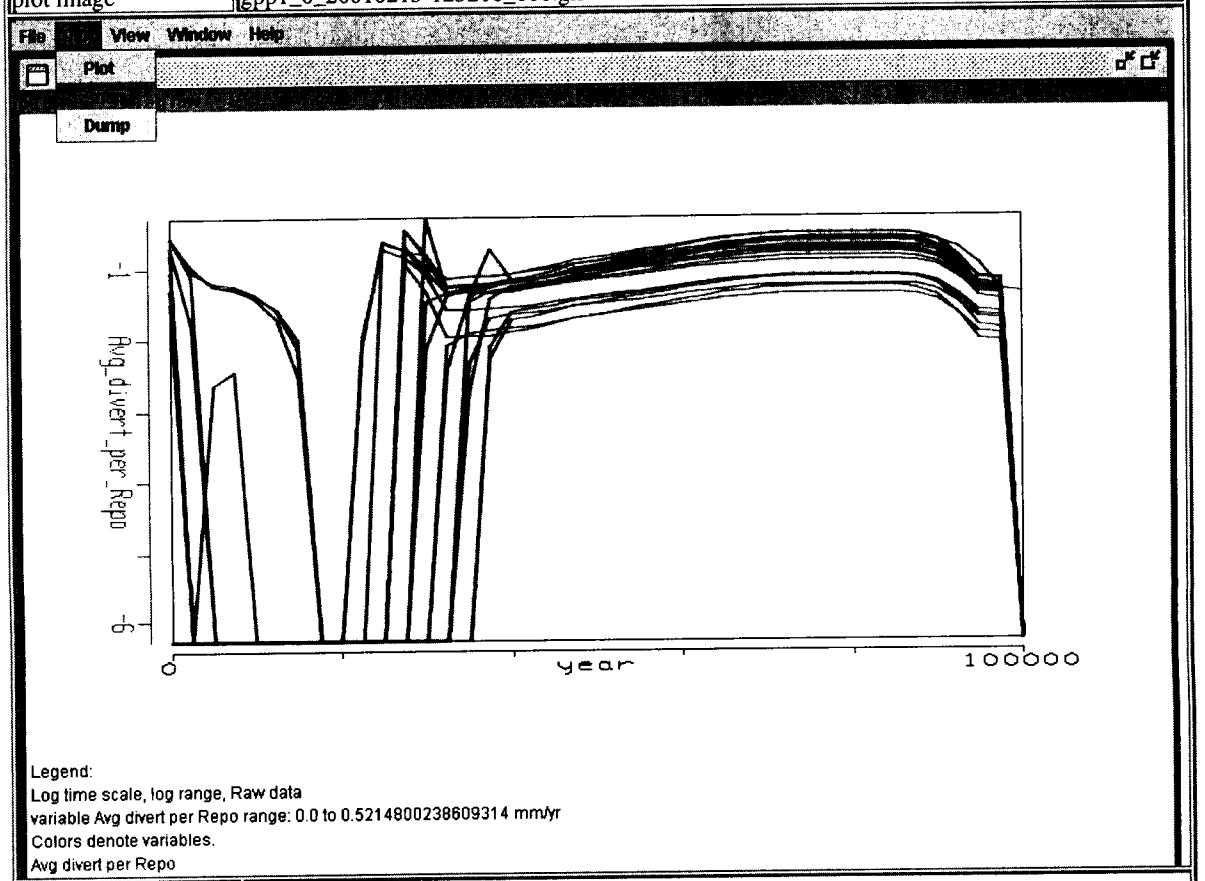






Extracts from Log File

tpa directory	f:\tpa\00-10-16\ n_subareas=8 n_nuclides=20
file name	infilper.res
plot image	gpp1_0_20010215-125210_000.gif



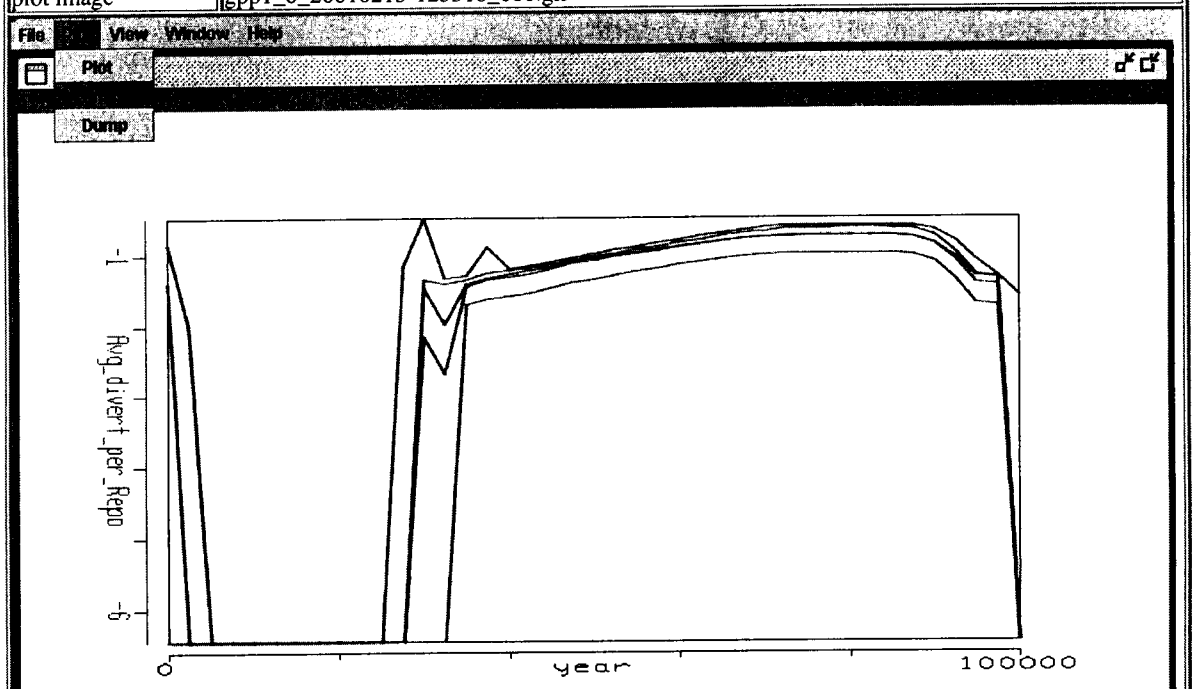
title	"p0 diversion loglog raw"
plot specs	ivar=Time xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data
variable	Avg divert per Repo
range	0.0 to 0.5214800238609314 mm/yr Colors denote variables.

... (continued in .. prt-2)

(continued from ...-prt-1. The two table rows below are repeated from ...-prt-1.)

variable	Avg divert per Repo
range	0.0 to 0.5214800238609314 mm/yr Colors denote variables.

plot image	gpp1_0_20010215-125318_000.gif



Legend:
Log time scale, log range, Regularized data, quantiles: 0.1 0.3 0.5 0.7 0.9
variable Avg divert per Repo range: 0.0 to 0.33198440074920654 mm/yr
Colors denote variables.
Avg divert per Repo

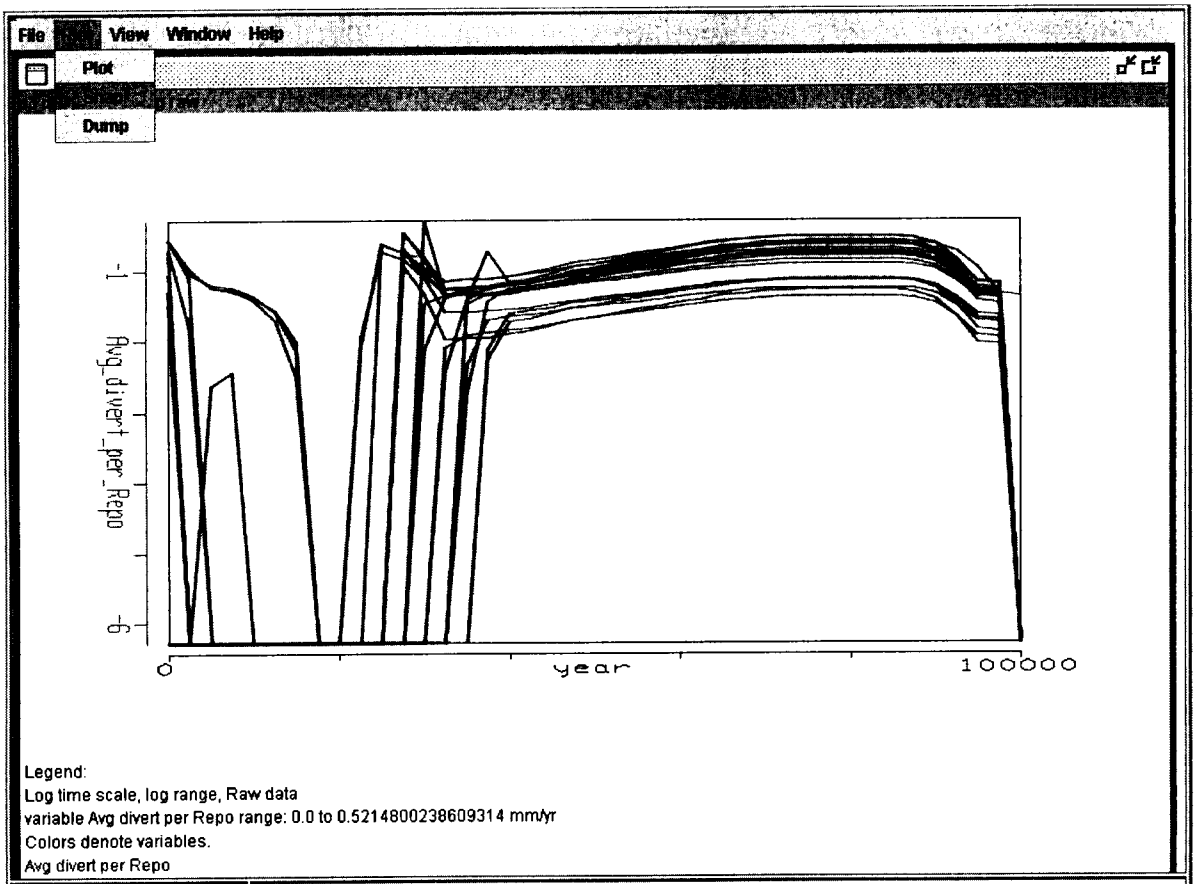
title	"p1 diversion loglog reg"
plot specs	ivar=Time xlog=true ylog=true infl=0 regu=true phis=[0.1 0.3 0.5 0.7 0.9]
scales	Log time scale, log range
data	Regularized data, quantiles: 0.1 0.3 0.5 0.7 0.9
variable	Avg divert per Repo
range	0.0 to 0.33198440074920654 mm/yr Colors denote variables.
tabular data	gpp1_0_20010215-125218_000.csv

.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
.000	-6.28	-6.28	-6.28	-1.29	-.694	-.557	-6.28	-6.28	-.580	-1.29	-.780	-6.28
2500	-6.28	-6.28	-6.28	-6.28	-1.77	-.990	-6.28	-6.28	-.955	-6.28	-6.28	-6.28
5000	-6.28	-6.28	-6.28	-6.28	-6.28	-1.23	-6.28	-6.28	-1.23	-6.28	-6.28	-6.28
7500	-6.28	-6.28	-6.28	-6.28	-6.28	-1.30	-6.28	-6.28	-1.27	-6.28	-6.28	-6.28
10000	-6.28	-6.28	-6.28	-6.28	-6.28	-1.38	-6.28	-6.28	-1.41	-6.28	-6.28	-6.28
12500	-6.28	-6.28	-6.28	-6.28	-6.28	-1.56	-6.28	-6.28	-1.70	-6.28	-6.28	-6.28
15000	-6.28	-6.28	-6.28	-6.28	-6.28	-2.00	-6.28	-6.28	-2.50	-6.28	-6.28	-6.28
17500	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28
20000	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28
22500	-6.28	-6.28	-6.28	-6.28	-6.28	-1.95	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28
25000	-6.28	-6.28	-6.28	-6.28	-6.28	-.727	-6.28	-6.28	-.640	-6.28	-6.28	-6.28
27500	-6.28	-6.28	-6.28	-6.28	-.941	-.853	-6.28	-6.28	-.754	-.457	-.719	-6.28

30000	-6.28	-.283	-6.28	-1.46	-1.32	-1.10	-6.28	-6.28	-.977	-.840	-1.10	-6.28
32500	-6.28	-1.33	-6.28	-1.34	-1.98	-1.28	-2.09	-6.28	-1.15	-1.33	-1.59	-6.28
	~	~	~	~	~	~	~	~	~	~	~	~
65000	-.719	-.803	-.658	-.804	-1.36	-.700	-1.43	-1.18	-.580	-.959	-1.18	-1.21
67500	-.678	-.768	-.622	-.775	-1.32	-.666	-1.40	-1.15	-.547	-.932	-1.16	-1.17
70000	-.643	-.745	-.598	-.755	-1.30	-.643	-1.39	-1.13	-.525	-.915	-1.14	-1.15
72500	-.620	-.732	-.584	-.744	-1.29	-.630	-1.37	-1.12	-.512	-.904	-1.13	-1.14
75000	-.606	-.727	-.579	-.739	-1.28	-.625	-1.37	-1.11	-.508	-.900	-1.13	-1.13
77500	-.601	-.726	-.578	-.739	-1.28	-.624	-1.37	-1.11	-.507	-.899	-1.12	-1.13
80000	-.600	-.726	-.578	-.739	-1.28	-.624	-1.37	-1.11	-.507	-.899	-1.12	-1.13
82500	-.600	-.726	-.578	-.739	-1.28	-.624	-1.37	-1.11	-.507	-.899	-1.12	-1.13
85000	-.600	-.727	-.579	-.740	-1.28	-.625	-1.37	-1.11	-.508	-.900	-1.13	-1.13
87500	-.602	-.749	-.602	-.758	-1.30	-.646	-1.39	-1.13	-.529	-.917	-1.14	-1.15
90000	-.623	-.844	-.701	-.838	-1.40	-.739	-1.47	-1.22	-.619	-.990	-1.22	-1.25
92500	-.720	-1.09	-.954	-1.03	-1.66	-.977	-1.67	-1.43	-.851	-1.16	-1.39	-1.49
95000	-.971	-1.43	-1.31	-1.28	-2.02	-1.30	-1.92	-1.69	-1.17	-1.36	-1.62	-1.84
97500	-1.33	-1.46	-1.34	-1.30	-2.05	-1.33	-1.94	-1.71	-1.20	-1.38	-1.63	-1.87
100000	-1.36	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28

12.	13.	14.	15.	16.	17.	18.	19.
-1.03	-.544	-1.49	-.564	-6.28	-6.28	-.728	-6.28
-6.28	-1.11	-6.28	-1.04	-6.28	-6.28	-6.28	-6.28
-6.28	-6.28	-6.28	-1.20	-6.28	-6.28	-2.64	-6.28
-6.28	-6.28	-6.28	-1.23	-6.28	-6.28	-2.44	-6.28
-6.28	-6.28	-6.28	-1.36	-6.28	-6.28	-6.28	-6.28
-6.28	-6.28	-6.28	-1.58	-6.28	-6.28	-6.28	-6.28
-6.28	-6.28	-6.28	-2.13	-6.28	-6.28	-6.28	-6.28
-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28
-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28
-6.28	-6.28	-6.28	-2.07	-6.28	-6.28	-6.28	-6.28
-6.28	-6.28	-6.28	-.620	-6.28	-6.28	-6.28	-6.28
-.451	-6.28	-.764	-.740	-6.28	-6.28	-.688	-6.28
-.814	-2.13	-.809	-.968	-6.28	-6.28	-1.01	-6.28
-1.26	-1.39	-1.26	-1.14	-2.45	-6.28	-1.35	-6.28
	~	~	~	~	~	~	~
-.707	-.819	-.589	-.678	-.757	-1.30	-.907	-.856
-.674	-.792	-.552	-.648	-.725	-1.28	-.878	-.827
-.652	-.774	-.527	-.628	-.704	-1.26	-.858	-.807
-.638	-.764	-.512	-.616	-.691	-1.25	-.846	-.796
-.633	-.760	-.507	-.612	-.687	-1.25	-.842	-.792
-.633	-.759	-.506	-.611	-.686	-1.24	-.841	-.791
-.633	-.759	-.506	-.611	-.686	-1.24	-.841	-.791
-.633	-.759	-.506	-.611	-.686	-1.24	-.841	-.791
-.634	-.760	-.507	-.613	-.687	-1.25	-.842	-.792
-.655	-.777	-.531	-.631	-.707	-1.26	-.861	-.810
-.747	-.851	-.633	-.713	-.794	-1.33	-.941	-.890
-.980	-1.03	-.901	-.911	-1.01	-1.51	-1.14	-1.09
-1.29	-1.24	-1.29	-1.15	-1.28	-1.71	-1.37	-1.34
-1.32	-1.26	-1.32	-1.17	-1.30	-1.73	-1.39	-1.36
-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28

plot image	gpp1_0_20010215-125706_000.gif

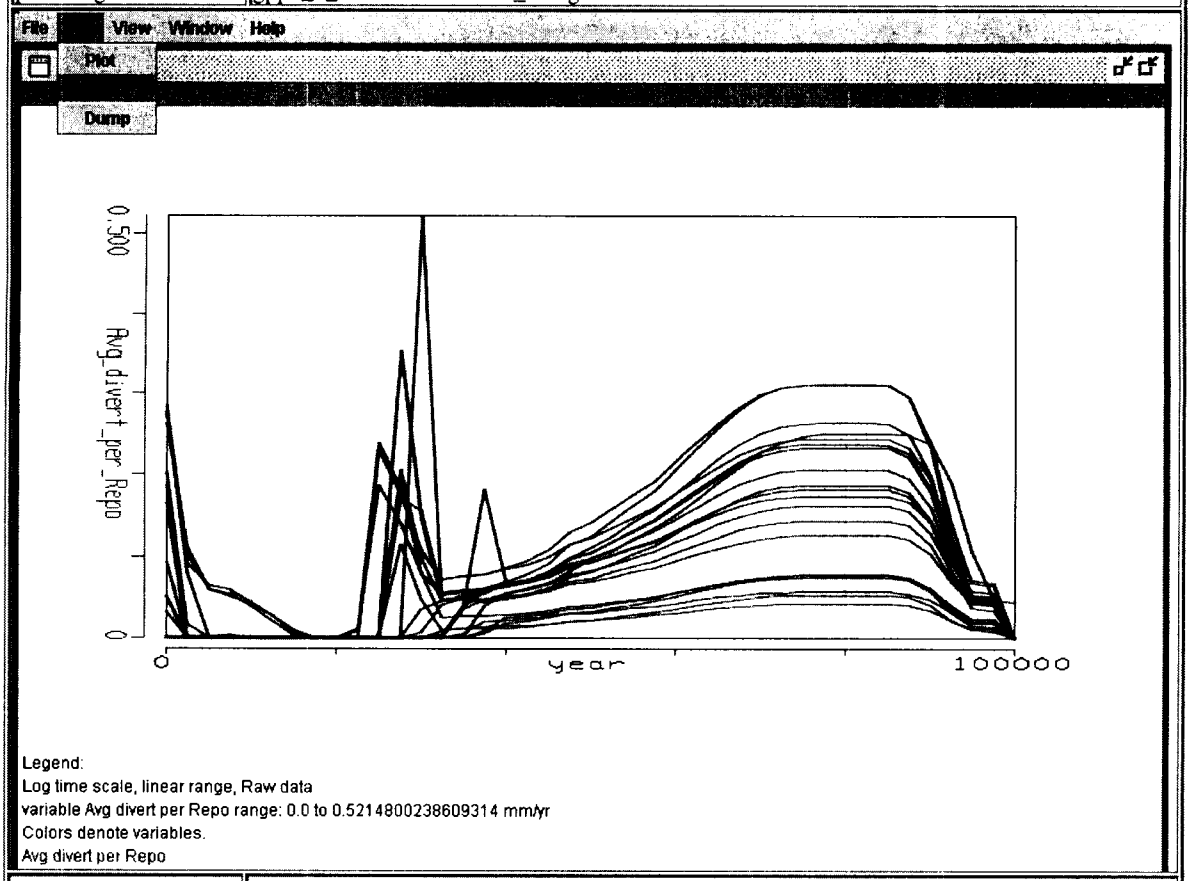


title	"p3 diversion loglog raw"
plot specs	ivar=Time xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data
variable	Avg divert per Repo
range	0.0 to 0.5214800238609314 mm/yr Colors denote variables.
tabular data	gpp1_0_20010215-125324_000.csv

.	.0	1.	2.	3.	4.
.000	-6.45	-6.45	-6.45	-1.39	-.849
2500	-6.45	-6.45	-6.45	-6.45	-1.99
5000	-6.45	-6.45	-6.45	-6.45	-6.45
7500	-6.45	-6.45	-6.45	-6.45	-6.45
10000	-6.45	-6.45	-6.45	-6.45	-6.45
12500	-6.45	-6.45	-6.45	-6.45	-6.45
15000	-6.45	-6.45	-6.45	-6.45	-6.45
17500	-6.45	-6.45	-6.45	-6.45	-6.45
20000	-6.45	-6.45	-6.45	-6.45	-6.45
22500	-6.45	-6.45	-6.45	-6.45	-6.45
25000	-6.45	-6.45	-6.45	-6.45	-6.45
27500	-6.45	-6.45	-6.45	-6.45	-1.16
30000	-6.45	-2.16	-1.46	-1.35	-.479
32500	-6.45	-2.68	-1.98	-1.41	-1.33
~	~	~	~	~	~
65000	-1.05	-.804	-.803	-.735	-.682
67500	-1.02	-.774	-.768	-.695	-.644
70000	-.998	-.753	-.745	-.662	-.616
72500	-.986	-.741	-.732	-.640	-.598
75000	-.981	-.737	-.727	-.628	-.589

77500	-.981	-.736	-.726	-.623	-.587
80000	-.981	-.736	-.726	-.623	-.587
82500	-.981	-.736	-.726	-.623	-.587
85000	-.982	-.737	-.727	-.623	-.588
87500	-1.00	-.756	-.749	-.627	-.602
90000	-1.09	-.843	-.838	-.725	-.653
92500	-1.34	-1.08	-1.03	-.969	-.799
95000	-1.69	-1.41	-1.31	-1.29	-1.07
97500	-1.72	-1.43	-1.34	-1.33	-1.31
100000	-6.45	-6.45	-6.45	-6.45	-1.58

plot image	gpp1_0_20010215-125800_000.gif



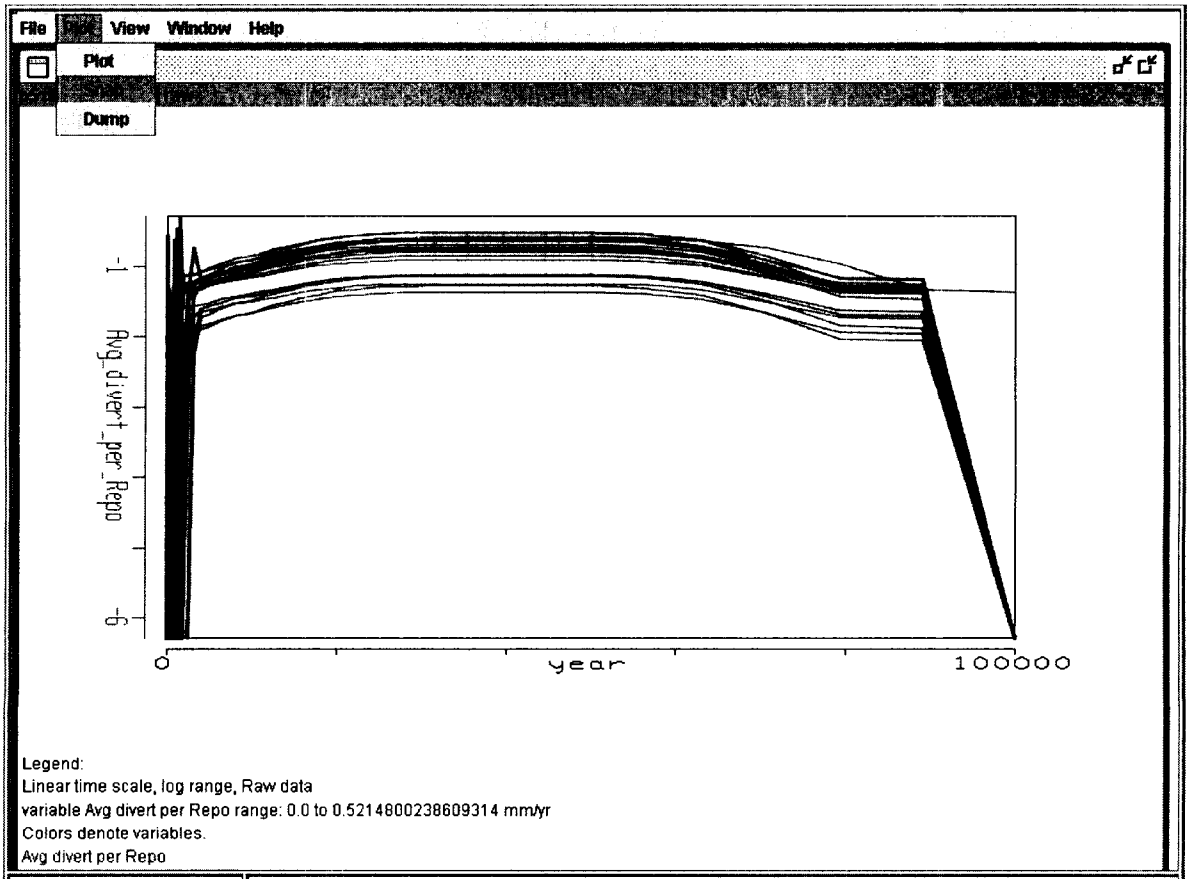
title	"p4 diversion loglin raw"
plot specs	ivar=Time xlog=true ylog=false infl=0 regu=false
scales	Log time scale, linear range
data	Raw data
variable	Avg divert per Repo
range	0.0 to 0.5214800238609314 mm/yr Colors denote variables.
tabular data	gpp1_0_20010215-125712_000.csv

.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
.000	-6.28	-6.28	-6.28	-1.29	-.694	-.557	-6.28	-6.28	-.580	-1.29	-.780	-6.28
2500	-6.28	-6.28	-6.28	-6.28	-1.77	-.990	-6.28	-6.28	-.955	-6.28	-6.28	-6.28
5000	-6.28	-6.28	-6.28	-6.28	-6.28	-1.23	-6.28	-6.28	-1.23	-6.28	-6.28	-6.28
7500	-6.28	-6.28	-6.28	-6.28	-6.28	-1.30	-6.28	-6.28	-1.27	-6.28	-6.28	-6.28
10000	-6.28	-6.28	-6.28	-6.28	-6.28	-1.38	-6.28	-6.28	-1.41	-6.28	-6.28	-6.28
12500	-6.28	-6.28	-6.28	-6.28	-6.28	-1.56	-6.28	-6.28	-1.70	-6.28	-6.28	-6.28
15000	-6.28	-6.28	-6.28	-6.28	-6.28	-2.00	-6.28	-6.28	-2.50	-6.28	-6.28	-6.28
17500	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28

20000	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28
22500	-6.28	-6.28	-6.28	-6.28	-6.28	-1.95	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28
25000	-6.28	-6.28	-6.28	-6.28	-6.28	-.727	-6.28	-6.28	-.640	-6.28	-6.28	-6.28
27500	-6.28	-6.28	-6.28	-6.28	-.941	-.853	-6.28	-6.28	-.754	-.457	-.719	-6.28
30000	-6.28	-.283	-6.28	-1.46	-1.32	-1.10	-6.28	-6.28	-.977	-.840	-1.10	-6.28
32500	-6.28	-1.33	-6.28	-1.34	-1.98	-1.28	-2.09	-6.28	-1.15	-1.33	-1.59	-6.28
	~	~	~	~	~	~	~	~	~	~	~	~
65000	-.719	-.803	-.658	-.804	-1.36	-.700	-1.43	-1.18	-.580	-.959	-1.18	-1.21
67500	-.678	-.768	-.622	-.775	-1.32	-.666	-1.40	-1.15	-.547	-.932	-1.16	-1.17
70000	-.643	-.745	-.598	-.755	-1.30	-.643	-1.39	-1.13	-.525	-.915	-1.14	-1.15
72500	-.620	-.732	-.584	-.744	-1.29	-.630	-1.37	-1.12	-.512	-.904	-1.13	-1.14
75000	-.606	-.727	-.579	-.739	-1.28	-.625	-1.37	-1.11	-.508	-.900	-1.13	-1.13
77500	-.601	-.726	-.578	-.739	-1.28	-.624	-1.37	-1.11	-.507	-.899	-1.12	-1.13
80000	-.600	-.726	-.578	-.739	-1.28	-.624	-1.37	-1.11	-.507	-.899	-1.12	-1.13
82500	-.600	-.726	-.578	-.739	-1.28	-.624	-1.37	-1.11	-.507	-.899	-1.12	-1.13
85000	-.600	-.727	-.579	-.740	-1.28	-.625	-1.37	-1.11	-.508	-.900	-1.13	-1.13
87500	-.602	-.749	-.602	-.758	-1.30	-.646	-1.39	-1.13	-.529	-.917	-1.14	-1.15
90000	-.623	-.844	-.701	-.838	-1.40	-.739	-1.47	-1.22	-.619	-.990	-1.22	-1.25
92500	-.720	-1.09	-.954	-1.03	-1.66	-.977	-1.67	-1.43	-.851	-1.16	-1.39	-1.49
95000	-.971	-1.43	-1.31	-1.28	-2.02	-1.30	-1.92	-1.69	-1.17	-1.36	-1.62	-1.84
97500	-1.33	-1.46	-1.34	-1.30	-2.05	-1.33	-1.94	-1.71	-1.20	-1.38	-1.63	-1.87
100000	-1.36	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28

12.	13.	14.	15.	16.	17.	18.	19.
-1.03	-.544	-1.49	-.564	-6.28	-6.28	-.728	-6.28
-6.28	-1.11	-6.28	-1.04	-6.28	-6.28	-6.28	-6.28
-6.28	-6.28	-6.28	-1.20	-6.28	-6.28	-2.64	-6.28
-6.28	-6.28	-6.28	-1.23	-6.28	-6.28	-2.44	-6.28
-6.28	-6.28	-6.28	-1.36	-6.28	-6.28	-6.28	-6.28
-6.28	-6.28	-6.28	-1.58	-6.28	-6.28	-6.28	-6.28
-6.28	-6.28	-6.28	-2.13	-6.28	-6.28	-6.28	-6.28
-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28
-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28
-6.28	-6.28	-6.28	-2.07	-6.28	-6.28	-6.28	-6.28
-6.28	-6.28	-6.28	-.620	-6.28	-6.28	-6.28	-6.28
-.451	-6.28	-.764	-.740	-6.28	-6.28	-.688	-6.28
-.814	-2.13	-.809	-.968	-6.28	-6.28	-1.01	-6.28
-1.26	-1.39	-1.26	-1.14	-2.45	-6.28	-1.35	-6.28
~	~	~	~	~	~	~	~
-.707	-.819	-.589	-.678	-.757	-1.30	-.907	-.856
-.674	-.792	-.552	-.648	-.725	-1.28	-.878	-.827
-.652	-.774	-.527	-.628	-.704	-1.26	-.858	-.807
-.638	-.764	-.512	-.616	-.691	-1.25	-.846	-.796
-.633	-.760	-.507	-.612	-.687	-1.25	-.842	-.792
-.633	-.759	-.506	-.611	-.686	-1.24	-.841	-.791
-.633	-.759	-.506	-.611	-.686	-1.24	-.841	-.791
-.633	-.759	-.506	-.611	-.686	-1.24	-.841	-.791
-.634	-.760	-.507	-.613	-.687	-1.25	-.842	-.792
-.655	-.777	-.531	-.631	-.707	-1.26	-.861	-.810
-.747	-.851	-.633	-.713	-.794	-1.33	-.941	-.890
-.980	-1.03	-.901	-.911	-1.01	-1.51	-1.14	-1.09
-1.29	-1.24	-1.29	-1.15	-1.28	-1.71	-1.37	-1.34
-1.32	-1.26	-1.32	-1.17	-1.30	-1.73	-1.39	-1.36
-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28

plot image: gpp1_0_20010215-125908_000.gif



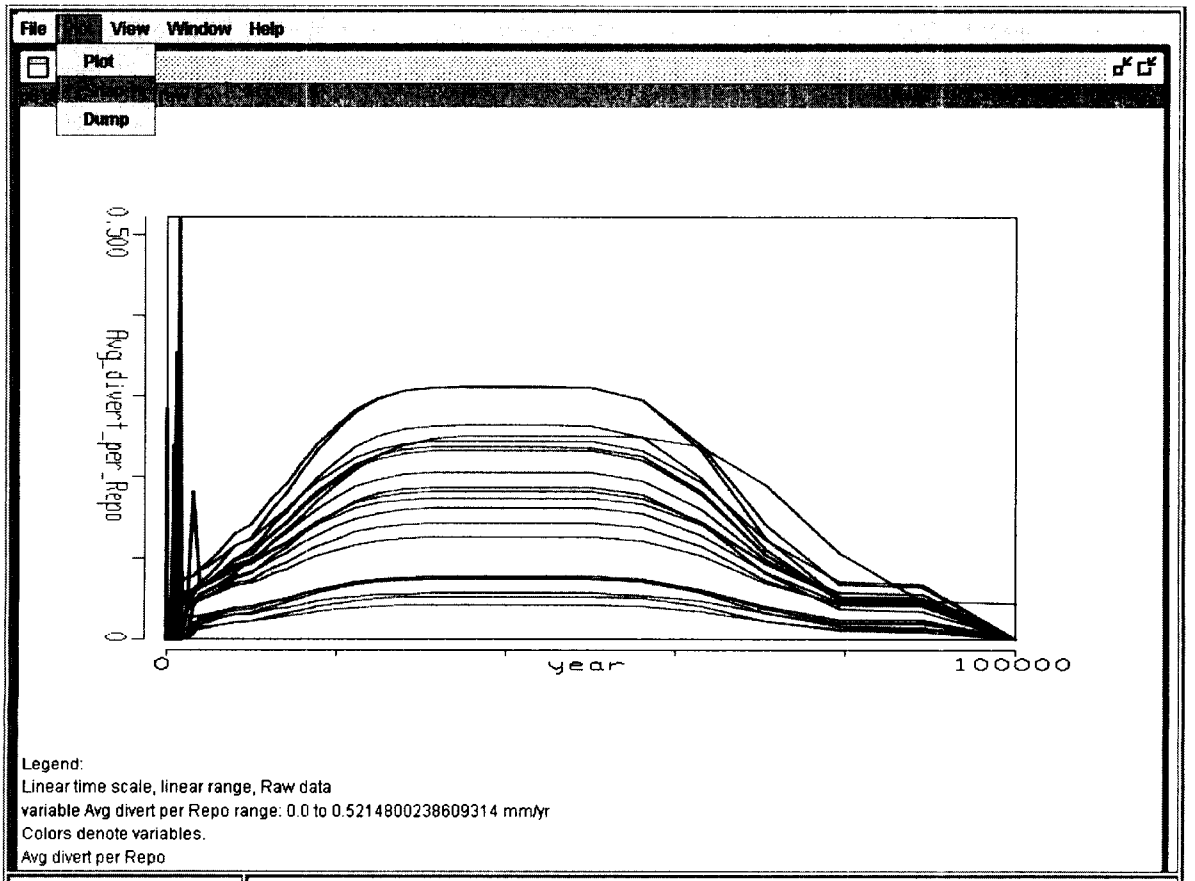
title	"p5 diversion linlog raw"
plot specs	ivar=Time xlog=false ylog=true infl=0 regu=false
scales	Linear time scale, log range
data	Raw data
variable	Avg divert per Repo
range	0.0 to 0.5214800238609314 mm/yr Colors denote variables.
tabular data	gpp1_0_20010215-125804_000.csv

.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
.000	.000	.000	.000	.0508	.202	.277	.000	.000	.263	.0513	.166
25.7	.000	.000	.000	.000	.0169	.102	.000	.000	.111	.000	.000
58.1	.000	.000	.000	.000	.000	.0584	.000	.000	.0594	.000	.000
98.9	.000	.000	.000	.000	.000	.0502	.000	.000	.0536	.000	.000
150.	.000	.000	.000	.000	.000	.0418	.000	.000	.0388	.000	.000
215.	.000	.000	.000	.000	.000	.0277	.000	.000	.0201	.000	.000
297.	.000	.000	.000	.000	.000	.0100	.000	.000	.00317	.000	.000
400.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
530.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
693.	.000	.000	.000	.000	.000	.0113	.000	.000	.000	.000	.000
900.	.000	.000	.000	.000	.000	.187	.000	.000	.229	.000	.000
1160	.000	.000	.000	.000	.115	.140	.000	.000	.176	.349	.191
1490	.000	.521	.000	.0348	.0477	.0800	.000	.000	.105	.145	.0796
1900	.000	.0467	.000	.0455	.0105	.0525	.00822	.000	.0710	.0464	.0260
~	~	~	~	~	~	~	~	~	~	~	~
19900	.191	.157	.220	.157	.0438	.200	.0368	.0659	.263	.110	.0654
22300	.210	.170	.239	.168	.0475	.216	.0394	.0707	.284	.117	.0695
25000	.227	.180	.252	.176	.0502	.227	.0412	.0742	.298	.122	.0725
28100	.240	.186	.261	.180	.0518	.235	.0423	.0763	.307	.125	.0743
31500	.248	.188	.264	.182	.0525	.237	.0427	.0771	.311	.126	.0749

35400	.251	.188	.264	.182	.0526	.238	.0428	.0772	.311	.126	.0750
39700	.251	.188	.264	.182	.0526	.238	.0428	.0772	.311	.126	.0750
44600	.251	.188	.264	.182	.0526	.238	.0428	.0772	.311	.126	.0750
50000	.251	.187	.263	.182	.0524	.237	.0427	.0770	.310	.126	.0748
56100	.250	.178	.250	.174	.0498	.226	.0409	.0736	.296	.121	.0720
63000	.238	.143	.199	.145	.0397	.182	.0340	.0606	.240	.102	.0609
70700	.191	.0813	.111	.0923	.0221	.105	.0215	.0375	.141	.0688	.0404
79400	.107	.0367	.0492	.0522	.00948	.0496	.0119	.0205	.0672	.0432	.0242
89100	.0466	.0345	.0461	.0500	.00885	.0467	.0114	.0196	.0634	.0418	.0233
100000	.0435	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

11.	12.	13.	14.	15.	16.	17.	18.	19.
.000	.0925	.286	.0320	.273	.000	.000	.187	.000
.000	.000	.0784	.000	.0908	.000	.000	.000	.000
.000	.000	.000	.000	.0636	.000	.000	.00231	.000
.000	.000	.000	.000	.0586	.000	.000	.00361	.000
.000	.000	.000	.000	.0441	.000	.000	.000	.000
.000	.000	.000	.000	.0265	.000	.000	.000	.000
.000	.000	.000	.000	.00738	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.00850	.000	.000	.000	.000
.000	.000	.000	.000	.240	.000	.000	.000	.000
.000	.354	.000	.172	.182	.000	.000	.205	.000
.000	.153	.00739	.155	.108	.000	.000	.0971	.000
.000	.0550	.0407	.0554	.0732	.00358	.000	.0448	.000
~	~	~	~	~	~	~	~	~
.0621	.196	.152	.258	.210	.175	.0497	.124	.139
.0671	.212	.161	.281	.225	.188	.0528	.133	.149
.0707	.223	.168	.297	.235	.198	.0550	.139	.156
.0729	.230	.172	.307	.242	.204	.0564	.143	.160
.0737	.233	.174	.311	.244	.206	.0569	.144	.162
.0738	.233	.174	.312	.245	.206	.0569	.144	.162
.0738	.233	.174	.312	.245	.206	.0569	.144	.162
.0738	.233	.174	.312	.245	.206	.0569	.144	.162
.0736	.232	.174	.311	.244	.206	.0568	.144	.161
.0701	.221	.167	.295	.234	.196	.0547	.138	.155
.0567	.179	.141	.233	.194	.161	.0464	.115	.129
.0325	.105	.0937	.126	.123	.0983	.0311	.0732	.0819
.0145	.0508	.0574	.0510	.0701	.0530	.0193	.0425	.0459
.0136	.0480	.0554	.0474	.0673	.0506	.0186	.0408	.0439
.000	.000	.000	.000	.000	.000	.000	.000	.000

plot image	gpp1_0_20010215-010020_000.gif



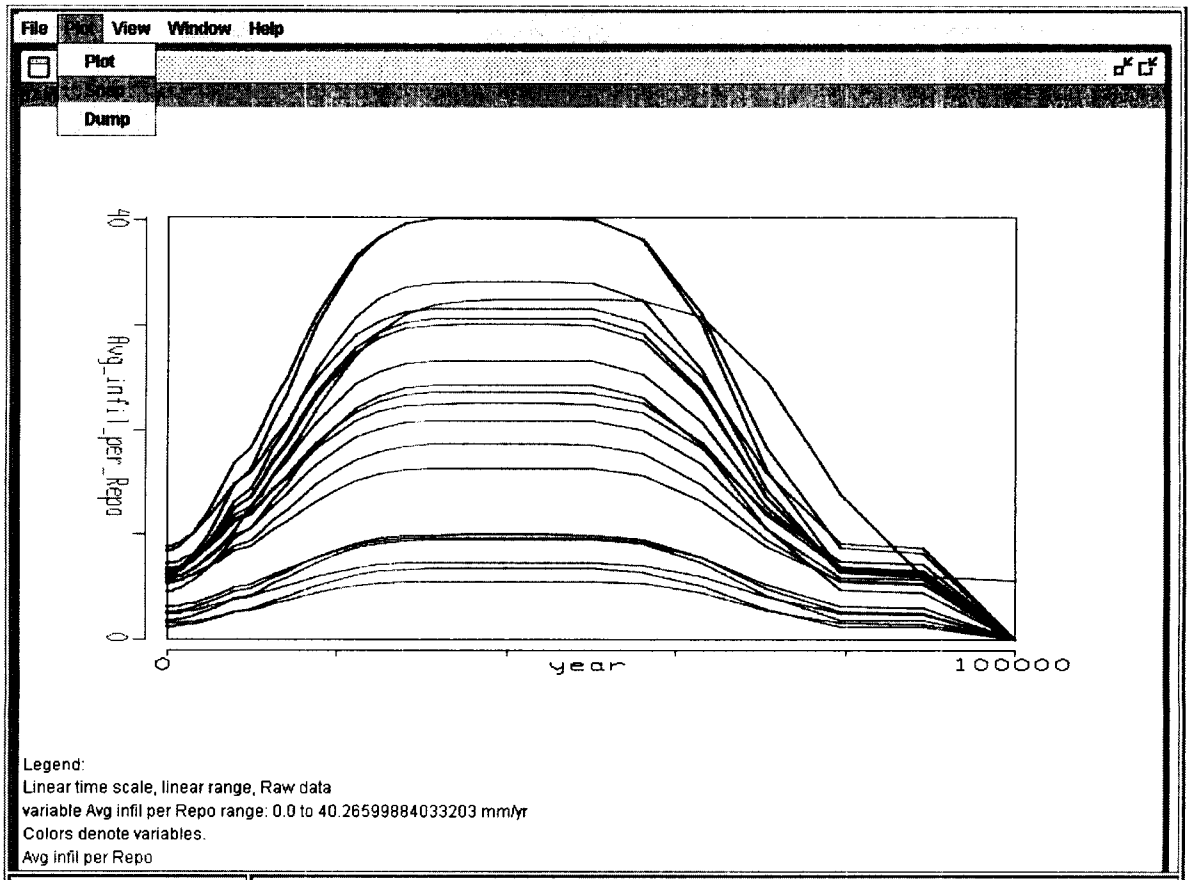
title	"p6 diversion linlin raw"
plot specs	ivar=Time xlog=false ylog=false infl=0 regu=false
scales	Linear time scale, linear range
data	Raw data
variable	Avg divert per Repo
range	0.0 to 0.5214800238609314 mm/yr Colors denote variables.
tabular data	gpp1_0_20010215-125919_000.csv

.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
.000	-6.28	-6.28	-6.28	-1.29	-.694	-.557	-6.28	-6.28	-.580	-1.29	-.780	-6.28
2500	-6.28	-6.28	-6.28	-6.28	-1.77	-.990	-6.28	-6.28	-.955	-6.28	-6.28	-6.28
5000	-6.28	-6.28	-6.28	-6.28	-6.28	-1.23	-6.28	-6.28	-1.23	-6.28	-6.28	-6.28
7500	-6.28	-6.28	-6.28	-6.28	-6.28	-1.30	-6.28	-6.28	-1.27	-6.28	-6.28	-6.28
10000	-6.28	-6.28	-6.28	-6.28	-6.28	-1.38	-6.28	-6.28	-1.41	-6.28	-6.28	-6.28
12500	-6.28	-6.28	-6.28	-6.28	-6.28	-1.56	-6.28	-6.28	-1.70	-6.28	-6.28	-6.28
15000	-6.28	-6.28	-6.28	-6.28	-6.28	-2.00	-6.28	-6.28	-2.50	-6.28	-6.28	-6.28
17500	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28
20000	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28
22500	-6.28	-6.28	-6.28	-6.28	-6.28	-1.95	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28
25000	-6.28	-6.28	-6.28	-6.28	-6.28	-.727	-6.28	-6.28	-.640	-6.28	-6.28	-6.28
27500	-6.28	-6.28	-6.28	-6.28	-.941	-.853	-6.28	-6.28	-.754	-.457	-.719	-6.28
30000	-6.28	-.283	-6.28	-1.46	-1.32	-1.10	-6.28	-6.28	-.977	-.840	-1.10	-6.28
32500	-6.28	-1.33	-6.28	-1.34	-1.98	-1.28	-2.09	-6.28	-1.15	-1.33	-1.59	-6.28
~	~	~	~	~	~	~	~	~	~	~	~	~
65000	-.719	-.803	-.658	-.804	-1.36	-.700	-1.43	-1.18	-.580	-.959	-1.18	-1.21
67500	-.678	-.768	-.622	-.775	-1.32	-.666	-1.40	-1.15	-.547	-.932	-1.16	-1.17
70000	-.643	-.745	-.598	-.755	-1.30	-.643	-1.39	-1.13	-.525	-.915	-1.14	-1.15
72500	-.620	-.732	-.584	-.744	-1.29	-.630	-1.37	-1.12	-.512	-.904	-1.13	-1.14
75000	-.606	-.727	-.579	-.739	-1.28	-.625	-1.37	-1.11	-.508	-.900	-1.13	-1.13

77500	-.601	-.726	-.578	-.739	-1.28	-.624	-1.37	-1.11	-.507	-.899	-1.12	-1.13
80000	-.600	-.726	-.578	-.739	-1.28	-.624	-1.37	-1.11	-.507	-.899	-1.12	-1.13
82500	-.600	-.726	-.578	-.739	-1.28	-.624	-1.37	-1.11	-.507	-.899	-1.12	-1.13
85000	-.600	-.727	-.579	-.740	-1.28	-.625	-1.37	-1.11	-.508	-.900	-1.13	-1.13
87500	-.602	-.749	-.602	-.758	-1.30	-.646	-1.39	-1.13	-.529	-.917	-1.14	-1.15
90000	-.623	-.844	-.701	-.838	-1.40	-.739	-1.47	-1.22	-.619	-.990	-1.22	-1.25
92500	-.720	-1.09	-.954	-1.03	-1.66	-.977	-1.67	-1.43	-.851	-1.16	-1.39	-1.49
95000	-.971	-1.43	-1.31	-1.28	-2.02	-1.30	-1.92	-1.69	-1.17	-1.36	-1.62	-1.84
97500	-1.33	-1.46	-1.34	-1.30	-2.05	-1.33	-1.94	-1.71	-1.20	-1.38	-1.63	-1.87
100000	-1.36	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28

12.	13.	14.	15.	16.	17.	18.	19.
-1.03	-.544	-1.49	-.564	-6.28	-6.28	-.728	-6.28
-6.28	-1.11	-6.28	-1.04	-6.28	-6.28	-6.28	-6.28
-6.28	-6.28	-6.28	-1.20	-6.28	-6.28	-2.64	-6.28
-6.28	-6.28	-6.28	-1.23	-6.28	-6.28	-2.44	-6.28
-6.28	-6.28	-6.28	-1.36	-6.28	-6.28	-6.28	-6.28
-6.28	-6.28	-6.28	-1.58	-6.28	-6.28	-6.28	-6.28
-6.28	-6.28	-6.28	-2.13	-6.28	-6.28	-6.28	-6.28
-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28
-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28
-6.28	-6.28	-6.28	-2.07	-6.28	-6.28	-6.28	-6.28
-6.28	-6.28	-6.28	-.620	-6.28	-6.28	-6.28	-6.28
-.451	-6.28	-.764	-.740	-6.28	-6.28	-.688	-6.28
-.814	-2.13	-.809	-.968	-6.28	-6.28	-1.01	-6.28
-1.26	-1.39	-1.26	-1.14	-2.45	-6.28	-1.35	-6.28
~	~	~	~	~	~	~	~
-.707	-.819	-.589	-.678	-.757	-1.30	-.907	-.856
-.674	-.792	-.552	-.648	-.725	-1.28	-.878	-.827
-.652	-.774	-.527	-.628	-.704	-1.26	-.858	-.807
-.638	-.764	-.512	-.616	-.691	-1.25	-.846	-.796
-.633	-.760	-.507	-.612	-.687	-1.25	-.842	-.792
-.633	-.759	-.506	-.611	-.686	-1.24	-.841	-.791
-.633	-.759	-.506	-.611	-.686	-1.24	-.841	-.791
-.633	-.759	-.506	-.611	-.686	-1.24	-.841	-.791
-.634	-.760	-.507	-.613	-.687	-1.25	-.842	-.792
-.655	-.777	-.531	-.631	-.707	-1.26	-.861	-.810
-.747	-.851	-.633	-.713	-.794	-1.33	-.941	-.890
-.980	-1.03	-.901	-.911	-1.01	-1.51	-1.14	-1.09
-1.29	-1.24	-1.29	-1.15	-1.28	-1.71	-1.37	-1.34
-1.32	-1.26	-1.32	-1.17	-1.30	-1.73	-1.39	-1.36
-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28	-6.28

plot image	gpp1_0_20010215-011447_000.gif



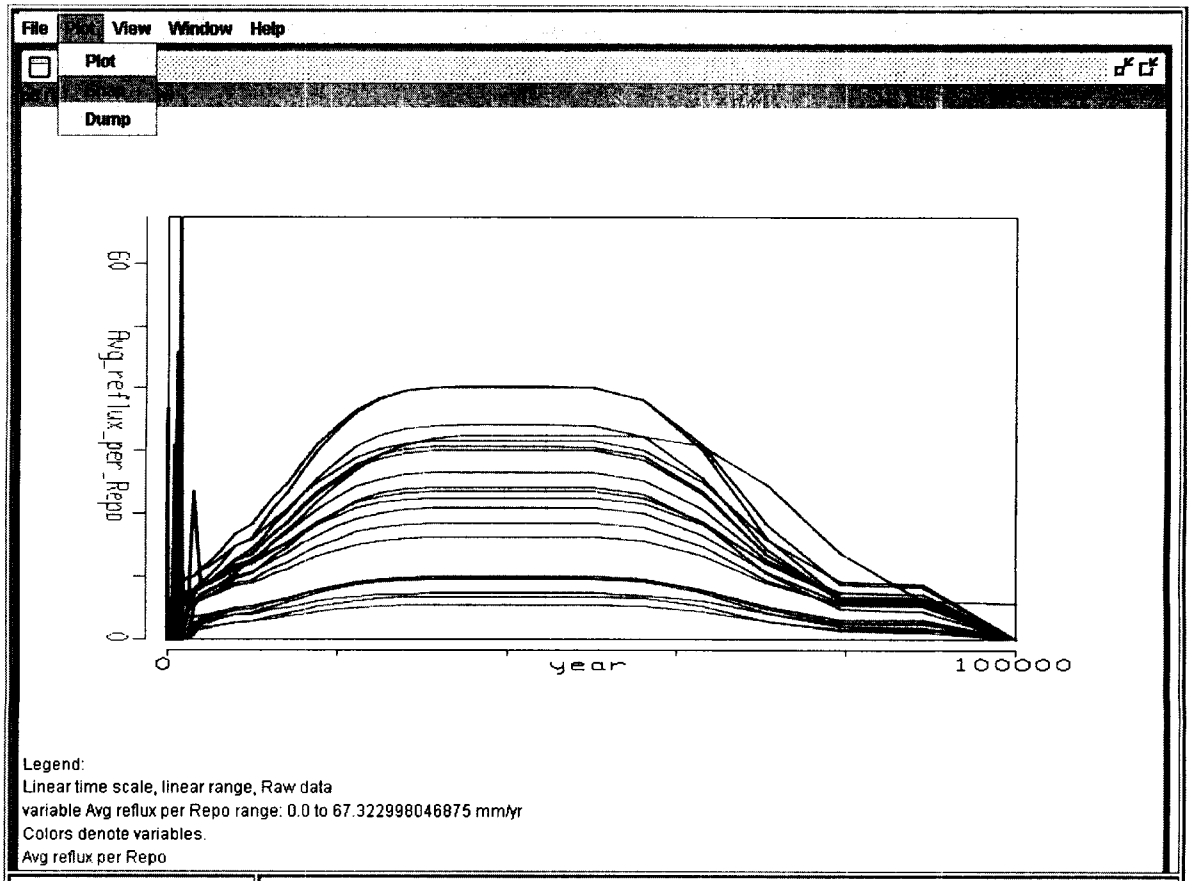
title	"p7 infilt loglog raw"
plot specs	ivar=Time xlog=false ylog=false infl=0 regu=false
scales	Linear time scale, linear range
data	Raw data
variable	Avg infil per Repo
range	0.0 to 40.26599884033203 mm/yr Colors denote variables.
tabular data	gpp1_0_20010215-010024_000.csv

.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
.000	.000	.000	.000	.0508	.202	.277	.000	.000	.263	.0513	.166
25.7	.000	.000	.000	.000	.0169	.102	.000	.000	.111	.000	.000
58.1	.000	.000	.000	.000	.000	.0584	.000	.000	.0594	.000	.000
98.9	.000	.000	.000	.000	.000	.0502	.000	.000	.0536	.000	.000
150.	.000	.000	.000	.000	.000	.0418	.000	.000	.0388	.000	.000
215.	.000	.000	.000	.000	.000	.0277	.000	.000	.0201	.000	.000
297.	.000	.000	.000	.000	.000	.0100	.000	.000	.00317	.000	.000
400.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
530.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
693.	.000	.000	.000	.000	.000	.0113	.000	.000	.000	.000	.000
900.	.000	.000	.000	.000	.000	.187	.000	.000	.229	.000	.000
1160	.000	.000	.000	.000	.115	.140	.000	.000	.176	.349	.191
1490	.000	.521	.000	.0348	.0477	.0800	.000	.000	.105	.145	.0796
1900	.000	.0467	.000	.0455	.0105	.0525	.00822	.000	.0710	.0464	.0260
~	~	~	~	~	~	~	~	~	~	~	~
19900	.191	.157	.220	.157	.0438	.200	.0368	.0659	.263	.110	.0654
22300	.210	.170	.239	.168	.0475	.216	.0394	.0707	.284	.117	.0695
25000	.227	.180	.252	.176	.0502	.227	.0412	.0742	.298	.122	.0725
28100	.240	.186	.261	.180	.0518	.235	.0423	.0763	.307	.125	.0743
31500	.248	.188	.264	.182	.0525	.237	.0427	.0771	.311	.126	.0749

35400	.251	.188	.264	.182	.0526	.238	.0428	.0772	.311	.126	.0750
39700	.251	.188	.264	.182	.0526	.238	.0428	.0772	.311	.126	.0750
44600	.251	.188	.264	.182	.0526	.238	.0428	.0772	.311	.126	.0750
50000	.251	.187	.263	.182	.0524	.237	.0427	.0770	.310	.126	.0748
56100	.250	.178	.250	.174	.0498	.226	.0409	.0736	.296	.121	.0720
63000	.238	.143	.199	.145	.0397	.182	.0340	.0606	.240	.102	.0609
70700	.191	.0813	.111	.0923	.0221	.105	.0215	.0375	.141	.0688	.0404
79400	.107	.0367	.0492	.0522	.00948	.0496	.0119	.0205	.0672	.0432	.0242
89100	.0466	.0345	.0461	.0500	.00885	.0467	.0114	.0196	.0634	.0418	.0233
100000	.0435	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

11.	12.	13.	14.	15.	16.	17.	18.	19.
.000	.0925	.286	.0320	.273	.000	.000	.187	.000
.000	.000	.0784	.000	.0908	.000	.000	.000	.000
.000	.000	.000	.000	.0636	.000	.000	.00231	.000
.000	.000	.000	.000	.0586	.000	.000	.00361	.000
.000	.000	.000	.000	.0441	.000	.000	.000	.000
.000	.000	.000	.000	.0265	.000	.000	.000	.000
.000	.000	.000	.000	.00738	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.00850	.000	.000	.000	.000
.000	.000	.000	.000	.240	.000	.000	.000	.000
.000	.354	.000	.172	.182	.000	.000	.205	.000
.000	.153	.00739	.155	.108	.000	.000	.0971	.000
.000	.0550	.0407	.0554	.0732	.00358	.000	.0448	.000
~	~	~	~	~	~	~	~	~
.0621	.196	.152	.258	.210	.175	.0497	.124	.139
.0671	.212	.161	.281	.225	.188	.0528	.133	.149
.0707	.223	.168	.297	.235	.198	.0550	.139	.156
.0729	.230	.172	.307	.242	.204	.0564	.143	.160
.0737	.233	.174	.311	.244	.206	.0569	.144	.162
.0738	.233	.174	.312	.245	.206	.0569	.144	.162
.0738	.233	.174	.312	.245	.206	.0569	.144	.162
.0738	.233	.174	.312	.245	.206	.0569	.144	.162
.0736	.232	.174	.311	.244	.206	.0568	.144	.161
.0701	.221	.167	.295	.234	.196	.0547	.138	.155
.0567	.179	.141	.233	.194	.161	.0464	.115	.129
.0325	.105	.0937	.126	.123	.0983	.0311	.0732	.0819
.0145	.0508	.0574	.0510	.0701	.0530	.0193	.0425	.0459
.0136	.0480	.0554	.0474	.0673	.0506	.0186	.0408	.0439
.000	.000	.000	.000	.000	.000	.000	.000	.000

plot image	gpp1_0_20010215-011547_000.gif



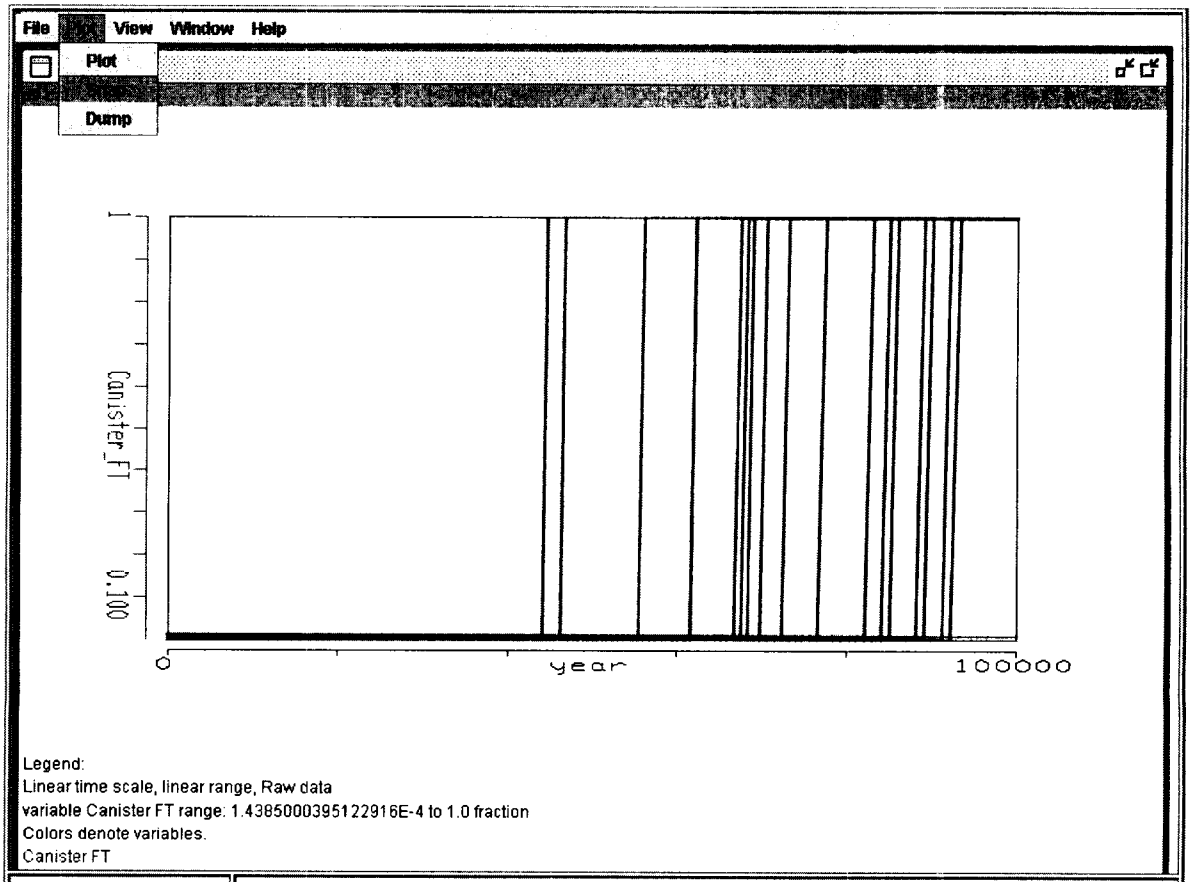
title	"p8 reflux loglog raw"
plot specs	ivar=Time xlog=false ylog=false infl=0 regu=false
scales	Linear time scale, linear range
data	Raw data
variable	Avg reflux per Repo
range	0.0 to 67.322998046875 mm/yr Colors denote variables.
tabular data	gpp1_0_20010215-011453_000.csv

.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
.000	5.84	4.61	6.17	6.61	1.19	6.24	1.51	2.59	8.46	5.50	3.07	1.82	6.40	7.29
25.7	5.84	4.61	6.17	6.61	1.19	6.24	1.51	2.59	8.46	5.50	3.07	1.82	6.40	7.29
58.1	5.84	4.61	6.17	6.61	1.19	6.24	1.51	2.59	8.46	5.50	3.07	1.82	6.40	7.29
98.9	5.84	4.61	6.17	6.61	1.19	6.24	1.51	2.59	8.46	5.50	3.07	1.82	6.40	7.29
150.	5.84	4.61	6.17	6.61	1.19	6.24	1.51	2.59	8.46	5.50	3.07	1.82	6.40	7.29
215.	5.84	4.61	6.17	6.61	1.19	6.24	1.51	2.59	8.46	5.50	3.07	1.82	6.40	7.29
297.	5.84	4.61	6.17	6.61	1.19	6.24	1.51	2.59	8.46	5.50	3.07	1.82	6.40	7.29
400.	5.84	4.61	6.17	6.61	1.19	6.24	1.51	2.59	8.46	5.50	3.07	1.82	6.40	7.29
530.	5.84	4.61	6.17	6.61	1.19	6.24	1.51	2.59	8.46	5.50	3.07	1.82	6.40	7.29
693.	5.84	4.61	6.17	6.61	1.19	6.24	1.51	2.59	8.46	5.50	3.07	1.82	6.40	7.29
900.	5.84	4.68	6.27	6.68	1.21	6.33	1.52	2.62	8.58	5.55	3.10	1.85	6.49	7.36
1160	5.94	4.77	6.39	6.77	1.23	6.45	1.54	2.66	8.74	5.60	3.14	1.89	6.60	7.44
1490	6.06	4.82	6.46	6.82	1.25	6.51	1.55	2.68	8.82	5.63	3.16	1.91	6.66	7.48
1900	6.13	4.98	6.67	6.97	1.29	6.71	1.59	2.74	9.09	5.73	3.22	1.97	6.85	7.62
~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
19900	24.6	20.3	28.4	20.3	5.65	25.8	4.75	8.50	33.9	14.2	8.44	8.02	25.3	19.6
22300	27.1	22.0	30.8	21.7	6.14	27.9	5.09	9.13	36.6	15.1	8.98	8.67	27.4	20.8
25000	29.4	23.2	32.6	22.7	6.48	29.4	5.32	9.57	38.5	15.7	9.35	9.12	28.8	21.7
28100	31.0	24.0	33.7	23.3	6.69	30.3	5.46	9.85	39.7	16.1	9.59	9.41	29.7	22.3
31500	32.0	24.2	34.1	23.5	6.77	30.6	5.52	9.95	40.1	16.3	9.67	9.51	30.0	22.5

35400	32.4	24.3	34.1	23.6	6.78	30.7	5.53	9.97	40.2	16.3	9.69	9.53	30.1	22.5
39700	32.4	24.3	34.1	23.6	6.78	30.7	5.53	9.97	40.2	16.3	9.69	9.53	30.1	22.5
44600	32.4	24.3	34.1	23.6	6.78	30.7	5.53	9.97	40.2	16.3	9.69	9.53	30.1	22.5
50000	32.4	24.2	34.0	23.5	6.76	30.6	5.51	9.94	40.1	16.2	9.66	9.50	30.0	22.4
56100	32.3	23.0	32.3	22.5	6.43	29.1	5.28	9.51	38.2	15.6	9.30	9.05	28.6	21.6
63000	30.7	18.5	25.7	18.7	5.13	23.5	4.40	7.83	31.0	13.2	7.86	7.32	23.1	18.2
70700	24.6	10.5	14.3	11.9	2.85	13.6	2.78	4.85	18.2	8.88	5.21	4.19	13.5	12.1
79400	13.8	4.74	6.35	6.74	1.22	6.40	1.54	2.64	8.68	5.58	3.12	1.87	6.56	7.41
89100	6.02	4.45	5.95	6.45	1.14	6.03	1.47	2.52	8.18	5.40	3.01	1.75	6.20	7.15
100000	5.62	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

14.	15.	16.	17.	18.	19.
6.38	8.89	6.71	2.45	5.39	5.81
6.38	8.89	6.71	2.45	5.39	5.81
6.38	8.89	6.71	2.45	5.39	5.81
6.38	8.89	6.71	2.45	5.39	5.81
6.38	8.89	6.71	2.45	5.39	5.81
6.38	8.89	6.71	2.45	5.39	5.81
6.38	8.89	6.71	2.45	5.39	5.81
6.38	8.89	6.71	2.45	5.39	5.81
6.38	8.89	6.71	2.45	5.39	5.81
6.38	8.89	6.71	2.45	5.39	5.81
6.49	8.98	6.78	2.47	5.44	5.87
6.64	9.10	6.88	2.50	5.51	5.95
6.72	9.16	6.93	2.51	5.54	5.99
6.97	9.35	7.09	2.56	5.66	6.13
~	~	~	~	~	~
33.3	27.1	22.6	6.42	16.0	18.0
36.3	29.0	24.3	6.82	17.1	19.2
38.4	30.4	25.5	7.10	17.9	20.1
39.7	31.2	26.3	7.28	18.4	20.7
40.2	31.5	26.6	7.34	18.6	20.9
40.3	31.6	26.6	7.35	18.6	20.9
40.3	31.6	26.6	7.35	18.6	20.9
40.3	31.6	26.6	7.35	18.6	20.9
40.1	31.5	26.5	7.33	18.6	20.8
38.1	30.2	25.3	7.06	17.8	20.0
30.1	25.0	20.7	5.99	14.8	16.6
16.2	15.8	12.7	4.02	9.45	10.6
6.59	9.05	6.84	2.49	5.48	5.92
6.12	8.69	6.53	2.40	5.27	5.66
.000	.000	.000	.000	.000	.000

plot image	gpp1_0_20010215-011652_000.gif



title	"p9 canister ft "
plot specs	ivar=Time xlog=false ylog=false infl=0 regu=false
scales	Linear time scale, linear range
data	Raw data
variable	Canister FT
range	1.4385000395122916E-4 to 1.0 fraction Colors denote variables.
tabular data	gpp1_0_20010215-011552_000.csv

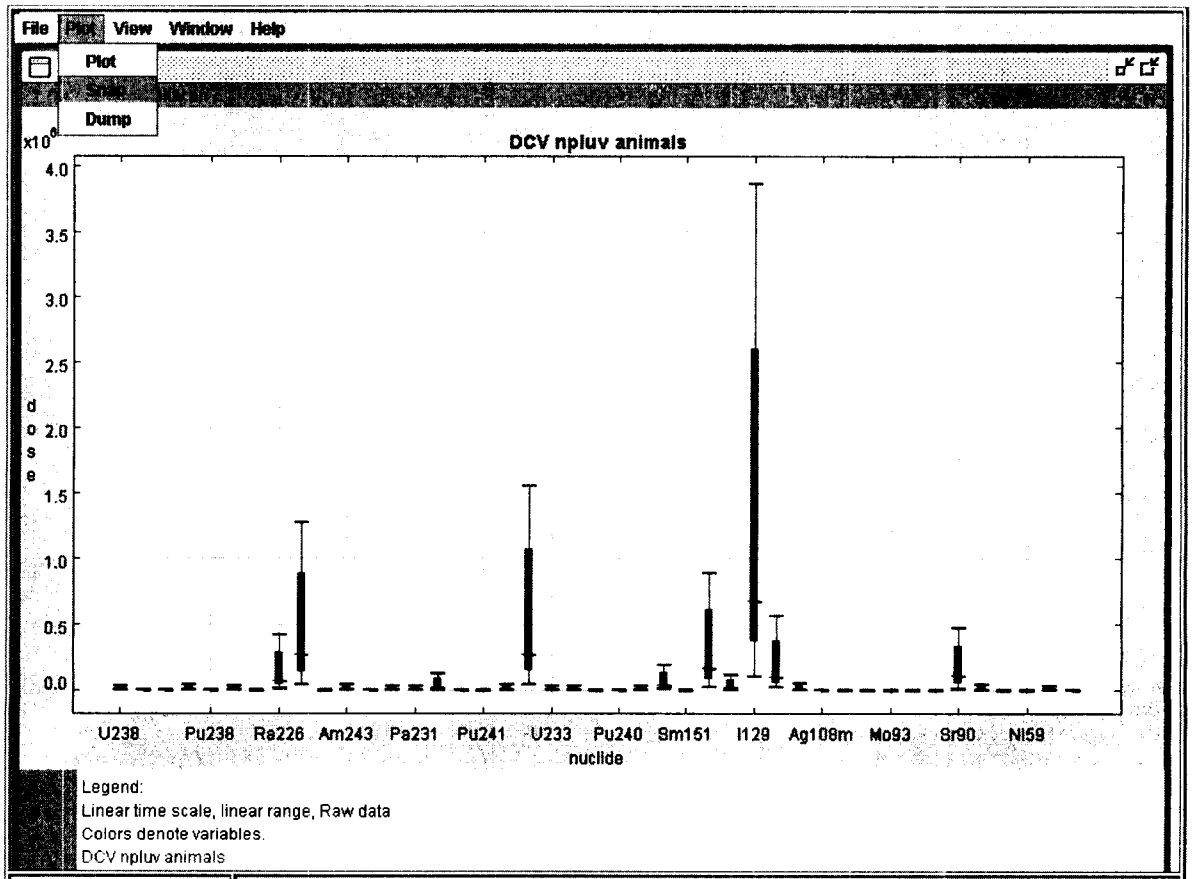
.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
.000	.000	.000	.000	6.55	26.1	35.8	.000	.000	33.9	6.62	21.4	.000	11.9	36.9
25.7	.000	.000	.000	.000	2.18	13.2	.000	.000	14.3	.000	.000	.000	.000	10.1
58.1	.000	.000	.000	.000	.000	7.54	.000	.000	7.66	.000	.000	.000	.000	.000
98.9	.000	.000	.000	.000	.000	6.49	.000	.000	6.92	.000	.000	.000	.000	.000
150.	.000	.000	.000	.000	.000	5.40	.000	.000	5.01	.000	.000	.000	.000	.000
215.	.000	.000	.000	.000	.000	3.57	.000	.000	2.59	.000	.000	.000	.000	.000
297.	.000	.000	.000	.000	.000	1.29	.000	.000	.410	.000	.000	.000	.000	.000
400.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
530.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
693.	.000	.000	.000	.000	.000	1.46	.000	.000	.000	.000	.000	.000	.000	.000
900.	.000	.000	.000	.000	.000	24.2	.000	.000	29.6	.000	.000	.000	.000	.000
1160	.000	.000	.000	.000	14.8	18.1	.000	.000	22.7	45.1	24.7	.000	45.7	.000
1490	.000	67.3	.000	4.49	6.16	10.3	.000	.000	13.6	18.7	10.3	.000	19.8	.954
1900	.000	6.03	.000	5.88	1.35	6.78	1.06	.000	9.17	5.99	3.36	.000	7.10	5.25
~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
19900	24.6	20.3	28.4	20.3	5.65	25.8	4.75	8.50	33.9	14.2	8.44	8.02	25.3	19.6
22300	27.1	22.0	30.8	21.7	6.14	27.9	5.09	9.13	36.6	15.1	8.98	8.67	27.4	20.8
25000	29.4	23.2	32.6	22.7	6.48	29.4	5.32	9.57	38.5	15.7	9.35	9.12	28.8	21.7
28100	31.0	24.0	33.7	23.3	6.69	30.3	5.46	9.85	39.7	16.1	9.59	9.41	29.7	22.3
31500	32.0	24.2	34.1	23.5	6.77	30.6	5.52	9.95	40.1	16.3	9.67	9.51	30.0	22.5

35400	32.4	24.3	34.1	23.6	6.78	30.7	5.53	9.97	40.2	16.3	9.69	9.53	30.1	22.5
39700	32.4	24.3	34.1	23.6	6.78	30.7	5.53	9.97	40.2	16.3	9.69	9.53	30.1	22.5
44600	32.4	24.3	34.1	23.6	6.78	30.7	5.53	9.97	40.2	16.3	9.69	9.53	30.1	22.5
50000	32.4	24.2	34.0	23.5	6.76	30.6	5.51	9.94	40.1	16.2	9.66	9.50	30.0	22.4
56100	32.3	23.0	32.3	22.5	6.43	29.1	5.28	9.51	38.2	15.6	9.30	9.05	28.6	21.6
63000	30.7	18.5	25.7	18.7	5.13	23.5	4.40	7.83	31.0	13.2	7.86	7.32	23.1	18.2
70700	24.6	10.5	14.3	11.9	2.85	13.6	2.78	4.85	18.2	8.88	5.21	4.19	13.5	12.1
79400	13.8	4.74	6.35	6.74	1.22	6.40	1.54	2.64	8.68	5.58	3.12	1.87	6.56	7.41
89100	6.02	4.45	5.95	6.45	1.14	6.03	1.47	2.52	8.18	5.40	3.01	1.75	6.20	7.15
100000	5.62	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

14.	15.	16.	17.	18.	19.
4.13	35.2	.000	.000	24.1	.000
.000	11.7	.000	.000	.000	.000
.000	8.21	.000	.000	.298	.000
.000	7.57	.000	.000	.466	.000
.000	5.69	.000	.000	.000	.000
.000	3.42	.000	.000	.000	.000
.000	.953	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	1.10	.000	.000	.000	.000
.000	31.0	.000	.000	.000	.000
22.2	23.5	.000	.000	26.5	.000
20.0	13.9	.000	.000	12.5	.000
7.15	9.45	.462	.000	5.79	.000
~	~	~	~	~	~
33.3	27.1	22.6	6.42	16.0	18.0
36.3	29.0	24.3	6.82	17.1	19.2
38.4	30.4	25.5	7.10	17.9	20.1
39.7	31.2	26.3	7.28	18.4	20.7
40.2	31.5	26.6	7.34	18.6	20.9
40.3	31.6	26.6	7.35	18.6	20.9
40.3	31.6	26.6	7.35	18.6	20.9
40.3	31.6	26.6	7.35	18.6	20.9
40.1	31.5	26.5	7.33	18.6	20.8
38.1	30.2	25.3	7.06	17.8	20.0
30.1	25.0	20.7	5.99	14.8	16.6
16.2	15.8	12.7	4.02	9.45	10.6
6.59	9.05	6.84	2.49	5.48	5.92
6.12	8.69	6.53	2.40	5.27	5.66
.000	.000	.000	.000	.000	.000

file name	dcf.cum

plot image	gpp1_0_20010215-011806_000.gif



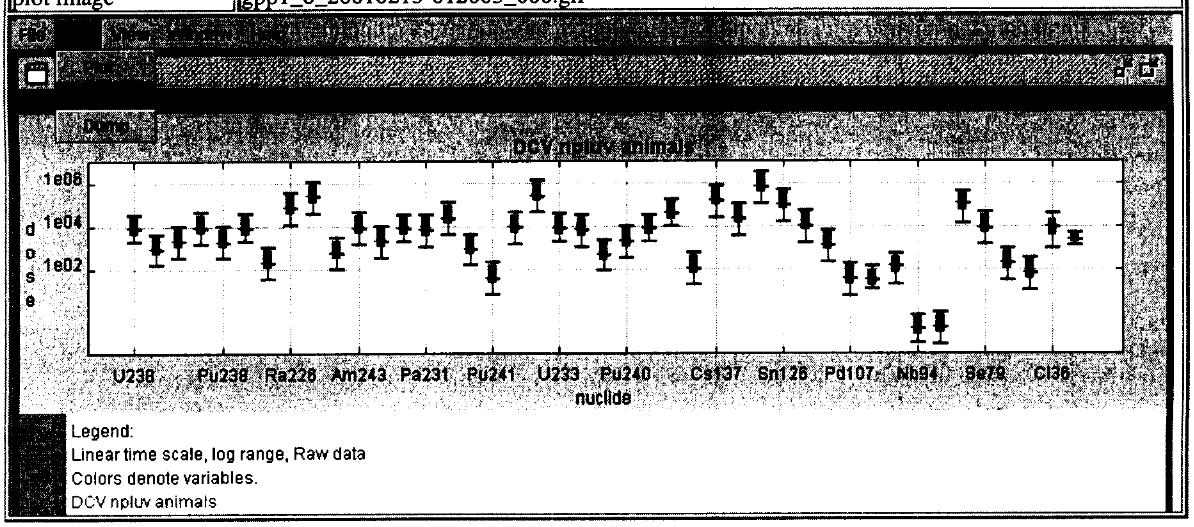
title	"p10 dcv npluv an"
plot specs	ivar=Discrete xlog=false ylog=false infl=0 regu=false
scales	Linear time scale, linear range
data	Raw data Colors denote
variable	s
range	nd: Linear time scale, linear range, Raw data Colors denote variables.
tabular data	gpp1_0_20010215-011656_000.csv

.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.
.000	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
2.31	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
4.67	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
7.09	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
9.57	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
12.1	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
14.7	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
17.4	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
20.1	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
22.8	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
25.7	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
28.6	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
31.6	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
34.6	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
~	~	~	~	~	~	~	~	~	~	~
85100	1.00	.00928	1.00	1.00	.00325	1.00	.00399	2.25e-4	1.00	1.00
86100	1.00	.00928	1.00	1.00	.00325	1.00	.00399	1.00	1.00	1.00
87100	1.00	.00928	1.00	1.00	.00325	1.00	.00399	1.00	1.00	1.00
88100	1.00	.00928	1.00	1.00	.00325	1.00	.00399	1.00	1.00	1.00
89100	1.00	.00928	1.00	1.00	.00325	1.00	1.00	1.00	1.00	1.00

90100	1.00	1.00	1.00	1.00	.00325	1.00	1.00	1.00	1.00	1.00
91200	1.00	1.00	1.00	1.00	.00325	1.00	1.00	1.00	1.00	1.00
92200	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
93300	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
94400	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
95500	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
96600	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
97700	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
98900	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
100000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

10.	11.	12.	13.	14.	15.	16.	17.	18.	19.
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
~	~	~	~	~	~	~	~	~	~
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4

plot image	gpp1_0_20010215-012003_000.gif



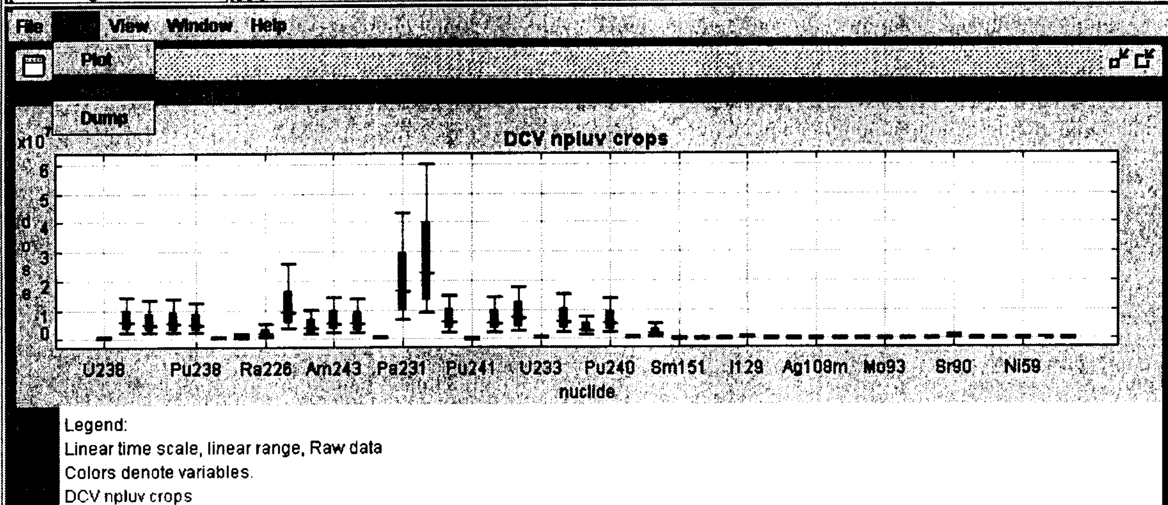
title	"p10 dcv npluv an log"
plot specs	ivar=Discrete xlog=false ylog=true infl=0 regu=false
scales	Linear time scale, log range
data	Raw data Colors denote
variable	s
range	nd: Linear time scale, log range, Raw data Colors denote variables.
tabular data	gpp1_0_20010215-011811_000.csv

.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.
.000	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
2.31	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
4.67	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
7.09	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
9.57	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
12.1	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
14.7	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
17.4	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
20.1	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
22.8	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
25.7	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
28.6	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
31.6	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
34.6	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
~	~	~	~	~	~	~	~	~	~	~
85100	1.00	.00928	1.00	1.00	.00325	1.00	.00399	2.25e-4	1.00	1.00
86100	1.00	.00928	1.00	1.00	.00325	1.00	.00399	1.00	1.00	1.00
87100	1.00	.00928	1.00	1.00	.00325	1.00	.00399	1.00	1.00	1.00
88100	1.00	.00928	1.00	1.00	.00325	1.00	.00399	1.00	1.00	1.00
89100	1.00	.00928	1.00	1.00	.00325	1.00	1.00	1.00	1.00	1.00
90100	1.00	1.00	1.00	1.00	.00325	1.00	1.00	1.00	1.00	1.00
91200	1.00	1.00	1.00	1.00	.00325	1.00	1.00	1.00	1.00	1.00
92200	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
93300	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
94400	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
95500	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
96600	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
97700	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
98900	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
100000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

10.	11.	12.	13.	14.	15.	16.	17.	18.	19.
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
~	~	~	~	~	~	~	~	~	~
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4

1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4

plot image	gpp1_0_20010215-012046_000.gif



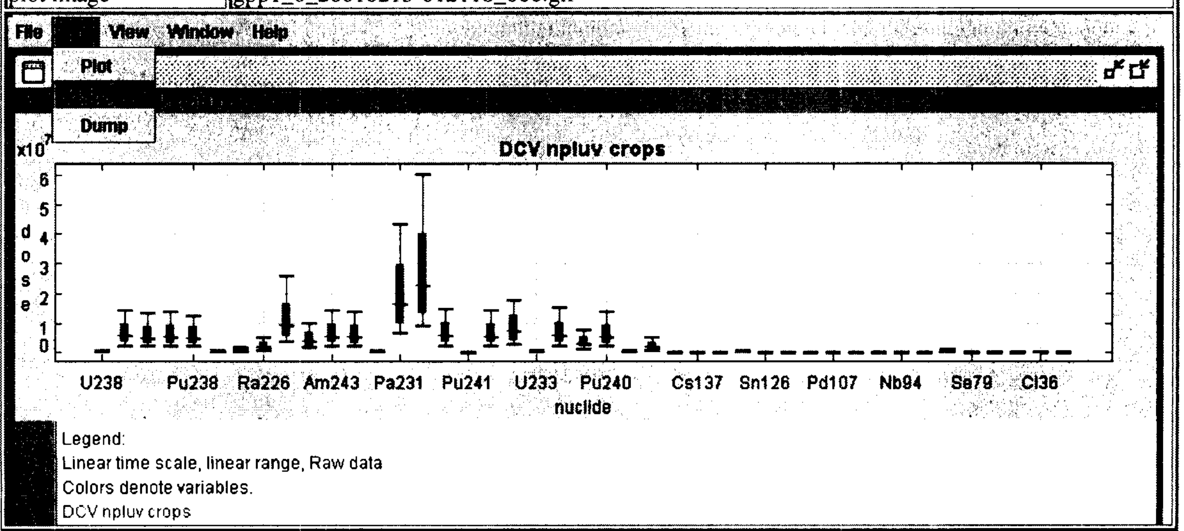
title	"p10 dcv npluv crop lin"
plot specs	ivar=Discrete xlog=false ylog=false infl=0 regu=false
scales	Linear time scale, linear range
data	Raw data Colors denote
variable	s
range	nd: Linear time scale, linear range, Raw data Colors denote variables.
tabular data	gpp1_0_20010215-012010_000.csv

.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.
.000	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
2.31	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
4.67	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
7.09	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
9.57	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
12.1	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
14.7	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
17.4	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
20.1	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
22.8	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
25.7	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
28.6	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
31.6	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
34.6	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
~	~	~	~	~	~	~	~	~	~	~
85100	1.00	.00928	1.00	1.00	.00325	1.00	.00399	2.25e-4	1.00	1.00
86100	1.00	.00928	1.00	1.00	.00325	1.00	.00399	1.00	1.00	1.00
87100	1.00	.00928	1.00	1.00	.00325	1.00	.00399	1.00	1.00	1.00
88100	1.00	.00928	1.00	1.00	.00325	1.00	.00399	1.00	1.00	1.00
89100	1.00	.00928	1.00	1.00	.00325	1.00	1.00	1.00	1.00	1.00
90100	1.00	1.00	1.00	1.00	.00325	1.00	1.00	1.00	1.00	1.00

91200	1.00	1.00	1.00	1.00	.00325	1.00	1.00	1.00	1.00	1.00
92200	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
93300	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
94400	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
95500	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
96600	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
97700	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
98900	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
100000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

10.	11.	12.	13.	14.	15.	16.	17.	18.	19.
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
~	~	~	~	~	~	~	~	~	~
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4

plot image	gpp1_0_20010215-012118_000.gif



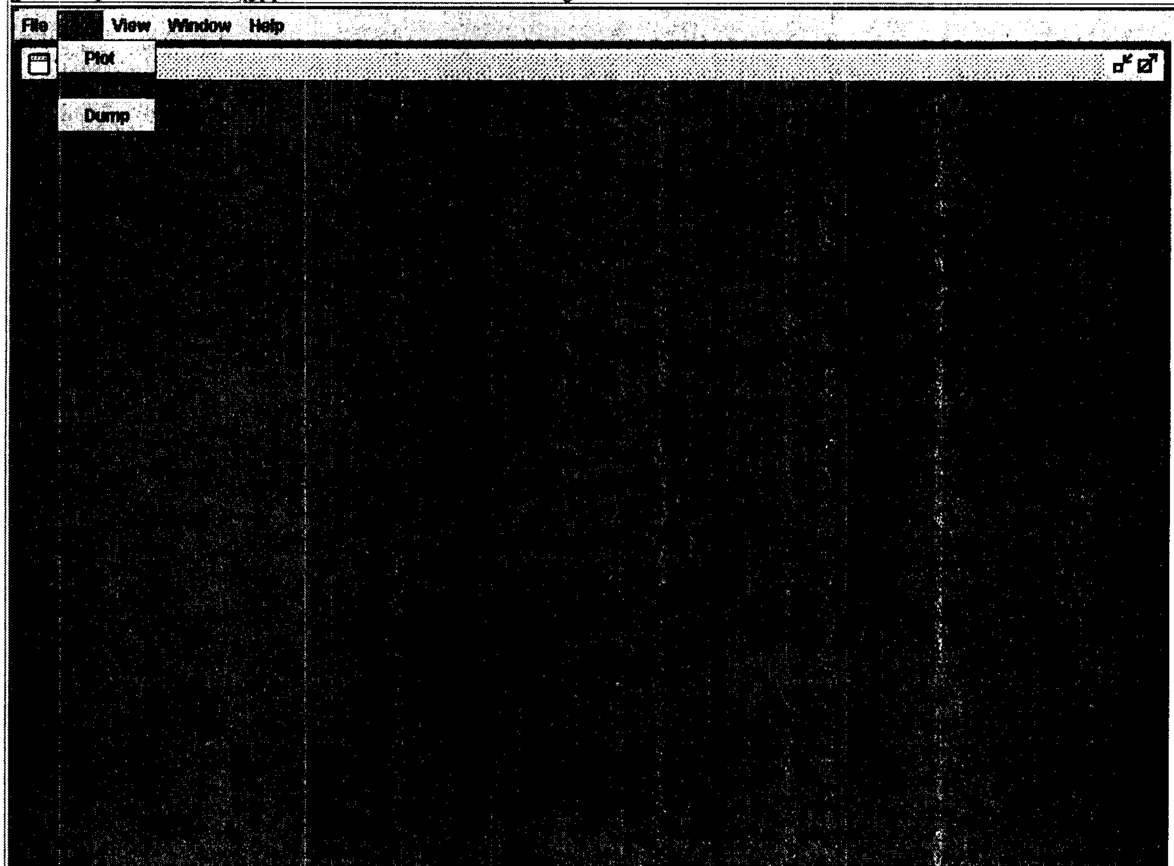
title	"p10 dcv npluv crop log"
plot specs	ivar=Discrete xlog=false ylog=false infl=0 regu=false
scales	Linear time scale, linear range
data	Raw data Colors denote
variable	s
range	nd: Linear time scale, linear range, Raw data Colors denote variables.
tabular data	gpp1_0_20010215-012051_000.csv

.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.
.000	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
2.31	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
4.67	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
7.09	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
9.57	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
12.1	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
14.7	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
17.4	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
20.1	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
22.8	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
25.7	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
28.6	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
31.6	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
34.6	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
~	~	~	~	~	~	~	~	~	~	~
85100	1.00	.00928	1.00	1.00	.00325	1.00	.00399	2.25e-4	1.00	1.00
86100	1.00	.00928	1.00	1.00	.00325	1.00	.00399	1.00	1.00	1.00
87100	1.00	.00928	1.00	1.00	.00325	1.00	.00399	1.00	1.00	1.00
88100	1.00	.00928	1.00	1.00	.00325	1.00	.00399	1.00	1.00	1.00
89100	1.00	.00928	1.00	1.00	.00325	1.00	1.00	1.00	1.00	1.00
90100	1.00	1.00	1.00	1.00	.00325	1.00	1.00	1.00	1.00	1.00
91200	1.00	1.00	1.00	1.00	.00325	1.00	1.00	1.00	1.00	1.00
92200	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
93300	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
94400	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
95500	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
96600	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
97700	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
98900	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
100000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

10.	11.	12.	13.	14.	15.	16.	17.	18.	19.
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
~	~	~	~	~	~	~	~	~	~
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4

1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4	
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4	
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4	
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4	
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4	
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4	
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4	
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4	
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4	
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4	

plot image	gpp1_0_20010215-014502_000.gif



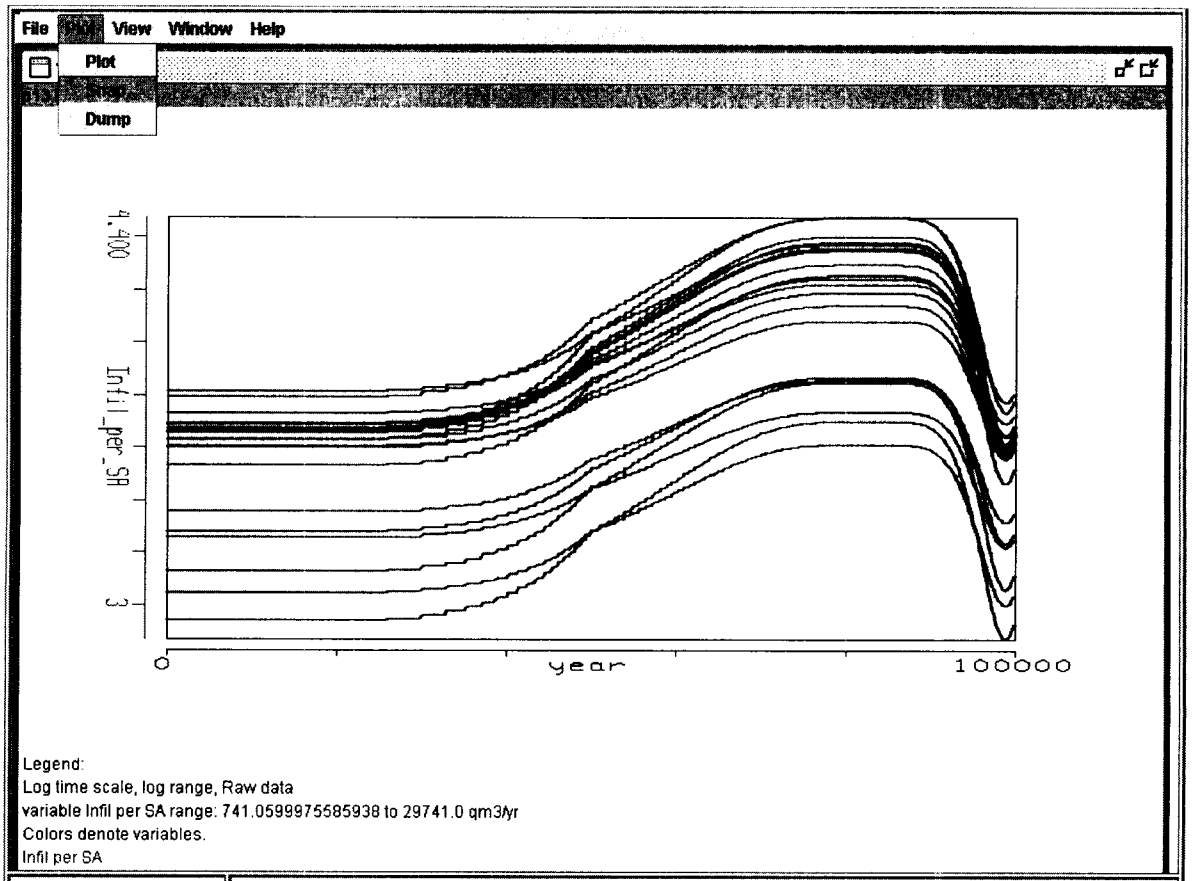
title	"Repository Performance Visualization Plot Number 2"
plot specs	ivar=Time xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data Colors denote
variable	s
range	nd: Log time scale, log range, Raw data Colors denote variables.
tabular data	gpp1_0_20010215-012121_000.csv

.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.
.000	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
2.31	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
4.67	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
7.09	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
9.57	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
12.1	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
14.7	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
17.4	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359

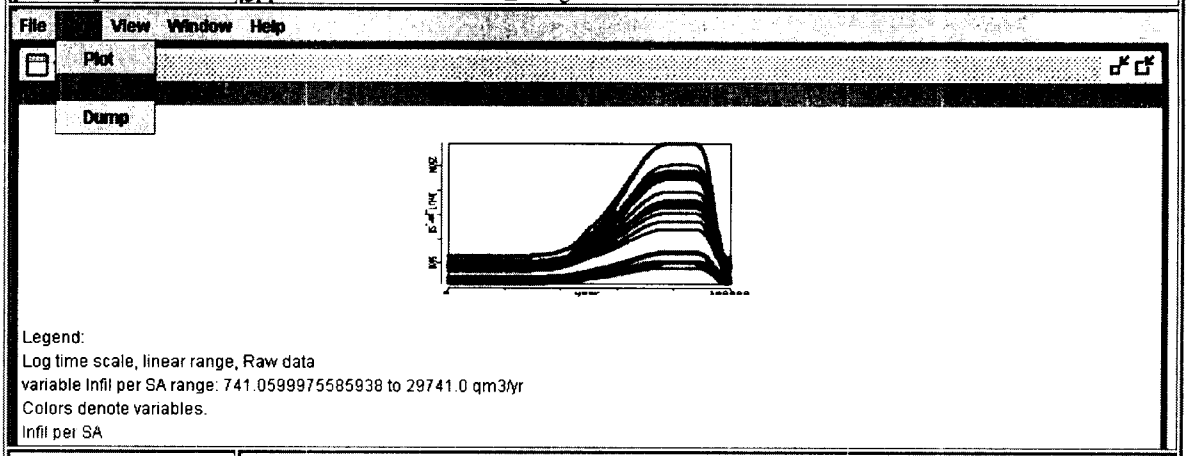
20.1	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
22.8	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
25.7	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
28.6	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
31.6	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
34.6	9.47e-4	.00928	.00669	.00877	.00325	.00703	.00399	2.25e-4	.00693	.00359
~	~	~	~	~	~	~	~	~	~	~
85100	1.00	.00928	1.00	1.00	.00325	1.00	.00399	2.25e-4	1.00	1.00
86100	1.00	.00928	1.00	1.00	.00325	1.00	.00399	1.00	1.00	1.00
87100	1.00	.00928	1.00	1.00	.00325	1.00	.00399	1.00	1.00	1.00
88100	1.00	.00928	1.00	1.00	.00325	1.00	.00399	1.00	1.00	1.00
89100	1.00	.00928	1.00	1.00	.00325	1.00	1.00	1.00	1.00	1.00
90100	1.00	1.00	1.00	1.00	.00325	1.00	1.00	1.00	1.00	1.00
91200	1.00	1.00	1.00	1.00	.00325	1.00	1.00	1.00	1.00	1.00
92200	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
93300	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
94400	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
95500	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
96600	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
97700	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
98900	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
100000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

10.	11.	12.	13.	14.	15.	16.	17.	18.	19.
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
.00172	6.98e-4	.00863	.00355	.00961	.00771	.00704	.00202	.00979	1.44e-4
~	~	~	~	~	~	~	~	~	~
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	6.98e-4	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4
1.00	1.00	.00863	1.00	1.00	1.00	1.00	1.00	1.00	1.44e-4

tpa directory	f:\tpa\00-10-16\ n_subareas=8 n_nuclides=20
plot image	gpp1_0_20010215-030355_000.gif



title	"p13 infilt/sa"
plot specs	ivar=Time xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data
variable	Infil per SA
range	741.0599975585938 to 29741.0 qm3/yr Colors denote variables.
plot image	gpp1_0_20010215-030448_000.gif



title	"p14 infilt/sa lin"
plot specs	ivar=Time xlog=true ylog=false infl=0 regu=false
scales	Log time scale, linear range
data	Raw data

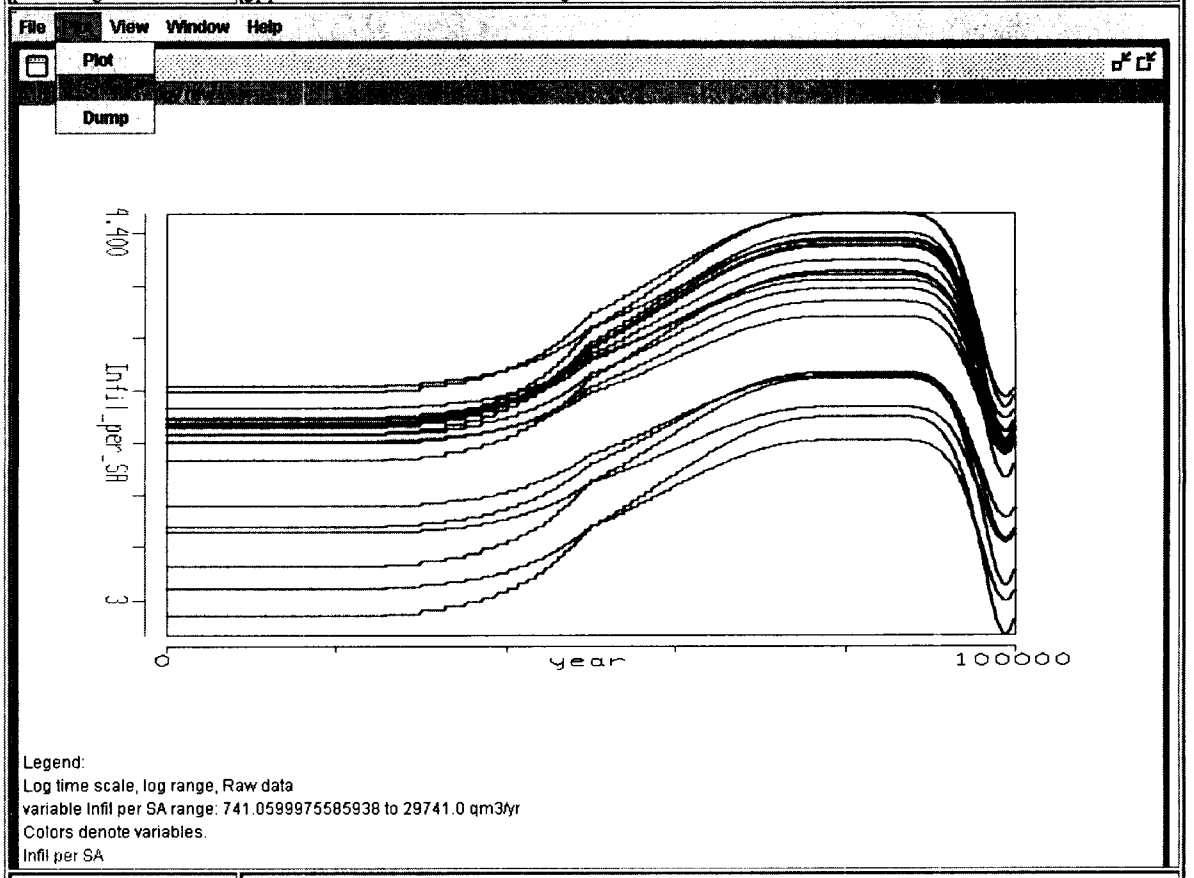
variable	Infil per SA
range	741.0599975585938 to 29741.0 qm3/yr Colors denote variables.
tabular data	gpp1_0_20010215-030400_000.csv

.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.
.000	3.63	3.53	3.66	3.69	2.94	3.66	3.05	3.28	3.80	3.61	3.36	3.13	3.67	3.73	3.67	3.82	3.69	3.26	3.60	3.63
250.	3.63	3.53	3.66	3.69	2.94	3.66	3.05	3.28	3.80	3.61	3.36	3.13	3.67	3.73	3.67	3.82	3.69	3.26	3.60	3.63
500.	3.63	3.53	3.66	3.69	2.94	3.66	3.05	3.28	3.80	3.61	3.36	3.13	3.67	3.73	3.67	3.82	3.69	3.26	3.60	3.63
750.	3.63	3.53	3.66	3.69	2.94	3.66	3.05	3.28	3.80	3.61	3.36	3.13	3.67	3.73	3.67	3.82	3.69	3.26	3.60	3.63
1000	3.63	3.53	3.66	3.69	2.94	3.66	3.05	3.28	3.80	3.61	3.36	3.13	3.67	3.73	3.67	3.82	3.69	3.26	3.60	3.63
1250	3.63	3.53	3.66	3.69	2.94	3.66	3.05	3.28	3.80	3.61	3.36	3.13	3.67	3.73	3.67	3.82	3.69	3.26	3.60	3.63
1500	3.63	3.53	3.66	3.69	2.94	3.66	3.05	3.28	3.80	3.61	3.36	3.13	3.67	3.73	3.67	3.82	3.69	3.26	3.60	3.63
1750	3.63	3.53	3.66	3.69	2.94	3.66	3.05	3.28	3.80	3.61	3.36	3.13	3.67	3.73	3.67	3.82	3.69	3.26	3.60	3.63
2000	3.63	3.53	3.66	3.69	2.94	3.66	3.05	3.28	3.80	3.61	3.36	3.13	3.67	3.73	3.67	3.82	3.69	3.26	3.60	3.63
2250	3.63	3.53	3.66	3.69	2.94	3.66	3.05	3.28	3.80	3.61	3.36	3.13	3.67	3.73	3.67	3.82	3.69	3.26	3.60	3.63
2500	3.63	3.53	3.66	3.69	2.94	3.66	3.05	3.28	3.80	3.61	3.36	3.13	3.67	3.73	3.67	3.82	3.69	3.26	3.60	3.63
2750	3.63	3.53	3.66	3.69	2.94	3.66	3.05	3.28	3.80	3.61	3.36	3.13	3.67	3.73	3.67	3.82	3.69	3.26	3.60	3.63
3000	3.63	3.53	3.66	3.69	2.94	3.66	3.05	3.28	3.80	3.61	3.36	3.13	3.67	3.73	3.67	3.82	3.69	3.26	3.60	3.63
3250	3.63	3.53	3.66	3.69	2.94	3.66	3.05	3.28	3.80	3.61	3.36	3.13	3.67	3.73	3.67	3.82	3.69	3.26	3.60	3.63
~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
96500	3.79	3.67	3.80	3.79	3.10	3.80	3.15	3.39	3.93	3.69	3.44	3.27	3.80	3.82	3.84	3.91	3.80	3.34	3.69	3.73
96800	3.75	3.64	3.77	3.76	3.06	3.76	3.12	3.36	3.90	3.67	3.42	3.24	3.77	3.79	3.80	3.89	3.77	3.32	3.67	3.71
97000	3.71	3.61	3.73	3.74	3.02	3.73	3.10	3.34	3.86	3.65	3.40	3.20	3.74	3.77	3.76	3.87	3.75	3.30	3.65	3.68
97300	3.68	3.57	3.70	3.72	2.99	3.70	3.08	3.31	3.83	3.63	3.38	3.17	3.71	3.75	3.72	3.84	3.72	3.28	3.63	3.66
97500	3.65	3.54	3.67	3.70	2.96	3.67	3.05	3.29	3.81	3.61	3.36	3.14	3.68	3.74	3.69	3.82	3.70	3.26	3.61	3.64
97800	3.62	3.52	3.64	3.68	2.93	3.65	3.04	3.27	3.78	3.60	3.35	3.11	3.66	3.72	3.66	3.81	3.68	3.25	3.59	3.62
98000	3.60	3.50	3.62	3.66	2.90	3.63	3.02	3.26	3.76	3.59	3.33	3.09	3.64	3.71	3.63	3.79	3.67	3.24	3.58	3.61
98300	3.58	3.48	3.61	3.65	2.89	3.61	3.01	3.24	3.75	3.58	3.32	3.07	3.63	3.70	3.61	3.78	3.66	3.23	3.57	3.60
98500	3.57	3.47	3.59	3.65	2.87	3.60	3.00	3.24	3.74	3.58	3.32	3.06	3.62	3.70	3.60	3.78	3.65	3.22	3.56	3.59
98800	3.56	3.46	3.59	3.64	2.87	3.60	3.00	3.23	3.73	3.57	3.32	3.06	3.61	3.69	3.59	3.77	3.65	3.22	3.56	3.59
99000	3.57	3.47	3.59	3.64	2.87	3.60	3.00	3.24	3.74	3.57	3.32	3.06	3.62	3.69						
99300	3.58	3.48	3.60	3.65	2.88	3.61	3.01	3.24	3.74	3.58	3.32	3.07	3.63	3.70						
99500	3.59	3.49	3.62	3.66	2.90	3.63	3.02	3.25	3.76	3.59	3.33	3.09	3.64	3.71						
99800	3.62	3.52	3.64	3.68	2.93	3.65	3.03	3.27	3.78	3.60	3.35	3.11	3.66	3.72						
100000	3.62	3.52	3.64	3.68	2.93	3.65	3.03	3.27	3.78	3.60	3.35	3.11	3.66	3.72						

3.60 3.78 3.65 3.22 3.56 3.59
3.61 3.78 3.65 3.23 3.56 3.59
3.63 3.79 3.67 3.24 3.58 3.61
3.65 3.81 3.68 3.25 3.59 3.62
3.65 3.81 3.68 3.25 3.59 3.62

tpa directory	f:\tpa\00-10-16\ n_subareas=8 n_nuclides=20

plot image	gpp1_0_20010215-031456_000.gif



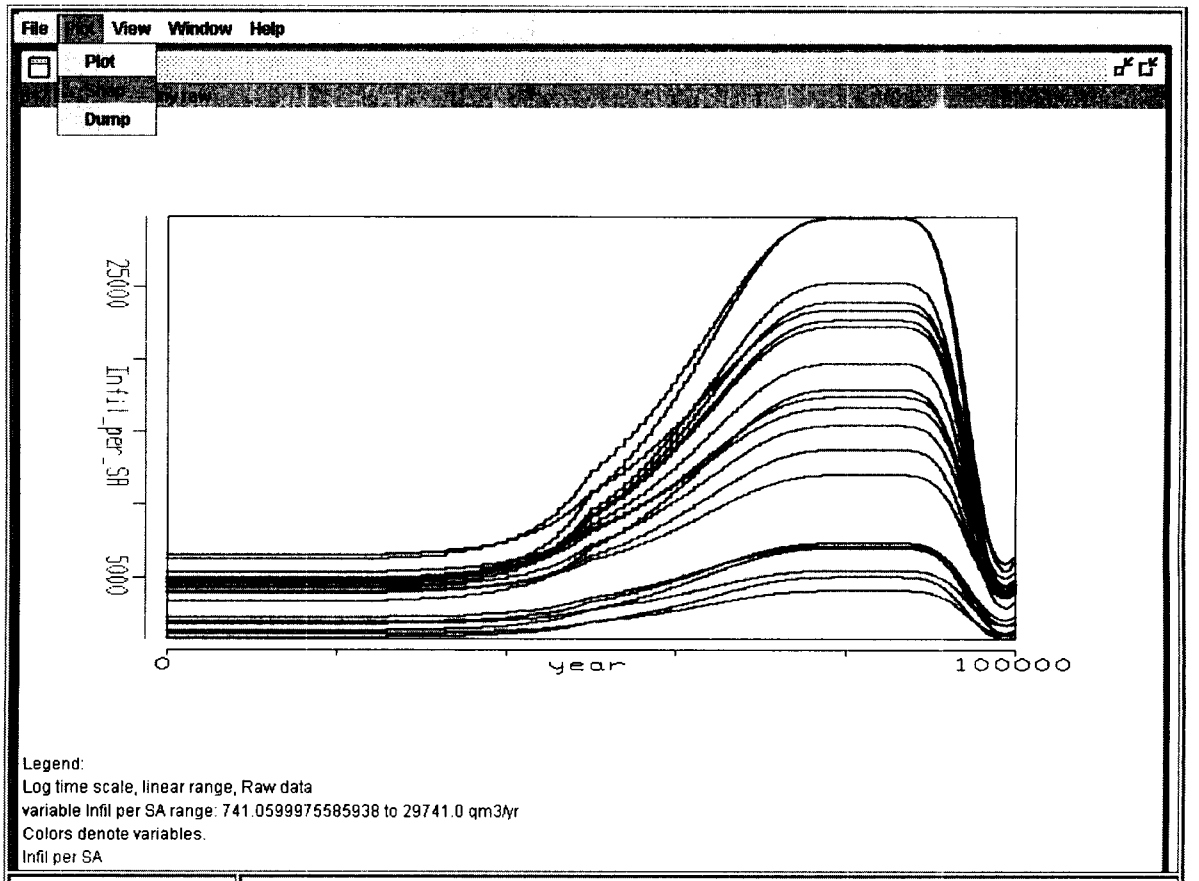
title	"p16 infilt/sa logx logy raw"
plot specs	ivar=Time xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data
variable	Infil per SA
range	741.0599975585938 to 29741.0 qm3/yr Colors denote variables.
tabular data	gpp1_0_20010215-030452_000.csv

.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
.000	4310	3400	4550	4880	876.	4600	1110	1910	6240	4060	2270	1340	4720	5380
2.31	4310	3400	4550	4880	876.	4600	1110	1910	6240	4060	2270	1340	4720	5380
4.67	4310	3400	4550	4880	876.	4600	1110	1910	6240	4060	2270	1340	4720	5380
7.09	4310	3400	4550	4880	876.	4600	1110	1910	6240	4060	2270	1340	4720	5380
9.57	4310	3400	4550	4880	876.	4600	1110	1910	6240	4060	2270	1340	4720	5380
12.1	4310	3400	4550	4880	876.	4600	1110	1910	6240	4060	2270	1340	4720	5380
14.7	4310	3400	4550	4880	876.	4600	1110	1910	6240	4060	2270	1340	4720	5380
17.4	4310	3400	4550	4880	876.	4600	1110	1910	6240	4060	2270	1340	4720	5380
20.1	4310	3400	4550	4880	876.	4600	1110	1910	6240	4060	2270	1340	4720	5380
22.8	4310	3400	4550	4880	876.	4600	1110	1910	6240	4060	2270	1340	4720	5380
25.7	4310	3400	4550	4880	876.	4600	1110	1910	6240	4060	2270	1340	4720	5380
28.6	4310	3400	4550	4880	876.	4600	1110	1910	6240	4060	2270	1340	4720	5380

31.6	4310	3400	4550	4880	876.	4600	1110	1910	6240	4060	2270	1340	4720	5380
34.6	4310	3400	4550	4880	876.	4600	1110	1910	6240	4060	2270	1340	4720	5380
~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
85100	6100	4730	6370	6140	1250	6280	1410	2440	8470	4880	2790	1880	6350	6550
86100	5600	4360	5860	5790	1140	5810	1330	2290	7860	4660	2640	1730	5900	6230
87100	5160	4030	5410	5480	1050	5400	1260	2160	7300	4450	2520	1600	5500	5940
88100	4770	3740	5020	5210	971.	5040	1190	2050	6820	4270	2400	1480	5140	5690
89100	4440	3500	4680	4970	903.	4720	1130	1950	6400	4120	2300	1380	4840	5460
90100	4160	3290	4410	4770	846.	4470	1090	1870	6060	3990	2220	1300	4590	5280
91200	3950	3130	4190	4610	802.	4260	1050	1800	5780	3880	2160	1230	4390	5130
92200	3790	3020	4030	4500	769.	4110	1020	1750	5580	3810	2110	1180	4240	5030
93300	3690	2940	3930	4430	749.	4020	1000	1720	5460	3760	2080	1150	4150	4960
94400	3650	2910	3890	4400	741.	3980	995.	1710	5410	3740	2070	1140	4110	4930
95500	3680	2930	3910	4410	746.	4010	1000	1720	5440	3750	2070	1150	4140	4950
96600	3770	3000	4000	4480	765.	4090	1020	1750	5550	3800	2100	1180	4220	5010
97700	3920	3110	4160	4600	797.	4240	1040	1790	5750	3870	2150	1220	4360	5120
98900	4140	3280	4390	4760	842.	4450	1080	1860	6030	3980	2220	1290	4570	5270
100000	4140	3280	4390	4760	842.	4450	1080	1860	6030	3980	2220	1290	4570	5270

14.	15.	16.	17.	18.	19.
4710	6560	4950	1810	3970	4280
4710	6560	4950	1810	3970	4280
4710	6560	4950	1810	3970	4280
4710	6560	4950	1810	3970	4280
4710	6560	4950	1810	3970	4280
4710	6560	4950	1810	3970	4280
4710	6560	4950	1810	3970	4280
4710	6560	4950	1810	3970	4280
4710	6560	4950	1810	3970	4280
4710	6560	4950	1810	3970	4280
4710	6560	4950	1810	3970	4280
4710	6560	4950	1810	3970	4280
4710	6560	4950	1810	3970	4280
4710	6560	4950	1810	3970	4280
~	~	~	~	~	~
6860	8210	6340	2190	4940	5420
6260	7750	5950	2090	4680	5110
5720	7350	5610	1990	4440	4830
5250	6990	5310	1910	4230	4580
4860	6680	5050	1840	4040	4370
4530	6420	4830	1770	3890	4190
4280	6220	4660	1730	3770	4040
4090	6070	4530	1690	3680	3940
3970	5970	4450	1670	3630	3880
3930	5930	4420	1660	3610	3850
3960	5960	4440	1660	3620	3870
4060	6040	4510	1680	3670	3930
4250	6190	4640	1720	3760	4030
4510	6400	4820	1770	3880	4180
4510	6400	4820	1770	3880	4180

plot image	gpp1_0_20010215-031627_000.gif



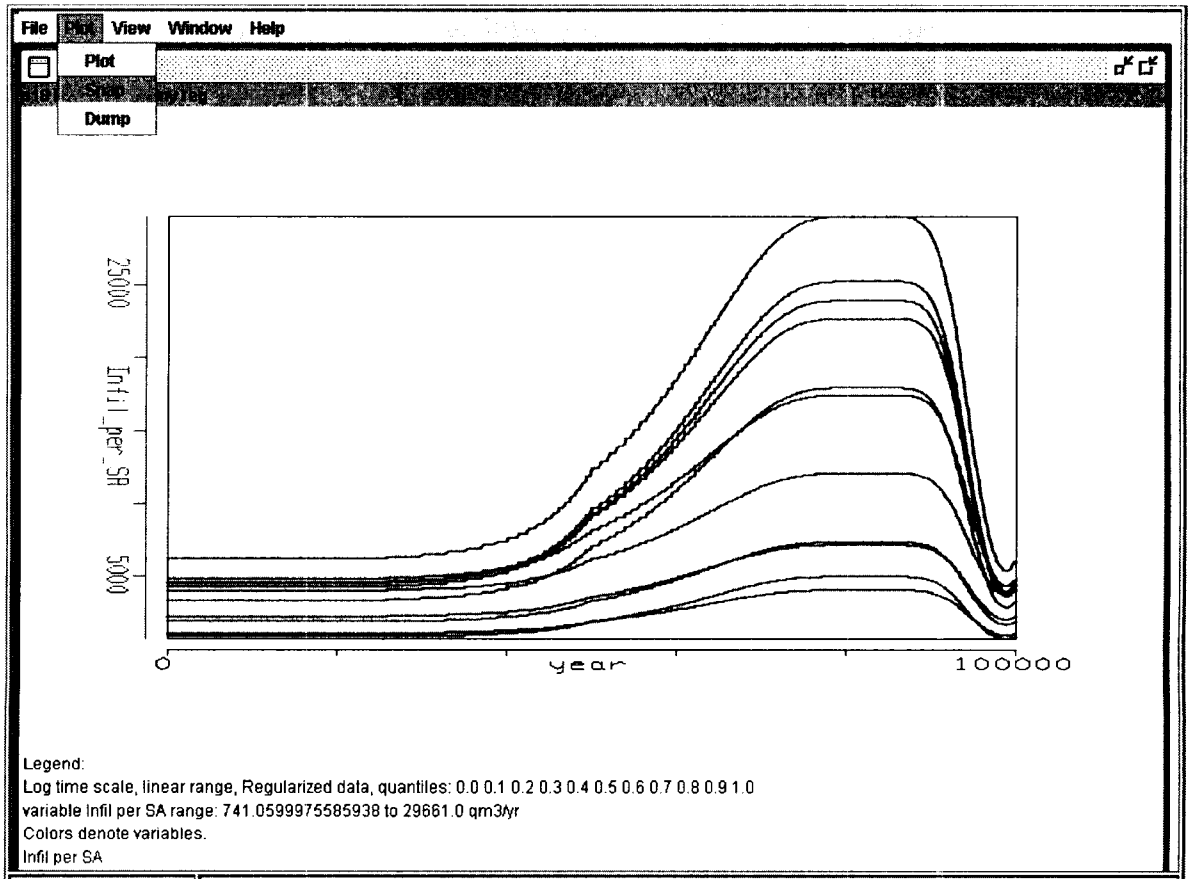
title	"p17 infilt/sa logx liny raw"
plot specs	ivar=Time xlog=true ylog=false infl=0 regu=false
scales	Log time scale, linear range
data	Raw data
variable	Infil per SA
range	741.0599975585938 to 29741.0 qm3/yr Colors denote variables.
tabular data	gpp1_0_20010215-031503_000.csv

.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
.000	3.63	3.53	3.66	3.69	2.94	3.66	3.05	3.28	3.80	3.61	3.36	3.13	3.67	3.73
250.	3.63	3.53	3.66	3.69	2.94	3.66	3.05	3.28	3.80	3.61	3.36	3.13	3.67	3.73
500.	3.63	3.53	3.66	3.69	2.94	3.66	3.05	3.28	3.80	3.61	3.36	3.13	3.67	3.73
750.	3.63	3.53	3.66	3.69	2.94	3.66	3.05	3.28	3.80	3.61	3.36	3.13	3.67	3.73
1000	3.63	3.53	3.66	3.69	2.94	3.66	3.05	3.28	3.80	3.61	3.36	3.13	3.67	3.73
1250	3.63	3.53	3.66	3.69	2.94	3.66	3.05	3.28	3.80	3.61	3.36	3.13	3.67	3.73
1500	3.63	3.53	3.66	3.69	2.94	3.66	3.05	3.28	3.80	3.61	3.36	3.13	3.67	3.73
1750	3.63	3.53	3.66	3.69	2.94	3.66	3.05	3.28	3.80	3.61	3.36	3.13	3.67	3.73
2000	3.63	3.53	3.66	3.69	2.94	3.66	3.05	3.28	3.80	3.61	3.36	3.13	3.67	3.73
2250	3.63	3.53	3.66	3.69	2.94	3.66	3.05	3.28	3.80	3.61	3.36	3.13	3.67	3.73
2500	3.63	3.53	3.66	3.69	2.94	3.66	3.05	3.28	3.80	3.61	3.36	3.13	3.67	3.73
2750	3.63	3.53	3.66	3.69	2.94	3.66	3.05	3.28	3.80	3.61	3.36	3.13	3.67	3.73
3000	3.63	3.53	3.66	3.69	2.94	3.66	3.05	3.28	3.80	3.61	3.36	3.13	3.67	3.73
3250	3.63	3.53	3.66	3.69	2.94	3.66	3.05	3.28	3.80	3.61	3.36	3.13	3.67	3.73
~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
96500	3.79	3.67	3.80	3.79	3.10	3.80	3.15	3.39	3.93	3.69	3.44	3.27	3.80	3.82
96800	3.75	3.64	3.77	3.76	3.06	3.76	3.12	3.36	3.90	3.67	3.42	3.24	3.77	3.79
97000	3.71	3.61	3.73	3.74	3.02	3.73	3.10	3.34	3.86	3.65	3.40	3.20	3.74	3.77
97300	3.68	3.57	3.70	3.72	2.99	3.70	3.08	3.31	3.83	3.63	3.38	3.17	3.71	3.75
97500	3.65	3.54	3.67	3.70	2.96	3.67	3.05	3.29	3.81	3.61	3.36	3.14	3.68	3.74

97800	3.62	3.52	3.64	3.68	2.93	3.65	3.04	3.27	3.78	3.60	3.35	3.11	3.66	3.72
98000	3.60	3.50	3.62	3.66	2.90	3.63	3.02	3.26	3.76	3.59	3.33	3.09	3.64	3.71
98300	3.58	3.48	3.61	3.65	2.89	3.61	3.01	3.24	3.75	3.58	3.32	3.07	3.63	3.70
98500	3.57	3.47	3.59	3.65	2.87	3.60	3.00	3.24	3.74	3.58	3.32	3.06	3.62	3.70
98800	3.56	3.46	3.59	3.64	2.87	3.60	3.00	3.23	3.73	3.57	3.32	3.06	3.61	3.69
99000	3.57	3.47	3.59	3.64	2.87	3.60	3.00	3.24	3.74	3.57	3.32	3.06	3.62	3.69
99300	3.58	3.48	3.60	3.65	2.88	3.61	3.01	3.24	3.74	3.58	3.32	3.07	3.63	3.70
99500	3.59	3.49	3.62	3.66	2.90	3.63	3.02	3.25	3.76	3.59	3.33	3.09	3.64	3.71
99800	3.62	3.52	3.64	3.68	2.93	3.65	3.03	3.27	3.78	3.60	3.35	3.11	3.66	3.72
100000	3.62	3.52	3.64	3.68	2.93	3.65	3.03	3.27	3.78	3.60	3.35	3.11	3.66	3.72

14.	15.	16.	17.	18.	19.
3.67	3.82	3.69	3.26	3.60	3.63
3.67	3.82	3.69	3.26	3.60	3.63
3.67	3.82	3.69	3.26	3.60	3.63
3.67	3.82	3.69	3.26	3.60	3.63
3.67	3.82	3.69	3.26	3.60	3.63
3.67	3.82	3.69	3.26	3.60	3.63
3.67	3.82	3.69	3.26	3.60	3.63
3.67	3.82	3.69	3.26	3.60	3.63
3.67	3.82	3.69	3.26	3.60	3.63
3.67	3.82	3.69	3.26	3.60	3.63
3.67	3.82	3.69	3.26	3.60	3.63
3.67	3.82	3.69	3.26	3.60	3.63
3.67	3.82	3.69	3.26	3.60	3.63
3.67	3.82	3.69	3.26	3.60	3.63
~	~	~	~	~	~
3.84	3.91	3.80	3.34	3.69	3.73
3.80	3.89	3.77	3.32	3.67	3.71
3.76	3.87	3.75	3.30	3.65	3.68
3.72	3.84	3.72	3.28	3.63	3.66
3.69	3.82	3.70	3.26	3.61	3.64
3.66	3.81	3.68	3.25	3.59	3.62
3.63	3.79	3.67	3.24	3.58	3.61
3.61	3.78	3.66	3.23	3.57	3.60
3.60	3.78	3.65	3.22	3.56	3.59
3.59	3.77	3.65	3.22	3.56	3.59
3.60	3.78	3.65	3.22	3.56	3.59
3.61	3.78	3.65	3.23	3.56	3.59
3.63	3.79	3.67	3.24	3.58	3.61
3.65	3.81	3.68	3.25	3.59	3.62
3.65	3.81	3.68	3.25	3.59	3.62

plot image	gpp1_0_20010215-031753_000.gif



title	"p18 infilt/sa logx liny reg"
plot specs	ivar=Time xlog=true ylog=false infl=0 regu=true phis=[0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0]
scales	Log time scale, linear range
data	Regularized data, quantiles: 0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0
variable	Infil per SA
range	741.0599975585938 to 29661.0 qm3/yr Colors denote variables.
tabular data	gpp1_0_20010215-031632_000.csv

.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
.000	4310	3400	4550	4880	876.	4600	1110	1910	6240	4060	2270	1340	4720	5380
2.31	4310	3400	4550	4880	876.	4600	1110	1910	6240	4060	2270	1340	4720	5380
4.67	4310	3400	4550	4880	876.	4600	1110	1910	6240	4060	2270	1340	4720	5380
7.09	4310	3400	4550	4880	876.	4600	1110	1910	6240	4060	2270	1340	4720	5380
9.57	4310	3400	4550	4880	876.	4600	1110	1910	6240	4060	2270	1340	4720	5380
12.1	4310	3400	4550	4880	876.	4600	1110	1910	6240	4060	2270	1340	4720	5380
14.7	4310	3400	4550	4880	876.	4600	1110	1910	6240	4060	2270	1340	4720	5380
17.4	4310	3400	4550	4880	876.	4600	1110	1910	6240	4060	2270	1340	4720	5380
20.1	4310	3400	4550	4880	876.	4600	1110	1910	6240	4060	2270	1340	4720	5380
22.8	4310	3400	4550	4880	876.	4600	1110	1910	6240	4060	2270	1340	4720	5380
25.7	4310	3400	4550	4880	876.	4600	1110	1910	6240	4060	2270	1340	4720	5380
28.6	4310	3400	4550	4880	876.	4600	1110	1910	6240	4060	2270	1340	4720	5380
31.6	4310	3400	4550	4880	876.	4600	1110	1910	6240	4060	2270	1340	4720	5380
34.6	4310	3400	4550	4880	876.	4600	1110	1910	6240	4060	2270	1340	4720	5380
~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
85100	6100	4730	6370	6140	1250	6280	1410	2440	8470	4880	2790	1880	6350	6550
86100	5600	4360	5860	5790	1140	5810	1330	2290	7860	4660	2640	1730	5900	6230
87100	5160	4030	5410	5480	1050	5400	1260	2160	7300	4450	2520	1600	5500	5940
88100	4770	3740	5020	5210	971.	5040	1190	2050	6820	4270	2400	1480	5140	5690
89100	4440	3500	4680	4970	903.	4720	1130	1950	6400	4120	2300	1380	4840	5460

90100	4160	3290	4410	4770	846.	4470	1090	1870	6060	3990	2220	1300	4590	5280
91200	3950	3130	4190	4610	802.	4260	1050	1800	5780	3880	2160	1230	4390	5130
92200	3790	3020	4030	4500	769.	4110	1020	1750	5580	3810	2110	1180	4240	5030
93300	3690	2940	3930	4430	749.	4020	1000	1720	5460	3760	2080	1150	4150	4960
94400	3650	2910	3890	4400	741.	3980	995.	1710	5410	3740	2070	1140	4110	4930
95500	3680	2930	3910	4410	746.	4010	1000	1720	5440	3750	2070	1150	4140	4950
96600	3770	3000	4000	4480	765.	4090	1020	1750	5550	3800	2100	1180	4220	5010
97700	3920	3110	4160	4600	797.	4240	1040	1790	5750	3870	2150	1220	4360	5120
98900	4140	3280	4390	4760	842.	4450	1080	1860	6030	3980	2220	1290	4570	5270
100000	4140	3280	4390	4760	842.	4450	1080	1860	6030	3980	2220	1290	4570	5270

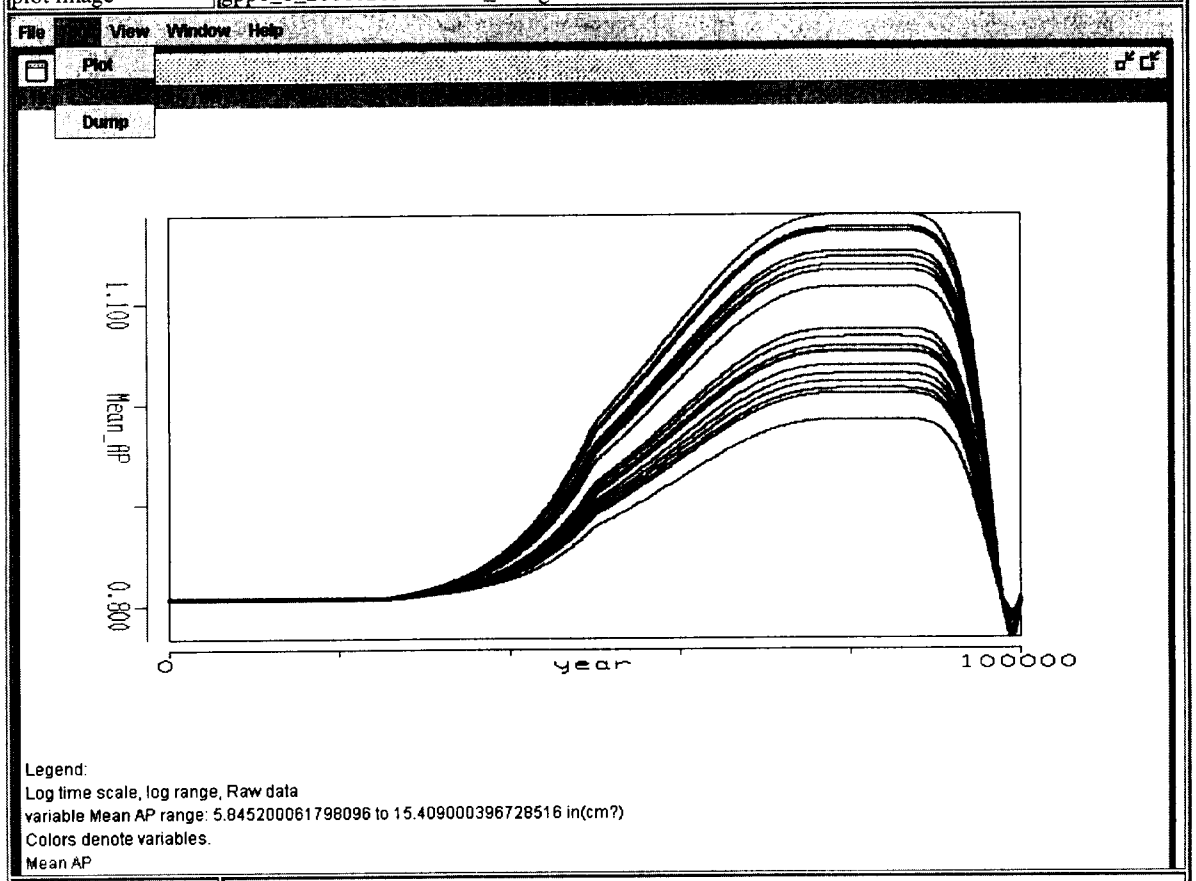
14.	15.	16.	17.	18.	19.
4710	6560	4950	1810	3970	4280
4710	6560	4950	1810	3970	4280
4710	6560	4950	1810	3970	4280
4710	6560	4950	1810	3970	4280
4710	6560	4950	1810	3970	4280
4710	6560	4950	1810	3970	4280
4710	6560	4950	1810	3970	4280
4710	6560	4950	1810	3970	4280
4710	6560	4950	1810	3970	4280
4710	6560	4950	1810	3970	4280
4710	6560	4950	1810	3970	4280
4710	6560	4950	1810	3970	4280
4710	6560	4950	1810	3970	4280
4710	6560	4950	1810	3970	4280
~	~	~	~	~	~
6860	8210	6340	2190	4940	5420
6260	7750	5950	2090	4680	5110
5720	7350	5610	1990	4440	4830
5250	6990	5310	1910	4230	4580
4860	6680	5050	1840	4040	4370
4530	6420	4830	1770	3890	4190
4280	6220	4660	1730	3770	4040
4090	6070	4530	1690	3680	3940
3970	5970	4450	1670	3630	3880
3930	5930	4420	1660	3610	3850
3960	5960	4440	1660	3620	3870
4060	6040	4510	1680	3670	3930
4250	6190	4640	1720	3760	4030
4510	6400	4820	1770	3880	4180
4510	6400	4820	1770	3880	4180

.(continued in …-prt-3)

(continued from ...-prt-2. The 2 table rows below are repeated from –prt2.)

4510	6400	4820	1770	3880	4180	
4510	6400	4820	1770	3880	4180	

plot image	gpp1_0_20010215-031953_000.gif

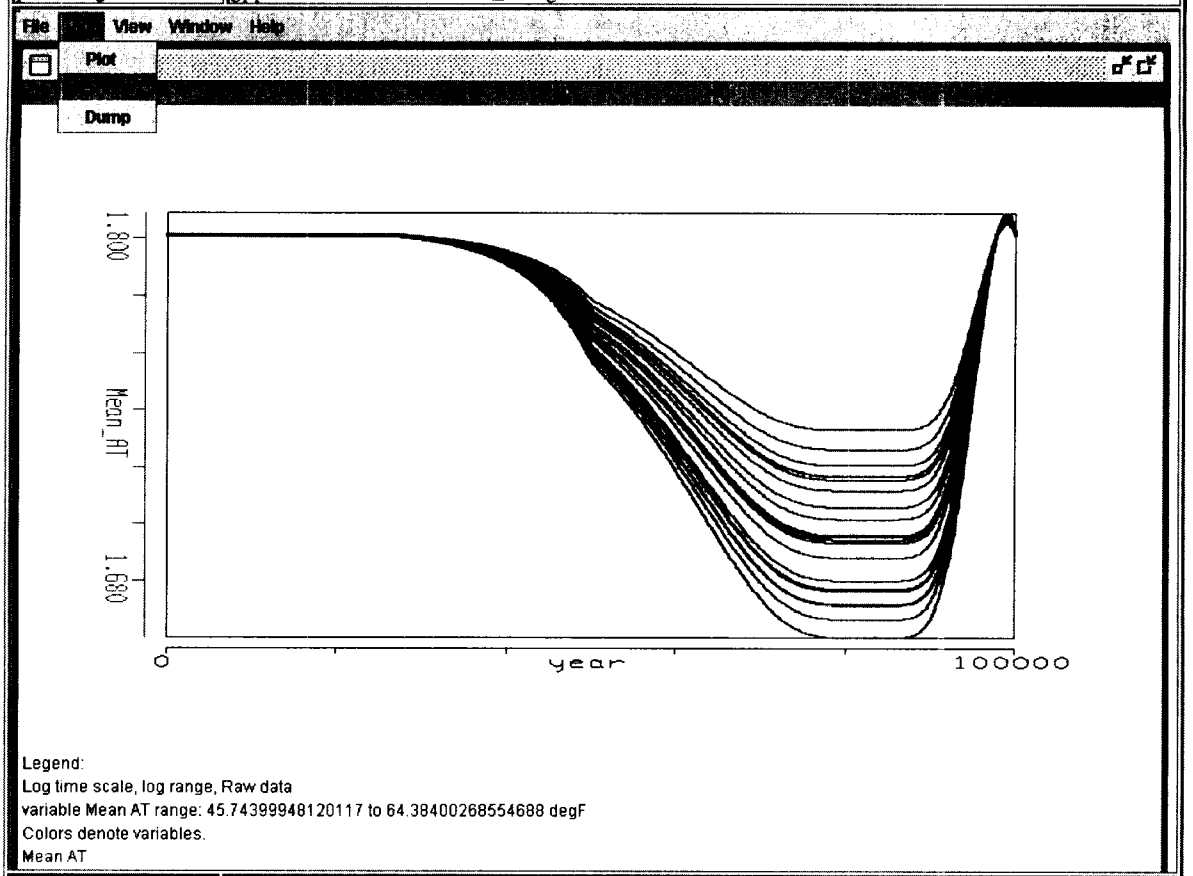


title	"p19 meanap logx logy raw"
plot specs	ivar=Time xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data
variable	Mean AP
range	5.845200061798096 to 15.409000396728516 in(cm?) Colors denote variables.
tabular data	gpp1_0_20010215-031835_000.csv

.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
.000	876.	1110	1910	2270	3400	4060	4310	4550	4600	4880	6240
2.31	876.	1110	1910	2270	3400	4060	4310	4550	4600	4880	6240
4.67	876.	1110	1910	2270	3400	4060	4310	4550	4600	4880	6240
7.09	876.	1110	1910	2270	3400	4060	4310	4550	4600	4880	6240
9.57	876.	1110	1910	2270	3400	4060	4310	4550	4600	4880	6240
12.1	876.	1110	1910	2270	3400	4060	4310	4550	4600	4880	6240
14.7	876.	1110	1910	2270	3400	4060	4310	4550	4600	4880	6240
17.4	876.	1110	1910	2270	3400	4060	4310	4550	4600	4880	6240
20.1	876.	1110	1910	2270	3400	4060	4310	4550	4600	4880	6240
22.8	876.	1110	1910	2270	3400	4060	4310	4550	4600	4880	6240
25.7	876.	1110	1910	2270	3400	4060	4310	4550	4600	4880	6240

28.6	876.	1110	1910	2270	3400	4060	4310	4550	4600	4880	6240
31.6	876.	1110	1910	2270	3400	4060	4310	4550	4600	4880	6240
34.6	876.	1110	1910	2270	3400	4060	4310	4550	4600	4880	6240
~	~	~	~	~	~	~	~	~	~	~	~
85100	1250	1410	2440	2790	4730	4880	6100	6140	6280	6370	8470
86100	1140	1330	2290	2640	4360	4660	5600	5790	5810	5860	7860
87100	1050	1260	2160	2520	4030	4450	5160	5400	5410	5480	7300
88100	971.	1190	2050	2400	3740	4270	4770	5020	5040	5210	6820
89100	903.	1130	1950	2300	3500	4120	4440	4680	4720	4970	6400
90100	846.	1090	1870	2220	3290	3990	4160	4410	4470	4770	6060
91200	802.	1050	1800	2160	3130	3880	3950	4190	4260	4610	5780
92200	769.	1020	1750	2110	3020	3790	3810	4030	4110	4500	5580
93300	749.	1000	1720	2080	2940	3690	3760	3930	4020	4430	5460
94400	741.	995.	1710	2070	2910	3650	3740	3890	3980	4400	5410
95500	746.	1000	1720	2070	2930	3680	3750	3910	4010	4410	5440
96600	765.	1020	1750	2100	3000	3770	3800	4000	4090	4480	5550
97700	797.	1040	1790	2150	3110	3870	3920	4160	4240	4600	5750
98900	842.	1080	1860	2220	3280	3980	4140	4390	4450	4760	6030
100000	842.	1080	1860	2220	3280	3980	4140	4390	4450	4760	6030

plot image	gpp1_0_20010215-032107_000.gif



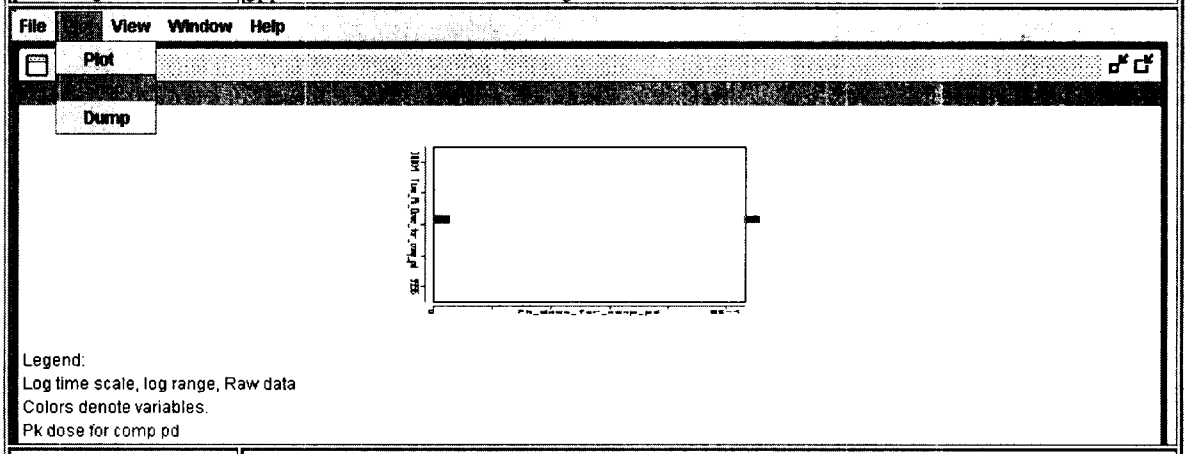
title	"p20 mean at"
plot specs	ivar=Time xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data
variable	Mean AT
range	45.74399948120117 to 64.38400268554688 degF Colors denote variables.
tabular data	gpp1_0_20010215-031958_000.csv

.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
.000	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807
250.	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807
500.	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807
750.	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807
1000	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807
1250	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807
1500	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807
1750	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807
2000	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807
2250	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807
2500	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807
2750	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807
3000	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807
3250	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807	.807
~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
96500	.895	.888	.886	.860	.895	.882	.866	.861	.884	.842	.856	.896	.878	.849
96800	.876	.870	.869	.848	.875	.866	.852	.849	.867	.834	.845	.876	.862	.839
97000	.857	.853	.852	.836	.857	.849	.840	.837	.850	.826	.834	.857	.846	.830
97300	.838	.836	.835	.825	.838	.834	.827	.826	.834	.819	.824	.839	.832	.821
97500	.821	.820	.820	.815	.821	.819	.816	.815	.819	.812	.815	.821	.818	.813
97800	.806	.806	.806	.806	.806	.806	.806	.806	.806	.806	.806	.806	.806	.806
98000	.792	.794	.794	.799	.792	.795	.798	.798	.794	.801	.799	.792	.796	.800
98300	.782	.784	.784	.793	.782	.786	.791	.792	.785	.797	.794	.781	.787	.796
98500	.774	.777	.778	.788	.774	.779	.786	.788	.779	.795	.790	.774	.781	.792
98800	.770	.773	.774	.786	.770	.776	.783	.785	.775	.793	.787	.769	.778	.791
99000	.769	.773	.773	.786	.769	.775	.783	.785	.775	.793	.787	.769	.778	.790
99300	.773	.776	.776	.788	.773	.778	.785	.787	.777	.794	.789	.772	.780	.792
99500	.780	.782	.783	.792	.780	.784	.790	.791	.784	.797	.793	.780	.786	.795
99800	.791	.792	.793	.798	.791	.794	.797	.798	.793	.801	.799	.791	.795	.800
100000	.806	.806	.806	.806	.806	.806	.806	.806	.806	.806	.806	.806	.806	.806

14.	15.	16.	17.	18.	19.
.807	.807	.807	.807	.807	.807
.807	.807	.807	.807	.807	.807
.807	.807	.807	.807	.807	.807
.807	.807	.807	.807	.807	.807
.807	.807	.807	.807	.807	.807
.807	.807	.807	.807	.807	.807
.807	.807	.807	.807	.807	.807
.807	.807	.807	.807	.807	.807
.807	.807	.807	.807	.807	.807
.807	.807	.807	.807	.807	.807
.807	.807	.807	.807	.807	.807
.807	.807	.807	.807	.807	.807
.807	.807	.807	.807	.807	.807
~	~	~	~	~	~
.900	.854	.859	.850	.852	.863
.880	.843	.848	.840	.842	.851
.860	.833	.836	.831	.832	.838
.840	.823	.825	.822	.822	.827
.822	.814	.815	.814	.814	.816
.806	.806	.806	.806	.806	.806
.791	.800	.799	.800	.800	.798
.780	.794	.793	.795	.795	.791
.772	.790	.788	.792	.791	.787
.767	.788	.786	.790	.789	.784
.767	.788	.786	.790	.789	.784
.770	.790	.788	.791	.791	.786
.778	.793	.792	.795	.794	.790
.790	.799	.798	.800	.799	.797

.805 .806 .806 .806 .806 .806

plot image	gpp1_0_20010215-032247_000.gif



title	"p21 pkdose "
plot specs	ivar=Discrete xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data Colors denote
variable	s
range	nd: Log time scale, log range, Raw data Colors denote variables.
tabular data	gpp1_0_20010215-032112_000.csv

	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
.000	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
250.	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
500.	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
750.	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
1000	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
1250	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
1500	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
1750	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
2000	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
2250	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
2500	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
2750	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
3000	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
3250	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
96500	1.79	1.79	1.78	1.79	1.78	1.78	1.79	1.78	1.79	1.78	1.79	1.79	1.78	1.79
96800	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79
97000	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.80	1.79	1.79
97300	1.80	1.80	1.79	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
97500	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
97800	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
98000	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
98300	1.80	1.81	1.81	1.81	1.81	1.81	1.80	1.81	1.80	1.81	1.80	1.80	1.81	1.81
98500	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.80	1.81	1.81
98800	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81
99000	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81
99300	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.80	1.81	1.81
99500	1.81	1.81	1.81	1.81	1.81	1.81	1.80	1.81	1.80	1.81	1.80	1.80	1.81	1.81
99800	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
100000	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80

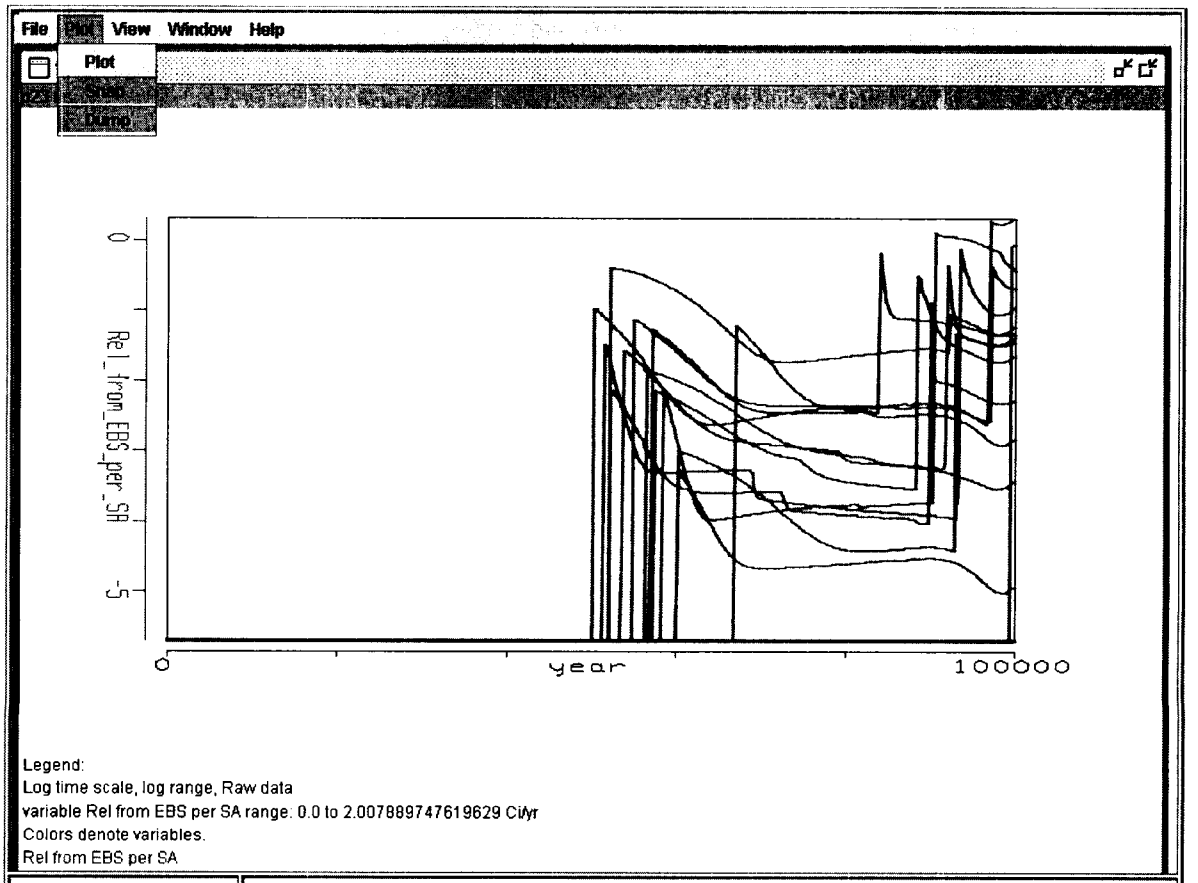
14.	15.	16.	17.	18.	19.
1.80	1.80	1.80	1.80	1.80	1.80

```
1.80 1.80 1.80 1.80 1.80 1.80
1.80 1.80 1.80 1.80 1.80 1.80
1.80 1.80 1.80 1.80 1.80 1.80
1.80 1.80 1.80 1.80 1.80 1.80
1.80 1.80 1.80 1.80 1.80 1.80
1.80 1.80 1.80 1.80 1.80 1.80
1.80 1.80 1.80 1.80 1.80 1.80
1.80 1.80 1.80 1.80 1.80 1.80
1.80 1.80 1.80 1.80 1.80 1.80
1.80 1.80 1.80 1.80 1.80 1.80
1.80 1.80 1.80 1.80 1.80 1.80
1.80 1.80 1.80 1.80 1.80 1.80
   ~    ~    ~    ~    ~    ~
1.78 1.78 1.78 1.79 1.78 1.79
1.79 1.79 1.79 1.79 1.79 1.79
1.79 1.79 1.79 1.79 1.79 1.79
1.80 1.79 1.79 1.80 1.79 1.80
1.80 1.80 1.80 1.80 1.80 1.80
1.80 1.80 1.80 1.80 1.80 1.80
1.80 1.80 1.80 1.80 1.80 1.80
1.81 1.81 1.81 1.80 1.81 1.80
1.81 1.81 1.81 1.81 1.81 1.81
1.81 1.81 1.81 1.81 1.81 1.81
1.81 1.81 1.81 1.81 1.81 1.81
1.81 1.81 1.81 1.81 1.81 1.81
1.81 1.81 1.81 1.80 1.81 1.80
1.80 1.80 1.80 1.80 1.80 1.80
1.80 1.80 1.80 1.80 1.80 1.80
```

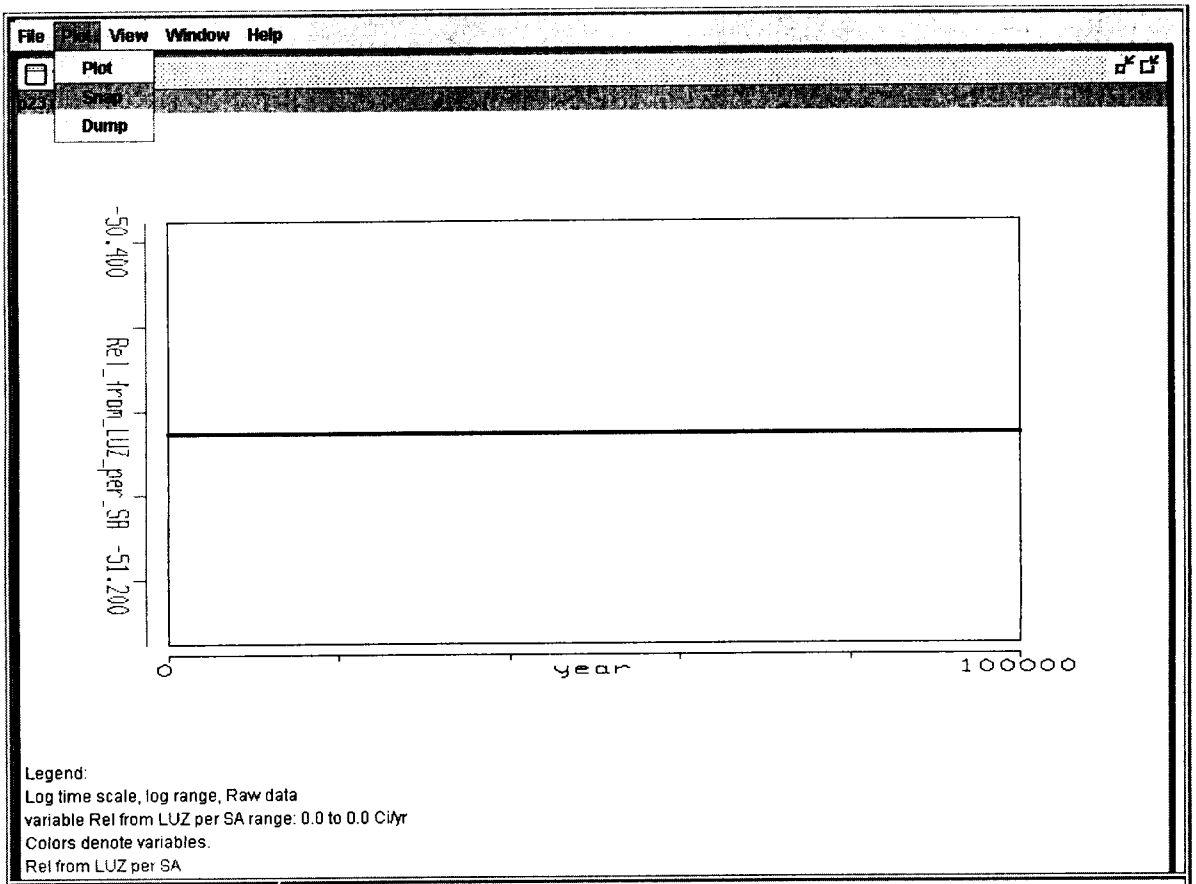
title	"p21 pkdose "
plot specs	ivar=Discrete xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data Colors denote
variable	s
range	nd: Log time scale, log range, Raw data Colors denote variables.

title	"p21 pkdose "
plot specs	ivar=Discrete xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data Colors denote
variable	s
range	nd: Log time scale, log range, Raw data Colors denote variables.

plot image	gpp1_0_20010215-032736_000.gif



title	"p23 rel ebs/sa"
plot specs	ivar=Time xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data
variable	Rel from EBS per SA
range	0.0 to 2.007889747619629 Ci/yr Colors denote variables.
plot image	gpp1_0_20010215-032910_000.gif



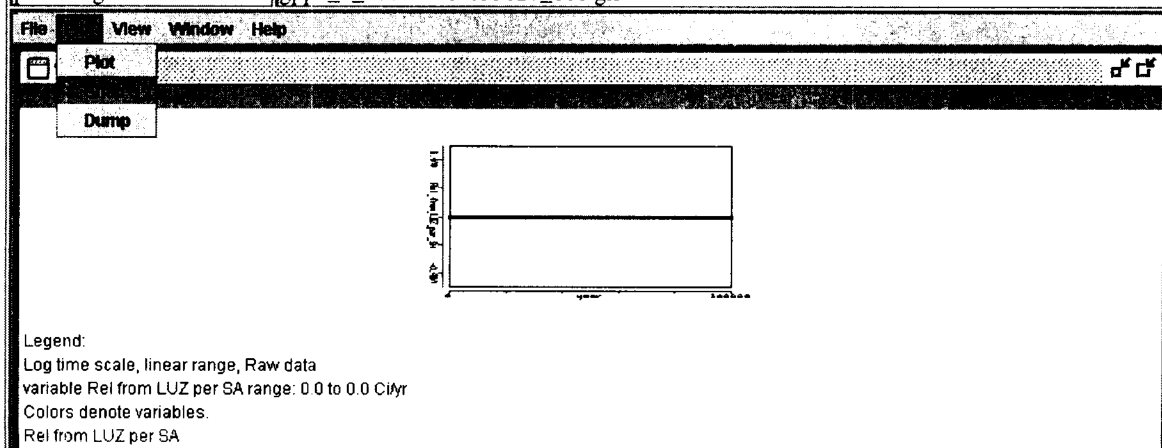
title	"p23 rel luz /sa"
plot specs	ivar=Time xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data
variable	Rel from LUZ per SA
range	0.0 to 0.0 Ci/yr Colors denote variables.
tabular data	gpp1_0_20010215-032741_000.csv

.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
.000	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70
250.	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70
500.	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70
750.	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70
1000	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70
1250	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70
1500	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70
1750	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70
2000	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70
2250	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70
2500	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70
2750	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70
3000	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70
3250	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70
~	~	~	~	~	~	~	~	~	~	~	~	~
96500	-.0933	-2.81	-2.28	-1.48	-4.89	-1.32	-5.70	-5.70	-.978	-5.70	-1.46	-5.70
96800	-.105	-2.84	-2.29	-1.49	-4.91	-1.32	-5.70	-5.70	-1.00	-5.70	-1.47	-5.70
97000	-.117	-2.86	-2.30	-1.49	-4.94	-1.33	-5.70	-5.70	-1.02	-5.70	-1.47	-5.70
97300	-.127	-2.88	-2.31	-1.50	-4.96	-1.34	-5.70	-5.70	-1.04	-5.70	-1.48	-5.70
97500	-.135	-2.89	-2.32	-1.50	-4.98	-1.34	-5.70	-5.70	-1.05	-5.70	-1.48	-5.70

97800	-.141	-2.91	-2.32	-1.51	-5.00	-1.34	-5.70	-5.70	-1.06	-5.70	-1.48	-5.70
98000	-.166	-2.92	-2.32	-1.51	-5.01	-1.34	-5.70	-5.70	-1.06	-5.70	-1.48	-5.70
98300	-.227	-2.92	-2.32	-1.51	-5.02	-1.33	-5.70	-5.70	-1.06	-5.70	-1.47	-5.70
98500	-.273	-2.92	-2.32	-1.50	-5.02	-1.32	-5.70	-5.70	-1.06	-5.70	-1.47	-5.70
98800	-.312	-2.92	-2.32	-1.50	-5.01	-1.31	-5.70	-5.70	-1.05	-5.70	-1.46	-5.70
99000	-.343	-2.90	-2.31	-1.49	-5.00	-1.30	-5.70	-5.70	-1.03	-5.70	-1.45	-5.70
99300	-.367	-2.89	-2.30	-1.48	-4.99	-1.28	-5.70	-5.70	-1.01	-5.70	-1.43	-5.70
99500	-.383	-2.87	-2.29	-1.47	-4.96	-1.26	-5.70	-.0750	-.990	-5.70	-1.42	-5.70
99800	-.394	-2.84	-2.28	-1.46	-4.94	-1.24	-5.70	-.0607	-.964	-5.70	-1.40	-5.70
100000	-.425	-2.83	-2.29	-1.46	-4.93	-1.24	-5.70	-.0617	-.959	-5.70	-1.39	-5.70

12.	13.	14.	15.	16.	17.	18.	19.
-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70
-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70
-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70
-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70
-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70
-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70
-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70
-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70
-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70
-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70
-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70
-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70
-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70
-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70	-5.70
~	~	~	~	~	~	~	~
-3.50	-5.70	-1.29	-2.59	-1.70	-5.70	-2.64	-5.70
-3.52	-5.70	-1.30	-2.60	-1.71	-5.70	-2.51	-5.70
-3.53	-5.70	-1.32	-2.58	-1.72	-5.70	.262	-5.70
-3.53	-5.70	-1.33	-.385	-1.73	-5.70	.250	-5.70
-3.54	-5.70	-1.34	-.450	-1.74	-5.70	.241	-5.70
-3.54	-5.70	-1.34	-.504	-1.74	-5.70	.235	-5.70
-3.54	-5.70	-1.35	-.556	-1.74	-5.70	.231	-5.70
-3.54	-5.70	-1.35	-.593	-1.74	-5.70	.230	-5.70
-3.53	-5.70	-1.35	-.623	-1.73	-5.70	.233	-5.70
-3.52	-5.70	-1.35	-.646	-1.73	-5.70	.240	-5.70
-3.50	-5.70	-1.35	-.662	-1.71	-5.70	.250	-5.70
-3.49	-5.70	-1.35	-.672	-1.70	-5.70	.263	-5.70
-3.46	-5.70	-1.34	-.678	-1.68	-5.70	.279	-5.70
-3.44	-5.70	-1.33	-.678	-1.66	-5.70	.298	-5.70
-3.43	-5.70	-1.34	-.691	-1.65	-5.70	.303	-5.70

plot image	gpp1_0_20010215-033027_000.gif



title	"p24 rel luz /sa lin"
plot specs	ivar=Time xlog=true ylog=false infl=0 regu=false

scales	Log time scale, linear range
data	Raw data
variable	Rel from LUZ per SA
range	0.0 to 0.0 Ci/yr Colors denote variables.
tabular data	gpp1_0_20010215-032915_000.csv

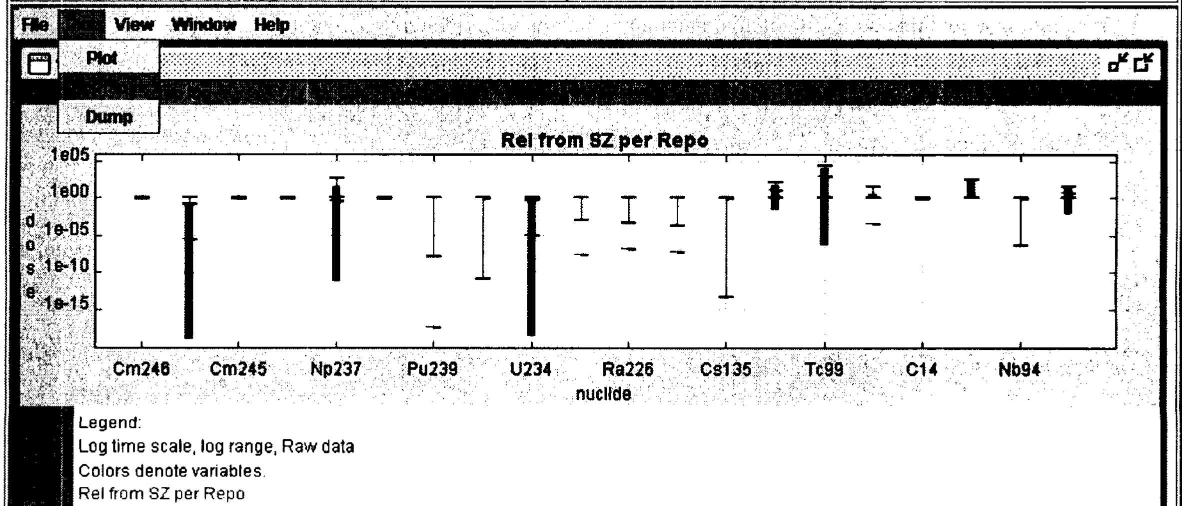
.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
.000	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
250.	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
500.	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
750.	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
1000	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
1250	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
1500	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
1750	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
2000	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
2250	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
2500	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
2750	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
3000	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
3250	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
~	~	~	~	~	~	~	~	~	~	~	~	~
96500	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
96800	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
97000	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
97300	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
97500	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
97800	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
98000	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
98300	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
98500	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
98800	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
99000	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
99300	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
99500	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
99800	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
100000	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9

12.	13.	14.	15.	16.	17.	18.	19.
-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
~	~	~	~	~	~	~	~
-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9

-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9
-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9	-50.9

file name	cumrel.res

plot image	gpp1_0_20010215-045812_000.gif



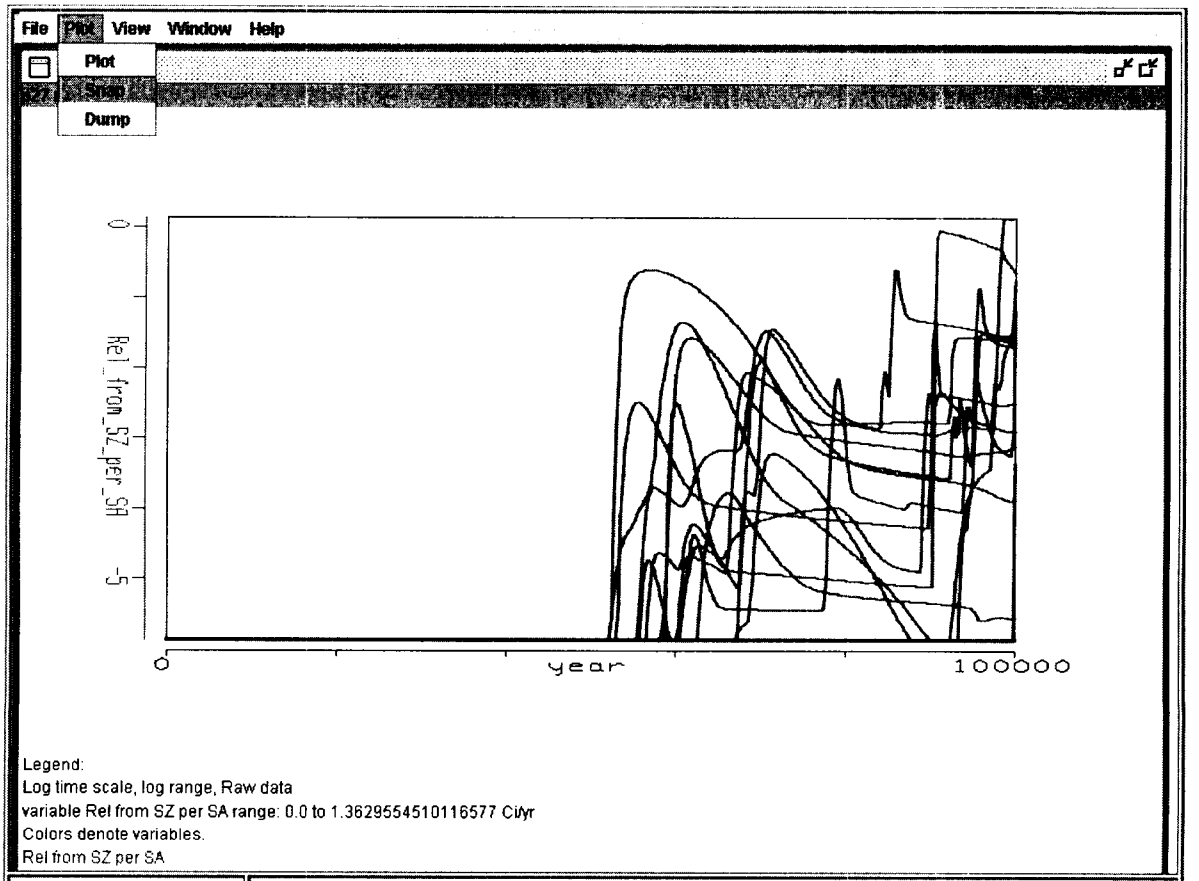
title	"p25 rel sz/rep log"
plot specs	ivar=Discrete xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data Colors denote
variable	s
range	nd: Log time scale, log range, Raw data Colors denote variables.
tabular data	gpp1_0_20010215-033031_000.csv

.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
2.31	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
4.67	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
7.09	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
9.57	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
12.1	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
14.7	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
17.4	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
20.1	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
22.8	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
25.7	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
28.6	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
31.6	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
34.6	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
85100	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
86100	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
87100	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
88100	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
89100	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
90100	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
91200	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
92200	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

93300	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
94400	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
95500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
96600	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
97700	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
98900	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
100000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

14.	15.	16.	17.	18.	19.
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
~	~	~	~	~	~
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000

tpa directory	f:\tpa\00-10-16\ n_subareas=8 n_nuclides=20
plot image	gpp1_0_20010215-053008_000.gif



title	"p27 rsz/sa"
plot specs	ivar=Time xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data
variable	Rel from SZ per SA
range	0.0 to 1.3629554510116577 Ci/yr Colors denote variables.
tabular data	gpp1_0_20010215-045816_000.csv

.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
2.31	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
4.67	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
7.09	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
9.57	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
12.1	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
14.7	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
17.4	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
20.1	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
22.8	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
25.7	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
28.6	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
31.6	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
34.6	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
85100	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
86100	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
87100	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
88100	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
89100	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

90100	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
91200	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
92200	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
93300	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
94400	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
95500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
96600	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
97700	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
98900	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
100000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

14.	15.	16.	17.	18.	19.
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
~	~	~	~	~	~
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000

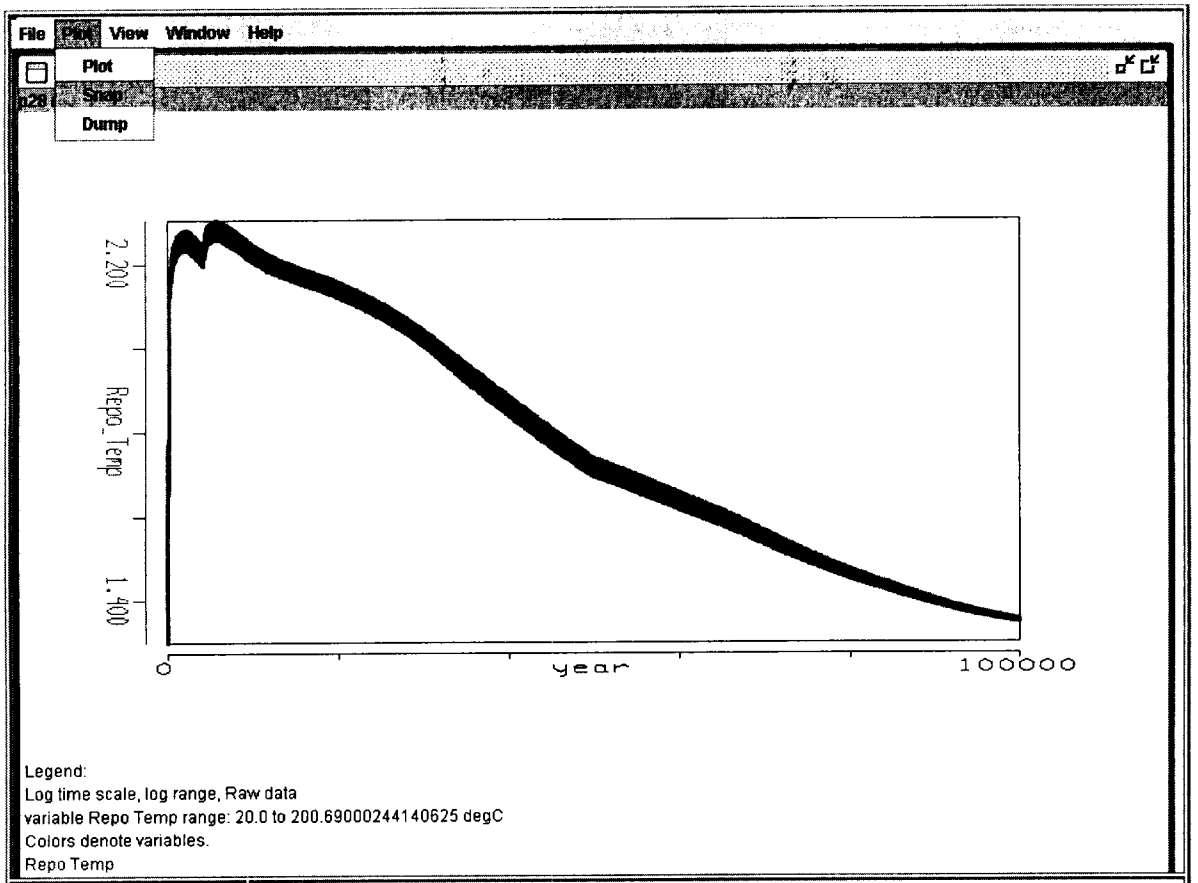
title	"p27 rsz/sa"
plot specs	ivar=Time xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data
variable	Rel from SZ per SA
range	0.0 to 1.3629554510116577 Ci/yr Colors denote variables.
tabular data	gpp1_0_20010215-053013_000.csv

.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
.000	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
250.	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
500.	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
750.	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
1000	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
1250	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
1500	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
1750	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
2000	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87

2250	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
2500	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
2750	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
3000	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
3250	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
~	~	~	~	~	~	~	~	~	~	~	~	~
96500	-.235	-3.21	-2.49	-1.46	-5.58	-1.48	-5.87	-5.87	-2.71	-5.87	-1.51	-5.87
96800	-.247	-3.20	-2.49	-1.54	-5.57	-1.49	-5.87	-5.87	-2.81	-5.87	-1.52	-5.87
97000	-.258	-3.20	-2.50	-1.58	-5.56	-1.50	-5.87	-5.87	-2.90	-5.87	-1.53	-5.87
97300	-.267	-3.20	-2.51	-1.60	-5.55	-1.51	-5.87	-5.87	-2.97	-5.87	-1.55	-5.87
97500	-.276	-3.19	-2.51	-1.62	-5.54	-1.51	-5.87	-5.87	-3.04	-5.87	-1.56	-5.87
97800	-.282	-3.19	-2.52	-1.63	-5.53	-1.52	-5.87	-5.87	-3.09	-5.87	-1.57	-5.87
98000	-.292	-3.19	-2.52	-1.64	-5.53	-1.53	-5.87	-5.87	-3.13	-5.87	-1.58	-5.87
98300	-.326	-3.18	-2.52	-1.65	-5.53	-1.53	-5.87	-5.87	-3.17	-5.87	-1.59	-5.87
98500	-.389	-3.18	-2.52	-1.66	-5.53	-1.53	-5.87	-5.87	-3.19	-5.87	-1.60	-5.87
98800	-.443	-3.17	-2.52	-1.67	-5.54	-1.53	-5.87	-5.87	-3.21	-5.87	-1.61	-5.87
99000	-.491	-3.16	-2.52	-1.68	-5.54	-1.53	-5.87	-5.87	-3.23	-5.87	-1.62	-5.87
99300	-.532	-3.15	-2.51	-1.69	-5.55	-1.53	-5.87	-5.87	-3.24	-5.87	-1.63	-5.87
99500	-.568	-3.14	-2.51	-1.70	-5.55	-1.52	-5.87	-5.87	-3.24	-5.87	-1.63	-5.87
99800	-.599	-3.13	-2.50	-1.70	-5.56	-1.51	-5.87	-5.87	-2.88	-5.87	-1.63	-5.87
100000	-.632	-3.11	-2.50	-1.71	-5.56	-1.50	-5.87	-3.34	-1.17	-5.87	-1.63	-5.87

12.	13.	14.	15.	16.	17.	18.	19.
-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
~	~	~	~	~	~	~	~
-3.74	-5.87	-1.57	-2.85	-2.80	-5.87	-3.48	-5.87
-3.75	-5.87	-1.57	-2.85	-2.81	-5.87	-3.46	-5.87
-3.76	-5.87	-1.57	-2.86	-2.82	-5.87	-3.44	-5.87
-3.78	-5.87	-1.57	-2.73	-2.83	-5.87	-3.08	-5.87
-3.79	-5.87	-1.57	-2.22	-2.84	-5.87	-2.62	-5.87
-3.81	-5.87	-1.58	-2.24	-2.85	-5.87	-2.12	-5.87
-3.82	-5.87	-1.58	-2.29	-2.86	-5.87	-.841	-5.87
-3.83	-5.87	-1.58	-2.15	-2.87	-5.87	-.0993	-5.87
-3.85	-5.87	-1.58	-1.88	-2.88	-5.87	.111	-5.87
-3.86	-5.87	-1.58	-1.74	-2.89	-5.87	.134	-5.87
-3.87	-5.87	-1.58	-1.69	-2.89	-5.87	.129	-5.87
-3.88	-5.87	-1.57	-1.67	-2.90	-5.87	.125	-5.87
-3.89	-5.87	-1.57	-1.60	-2.90	-5.87	.124	-5.87
-3.88	-5.87	-1.57	-1.16	-2.90	-5.87	.127	-5.87
-3.86	-5.87	-1.57	-.757	-2.90	-5.87	.133	-5.87

plot image	gpp1_0_20010215-053120_000.gif



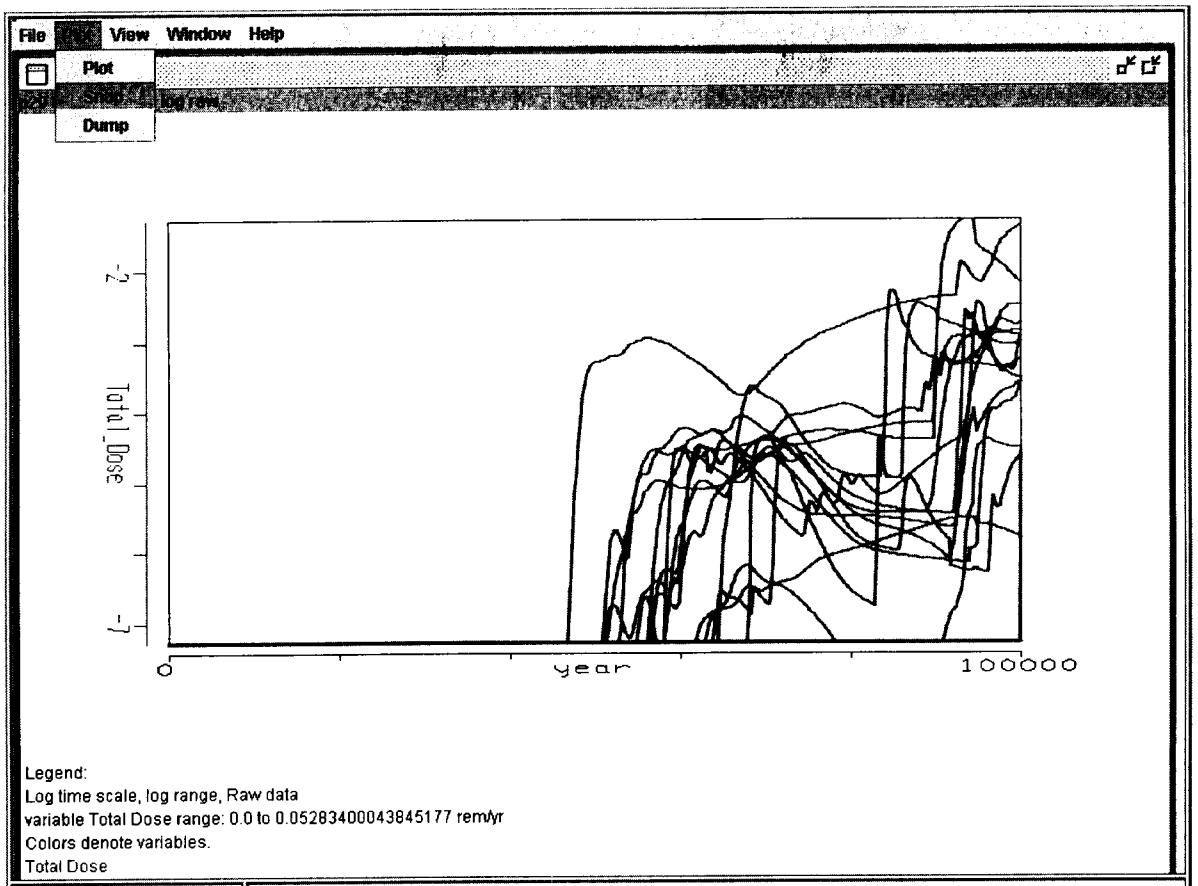
title	"p28 repo tmp"
plot specs	ivar=Time xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data
variable	Repo Temp
range	20.0 to 200.69000244140625 degC Colors denote variables.
tabular data	gpp1_0_20010215-053021_000.csv

.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
.000	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
250.	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
500.	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
750.	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
1000	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
1250	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
1500	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
1750	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
2000	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
2250	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
2500	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
2750	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
3000	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
3250	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
~	~	~	~	~	~	~	~	~	~	~	~	~
96500	-.235	-3.21	-2.49	-1.46	-5.58	-1.48	-5.87	-5.87	-2.71	-5.87	-1.51	-5.87
96800	-.247	-3.20	-2.49	-1.54	-5.57	-1.49	-5.87	-5.87	-2.81	-5.87	-1.52	-5.87
97000	-.258	-3.20	-2.50	-1.58	-5.56	-1.50	-5.87	-5.87	-2.90	-5.87	-1.53	-5.87
97300	-.267	-3.20	-2.51	-1.60	-5.55	-1.51	-5.87	-5.87	-2.97	-5.87	-1.55	-5.87
97500	-.276	-3.19	-2.51	-1.62	-5.54	-1.51	-5.87	-5.87	-3.04	-5.87	-1.56	-5.87

97800	-.282	-3.19	-2.52	-1.63	-5.53	-1.52	-5.87	-5.87	-3.09	-5.87	-1.57	-5.87
98000	-.292	-3.19	-2.52	-1.64	-5.53	-1.53	-5.87	-5.87	-3.13	-5.87	-1.58	-5.87
98300	-.326	-3.18	-2.52	-1.65	-5.53	-1.53	-5.87	-5.87	-3.17	-5.87	-1.59	-5.87
98500	-.389	-3.18	-2.52	-1.66	-5.53	-1.53	-5.87	-5.87	-3.19	-5.87	-1.60	-5.87
98800	-.443	-3.17	-2.52	-1.67	-5.54	-1.53	-5.87	-5.87	-3.21	-5.87	-1.61	-5.87
99000	-.491	-3.16	-2.52	-1.68	-5.54	-1.53	-5.87	-5.87	-3.23	-5.87	-1.62	-5.87
99300	-.532	-3.15	-2.51	-1.69	-5.55	-1.53	-5.87	-5.87	-3.24	-5.87	-1.63	-5.87
99500	-.568	-3.14	-2.51	-1.70	-5.55	-1.52	-5.87	-5.87	-3.24	-5.87	-1.63	-5.87
99800	-.599	-3.13	-2.50	-1.70	-5.56	-1.51	-5.87	-5.87	-2.88	-5.87	-1.63	-5.87
100000	-.632	-3.11	-2.50	-1.71	-5.56	-1.50	-5.87	-3.34	-1.17	-5.87	-1.63	-5.87

12.	13.	14.	15.	16.	17.	18.	19.
-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87	-5.87
~	~	~	~	~	~	~	~
-3.74	-5.87	-1.57	-2.85	-2.80	-5.87	-3.48	-5.87
-3.75	-5.87	-1.57	-2.85	-2.81	-5.87	-3.46	-5.87
-3.76	-5.87	-1.57	-2.86	-2.82	-5.87	-3.44	-5.87
-3.78	-5.87	-1.57	-2.73	-2.83	-5.87	-3.08	-5.87
-3.79	-5.87	-1.57	-2.22	-2.84	-5.87	-2.62	-5.87
-3.81	-5.87	-1.58	-2.24	-2.85	-5.87	-2.12	-5.87
-3.82	-5.87	-1.58	-2.29	-2.86	-5.87	-.841	-5.87
-3.83	-5.87	-1.58	-2.15	-2.87	-5.87	-.0993	-5.87
-3.85	-5.87	-1.58	-1.88	-2.88	-5.87	.111	-5.87
-3.86	-5.87	-1.58	-1.74	-2.89	-5.87	.134	-5.87
-3.87	-5.87	-1.58	-1.69	-2.89	-5.87	.129	-5.87
-3.88	-5.87	-1.57	-1.67	-2.90	-5.87	.125	-5.87
-3.89	-5.87	-1.57	-1.60	-2.90	-5.87	.124	-5.87
-3.88	-5.87	-1.57	-1.16	-2.90	-5.87	.127	-5.87
-3.86	-5.87	-1.57	-.757	-2.90	-5.87	.133	-5.87

plot image	gpp1_0_20010215-053345_000.gif



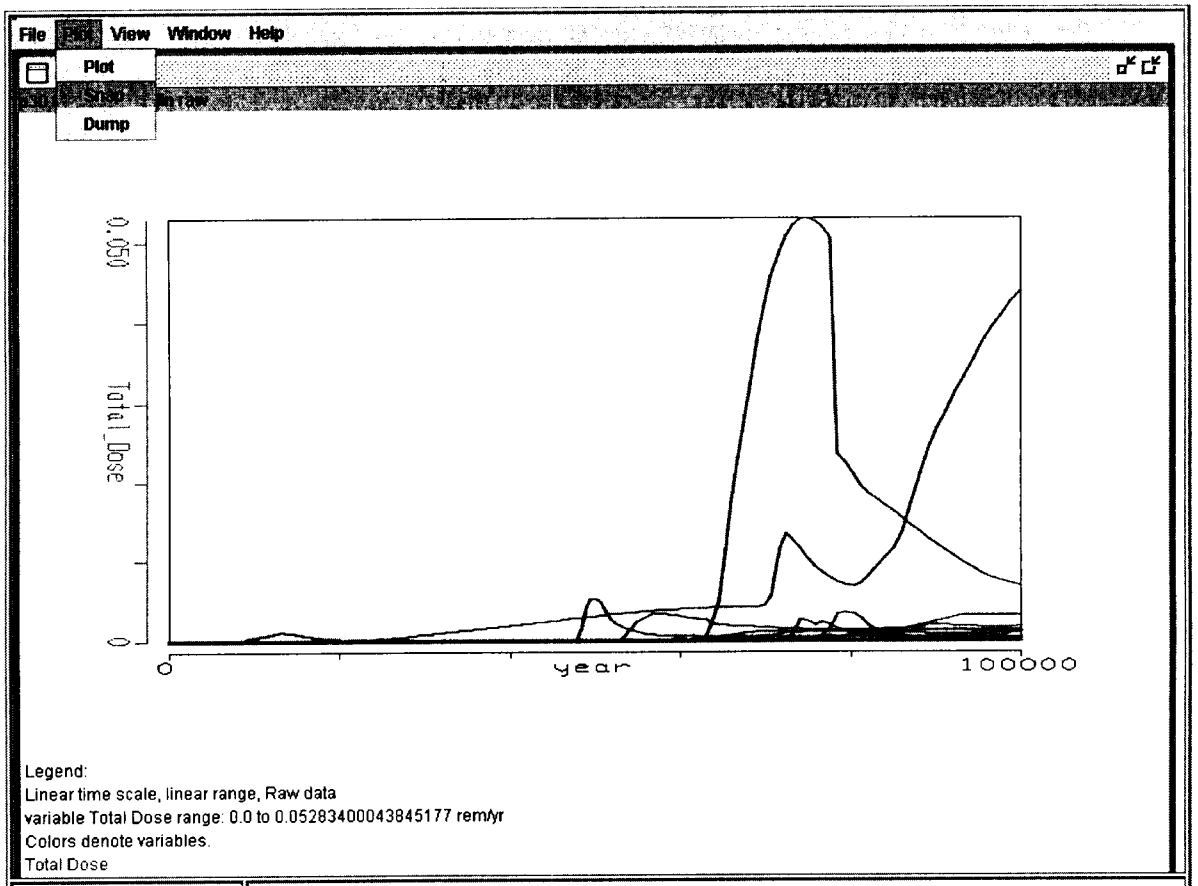
title	"p29 total dose log log raw"
plot specs	ivar=Time xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data
variable	Total Dose
range	0.0 to 0.05283400043845177 rem/yr Colors denote variables.
tabular data	gpp1_0_20010215-053126_000.csv

.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
.000	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
250.	2.13	2.14	2.13	2.11	2.13	2.10	2.13	2.10	2.11	2.15	2.12	2.13	2.13	2.12
500.	2.20	2.20	2.19	2.18	2.19	2.17	2.19	2.16	2.17	2.21	2.18	2.20	2.20	2.19
750.	2.23	2.23	2.22	2.20	2.22	2.19	2.22	2.19	2.20	2.24	2.21	2.23	2.22	2.22
1000	2.24	2.25	2.24	2.22	2.24	2.21	2.23	2.21	2.22	2.26	2.23	2.24	2.24	2.23
1250	2.25	2.26	2.25	2.23	2.25	2.22	2.24	2.22	2.23	2.27	2.24	2.25	2.25	2.24
1500	2.26	2.26	2.25	2.23	2.25	2.23	2.25	2.22	2.23	2.27	2.24	2.26	2.26	2.25
1750	2.26	2.27	2.26	2.24	2.26	2.23	2.25	2.23	2.24	2.28	2.25	2.26	2.26	2.25
2000	2.26	2.27	2.26	2.24	2.26	2.23	2.26	2.23	2.24	2.28	2.25	2.26	2.26	2.25
2250	2.26	2.27	2.26	2.24	2.26	2.23	2.26	2.23	2.24	2.28	2.25	2.26	2.26	2.25
2500	2.26	2.27	2.26	2.24	2.26	2.23	2.26	2.23	2.24	2.28	2.25	2.26	2.26	2.25
2750	2.26	2.27	2.25	2.24	2.25	2.23	2.25	2.22	2.23	2.28	2.24	2.26	2.26	2.25
3000	2.26	2.26	2.25	2.23	2.25	2.22	2.25	2.22	2.23	2.27	2.24	2.25	2.25	2.24
3250	2.25	2.26	2.24	2.23	2.24	2.22	2.24	2.21	2.22	2.27	2.23	2.25	2.25	2.24
~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
96500	1.37	1.37	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.37	1.36	1.37	1.37	1.36
96800	1.36	1.37	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.37	1.36	1.36	1.36	1.36
97000	1.36	1.37	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.37	1.36	1.36	1.36	1.36
97300	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.37	1.36	1.36	1.36	1.36
97500	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.35	1.36	1.37	1.36	1.36	1.36	1.36

97800	1.36	1.36	1.36	1.36	1.36	1.35	1.36	1.35	1.36	1.36	1.36	1.36	1.36	1.36
98000	1.36	1.36	1.36	1.35	1.36	1.35	1.36	1.35	1.35	1.36	1.36	1.36	1.36	1.36
98300	1.36	1.36	1.36	1.35	1.36	1.35	1.36	1.35	1.35	1.36	1.36	1.36	1.36	1.36
98500	1.36	1.36	1.36	1.35	1.36	1.35	1.36	1.35	1.35	1.36	1.35	1.36	1.36	1.36
98800	1.36	1.36	1.36	1.35	1.36	1.35	1.36	1.35	1.35	1.36	1.35	1.36	1.36	1.35
99000	1.36	1.36	1.36	1.35	1.35	1.35	1.35	1.35	1.35	1.36	1.35	1.36	1.36	1.35
99300	1.36	1.36	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.36	1.35	1.36	1.35	1.35
99500	1.35	1.36	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.36	1.35	1.35	1.35	1.35
99800	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.36	1.35	1.35	1.35	1.35
100000	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.36	1.35	1.35	1.35	1.35

14.	15.	16.	17.	18.	19.
1.30	1.30	1.30	1.30	1.30	1.30
2.14	2.12	2.11	2.15	2.14	2.11
2.20	2.19	2.18	2.21	2.21	2.17
2.23	2.21	2.21	2.24	2.24	2.20
2.25	2.23	2.22	2.26	2.25	2.22
2.26	2.24	2.23	2.27	2.26	2.23
2.26	2.25	2.24	2.27	2.27	2.23
2.27	2.25	2.24	2.28	2.27	2.24
2.27	2.25	2.24	2.28	2.28	2.24
2.27	2.25	2.24	2.28	2.28	2.24
2.27	2.25	2.24	2.28	2.27	2.24
2.26	2.25	2.24	2.28	2.27	2.23
2.26	2.24	2.23	2.27	2.27	2.23
2.25	2.24	2.23	2.27	2.26	2.22
~	~	~	~	~	~
1.37	1.36	1.36	1.37	1.37	1.36
1.37	1.36	1.36	1.37	1.37	1.36
1.37	1.36	1.36	1.37	1.37	1.36
1.36	1.36	1.36	1.37	1.37	1.36
1.36	1.36	1.36	1.37	1.36	1.36
1.36	1.36	1.36	1.36	1.36	1.36
1.36	1.36	1.36	1.36	1.36	1.35
1.36	1.36	1.35	1.36	1.36	1.35
1.36	1.36	1.35	1.36	1.36	1.35
1.36	1.35	1.35	1.36	1.36	1.35
1.36	1.35	1.35	1.36	1.36	1.35
1.36	1.35	1.35	1.36	1.36	1.35
1.36	1.35	1.35	1.36	1.36	1.35
1.35	1.35	1.35	1.36	1.36	1.35
1.35	1.35	1.35	1.36	1.35	1.35

plot image	gpp1_0_20010215-053538_000.gif



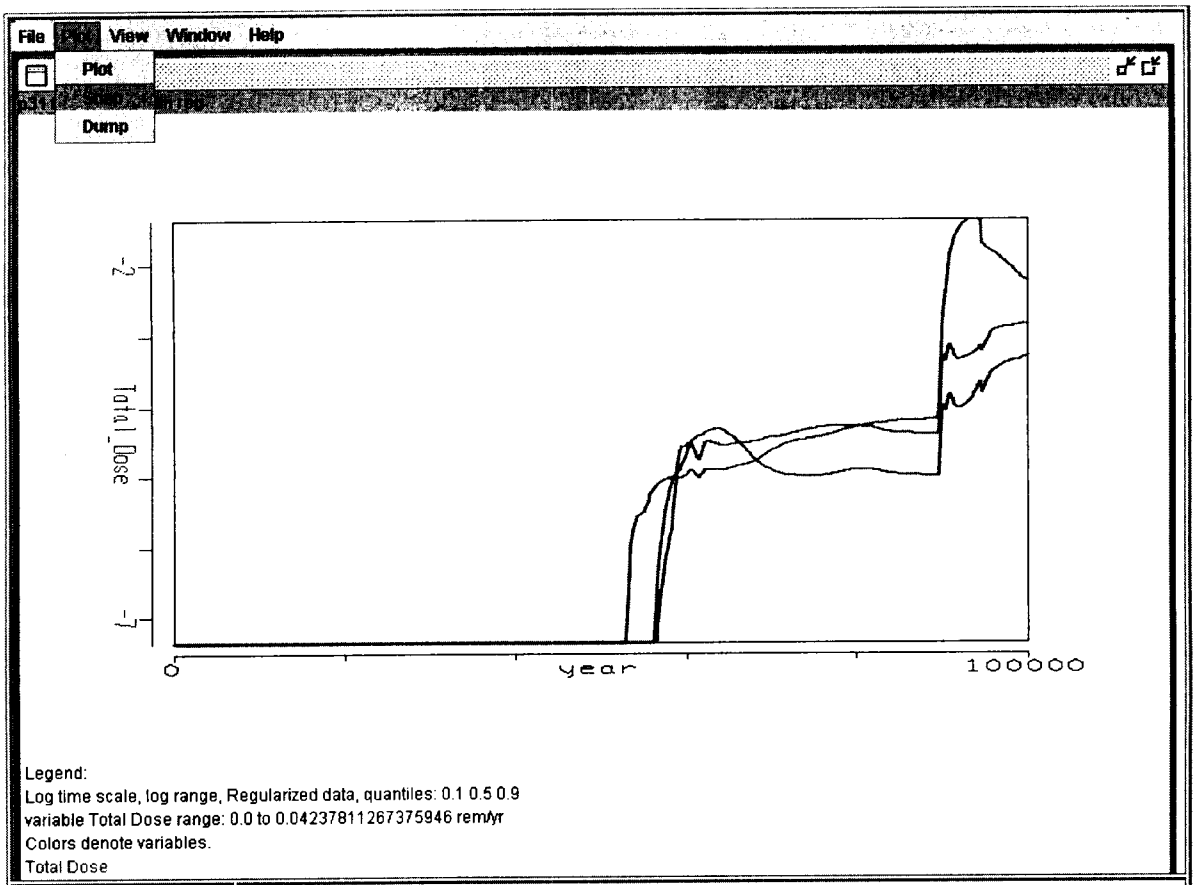
title	"p30 total dose lin lin raw"
plot specs	ivar=Time xlog=false ylog=false infl=0 regu=false
scales	Linear time scale, linear range
data	Raw data
variable	Total Dose
range	0.0 to 0.05283400043845177 rem/yr Colors denote variables.
tabular data	gpp1_0_20010215-053353_000.csv

.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
.000	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
250.	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
500.	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
750.	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
1000	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
1250	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
1500	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
1750	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
2000	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
2250	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
2500	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
2750	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
3000	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
3250	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
~	~	~	~	~	~	~	~	~	~	~	~	~
96500	-1.79	-3.88	-2.91	-3.18	-5.63	-3.35	-7.28	-7.28	-3.11	-7.28	-4.41	-7.28
96800	-1.81	-3.84	-2.90	-3.22	-5.64	-3.35	-7.28	-7.28	-3.21	-7.28	-4.42	-7.28
97000	-1.84	-3.80	-2.90	-3.26	-5.65	-3.35	-7.28	-7.28	-3.28	-7.28	-4.44	-7.28
97300	-1.86	-3.77	-2.89	-3.31	-5.66	-3.35	-7.28	-7.28	-3.35	-7.28	-4.45	-7.28
97500	-1.89	-3.75	-2.89	-3.34	-5.67	-3.35	-7.28	-7.28	-3.39	-7.28	-4.46	-7.28

97800	-1.92	-3.72	-2.89	-3.38	-5.68	-3.35	-7.28	-7.28	-3.43	-7.28	-4.47	-7.28
98000	-1.94	-3.71	-2.88	-3.42	-5.69	-3.35	-7.28	-7.28	-3.43	-7.28	-4.48	-7.28
98300	-1.97	-3.69	-2.87	-3.43	-5.71	-3.35	-7.28	-7.28	-3.36	-7.28	-4.49	-7.28
98500	-2.01	-3.68	-2.87	-3.45	-5.72	-3.34	-7.28	-7.28	-3.34	-7.28	-4.49	-7.28
98800	-2.04	-3.67	-2.86	-3.47	-5.73	-3.33	-7.28	-7.28	-3.39	-7.28	-4.50	-7.28
99000	-2.07	-3.66	-2.86	-3.48	-5.74	-3.32	-7.28	-7.28	-3.41	-7.28	-4.50	-7.28
99300	-2.10	-3.62	-2.85	-3.49	-5.76	-3.30	-7.28	-7.28	-3.35	-7.28	-4.50	-7.28
99500	-2.13	-3.58	-2.85	-3.50	-5.77	-3.28	-7.28	-7.28	-3.18	-7.28	-4.51	-7.28
99800	-2.15	-3.57	-2.85	-3.51	-5.78	-3.26	-7.28	-7.28	-2.98	-7.28	-4.50	-7.28
100000	-2.16	-3.57	-2.84	-3.51	-5.79	-3.24	-7.28	-4.55	-2.90	-7.28	-4.50	-7.28

12.	13.	14.	15.	16.	17.	18.	19.
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
~	~	~	~	~	~	~	~
-3.97	-5.36	-1.93	-2.89	-2.81	-2.99	-2.92	-7.28
-3.97	-5.20	-1.86	-2.85	-2.81	-3.00	-2.82	-7.28
-3.98	-5.34	-1.77	-2.79	-2.83	-3.01	-2.76	-7.28
-3.97	-5.38	-1.68	-2.76	-2.84	-3.02	-2.70	-7.28
-3.93	-5.35	-1.62	-2.68	-2.85	-3.03	-2.65	-7.28
-3.89	-5.25	-1.58	-2.68	-2.86	-3.04	-2.58	-7.28
-3.87	-5.11	-1.54	-2.70	-2.87	-3.05	-2.55	-7.28
-3.87	-4.99	-1.51	-2.72	-2.88	-3.05	-2.51	-7.28
-3.87	-4.89	-1.48	-2.73	-2.89	-3.05	-2.48	-7.28
-3.86	-4.82	-1.45	-2.74	-2.90	-3.05	-2.48	-7.28
-3.83	-4.76	-1.43	-2.76	-2.90	-3.05	-2.48	-7.28
-3.79	-4.71	-1.41	-2.77	-2.91	-3.04	-2.48	-7.28
-3.74	-4.67	-1.39	-2.76	-2.91	-3.03	-2.49	-7.28
-3.66	-4.64	-1.37	-2.75	-2.91	-3.02	-2.49	-7.28
-3.58	-4.61	-1.36	-2.74	-2.90	-3.00	-2.48	-7.28

plot image	gpp1_0_20010215-053801_000.gif



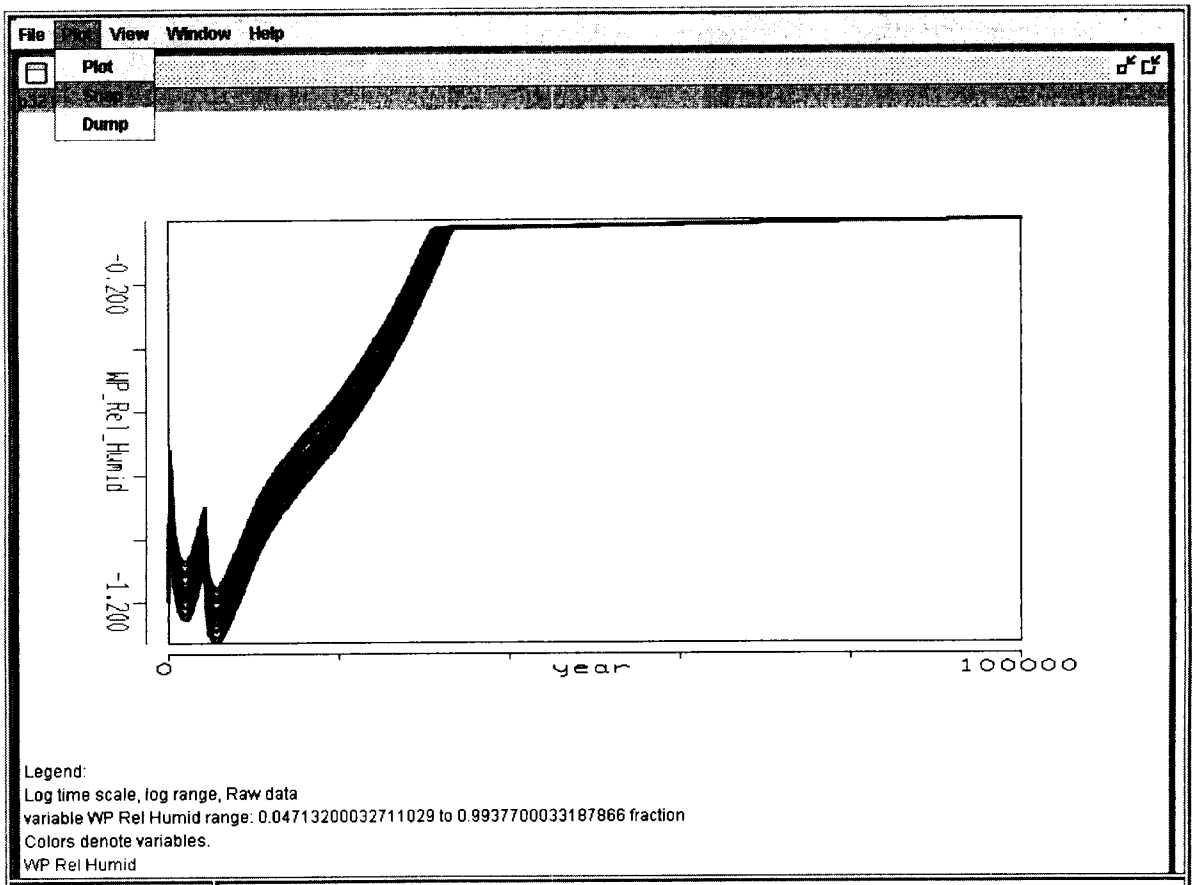
title	"p31 total dose lin lin reg"
plot specs	ivar=Time xlog=true ylog=true infl=0 regu=true phis=[0.1 0.5 0.9]
scales	Log time scale, log range
data	Regularized data, quantiles: 0.1 0.5 0.9
variable	Total Dose
range	0.0 to 0.04237811267375946 rem/yr Colors denote variables.
tabular data	gpp1_0_20010215-053543_000.csv

.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.
.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
2.31	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
4.67	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
7.09	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
9.57	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
12.1	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
14.7	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
17.4	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
20.1	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
22.8	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
25.7	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
28.6	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
31.6	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
34.6	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
~	~	~	~	~	~	~	~	~	~	~
85100	.0163	1.33e-4	.00122	6.56e-4	2.37e-6	4.52e-4	.000	.000	7.73e-4	.000
86100	.0154	1.45e-4	.00125	6.03e-4	2.32e-6	4.48e-4	.000	.000	6.21e-4	.000
87100	.0145	1.57e-4	.00127	5.46e-4	2.26e-6	4.45e-4	.000	.000	5.19e-4	.000
88100	.0137	1.68e-4	.00128	4.95e-4	2.20e-6	4.43e-4	.000	.000	4.48e-4	.000
89100	.0128	1.79e-4	.00129	4.55e-4	2.14e-6	4.42e-4	.000	.000	4.03e-4	.000

90100	.0121	1.89e-4	.00130	4.14e-4	2.09e-6	4.43e-4	.000	.000	3.76e-4	.000
91200	.0114	1.97e-4	.00132	3.83e-4	2.03e-6	4.46e-4	.000	.000	3.75e-4	.000
92200	.0106	2.03e-4	.00134	3.68e-4	1.97e-6	4.51e-4	.000	.000	4.39e-4	.000
93300	.00981	2.09e-4	.00136	3.55e-4	1.91e-6	4.58e-4	.000	.000	4.62e-4	.000
94400	.00908	2.15e-4	.00138	3.42e-4	1.85e-6	4.69e-4	.000	.000	4.09e-4	.000
95500	.00845	2.21e-4	.00140	3.30e-4	1.80e-6	4.83e-4	.000	.000	3.91e-4	.000
96600	.00792	2.38e-4	.00141	3.20e-4	1.75e-6	5.00e-4	.000	.000	4.50e-4	.000
97700	.00748	2.60e-4	.00142	3.13e-4	1.70e-6	5.22e-4	.000	4.1e-20	6.55e-4	.000
98900	.00714	2.69e-4	.00143	3.08e-4	1.65e-6	5.48e-4	.000	6.8e-10	.00104	.000
100000	.00689	2.70e-4	.00144	3.06e-4	1.61e-6	5.74e-4	.000	2.81e-5	.00125	.000

10.	11.	12.	13.	14.	15.	16.	17.	18.	19.
.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
~	~	~	~	~	~	~	~	~	~
3.90e-5	.000	1.07e-4	4.35e-6	.0117	.00129	.00156	.00102	.00120	.000
3.76e-5	.000	1.08e-4	6.31e-6	.0137	.00142	.00155	9.95e-4	.00152	.000
3.65e-5	.000	1.06e-4	4.62e-6	.0172	.00163	.00149	9.70e-4	.00173	.000
3.55e-5	.000	1.08e-4	4.17e-6	.0210	.00176	.00144	9.47e-4	.00199	.000
3.47e-5	.000	1.17e-4	4.44e-6	.0242	.00210	.00140	9.27e-4	.00226	.000
3.39e-5	.000	1.28e-4	5.65e-6	.0266	.00207	.00136	9.11e-4	.00261	.000
3.33e-5	.000	1.34e-4	7.78e-6	.0289	.00199	.00134	8.99e-4	.00279	.000
3.27e-5	.000	1.35e-4	1.03e-5	.0311	.00192	.00131	8.90e-4	.00308	.000
3.22e-5	.000	1.36e-4	1.28e-5	.0332	.00187	.00129	8.87e-4	.00329	.000
3.18e-5	.000	1.39e-4	1.52e-5	.0354	.00182	.00127	8.89e-4	.00331	.000
3.15e-5	.000	1.48e-4	1.74e-5	.0375	.00175	.00126	8.97e-4	.00329	.000
3.13e-5	.000	1.61e-4	1.95e-5	.0393	.00171	.00124	9.11e-4	.00327	.000
3.12e-5	.000	1.83e-4	2.13e-5	.0409	.00172	.00124	9.32e-4	.00326	.000
3.13e-5	.000	2.20e-4	2.30e-5	.0425	.00177	.00124	9.60e-4	.00326	.000
3.15e-5	.000	2.66e-4	2.46e-5	.0438	.00182	.00126	9.95e-4	.00328	.000

plot image	gpp1_0_20010215-053913_000.gif

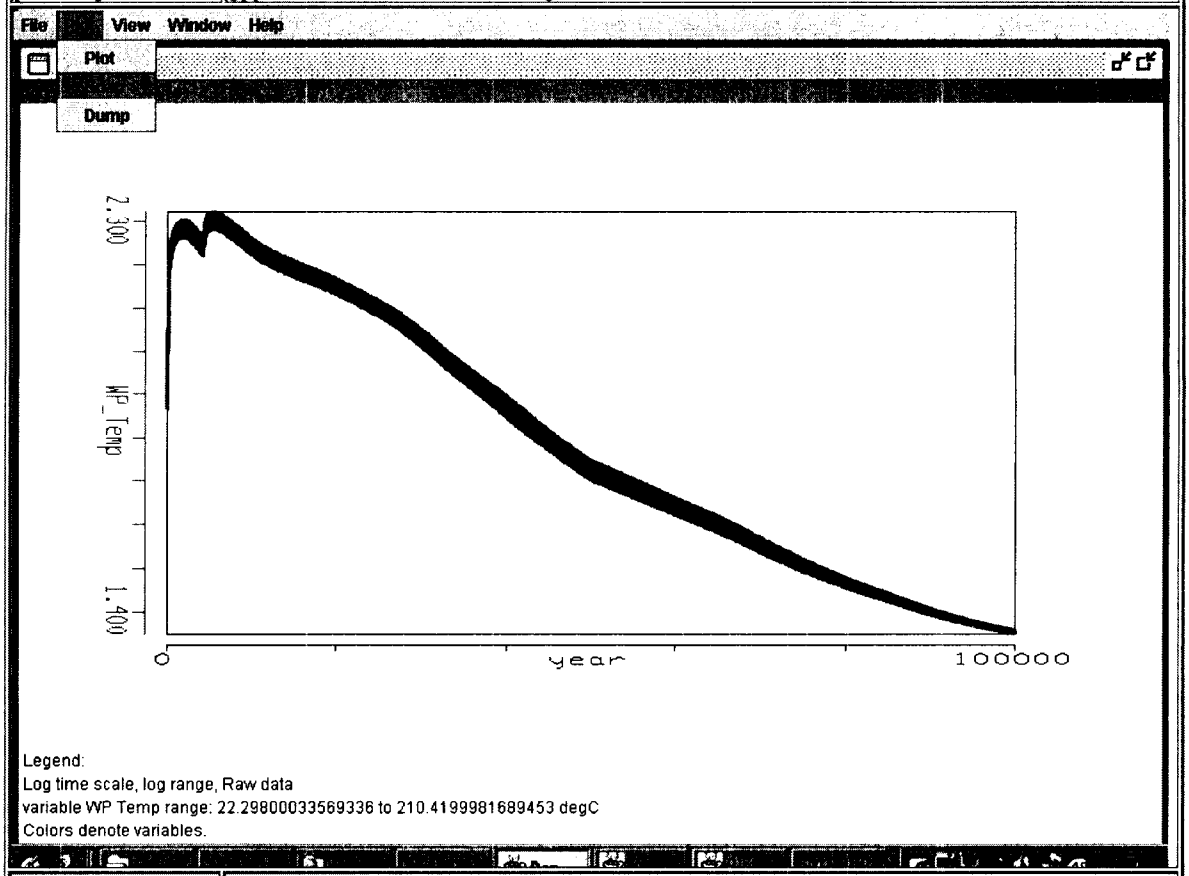


title	"p32 wp rel humid "
plot specs	ivar=Time xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data
variable	WP Rel Humid
range	0.04713200032711029 to 0.9937700033187866 fraction Colors denote variables.
tabular data	gpp1_0_20010215-053807_000.csv

.	.0	1.	2.
.000	-7.36	-7.36	-7.36
250.	-7.36	-7.36	-7.36
500.	-7.36	-7.36	-7.36
750.	-7.36	-7.36	-7.36
1000	-7.36	-7.36	-7.36
1250	-7.36	-7.36	-7.36
1500	-7.36	-7.36	-7.36
1750	-7.36	-7.36	-7.36
2000	-7.36	-7.36	-7.36
2250	-7.36	-7.36	-7.36
2500	-7.36	-7.36	-7.36
2750	-7.36	-7.36	-7.36
3000	-7.36	-7.36	-7.36
3250	-7.36	-7.36	-7.36
~	~	~	~
96500	-3.46	-2.91	-1.88
96800	-3.44	-2.90	-1.90
97000	-3.42	-2.90	-1.93
97300	-3.41	-2.89	-1.95
97500	-3.40	-2.89	-1.98

97800	-3.39	-2.89 -2.00
98000	-3.38	-2.88 -2.03
98300	-3.37	-2.87 -2.06
98500	-3.36	-2.87 -2.09
98800	-3.35	-2.86 -2.12
99000	-3.34	-2.86 -2.15
99300	-3.33	-2.85 -2.18
99500	-3.31	-2.85 -2.20
99800	-3.30	-2.85 -2.22
100000	-3.30	-2.84 -2.24

plot image	gpp1_0_20010215-054018_000.gif



title	"p33 wp temp"
plot specs	ivar=Time xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data
variable	WP Temp
range	22.29800033569336 to 210.4199981689453 degC Colors denote variables.
tabular data	gpp1_0_20010215-053918_000.csv

.	.0	1.	2.	3.	4.	5.	6.	7.	8.
.000	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19
250.	-.807	-.821	-.794	-.747	-.792	-.727	-.786	-.719	-.741
500.	-1.01	-1.02	-.990	-.931	-.988	-.907	-.980	-.898	-.925
750.	-1.09	-1.11	-1.07	-1.01	-1.07	-.985	-1.06	-.975	-1.00
1000	-1.14	-1.16	-1.12	-1.06	-1.12	-1.03	-1.11	-1.02	-1.05
1250	-1.17	-1.19	-1.15	-1.08	-1.15	-1.06	-1.14	-1.05	-1.08
1500	-1.18	-1.20	-1.17	-1.10	-1.16	-1.07	-1.16	-1.06	-1.09
1750	-1.19	-1.21	-1.17	-1.11	-1.17	-1.08	-1.16	-1.07	-1.10

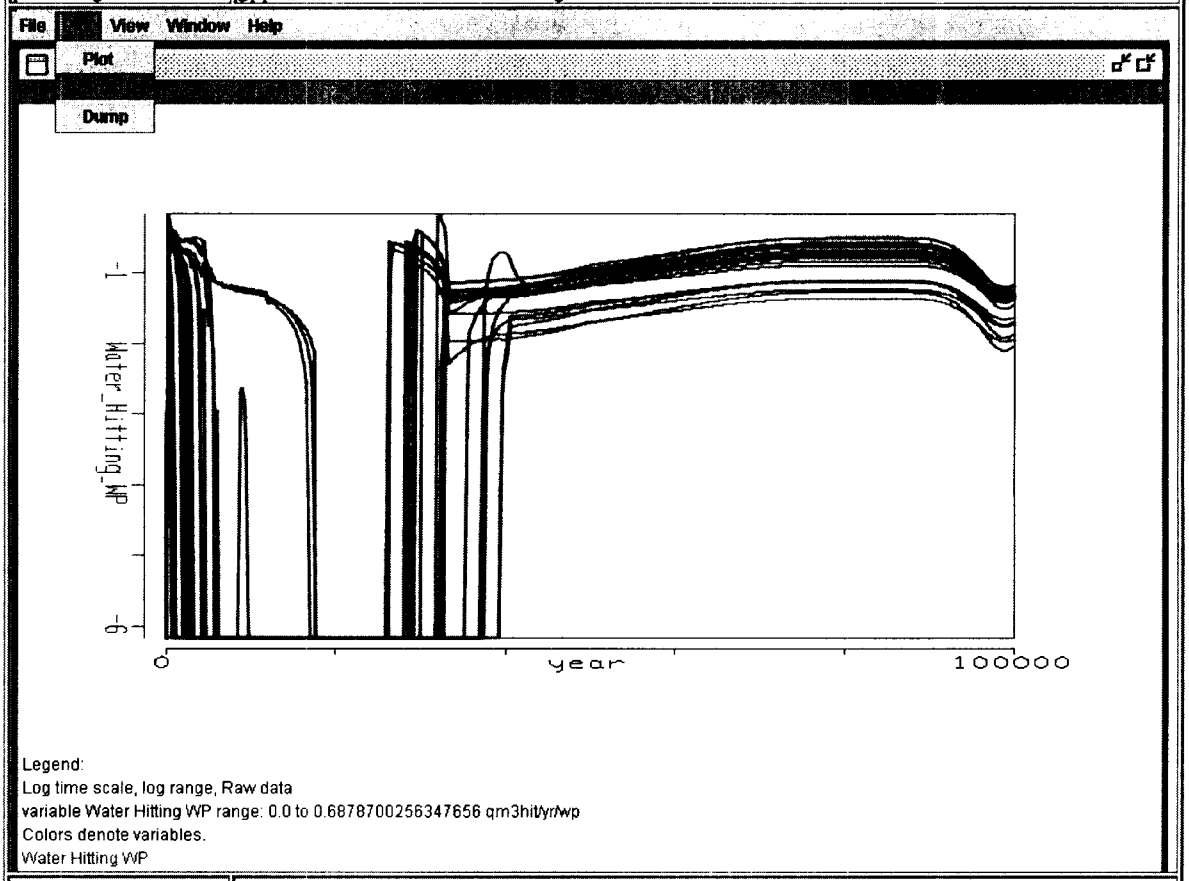
2000	-1.20	-1.22	-1.18	-1.11	-1.17	-1.08	-1.17	-1.07	-1.10
2250	-1.19	-1.21	-1.18	-1.11	-1.17	-1.08	-1.16	-1.07	-1.10
2500	-1.18	-1.21	-1.17	-1.10	-1.16	-1.07	-1.15	-1.06	-1.09
2750	-1.17	-1.19	-1.15	-1.08	-1.14	-1.05	-1.14	-1.04	-1.07
3000	-1.14	-1.17	-1.12	-1.06	-1.12	-1.03	-1.11	-1.02	-1.05
3250	-1.12	-1.14	-1.10	-1.03	-1.10	-1.00	-1.09	-.993	-1.03
~	~	~	~	~	~	~	~	~	~
96500	-.00337	-.00337	-.00338	-.00339	-.00338	-.00340	-.00338	-.00340	-.00339
96800	-.00333	-.00332	-.00333	-.00334	-.00333	-.00334	-.00333	-.00334	-.00334
97000	-.00327	-.00327	-.00328	-.00329	-.00328	-.00329	-.00328	-.00329	-.00329
97300	-.00323	-.00322	-.00323	-.00324	-.00323	-.00324	-.00323	-.00324	-.00324
97500	-.00317	-.00317	-.00318	-.00319	-.00318	-.00319	-.00318	-.00319	-.00319
97800	-.00313	-.00313	-.00313	-.00314	-.00313	-.00314	-.00313	-.00314	-.00314
98000	-.00308	-.00308	-.00308	-.00309	-.00308	-.00309	-.00308	-.00309	-.00309
98300	-.00303	-.00303	-.00303	-.00304	-.00303	-.00305	-.00303	-.00305	-.00304
98500	-.00299	-.00298	-.00299	-.00299	-.00299	-.00300	-.00299	-.00300	-.00300
98800	-.00294	-.00294	-.00294	-.00295	-.00294	-.00295	-.00294	-.00295	-.00295
99000	-.00289	-.00289	-.00290	-.00291	-.00290	-.00291	-.00290	-.00291	-.00291
99300	-.00285	-.00285	-.00285	-.00286	-.00285	-.00286	-.00285	-.00286	-.00286
99500	-.00281	-.00280	-.00281	-.00281	-.00281	-.00282	-.00281	-.00282	-.00281
99800	-.00276	-.00276	-.00277	-.00277	-.00277	-.00278	-.00277	-.00278	-.00277
100000	-.00272	-.00272	-.00272	-.00273	-.00272	-.00273	-.00272	-.00274	-.00273

9.	10.	11.	12.	13.	14.	15.	16.	17.	18.
-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19
-.846	-.768	-.805	-.803	-.781	-.819	-.776	-.753	-.847	-.835
-1.05	-.957	-1.00	-1.00	-.974	-1.02	-.968	-.939	-1.06	-1.04
-1.14	-1.04	-1.09	-1.08	-1.06	-1.11	-1.05	-1.02	-1.14	-1.13
-1.19	-1.09	-1.14	-1.13	-1.10	-1.15	-1.10	-1.06	-1.19	-1.18
-1.22	-1.11	-1.17	-1.16	-1.13	-1.18	-1.13	-1.09	-1.22	-1.21
-1.24	-1.13	-1.18	-1.18	-1.15	-1.20	-1.14	-1.11	-1.24	-1.22
-1.25	-1.14	-1.19	-1.19	-1.16	-1.21	-1.15	-1.12	-1.25	-1.23
-1.25	-1.14	-1.19	-1.19	-1.16	-1.21	-1.15	-1.12	-1.25	-1.24
-1.25	-1.14	-1.19	-1.19	-1.16	-1.21	-1.15	-1.12	-1.25	-1.23
-1.24	-1.13	-1.18	-1.18	-1.15	-1.20	-1.14	-1.11	-1.24	-1.23
-1.22	-1.11	-1.16	-1.16	-1.13	-1.18	-1.12	-1.09	-1.22	-1.21
-1.20	-1.09	-1.14	-1.14	-1.11	-1.16	-1.10	-1.07	-1.20	-1.19
-1.18	-1.06	-1.12	-1.12	-1.08	-1.14	-1.08	-1.04	-1.18	-1.16
~	~	~	~	~	~	~	~	~	~
-.00337	-.00338	-.00337	-.00337	-.00338	-.00337	-.00338	-.00339	-.00337	-.00337
-.00331	-.00334	-.00333	-.00333	-.00333	-.00332	-.00333	-.00334	-.00331	-.00332
-.00327	-.00328	-.00327	-.00327	-.00328	-.00327	-.00328	-.00329	-.00327	-.00327
-.00322	-.00323	-.00323	-.00323	-.00323	-.00322	-.00323	-.00323	-.00321	-.00322
-.00316	-.00318	-.00317	-.00318	-.00318	-.00317	-.00318	-.00319	-.00316	-.00317
-.00312	-.00313	-.00313	-.00313	-.00313	-.00313	-.00313	-.00314	-.00312	-.00312
-.00307	-.00309	-.00308	-.00308	-.00309	-.00308	-.00309	-.00309	-.00307	-.00307
-.00302	-.00304	-.00303	-.00303	-.00304	-.00303	-.00304	-.00304	-.00302	-.00302
-.00298	-.00299	-.00299	-.00299	-.00299	-.00298	-.00299	-.00299	-.00298	-.00298
-.00293	-.00295	-.00294	-.00294	-.00295	-.00294	-.00295	-.00295	-.00293	-.00293
-.00289	-.00290	-.00289	-.00289	-.00290	-.00289	-.00290	-.00290	-.00289	-.00289
-.00284	-.00286	-.00285	-.00285	-.00285	-.00285	-.00285	-.00286	-.00284	-.00285
-.00280	-.00281	-.00281	-.00281	-.00281	-.00281	-.00281	-.00281	-.00280	-.00280
-.00276	-.00277	-.00276	-.00276	-.00277	-.00276	-.00277	-.00277	-.00276	-.00276
-.00271	-.00273	-.00272	-.00272	-.00272	-.00272	-.00273	-.00273	-.00271	-.00272

19.
-1.19
-.740
-.924
-1.00
-1.05
-1.08

```
  -1.09
  -1.10
  -1.10
  -1.10
  -1.09
  -1.07
  -1.05
  -1.02
      ~
-.00339
-.00334
-.00329
-.00324
-.00319
-.00314
-.00309
-.00304
-.00300
-.00295
-.00291
-.00286
-.00281
-.00278
-.00273
```

plot image	gpp1_0_20010215-054120_000.gif



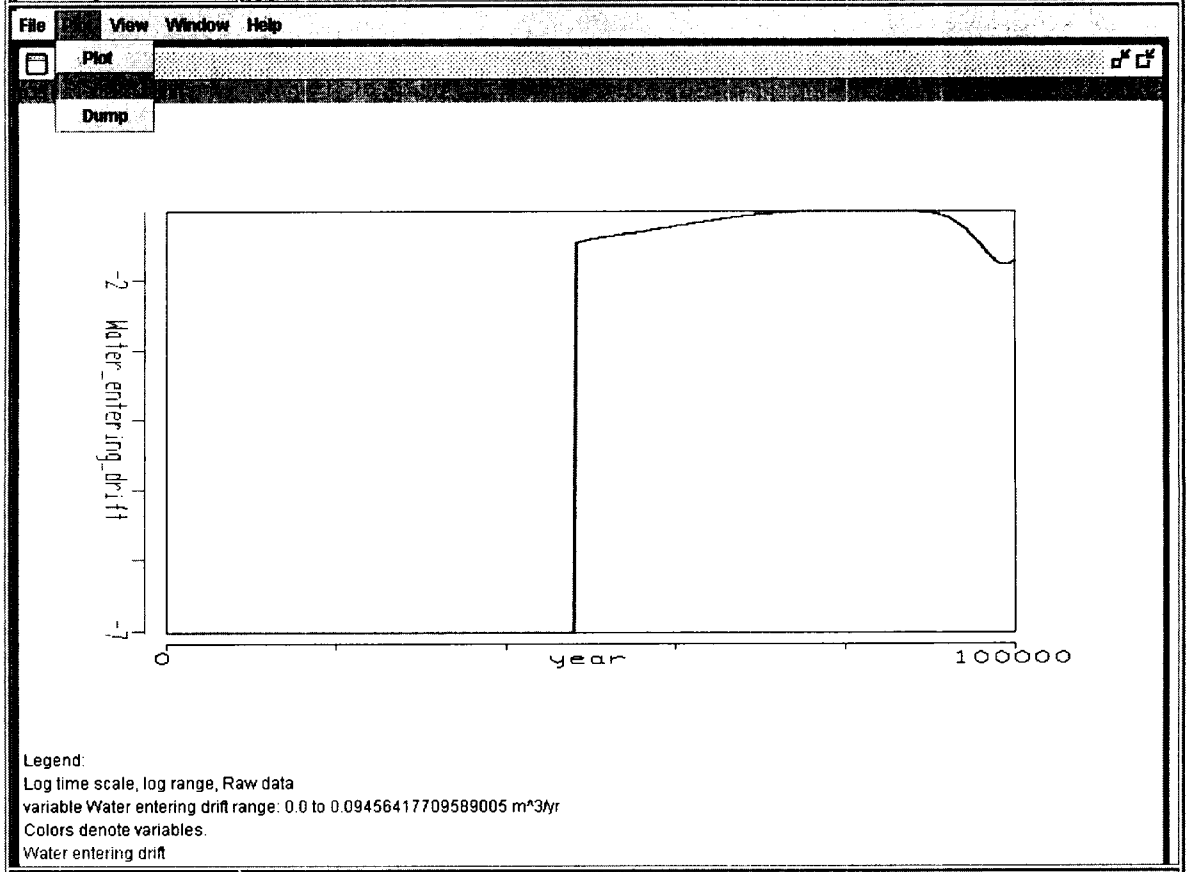
title	"p34 h2o hitting wp"
plot specs	ivar=Time xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range

data	Raw data
variable	Water Hitting WP
range	0.0 to 0.6878700256347656 qm3hit/yr/wp Colors denote variables.
tabular data	gpp1_0_20010215-054023_000.csv

.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.
.000	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87
250.	2.20	2.20	2.19	2.18	2.19	2.18	2.19	2.18	2.18	2.21	2.19	2.20	2.20	2.19	2.20	2.19	2.18	2.21	2.20	2.18
500.	2.25	2.25	2.24	2.23	2.24	2.22	2.24	2.22	2.23	2.26	2.23	2.25	2.25	2.24	2.25	2.24	2.23	2.26	2.25	2.23
750.	2.27	2.27	2.26	2.25	2.26	2.24	2.26	2.24	2.25	2.28	2.25	2.27	2.27	2.26	2.27	2.26	2.25	2.28	2.28	2.25
1000	2.28	2.28	2.27	2.26	2.27	2.25	2.27	2.25	2.26	2.29	2.27	2.28	2.28	2.27	2.28	2.27	2.26	2.29	2.29	2.26
1250	2.29	2.29	2.28	2.27	2.28	2.26	2.28	2.26	2.26	2.30	2.27	2.28	2.28	2.28	2.29	2.27	2.27	2.30	2.29	2.26
1500	2.29	2.29	2.28	2.27	2.28	2.26	2.28	2.26	2.27	2.30	2.28	2.29	2.29	2.28	2.29	2.27	2.27	2.30	2.30	2.27
1750	2.29	2.30	2.29	2.27	2.29	2.26	2.28	2.26	2.27	2.30	2.28	2.29	2.29	2.28	2.29	2.27	2.27	2.30	2.30	2.27
2000	2.29	2.30	2.29	2.27	2.29	2.26	2.28	2.26	2.27	2.31	2.28	2.29	2.29	2.28	2.29	2.27	2.27	2.31	2.30	2.27
2250	2.29	2.30	2.29	2.27	2.29	2.26	2.28	2.26	2.27	2.30	2.28	2.29	2.29	2.28	2.29	2.27	2.27	2.30	2.30	2.27
2500	2.29	2.29	2.28	2.27	2.28	2.26	2.28	2.26	2.27	2.30	2.28	2.29	2.29	2.28	2.29	2.27	2.27	2.30	2.30	2.27
2750	2.28	2.29	2.28	2.26	2.28	2.26	2.28	2.25	2.26	2.30	2.27	2.28	2.28	2.28	2.29	2.27	2.27	2.30	2.30	2.27
3000	2.28	2.28	2.27	2.26	2.27	2.25	2.27	2.25	2.26	2.29	2.27	2.28	2.28	2.27	2.28	2.27	2.27	2.31	2.30	2.27
3250	2.27	2.28	2.27	2.25	2.27	2.25	2.27	2.24	2.25	2.29	2.26	2.27	2.27	2.26	2.29	2.27	2.27	2.30	2.30	2.27
~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
96500	1.37	1.37	1.37	1.36	1.37	1.36	1.37	1.36	1.36	1.37	1.36	1.37	1.37	1.37	1.37	1.36	1.36	1.37	1.36	1.36
96800	1.37	1.37	1.37	1.36	1.37	1.36	1.37	1.36	1.36	1.37	1.36	1.37	1.37	1.36	1.37	1.36	1.36	1.37	1.36	1.36
97000	1.37	1.37	1.37	1.36	1.36	1.36	1.36	1.36	1.36	1.37	1.36	1.37	1.37	1.36	1.37	1.36	1.36	1.37	1.36	1.36
97300	1.37	1.37	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.37	1.36	1.37	1.36	1.36	1.37	1.36	1.36	1.37	1.36	1.36
97500	1.36	1.37	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.37	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.37	1.36	1.36
97800	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.37	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.37	1.36	1.36
98000	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.35	1.36	1.37	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.37	1.36	1.36
98300	1.36	1.36	1.36	1.36	1.36	1.35	1.36	1.35	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
98500	1.36	1.36	1.36	1.36	1.36	1.35	1.36	1.35	1.35	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
98800	1.36	1.36	1.36	1.35	1.36	1.35	1.36	1.35	1.35	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
99000	1.36	1.36	1.36	1.35	1.36	1.35	1.36	1.35	1.35	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
99300	1.36	1.36	1.36	1.35	1.36	1.35	1.36	1.35	1.35	1.36	1.35	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
99500	1.36	1.36	1.36	1.35	1.36	1.35	1.35	1.35	1.35	1.36	1.35	1.36	1.36	1.35	1.36	1.36	1.36	1.36	1.36	1.36
99800	1.36	1.36	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.36	1.35	1.36	1.36	1.35	1.36	1.36	1.36	1.36	1.36	1.36
100000	1.35	1.36	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.36	1.35	1.35	1.35	1.35	1.36	1.36	1.36	1.36	1.36	1.36

1.36 1.36 1.35 1.36 1.36 1.35 1.36 1.36 1.35 1.36 1.36 1.35 1.36 1.35 1.35 1.36 1.36 1.35 1.36 1.35 1.35 1.36 1.36 1.35 1.36 1.35 1.35 1.36 1.36 1.35 1.36 1.35 1.35 1.36 1.36 1.35

plot image	gpp1_0_20010215-054220_000.gif



title	"p35 h2o entering drift "
plot specs	ivar=Time xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data
variable	Water entering drift
range	0.0 to 0.09456417709589005 m^3/yr Colors denote variables.
tabular data	gpp1_0_20010215-054124_000.csv

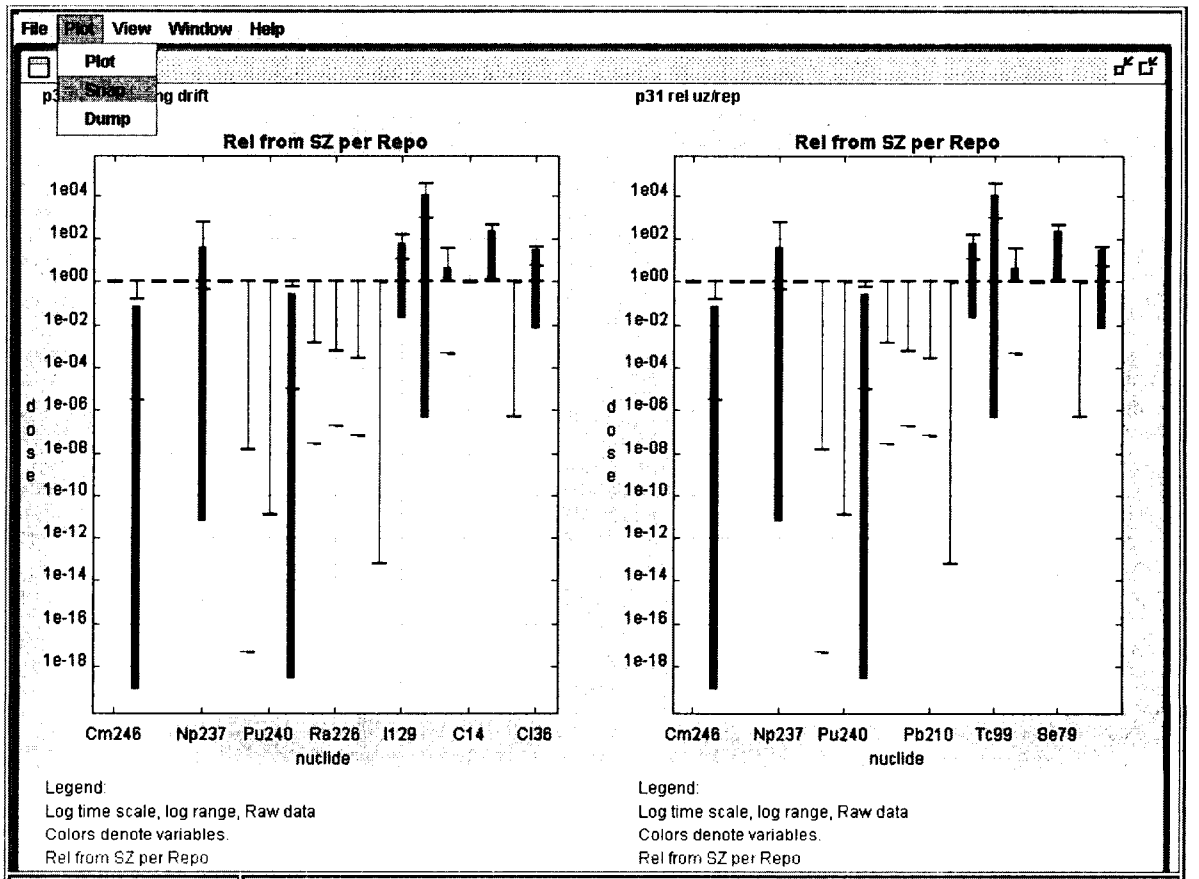
.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
.000	-6.16	-6.16	-6.16	-6.16	-6.16	-6.16	-6.16	-6.16	-6.16	-6.16	-6.16	-6.16
250.	-.435	-1.40	-6.16	-.781	-.312	-.162	-.407	-.669	-.537	-.531	-.321	-1.66
500.	-.512	-1.46	-6.16	-.661	-.440	-.392	-.522	-1.07	-.456	-.515	-.442	-1.63
750.	-.577	-2.68	-6.16	-.632	-.468	-.404	-.587	-1.49	-.434	-.538	-.475	-1.86
1000	-.659	-6.16	-6.16	-.644	-.487	-.415	-.658	-6.16	-.433	-.579	-.501	-3.89
1250	-.752	-6.16	-6.16	-.673	-.546	-.487	-.748	-6.16	-.457	-.632	-.561	-6.16
1500	-.931	-6.16	-6.16	-.743	-.615	-.531	-.911	-6.16	-.503	-.730	-.637	-6.16
1750	-1.14	-6.16	-6.16	-.821	-.646	-.545	-1.07	-6.16	-.531	-.819	-.679	-6.16
2000	-1.54	-6.16	-6.16	-.916	-.670	-.558	-1.31	-6.16	-.552	-.919	-.716	-6.16
2250	-6.16	-6.16	-6.16	-1.07	-.659	-.527	-2.35	-6.16	-.555	-1.08	-.728	-6.16
2500	-6.16	-6.16	-6.16	-1.29	-.664	-.530	-6.16	-6.16	-.555	-1.28	-.752	-6.16
2750	-6.16	-6.16	-6.16	-1.89	-.691	-.547	-6.16	-6.16	-.567	-1.83	-.804	-6.16

3000	-6.16	-6.16	-6.16	-6.16	-.737	-.563	-6.16	-6.16	-.589	-6.16	-.910	-6.16
3250	-6.16	-6.16	-6.16	-6.16	-.730	-.539	-6.16	-6.16	-.587	-6.16	-.949	-6.16
~	~	~	~	~	~	~	~	~	~	~	~	~
96500	-1.19	-1.30	-1.17	-1.19	-1.88	-1.18	-1.82	-1.59	-1.05	-1.29	-1.53	-1.70
96800	-1.23	-1.33	-1.21	-1.21	-1.92	-1.21	-1.85	-1.61	-1.08	-1.31	-1.55	-1.74
97000	-1.26	-1.37	-1.24	-1.24	-1.95	-1.24	-1.88	-1.64	-1.11	-1.33	-1.57	-1.77
97300	-1.30	-1.40	-1.27	-1.26	-1.99	-1.27	-1.90	-1.66	-1.14	-1.34	-1.59	-1.80
97500	-1.33	-1.43	-1.30	-1.28	-2.02	-1.30	-1.92	-1.68	-1.17	-1.36	-1.61	-1.83
97800	-1.35	-1.46	-1.33	-1.30	-2.05	-1.32	-1.94	-1.70	-1.19	-1.37	-1.63	-1.86
98000	-1.38	-1.48	-1.35	-1.31	-2.07	-1.34	-1.95	-1.72	-1.21	-1.38	-1.64	-1.88
98300	-1.40	-1.49	-1.37	-1.32	-2.09	-1.36	-1.97	-1.73	-1.23	-1.39	-1.65	-1.90
98500	-1.41	-1.51	-1.38	-1.33	-2.10	-1.37	-1.97	-1.74	-1.24	-1.40	-1.66	-1.91
98800	-1.41	-1.51	-1.38	-1.33	-2.10	-1.37	-1.98	-1.74	-1.24	-1.40	-1.66	-1.92
99000	-1.41	-1.51	-1.38	-1.33	-2.10	-1.37	-1.97	-1.74	-1.24	-1.40	-1.66	-1.91
99300	-1.40	-1.50	-1.37	-1.32	-2.09	-1.36	-1.97	-1.73	-1.23	-1.39	-1.65	-1.90
99500	-1.38	-1.48	-1.35	-1.31	-2.07	-1.35	-1.96	-1.72	-1.21	-1.39	-1.64	-1.89
99800	-1.36	-1.46	-1.33	-1.30	-2.05	-1.33	-1.94	-1.70	-1.19	-1.37	-1.63	-1.86
100000	-1.36	-1.46	-1.33	-1.30	-2.05	-1.33	-1.94	-1.70	-1.19	-1.37	-1.63	-1.86

12.	13.	14.	15.	16.	17.	18.	19.
-6.16	-6.16	-6.16	-6.16	-6.16	-6.16	-6.16	-6.16
-.805	-.172	-.495	-.194	-1.74	-.353	-.348	-.298
-.670	-.421	-.501	-.376	-2.46	-.523	-.425	-.581
-.628	-.427	-.535	-.395	-6.16	-.592	-.454	-.647
-.626	-.433	-.584	-.408	-6.16	-.669	-.477	-.733
-.643	-.527	-.643	-.469	-6.16	-.790	-.529	-.948
-.696	-.549	-.750	-.519	-6.16	-.996	-.599	-1.24
-.752	-.556	-.851	-.537	-6.16	-1.24	-.638	-1.86
-.817	-.564	-.969	-.553	-6.16	-1.81	-.671	-6.16
-.909	-.512	-1.18	-.534	-6.16	-6.16	-.684	-6.16
-1.02	-.517	-1.50	-.539	-6.16	-6.16	-.702	-6.16
-1.18	-.528	-6.16	-.560	-6.16	-6.16	-.745	-6.16
-1.68	-.511	-6.16	-.590	-6.16	-6.16	-.830	-6.16
-6.16	-.486	-6.16	-.575	-6.16	-6.16	-.863	-6.16
~	~	~	~	~	~	~	~
-1.17	-1.16	-1.14	-1.06	-1.17	-1.63	-1.28	-1.24
-1.20	-1.18	-1.18	-1.08	-1.20	-1.65	-1.30	-1.27
-1.23	-1.20	-1.22	-1.11	-1.23	-1.67	-1.33	-1.29
-1.26	-1.22	-1.25	-1.13	-1.25	-1.69	-1.35	-1.31
-1.29	-1.24	-1.29	-1.15	-1.27	-1.71	-1.37	-1.33
-1.31	-1.25	-1.32	-1.17	-1.29	-1.73	-1.38	-1.35
-1.33	-1.26	-1.34	-1.18	-1.31	-1.74	-1.40	-1.37
-1.35	-1.27	-1.36	-1.19	-1.32	-1.75	-1.41	-1.38
-1.36	-1.28	-1.38	-1.20	-1.33	-1.75	-1.41	-1.39
-1.36	-1.28	-1.38	-1.20	-1.33	-1.75	-1.42	-1.39
-1.36	-1.28	-1.38	-1.20	-1.33	-1.75	-1.42	-1.39
-1.35	-1.27	-1.37	-1.19	-1.32	-1.75	-1.41	-1.38
-1.33	-1.27	-1.35	-1.18	-1.31	-1.74	-1.40	-1.37
-1.31	-1.25	-1.32	-1.17	-1.29	-1.73	-1.38	-1.35
-1.31	-1.25	-1.32	-1.17	-1.29	-1.73	-1.38	-1.35

file name	cumrel.res

plot image	gpp1_0_20010215-055048_000.gif



title	"p35 h2o entering drift "
plot specs	ivar=Discrete xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data Colors denote
variable	s
range	nd: Log time scale, log range, Raw data Colors denote variables.
tabular data	gpp1_0_20010215-054225_000.csv

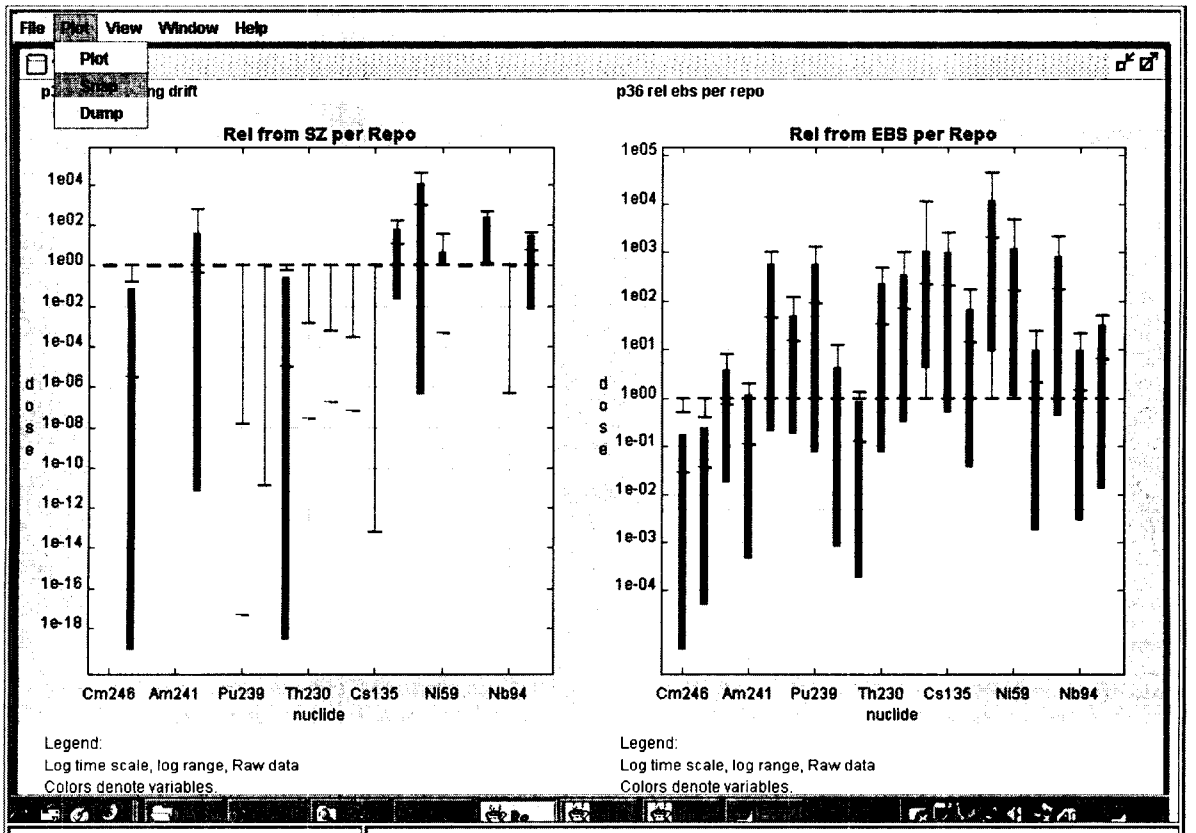
```
     .     .0
  .000 -7.02
  250. -7.02
  500. -7.02
  750. -7.02
  1000 -7.02
  1250 -7.02
  1500 -7.02
  1750 -7.02
  2000 -7.02
  2250 -7.02
  2500 -7.02
  2750 -7.02
  3000 -7.02
  3250 -7.02
     ~     ~
 96500 -1.58
 96800 -1.62
 97000 -1.65
 97300 -1.68
 97500 -1.71
```

97800	-1.73
98000	-1.76
98300	-1.77
98500	-1.78
98800	-1.79
99000	-1.78
99300	-1.77
99500	-1.76
99800	-1.74
100000	-1.74

title	"p31 rel uz/rep"
plot specs	ivar=Discrete xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data Colors denote
variable	s
range	nd: Log time scale, log range, Raw data Colors denote variables.
tabular data	gpp1_0_20010215-055054_000.csv

.	.0
.000	-7.02
250.	-7.02
500.	-7.02
750.	-7.02
1000	-7.02
1250	-7.02
1500	-7.02
1750	-7.02
2000	-7.02
2250	-7.02
2500	-7.02
2750	-7.02
3000	-7.02
3250	-7.02
~	~
96500	-1.58
96800	-1.62
97000	-1.65
97300	-1.68
97500	-1.71
97800	-1.73
98000	-1.76
98300	-1.77
98500	-1.78
98800	-1.79
99000	-1.78
99300	-1.77
99500	-1.76
99800	-1.74
100000	-1.74

plot image	gpp1_0_20010215-055952_000.gif



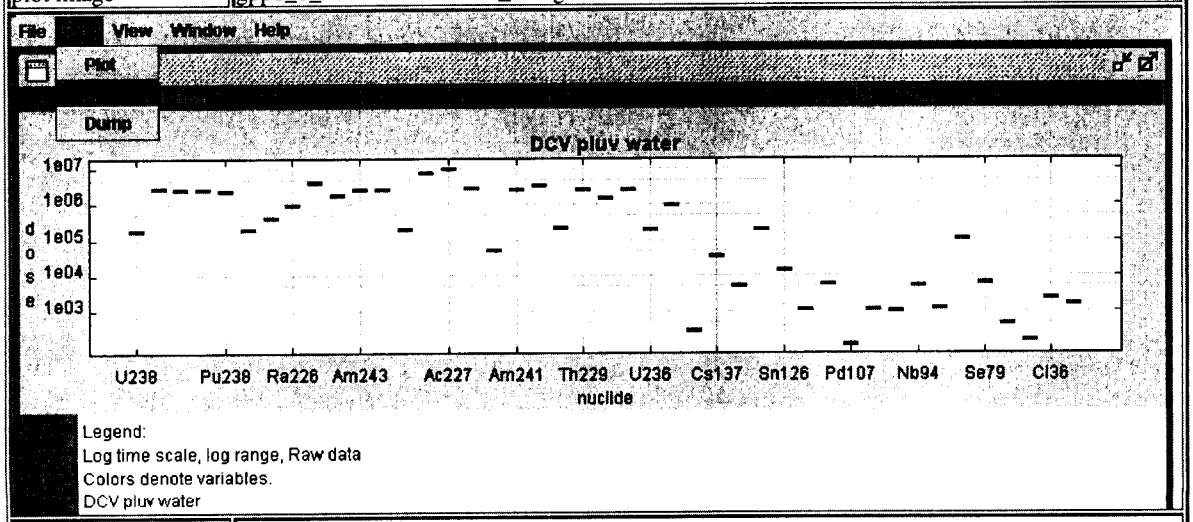
title	"p35 h2o entering drift "
plot specs	ivar=Discrete xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data Colors denote
variable	s
range	nd: Log time scale, log range, Raw data Colors denote variables.
## COULD NOT FIND ##	'gpp1_0_20010215-055056_000.csv'

title	"p36 rel ebs per repo"
plot specs	ivar=Discrete xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data Colors denote
variable	s
range	nd: Log time scale, log range, Raw data Colors denote variables.
tabular data	gpp1_0_20010215-060002_000.csv

```
     .     .0
  .000 -7.02
  250. -7.02
  500. -7.02
  750. -7.02
  1000 -7.02
  1250 -7.02
  1500 -7.02
  1750 -7.02
  2000 -7.02
  2250 -7.02
  2500 -7.02
  2750 -7.02
```

```
  3000 -7.02
  3250 -7.02
     ~     ~
 96500 -1.58
 96800 -1.62
 97000 -1.65
 97300 -1.68
 97500 -1.71
 97800 -1.73
 98000 -1.76
 98300 -1.77
 98500 -1.78
 98800 -1.79
 99000 -1.78
 99300 -1.77
 99500 -1.76
 99800 -1.74
100000 -1.74
```

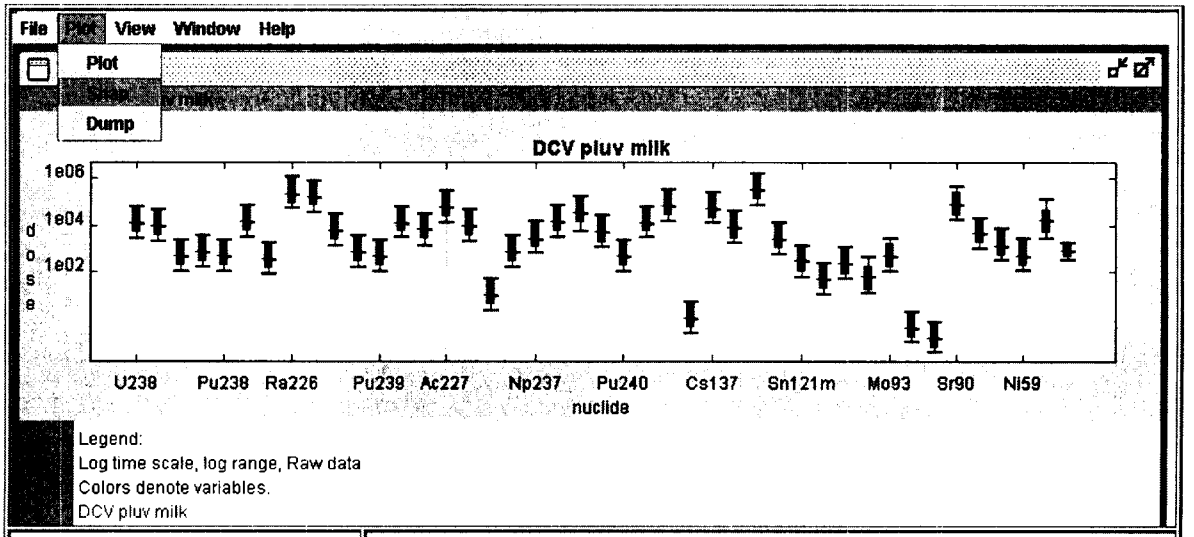
tpa directory	f:\tpa\00-10-16\ n_subareas=8 n_nuclides=20
file name	dcf.cum
plot image	gpp1_0_20010215-061453_000.gif



title	"p38 dcv pluv h2o"
plot specs	ivar=Discrete xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data Colors denote
variable	s
range	nd: Log time scale, log range, Raw data Colors denote variables.

title	"p38 dcv pluv h2o"
plot specs	ivar=Discrete xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data Colors denote
variable	s
range	nd: Log time scale, log range, Raw data Colors denote variables.
## COULD NOT FIND ##	'gpp1_0_20010215-061458_000.csv'

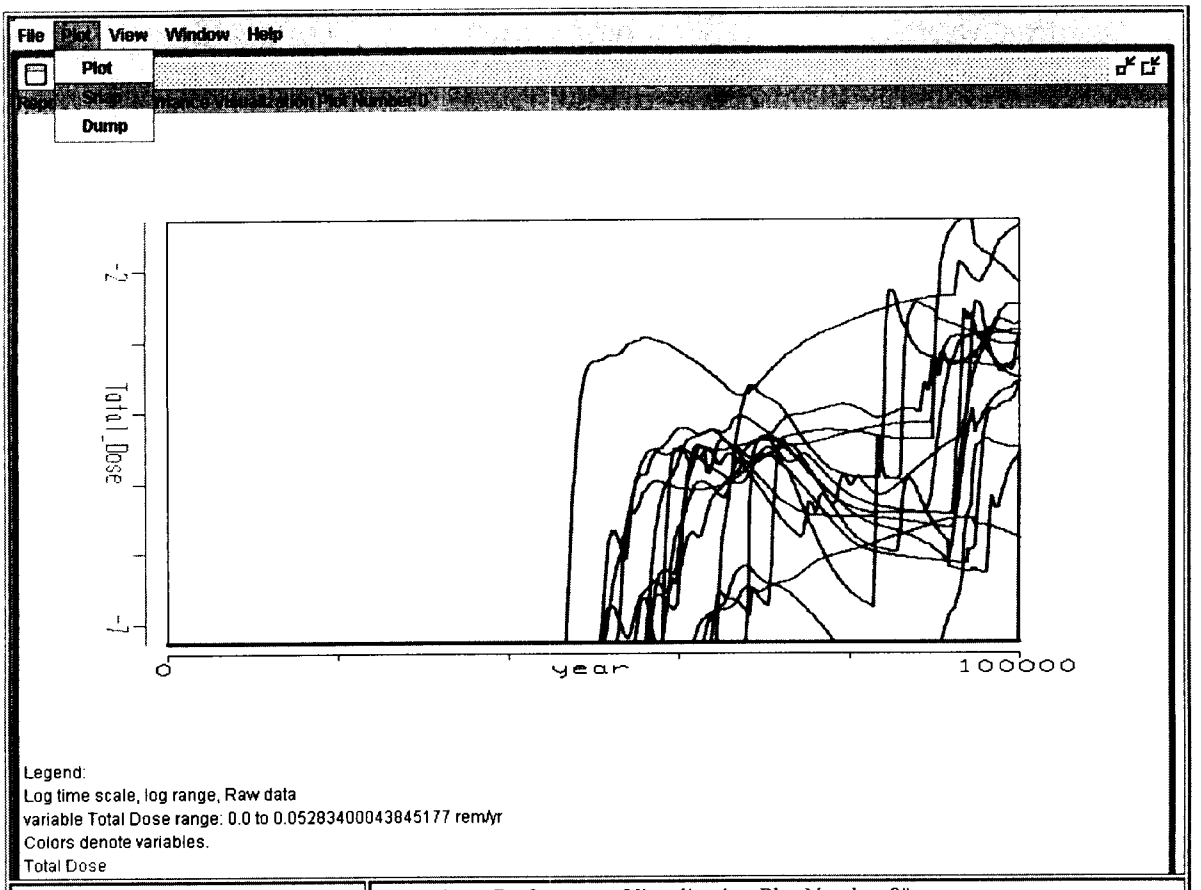
plot image	gpp1_0_20010215-061802_000.gif



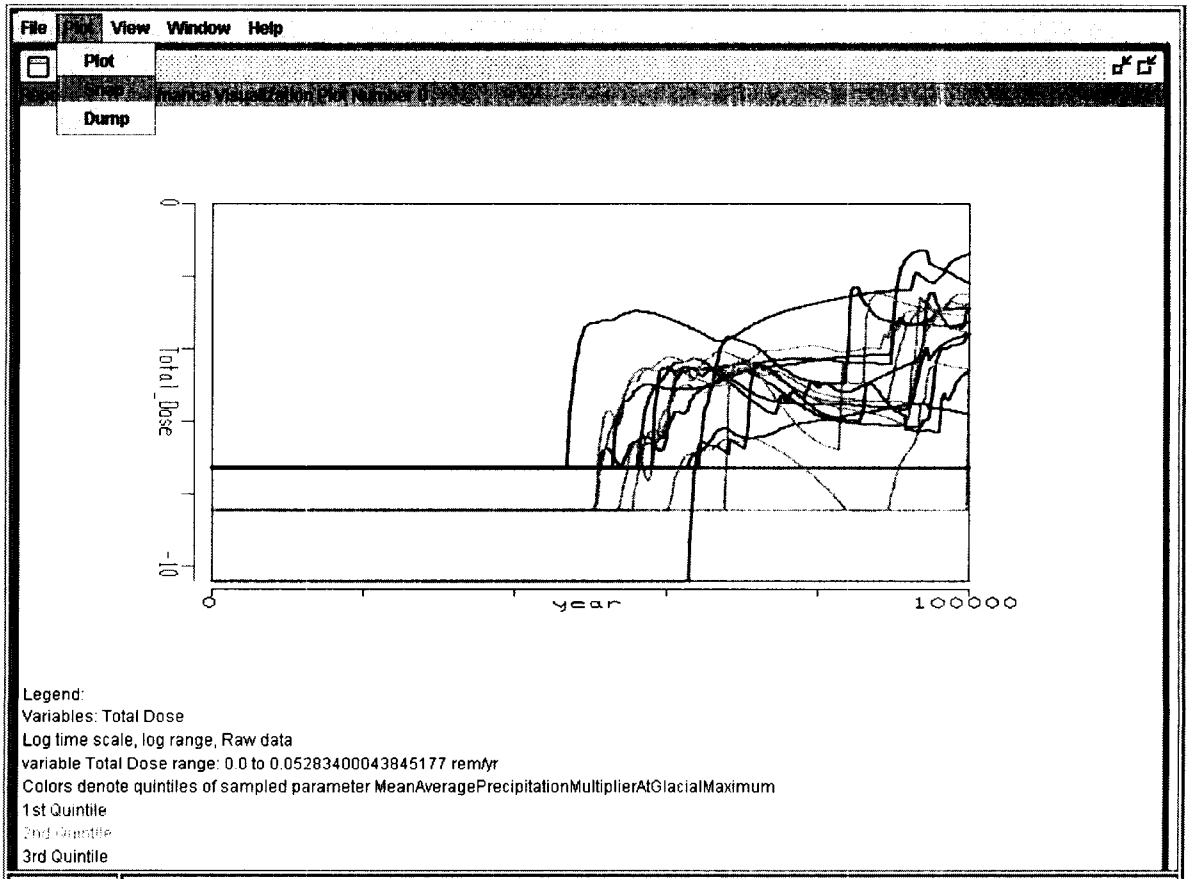
title	"p39 dcv pluv milk"
plot specs	ivar=Discrete xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data Colors denote
variable	s
range	nd: Log time scale, log range, Raw data Colors denote variables.
## COULD NOT FIND ##	'gpp1_0_20010215-061511_000.csv'

tpa directory	f:\tpa\00-10-16\ n_subareas=8 n_nuclides=20
tpa directory	f:\tpa\00-10-16\ n_subareas=8 n_nuclides=20

plot image	gpp1_0_20010215-062541_000.gif



title	"Repository Performance Visualization Plot Number 0"
plot specs	ivar=Time xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data
variable	Total Dose
range	0.0 to 0.05283400043845177 rem/yr Colors denote variables.
## COULD NOT FIND ##	'gpp1_0_20010215-061808_000.csv'
tpa directory	f:\tpa\00-10-16\ n_subareas=8 n_nuclides=20
plot image	gpp1_0_20010215-062853_000.gif



title	"Repository Performance Visualization Plot Number 0"
plot specs	ivar=Time xlog=true ylog=true infl=1 regu=false
scales	Variables: Total Dose Log time scale, log range
data	Raw data
variable	Total Dose
range	0.0 to 0.05283400043845177 rem/yr Colors denote quintiles of sampled parameter MeanAveragePrecipitationMultiplierAtGlacialMaximum
tabular data	gpp1_0_20010215-062546_000.csv

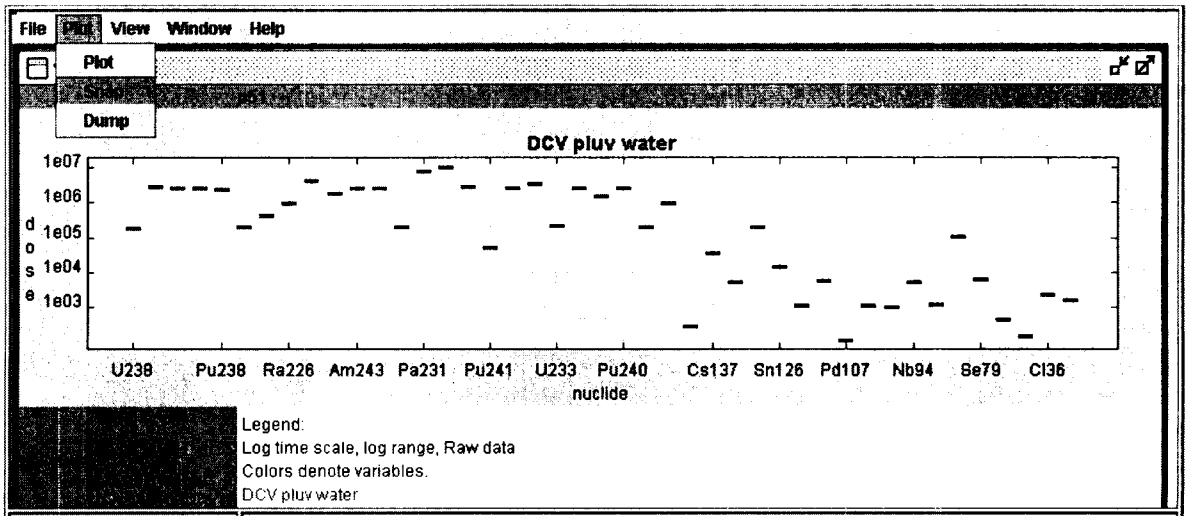
.	.0	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
.000	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
250.	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
500.	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
750.	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
1000	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
1250	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
1500	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
1750	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
2000	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
2250	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
2500	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
2750	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
3000	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
3250	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
~	~	~	~	~	~	~	~	~	~	~	~	~
96500	-1.79	-3.88	-2.91	-3.18	-5.63	-3.35	-7.28	-7.28	-3.11	-7.28	-4.41	-7.28
96800	-1.81	-3.84	-2.90	-3.22	-5.64	-3.35	-7.28	-7.28	-3.21	-7.28	-4.42	-7.28
97000	-1.84	-3.80	-2.90	-3.26	-5.65	-3.35	-7.28	-7.28	-3.28	-7.28	-4.44	-7.28

97300	-1.86	-3.77	-2.89	-3.31	-5.66	-3.35	-7.28	-7.28	-3.35	-7.28	-4.45	-7.28
97500	-1.89	-3.75	-2.89	-3.34	-5.67	-3.35	-7.28	-7.28	-3.39	-7.28	-4.46	-7.28
97800	-1.92	-3.72	-2.89	-3.38	-5.68	-3.35	-7.28	-7.28	-3.43	-7.28	-4.47	-7.28
98000	-1.94	-3.71	-2.88	-3.42	-5.69	-3.35	-7.28	-7.28	-3.43	-7.28	-4.48	-7.28
98300	-1.97	-3.69	-2.87	-3.43	-5.71	-3.35	-7.28	-7.28	-3.36	-7.28	-4.49	-7.28
98500	-2.01	-3.68	-2.87	-3.45	-5.72	-3.34	-7.28	-7.28	-3.34	-7.28	-4.49	-7.28
98800	-2.04	-3.67	-2.86	-3.47	-5.73	-3.33	-7.28	-7.28	-3.39	-7.28	-4.50	-7.28
99000	-2.07	-3.66	-2.86	-3.48	-5.74	-3.32	-7.28	-7.28	-3.41	-7.28	-4.50	-7.28
99300	-2.10	-3.62	-2.85	-3.49	-5.76	-3.30	-7.28	-7.28	-3.35	-7.28	-4.50	-7.28
99500	-2.13	-3.58	-2.85	-3.50	-5.77	-3.28	-7.28	-7.28	-3.18	-7.28	-4.51	-7.28
99800	-2.15	-3.57	-2.85	-3.51	-5.78	-3.26	-7.28	-7.28	-2.98	-7.28	-4.50	-7.28
100000	-2.16	-3.57	-2.84	-3.51	-5.79	-3.24	-7.28	-4.55	-2.90	-7.28	-4.50	-7.28

12.	13.	14.	15.	16.	17.	18.	19.
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
~	~	~	~	~	~	~	~
-3.97	-5.36	-1.93	-2.89	-2.81	-2.99	-2.92	-7.28
-3.97	-5.20	-1.86	-2.85	-2.81	-3.00	-2.82	-7.28
-3.98	-5.34	-1.77	-2.79	-2.83	-3.01	-2.76	-7.28
-3.97	-5.38	-1.68	-2.76	-2.84	-3.02	-2.70	-7.28
-3.93	-5.35	-1.62	-2.68	-2.85	-3.03	-2.65	-7.28
-3.89	-5.25	-1.58	-2.68	-2.86	-3.04	-2.58	-7.28
-3.87	-5.11	-1.54	-2.70	-2.87	-3.05	-2.55	-7.28
-3.87	-4.99	-1.51	-2.72	-2.88	-3.05	-2.51	-7.28
-3.87	-4.89	-1.48	-2.73	-2.89	-3.05	-2.48	-7.28
-3.86	-4.82	-1.45	-2.74	-2.90	-3.05	-2.48	-7.28
-3.83	-4.76	-1.43	-2.76	-2.90	-3.05	-2.48	-7.28
-3.79	-4.71	-1.41	-2.77	-2.91	-3.04	-2.48	-7.28
-3.74	-4.67	-1.39	-2.76	-2.91	-3.03	-2.49	-7.28
-3.66	-4.64	-1.37	-2.75	-2.91	-3.02	-2.49	-7.28
-3.58	-4.61	-1.36	-2.74	-2.90	-3.00	-2.48	-7.28

file name	dcf.cum

plot image	gpp1_0_20010215-063020_000.gif



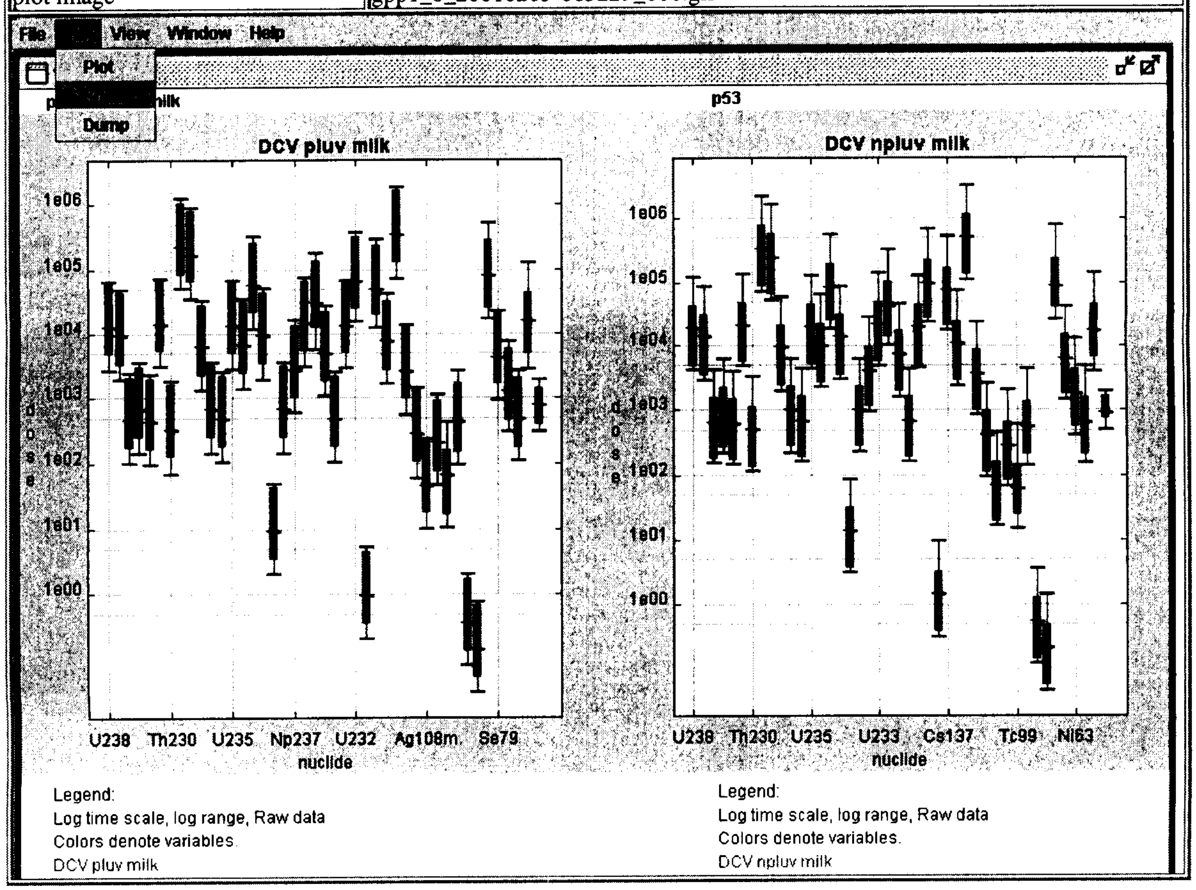
title	"p51"
plot specs	ivar=Discrete xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data Colors denote
variable	s
range	nd: Log time scale, log range, Raw data Colors denote variables.
tabular data	gpp1_0_20010215-062857_000.csv

.	.0	1.	.	.0	1.	2.	3.	4.	5.	6.	7.	.
.000	-10.4	-10.4	.000	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	.000
250.	-10.4	-10.4	250.	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	250.
500.	-10.4	-10.4	500.	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	500.
750.	-10.4	-10.4	750.	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	750.
1000	-10.4	-10.4	1000	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	1000
1250	-10.4	-10.4	1250	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	1250
1500	-10.4	-10.4	1500	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	1500
1750	-10.4	-10.4	1750	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	1750
2000	-10.4	-10.4	2000	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	2000
2250	-10.4	-10.4	2250	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	2250
2500	-10.4	-10.4	2500	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	2500
2750	-10.4	-10.4	2750	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	2750
3000	-10.4	-10.4	3000	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	3000
3250	-10.4	-10.4	3250	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	3250
~	~	~	~	~	~	~	~	~	~	~	~	~
96500	-5.36	-10.4	96500	-8.46	-2.92	-2.99	-2.81	-2.89	-4.41	-8.46	-3.18	96500
96800	-5.20	-10.4	96800	-8.46	-2.82	-3.00	-2.81	-2.85	-4.42	-8.46	-3.22	96800
97000	-5.34	-10.4	97000	-8.46	-2.76	-3.01	-2.83	-2.79	-4.44	-8.46	-3.26	97000
97300	-5.38	-10.4	97300	-8.46	-2.70	-3.02	-2.84	-2.76	-4.45	-8.46	-3.31	97300
97500	-5.35	-10.4	97500	-8.46	-2.65	-3.03	-2.85	-2.68	-4.46	-8.46	-3.34	97500
97800	-5.25	-10.4	97800	-8.46	-2.58	-3.04	-2.86	-2.68	-4.47	-8.46	-3.38	97800
98000	-5.11	-10.4	98000	-8.46	-2.55	-3.05	-2.87	-2.70	-4.48	-8.46	-3.42	98000
98300	-4.99	-10.4	98300	-8.46	-2.51	-3.05	-2.88	-2.72	-4.49	-8.46	-3.43	98300
98500	-4.89	-10.4	98500	-8.46	-2.48	-3.05	-2.89	-2.73	-4.49	-8.46	-3.45	98500
98800	-4.82	-10.4	98800	-8.46	-2.48	-3.05	-2.90	-2.74	-4.50	-8.46	-3.47	98800
99000	-4.76	-10.4	99000	-8.46	-2.48	-3.05	-2.90	-2.76	-4.50	-8.46	-3.48	99000
99300	-4.71	-10.4	99300	-8.46	-2.48	-3.04	-2.91	-2.77	-4.50	-8.46	-3.49	99300
99500	-4.67	-10.4	99500	-8.46	-2.49	-3.03	-2.91	-2.76	-4.51	-8.46	-3.50	99500
99800	-4.64	-10.4	99800	-8.46	-2.49	-3.02	-2.91	-2.75	-4.50	-8.46	-3.51	99800
100000	-4.61	-10.4	100000	-8.46	-2.48	-3.00	-2.90	-2.74	-4.50	-4.55	-3.51	100000

.0	1.	2.	3.	4.	5.	6.	7.	8.	9.
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28

-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28	-7.28
~	~	~	~	~	~	~	~	~	~
-1.93	-3.97	-7.28	-3.11	-7.28	-3.35	-5.63	-2.91	-3.88	-1.79
-1.86	-3.97	-7.28	-3.21	-7.28	-3.35	-5.64	-2.90	-3.84	-1.81
-1.77	-3.98	-7.28	-3.28	-7.28	-3.35	-5.65	-2.90	-3.80	-1.84
-1.68	-3.97	-7.28	-3.35	-7.28	-3.35	-5.66	-2.89	-3.77	-1.86
-1.62	-3.93	-7.28	-3.39	-7.28	-3.35	-5.67	-2.89	-3.75	-1.89
-1.58	-3.89	-7.28	-3.43	-7.28	-3.35	-5.68	-2.89	-3.72	-1.92
-1.54	-3.87	-7.28	-3.43	-7.28	-3.35	-5.69	-2.88	-3.71	-1.94
-1.51	-3.87	-7.28	-3.36	-7.28	-3.35	-5.71	-2.87	-3.69	-1.97
-1.48	-3.87	-7.28	-3.34	-7.28	-3.34	-5.72	-2.87	-3.68	-2.01
-1.45	-3.86	-7.28	-3.39	-7.28	-3.33	-5.73	-2.86	-3.67	-2.04
-1.43	-3.83	-7.28	-3.41	-7.28	-3.32	-5.74	-2.86	-3.66	-2.07
-1.41	-3.79	-7.28	-3.35	-7.28	-3.30	-5.76	-2.85	-3.62	-2.10
-1.39	-3.74	-7.28	-3.18	-7.28	-3.28	-5.77	-2.85	-3.58	-2.13
-1.37	-3.66	-7.28	-2.98	-7.28	-3.26	-5.78	-2.85	-3.57	-2.15
-1.36	-3.58	-7.28	-2.90	-7.28	-3.24	-5.79	-2.84	-3.57	-2.16

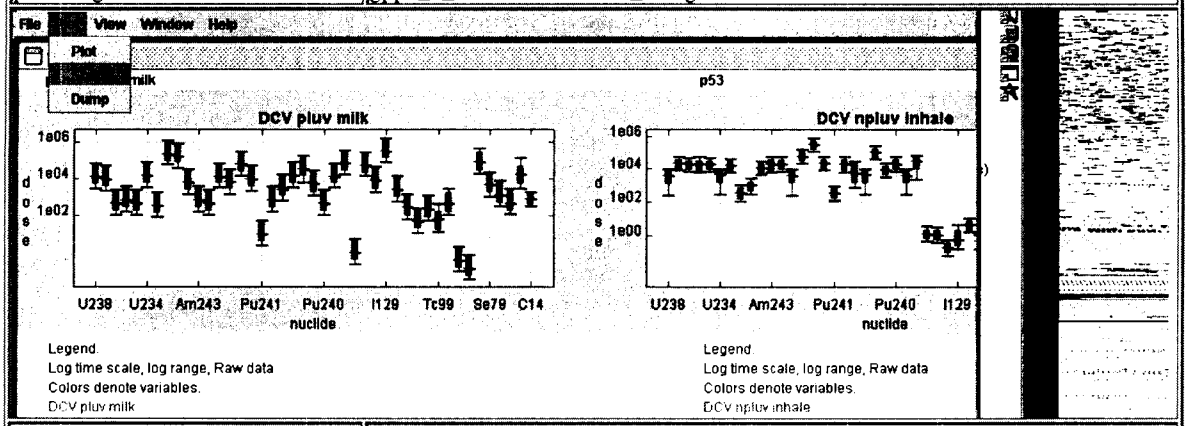
plot image	gpp1_0_20010215-063229_000.gif



title	"p52 dcv pluv milk"
plot specs	ivar=Discrete xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data Colors denote
variable	s
range	nd: Log time scale, log range, Raw data Colors denote variables.
## COULD NOT FIND ##	'gpp1_0_20010215-063028_000.csv'

title	"p53"
plot specs	ivar=Discrete xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data Colors denote
variable	s
range	nd: Log time scale, log range, Raw data Colors denote variables.
## COULD NOT FIND ##	'gpp1_0_20010215-063234_000.csv'

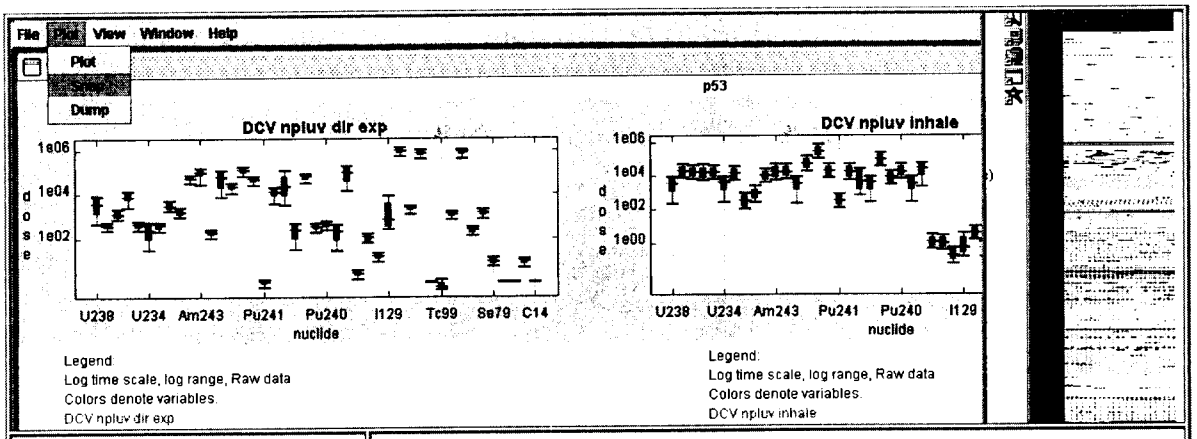
plot image	gpp1_0_20010215-063327_000.gif



title	"p52 dcv pluv milk"
plot specs	ivar=Discrete xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data Colors denote
variable	s
range	nd: Log time scale, log range, Raw data Colors denote variables.
## COULD NOT FIND ##	'gpp1_0_20010215-063236_000.csv'

title	"p53"
plot specs	ivar=Discrete xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data Colors denote
variable	s
range	nd: Log time scale, log range, Raw data Colors denote variables.
## COULD NOT FIND ##	'gpp1_0_20010215-063331_000.csv'

plot image	gpp1_0_20010215-063429_000.gif

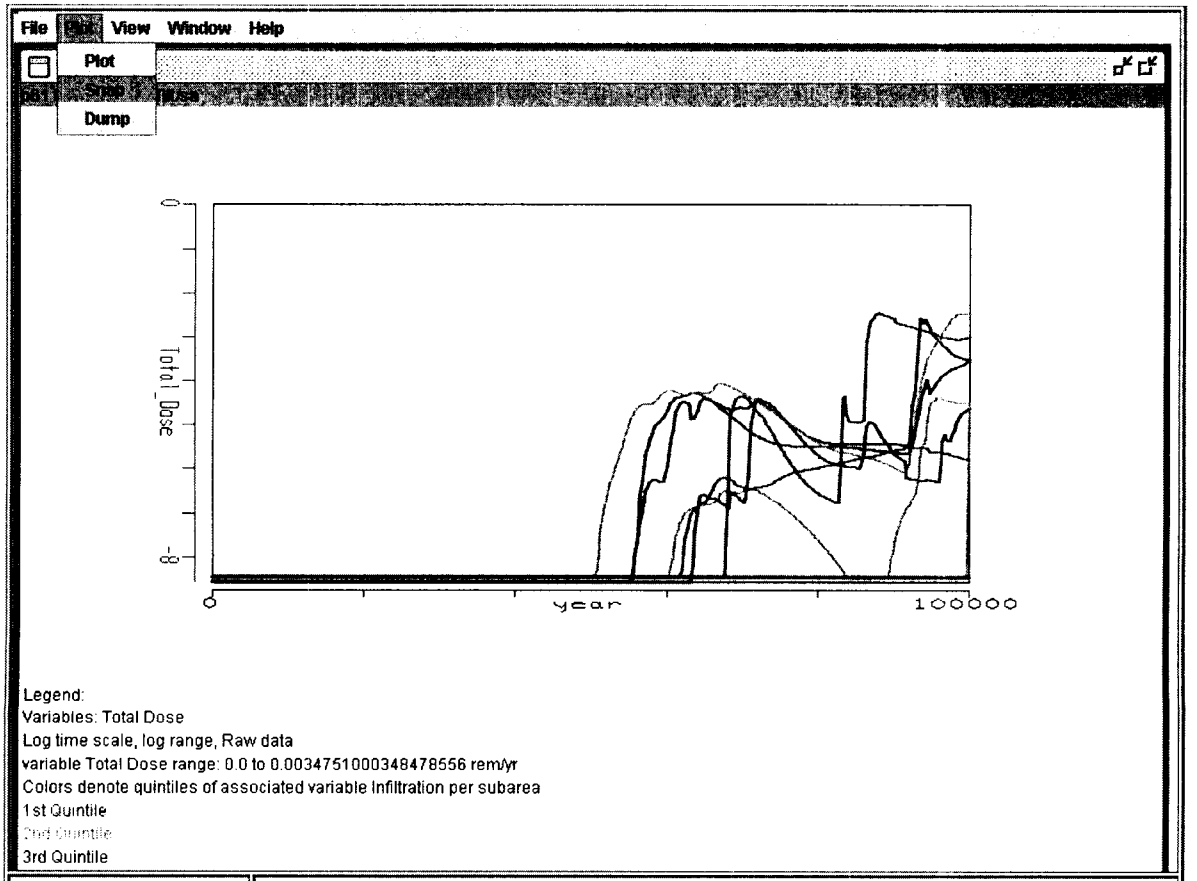


title	"p56 dir exp"
plot specs	ivar=Discrete xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data Colors denote
variable	s
range	nd: Log time scale, log range, Raw data Colors denote variables.
## COULD NOT FIND ##	'gpp1_0_20010215-063333_000.csv'

title	"p53"
plot specs	ivar=Discrete xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data Colors denote
variable	s
range	nd: Log time scale, log range, Raw data Colors denote variables.
## COULD NOT FIND ##	'gpp1_0_20010215-063433_000.csv'

tpa directory	f:\tpa\00-10-16\ n_subareas=8 n_nuclides=20

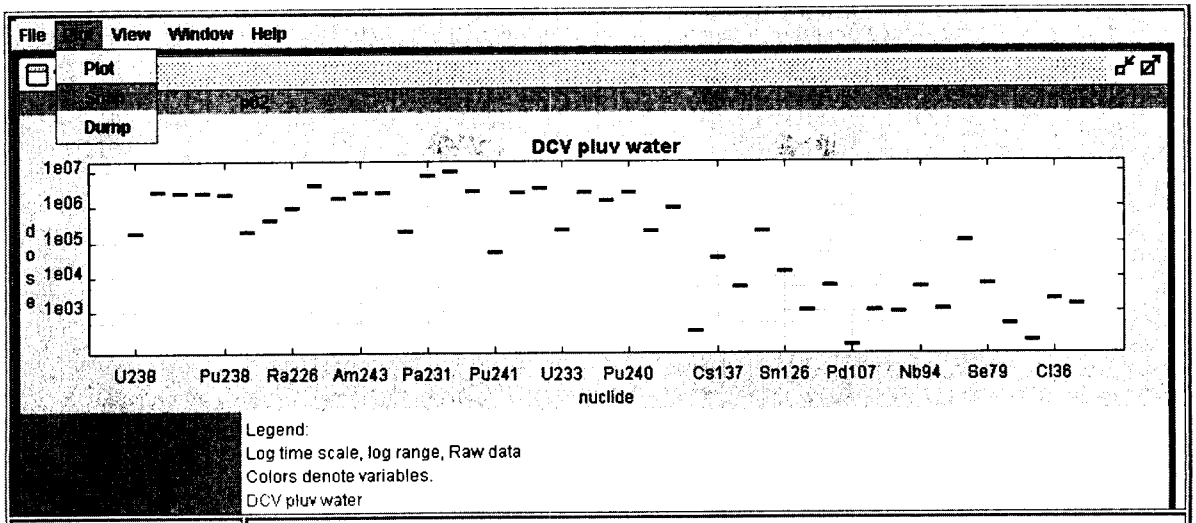
plot image	gpp1_0_20010215-064537_000.gif



title	"p61 tot dose by infilt/sa"
plot specs	ivar=Time xlog=true ylog=true infl=2 regu=false
scales	Variables: Total Dose Log time scale, log range
data	Raw data
variable	Total Dose
range	0.0 to 0.0034751000348478556 rem/yr Colors denote quintiles of associated variable Infiltration per subarea
## COULD NOT FIND ##	'gpp1_0_20010215-063435_000.csv'

file name	dcf.cum

plot image	gpp1_0_20010215-064819_000.gif



title	"p62"
plot specs	ivar=Discrete xlog=true ylog=true infl=0 regu=false
scales	Log time scale, log range
data	Raw data Colors denote
variable	s
range	nd: Log time scale, log range, Raw data Colors denote variables.
tabular data	gpp1_0_20010215-064541_000.csv

.	.0	1.	2.	3.	.	.0	1.	2.	3.	.	.0	1.
.000	-8.46	-8.46	-8.46	-8.46	.000	-8.48	-8.48	-8.48	-8.48	.000	-8.56	-8.56
250.	-8.46	-8.46	-8.46	-8.46	250.	-8.48	-8.48	-8.48	-8.48	250.	-8.56	-8.56
500.	-8.46	-8.46	-8.46	-8.46	500.	-8.48	-8.48	-8.48	-8.48	500.	-8.56	-8.56
750.	-8.46	-8.46	-8.46	-8.46	750.	-8.48	-8.48	-8.48	-8.48	750.	-8.56	-8.56
1000	-8.46	-8.46	-8.46	-8.46	1000	-8.48	-8.48	-8.48	-8.48	1000	-8.56	-8.56
1250	-8.46	-8.46	-8.46	-8.46	1250	-8.48	-8.48	-8.48	-8.48	1250	-8.56	-8.56
1500	-8.46	-8.46	-8.46	-8.46	1500	-8.48	-8.48	-8.48	-8.48	1500	-8.56	-8.56
1750	-8.46	-8.46	-8.46	-8.46	1750	-8.48	-8.48	-8.48	-8.48	1750	-8.56	-8.56
2000	-8.46	-8.46	-8.46	-8.46	2000	-8.48	-8.48	-8.48	-8.48	2000	-8.56	-8.56
2250	-8.46	-8.46	-8.46	-8.46	2250	-8.48	-8.48	-8.48	-8.48	2250	-8.56	-8.56
2500	-8.46	-8.46	-8.46	-8.46	2500	-8.48	-8.48	-8.48	-8.48	2500	-8.56	-8.56
2750	-8.46	-8.46	-8.46	-8.46	2750	-8.48	-8.48	-8.48	-8.48	2750	-8.56	-8.56
3000	-8.46	-8.46	-8.46	-8.46	3000	-8.48	-8.48	-8.48	-8.48	3000	-8.56	-8.56
3250	-8.46	-8.46	-8.46	-8.46	3250	-8.48	-8.48	-8.48	-8.48	3250	-8.56	-8.56
~	~	~	~	~	~	~	~	~	~	~	~	~
96500	-2.99	-8.46	-8.46	-5.63	96500	-2.92	-4.41	-8.48	-8.48	96500	-8.56	-5.36
96800	-3.00	-8.46	-8.46	-5.64	96800	-2.82	-4.42	-8.48	-8.48	96800	-8.56	-5.20
97000	-3.01	-8.46	-8.46	-5.65	97000	-2.76	-4.44	-8.48	-8.48	97000	-8.56	-5.34
97300	-3.02	-8.46	-8.46	-5.66	97300	-2.70	-4.45	-8.48	-8.48	97300	-8.56	-5.38
97500	-3.03	-8.46	-8.46	-5.67	97500	-2.65	-4.46	-8.48	-8.48	97500	-8.56	-5.35
97800	-3.04	-8.46	-8.46	-5.68	97800	-2.58	-4.47	-8.48	-8.48	97800	-8.56	-5.25
98000	-3.05	-8.46	-8.46	-5.69	98000	-2.55	-4.48	-8.48	-8.48	98000	-8.56	-5.11
98300	-3.05	-8.46	-8.46	-5.71	98300	-2.51	-4.49	-8.48	-8.48	98300	-8.56	-4.99
98500	-3.05	-8.46	-8.46	-5.72	98500	-2.48	-4.49	-8.48	-8.48	98500	-8.56	-4.89
98800	-3.05	-8.46	-8.46	-5.73	98800	-2.48	-4.50	-8.48	-8.48	98800	-8.56	-4.82
99000	-3.05	-8.46	-8.46	-5.74	99000	-2.48	-4.50	-8.48	-8.48	99000	-8.56	-4.76
99300	-3.04	-8.46	-8.46	-5.76	99300	-2.48	-4.50	-8.48	-8.48	99300	-8.56	-4.71
99500	-3.03	-8.46	-8.46	-5.77	99500	-2.49	-4.51	-8.48	-8.48	99500	-8.56	-4.67
99800	-3.02	-8.46	-8.46	-5.78	99800	-2.49	-4.50	-8.48	-8.48	99800	-8.56	-4.64
100000	-3.00	-8.46	-8.46	-5.79	100000	-2.48	-4.50	-8.48	-4.55	100000	-8.56	-4.61

2.	3.
-8.56	-8.56
-8.56	-8.56

```
-8.56 -8.56
-8.56 -8.56
-8.56 -8.56
-8.56 -8.56
-8.56 -8.56
-8.56 -8.56
-8.56 -8.56
-8.56 -8.56
-8.56 -8.56
-8.56 -8.56
-8.56 -8.56
-8.56 -8.56
   ~     ~
-3.18 -3.88
-3.22 -3.84
-3.26 -3.80
-3.31 -3.77
-3.34 -3.75
-3.38 -3.72
-3.42 -3.71
-3.43 -3.69
-3.45 -3.68
-3.47 -3.67
-3.48 -3.66
-3.49 -3.62
-3.50 -3.58
-3.51 -3.57
-3.51 -3.57
```

(end of part 3 of 3 of gpp test results document for release of 2001-02)

Entries into Scientific Notebook No. 375E for the period September 12, 2000 to April 11, 2001 have been made by

_____

Douglas Reingold Date

Entries into Scientific Notebook No. 375E for pages 69 to 161 have been made by

_____

Douglas Reingold Date

No original text entered into this Scientific Notebook has been removed.

_____

Douglas Reingold Date

Entries into Scientific Notebook No. 375E for the period September 12, 2000 to April 11, 2001 have been made by

_____

Douglas Reingold Date

Entries into Scientific Notebook No. 375E for pages 69 to 161 have been made by

_____

Douglas Reingold Date

No original text entered into this Scientific Notebook has been removed.

_____

Douglas Reingold Date

New version of the GPP was delivered to CNWRA on September 3, 2001 in the form of af file gpp-01-09-03.zip.

That file contains:

1. revised <*.java> files, including expanded internal documentation, and a fix for the numeric scale label generated for logarithmic axes.

2. a tree of <*.html> files and one associated <*.css> file automatically generated from the <*.java> files using the <javadoc.exe> program included in Sun's java distributions. You can view the documentation by pointing to the file <index.html> present in the top-level directory of the attached zip archive, in an explorer, browser or using the shell command "start index.html".

For simplicity we allowed javadoc to put its output files into the same directories as the java source files from which they were derived. Those <*.html, *.css> files may be moved elsewhere, as long as their directory names relative to the directory containing <index.html> are invariant under the move.

3. A two-line script <mkjavdoc.bat> for re-generating the documentation.

4. A "package list" file <packages> referred to in the <mkjavdoc.bat> script.

Evaluation of the submitted application was performed at the CNWRA by Dr. Pensado. He reported that application was not properly working. The problem was due to the use of an obsolete visad.jar library.

Dr. Pensado requested the following information be included in the internal documentation of the java source code

```
Program Name:          Graphical Post-Processor for the TPA Code
Version 4.0
File Date:             2001-09-03
Release Version:       1.0

Client Name:           U.S. NRC
                       U.S. Nuclear Regulatory Commission
                       NRC Office of Nuclear Material Safety and
Safeguards
                       Division of Waste Management

Contract Number:       NRC 02-97-009

NRC Contact:           James Firth (301) 415-6628

CNWRA Contact:         Osvaldo Pensado (210) 522-6084
                       Center for Nuclear Waste Regulatory Analyses
                       San Antonio, Texas 78238-5166
                       opensado@swri.edu
```

Author: John Emmerling
Bayesian Systems, Inc., Gaithersburg, MD
Contact: Joanne Damours (301) 987-5400
joanne@bayes.com

Documentation: A Graphical Post-Processor for TPA Code Version 4.0, User's Guide. Version 1.0
Center for Nuclear Waste Regulatory Analyses

NUREG-Series Designator: N/A

D I S L A I M E R

"This computer code/material was prepared as an account of work performed by the Center for Nuclear Waste Regulatory Analyses (CNWRA) for the Division of Waste Management of the Nuclear Regulatory Commission (NRC), an independent agency of the United States Government. Neither the developer(s) of the code nor any of their sponsors make any warranty, expressed or implied, or assume any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product or process disclosed, or represent that its use would not infringe on privately-owned rights."

"In no event unless required by applicable law will the sponsors or those who have written or modified this code, be liable for damages, including any lost profits, lost monies, or other special, incidental or consequential damages arising out of the use or inability to use the program (including but not limited to loss of data or data being rendered inaccurate or losses sustained by third parties or a failure of the program to operate with other programs), even if you have been advised of the possibility of such damages or for any claim by any other party."

A new version of the application was submitted on 9/30/2001. The new version included an updated visad.jar library. We are still working on updating internal documentation (headers) of java source code.

Files submitted to QA records:
gpp-01-09-03.zip
gpp-01-09-30.zip
visad.jar

Both zip files contain updated versions of the GPP application, the more recent one superceding the older.

Entries into Scientific Notebook No. 375E for the period April 12, 2001 to October 10, 2001 have been made by

_____

Douglas Reingold Date

Entries into Scientific Notebook No. 375E for pages 162 to 164 have been made by

_____

Douglas Reingold Date

No original text entered into this Scientific Notebook has been removed.

_____

Douglas Reingold Date

This SN contains a journal describing the development and testing of the TPA GPP. This notebook alone is not sufficient to allow another competent programmer to replicate the GPP, but this SN does record much of the thinking that went into the development of the code.

Gordon Wiltsie

3/26/2002

This SN is closed

ADDITIONAL INFORMATION FOR SCIENTIFIC NOTEBOOK No.: 375E

Document Date:	11/11/1999
Availability:	Southwest Research Institute® Center for Nuclear Waste Regulatory Analyses 6220 Culebra Road San Antonio, Texas 78228
Contact:	Southwest Research Institute® Center for Nuclear Waste Regulatory Analyses 6220 Culebra Road San Antonio, TX 78228-5166 Attn.: Director of Administration 210.522.5054
Data Sensitivity:	■"Non-Sensitive" □ Sensitive □"Non-Sensitive - Copyright" ☐ Sensitive - Copyright
Date Generated:	1999 through 2001
Operating System: (including version number)	Windows NT
Application Used: (including version number)	Various
Media Type: (CDs, 3 1/2, 5 1/4 disks, etc.)	2 CDs, 1- 3 ½ disk
File Types: (.exe, .bat, .zip, etc.)	Various
Remarks: (computer runs, etc.)	Media contains: Bayesian systems entries; graphic post-processor for TPA 4.0 (zip files).