

28 Interval Statistics Dialog

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Overview

The interval statistics dialog is a predefined display that needs to be configured as an ExplorerTask in Explorer.xml:

```
<explorerTask name="Interval Statistics">
  <predefinedDisplay>interval statistics</predefinedDisplay>
  <toolbarTask>true</toolbarTask>
  <menubarTask>true</menubarTask>
  <loadAtStartup>true</loadAtStartup>
</explorerTask>
```

This dialog will enable the user to divide the selected time series from the data viewer into intervals between a specific start and end date and calculates statistical values for those intervals. The example below shows the percentage of non missing values for each calendar month between start and end date:

The screenshot shows the Tennessee Valley Authority (Stand alone) software interface. The Interval Statistics dialog is open, displaying the following configuration:

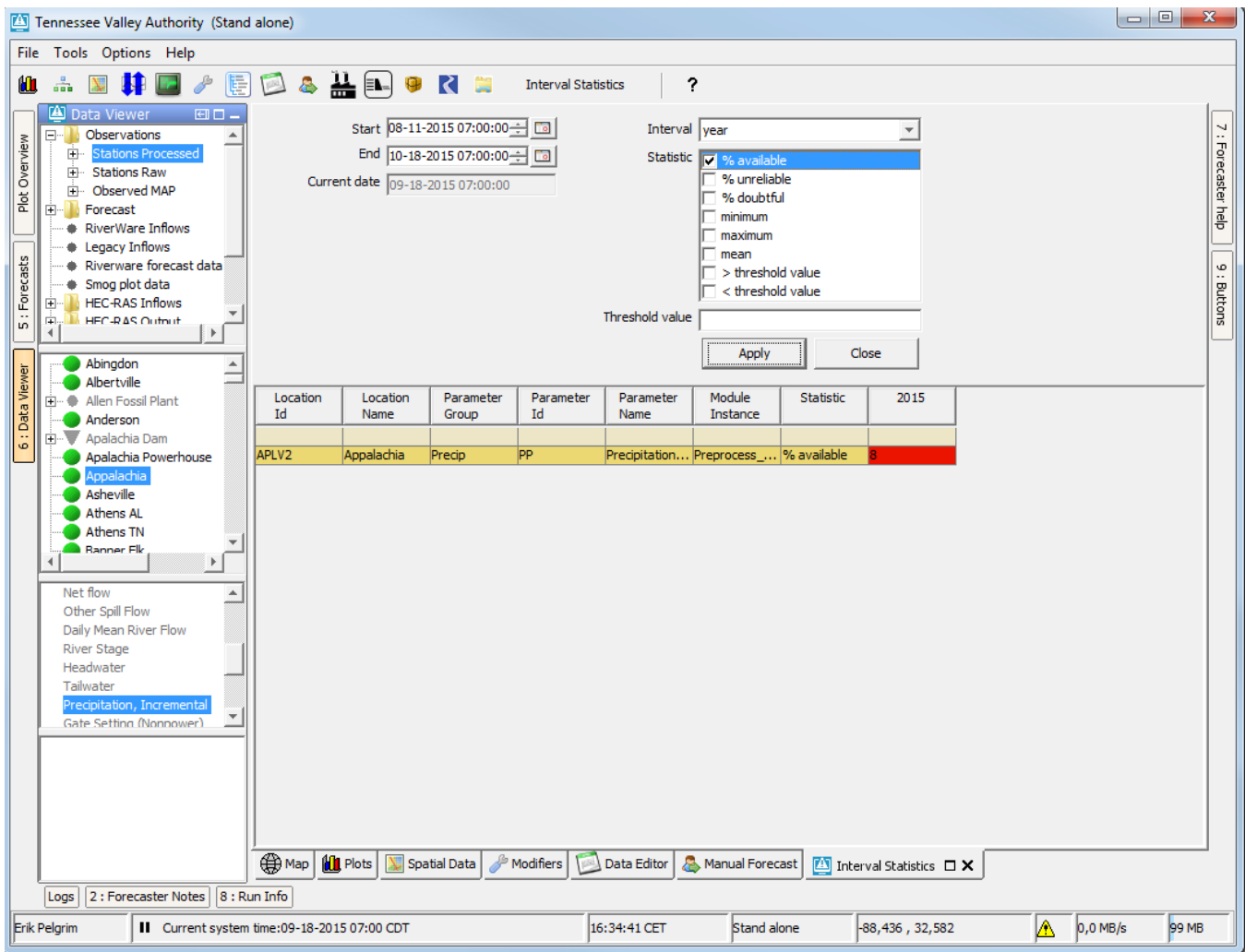
- Start: 08-11-2015 07:00:00
- End: 10-18-2015 07:00:00
- Current date: 09-18-2015 07:00:00
- Interval: calendar month
- Statistic: ☒ % available, ☐ % unreliable, ☐ % doubtful, ☐ minimum, ☐ maximum, ☐ mean, ☐ > threshold value, ☐ < threshold value
- Threshold value: (empty)

The dialog includes 'Apply' and 'Close' buttons. Below the configuration, a table displays statistical data for three months:

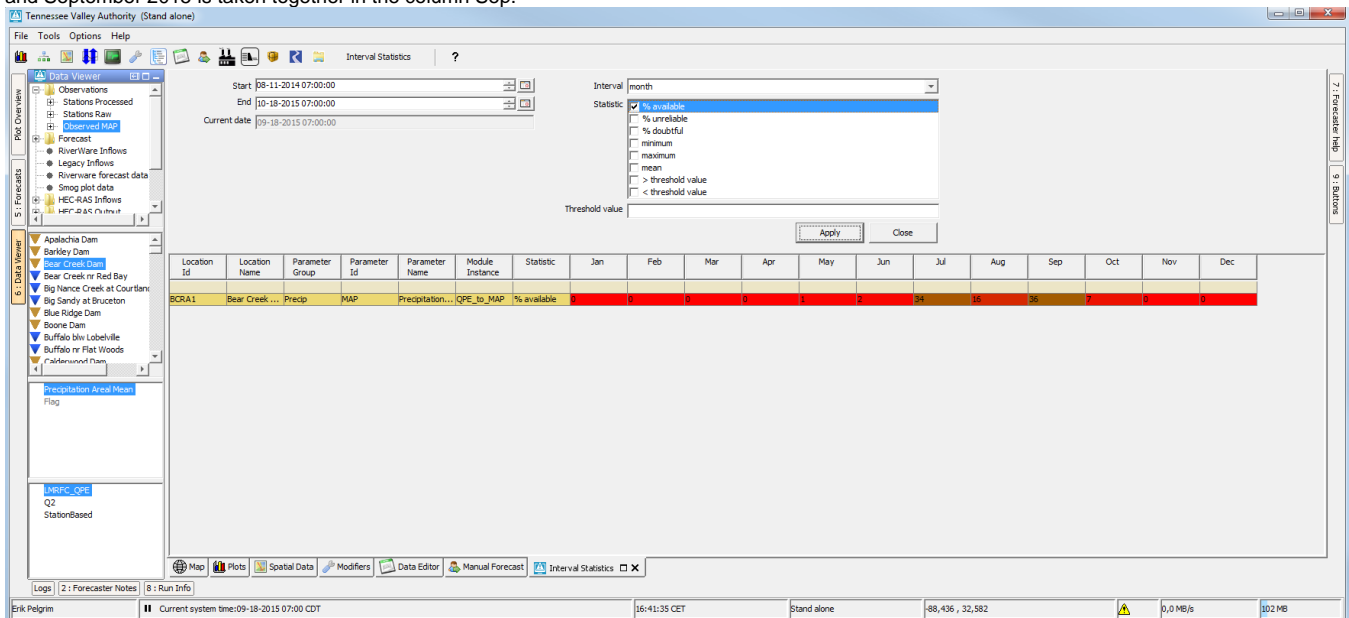
Location Id	Location Name	Parameter Group	Parameter Id	Parameter Name	Module Instance	Statistic	Aug-2015	Sep-2015	Oct-2015
APLV2	Appalachia	Precip	PP	Precipitation...	Preprocess...	% available	0	83	14

The software interface also shows a Data Viewer on the left with a tree view of observations and forecasts, and a status bar at the bottom indicating the current system time as 09-18-2015 07:00 CDT.

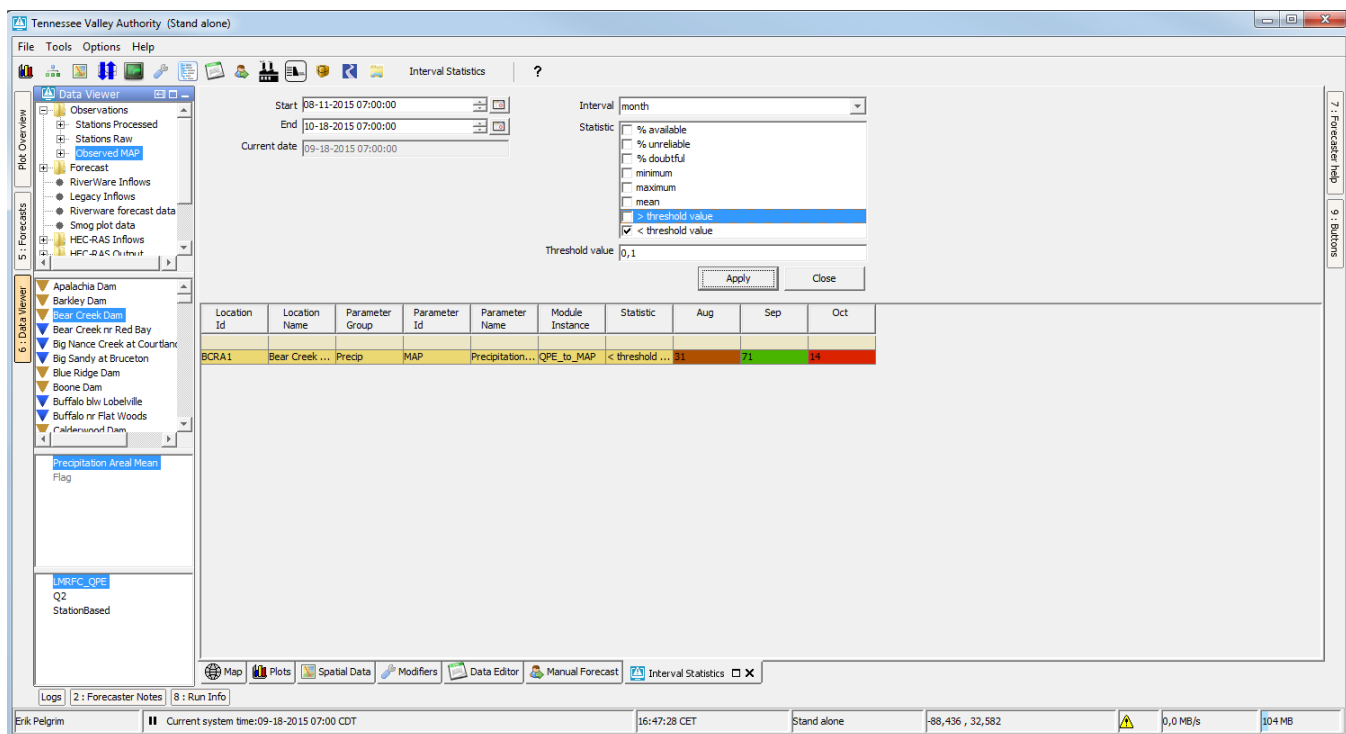
A different interval can be chosen from a dropdown list, like year



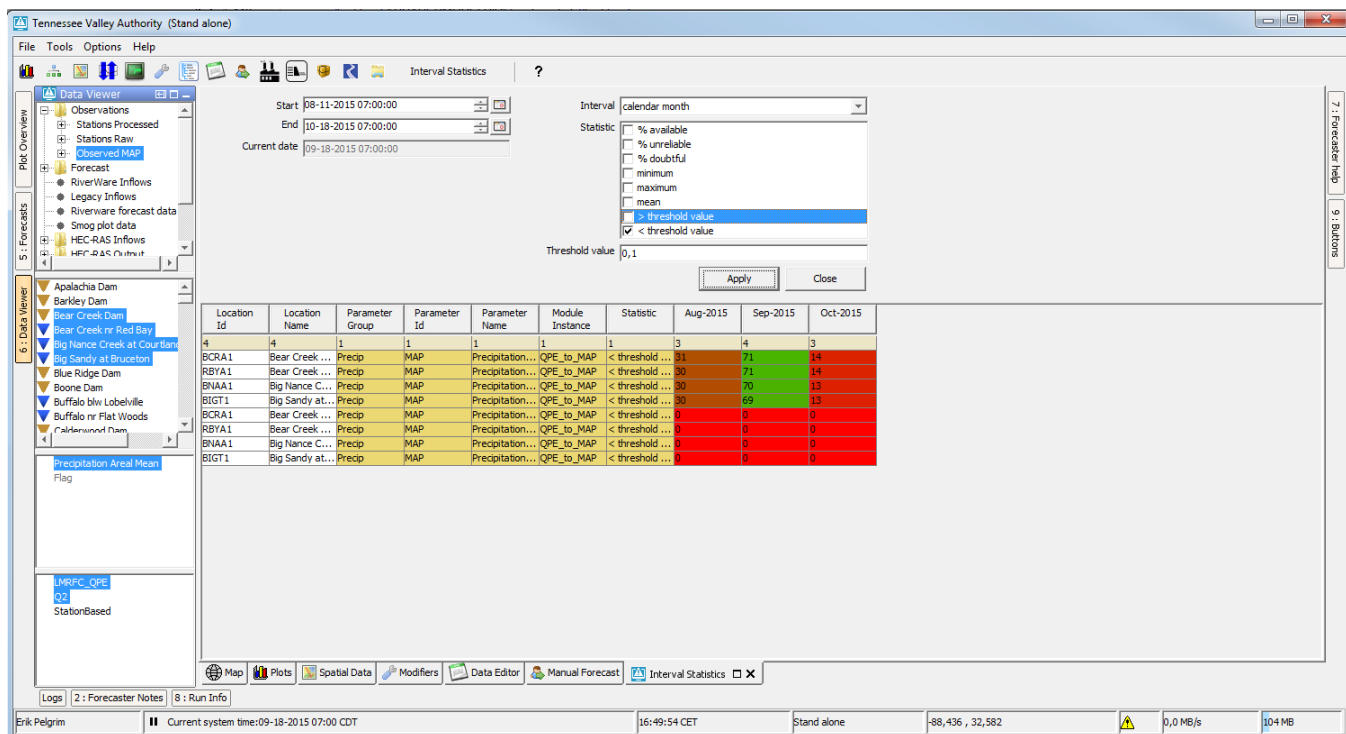
By selecting the interval month, the intervals will be divided over the 12 months within a year. This means for example that the data from September 2014 and September 2015 is taken together in the column Sep.



The threshold value field can be filled and will be used when calculating the percentage of values above or below a threshold.

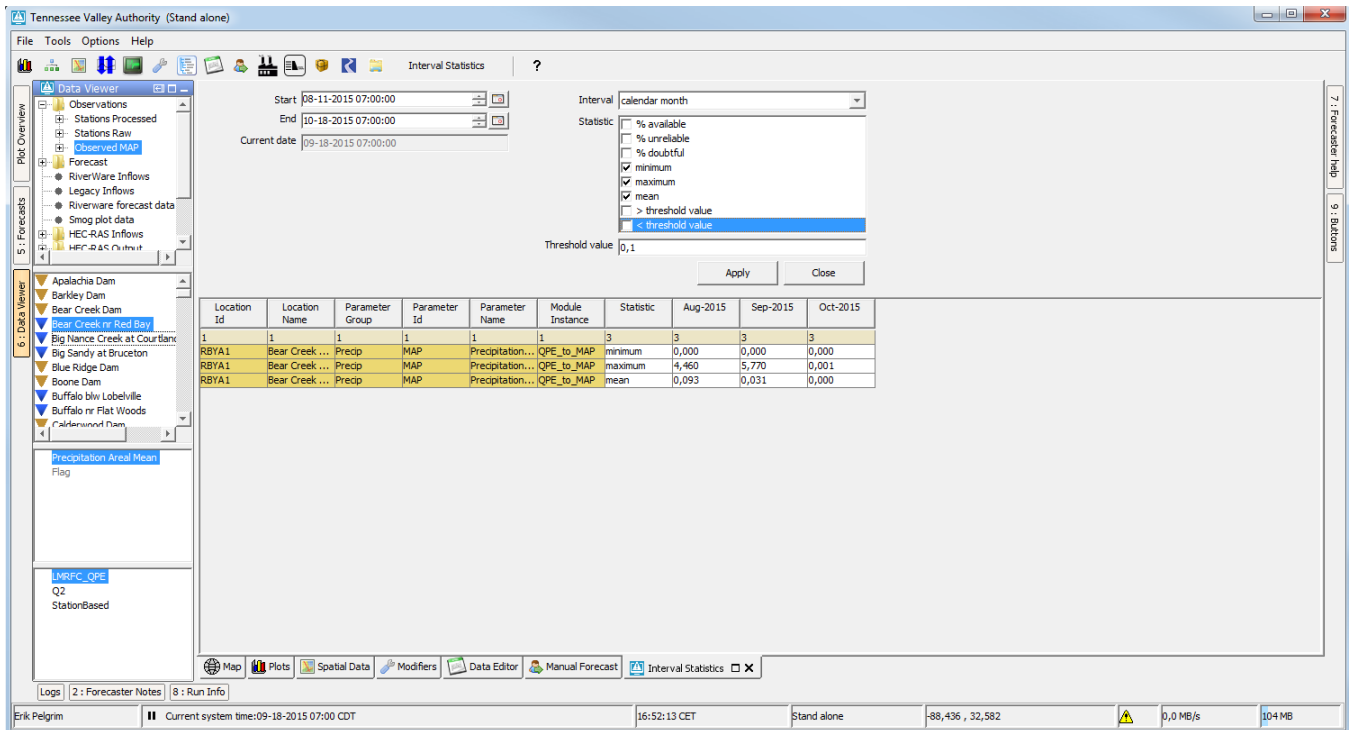


Multiple time series can be selected at once, this will result in multiple rows:

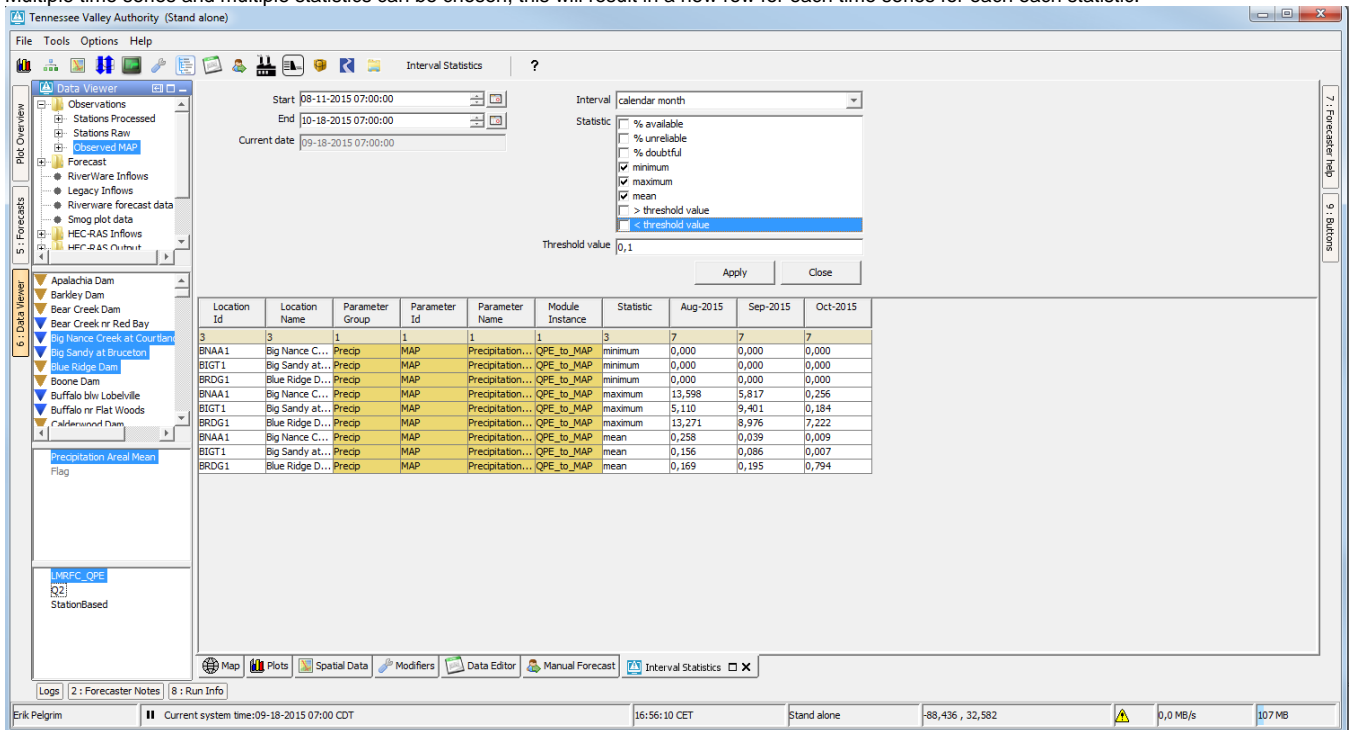


time series. This is shown below for just 1 time series, Multiple statistics can be chosen as well for example minimum, maximum and mean:

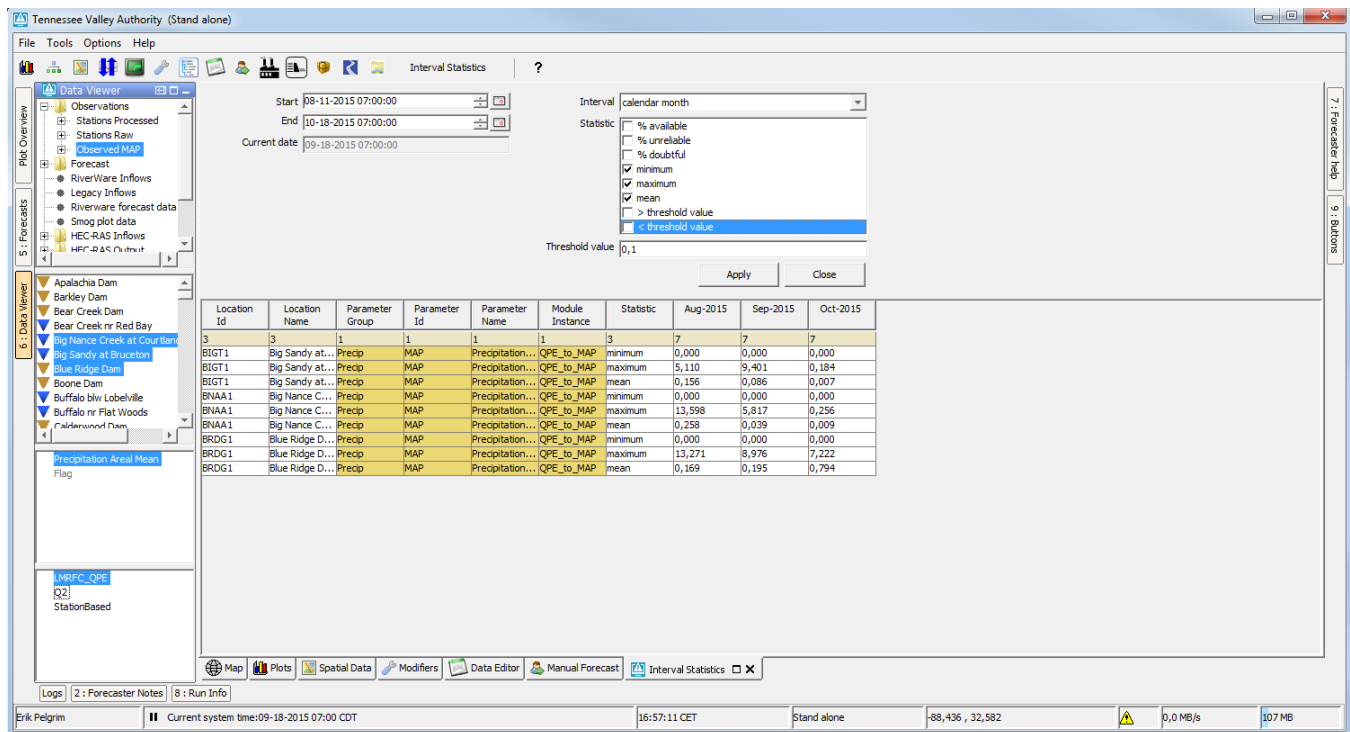
per



Multiple time series and multiple statistics can be chosen, this will result in a new row for each time series for each each statistic:



The rows can be ordered by clicking on the table header, for example Location Id:



2019.02 extensions

Extra statistics have been added:

- % Soft Min
- % Hard Min
- % Soft Max
- % Hard Max
- % Rate of Change
- % Same Reading
- Number of periods Same Reading

The colors have been updated to fixed intervals:

- 95%-100% green (00FF00)
- 90%-95% light green (D0F5A9)
- 80%-90% orange (F2F5A9)
- 50%-80% light red (F5DA81)
- 0% -50% red (F79F81)

Start and end date columns have been added

Columns can be hidden

Rows which are close to perfect / green can be hidden by specifying a percentage. See "hide rows".

Start time & end time (relative to system time), selected interval, selected statistics, threshold value, hide rows checkbox and value and hidden columns are now all stored in the user settings.

Start 06-09-2012 13:00:00

End 13-05-2013 13:00:00

Current date 02-10-2018 13:00:00

Interval calendar month

Statistic

☒ % soft min (SN)
☒ % hard min (HN)
☒ % soft max (SX)
☒ % hard max (HX)
☒ % rate of change (ROR/ROF)
☒ % same reading (SR)
☐ number of periods same reading (SR)

Threshold value

Hide rows

>= 99 <= 1

Export

Apply

Close

Location Id	Location Name	Parameter Group	Parameter Id	Parameter Name	Module Instance	Location Start Time	Location End Time	Statistic	Sep-2012	Oct-2012	Nov-2012	Dec-2012	Jan-2013	Feb-2013	Mar-2013	Apr-2013	May-2013
21	21	1	1	1	1			5	7	7	8	12	9	9	3	6	4
0030	0030 - Hei...	Hoogte	K.meting	Gemeten ...	ImportTMX		01-01-202...	% soft min (SN)	0	12	0	29	38	1	0	0	0
0033	0033 - Cr...	Hoogte	K.meting	Gemeten ...	ImportTMX		01-01-202...	% soft min (SN)	0	0	0	5	5	0	0	0	0
0035_krui...	0035 - Ne...	Hoogte	K.meting	Gemeten ...	ImportTMX		01-01-202...	% soft min (SN)	0	0	0	20	2	4	0	0	0
0035_krui...	0035 - Ne...	Hoogte	K.meting	Gemeten ...	ImportTMX		01-01-202...	% soft min (SN)	53	0	0	0	0	0	0	0	0
0045_krui...	0045 - Stu...	Hoogte	K.meting	Gemeten ...	ImportTMX		01-01-202...	% soft min (SN)	2	6	0	39	14	41	0	0	0
0067	0067 - We...	Hoogte	K.meting	Gemeten ...	ImportTMX		01-01-202...	% soft min (SN)	0	0	1	20	0	0	0	0	0
0115	0							% soft min (SN)	0	0	0	7	0	0	0	0	0
0118_krui...	0							% soft min (SN)	0	0	0	31	20	12	0	0	0
0118_krui...	0							% soft min (SN)	0	0	0	4	0	0	0	0	1
0181	0							% soft min (SN)	0	0	32	22	33	33	0	6	0
0024	0							% hard min (HN)	15	2	0	0	0	0	0	0	0
0115	0							% hard min (HN)	0	0	0	4	0	0	0	0	0
0163	0							% hard min (HN)	0	0	0	0	99	99	100	100	100
0181	0							% hard min (HN)	0	6	2	0	0	0	0	0	0
0041	0							% soft max (SX)	0	0	8	0	0	0	0	0	0
0074	0							% soft max (SX)	10	1	0	0	0	0	0	0	0
0080_krui...	0							% soft max (SX)	0	0	0	0	0	0	0	10	65
0118_krui...	0							% soft max (SX)	1	1	5	0	0	0	0	0	0
0151	0							% soft max (SX)	100	100	19	1	0	0	0	0	0
0153	0							% soft max (SX)	0	0	0	0	5	0	0	1	0
0162	0							% soft max (SX)	0	0	0	0	0	62	42	7	0
0022_krui...	0							% hard max (HX)	0	0	0	0	2	15	0	0	0
0084	0							% same reading (SR)	15	17	1	15	30	1	0	0	0
0125	0							% same reading (SR)	0	0	54	100	99	0	0	0	0

Copy Selection

Paste Selection

OK

Cancel

And export to Excel button has been added. Excel sheet will include all columns in display (so extra added location attribute column too)

1	Interval Statistics FEWS												
2													
3	Filters	Ruwe data											
4	Statistic	% soft min (SN),% hard min (HN),% soft max (SX),% hard max (HX),% rate of change (ROR/ROF),% same reading (SR)											
5	Interval	calendar month											
6	Period	20120906 - 20130513											
7	Parameters	Gemeten klephoogte											
8	Threshold value												
9													
10													
11	Class colors												
12	100%-95%												
13	95%-90%												
14	90%-80%												
15	80%-50%												
16	50%-0%												
17													
18	Location Name	Parameter Name	Location End_Time	Statistic	Sep-2012	Oct-2012	Nov-2012	Dec-2012	Jan-2013	Feb-2013	Mar-2013	Apr-2013	May-2013
19	0030 - Heikant	Gemeten klephoogte	Wed Jan 01 00:59:59	% soft min (SN)	0	12	0	29	38	1	0	0	0
20	0033 - Cromvoirt	Gemeten klephoogte	Wed Jan 01 00:59:59	% soft min (SN)	0	0	0	5	5	0	0	0	0
21	0035 - Nemelaer, k	Gemeten klephoogte	Wed Jan 01 00:59:59	% soft min (SN)	0	0	0	20	2	4	0	0	0
22	0035 - Nemelaer, k	Gemeten klephoogte	Wed Jan 01 00:59:59	% soft min (SN)	53	0	0	0	0	0	0	0	0
23	0045 - Stuw Loonde	Gemeten klephoogte	Wed Jan 01 00:59:59	% soft min (SN)	2	6	0	39	14	41	0	0	0
24	0067 - Westelbeers	Gemeten klephoogte	Wed Jan 01 00:59:59	% soft min (SN)	0	0	1	20	0	0	0	0	0
25	0115 - Stuw Gender	Gemeten klephoogte	Wed Jan 01 00:59:59	% soft min (SN)	0	0	0	7	0	0	0	0	0
26	0118 - Waterhoef-s	Gemeten klephoogte	Wed Jan 01 00:59:59	% soft min (SN)	0	0	0	31	20	12	0	0	0
27	0118 - Waterhoef-s	Gemeten klephoogte	Wed Jan 01 00:59:59	% soft min (SN)	0	0	0	4	0	0	0	0	1
28	0181 - Run12 Stevel	Gemeten klephoogte	Wed Jan 01 00:59:59	% soft min (SN)	0	0	32	22	33	33	0	6	0
29	0024 - Hondsberg	Gemeten klephoogte	Wed Jan 01 00:59:59	% hard min (HN)	15	2	0	0	0	0	0	0	0
30	0115 - Stuw Gender	Gemeten klephoogte	Wed Jan 01 00:59:59	% hard min (HN)	0	0	0	4	0	0	0	0	0
31	0163 - Retentie stuw	Gemeten klephoogte	Wed Jan 01 00:59:59	% hard min (HN)	0	0	0	0	99	99	100	100	100
32	0181 - Run12 Stevel	Gemeten klephoogte	Wed Jan 01 00:59:59	% hard min (HN)	0	6	2	0	0	0	0	0	0
33	0041 - Schoorstraat	Gemeten klephoogte	Wed Jan 01 00:59:59	% soft max (SX)	0	0	8	0	0	0	0	0	0
34	0074 - Vughterstuw	Gemeten klephoogte	Wed Jan 01 00:59:59	% soft max (SX)	10	1	0	0	0	0	0	0	0
35	0080 - Afwateringsl	Gemeten klephoogte	Wed Jan 01 00:59:59	% soft max (SX)	0	0	0	0	0	0	0	10	65
36	0118 - Waterhoef-s	Gemeten klephoogte	Wed Jan 01 00:59:59	% soft max (SX)	1	1	5	0	0	0	0	0	0
37	0151 - Stuw Mgr. W	Gemeten klephoogte	Wed Jan 01 00:59:59	% soft max (SX)	100	100	19	1	0	0	0	0	0
38	0153 - Stuw Endeke	Gemeten klephoogte	Wed Jan 01 00:59:59	% soft max (SX)	0	0	0	0	5	0	0	1	0
39	0162 - ADM Reusel	Gemeten klephoogte	Wed Jan 01 00:59:59	% soft max (SX)	0	0	0	0	0	62	42	7	0
40	0022 - 3 Esch, kruin	Gemeten klephoogte	Wed Jan 01 00:59:59	% hard max (HX)	0	0	0	0	2	15	0	0	0
41	0084 - De Vliegert	Gemeten klephoogte	Wed Jan 01 00:59:59	% same reading	15	17	1	15	30	1	0	0	0
42	0125 - Schuif Beeks	Gemeten klephoogte	Wed Jan 01 00:59:59	% same reading	0	0	54	100	99	0	0	0	0

Starting from 2019.02 you can add extra columns based on location attributes to the display. For this, the user needs to right-click on the table and 'Select columns' (or shortcut key F8).

Start 19-08-2019 09:00:00		Interval kalenderdag	
Eind 29-08-2019 09:00:00		Groothed	
Huidige datum 22-01-2021 16:00:00		<input checked="" type="checkbox"/> aantal waarden <input type="checkbox"/> % beschikbaar <input type="checkbox"/> % betrouwbaar <input type="checkbox"/> % onbetrouwbaar <input type="checkbox"/> % twijfelachtig <input type="checkbox"/> % zacht min (SN) <input type="checkbox"/> % hard min (HN)	
Drempelwaarde		Verberg regels <input type="checkbox"/> >= 100 <input type="checkbox"/> <= 0	
Exporteer		Toepassen	
Algemeen		Algemeen	
Locatie-id	Locatie-naam	Parameter-groep	Parameter-id
705	705	1	1
Tl_3034_01	B101h1	Hoogte	Stijghoogte
B44H0533_0...	B44H0533_0...	Hoogte	Stijghoogte
B44H0533_0...	B44H0533_0...	Hoogte	Stijghoogte
B44H0829	B44H0829	Hoogte	Stijghoogte
B44H0830	B44H0830	Hoogte	Stijghoogte
B44H0831	B44H0831	Hoogte	Stijghoogte
B44H0832	B44H0832	Hoogte	Stijghoogte
B44H0834	B44H0834	Hoogte	Stijghoogte
B44H0835	B44H0835	Hoogte	Stijghoogte
B44H0837	B44H0837	Hoogte	Stijghoogte
B44H0839_0...	B44H0839_0...	Hoogte	Stijghoogte
B44H0839_0...	B44H0839_0...	Hoogte	Stijghoogte
B44H0841_0...	B44H0841_0...	Hoogte	Stijghoogte
B44H0841_0...	B44H0841_0...	Hoogte	Stijghoogte
B44H0866	B44H0866	Hoogte	Stijghoogte
B44H0867	B44H0867	Hoogte	Stijghoogte
B44H0868	B44H0868	Hoogte	Stijghoogte
B44H0869	B44H0869	Hoogte	Stijghoogte
B44H0870	B44H0870	Hoogte	Stijghoogte
B44H0871	B44H0871	Hoogte	Stijghoogte
B44H0873	B44H0873	Hoogte	Stijghoogte
B44H0874	B44H0874	Hoogte	Stijghoogte
B44H0875	B44H0875	Hoogte	Stijghoogte
B44H0877	B44H0877	Hoogte	Stijghoogte
B44H0878	B44H0878	Hoogte	Stijghoogte
B44H0879	B44H0879	Hoogte	Stijghoogte

The following dialog will appear. Locations attributes can be selected and are saved per user. The attributes will follow the attribute name and if not defined the id. They are sorted alphabetically.

Start 19-08-2019 09:00:00		Interval kalenderdag	
Eind 29-08-2019 09:00:00		Groothed	
Huidige datum 22-01-2021 16:00:00		Drempelwaarde	
Verberg regels		Exporteer	
Algemeen		Algemeen	
Locatie-naam	Parameter-groep	Parameter-id	Parameter-naam
705	1	1	1
01	B101h1	Hoogte	Stijghoogte
0...	B44H0533_0...	Hoogte	Stijghoogte
0...	B44H0533_0...	Hoogte	Stijghoogte
0...	B44H0829	Hoogte	Stijghoogte
0...	B44H0830	Hoogte	Stijghoogte
0...	B44H0831	Hoogte	Stijghoogte
0...	B44H0832	Hoogte	Stijghoogte
0...	B44H0834	Hoogte	Stijghoogte
0...	B44H0835	Hoogte	Stijghoogte
0...	B44H0837	Hoogte	Stijghoogte
0...	B44H0839_0...	Hoogte	Stijghoogte
0...	B44H0839_0...	Hoogte	Stijghoogte
0...	B44H0841_0...	Hoogte	Stijghoogte
0...	B44H0841_0...	Hoogte	Stijghoogte
0...	B44H0866	Hoogte	Stijghoogte

Custom flag sources added (since 2022.01)

Since 2022.01 also the custom flag sources are available as statistics.

CustomFlagSources

```
<?xml version="1.0" encoding="UTF-8"?>
<customFlagSources xmlns="http://www.wldelft.nl/fews" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:
schemaLocation="http://www.wldelft.nl/fews http://fews.wldelft.nl/schemas/version1.0/customFlagSources.xsd">
  <customFlagSource id="BAN" flag="100" name="Buiten bandbreedte"/>
  <customFlagSource id="128" flag="128" name="Custom128"/>
</customFlagSources>
```

Interval

Grootheid ☐ minimum
☐ maximum
☐ gemiddelde
☐ % boven waarschuwningsniveau
☐ % onder waarschuwningsniveau
☒ % Buiten bandbreedte
☒ % Custom128

Waarschuwningsniveau

Verberg regels ☐

	Grootheid	1900	1901	1902	1903	1904	1905
	2	1	1	1	1	1	1
	% Buiten bandbreedte	0	0	0	0	0	0
	% Custom128	0	0	0	0	0	0

It must be taken into account that this only applies to the custom flag sources used as the normal flag source of time series. The optional and configurable FlagSourceColumns do not apply to this statistic.

Filtering

Since 2023.02 (backported to 2022.02). Rows can be filtered based on their respective percentage or value. Checking the corresponding check boxes will apply the filters to all rows of the associated type, percentage or value. Toggle whether a value range is inclusive or exclusive can be done with the outside checkbox.

Interval

week day

Statistic

☒ number of values

☒ % available

☒ % reliable

☐ % unreliable

☐ % doubtful

☐ % soft min (SN)

☐ % hard min (HN)

Threshold value

Hide % rows

☐

>=

2

<=

98

Hide value rows

☒

Min

-4

Max

1

Outside

☐

Export

Apply

Close