

Delft-FEWS New features 2023.02 and 2024.01

Anwendertreffen

Delft-FEWS Product Management

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June 2024

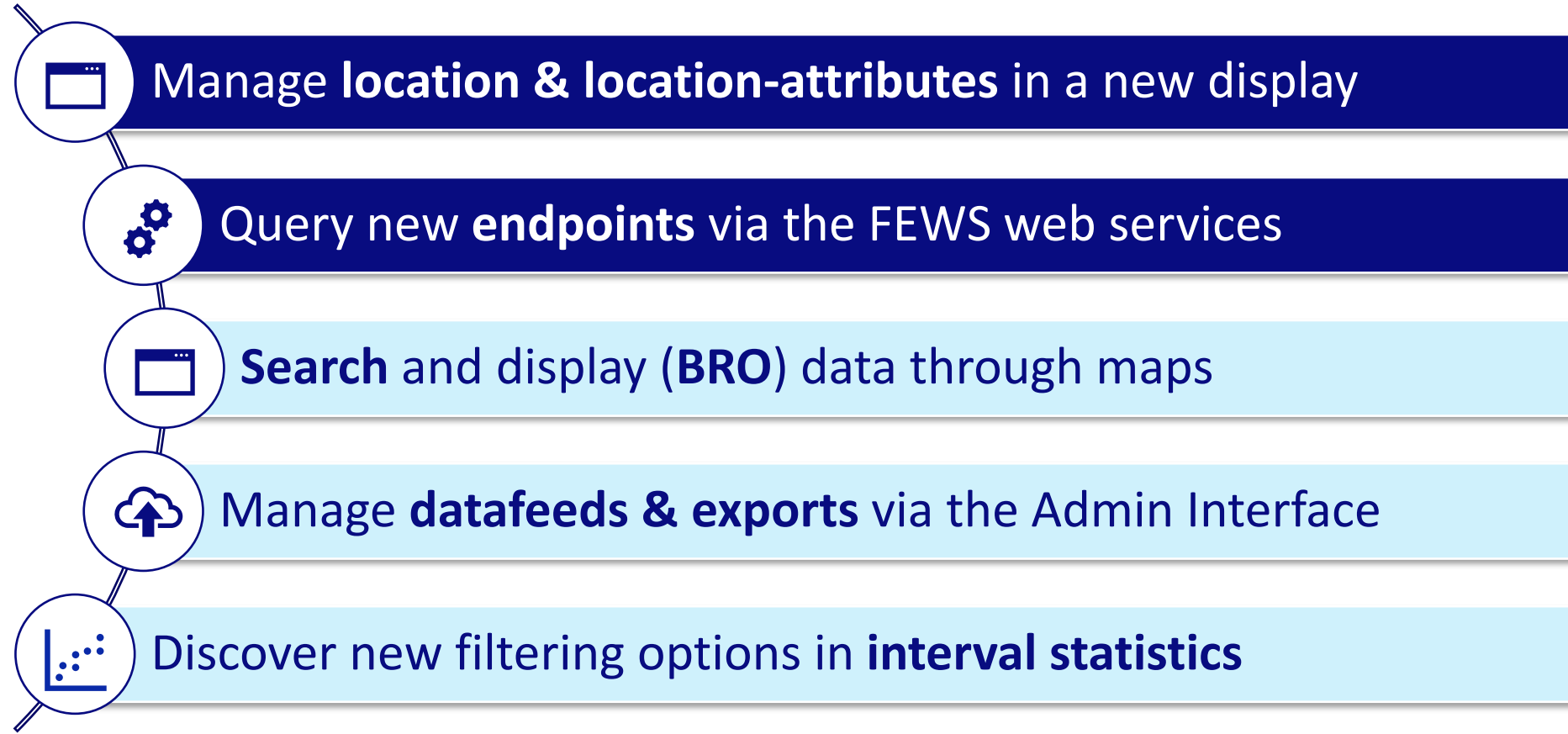
Introduction...

- Welcome
- What's new in 2023.02 and 2024.01?
- Outlook to 2024.02

As usual: [Links for more info](#) ?



Highlights of the 2024.01



Metadata Manager Display

Extension of [Tabular Config Files Display](#)

- Request of Bureau of Meteorology Australia
- Before: separate metadata management tool
- Now: integrated into Delft-FEWS and automatically update configuration

- 801 Stage on Global (platform: x86_64-pc-linux-gnu) (30/04/2016)

	LOCATION NAME	location:GeoJSON	OSURUR	Layer	Segment	LocationName	UTM_WGS84	LAT_WGS84	X_ID	Y_ID	EPSG:31466	% Area, 1000=related
121 Garmen	146, Garmen		True	108	Green	6.15347510	51.15415110	27700	57000	2800	2800	
122 Garmen	158, Garmen		True	108	Green	6.17284381	51.15416126	27800	57000	2800	2800	
123 Garmen	169, Garmen		True	108	Green	6.15377613	51.17867123	27700	57000	2800	2800	
124 Garmen	170, Garmen		True	109	Heidegum	6.13068470	51.17869001	27600	57000	2800	2800	
125 Garmen	171, Garmen		True	109	Heidegum	6.11512910	51.17814460	27500	57000	2800	2800	
126 Garmen	178, Garmen		True	109	Garmen	6.13930840	51.18204245	27600	57000	2800	2800	
127 Garmen	181, Garmen		True	109	Garmen	6.15389923	51.18206243	27700	57000	2800	2800	
128 Garmen	182, Garmen		True	109	Garmen	6.15389923	51.18206243	27700	57000	2800	2800	
129 Garmen	183, Garmen		True	109	Garmen	6.15389923	51.18206243	27700	57000	2800	2800	
130 Garmen	184, Garmen		True	109	Garmen	6.15389923	51.18206243	27700	57000	2800	2800	
131 Garmen	185, Garmen		True	109	Garmen	6.15389923	51.18206243	27700	57000	2800	2800	
132 Garmen	186, Garmen		True	109	Garmen	6.15389923	51.18206243	27700	57000	2800	2800	
133 Garmen	187, Garmen		True	109	Garmen	6.15389923	51.18206243	27700	57000	2800	2800	
134 Garmen	188, Garmen		True	109	Garmen	6.15389923	51.18206243	27700	57000	2800	2800	
135 Garmen	189, Garmen		True	109	Garmen	6.15389923	51.18206243	27700	57000	2800	2800	
136 Garmen	190, Garmen		True	109	Garmen	6.15389923	51.18206243	27700	57000	2800	2800	
137 Garmen	191, Garmen		True	109	Garmen	6.15389923	51.18206243	27700	57000	2800	2800	
138 Garmen	192, Garmen		True	109	Garmen	6.15389923	51.18206243	27700	57000	2800	2800	
139 Garmen	193, Garmen		True	109	Garmen	6.15389923	51.18206243	27700	57000	2800	2800	
140 Garmen	194, Garmen		True	109	Garmen	6.15389923	51.18206243	27700	57000	2800	2800	
141 Garmen	195, Garmen		True	109	Garmen	6.15389923	51.18206243	27700	57000	2800	2800	
142 Garmen	196, Garmen		True	109	Garmen	6.15389923	51.18206243	27700	57000	2800	2800	
143 Garmen	197, Garmen		True	109	Garmen	6.15389923	51.18206243	27700	57000	2800	2800	
144 Garmen	198, Garmen		True	109	Garmen	6.15389923	51.18206243	27700	57000	2800	2800	
145 Garmen	199, Garmen		True	109	Garmen	6.15389923	51.18206243	27700	57000	2800	2800	
146 Garmen	200, Garmen		True	109	Garmen	6.15389923	51.18206243	27700	57000	2800	2800	
147 Garmen	201, Garmen		True	109	Garmen	6.15389923	51.18206243	27700	57000	2800	2800	
148 Garmen	202, Garmen		True	109	Garmen	6.15389923	51.18206243	27700	57000	2800	2800	
149 Garmen	203, Garmen		True	109	Garmen	6.15389923	51.18206243	27700	57000	2800	2800	
150 Garmen	204, Garmen		True	109	Garmen	6.15389923	51.18206243	27700	57000	2800	2800	
151 Garmen	205, Garmen		True	109	Garmen	6.15389923	51.18206243	27700	57000	2800	2800	
152 Garmen	206, Garmen		True	109	Garmen	6.15389923	51.18206243	27700	57000	2800	2800	

Metadata Manager Display



The screenshot displays the QGIS desktop environment. At the top, a menu bar includes File, Tools, Dashboards, Options, and Help. Below it is a toolbar with icons for file operations, editing, and navigation. The left sidebar contains the 'Data View' and 'Layers' panels. The 'Data View' panel shows a table of location data with columns: LOCATION_NAME, locationCode_combo, GEbruik, LocationCode, LocationName, LON_WGS84, LAT_WGS84, X_RD, Y_RD, EPSG_BASIS, Is_Knmi_IrisUnvalidated, and Is_Knmi_IrisValidated. The 'Layers' panel shows a list of layers, including 'MapLayerfiles/WIWB-locaties.csv'. The main canvas displays a table of location data, with the first few rows highlighted in yellow. The table lists various locations in the Netherlands, such as 148 Sappemeer, 158 Onnen, 066 Harlingen, 06270 Leeuwarden, 085 Leeuwarden, 162 Niekerk, 015 Oost Vlieland, 06204 K14-FA-1C7c?, 015 Oost Vlieland, 136 Ezinge, 067 Dokkum, 134 Middelstum, 141 Delfzijl, 145 Zoutkamp, 164 Zeerijp, 084 Ezumazijl, 011 West Terschelling, 154 Enrum, 091 Ternaard, 06251 Hoor/Terschelling, 150 Uithuizen, 171 Anjum, 99101 Assendelft (S16), 10200 EMDEN-FLUGPLATZ, 026 Fornerum, 06511 Delfzijl, 142 Warffum, 06277 Lauwersoog, 010 Hollum, 018 Nes (Ameland), 151 Roodeschol, 012 Schiermonnikoog, 06208 AWG-1, 06285 Huibertgat, 06207 L9-FF-1, 10113 NORDERNEY, and 06211 J6-A. The interface also shows a bottom status bar with system time, date, and coordinates.

locking & filtering

edits, revert, refresh, save

add/remove rows, copy-paste, export

Custom tools



Metadata Manager Display

FileToolsDashboardsOptionsHelp

BOS Regge en Dinkel (standalone testapplicatie Deltares) (Stand alone)

MapLayerFiles\WIWB-locaties.csv (draft)

Attributes

Selections

Meetlocaties

Waterstanden (select)

Hydraulische geg.(all)

NLWKN

NRW

Neerslag

WIWB

Model Performance I

011 West Terschelling

012 Schiermonnikoog

015 Oost Vlieland

016 Patten

017 Den Burg

018 Nes (Ameland)

019 De Cocksdorp

021 Callantsoog

022 De Koog

024 Vlieland

025 De Kooy

026 Formerum

061 Skrips

06201 D15-FA-1

06203 P-11

06204 K14-FA-1C7c?

06205 A-12

06205 FA-12

Neerslag verwacht (ENS)

Gemeten neerslag

Verdamping gemeten

Wind speed (forecast)

Gemeten windsnelheid

Temperature (observed)

Temperature (ensemble forec

Voorspelde windrichting

Gemeten windrichting

~LOCATION_NAME	locationCode_combo	GEBRUIK	LocationCode	LAT_WGS84	Is_Knmi_WaquaTs	~LAST_EDIT_USER	~LAST_EDIT_TIME
WAd Waddeneilanden	WAd_Waddeneilanden	false	WAd	53.022466317	false		
065 Makkum	065_Makkum	true	065	53.06286414	False		
076 Kornwerderzand	076_Kornwerderzand	true	076	53.06285678	False		
086 Nijbeets	086_Nijbeets	true	086	53.06130178	False		
022 De Koog	022_De Koog	true	022	53.09724539	False		
147 Veendam	147_Veendam	true	147	53.09921606	False		
061 Skrips	061_Skrips	true	061	53.11647855	False		
073 Drachten	073_Drachten	true	073	53.11463462	False		
161 Eelde	161_Eelde	true	161	53.11980529	False		
090 Eernewoude	090_Eernewoude	true	090	53.13347623	False		
06280 Groningen	06280_Groningen	alse	06280	53.133	False		
153 Winschoten	153_Winschoten	true	153	53.1322578	False		
163 Roden	163_Roden	true	163	53.14815582	False		
166 Marum	166_Marum	true	166	53.14936746	False		
019 De Cocksdorp	019_De Cocksdorp	true	019	53.16063234	False		
148 Sappemeer	148_Sappemeer	true	148	53.15415733	False		
158 Onnen	158_Onnen	true	158	53.15481356	False		
066 Harlingen	066_Harlingen	true	066	53.1796723	False		
078 Herbyum	078_Herbyum	true	078	53.17962091	False		
087 Bergumderdam	087_Bergumderdam	true	087	53.17803461	False		
139 Groningen	139_Groningen	true	139	53.18269425	False		
GR Groningen	GR_Groningen	alse	GR	53.18269425	False		
06513 Harlingen	06513_Harlingen	alse	06513	53.2	False		
06286 Nieuw Beerta	06286_Nieuw Beerta	alse	06286	53.2	False		
143 Finsterwolde	143_Finsterwolde	true	143	53.20327482	False		
06270 Leeuwarden	06270_Leeuwarden	alse	06270	53.217	False		
085 Leeuwarden	085_Leeuwarden	True	085	53.22402447	False		
162 Niekerk	162_Niekerk	True	162	53.22078207	False		
FR Friesland	FR_Friesland	alse	FR	53.22402447	False		
WAD Waddenzee	WAD_Waddenzee	alse	WAD	53.22456305	False		
06252 K13-A	06252_K13-A	alse	06252	53.217	False		
06242 Vlieland	06242_Vlieland	alse	06242	53.25	False		
024 Vlieland	024_Vlieland	True	024	53.25981805	False		
172 Nieuwolda	172_Nieuwolda	True	172	53.24984584	False		
068 St Anna Parochie	068_St Anna Parochie	True	068	53.27818326	False		
077 Kollum	077_Kollum	True	077	53.27618175	False		
135 Woltersum	135_Woltersum	True	135	53.2711106	False		
06204 K14-FA-1C7c?	06204_K14-FA-1C7c?	alse	06204	53.267	False		
015 Oost Vlieland	015_Oost Vlieland	True	015	53.29607962	False		
136 Ezinge	136_Ezing	True	136	53.29177273	False		
067 Dokkum	067_Dokkum	True	067	53.32194829	False		
134 Middelstum	134_Middelstum	True	134	53.32613186	False		
141 Delfzijl	141_Delfzijl	True	141	53.32249234	False		
145 Zoutkamp	145_Zoutkamp	True	145	53.32905891	False		
164 Zeerijp	164_Zeerijp	True	164	53.34263937	False		
084 Ezumazijl	084_Ezumazijl	True	084	53.35694854	False		
011 West Terschelling	011_West Terschelling	True	011	53.36826024	False	boot_g	2024-05-30 15:48:32
154 Eenrum	154_Eenrum	True	154	53.36351009	False		
091 Ternaard	091_Ternaard	True	091	53.37593084	False		
06251 Hoorn/Terschelling	06251_Hoorn/Terschelling	alse	06251	53.383	False		
150 Uithuizen	150_Uithuizen	True	150	53.37940186	False		
171 Anjum	171_Anjum	True	171	53.38399658	False		
00101 Accendelft (S16)	00101_Accendelft (S16)	alse	00101	53.387	False		

Map

Tabular config files

612 rows | LocationSets.xml

Logs

Current system time: 2024-05-24 12:45 MEST

15:49:33 CEST

Archive: not connected

Stand alone

182149 , 520143

0.0 MB/s

807 MB

Metadata Manager Display Configuration

- **Explorer.xml**
 - Add: <ExplorerTask>

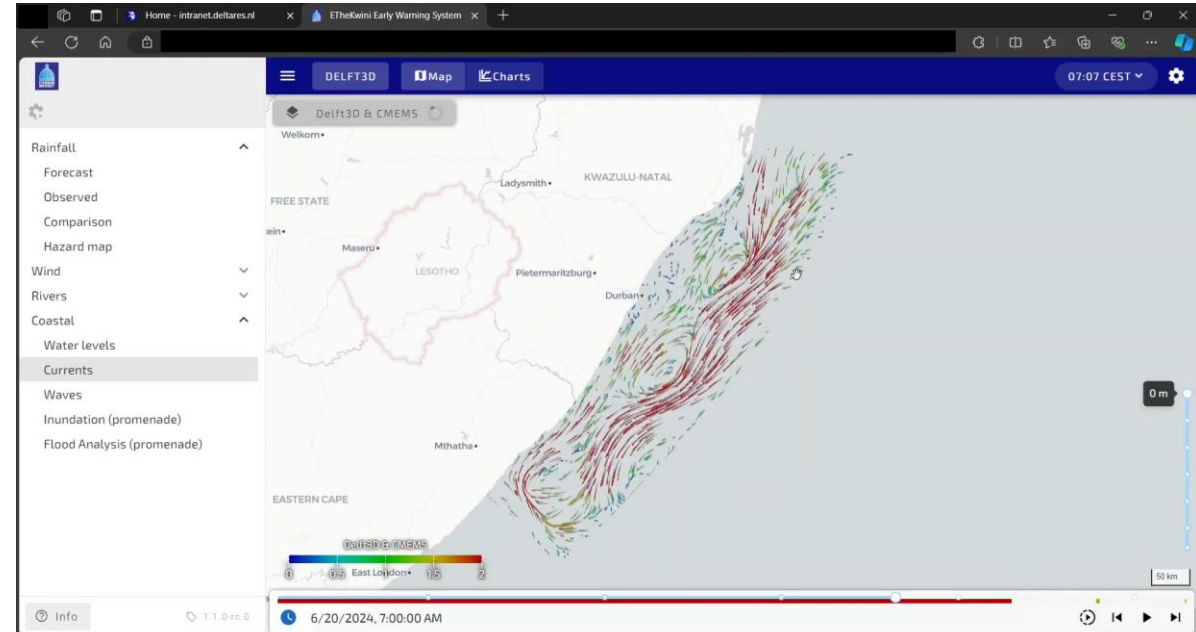
```
<explorerTask name="HyFS Metadata">
  <iconFile>hymm.svg</iconFile>
  <predefinedDisplay>tabular config files display</predefinedDisplay>
  <toolbarTask>true</toolbarTask>
  <menubarTask>true</menubarTask>
  <accelerator>ctrl shift T</accelerator>
  <toolWindow>false</toolWindow>
  <loadAtStartup>false</loadAtStartup>
</explorerTask>
```

- In **Config/DisplayConfigFiles**
- Add **TabularConfigFilesDisplay.xml**
 - <editPermission>
 - Configurable (extra) <taskButton>
- Run executable, a (python) script, git interactions

```
<?xml version="1.0" encoding="UTF-8"?>
<tabularConfigFilesDisplay 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/tabularConfigFilesDisplay.xsd">
  <editPermission>Configuration</editPermission>
  <taskButton name="Update Config and Metadata for Public Web Products">
    <description>Update Config and Metadata for Public Web Products</description>
    <permission>Configuration</permission>
    <iconFile>update_config.svg</iconFile>
    <workDir>%REGION_HOME%\Modules\HYMM_python_scripts</workDir>
    <executable>$WINPOWERSHELL$</executable>
    <arguments>
      <argument>$PYTHON$ create_metadata.py %REGION_HOME%\Config\MapLayerFiles\
      <argument>$PYTHON$ create_maps.py %REGION_HOME% %REGION_HOME%\Mod
      <argument>$PYTHON$ create_products.py %REGION_HOME% %REGION_HOME%\M
    </arguments>
  </taskButton>
```

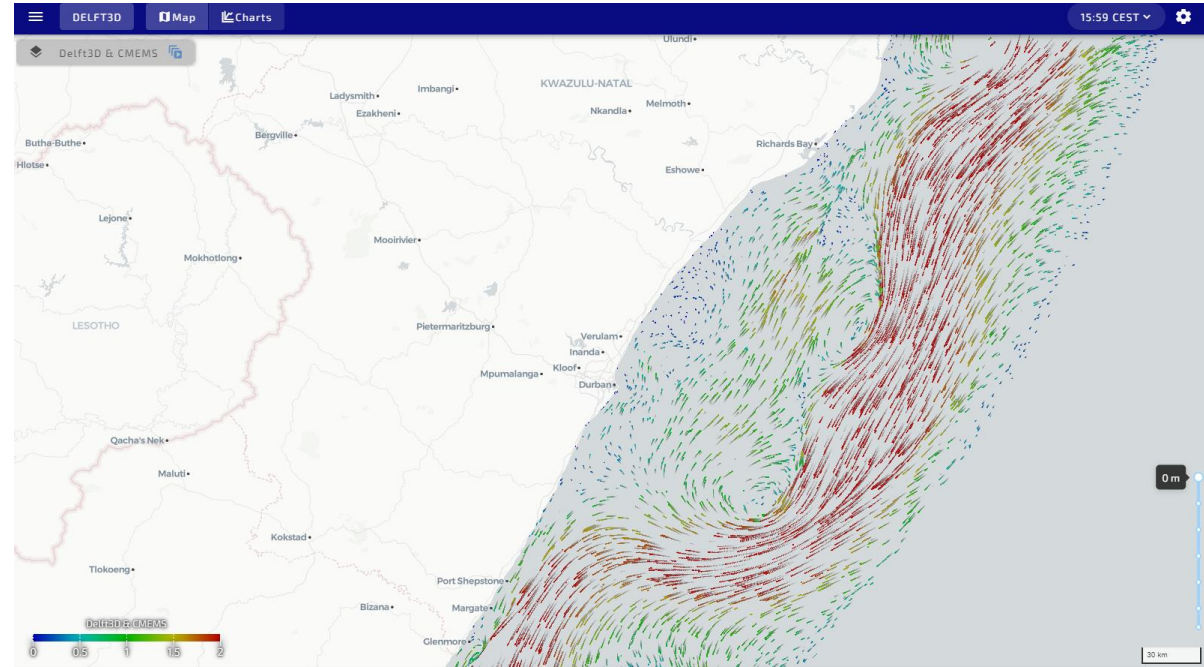

REST based web services

- Delft-FEWS Webservices
 - Extension of end points
 - Webservice patchable
- Delft-FEWS Web OC
 - Many new features and endpoints
 - Focused on topology
 - Focused on data display



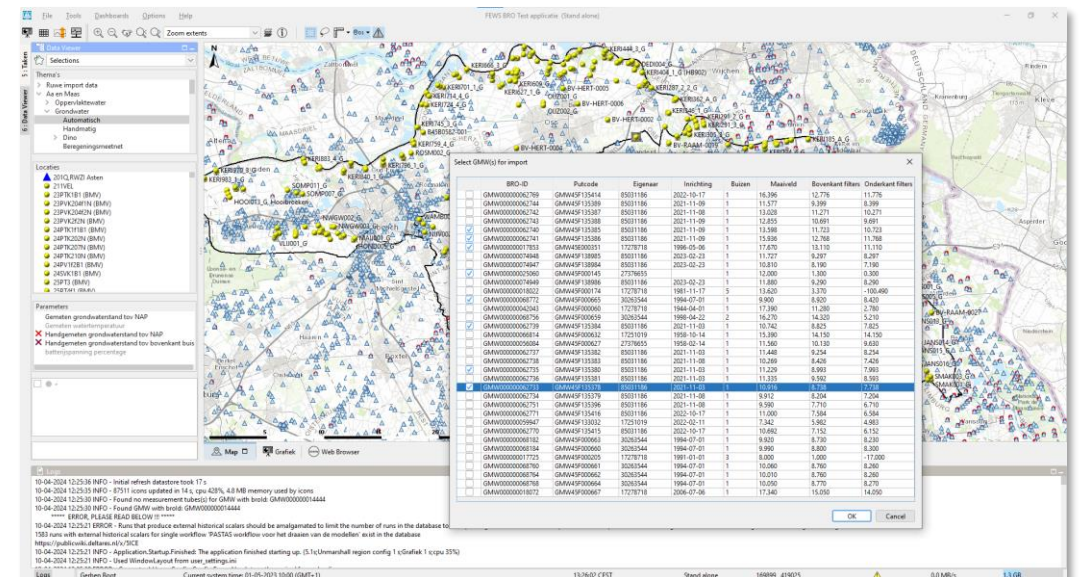
REST based web services

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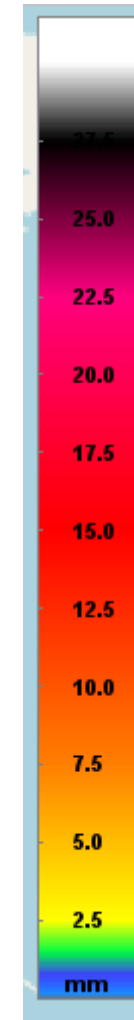
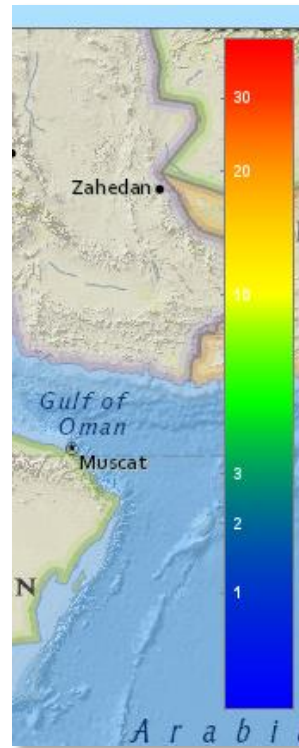
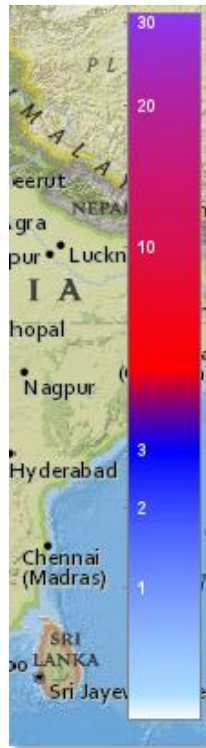
Data sharing between (Dutch) agencies

- Opening up and sharing data sources between agencies
 - Seamless integration: WaterML based web service as a data source
- Temporary import of ground water data from API
 - Selection of observation locations by drawing rectangle on the map
 - Preview of found locations (incl. metadata) + *temporary* import of selection

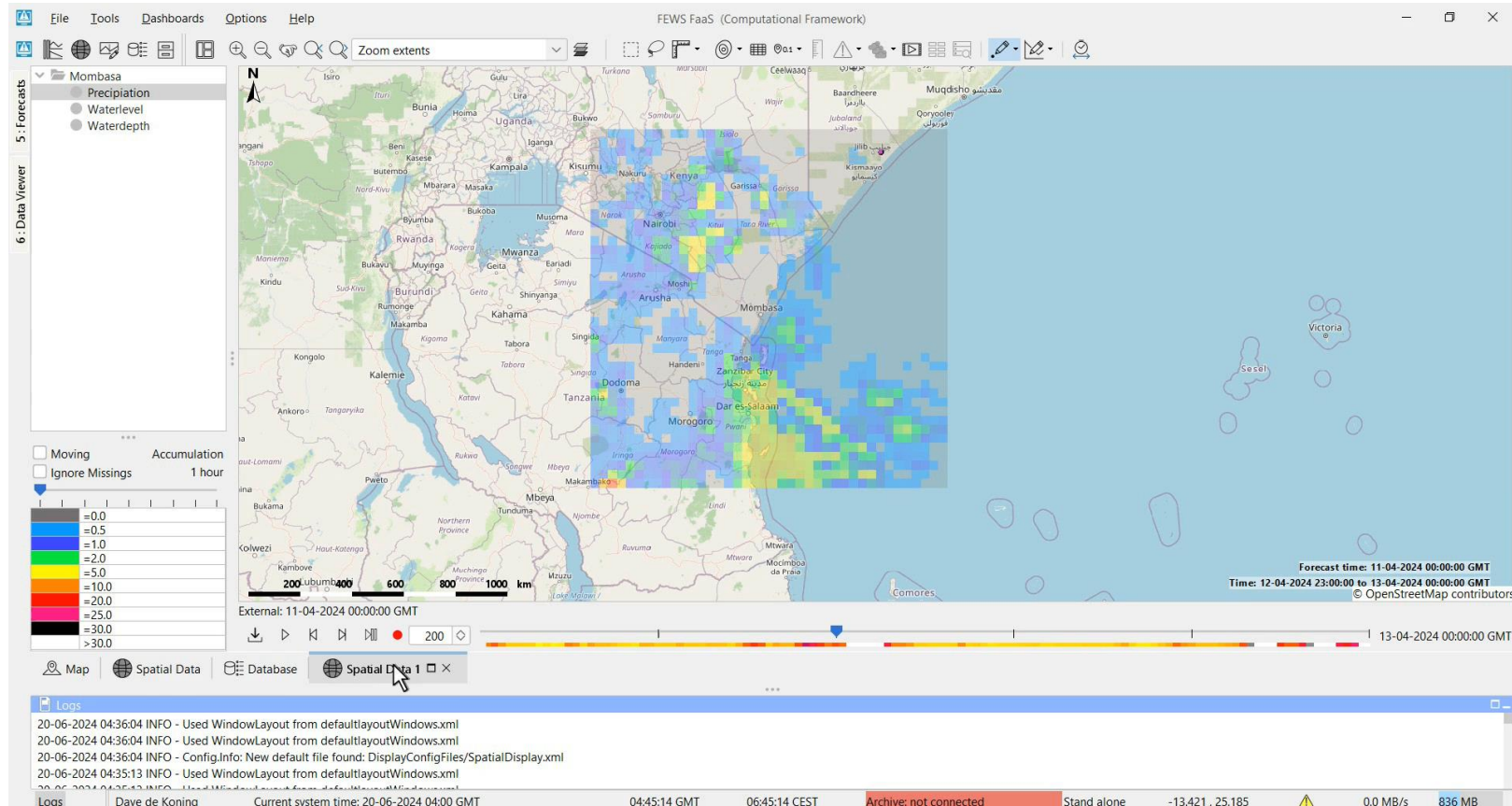


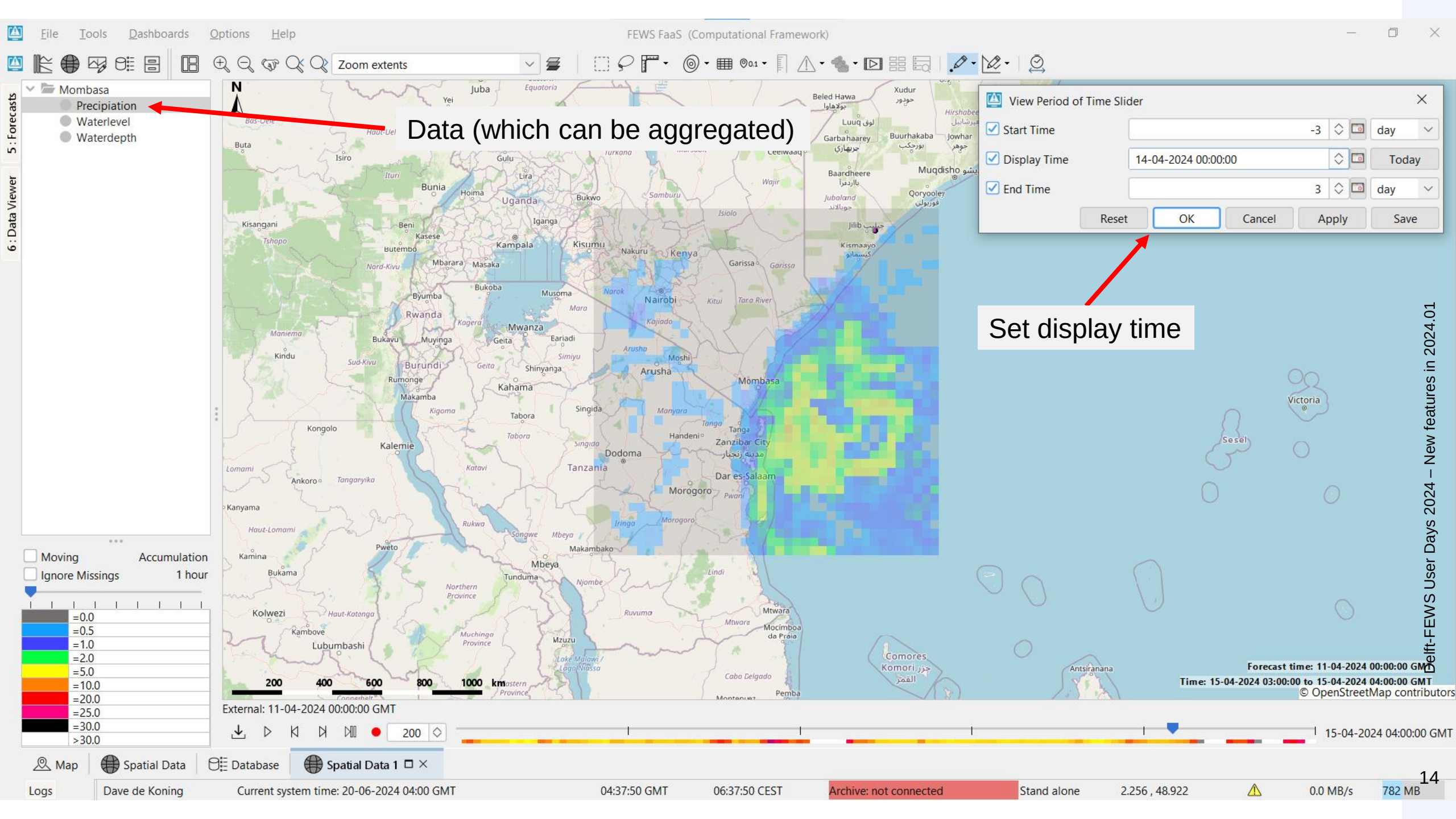
Spatial Display – color bar scaling

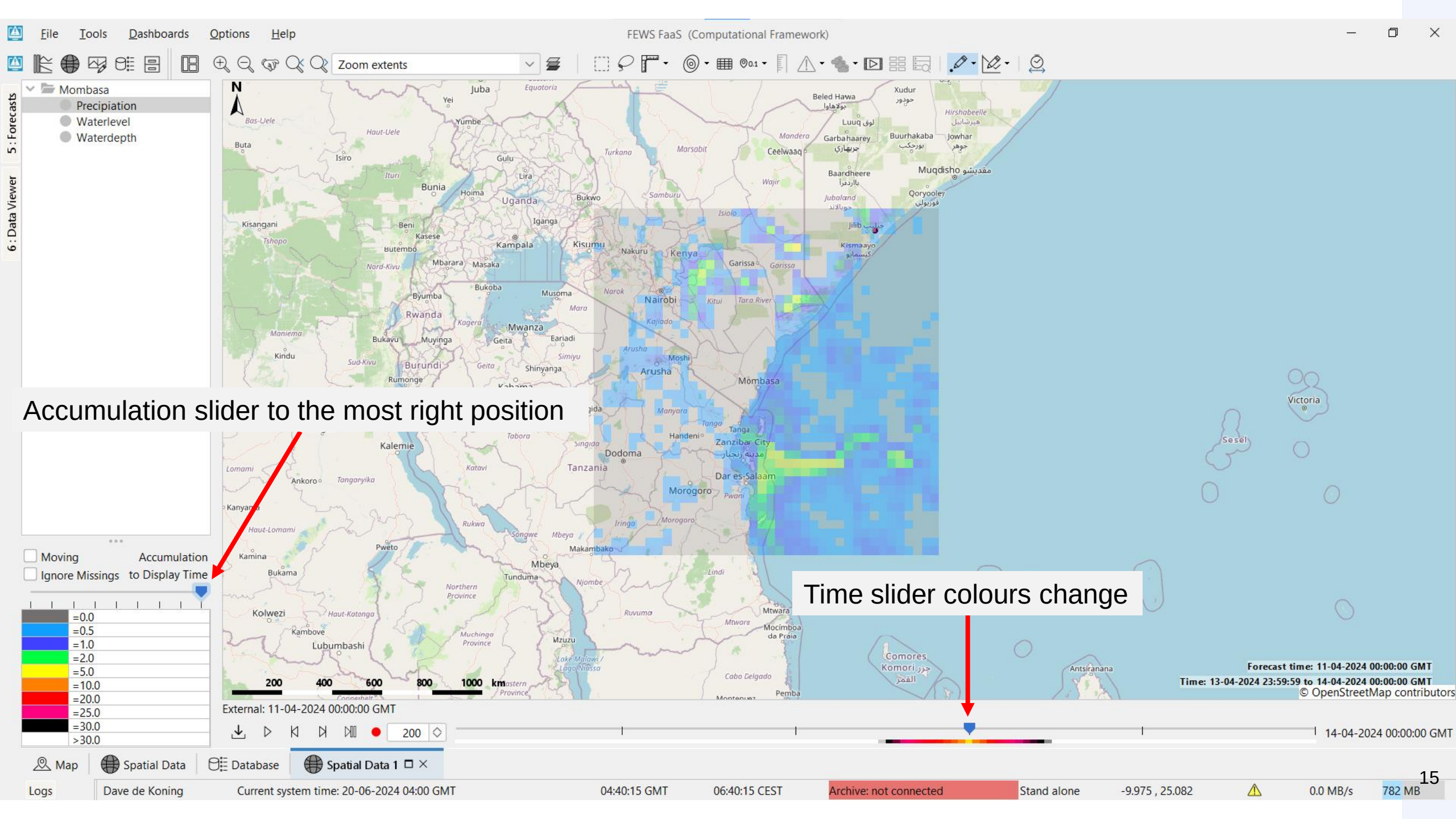
- Bar legend in Spatial Display with log or linear scaling

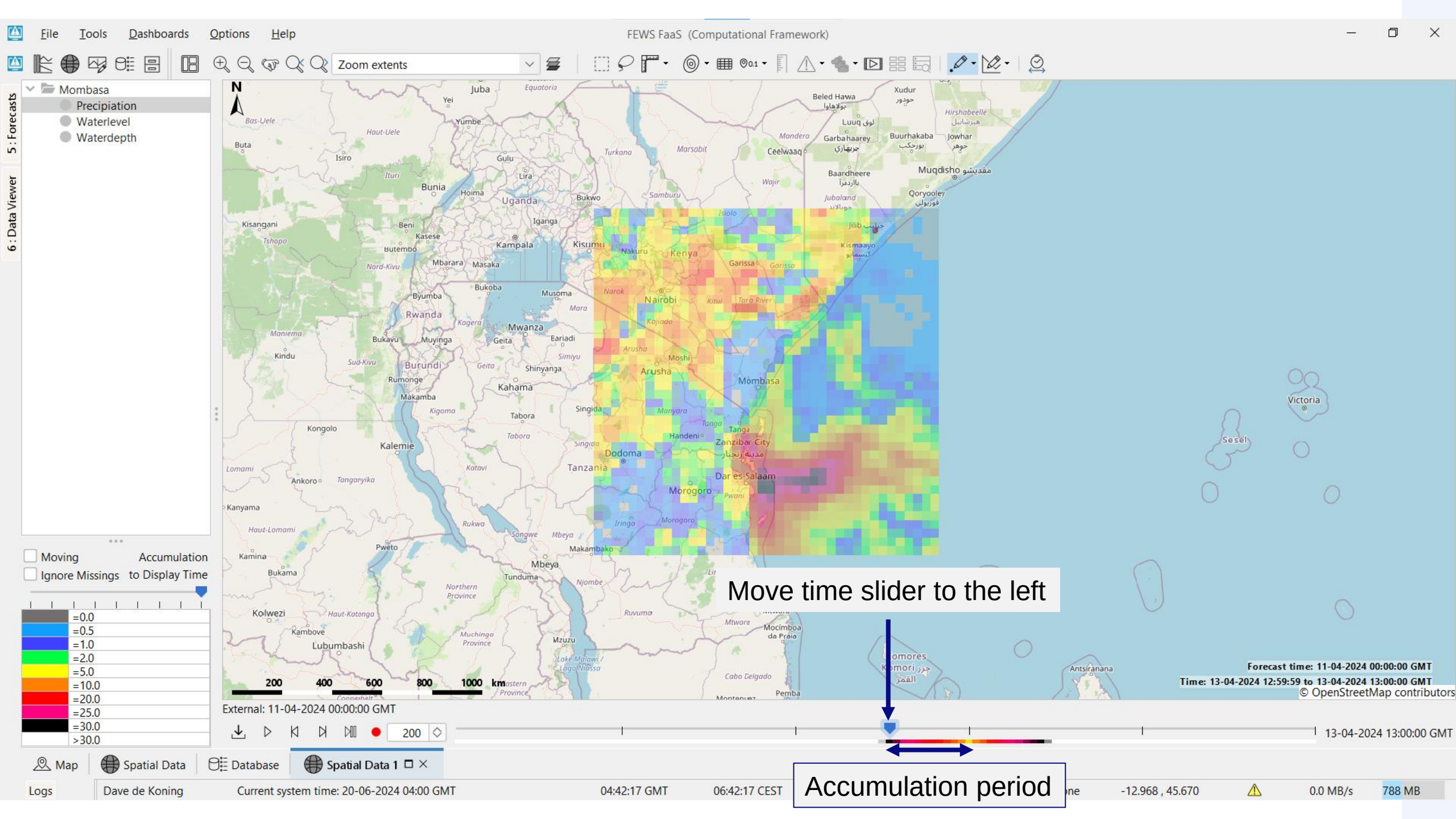


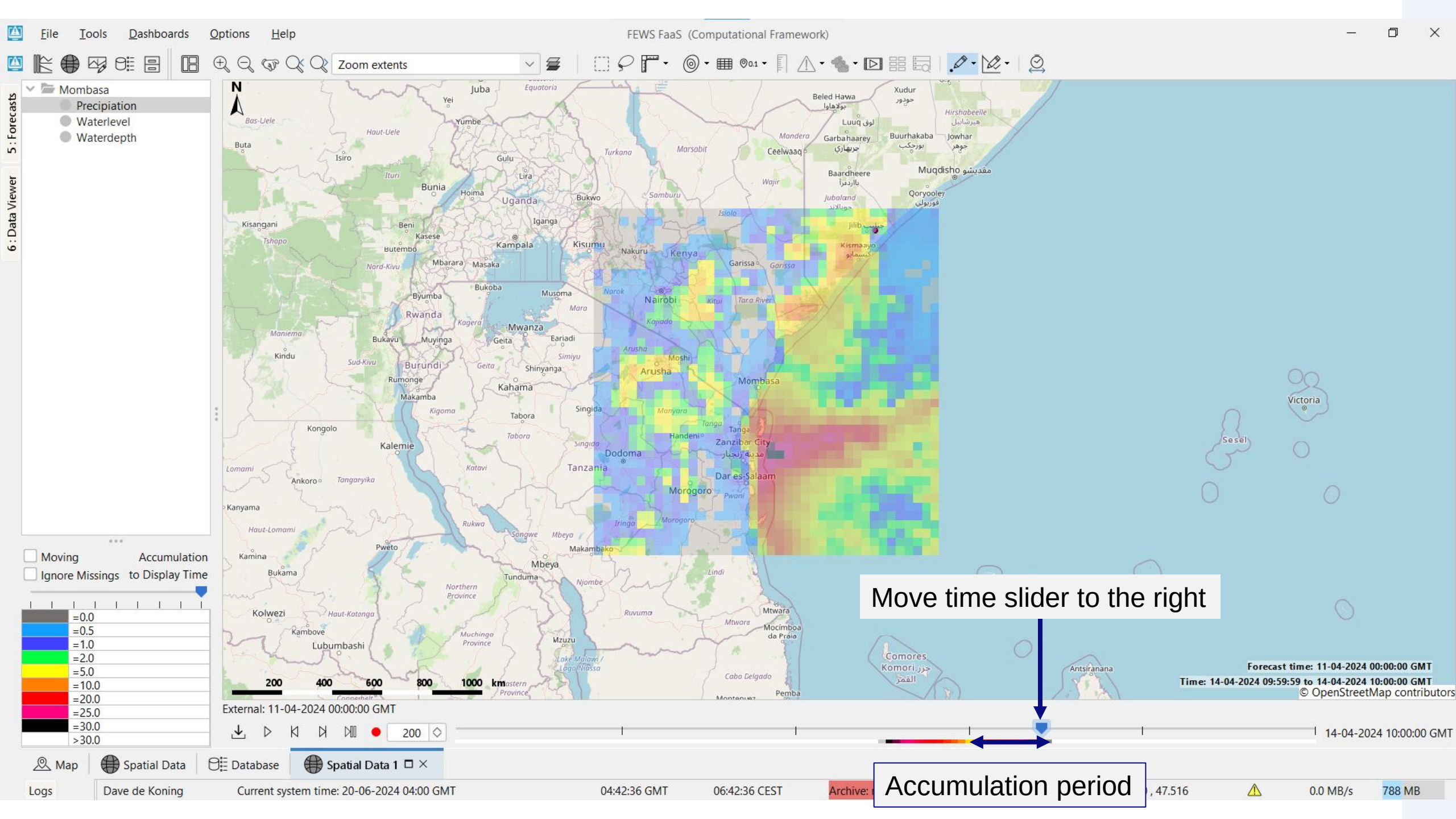
Spatial display – accumulation to/from display time











Export / Import Status Page

System Status

Forecast Tasks

Workflow and FSSs

Files

Import Status

Export Status

Imports

Master Controller

Any

Suspend

Resume

Delete

Search:

MC ID	Data Feed	☐	Suspended	Directory	Last File Exported	Last Export Time	Files Exported	Files Failed
hyfstmc00	Export.IssuedForecasts	☒	true	d:\fews\fss\1\Export\Warnings	Issued_Area_Watches_202310310649.csv	31/10/2023 06:49:16	3	0
hyfstmc00	Export.PeakHeights	☐	false	d:\fews\fss\1\Export	Peak_Heights_202310310649.xml	31/10/2023 06:49:17	1	0
hyfstmc00	Export.hcsrainfall1hr	☐	false	\\dfs-trusted.directory.intra\dfs\hyfstmc00\fromfss\Export\HCS\Rainfall_15m	HYFS_Rain_Period_15m_202310310645.xml	31/10/2023 06:49:50	2	0

Log Browser	Live System Status	Scheduled Forecasts	Running Forecasts	Import Status	Export Status		
Data Feed		Suspended	Directory	Last File Exported	Last Export Time	Files Exported Count	Files Failed Count
Export.IssuedForecasts		☒	d:\fews\fss\1\Export\Warnings	Issued_Area_Watches_202310310649.csv	Tue 31-10-2023 17:49:16	3	0
Export.PeakHeights		☐	d:\fews\fss\1\Export	Peak_Heights_202310310649.xml	Tue 31-10-2023 17:49:17	1	0
Export.hcsrainfall1hr		☐	\\dfs-trusted.directory.intra\dfs\hyfstmc00\fromfss\Export\HCS\Rainfall_15m	HYFS_Rain_Period_15m_202310310645....	Tue 31-10-2023 17:49:50	2	0

System Status

Forecast Tasks

Workflow and FSSs

Files

Import Status

Export Status

Imports

Successful imports

Move Selected Files

Imports

Download Selected Files

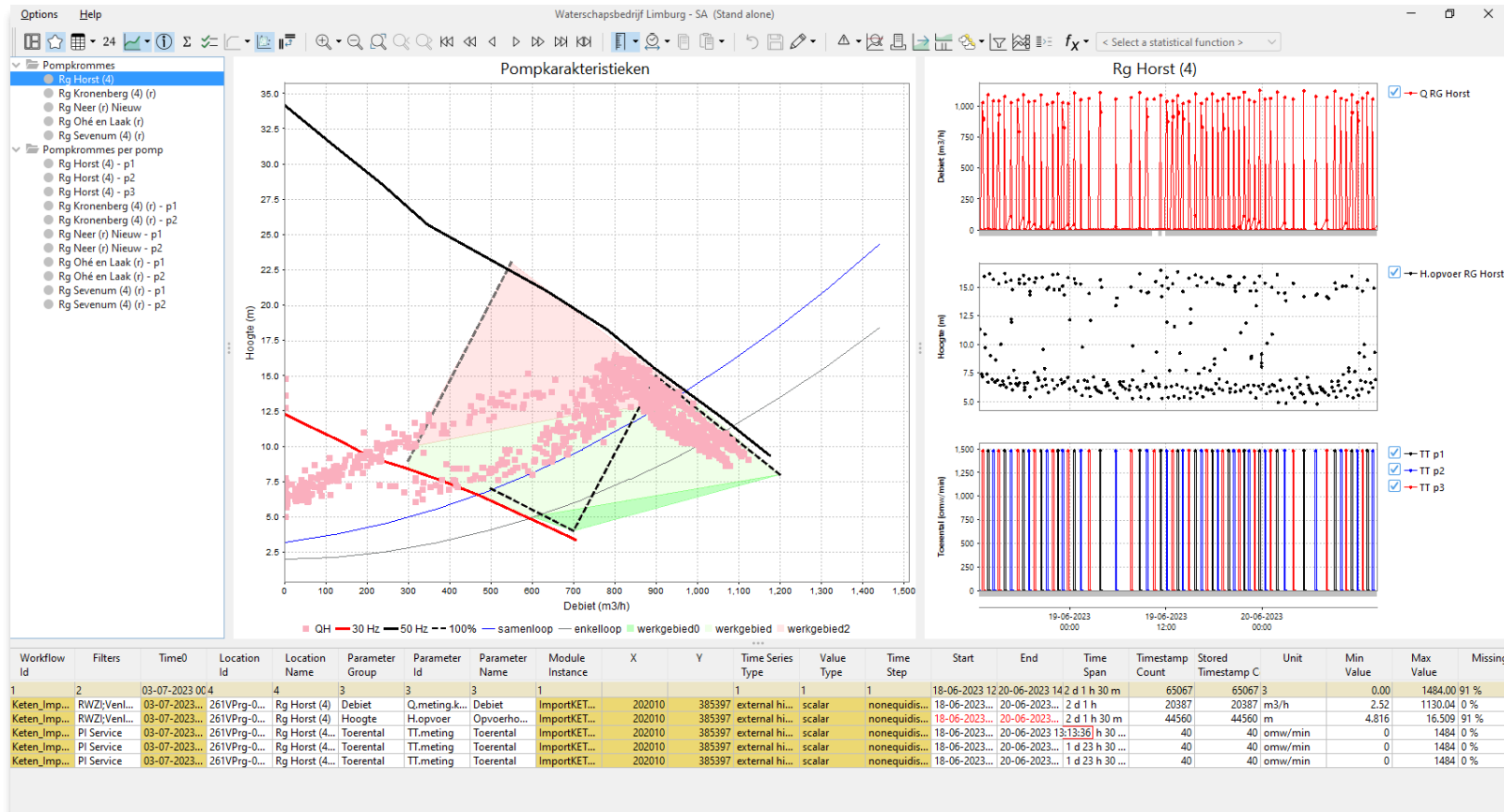
successfulimports / scalars

Show 10 entries

☐	Name	Modified Time	Size
☐	waterlevel	01/11/2023 14:06:54	334 MB
☐	surge	01/11/2023 13:34:57	22 MB
☐	reservoir	16/10/2023 09:29:02	0 B

Timeseries Display

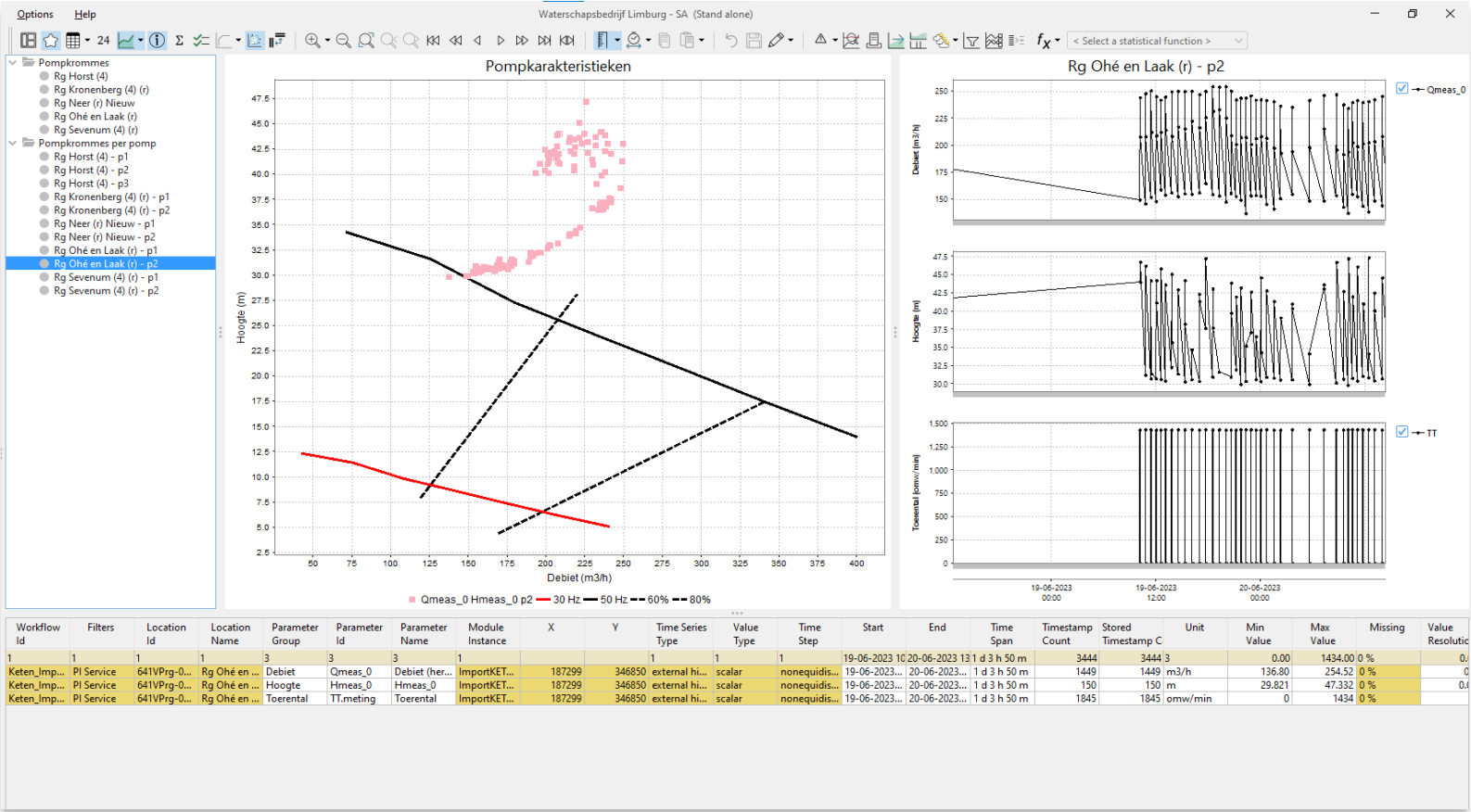
2023.02 Extensions (InteractionScatterPlot)





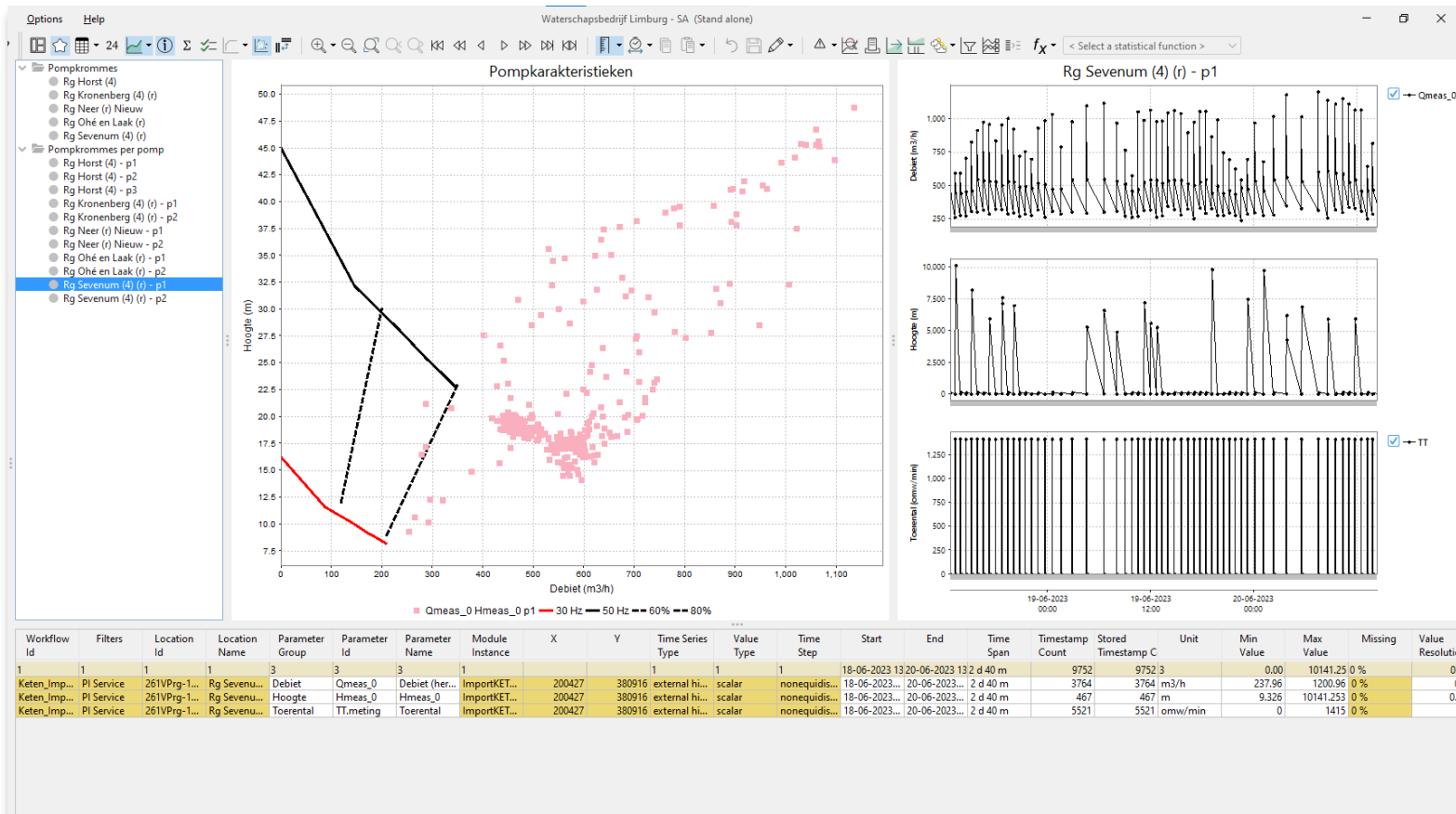
Timeseries Display

2023.02 Extensions (InteractionScatterPlot)



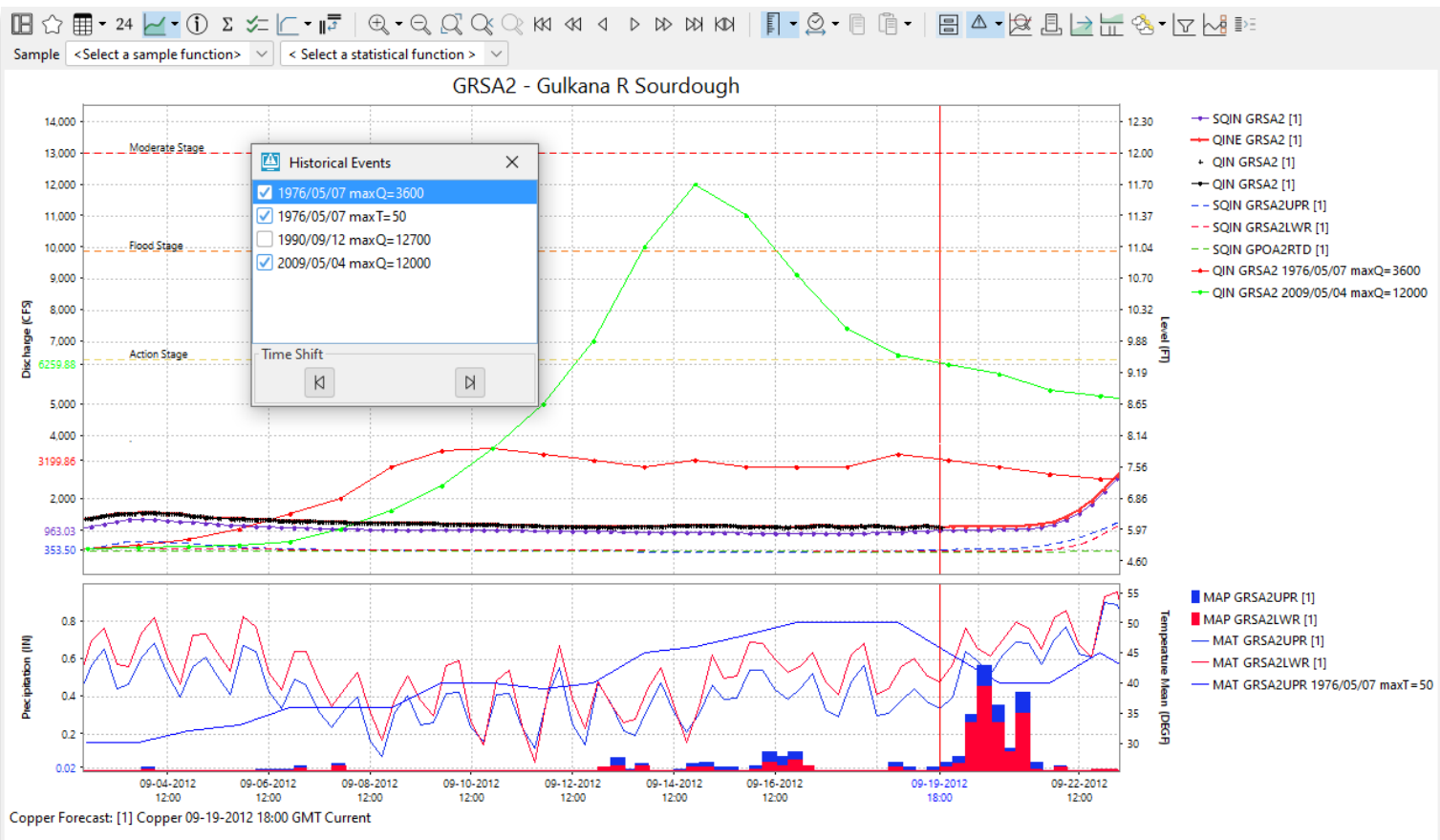
Timeseries Display

2023.02 Extensions (InteractionScatterPlot)



Timeseries Display

2023.02 Extensions



- Long Term Scroller shows full period with data (config option)
- Show column indicator in legend

A	B	C	D	E
Gate.perc.opi (-)	Gate.perc.opi (-)	Gate.perc.opi (-)	Gate.perc.opi (-)	Gate.perc.opi (-)
Beam Auto S SENEB_5544	Braybourne C SENEB_2854	Eversley Mill 2436TH_G1	Eversley Mill 2436TH_G2	Frog Island T 5562TH_G1

- A: Gate.perc.open Beam Auto Sluice FD
- B: Gate.perc.open Braybourne Close FD
- C: Gate.perc.open Eversley Mill FD Gate1
- D: Gate.perc.open Eversley Mill FD Gate2
- E: Gate.perc.open Frog Island Tidal Sluice G1

Timeseries Display

2023.02 Extensions (Interval Statistics)

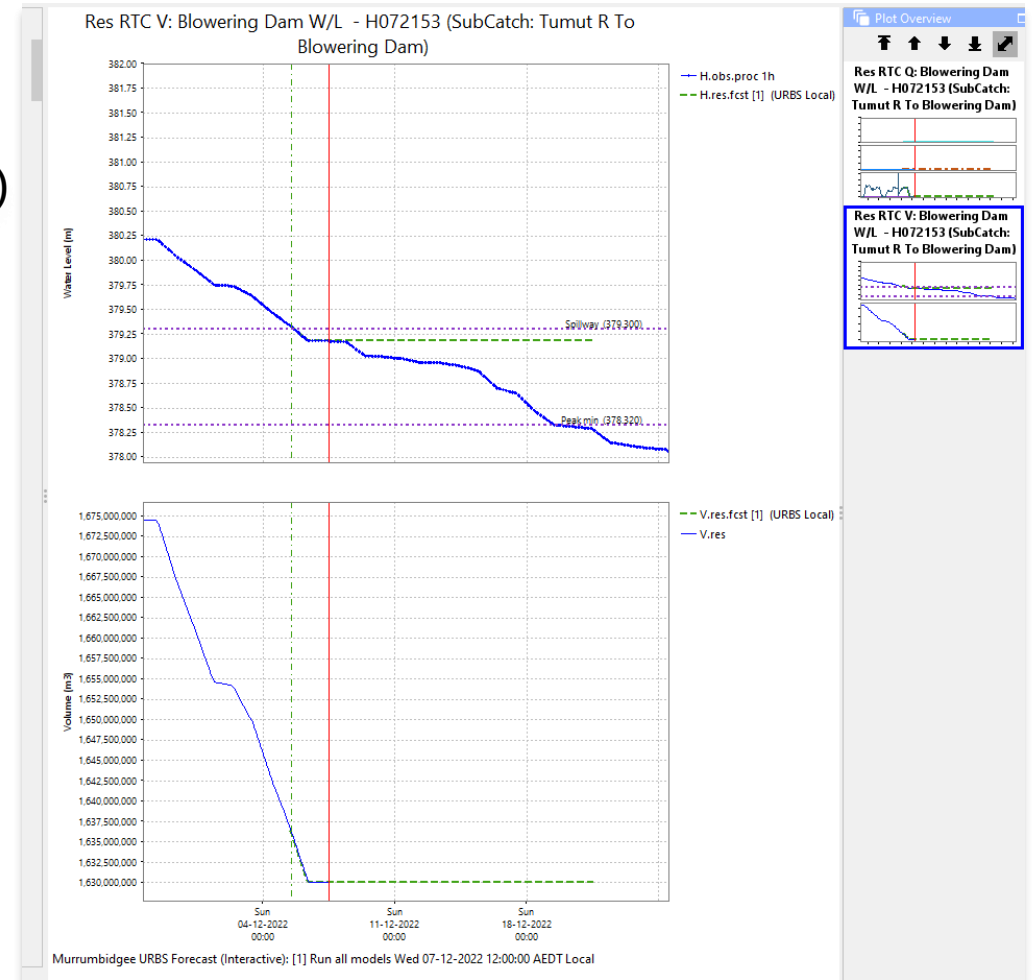
The screenshot displays the WIS Dommel (Stand alone) software interface. The main window shows a data table with columns for location, parameter, and monthly data. The 'Interval Statistics' panel is highlighted with a red box, showing the following settings:

- Interval: maand
- Grootheid: ☐ % levendigheid (SR), ☐ aantal periodes levendigheid (SR), ☐ minimum, ☒ maximum, ☐ gemiddelde, ☐ % boven waarschuwningsniveau, ☐ % onder waarschuwningsniveau
- Verberg % regels: ☒ >= 20, ☐ <= 80
- Verberg waarde regels: ☒ Min 0, ☐ Max 9, ☐ Buiten
- Buttons: Exporteer, Toepassen, Afsluiten

Locatie id	Locatie naam	Parameter groep	Parameter id	Parameter naz	Qualifiers	Module instantie	Locatie starttijd	Locatie eindtijd	Grootheid	jan	feb	mrt	apr	mei	jun	jul	aug	sep	okt
0017	0017 - Reg...	Debiet	Q.meting	Gemeten d...		ImportTMX			aantal waa...	22320	20448	22320	21600	22320	21600	22320	23761	21600	22320

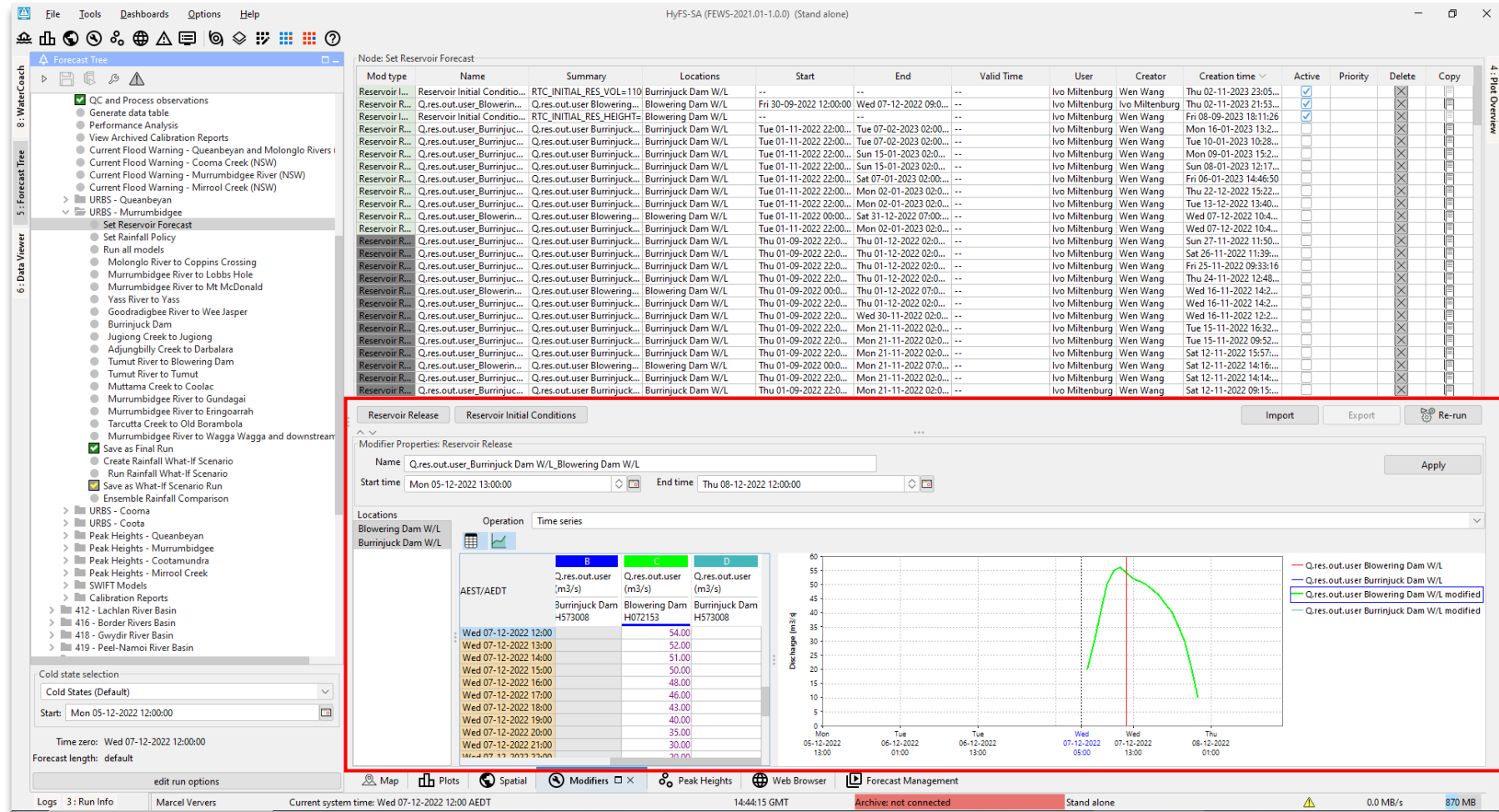
Integrated Reservoir Model

- Calculates reservoir level/volume based on inflow
- Using a level-volume table
- Using level-release table for outflows (spill release)
- Define release time series manually to overrule release table
- Options:
 - Euler routing scheme
 - levelPool routing scheme
 - Interpolation method
 - Resolution elevation interval



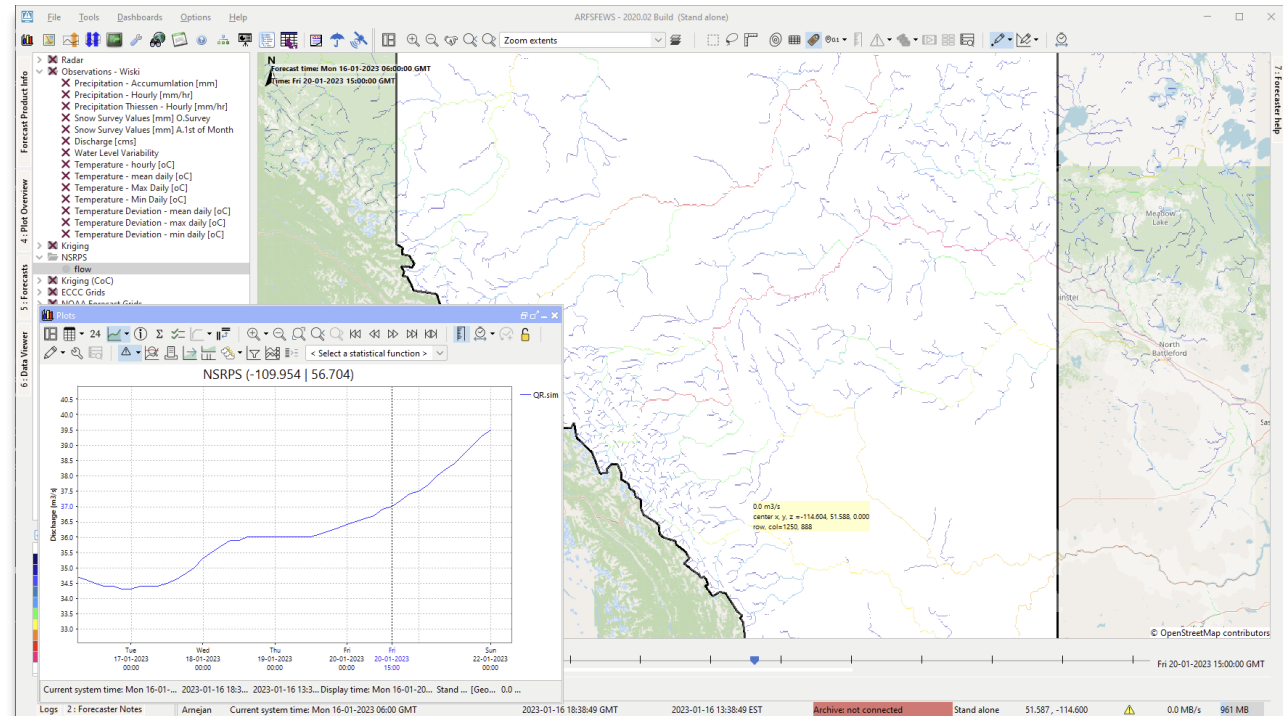


Integrated Reservoir Model



New Imports 2023.02 & 2024.01

- Import from [USACE webservice \(CWMS\)](#)
- Import the [PI_JSON timeseries format](#)
- Support generalCSV import from ZIP file (at serverURL)



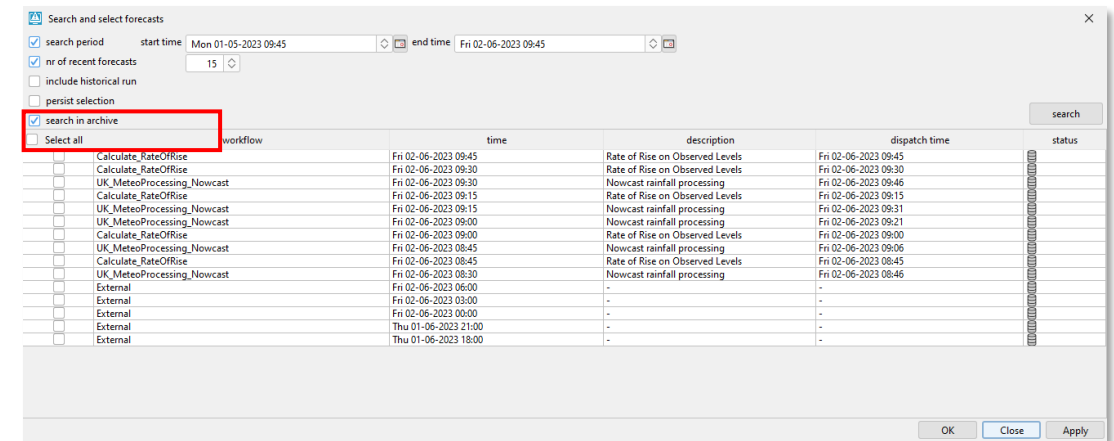


Open Archive

- Open Archive vision document (end of 2023)
 - List of prioritized improvements
 - Improved design ‘internal’ storage solution (for the different data types) enabling data science
 - Open Archive and Delft-FEWS client-server system dependencies & interactions

Improvements

- Performance improvements for seamless integration
- Immediate harvester when archived data changes (additions, changes, deletions)
- Scheduled harvester not necessary anymore
- Simulated historical timeseriesType available in seamless integration
- External forecast data and model states can be retrieved when using the Open Archive in workflows
- OpenID connect implementation (security)



Outlook 2024.02

- Extension of new What-if Editor functionality
- Improvements to the Open Archive
- New page in Web-OC to download data
- cross sections from 3D data via FEWS Webservice
- Schedule tasks in energy saving mode?

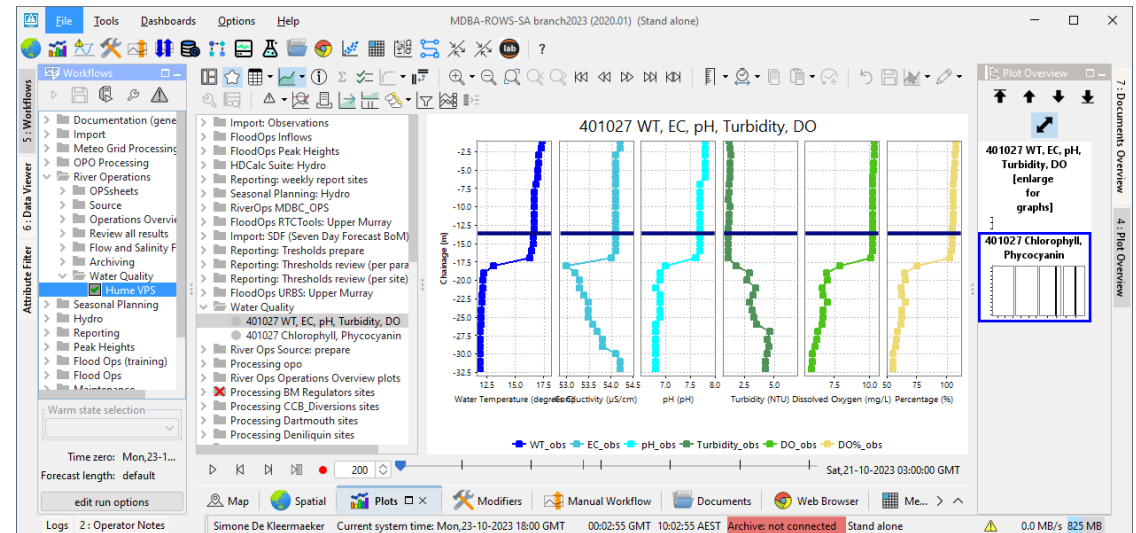
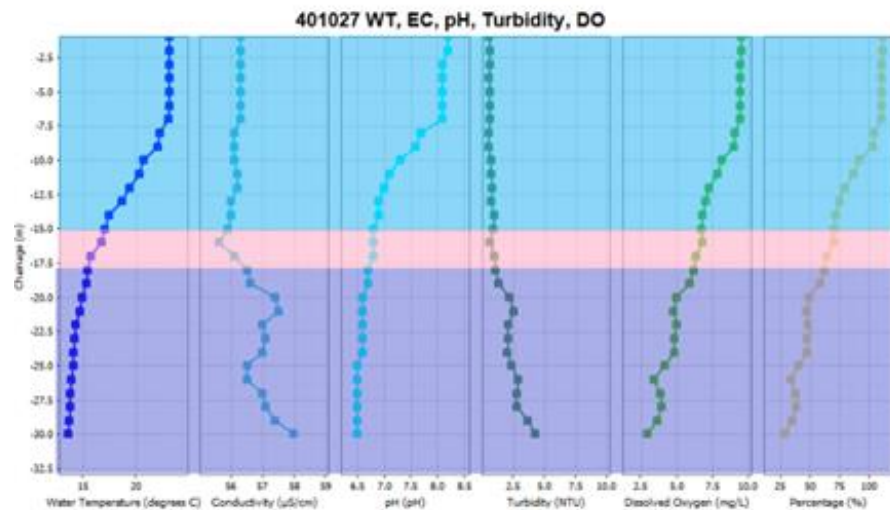
Delft-FEWS



2024.02

Vertical water quality profiles – inlet indicator

- Add location of inlet
- Or color background for range between/around inlets
- Any interest from Delft-FEWS community?



Contact

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