

Delft-FEWS Stable 2022.01

New features

Delft-FEWS NL - Gebruikersdagen 2022

Delft-FEWS Product Management

Marcel Ververs and Gerben Boot

Introduction...

- Welcome
- What's new in 2022.01?
 - Operator Client – different displays
 - Configuration
 - Transformation and other modules
 - Webservices
 - Archive
- Roadmap update 2022
- Documentation and software maintenance
- Outlook to 2022.02

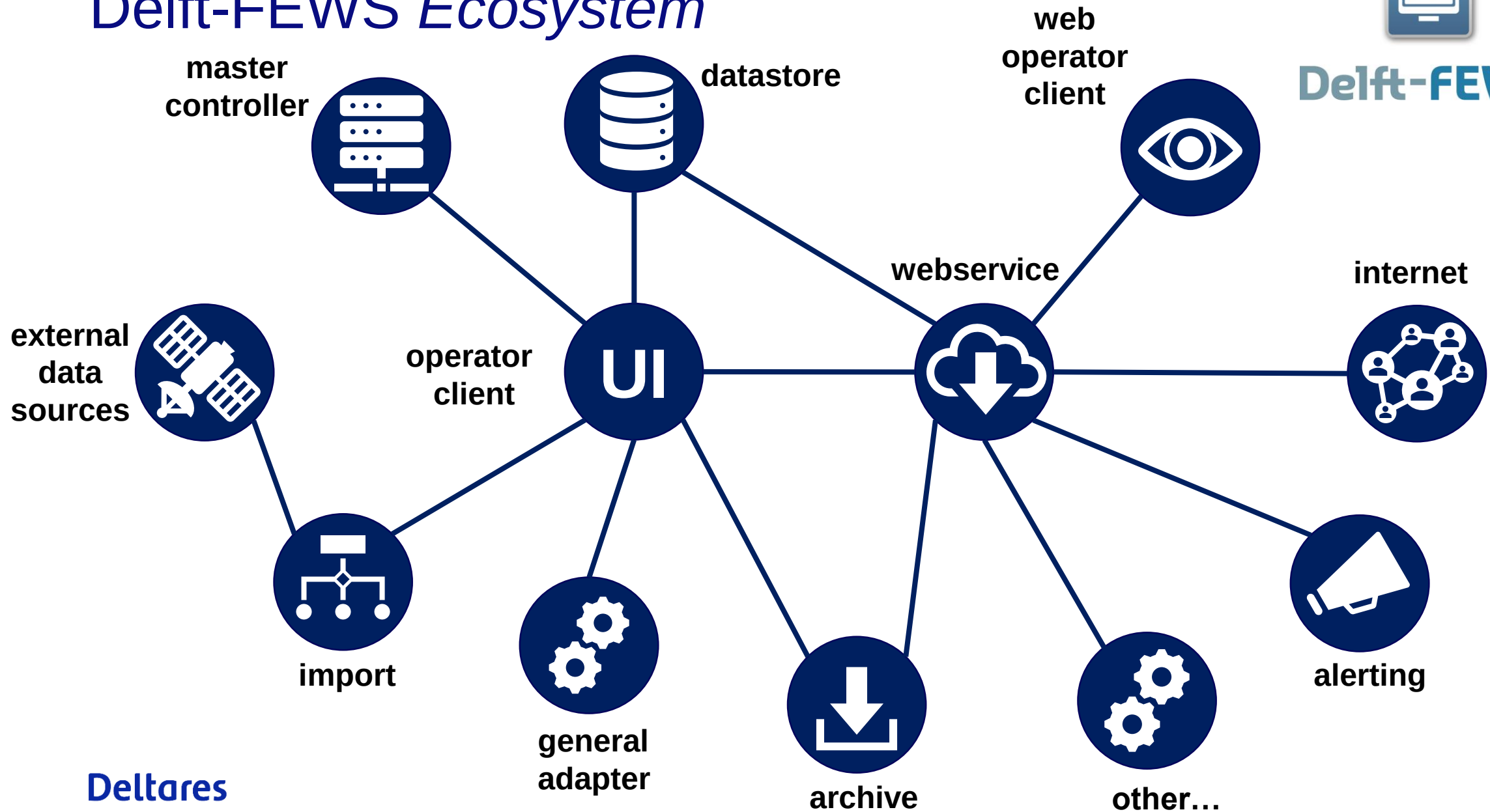
As usual: [Links for more info](#)



Delft-FEWS *Ecosystem*

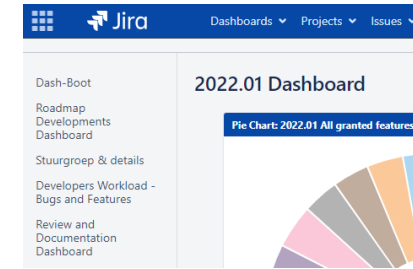


Delft-FEWS



Deltares

Delft-FEWS 2022.01 Benchmarks



104 new features (implemented)



220 bugs reported (**166** fixed)



6 new import modules



10 new features in FEWS-webservices



1 webservice: National Register (NL)



6 new features in timeseries display



4 new data transformations



9 new features in the FEWS explorer



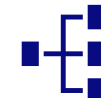
8 new export modules



14 improvements to the open archive

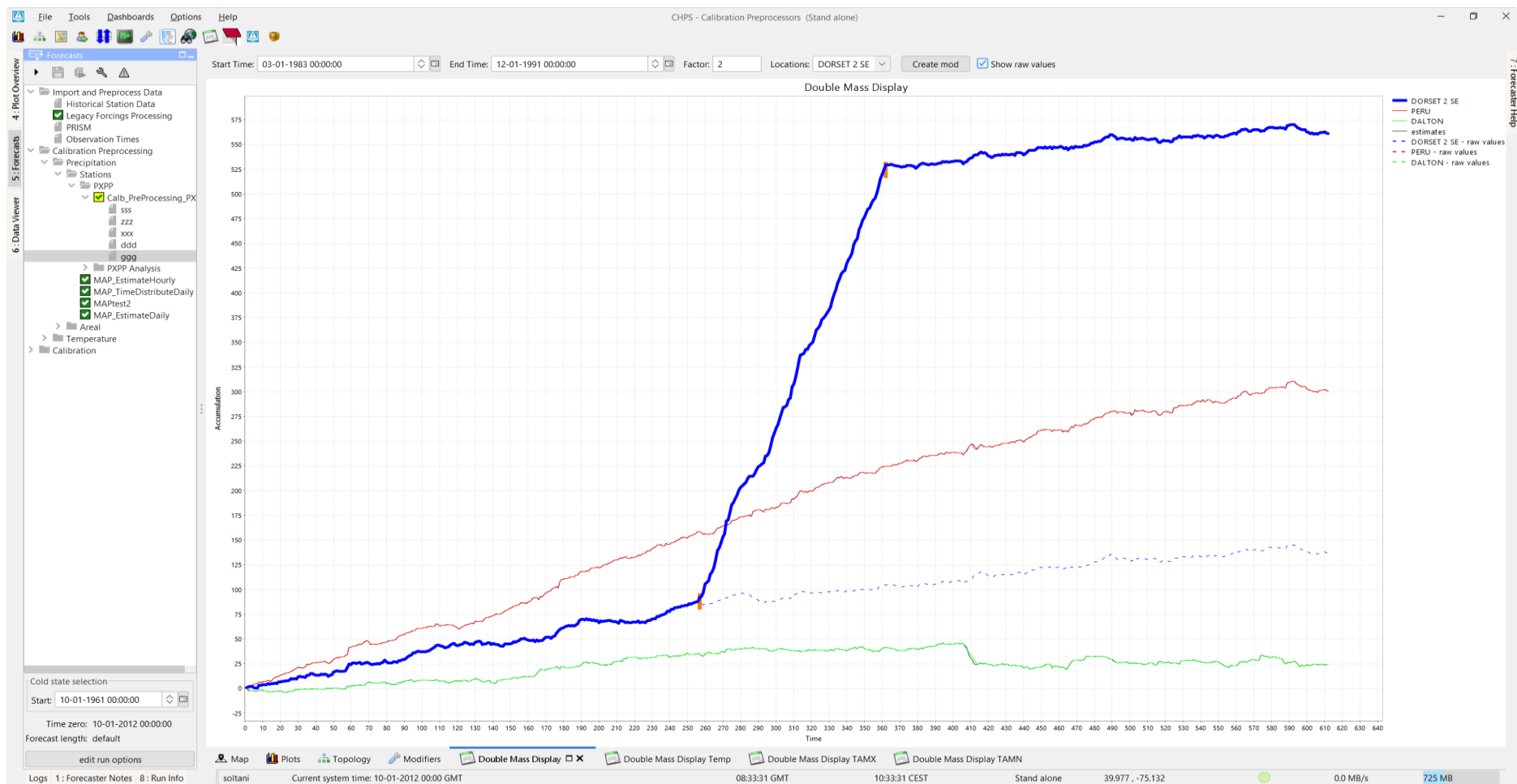


1 new display

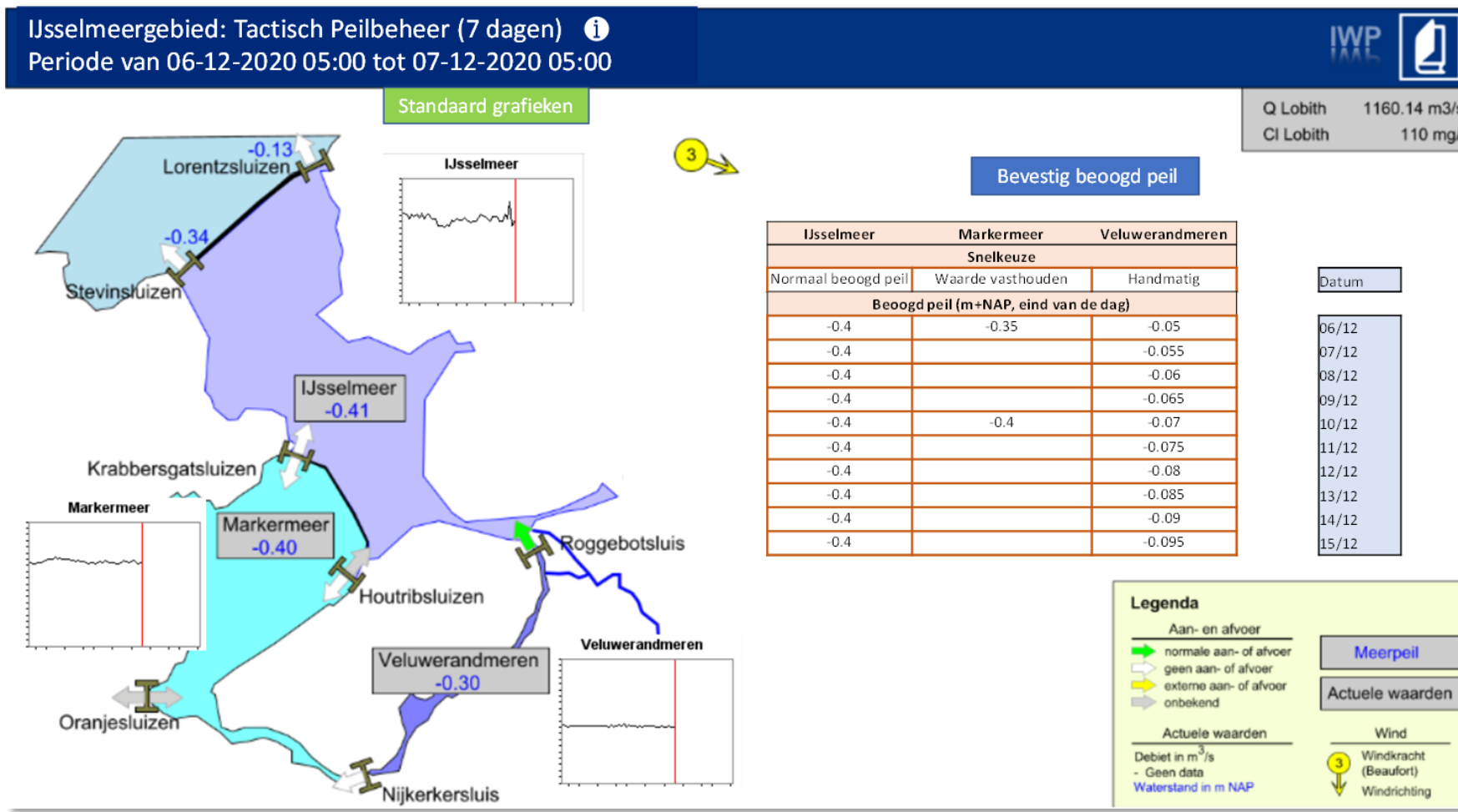


4 improvements to WhatifEditor

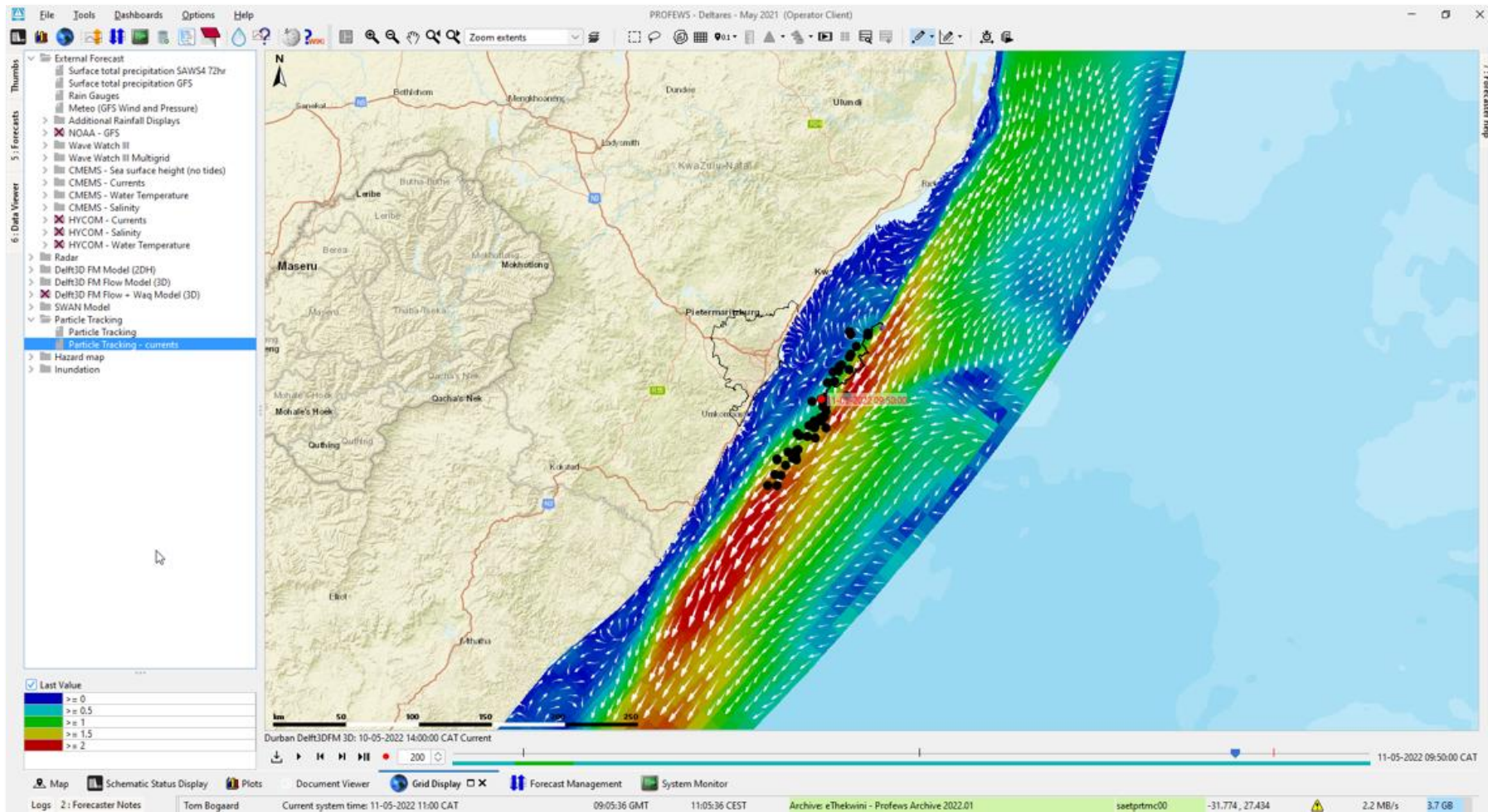
Client – Interactive Double Mass Display



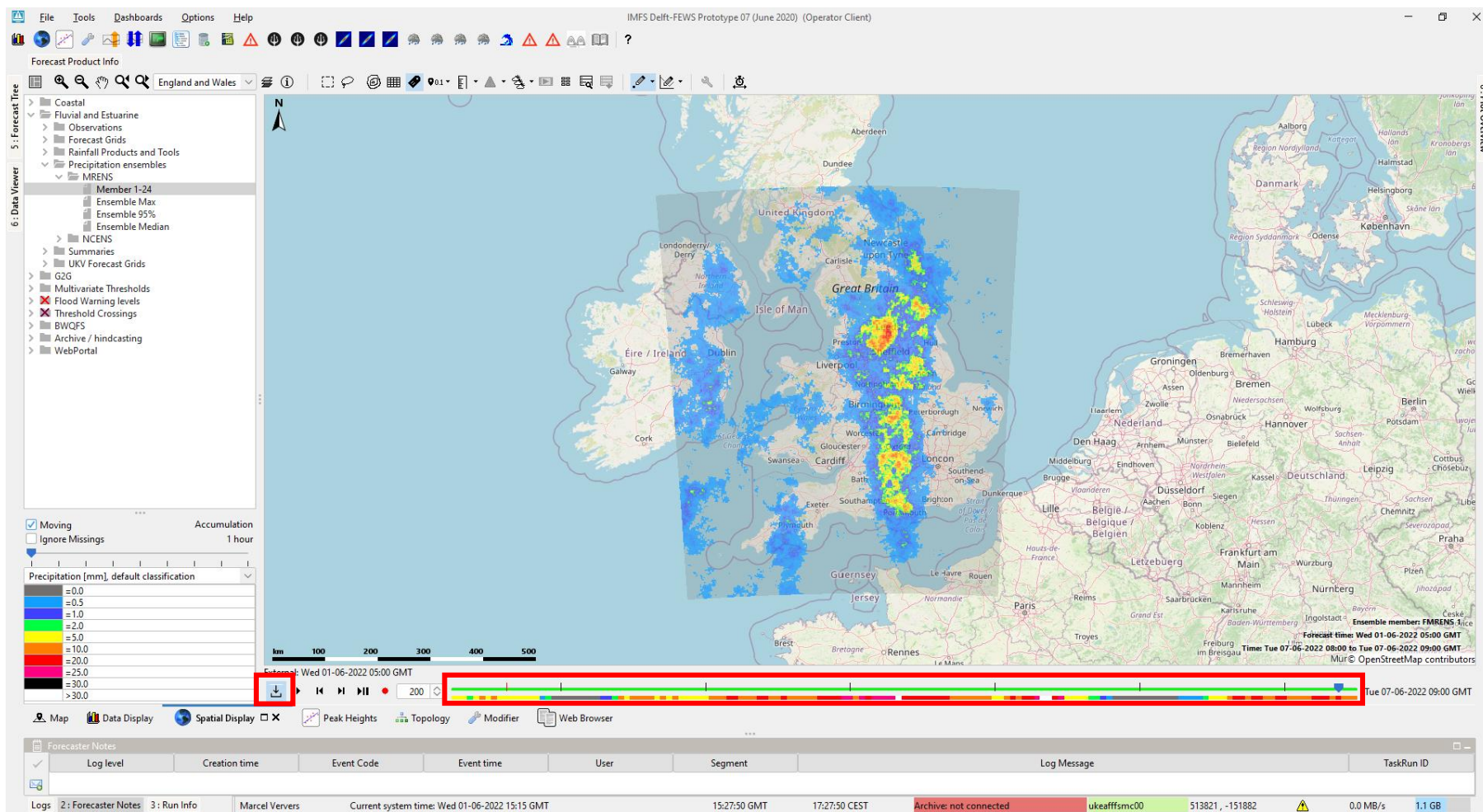
Client – Thumbnails in Schematic Status Display



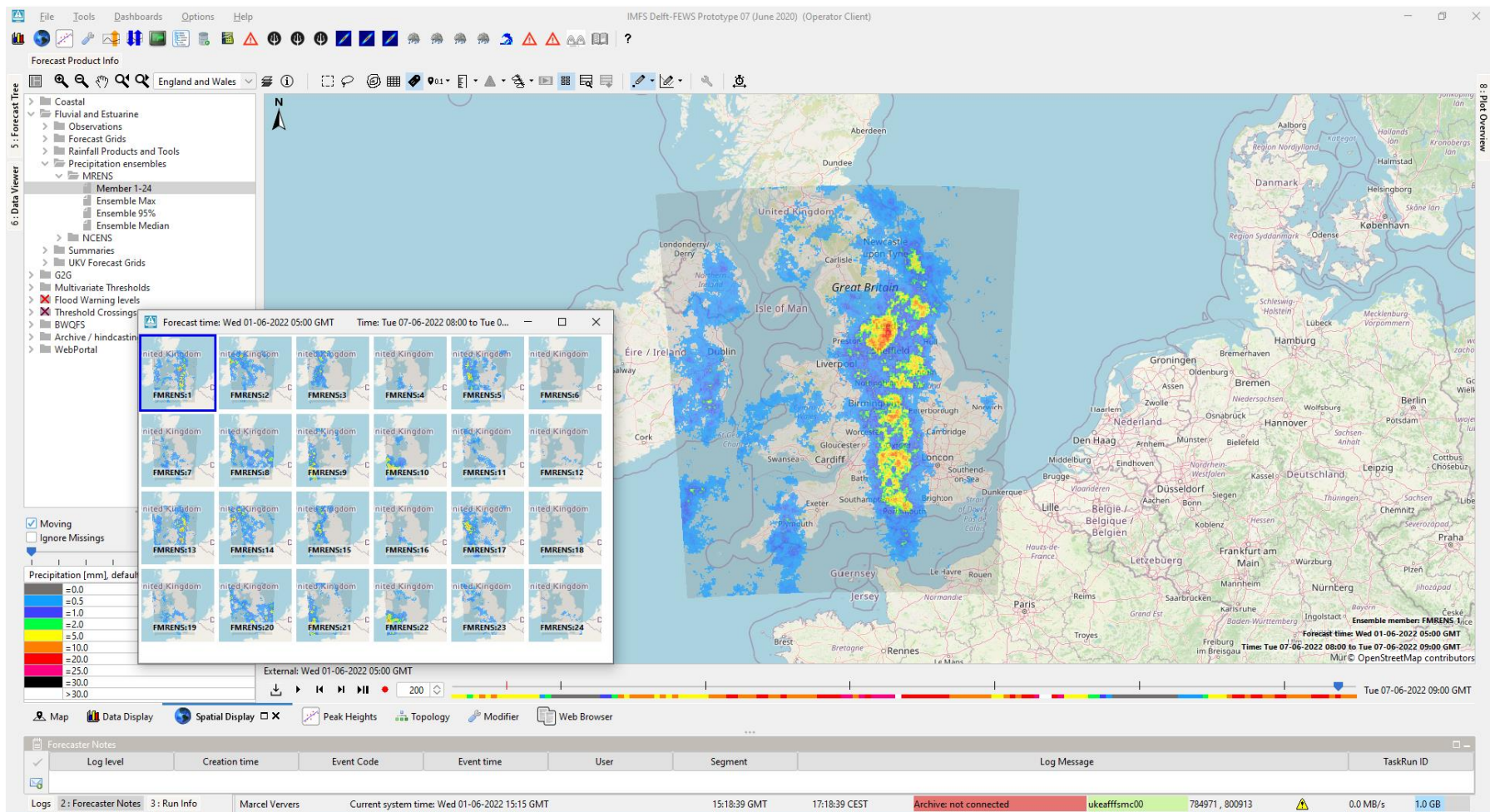
Client – Spatial Display



Client – Spatial Display



Client – Spatial Display



Client – Spatial/Map Display

- Use a geoJSON files instead of shape files for your maps
- Support geoJSON for defining LocationSets

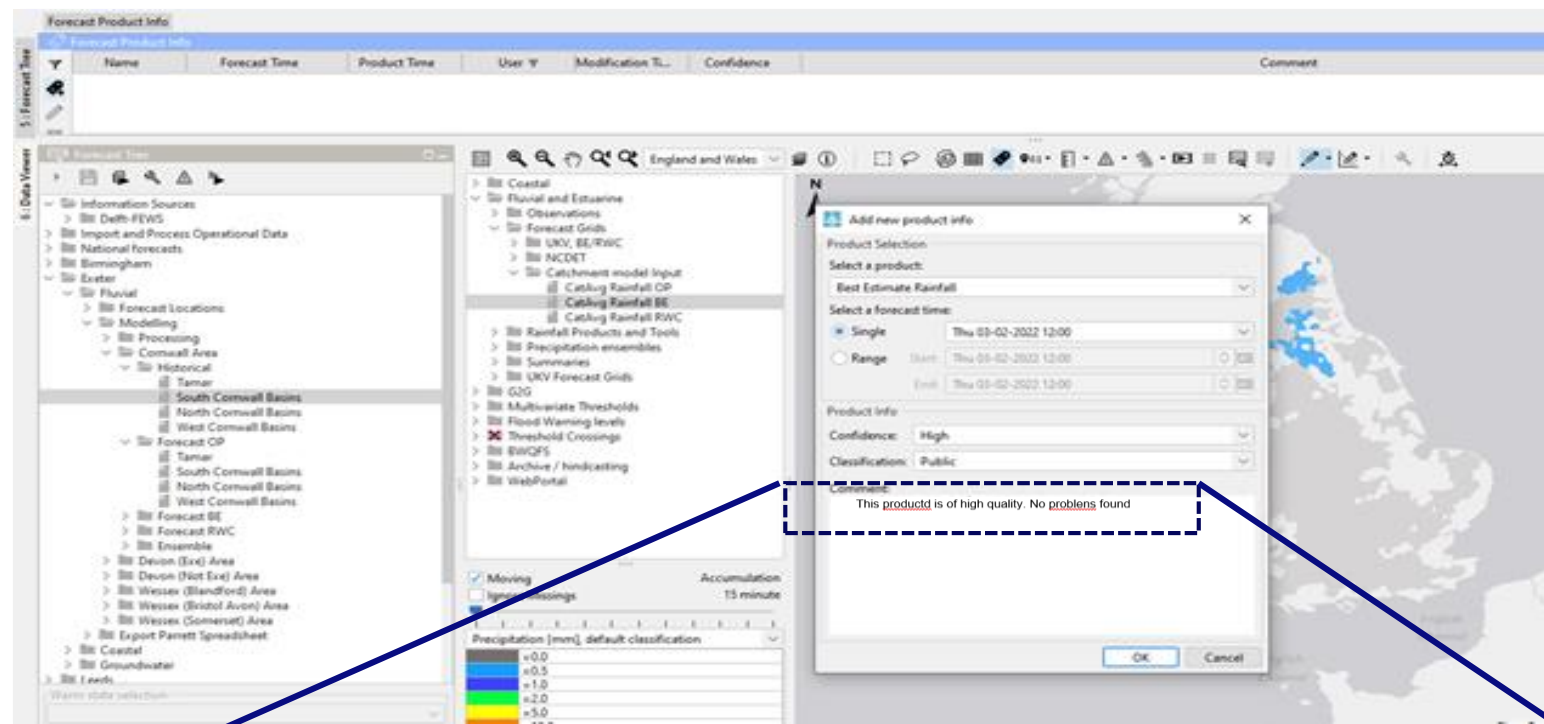
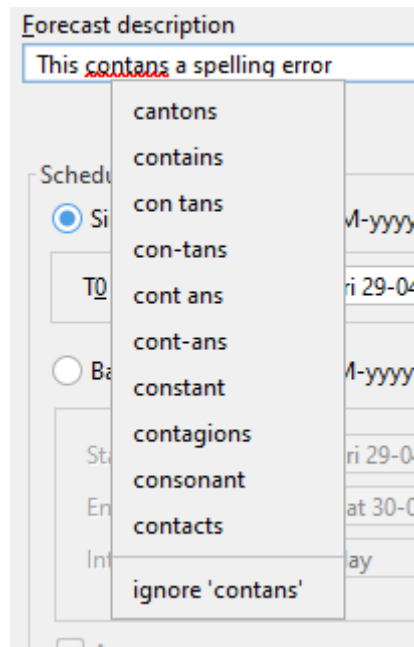
Demo geoJSON file

```
<geoJsonLayer id="geojson">  
  <file>provinces.geojson</file>  
  <shapeType>polygon</shapeType>  
  <visible>>false</visible>  
  <lineColor>black</lineColor>  
  <fillColor>light yellow</fillColor>  
</geoJsonLayer>
```

```
<locationSet id="Provinces">  
  <geoJsonFile>  
    <file>provinces.geojson</file>  
    <shapeType>polygon</shapeType>  
    <id>%name%</id>  
    <name>%name%</name>  
    <attribute id="level">  
      <number>%level%</number>  
    </attribute>  
  </geoJsonFile>  
</locationSet>
```

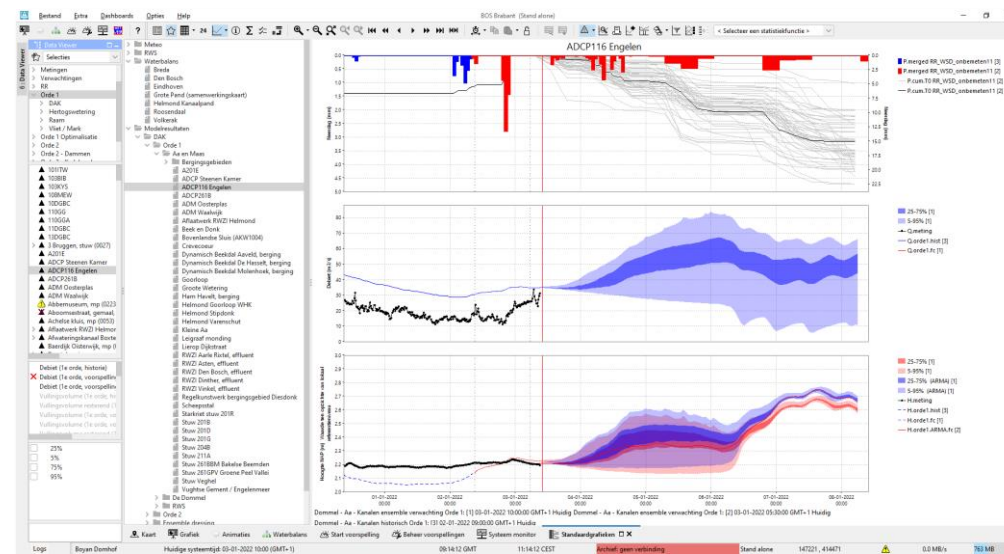
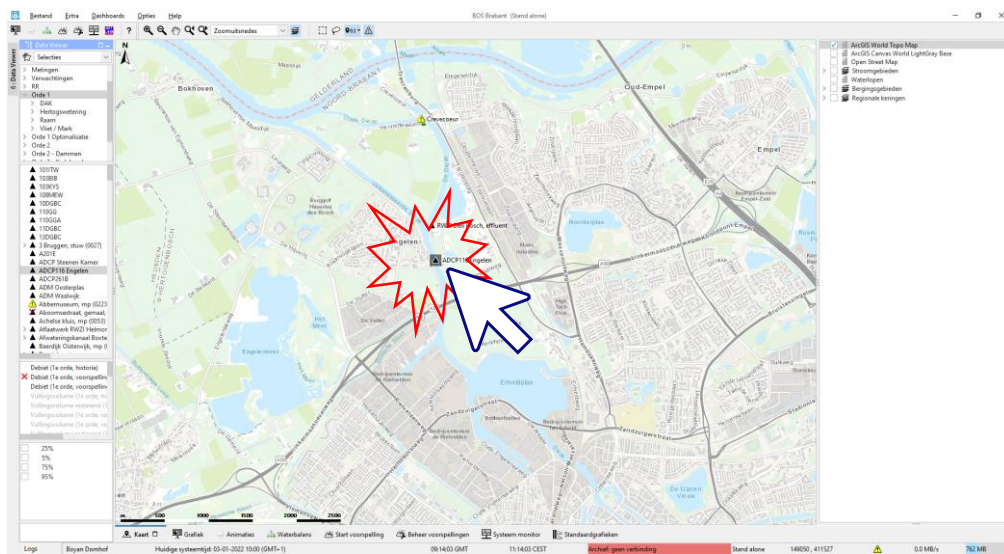
Client – Spell checker added to various panels

- Spelling checker functionality has been added to: Annotation panel, Forecast Product Info panel, Data search panel, Manual Forecast dialog and Timeseries Dialog (comment editor) and is available for Dutch, English (UK, US, AUS), Spanish and French.



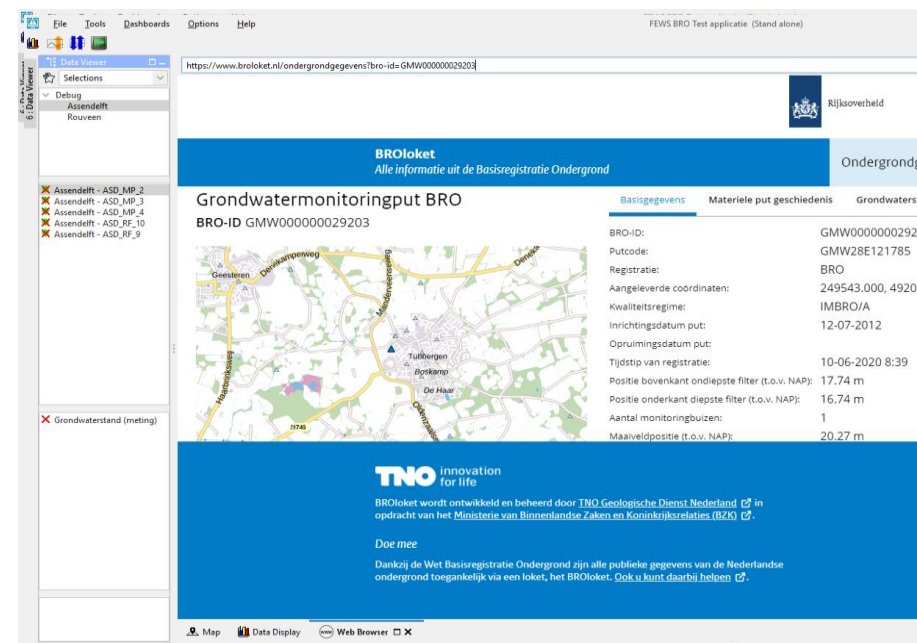
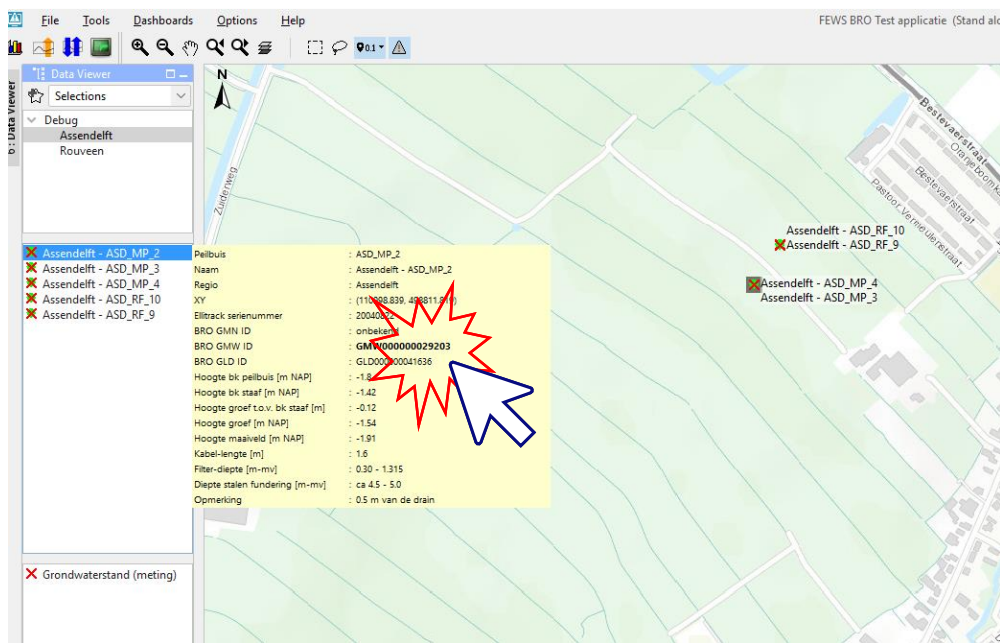
Double-click on location in map or list opens chart

- New option “doubleClickLocationEnabled” in displayGroups.xml



Client – Display hyperlinks in tooltips in embedded Web browser

- Hyperlink can be included in a location tooltip. The href (url) configured there can be opened in the default/internal Web Browser Display. Web Browser Display must be configured for this, including some settings must be specified.



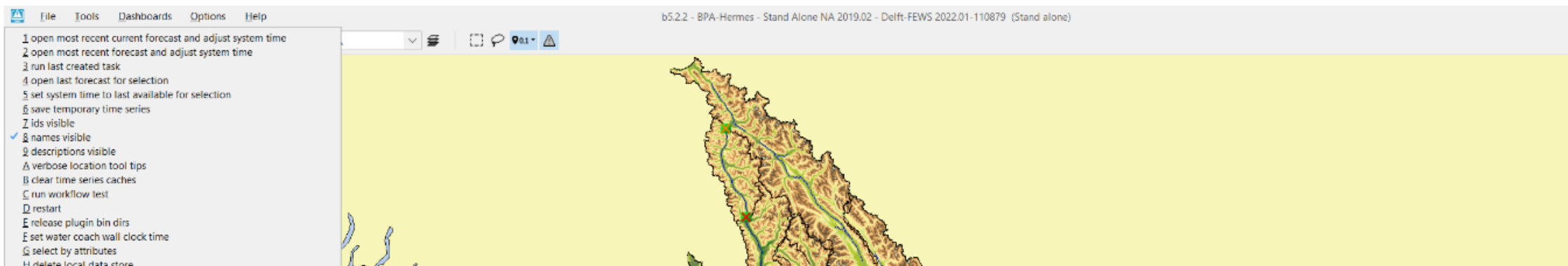
Client - <F12> menu now permission-aware

- Enable <F12> menu if the user has debugMenuPermission. If this is not configured, then the F12 menu is accessible by everyone.

DebugMenuPermission

If the user has the debug menu permission, by pressing F12, the debug menu appears. Please note, if this permission is not configured, then the debug menu can be accessed by all users. An example of how to configure the debug menu permission and an screenshot of the debug menu follow:

```
<debugMenuPermission>admin</debugMenuPermission>
```

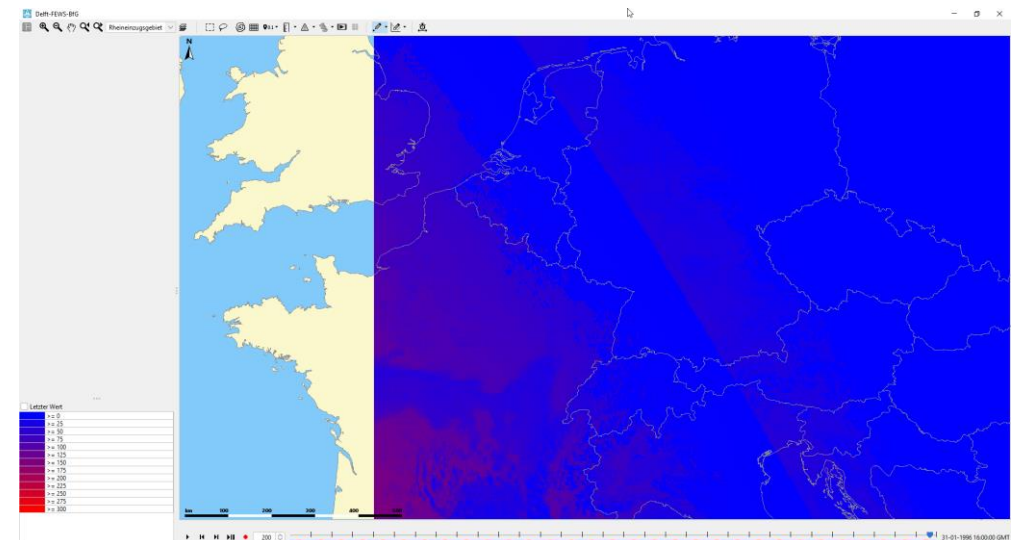
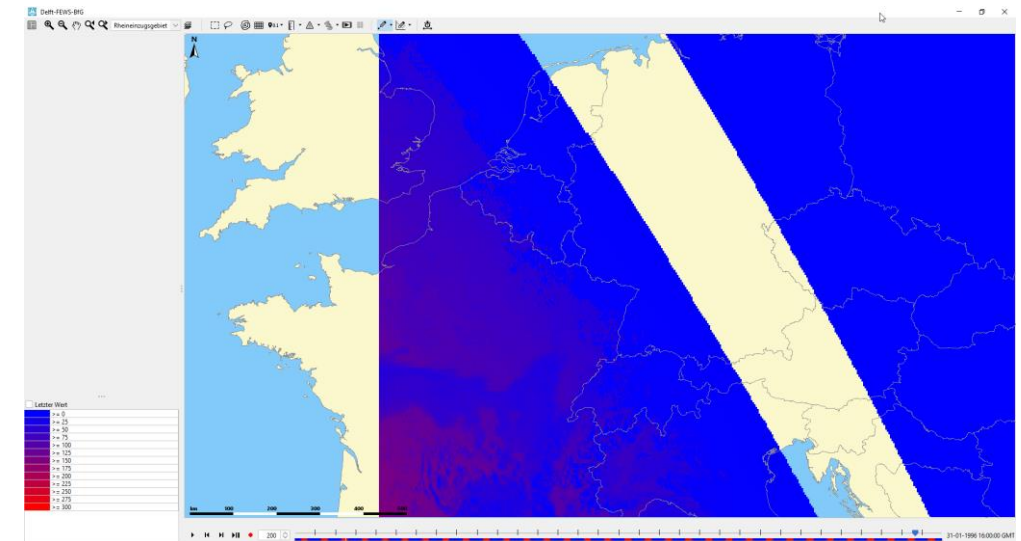




Transformation: InterpolationSerial Linear for grids

- Besides filling full grid 'gaps' in time, you can now also interpolate missing single pixel by linear interpolation between values before and after the time of the missing data.

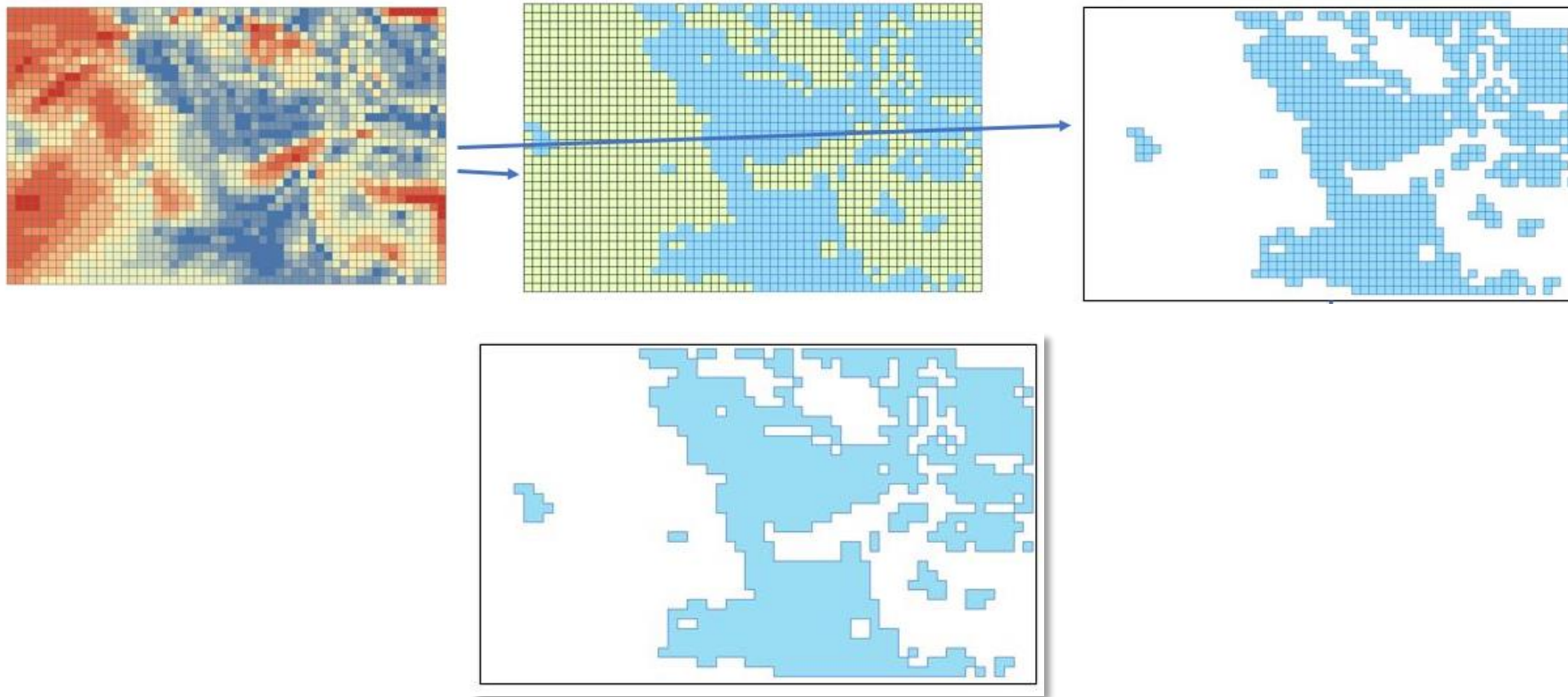
```
<transformation id="fill_gap">
  <interpolationSerial>
    <linear>
      <inputVariable>
        <variableId>Click to edit variableId</variableId>
      </inputVariable>
      <maxGapLength>6</maxGapLength>
      <interpolateMissingGridCells>true</interpolateMissingGridCells>
      <outputVariable>
        <variableId>TMP_GLOB_FILLED</variableId>
      </outputVariable>
    </linear>
  </interpolationSerial>
</transformation>
```





Transformation: Convert (regular) grid cells to polygons based on certain class breaks

- Create (and export) nice **polygon shape files** (incl. prj) based on gridded data, e.g. flood extent. The polygons are created on the basis of **class breaks** which can be configured



Time dependent locations (datum)

- Long term (observed) timeseries may change in datum (z).
- To assess the timeseries as one, the settings 'before' and 'after' this change (date) can be configured.

```
<locationSet id="LocationSetWithTimeDependentAttributes">
  <csvFile>
    <file>TimeDependentLocationSet.csv</file>
    <id>%id%</id>
    <x>0</x>
    <y>0</y>
    <attributeFile>
      <csvFile>TimeDependentLocationSetAttributes.csv</csvFile>
      <id>%id%</id>
      <startDateTime>%START%</startDateTime>
      <endDateTime>%END%</endDateTime>
      <z>%z%</z>
      <attribute id="timeDependentAttribute">
        <text>%timeDependentAttribute%</text>
      </attribute>
    </attributeFile>
  </csvFile>
</locationSet>
```

```
ID;START;END;timeDependentAttribute;z
TD_Loc1;19000101;21000101;A;1
TD_Loc2;19000101;19850103;A;2
TD_Loc2;19850103;21000101;B;3
TD_Loc3;19000101;19850103;B;4
TD_Loc3;19850103;21000101;A;5
TD_Loc4;19000101;19850103;A;6
TD_Loc4;19850103;21000101;B;7
TD_Loc5;19000101;19850103;A;8
TD_Loc5;19850103;21000101;B;9
```



Export module: configuration option to export changes

- A new option has been added to the export timeseries module to only export changes in a configured period.
- Use the configuration option **<exportChanges>**

```
<general>
  <exportType>PI</exportType>
  <folder>$EXPORT_FOLDER$</folder>
  <exportFileName>
    <name>exportedTimeSeries.xml</name>
  </exportFileName>
  <exportChanges>
    <dbChangeViewPeriod unit="day" multiplier="2"/>
  </exportChanges>
</general>
```



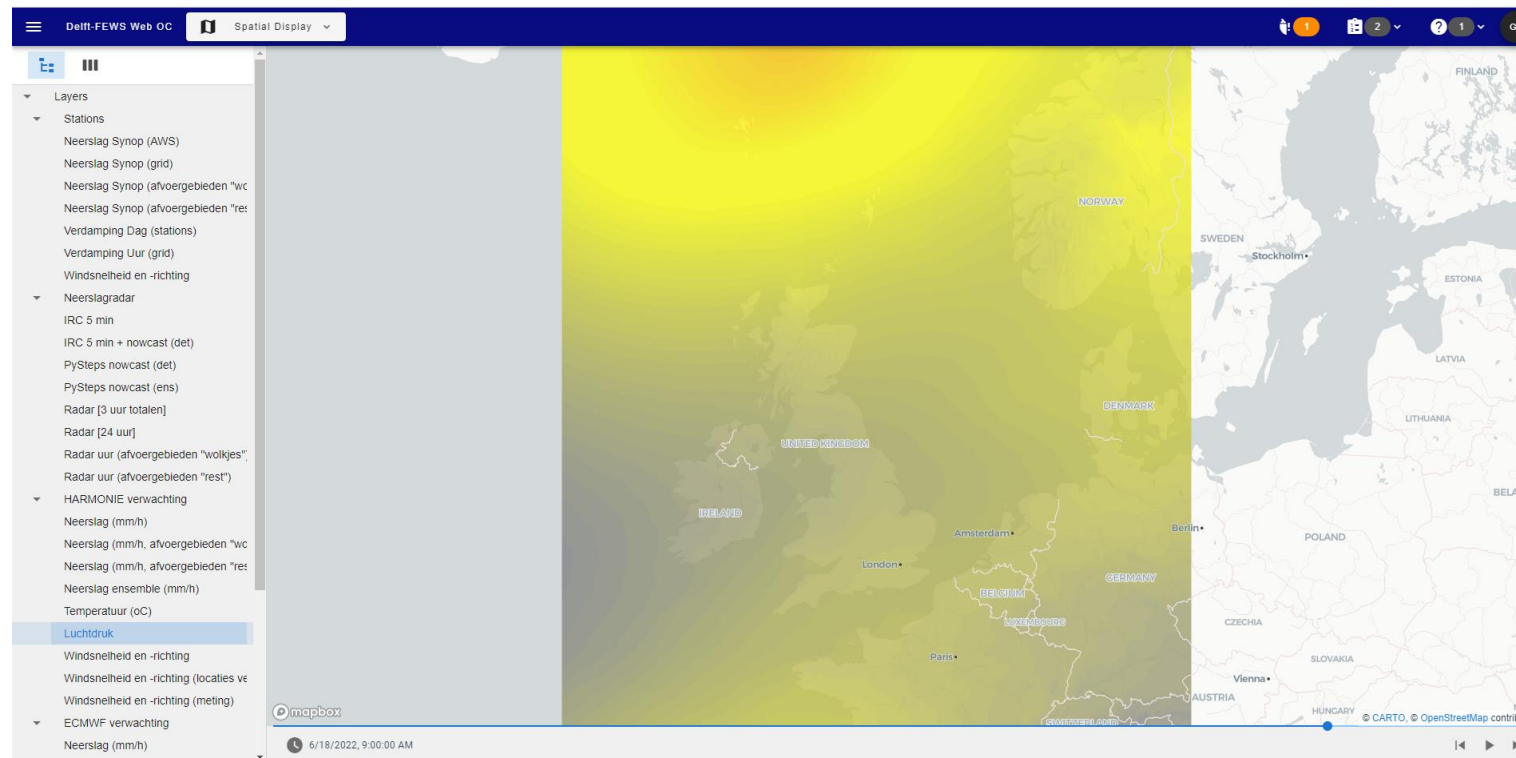

Export module: other features

- Improvements to [CAP exports](#) (CAP= Common Alerting Protocol)
- Shape file exports
 - [PRJ file](#) added
 - Add [configurable attribute table](#)
- NetCDF file export
 - Delft-FEWS [attributes can be exported](#) as metadata of a NetCDF file



Delft-FEWS Webservices

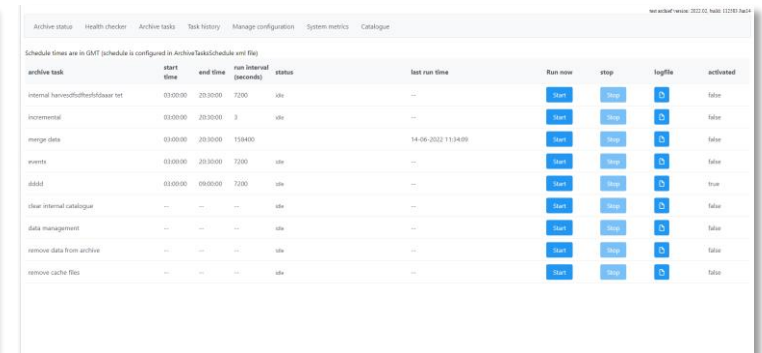
- Calling “getMap” is now much easier since a default time is returned for external historical and external forecasting timeseries. By default the **last timestep** is returned.
- Security improvements by enabling support for Open ID Connect to authorize API requests. It's also possible to integrate Delft-FEWS User Groups & Permissions configurations with Open ID Connect.



Source: web oc test client (Deltares)



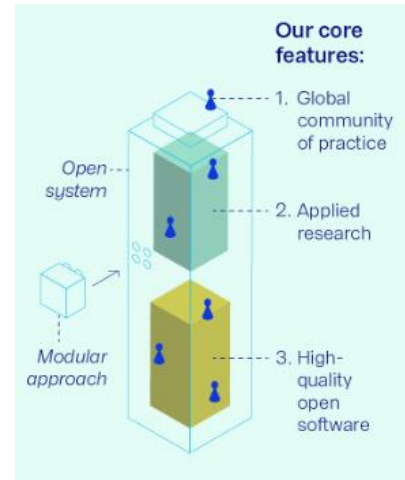
- MongoDB + Seamless integration (improved [Open Archive database API](#))
- Search options improved with custom-IDs (provided at export) to be used as filters
- Import datasets from Archive into client-server system is possible (but default off)
- Direct download (via Archive display, Archive catalogue) without OpenDAP
- Look & feel ([Archive admin console](#))



Delft-FEWS Vision 2025...

- Delft-FEWS Vision 2025 **core features**

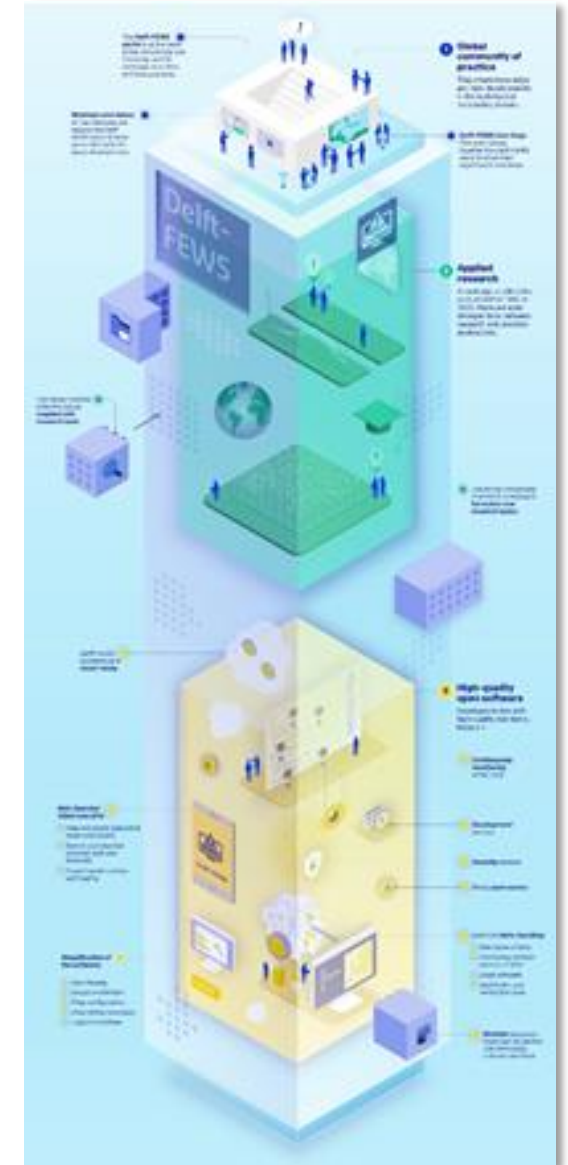
- 1 Global Community of Practice
- 2 Applied Research
- 3 High quality open software



- 1
- 2
- 3

- Show and tell...story, presentations and infographic

- Delft-FEWS portal: [vision](#) and [roadmaps](#)
- [Video](#)
- [User Days / Events](#)
- Updates to the [CSB](#)



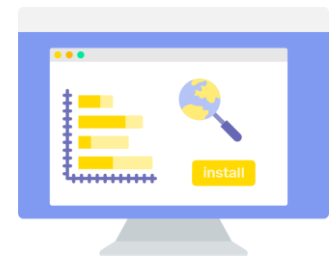
Roadmap 2022 – High Quality Open Software

Code clean-up

“To keep the code clean and maintainable, we have identified outdated and end-of-life modules and displays”

- **Continue the work from 2021**
- **<F12> option is always up-to-date**
- **Important third party library updates**

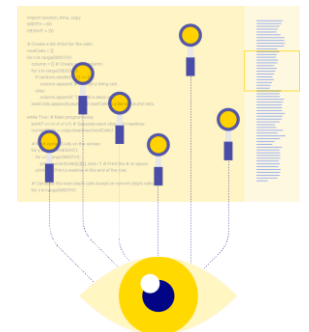
- A wiki page is kept up-to-date to share our latest plans (what components are removed by when) and our progress. The <F12> check in your application is aligned with this [WIKI page](#).
- Expected effort in 2022: ±35 days
- Main contact for this roadmap theme is: [Marc van Dijk](#)



Roadmap 2022 – High Quality Open Software

Code quality

- “Our code quality is constantly monitored and all code commits are checked against the latest java coding rules”
 - **SonarQube code commit analysis**
 - **DevOps pilot**
 - **Increase unit test coverage %**
 - **Transparant reporting**
- Besides that we will actively maintain the (newly structured) [Delft-FEWS hard and software requirements page](#) and will launch a [Delft-FEWS update strategy page](#). The latter contains an overview of all supported versions of relevant operating systems, database types and third-party libraries, java and middleware like Tomcat per Delft-FEWS version and by when this will change.
- Expected effort in 2022: ±40 days
- Main contact for this roadmap theme is: [Gerben Boot](#)



Roadmap 2022 – High Quality Open Software

Release process and test automation

“We are continuously improving our release process to deliver high quality and well-tested releases”

- **Product Risk Analysis**
- **Release Retrospective**
- **Test scripts transferable**
- **Increase automatic tests (Docker)**

- Separating GUI code and business logic is also on our radar this year and we will further complete our **Master Test Plan** to easily derive the our **Release Specific Test Plans**.
- Expected effort in 2022: ±20 days
- Main contact for this roadmap theme is: [Marcel Ververs](#)



Roadmap 2022 – High Quality Open Software

Security aspects and cloud developments

“For Delft-FEWS a **security matrix** is available to visualize all security options per Delft-FEWS component”

- **Network Security**
- **Access Management**
- **Threat Protection**
- **Information Protection**
- **Data (encrypted storage)**

- We also respond quickly to our daily checks with respect to OWASP messages (OWASP=Open Web Application Security Project) which runs on our build & test environment (TeamCity)
- Expected effort in 2022: ±40 days
- Main contact for this roadmap theme is: [Gert-Jan Schotmeijer](#)
- Documents are available in draft but available on request (and WIKI – Admin Pages)
- Available for questions/discussion (MS Teams)



Roadmap 2022 – High Quality Open Software

Security aspects and cloud developments

“Delft-FEWS is cloud agnostic and Deltares is willing to support you to make effective and efficient choices migrating Delft-FEWS to a cloud-environment”

- **Incorporate cloud services in Delft-FEWS components**
- **Sharing knowledge for migrating to the cloud**

- In 2022, we continue learning from our ongoing cloud (migration) projects. These projects are focusing on the up- and downscaling of computational cores using docker containers and switching components on/off from a financial perspective.
- From a knowledge sharing perspective we will capture these experiences in our [documentation WIKI](#) and we will complete the documentation based on the material(s) we previously shared in the "[Delft-FEWS in the cloud](#)" [webinar](#) (from January 2022).
- Main contact for this roadmap theme is: [Gert-Jan Schotmeijer](#)





Documentation

- Improvements
 - [Stable version based pages](#) for **installing** and **upgrading** Delft-FEWS
 - [Stable version based pages](#) for **installing** and **upgrading** the Open Archive
 - [Stable version based pages](#) for **hardware** and **software requirements**
 - Easier to update, maintain and understand
- Extended – dynamic and generated content: <https://fewsdocs.deltares.nl/>
 - Delft-FEWS schemas (XSD)
 - Granted features for future versions
 - Delft-FEWS webservices (Open API style)
 - Admin Interface API (Open API style)
 - To be added: Release Notes (!) → currently in test, aimed for 2022.02

Contents

- [Delft-FEWS Admin Manuals](#)
- [Delft-FEWS Connectivity guides](#)
- [What's new in the installation process](#)
 - [What's new in the installation process - 2022.01](#)
 - [What's new in the installation process - 2021.02](#)
 - [What's new in the installation process - 2021.01](#)
 - [What's new in the installation process - 2020.02](#)
 - [What's new in the installation process - 2020.01](#)
 - [What's new in the installation process - 2019.02](#)
 - [What's new in the installation process - 2018.02](#)
 - [What's new in the installation process - 2017.02](#)

DELFT-FEWS
DOCUMENTATION

Delft-FEWS XML Schemas

For the latest XML schema XSDs, please see:
[Schema XSDs](#)

Delft-FEWS Granted features

For the latest granted features:
[Granted features](#)

Delft-FEWS Web Services

Please see the latest Delft-FEWS Web Services documentation at:

- [REST Service](#)
- [WMS Service](#)
- [SSD Service](#)

Admin Interface API

For the latest version of the Admin Interface API, please see:
[Admin Interface API](#)



Outlook 2022.02 Features

- Granted features (daily updates) via <https://fewsdocs.deltares.nl/jira/fews-jira/>

Estimated & granted (84)

Components

Total Issues: **84**

System - Continuous Deployment	13
Plugin - Module - Data Import	8
App - Admin Interface	6
App - Archive	6
Plugin - Gui - Grid Display	4
System - FEWS webservices - PI REST	4
App - Application Manager	3
Plugin - Gui - Time Series	3
Plugin - Module - Data Export	3
Plugin - Module - General Adapter	3
Other...	37

Estimated & on-hold (56)

Components

Total Issues: **56**

Plugin - Gui - Time Series	9
System - FEWS webservices - PI REST	8
App - Archive	4
App - Operator Client Gui (Explorer)	4
App - Archive - Harvester	3
Database - Central Database	3
System	3
App - Admin Interface	2
App - Configuration Manager Gui	2
App - Master Controller Server	2
Other...	24

Not estimated & on-hold (37)

Components

Total Issues: **37**

App - Archive	6
System - FEWS webservices - PI REST	4
App - Operator Client Gui (Explorer)	3
Configuration	3
System	3
Plugin - Gui - Time Series	2
Plugin - Module - Data Export	2
Plugin - Module - Data Import	2
Plugin - Module - Transformation	2
App - Admin Interface	1
Other...	15

Contact

-  www.delft-fews.com
-  [@DelftFEWS](https://twitter.com/DelftFEWS)
-  linkedin.com/company/deltares
-  fews-pm@deltares.nl
-  [@deltares](https://www.instagram.com/deltares)
-  facebook.com/deltaresNL

