

Deltares

Deltares

Delft-FEWS New Features and more...

Delft-FEWS Remote User Meetings

Delft-FEWS Product Management

Marcel Ververs

Gerben Boot

June 2020

Overview

- Top features...(developer's choices)
- Component highlights...
- Release Details...
- Outlook Delft-FEWS 2020.02...
- Delft-FEWS Vision 2025 & Roadmap(s)...
- New in this presentation...[link to documentation](#) or other relevant information (portal, video)
- Questions...

- Activity
- Chat
- Teams
- Calendar
- Calls
- Files
- ...
- Apps
- Help



32:37



Delft-FEWS New features and more....

Jitka's choice ... Link Topology to Threshold Overview

- Link [topology node to other display](#)
- Selecting node will open specific Threshold Display

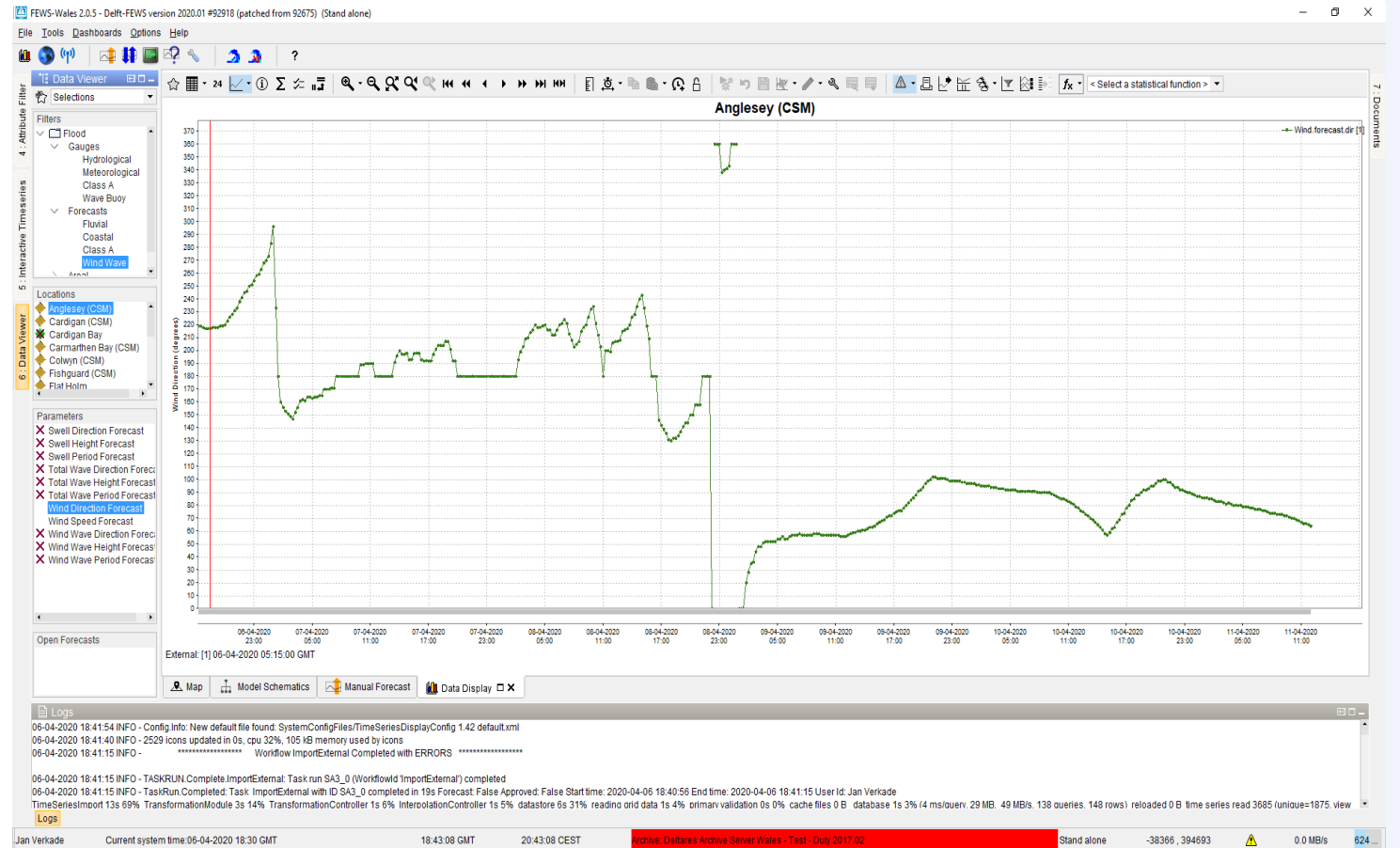
"Link Topology to Threshold Overview Display to directly open this display when selecting node ..."

The screenshot shows the IMFS Delft-FEWS Prototype 07 (June 2020) (Operator Client) interface. The main window displays an XML tree structure for 'topologyGroup'. A blue circle highlights a node with 'id' 'Worthing_riskdisplay_mvt' and 'name' 'CoastaRiskDisplay_MVT_Worthing'. Below the tree, a 'Coastal Risk Display (Worthing MVT)' window is open, showing a map of the Worthing area with a green highlighted region. The interface includes a menu bar, a toolbar, and a status bar at the bottom.

Orshi's choice... Display wind direction

- Big spikes in graphs with wind direction changes 360 / 0
- Configure max value difference in Time Series Display

"Wind direction displays no longer shows jumps when wind varies around 0 or 360 degrees ..."



Rudie's choice ... Admin Interface Rest API

- Database information
- Acknowledge logs
- Last Taskrun Dispatch Time Color Code
- [Documentation](#)

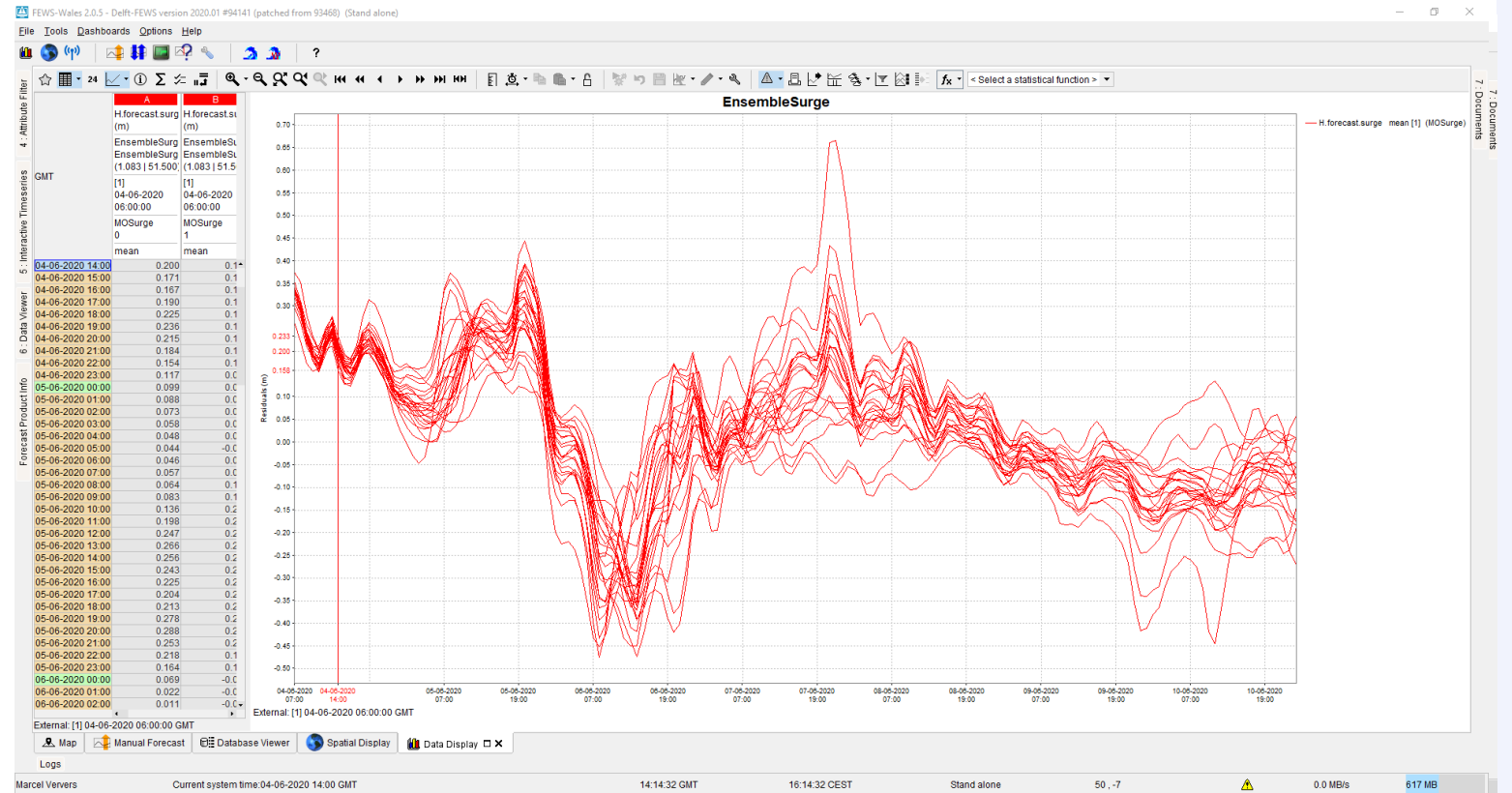
"Extend the Admin Interface REST API with useful additional information for monitoring tools ..."

The screenshot displays the Delft-FEWS Admin Interface. The main window shows a 'Current Forecasts' table with columns for TO, Dispatch time, Workflow, and FSS. Below this is a 'Forecasts in Central Database' table with columns for TO, Dispatch time, Workflow, Dest., RCO, FSS Group ID, and Output. The interface also includes a 'Logs' section at the bottom and a status bar showing system metrics like CPU usage and memory.

Onno's choice... Show all Ensemble members

- All Ensemble members
- High performance due to local caching

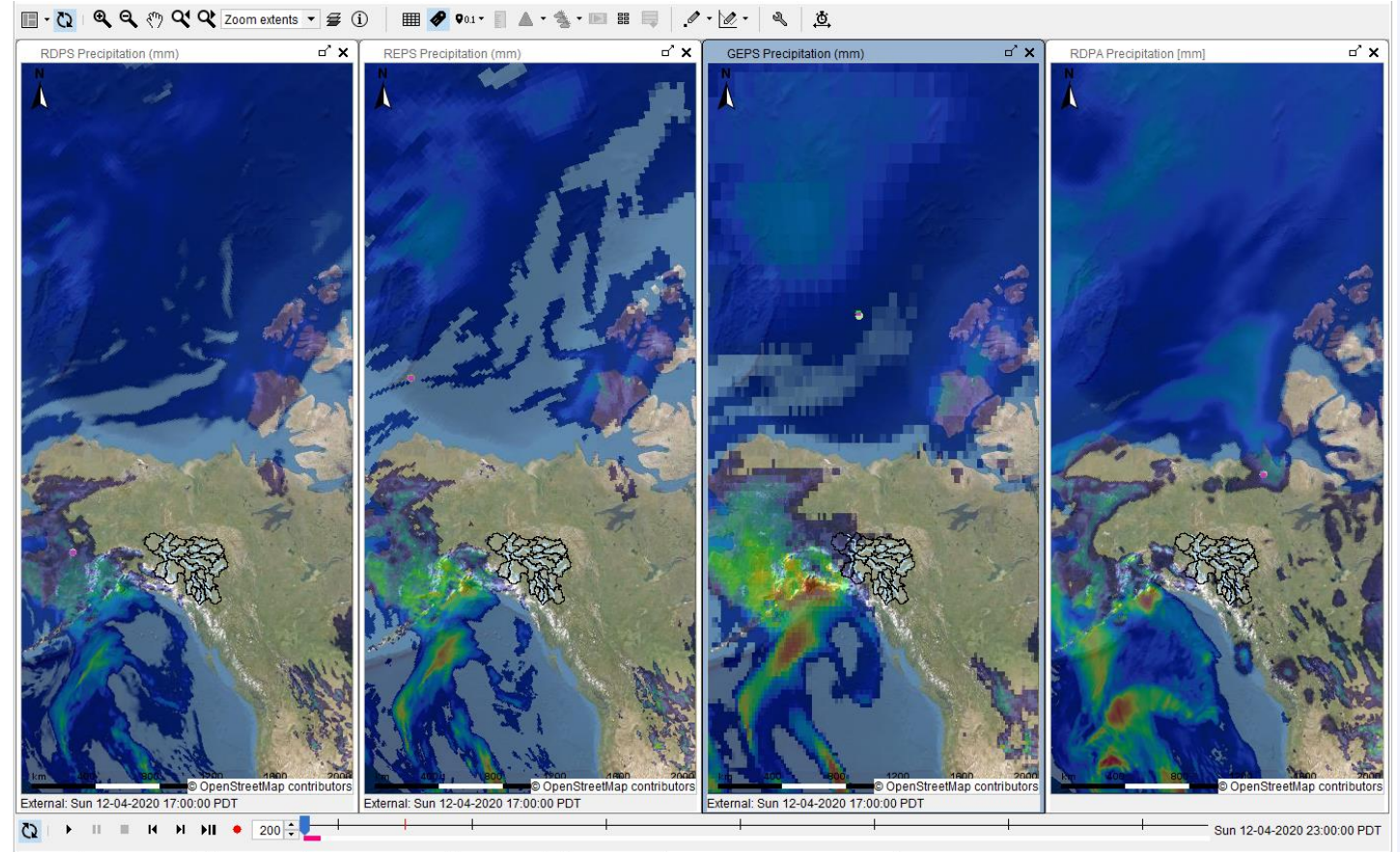
"Show all ensemble members from a gridded ensemble product in one go..."



FEWS-PM's choice ...Dashboards

- Create, customize and modify
- Displays synchronised spatially and in time
- Easily save and shared
- [Documentation](#) and [video](#)

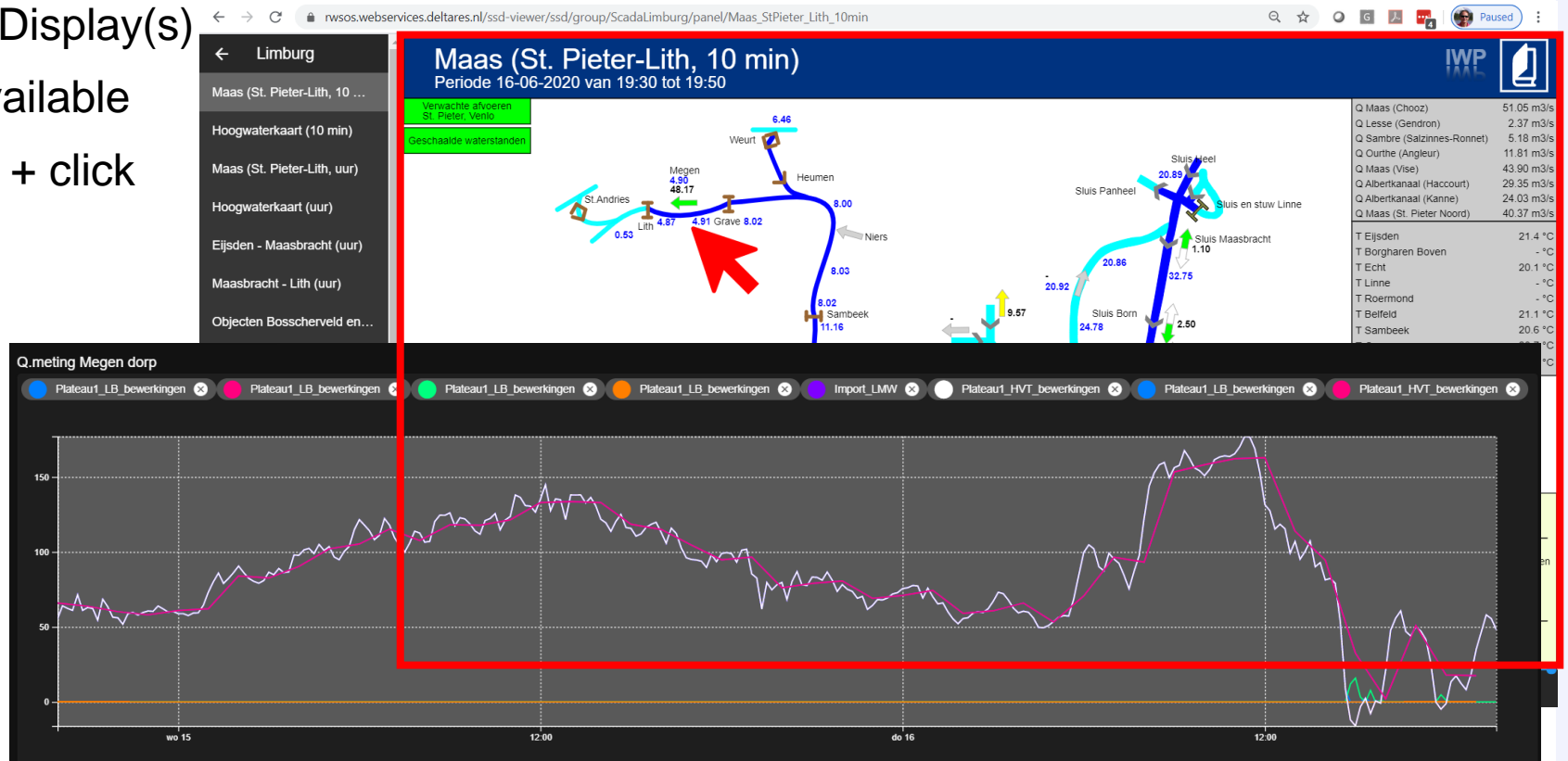
"Dashboards gives user the opportunity to easily view several displays side-by-side..."



Bart's choice...Schematic Status Display web service

- Source: Schematic Status Display(s)
- plot selection & scroller available
- [SSD Web service](#) → WMS + click actions.

"Sharing schematic status displays from the operator client with a much broader audience online..."



Erik's choice...applying automatic 'groupBy' (Filters)

- [GroupBy](#) functionality to automatically generate a filter structure based on location, parameter and qualifier attributes
- Multi-value attributes
- Nested

"Generating a filter structure in a very flexible way..."

Source (parameter)

Region (location)

Type (location)

```
<filter id="GroupByNestedCAW" name="GroupByNestedCAW">  
  <groupBy>  
    <parameterAttributId>Source</parameterAttributId>  
    <locationAttributId>Regio</locationAttributId>  
    <locationAttributId>Type</locationAttributId>  
  </groupBy>  
</filter>
```

Andre's choice...improved seamless integration (archive)

- [WMS](#) services extended (data responses)
- External NetCDF files (not produced by Delft-FEWS) can be added to the Open Archive
- Seamless / [Archive](#) integration

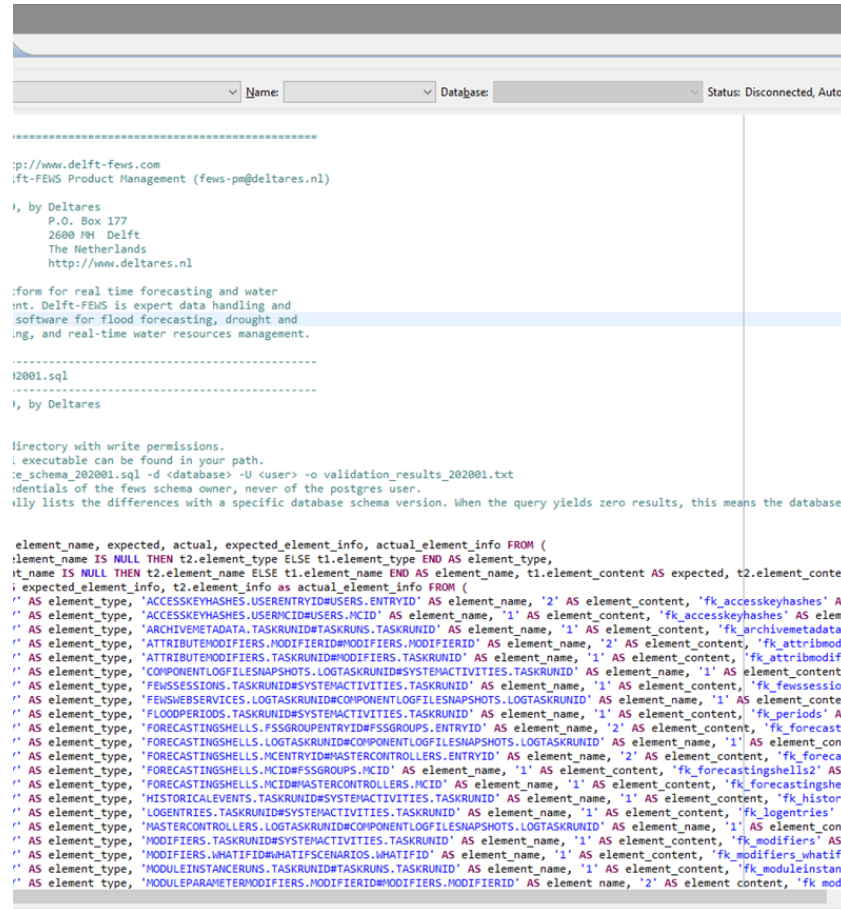
"Externally stored NetCDF files added to the Archive can be queried and its content viewed..."



Camiel's choice...automatically generated database scripts

- 1 source file in code-base describes the database structure (Delft-FEWS version)
- Create, validate, upgrade & rollback scripts (4)
- PostgreSQL, Oracle, MS SQL Server (3)

"Automatically generated database scripts: create, validate, upgrade & rollback scripts for 3 different database brands, so 12 in total..."



```
-----
Name: Database: Status: Disconnected, Auto C
-----
p://www.delft-fews.com
:ft-FEWS Product Management (fevs-pm@deltares.nl)
), by Deltares
  P.O. Box 177
  2600 MH Delft
  The Netherlands
  http://www.deltares.nl

form for real time forecasting and water
nt. Delft-FEWS is expert data handling and
oftware for flood forecasting, drought and
ng, and real-time water resources management.

-----
2001.sql
-----
), by Deltares

Directory with write permissions.
! executable can be found in your path.
:e_schema_202001.sql -d <database> -U <user> -o validation_results_202001.txt
identials of the fevs schema owner, never of the postgres user.
illy lists the differences with a specific database schema version. When the query yields zero results, this means the database :

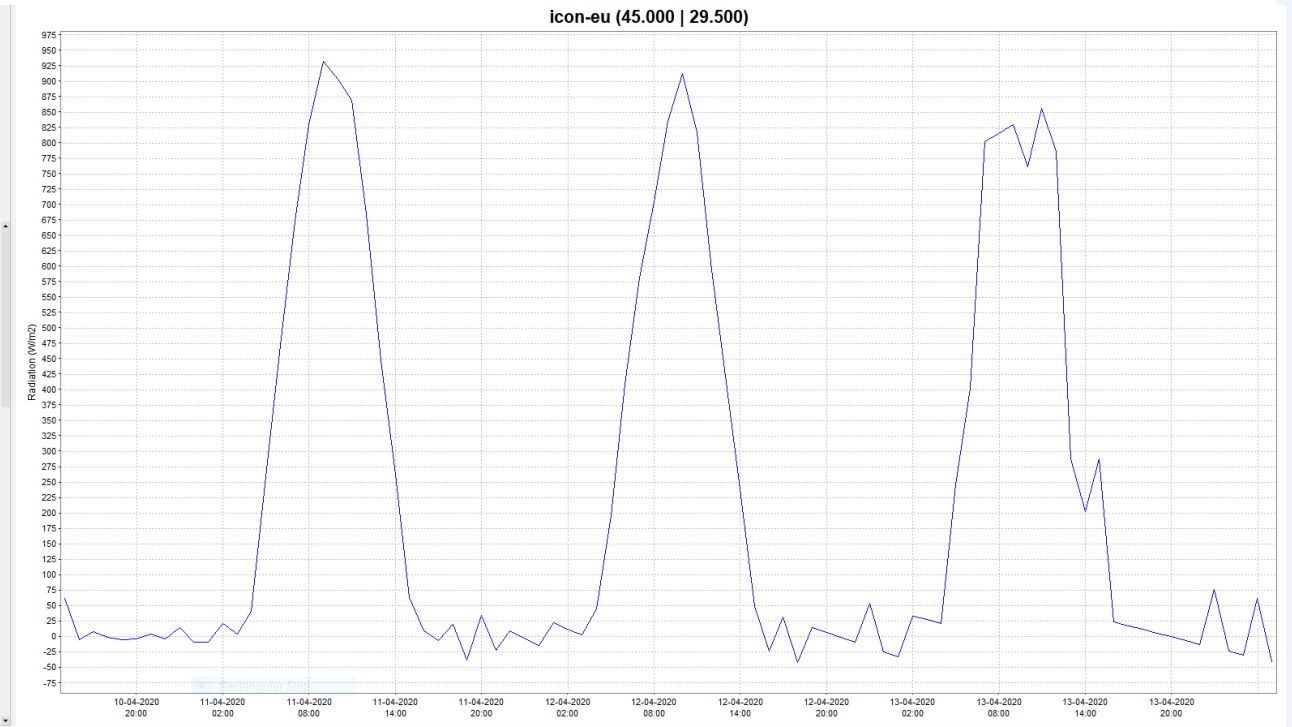
element_name, expected, actual, expected_element_info, actual_element_info FROM (
element_name IS NULL THEN t2.element_type ELSE t1.element_type END AS element_type,
t_name IS NULL THEN t2.element_name ELSE t1.element_name END AS element_name, t1.element_content AS expected, t2.element_conten
i expected_element_info, t2.element_info as actual_element_info FROM (
' AS element_type, 'ACCESSKEYHASHES.USERENTRYID#USERS.ENTRYID' AS element_name, '2' AS element_content, 'fk_accesskeyhashes' AS
' AS element_type, 'ACCESSKEYHASHES.USER#MCID#USERS.MCID' AS element_name, '1' AS element_content, 'fk_accesskeyhashes' AS elem
' AS element_type, 'ARCHIVEMETADATA.TASKRUNID#TASKRUNS.TASKRUNID' AS element_name, '1' AS element_content, 'fk_archivemetadata'
' AS element_type, 'ATTRIBUTEDEFINITION#MODIFIERS.MODIFIERID' AS element_name, '2' AS element_content, 'fk_attribmodifi
' AS element_type, 'ATTRIBUTEDEFINITION#MODIFIERS.TASKRUNID' AS element_name, '1' AS element_content, 'fk_attribmodifi
' AS element_type, 'COMPONENTLOGFILES#SNAPSHOTS.LOGTASKRUNID#SYSTEMACTIVITIES.TASKRUNID' AS element_name, '1' AS element_content,
' AS element_type, 'FEHSESSIONS.TASKRUNID#SYSTEMACTIVITIES.TASKRUNID' AS element_name, '1' AS element_content, 'fk_fevsession
' AS element_type, 'FEHSEBSERVICES.LOGTASKRUNID#COMPONENTLOGFILES#SNAPSHOTS.LOGTASKRUNID' AS element_name, '1' AS element_conten
' AS element_type, 'FLOODPERIODS.TASKRUNID#SYSTEMACTIVITIES.TASKRUNID' AS element_name, '1' AS element_content, 'fk_periods' AS
' AS element_type, 'FORECASTINGSHELLS.FSSGROUPENTRYID#FSSGROUPS.ENTRYID' AS element_name, '2' AS element_content, 'fk_forecasti
' AS element_type, 'FORECASTINGSHELLS.LOGTASKRUNID#COMPONENTLOGFILES#SNAPSHOTS.LOGTASKRUNID' AS element_name, '1' AS element_cont
' AS element_type, 'FORECASTINGSHELLS.MCENTRYID#MASTERCONTROLLERS.ENTRYID' AS element_name, '2' AS element_content, 'fk_forecas
' AS element_type, 'FORECASTINGSHELLS.MCID#FSSGROUPS.MCID' AS element_name, '1' AS element_content, 'fk_forecastingshells2' AS
' AS element_type, 'FORECASTINGSHELLS.MCID#MASTERCONTROLLERS.MCID' AS element_name, '1' AS element_content, 'fk_forecastingshel
' AS element_type, 'HISTORICALEVENTS.TASKRUNID#SYSTEMACTIVITIES.TASKRUNID' AS element_name, '1' AS element_content, 'fk_histori
' AS element_type, 'LOGENTRIES.TASKRUNID#SYSTEMACTIVITIES.TASKRUNID' AS element_name, '1' AS element_content, 'fk_logentries' A
' AS element_type, 'MASTERCONTROLLERS.LOGTASKRUNID#COMPONENTLOGFILES#SNAPSHOTS.LOGTASKRUNID' AS element_name, '1' AS element_cont
' AS element_type, 'MODIFIERS.TASKRUNID#SYSTEMACTIVITIES.TASKRUNID' AS element_name, '1' AS element_content, 'fk_modifiers' AS
' AS element_type, 'MODIFIERS.WHATIFID#WHATIFSCENARIOS.WHATIFID' AS element_name, '1' AS element_content, 'fk_modifiers_whatif'
' AS element_type, 'MODULEINSTANCES.TASKRUNID#TASKRUNS.TASKRUNID' AS element_name, '1' AS element_content, 'fk_moduleinstanc
' AS element_type, 'MODULEPARAMETERMODIFIERS.MODIFIERID#MODIFIERS.MODIFIERID' AS element_name, '2' AS element content, 'fk modu
```

Mozhan's choice...import module improvements

- On import: calculate values for every timestep for cumulative mean timeseries (similar as cumulative sum timeseries)
- New ship track import

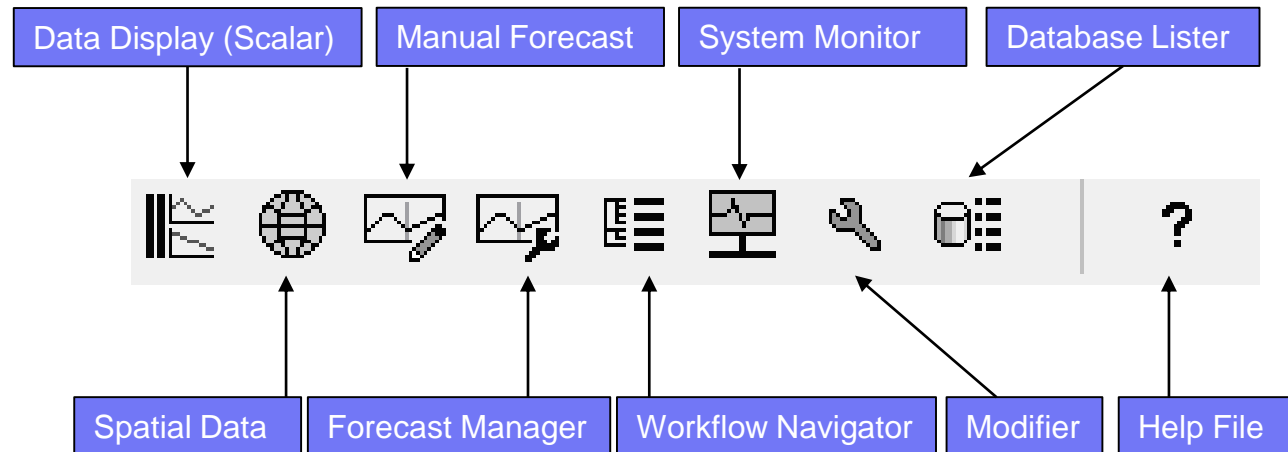
"Besides calculating the values for every timestep for cumulative summed timeseries, you can now do that for cumulative means as well..."

GMT	mean
10-04-2020 15:00	62
10-04-2020 16:00	-6
10-04-2020 17:00	9
10-04-2020 18:00	-2
10-04-2020 19:00	-6
10-04-2020 20:00	-4
10-04-2020 21:00	4
10-04-2020 22:00	-4
10-04-2020 23:00	14
11-04-2020 00:00	-10
11-04-2020 01:00	-9
11-04-2020 02:00	21
11-04-2020 03:00	3
11-04-2020 04:00	41
11-04-2020 05:00	259
11-04-2020 06:00	471
11-04-2020 07:00	673
11-04-2020 08:00	829
11-04-2020 09:00	931
11-04-2020 10:00	903
11-04-2020 11:00	869
11-04-2020 12:00	685
11-04-2020 13:00	446
11-04-2020 14:00	262
11-04-2020 15:00	63
11-04-2020 16:00	9
11-04-2020 17:00	-7
11-04-2020 18:00	19
11-04-2020 19:00	-38
11-04-2020 20:00	34
11-04-2020 21:00	-23



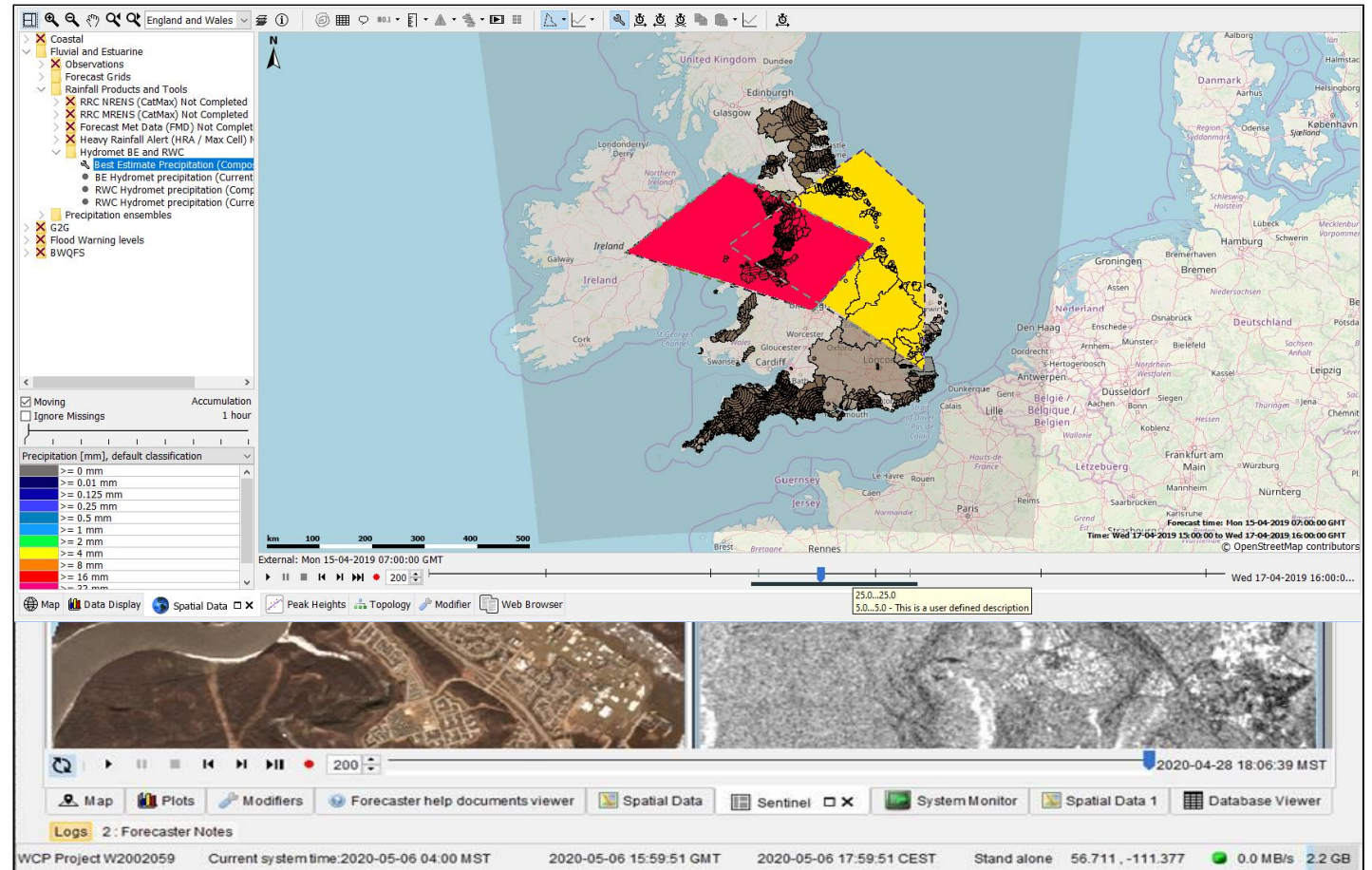
New Look and Feel

- One consistent look and feel across platforms
- All displays and tool windows have a default icon
- Windows 10 look (or close to it)
- Changes are configurable
- [Video](#)



New in Spatial Display

- [Display true color imagery \(3-bands\)](#)
- Double-clicking shows all underlying time series for point
- Streaming of grids and only storing references to grids
- [Spatial Modifiers](#)

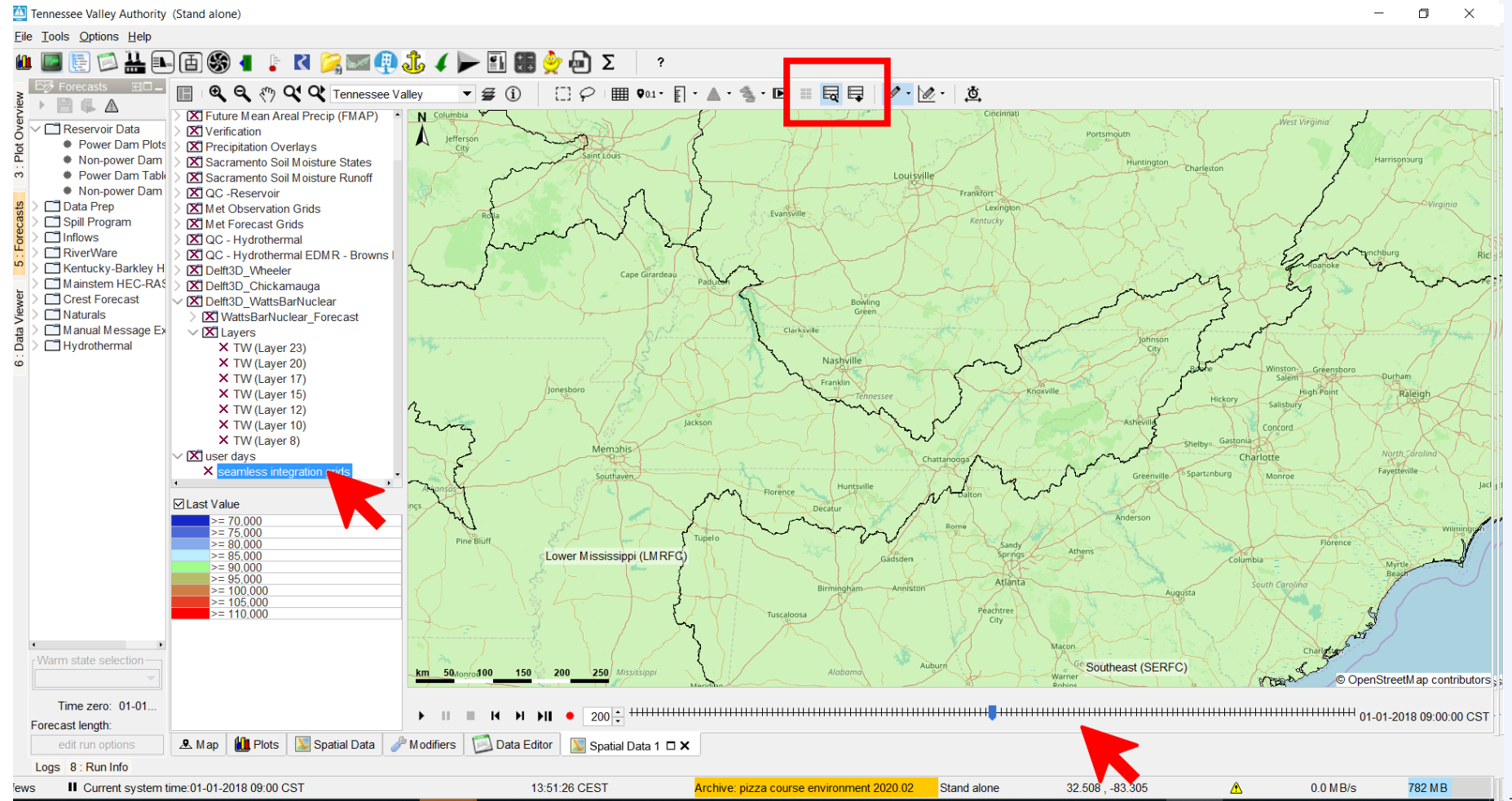


New in Spatial Display – Seamless integration

- Seamless integration for **external historical grids**
- Same buttons as TSD

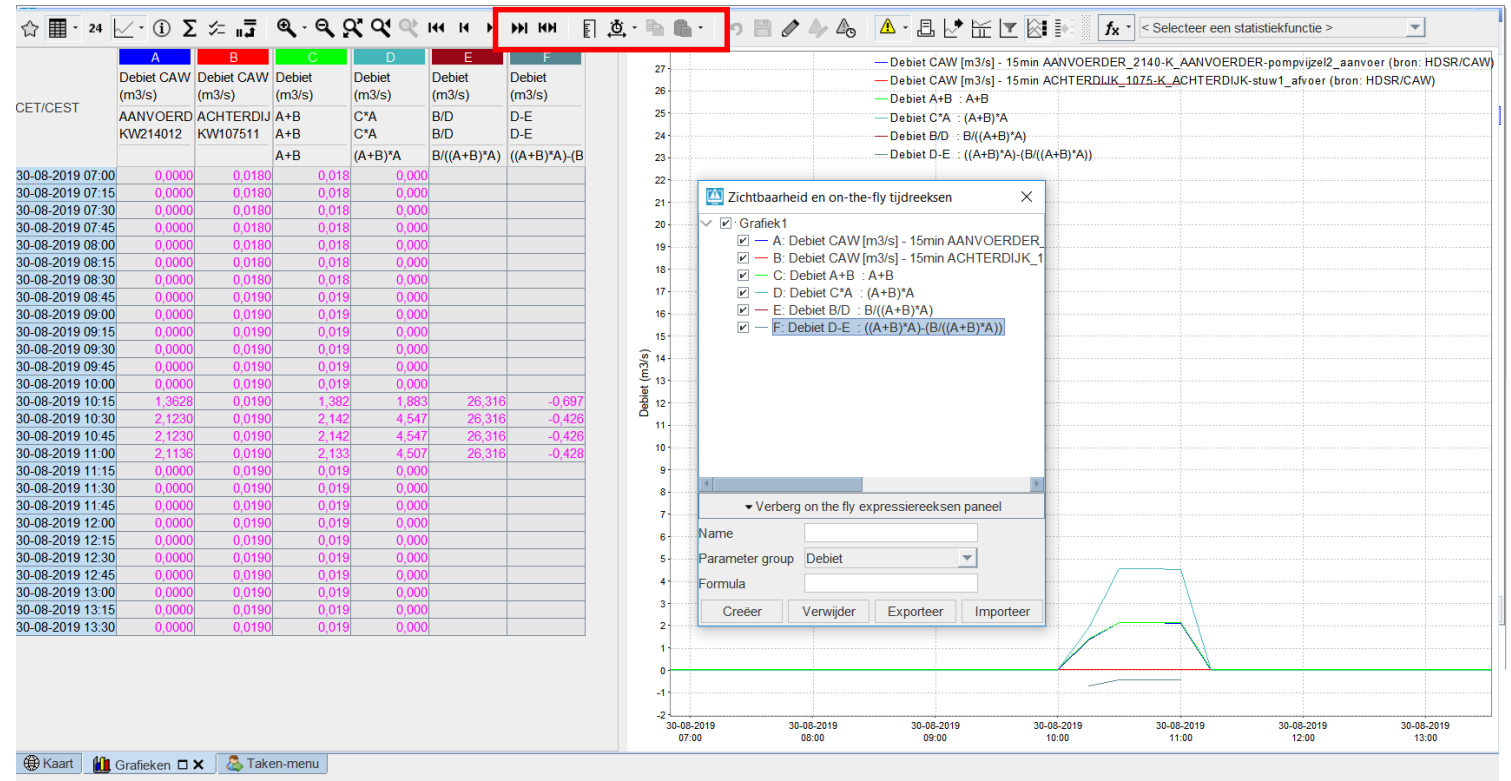


- RVP = 'leading'
- Open Archive & external NetCDF storage



New in Time Series Display

- [Freeze](#) part of a time series
- Display [differences between two scenarios](#)
- [Jump](#) to first or latest data point available
- Display [observations with rating curves](#)
- Extension of [on-the-fly expression functions](#)



New in de Admin Interface

- [Unmapped workflows](#) easily recognizable
- Show on which FSS-group an unmapped workflow can run
- Upload [multiple event action configurations](#)

The screenshot displays the 'RDRD (Regge) - Event Actions' admin interface. The left sidebar contains navigation menus for System Status, Forecast Tasks, Workflow and FSSs, Files, User Administration, System Control, Software Management, Database Analysis, Documentation, and Logout admin. The main content area is divided into two sections: 'Action Configurations' and 'Action Mappings'.

Action Configurations: This section features a table with columns for Action Id, Default Version, Description, Creation Time, Created By, and Commands. The 'Upload Multiple' button is highlighted with a red box. The table contains four entries:

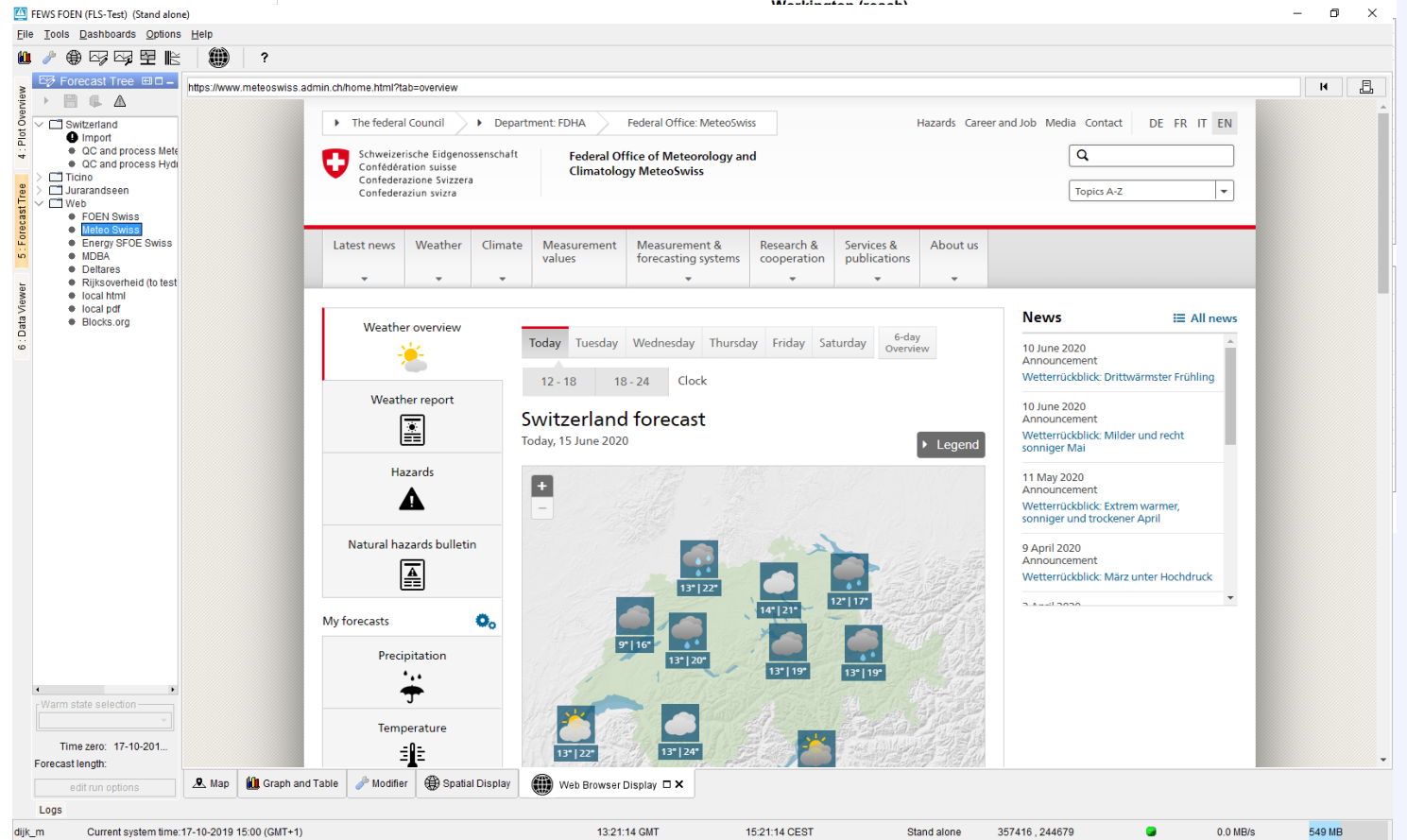
Action Id	Default Version	Description	Creation Time	Created By	Commands
Datastore.NewCurrentRun	RDREMC00:000000000	Datastore.NewCurrentRun	06/11/2012 19:05:41	ADMIN	Versions
SYSMON.Restarting	RDREMC00:163360	mail on MC restart	07/05/2020 16:07:25	Marcel Ververs	Versions
SYSMON:FSSLost	RDREMC00:000000000	FSS lost	31/03/2014 14:30:18	ADMIN	Versions
SYSMON:Restarting	RDREMC00:000000000	mail on MC restart	23/05/2014 06:16:43	ADMIN	Versions

Action Mappings: This section features a table with columns for Event Code, Action Configuration ID, and Command. The 'Add Mapping', 'Upload Mappings', and 'Download Mappings' buttons are visible. The table contains six entries:

Event Code	Action Configuration ID	Command
DataStore.NewCurrentRun	Datastore.NewCurrentRun	Delete Test
ForecastingShell.Error	SYSMON:FSSLost	Delete Test
Sysmon.Restarting	SYSMON.Restarting	Delete Test
SYSMON:FSSLost	SYSMON:FSSLost	Delete Test
SYSMON:Restarting	SYSMON:Restarting	Delete Test
Sysmon.Restarting	Sysmon.Restarting	Delete Test

New in...Delft-FEWS Explorer

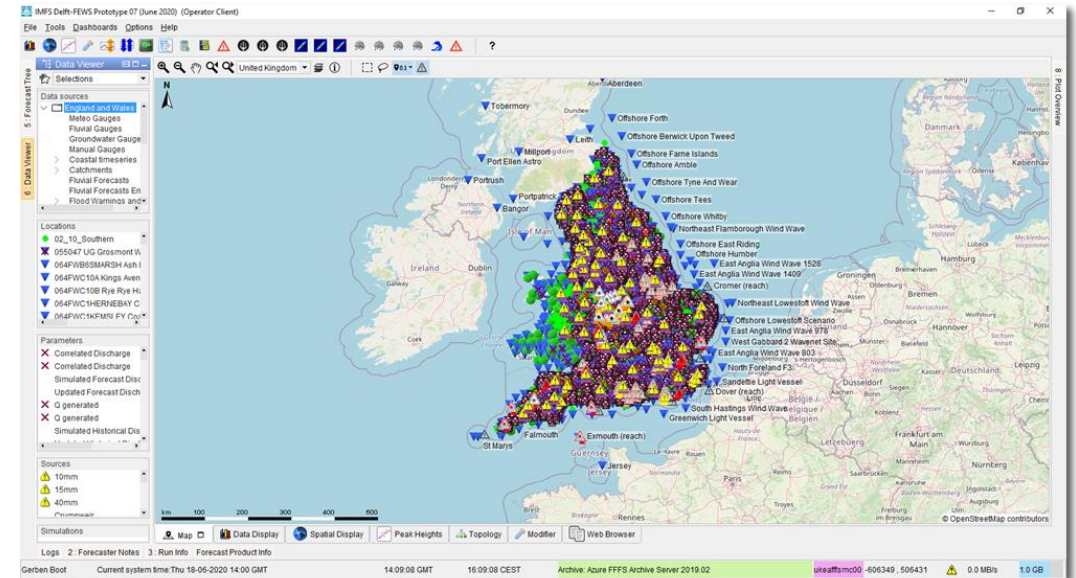
- Selected ensemble member stays selected...
- Option added: only the [visible locations in the map](#) show up in the locations list...
- [Web browser display](#): Chromium package upgrade (JCEF)



New in Cloud-readiness...

- Clients move to the cloud (Azure, Amazon)
 - Environment Agency - IMFS
 - Natural Resources Wales
 - NL Covadem
- Support/involvement migrating to the cloud
 - MDBA (Aus)
 - ARM* templates → available for Delft-FEWS community
- Support new types of (IoT) imports
 - Azure IoT hub (MQTT protocol)
- Deltares Private Cloud (Test systems)
 - ‘menu-like’ ordering of a (test) system
 - Provisioning resources AND software

* Azure Resource Manager



Delft-FEWS New features and more....

General Release Statistics & Benchmarks

	Delft-FEWS 2019.02	Delft-FEWS 2020.01
New features (incl. backports)	239	117
All solved bugs (incl. internal testing)	634	235*
Top 5 features	Import (25) Grid Display (23) Admin Interface (16) Web services (14) Archive/TSD (13)	Import (19) Admin Interface (13) Web services (10) Archive (9) TSD (7)

* status: end June 2020

Outlook Delft-FEWS 2020.02...

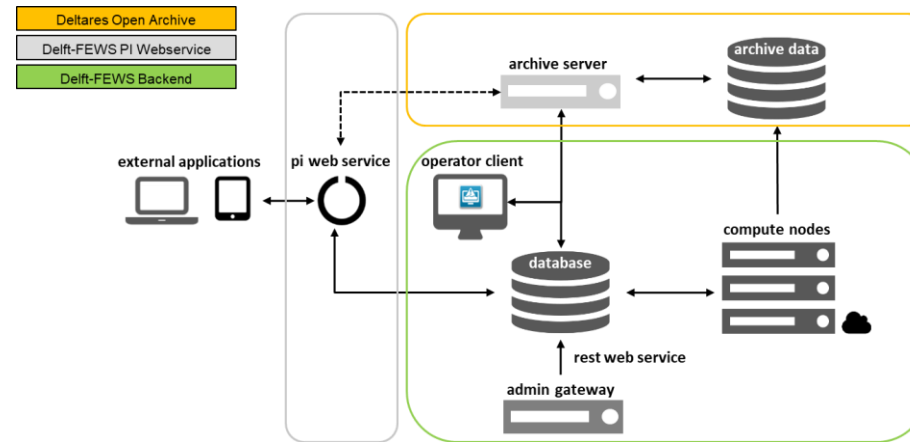
- Admin Interface API extension (calling AI methods via scripting tools)
- Improve WMS, create WCS service and downloads from the Open Archive
- Backend improvements (1 *patchable* build approach)
- (zipped) Configuration upload via Admin Interface
- Finalizing the new “ComposedWhatIfs” approach (Computation Framework)
- Rating Curve generation tool
- Automatic Parameter Optimization (icw OpenDA)
- TSD improvements (like comparing different runs extensions)
- And of course: imports, model adapters etc.

- **To Do** - share agreed developments on portal (“at the right level of detail...”)

Delft-FEWS releases, roadmaps and vision - plans

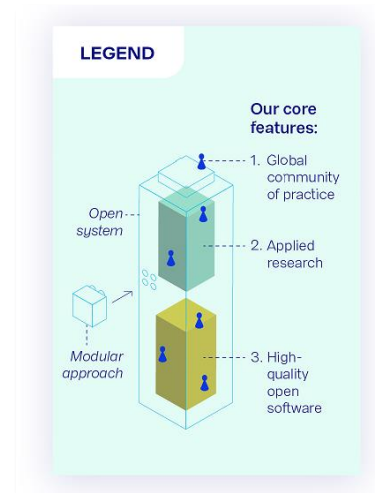
- **Delft-FEWS Roadmaps 2020**

- Backend ●
- PI Webservice ●
- Open Archive ●
- Releases: 2017.02 – 2018.02 (2019.02)
- Multi-year roadmap
- Community funding + Deltares investments

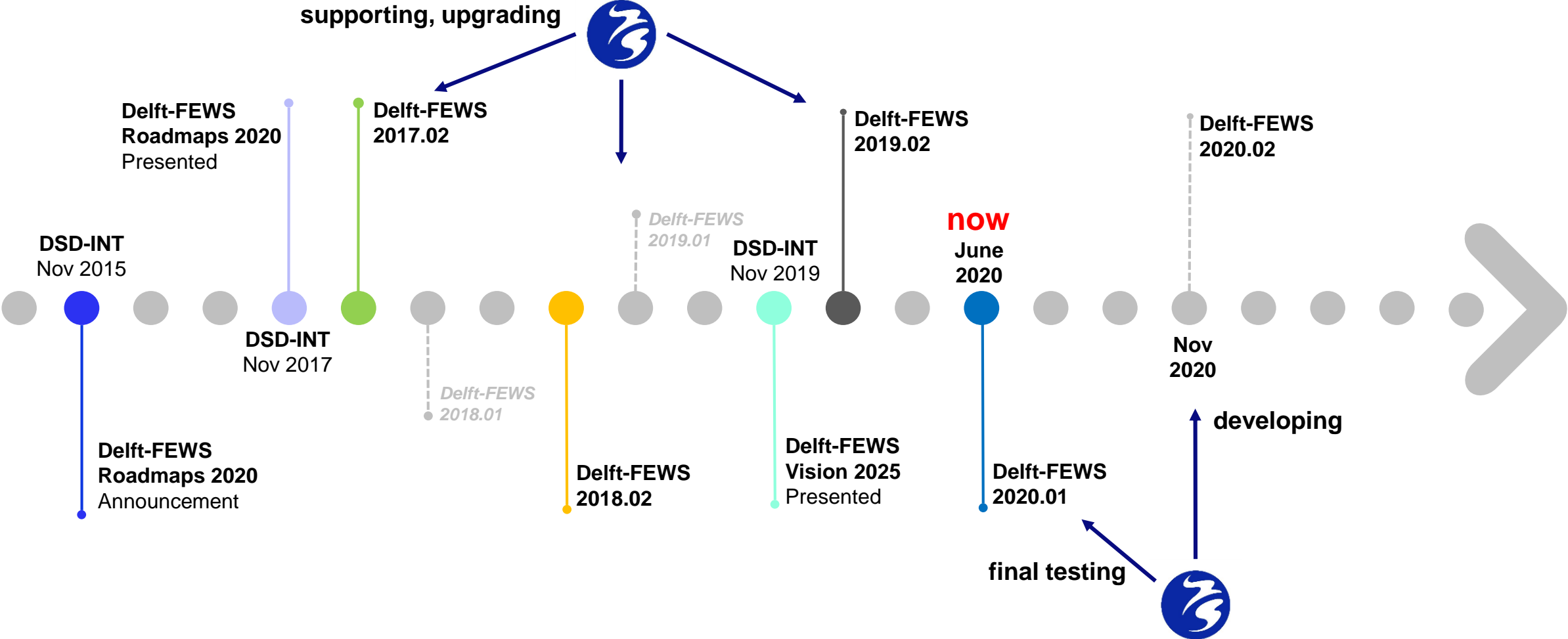


- **Delft-FEWS Vision 2025**

- Global Community of Practice
- Applied Research
- High quality software
- Releases 2020.01 – 2024.02
- Yearly roadmaps

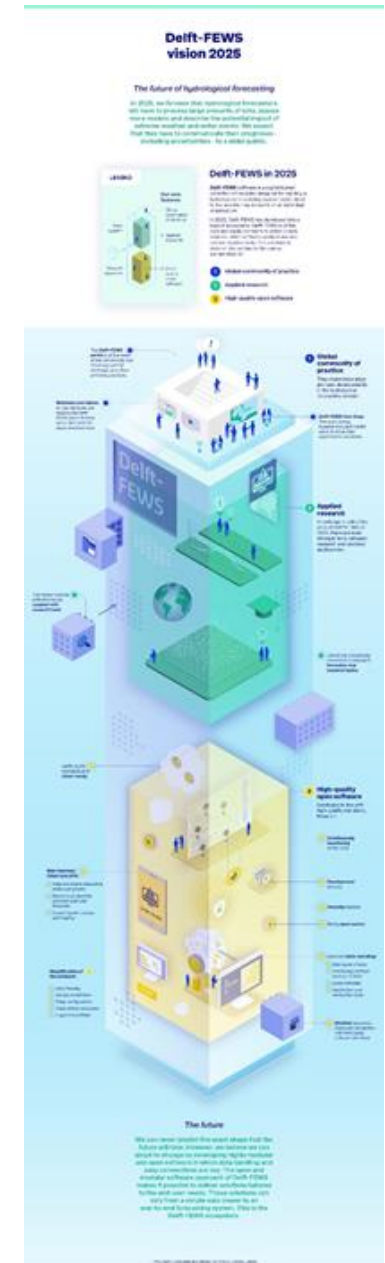
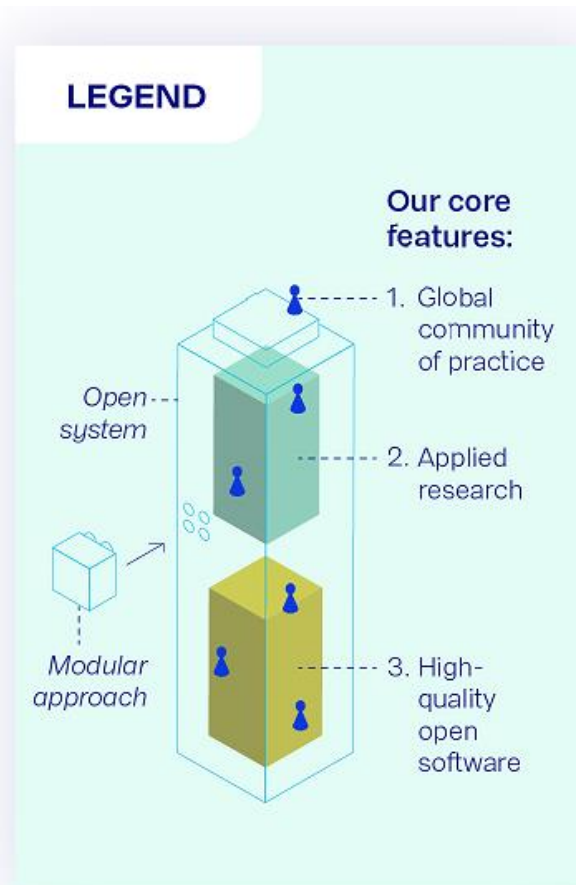


Delft-FEWS releases, roadmaps and vision - timeline



New Delft-FEWS Vision 2025 infographic

- 'Story' of Delft-FEWS vision 2025 (Delft-FEWS international user days 2019)
- Infographic design with specialized designer
- Follow the story from top to bottom
- To be shared with community



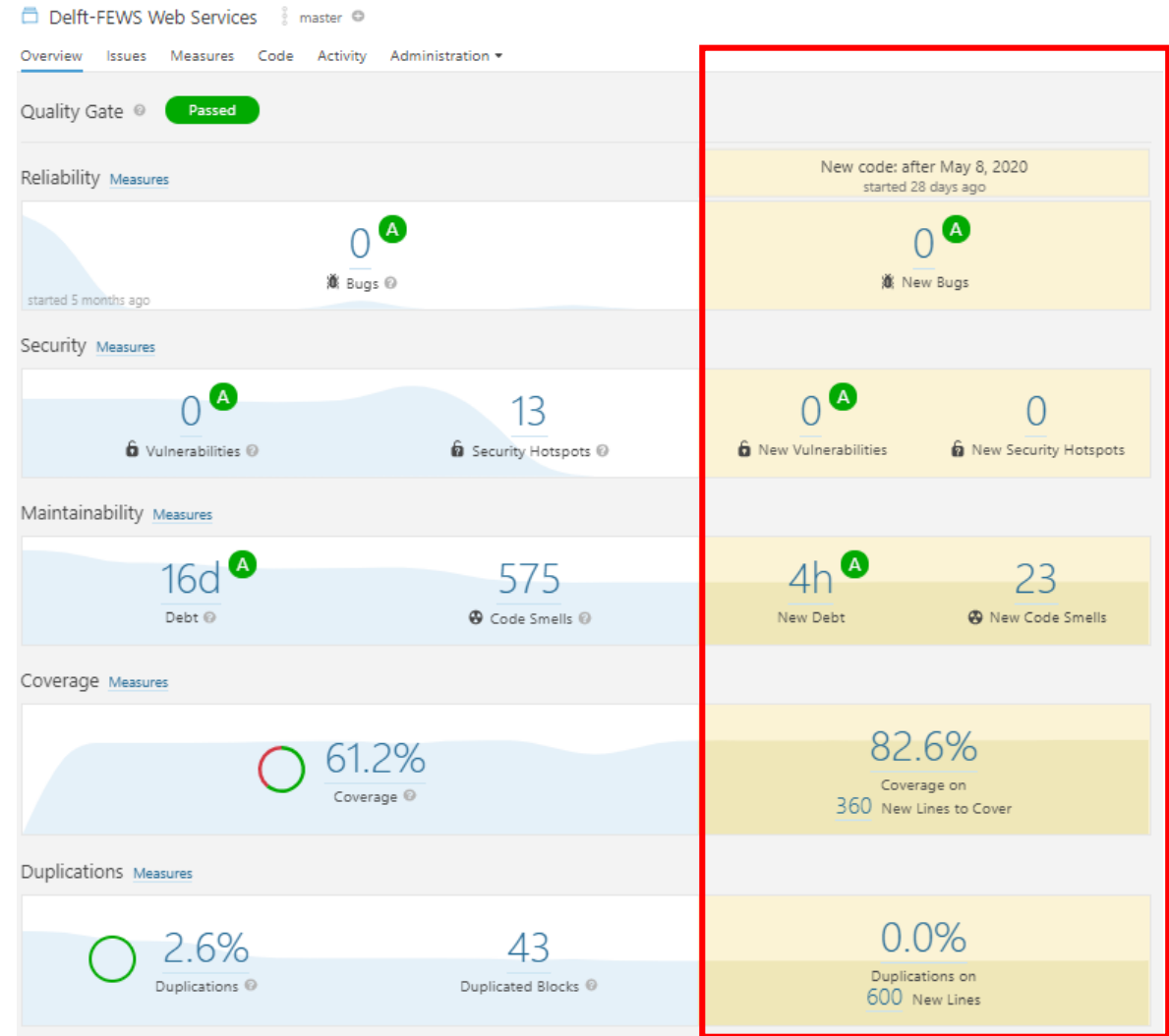


The future

We can never predict the exact shape that the future will take. However, we believe we can adapt to change by developing highly modular and open software in which data handling and easy connections are key. The open and modular software approach of Delft-FEWS makes it possible to deliver solutions tailored to the end-user needs. Those solutions can vary from a simple data viewer to an end-to-end forecasting system. This is the Delft-FEWS ecosystem.

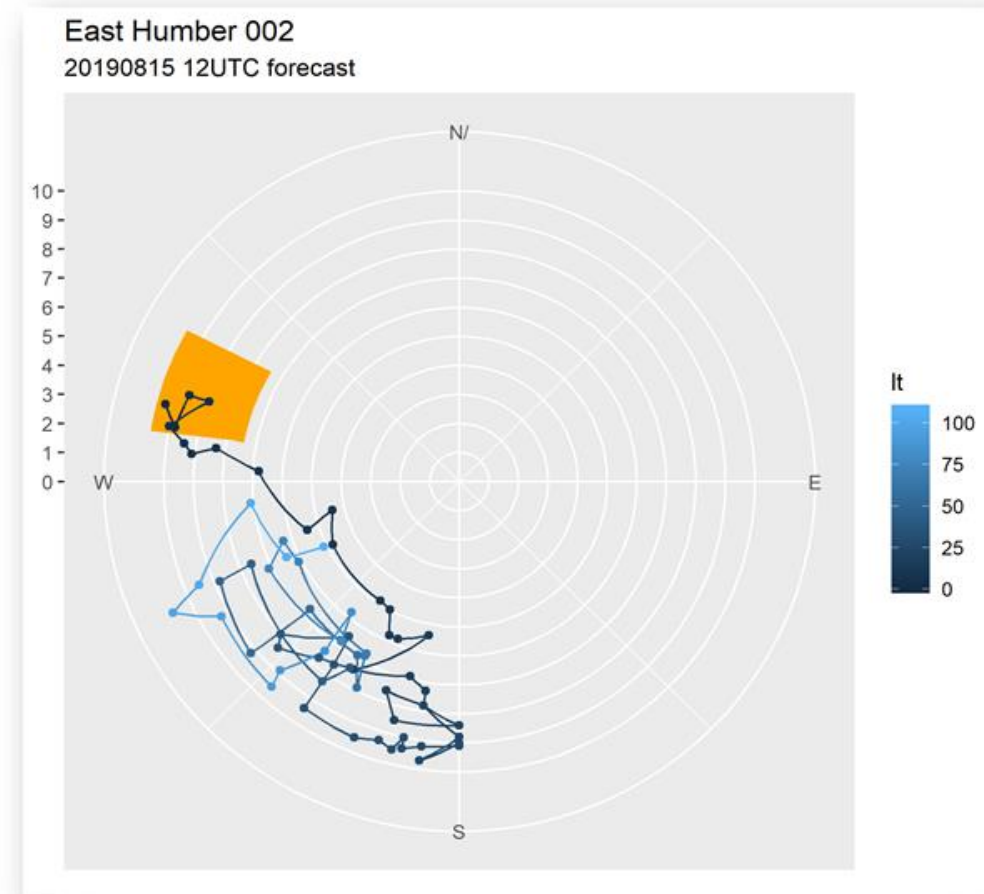
Delft-FEWS Vision 2025 – Software Quality Improvements

- Code review process : continuous attention
- Sonarqube iterations
 - Code ‘splitted’ 12 ‘packages’
 - 2 developers: package ‘owners’
 - Focus on ‘new’ code
 - Maintain A – score
- SYSQA involvement (Test strategy)
 - Product Risk Analysis (end of June)
 - Test process improvements (July)



Delft-FEWS Vision 2025 – Global CoP

- New ideas on the [Community Portal](#)
- 5 concrete ideas
 - Extend Dashboard to TimeSeries Display and Schematic Status Display (Deltares, BPA)
 - Extend Temporary Import to CSV and NetCDF formats (NL Waterboard Aa & Maas)
 - Open Archive Admin GUI: align style with Delft-FEWS Admin Interface + add API access (Deltares)
 - Share Thresholds Events via the Delft-FEWS webserver (NL Consultants)
 - Polar Wind Plots (NRW)
- DSD-NL: separate session (30.06.2020)

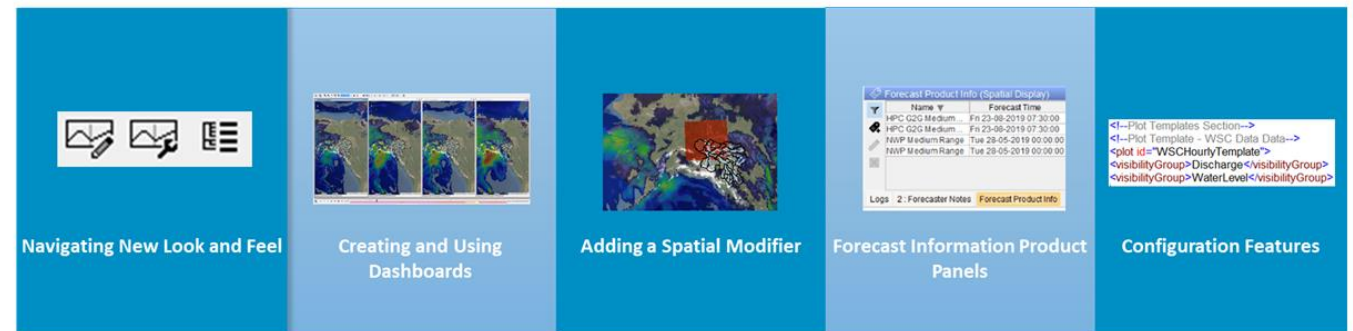


Delft-FEWS Webinar 2019.02 features (29.04.2020)

- Very positive experience
- 260 participants (50 countries)
- Combination pre-recorded videos and live-broadcasting/interactions
- [Complete recording](#) and pre-recorded videos are available for [review](#)
- [Blog/news item \(portal\)](#)
- Planned for September 2020: Webinar on the 2020.01 Features



Delft-FEWS 2019.02 New Features Webinar
29th of April 2020 – 4 PM CEST
Click [here](#) to join!



by Dave Casson (Deltares)

Deltares



Other Delft-FEWS Community news...

- Development of **Online Training** materials
 - Modular components
 - Hosting via online training / e-learning environment ([a new spring](#)...NL based)
 - First edition planned for group of Canadian participants (end of June/early July), Australian User meeting is next
- Upcoming (and past) **Community Meetings** (remote)
 - Netherlands: (June: 16/23/30, 3x 2hr timeslots)
 - Germany: Anwendertreffen (June: 18)
 - Australian User Meetings (July: 14/16/21/23/28/30 and August: 4/6 August 2020 (8x hr time-slots))
- **International Delft-FEWS User Days**
 - Dates: 4th and 5th of November 2020
 - To be decided...

The screenshot displays the Delft-FEWS website's event calendar. The header includes the Delft-FEWS logo and navigation links: HOME, COMMUNITY, FEWS-NEWS, PROJECTS, COURSES, FAQ, and DOWNLOADS. A search bar is also present. The main content area is titled 'All events' and features a grid of event cards. Each card includes a date, event title, dates, location, and a 'Read more' link.

Date	Event Title	Dates	Location
18 Jun	Delft-FEWS Regionales Anwendertreffen 2020	18 June 2020	Essen, Germany
17 Jun	Delft-FEWS Australian User Days 2020	17 June 2020 - 19 June 2020	Brisbane, Australia
16 Jun	Delft-FEWS Dutch Userday 2020	16 June 2020	Deltares, Netherlands
27 Nov	Deltares Software Days - South East Asia	27 November 2019 - 29 November 2019	Bangkok
21 Nov	Delft-FEWS en Latinoamérica	21 November 2019 - 22 November 2019	Foz do Iguaçu, Brasil
06 Nov	Delft-FEWS international user meeting 2019	06 November 2019 - 07 November 2019	Deltares, Netherlands
26 Jun	Delft-FEWS Regionales Anwendertreffen und Workshop	26 June 2019 - 27 June 2019	Hamburg
18 Jun	Delft-FEWS Dutch Userday 2019	18 June 2019	Deltares
30 May	Delft-FEWS Australian User Days 2019	30 May 2019 - 31 May 2019	Melbourne, Australia

Community Strategy Board

New CSB team members:

Stefan Laeger --> Environment Agency

[Gabe Miller](#) – Tennessee Valley Authority
(representing Hydro Power community)

New Standardized S&M Service Packages:

- Basic
- Full Advanced
- Professional
- Intermediary

Minutes CSB meetings on [Delft-FEWS portal](#)

Deltares



Questions... 

Contact

🏠 www.deltares.nl

🐦 [@deltares](https://twitter.com/deltares)

🌐 [linkedin.com/company/deltares](https://www.linkedin.com/company/deltares)

✉️ info@deltares.nl

📷 [@deltares](https://www.instagram.com/deltares)

📘 [facebook.com/deltaresNL](https://www.facebook.com/deltaresNL)



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