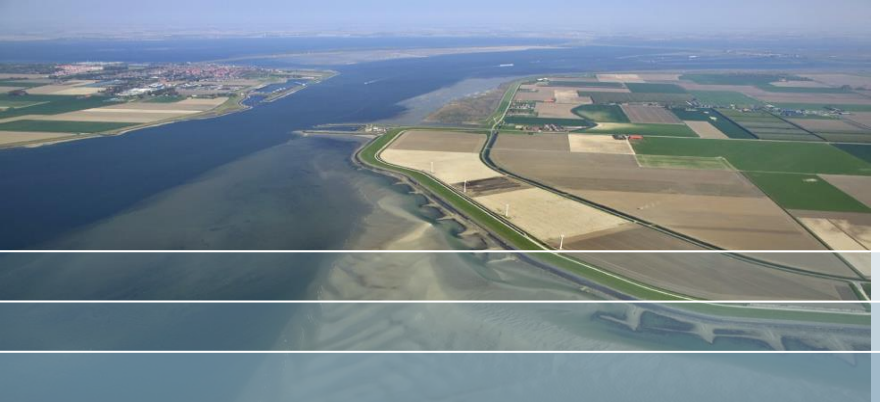

Deltares
Enabling Delta Life

# What's New in Delft-FEWS…

13th International Delft-FEWS User Days

20 October 2017

# Who are we…

**Marcel Ververs**

**Now:**

Delft-FEWS PM for S&M Contracts

**FEWS-History…**

FEWS Configurator

- FEWS-Rivers (2004)
- EA NFFS (2005)

FEWS PM S&M (2008)

**Gerben Boot**

**Now:**

Delft-FEWS PM for Developments

**FEWS-History…**

FEWS Developer (2005)

- Report Module
- EA Webserver

FEWS PM S&M (2006)

FEWS PM Developments (2008)

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# Who is (not) new…

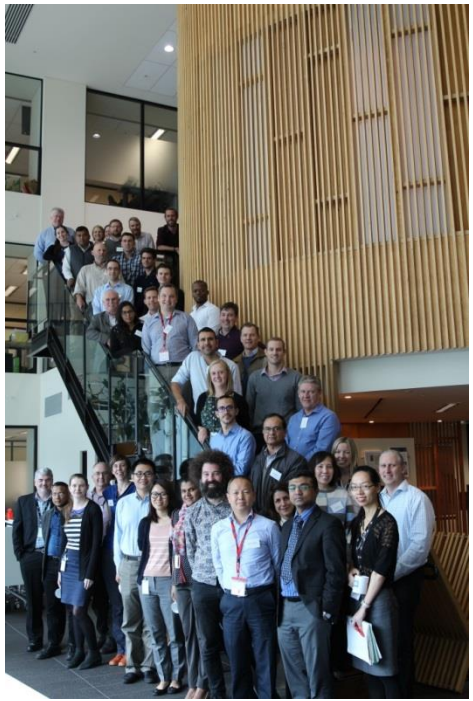
Just raise your hand…

Who of you (or your organisation)…

- was present at the International Delft-FEWS User Days in 2016…
- is new to the International Delft-FEWS User Days…
- has been here before – not for a while – and now back again….
- was present at the very first International Delft-FEWS User Days…
- has been present more than 10 times…

…take out your badge, grab a pen and write down your ‘year’…

# Who's where…



**26.04.2017**
Delft-FEWS User Meeting Australia & Asia

**07.09.2017**
Delft-FEWS User Day for German speaking users in Vienna

**13.06.2017**
Delft-FEWS User Meeting NL



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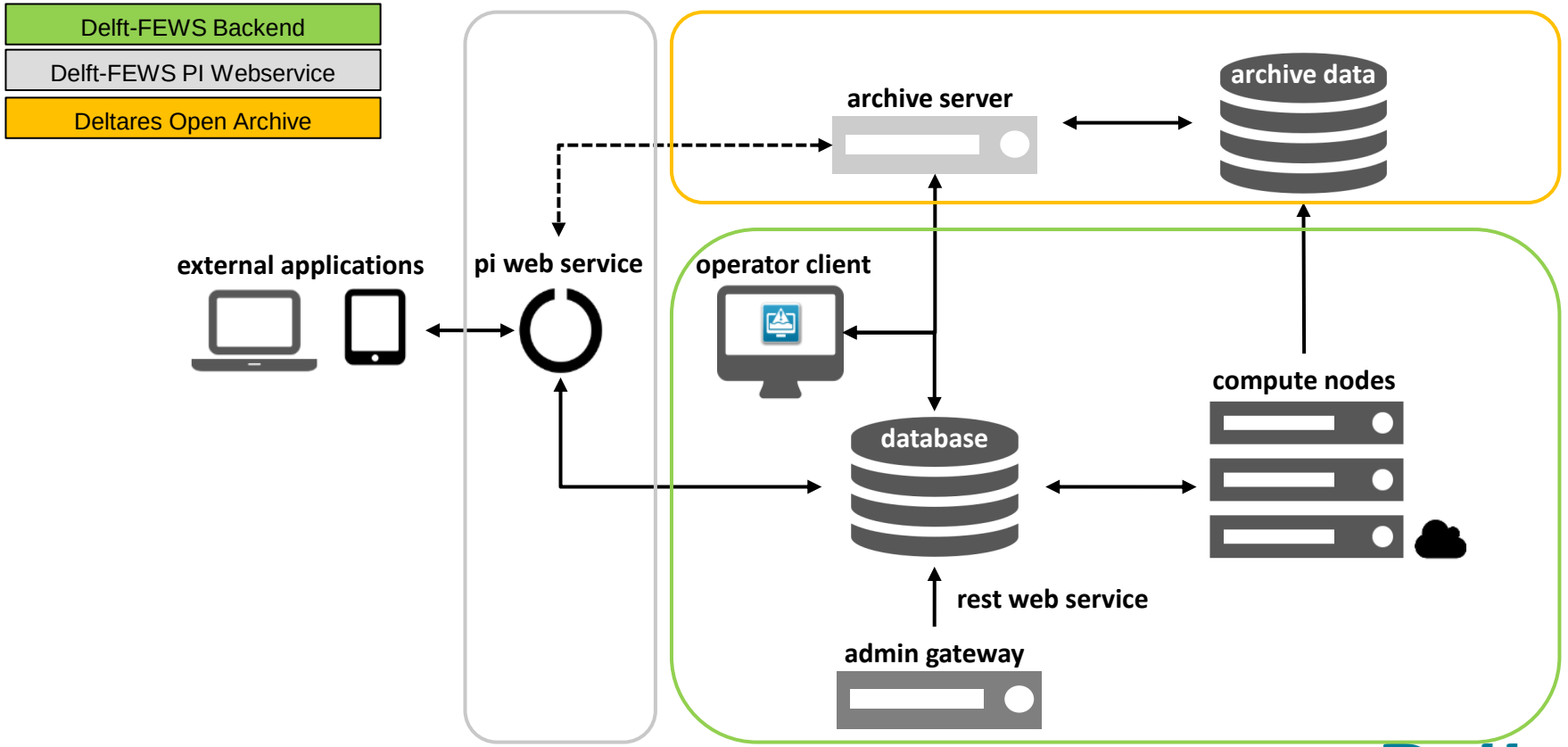
# Where are we aiming at: FEWS 2020 roadmaps…



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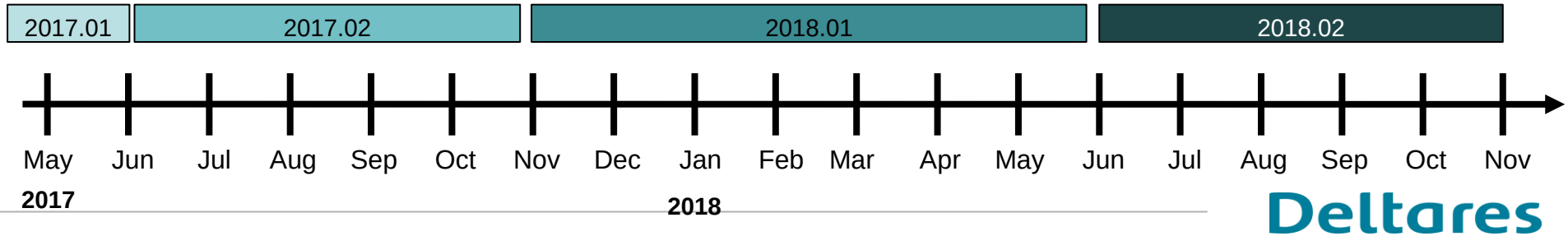
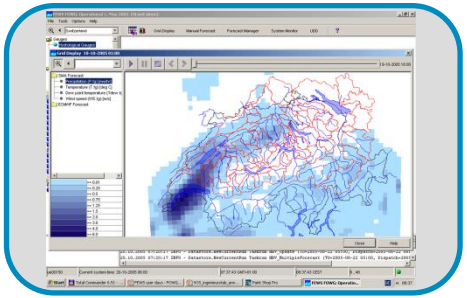
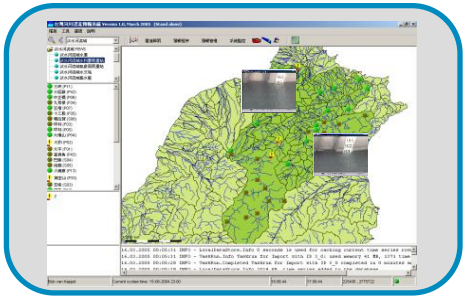
# What is our roadmap implementation plan…

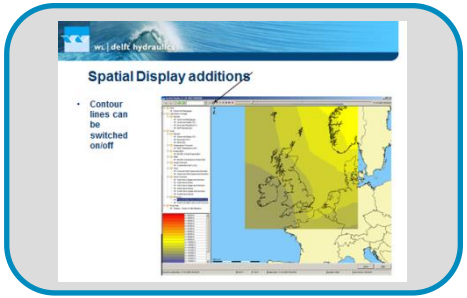
- All roadmap developments depending on community financing…
  - Developments started in June 2017
  - Developments completed end 2018 / early 2019
- Stepwise implementation of roadmap developments
- Smooth transition of existing systems using stable releases
- Roadmap developments next to project software developments…

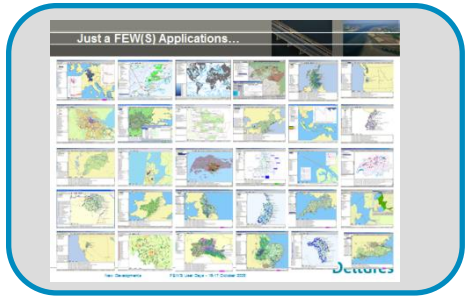


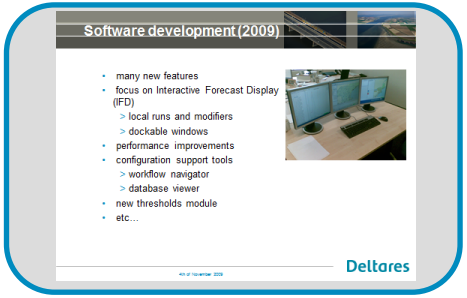
# What was the message in…

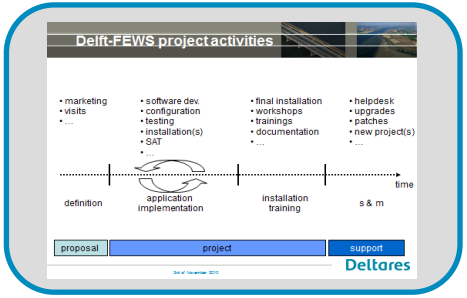


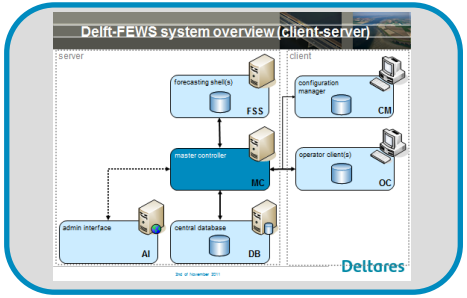


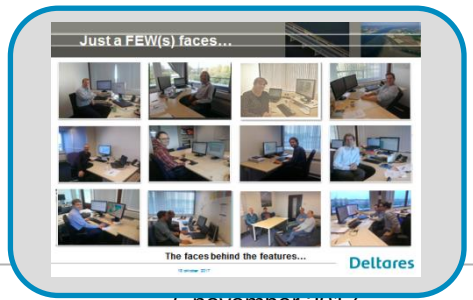


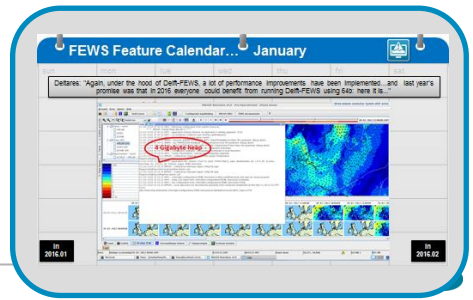



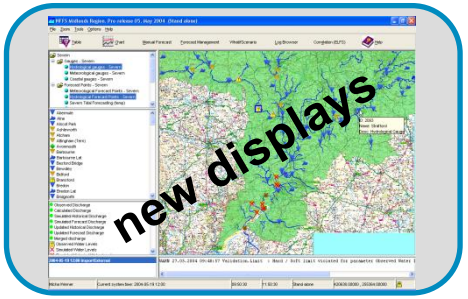



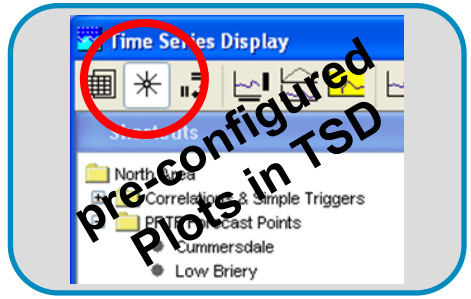







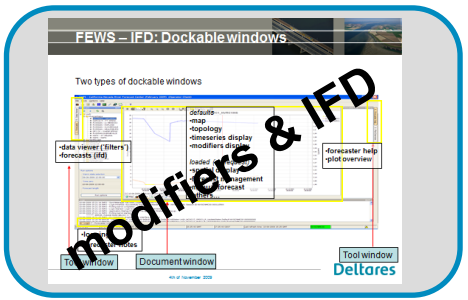
# What was new…

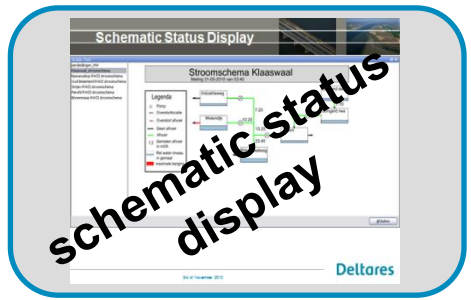

new displays

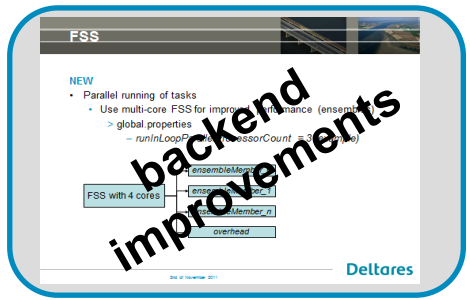

Time Series Display
pre-configured Plots in TSD
North China
Correlation & Simple Triggers
Forecast Points
Cummersdale
Low Briery

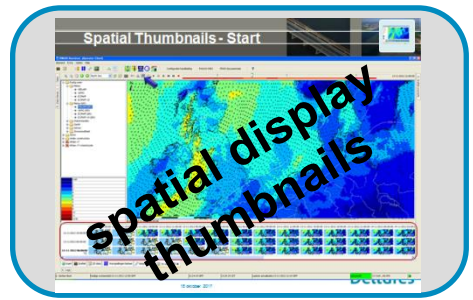
function keys
F5
F6
&?

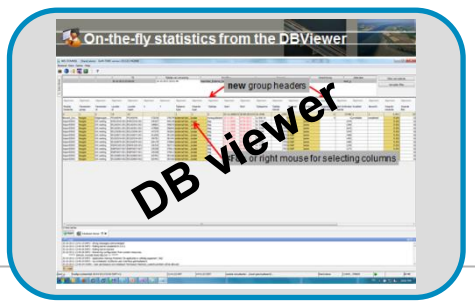
JDBC Server
Open the FEWS database to other applications
Request data through 'standard' SQL
Build your own viewer on the FEWS database
Examples of a JDBC Server connection:
Lizard Webserver – Developed by Gijs Schuurmans
ArtDiver groundwater data viewer tool – Developped by Artesia
PI web service
Deltares

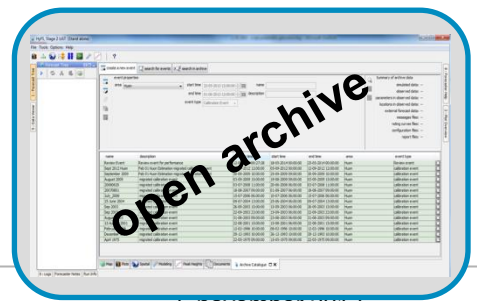

FEWS – IFD: Dockable windows
Two types of dockable windows
modifiers & IFD
Tool window
Document window
Deltares

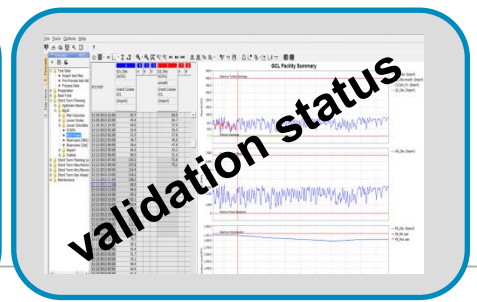

Schematic Status Display
Stroomschema Klaaswaal
schematic status display
Deltares

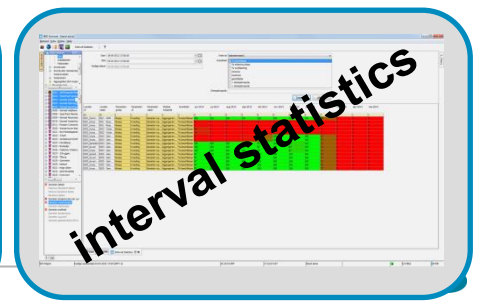

FSS
NEW
Parallel running of tasks
Use multi-core FSS for improved performance (ensemble)
global.properties
FSS with 4 cores
overhead
backend improvements
Deltares


Spatial Thumbnails - Start
spatial display thumbnails

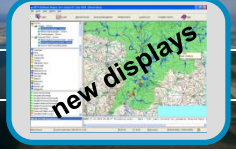

On-the-fly statistics from the DBViewer
new group headers
DB viewer


open archive


validation status


interval statistics

# New display: System Wide Thresholds Overview




Events

| Threshold Id | Module Instance | Location Id | Location Name | Parameter Id | Parameter Name | Unit | Time Step | Event Time | Event Value | Time till Crossing | Warning Action | Acknowledge By | Acknowle Time |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 19-10-2016 07:30:00 | -999,000 | 17d 16h 30m | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 20-10-2016 12:00:00 | 14,400 | 18d 21h | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 22-10-2016 19:00:00 | 14,400 | 21d 4h | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 10-11-2016 18:30:00 | -999,000 | 40d 4h 30m | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 12-11-2016 04:00:00 | 14,400 | 41d 14h | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 12-11-2016 14:00:00 | 14,400 | 42d | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 13-11-2016 12:30:00 | -999,000 | 42d 22h 30m | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 13-11-2016 18:30:00 | -999,000 | 43d 4h 30m | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 14-11-2016 06:30:00 | -999,000 | 43d 16h 30m | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 14-11-2016 12:30:00 | -999,000 | 43d 22h 30m | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 14-11-2016 18:30:00 | -999,000 | 44d 4h 30m | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 15-11-2016 00:30:00 | -999,000 | 44d 10h 30m | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 15-11-2016 05:00:00 | 14,400 | 44d 15h | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 15-11-2016 06:30:00 | -999,000 | 44d 16h 30m | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 15-11-2016 09:00:00 | 14,400 | 44d 19h | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 15-11-2016 18:30:00 | -999,000 | 45d 4h 30m | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 15-11-2016 19:00:00 | 14,400 | 45d 5h | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 16-11-2016 01:00:00 | 14,400 | 45d 11h | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 16-11-2016 02:00:00 | 14,400 | 45d 12h | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 16-11-2016 03:00:00 | 14,400 | 45d 13h | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 16-11-2016 06:30:00 | -999,000 | 45d 16h 30m | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 16-11-2016 11:00:00 | 14,400 | 45d 21h | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 16-11-2016 13:00:00 | 14,400 | 45d 23h | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 16-11-2016 15:00:00 | 14,400 | 46d 1h | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 16-11-2016 16:00:00 | 14,400 | 46d 2h | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 16-11-2016 18:30:00 | -999,000 | 46d 4h 30m | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 16-11-2016 19:00:00 | 14,400 | 46d 5h | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 16-11-2016 19:00:00 | 14,400 | 46d 5h | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 16-11-2016 21:00:00 | 14,400 | 46d 7h | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 17-11-2016 00:00:00 | 14,400 | 46d 10h | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 17-11-2016 00:30:00 | -999,000 | 46d 10h 30m | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 17-11-2016 02:00:00 | 14,400 | 46d 12h | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 17-11-2016 04:00:00 | 14,400 | 46d 14h | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 17-11-2016 06:00:00 | 14,400 | 46d 16h | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 17-11-2016 06:00:00 | 14,400 | 46d 16h | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 17-11-2016 06:30:00 | -999,000 | 46d 16h 30m | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 17-11-2016 07:00:00 | 14,400 | 46d 17h | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 17-11-2016 10:00:00 | 14,400 | 46d 20h | H 074: | | |
| AlarmFase1 | ARMA_Regge_Forecast | WST_2102 | 074-Middensloot Weerselo | H.updated.voorsp | Gesimuleerde voorspelde waterstand (A... | m | hour | 17-11-2016 12:00:00 | 14,400 | 46d 22h | H 074: | | |

Threshold Crossings 814



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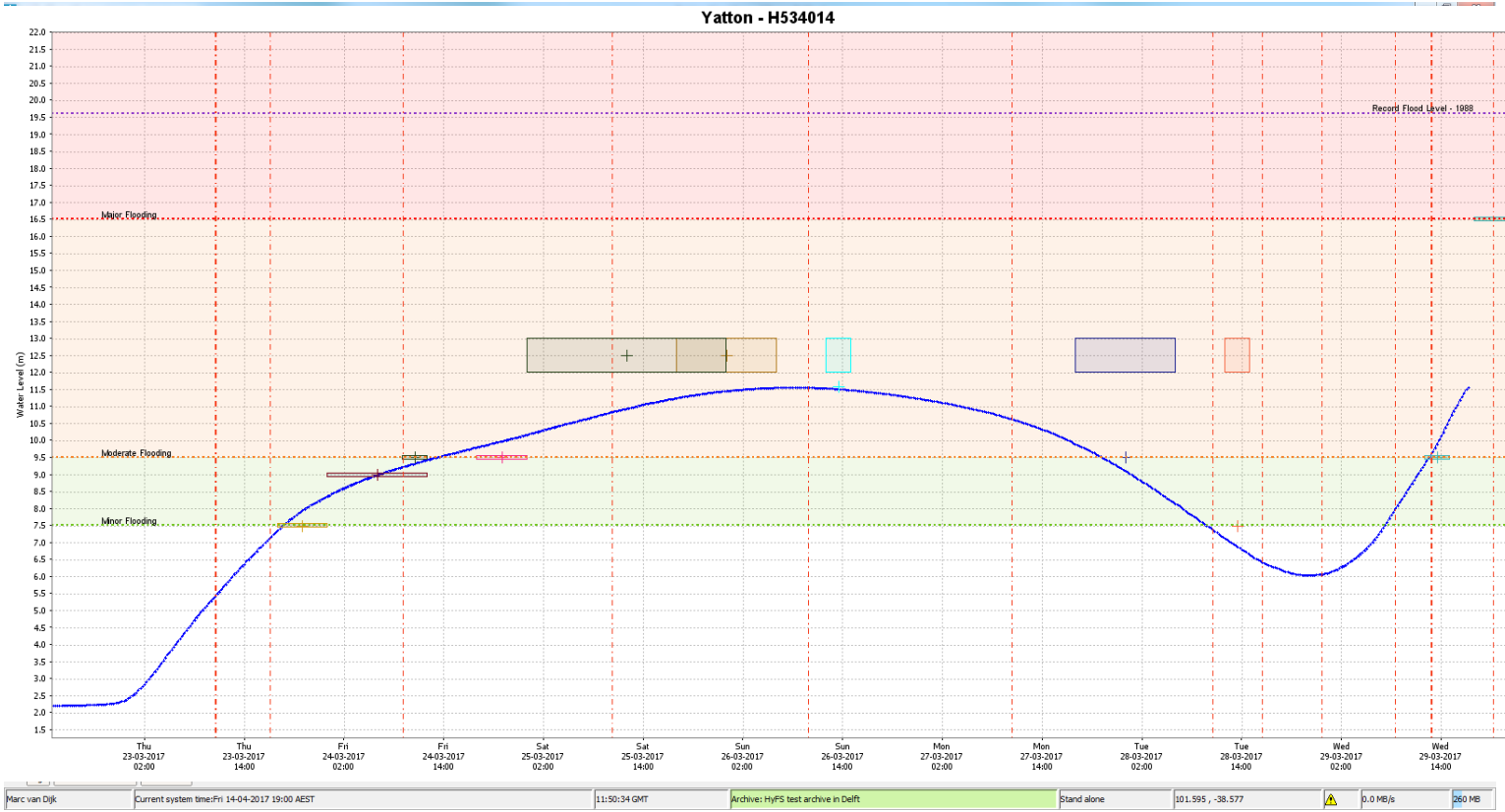
# New display: Verification Analyst Tool



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# New display: Forecast Mix Display

ForecastMixer

Precipitation | Temperature

| | 2015-12-02 06:00 | 2015-12-02 12:00 | 2015-12-02 18:00 | 2015-12-03 00:00 | 2015-12-03 06:00 | 2015-12-03 12:00 | 2015-12-03 18:00 | 2015-12-04 00:00 | 2015-12-04 06:00 | 2015-12-04 12:00 |
|---|---|---|---|---|---|---|---|---|---|---|
| Preprocessing_GFS_Forecast 12-02-2015, 01:00 QPF KMYL | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| Preprocessing_NAM_00z_Forecast 12-02-2015, 01:00 QPF KMYL | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | | |
| Preprocessing_NAM_06z_Forecast 12-02-2015, 01:00 QPF KMYL | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 25.0 | 25 |
| Preprocessing_NAM_12z_Forecast 12-02-2015, 01:00 QPF KMYL | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 25.0 | 25 |
| Preprocessing_NAM_18z_Forecast 12-02-2015, 01:00 QPF KMYL | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 25.0 | 25 |



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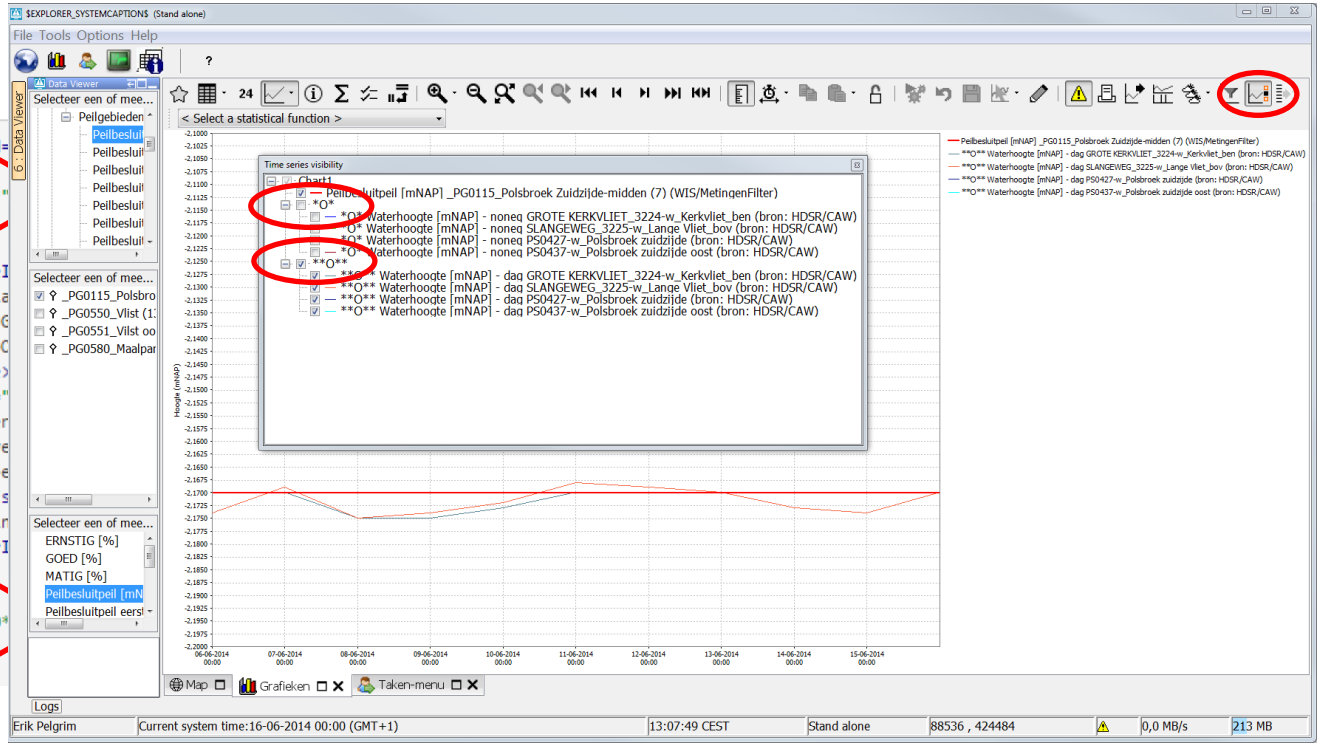
# TSD: Related time series

Filters.xml

```
            <attributeTextEquals id=
        </locationConstraints>
        <additionalTimeSeries name="*O*"
            <locationFunctionEquals
            <timeSeriesSet>
                <moduleInstanceI
                <valueType>scala
                <parameterId>H.G
                <locationSetId>C
                <timeSeriesType>
                <timeStep unit="
                <relativeViewPer
                    startOve
                <readWriteMode>e
                <synchLevel>1</s
                <ensembleId>mair
                <ensembleMemberI
            </timeSeriesSet>
        </additionalTimeSeries>
        <additionalTimeSeries name="**O*
            <locationFunctionEquals
            <timeSeriesSet>
```



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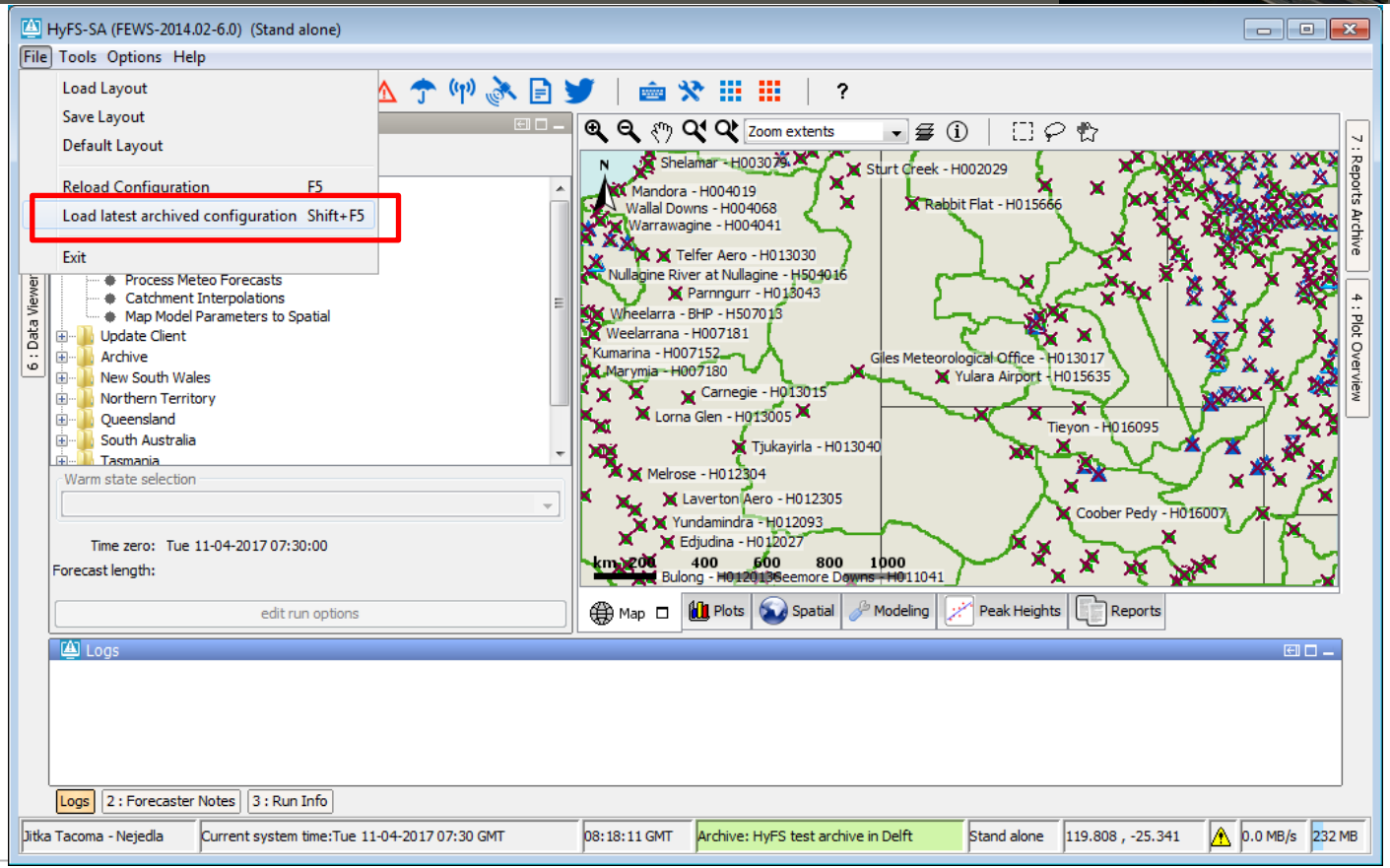
# Shift+F5 Update SA with latest Config (Archive)

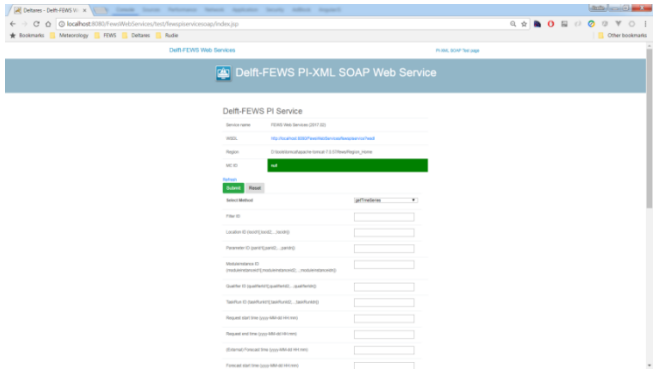


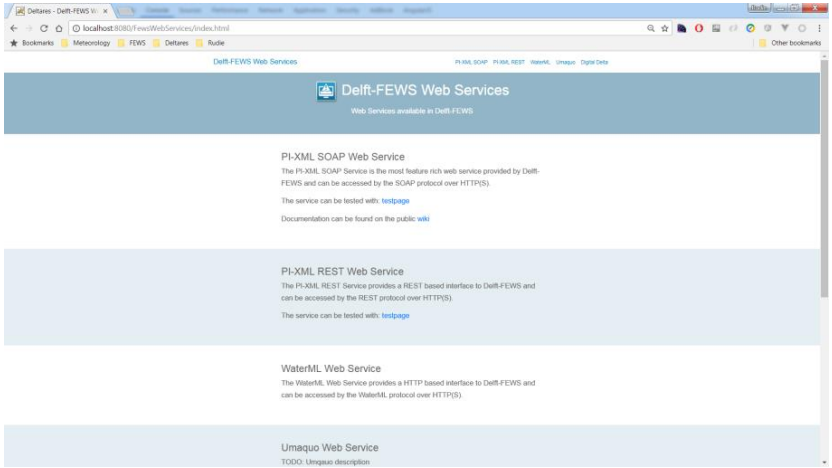
# Roadmaps: Delft-FEWS PI web service

Delft-FEWS PI Webservice

## 2017.02

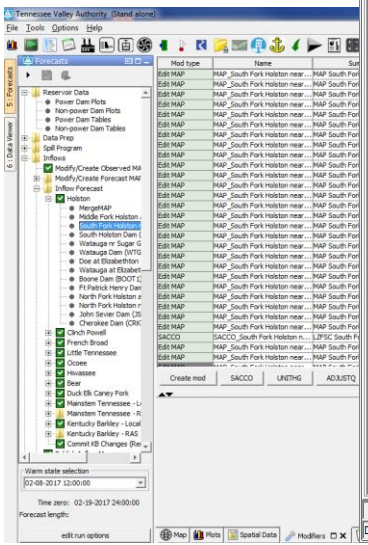
- New framework ready for hosting different types of web services → single install-file / minimum configuration
- Aligning methods between PI SOAP and REST web services
- Code-cleanup & test environment ready
- Improved documentation + test page

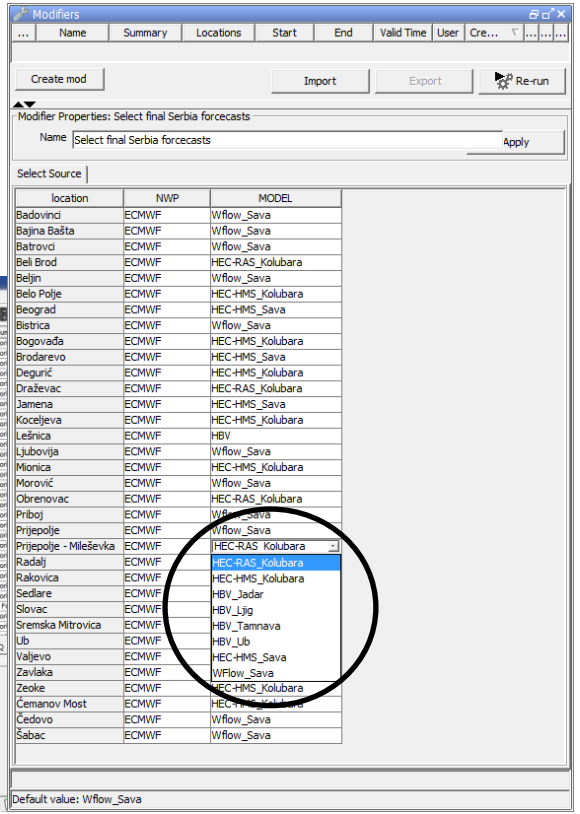


# Modifiers & IFD:

- Location specific drop-down enumerations
- Configurable order of parameters
- Combine mods into one (when editing in plots)





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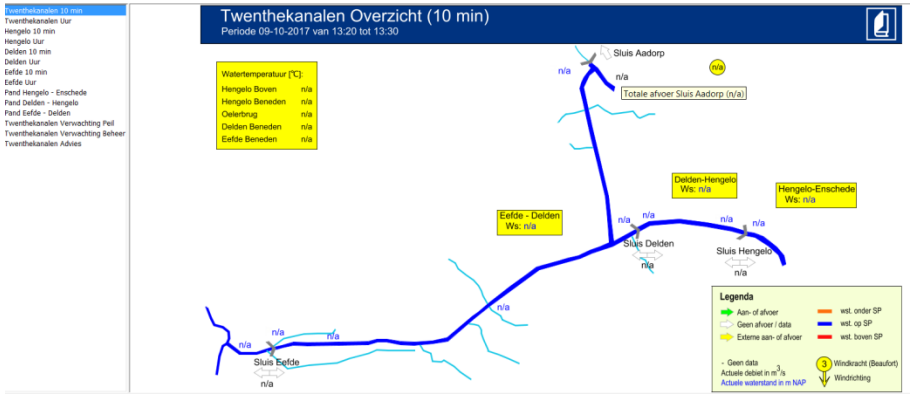
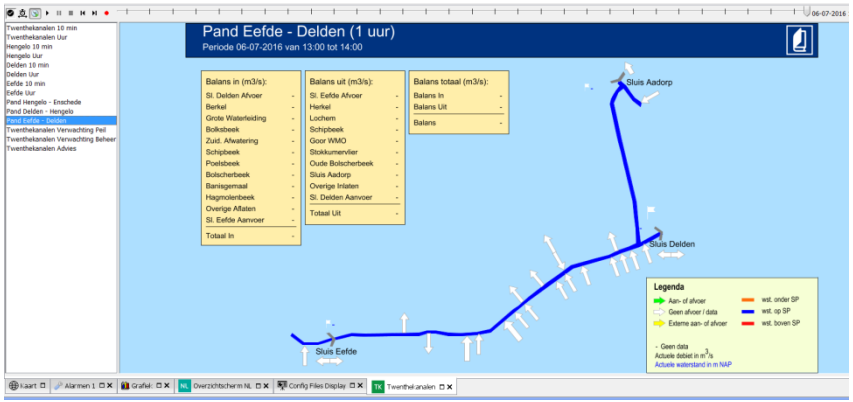
# Schematic Status Display:

- Configurable background color
- More visible/clickable no-data character



# Roadmaps: Backend Simplification & Automation

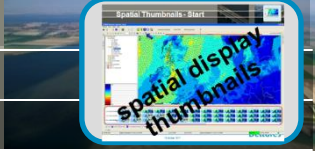
Delft-FEWS Backend

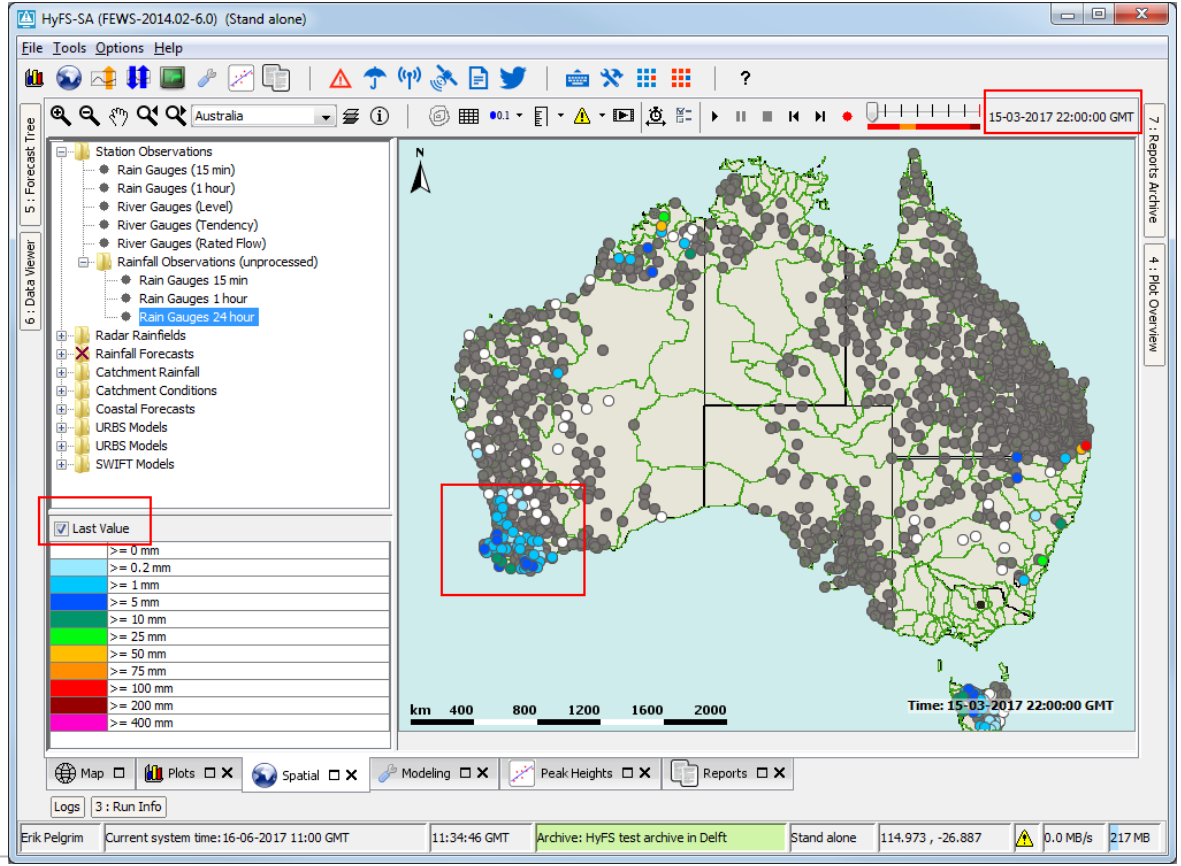
**2017.02**

- DDA = default (including Configuration Manager)
- Removal of JMS…(get rid of JBOSS or ActiveMQ)
- MC-MC synchronisation still in place…
- (new way of) profile based synchronisation…

Temporarily **not available**: remote login (secure) → back in 2018.01…

# Spatial display: show last value



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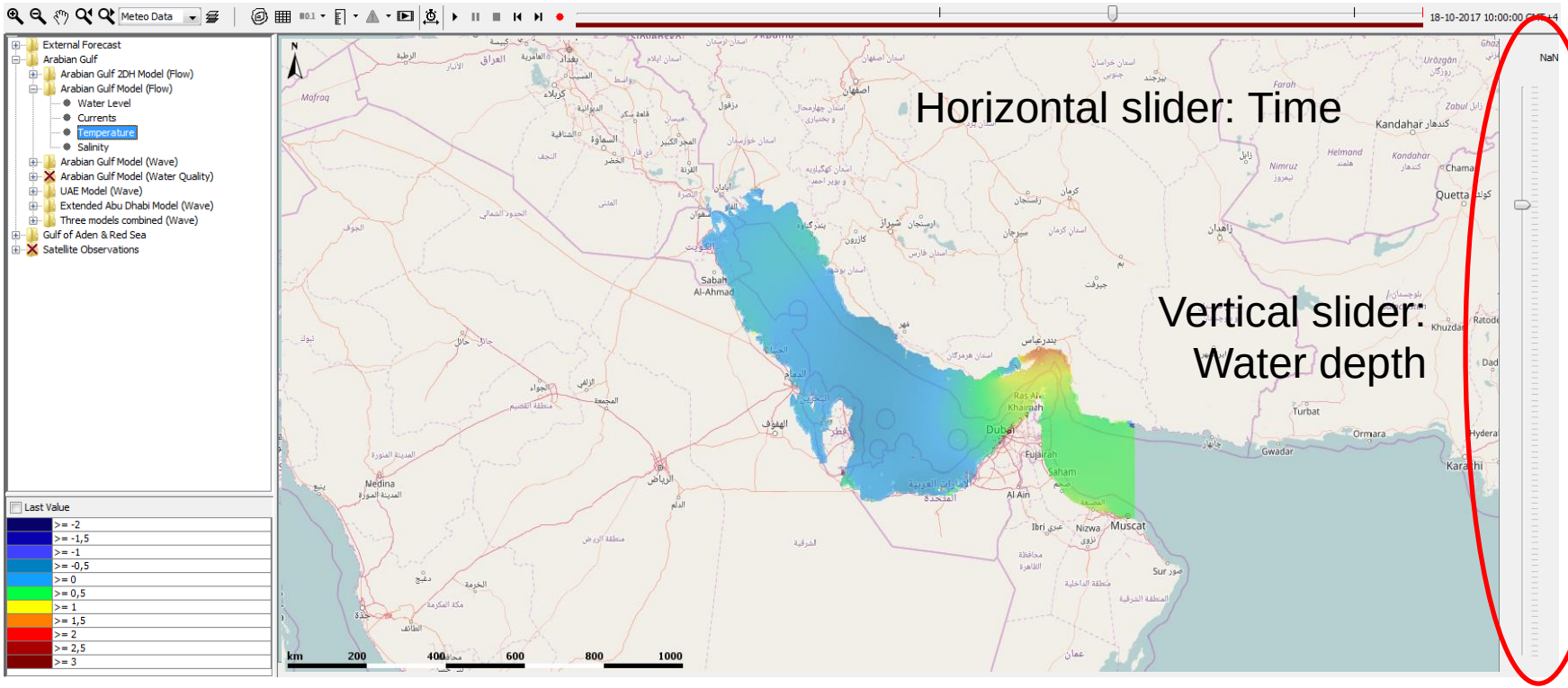
# Spatial display: vertical slider



# Database Viewer: Remove Data from database

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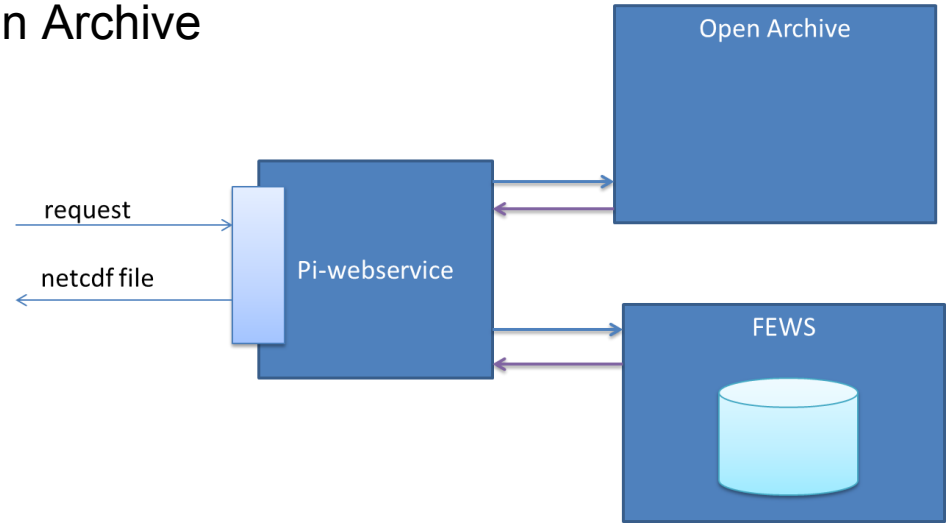
# Roadmaps: Open Archive

Deltares Open Archive

## 2017.02

- Seamless integration of *forecast timeseries* (observed already possible)
- Robust checks implemented exporting to archive (checksums)
- Send ‘requests’ directly to Open Archive
  - Get certain grid extent…
  - Transform data…



# Validation: Show validation rules (selected location)

## Time series information – Validation Rules

Time series information

| | |
|---|---|
| Location id | H-RN-0001 |
| Location name | Lobith |
| Parameter id | Q.m |
| Parameter name | Discharge (Q.m) |
| Module instance id | ImportMerge |

Validation rules

| | 27-05-2017 22:00:00 |
|---|---|
| (Current value) | 1617.5399 |
| Hard Max | 18000.0 |
| Soft Max | 15000.0 |
| Soft Min | 865.0 |
| Hard Min | 600.0 |



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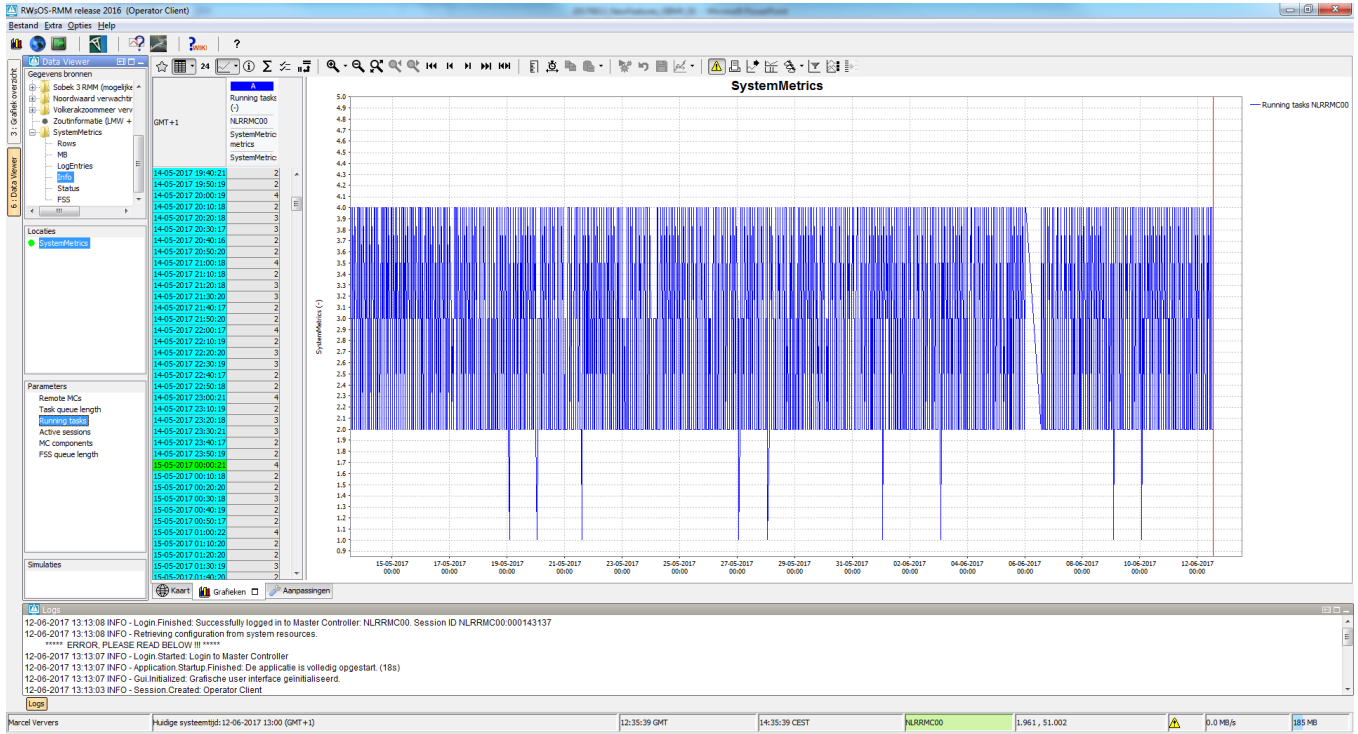
# Statistics: System Metrics in Operator Client




- Timeseries records
- Database records
- Database size (MB)
- Logentries
- Connected users
- FSS capacity usage

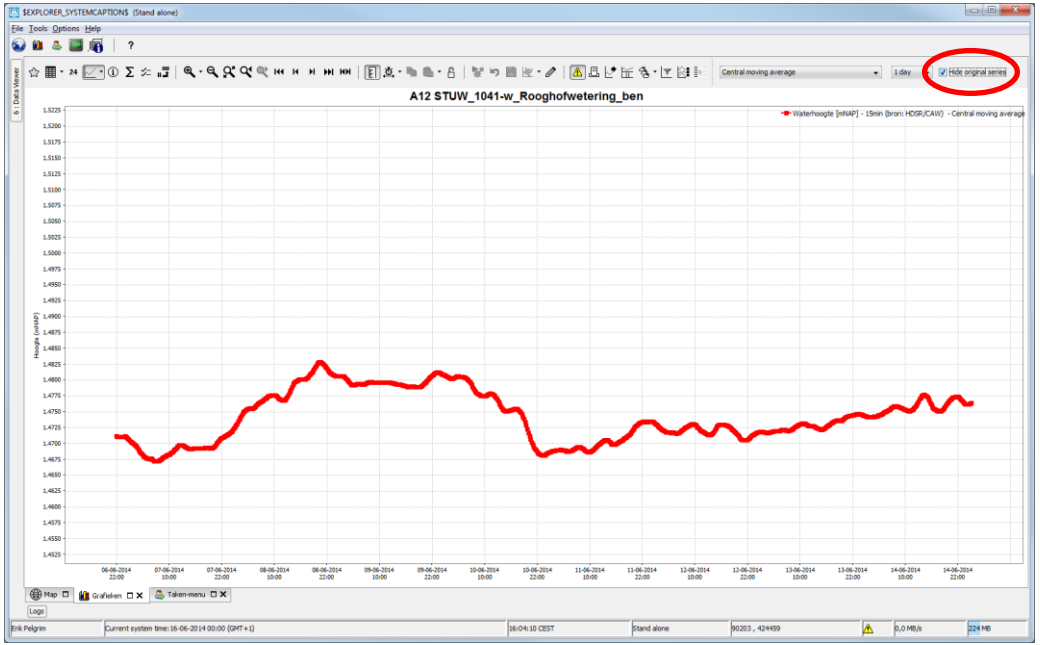
but also:

- MC / FSS status
- FSS queue length
- Size database tables
- Nr spec. eventcode

… for all MC's

# Statistics: Hide original series (with statistics)

- Checkbox for hiding original timeseries (statistical functions)
  - Differences
  - Duration exceedence
  - centralMovingAverage
  - movingAverage
  - accumulationAggregation
  - calendarAggregation
  - cumulative
  - relativeAggregation
  - accumulationInterval



# Community Strategy Board

- Defining Topics 2018 (sticky notes)
- Communication of CSB → community
- Process distributing patches / informing community
- Guest at CSB (NRW share experiences with Delft-FEWS in the cloud)

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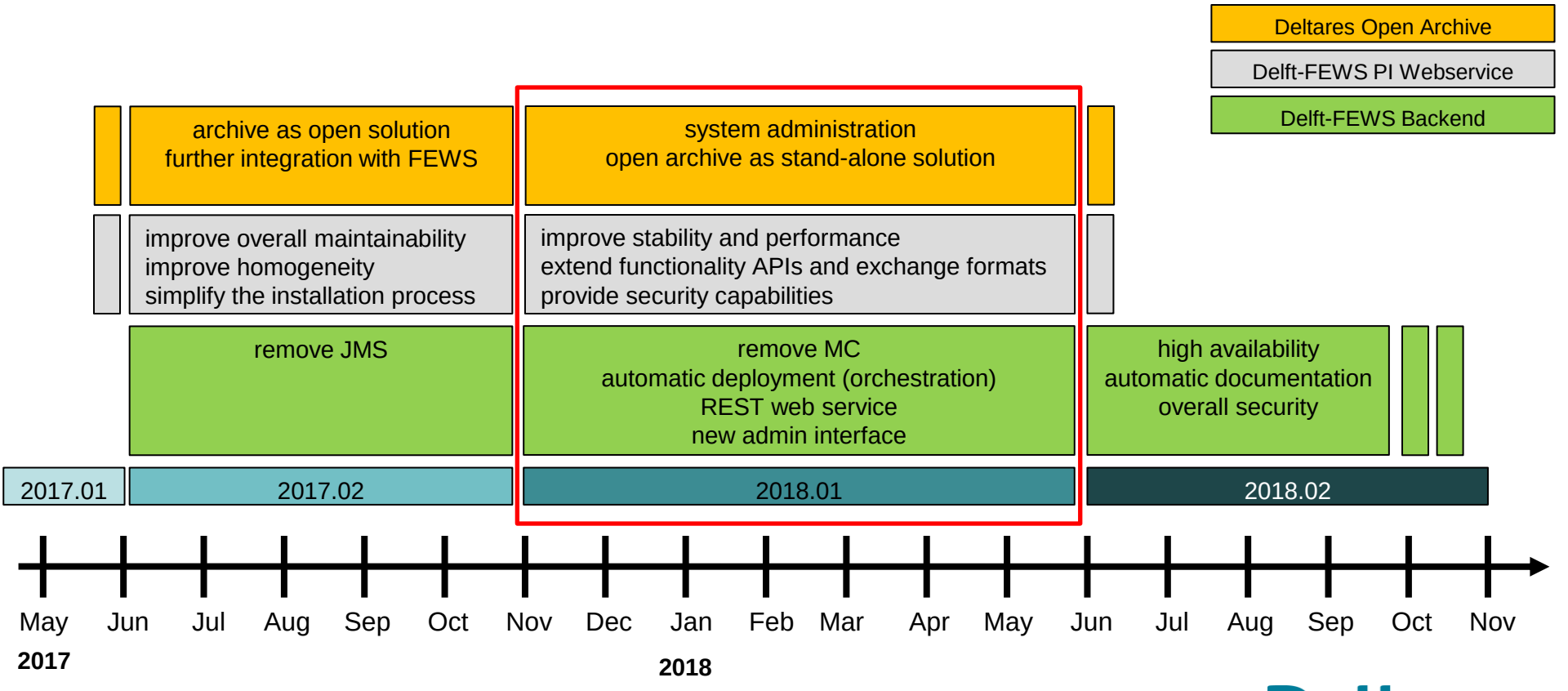
# Outlook to Delft-FEWS 2018.01

- Requests for developments:
  - Selections ‘sets of modifiers’
  - Running server runs with user specific modifiers
  - Exports of KMZ information (icons/info-balloons)
  - More legend options
    - for shape-file classifications
    - DTMs
  - Schematic Status Displays in reports
- Continued development work on Roadmaps (Backend, Archive, PI webservice)
- Part of roadmap work:
  - Optimize snapshot functionality
  - Secure remote access

# Implementation plan roadmaps…

Version: October 2017

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# FEWS News letter

**FEWS news: issue 4, 2017**

**Productmanagement news**

**Coming up! Delft-FEWS Release 2017.02: first Delft-FEWS 2020 roadmap features in...**

Developments for the autumn release of Delft-FEWS (2017.02) are progressing well. More than 80 small and large features are planned to be implemented, amongst others many visual improvements to different displays. Relevant to mention is that we are also really busy implementing the 3 Delft-FEWS 2020 roadmaps. Read more..

**CSB updates**

**Meet and greet with CSB members**

Do you want to meet the members of the CSB in person? That is possible at the Delft-FEWS international User Days on October the 25th and 26th. In the last CSB meeting in September we discussed how the CSB could be more visible and accessible for the whole Delft-FEWS community and now we have found the perfect opportunity. Read more..

**International projects**

**Globalfloodforecast.com goes live**

On the 28th of July 2017 Deltares launched globalfloodforecast.com. This website allows the user to browse through the results of our global information systems on storm surge and flood forecasting. The models are continuously monitored, validated and improved based on hundreds of observation points and unique events such as hurricane Irma. Read more..

**FEWS Wales in the cloud**

Since the beginning of 2017 FEWS Wales has been running as a fully operational forecasting system within a third party cloud environment in the United Kingdom. Deltares and Natural Resources Wales have been working together to migrate the existing forecasting system and to ensure that required functionalities work within the cloud

## FEWS-NEWS #4

International projects:

- Globalfloodforecast.com goes live
- FEWS Wales in the cloud

Community:

- German, Austrian and Swiss Delft-FEWS users meet in Vienna
- Inspiring master class MILE in Durban, South Africa

Blog:

- RWsOS: the Rijkswaterstaat clustered operational systems

www.delft-fews.com > FEWS news

Subscription via: fews-news@deltares.nl



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# Release Notes

Deltares | Spaces | Blogs | Browse | Create

DELFT-FEWS Documentation / ... / Delft-FEWS Release Notes

## What is new in Delft-FEWS 2017.01

Created by Gerben Boot, last modified on 14-06-2017

Below the Release Notes (New Features) are displayed. Most features contain a direct link to the documentation. Due to file size restrictions the column containing the 'Image' could not be added.

### ft-FEWS 2017.01 New Features

| Component/s | Customer name | Key | Summary | Release Note Text | Release Note Text Description | Link to Documentation | Config Example |
|---|---|---|---|---|---|---|---|
| App - Archive | BPA | FEWS-16882 | FEWS-15003 make it possible to access elastic catalogue by the piwebservice | access the elastic catalogue by the pi webservice | In the future it will be possible to access the elastic catalogue by the pi webservice. In this release a temporary version is available. It is mainly used for demo and evaluating purposes and will be extended later to final production version. | | |
| App - Archive | BoM (Aus) | FEWS-16892 | FEWS-15665 HyFS-Archive: improve configMetaData.xsd | Improvement of the elastic catalogue | The internal naming of the elastic catalogue and the code is improved to make it more clear what the actual fields of the catalogue mean. | https://publicwiki.deltares.nl/display/FEWSDOC/25.+Using+the+Deltares+Open+Archive | |
| App - Master Controller Server, System | Deltares | FEWS-12957 | Improvement to MC restarter script for Windows: does not use JAVA_HOME from registry | Improvement to MC restarter script for Windows: does not use JAVA_HOME from registry | JRE home directory is now passed as an argument in the restarter scripts | https://publicwiki.deltares.nl/display/FEWSDOC/MC+Restarter+process | |
| App - Master Controller Server | Deltares | FEWS-16672 | Make config expiry time taskrun/workflow redundant. Rolling barrel should auto correct expiry times | Expiry time in workflow descriptors is now redundant | It is no longer required to configure the expiry time of workflows in the workflowDescriptors.xml or in the admin interface. The run will not expire before all produced time series / warm states and reports are expired. The amalgamate module will no longer complain about wrongly configured expiry times. The expiry time in the workflow descriptor is still used as default expiry time for simulated time series. | | |
| App - Operator Client Gui (Explorer), Water Coach | BoM (Aus) | FEWS-15666 | FEWS-15665 HyFS-WC: Enable the SA to automatically update its configuration from PROD or UAT | Updating configuration with the latest archived configuration (SA only) | To update the configuration use File menu 'Load latest archived configuration (Shift+F5)' . Then the latest archived configuration and the associated metadata.xml will be downloaded and the currently used configuration will be replaced with the downloaded configuration. During this process a progress monitor-popup is visible and messages are logged in Logs panel. Also , the user might be prompted to update the configuration, if the last downloaded configuration is outdated. In this case the following message popups immediately after starting Fews: "A new version of the configuration is available in the archive. You can update the current configuration using File -> Load latest archived configuration " | https://publicwiki.deltares.nl/display/FEWSDOC/25+WaterCoach | |



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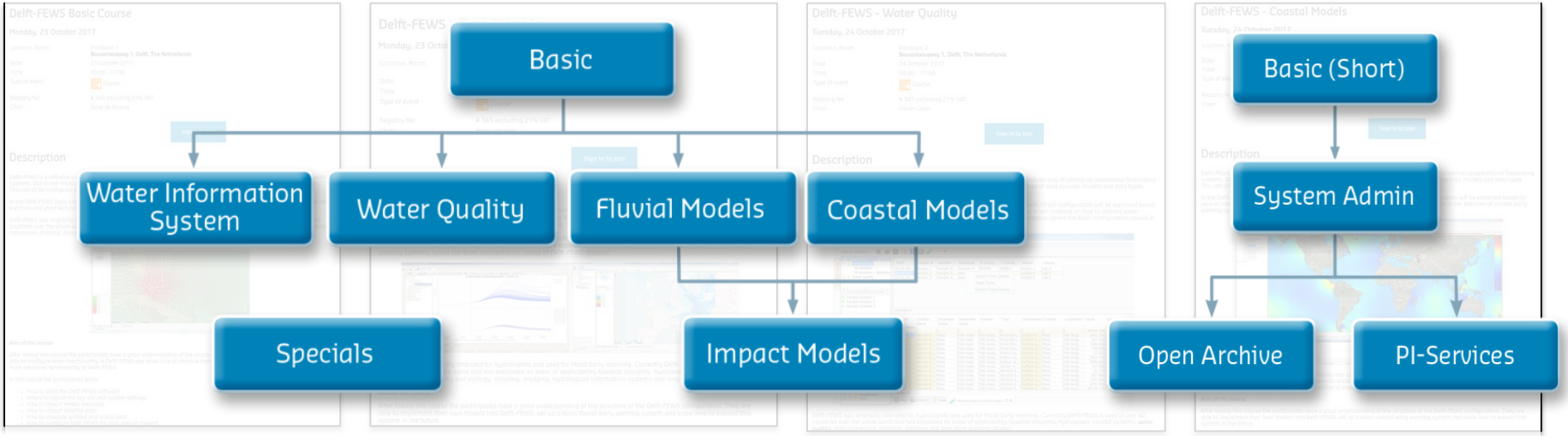
# Delft-FEWS Courses

- New set-up
- Modular
- Flyer



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# Thank you…

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