



Delft-FEWS2020 Roadmaps

Status update June 2018 Marcel Ververs (Deltares)

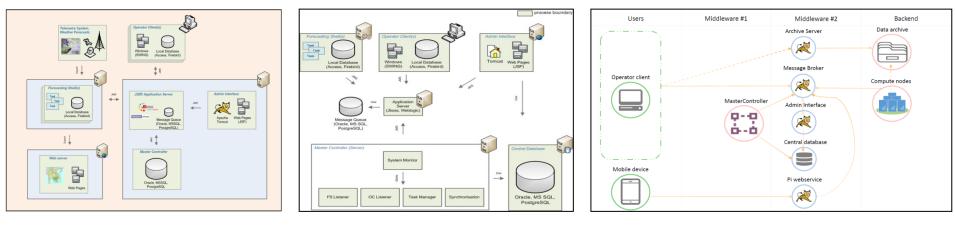
28th of June 2018

Overview

- (re) Introducing the Delft-FEWS 2020 Roadmaps
 - Recap: why...
 - Planning: when...
 - Persons: who...
 - Finances: how much...
 - Progress: what...

Introduction and rationale

- Delft-FEWS Architecture: still based on initial design (2003-2004)
- Delft-FEWS developments focused on (front-end) functionality (±90%)



2004

2009

now

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The outside world changes...

- Many changes in IT and science since 2004
 - IT landscapes, solutions and security requirements
 - Data types, formats, resolution, quantity, storage
 - Hydrology, meteorology distributed models, ensembles
- Re-design was required for Delft-FEWS
- From the Delft-FEWS 2020 vision: 3 roadmaps are proposed
 - 1. Backend Simplification and Automation
 - 2. Enhanced web services (PI Web Service)
 - 3. Seamless and open Archive
- CSB recommended Community Funding



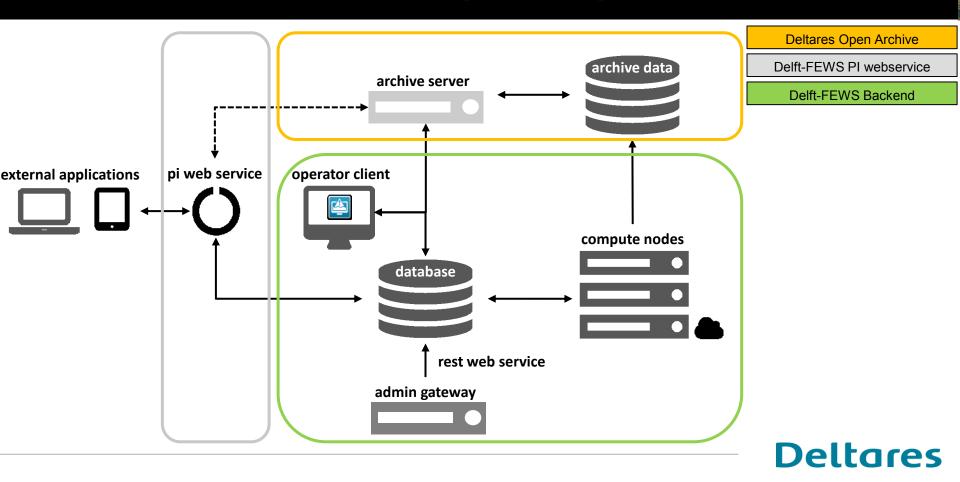
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Delft-FEWS Roadmaps...

- Not so (very) visible and mostly done under the hood
- As a user you shouldn't notice, but...al lot (!) will have to be done

"We went to HORNBACH and have replaced all the plumbing, heating and electricity cables in the (Delft-FEWS) house and avoiding a hot water toilet flush, preventing the shower electrocutes you and making sure the kitchen wastewater does not end up in your bath tube..."

Delft-FEWS 2020 Roadmaps: Recap



High level benefits for all Delft-FEWS Users...

- New and modern software architectures (with fewer components)
- Automatic / simplified roll-out of new software version and patches
- Automatic scaling computational nodes
- Seamless use of the Cloud
- Improved performance, robustness and security
- Decrease in maintenance requirements
- Seamless exchange of all data (Open Archive, PI Service, FEWS):
 - Easy sharing with other applications
 - Potential decrease of size and load on database



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Original implementation plan...

Deltares Open Archive

Delft-FEWS PI webservice

Delft-FEWS Backend

2017						2018									C	Del	ta	res
May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	∣ Jan	Feb	I Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
_																		
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		archi further i		pen solu ion with			ореі	syst n archiv		ninistrat and-alo								

Roadmap Backend: when...

2017.02	2018.01	2018.02				
JMS removed						
New MC						
New Database Schema						
Current Admin Interface adjusted	New Admin Interface					
New (MC-MC) Synchronisation						
New RollingBarrel						
	Secure login/https					
	Scalability	Improved scalability				
	Cloud-ready: Azure	Cloud-ready Amazon				
	Improved security					
New install procedure	Improved install procedure	(almost) Automatic install procedure				
New upgrade procedure	Improved upgrade procedure	(almost) Automatic upgrade procedure				
New (WIKI) documentation		Automatic system documentation				
Delft-FEWS Backend		Deltare				

Delft-FEWS Backend

Roadmap Backend: when...

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Delft-FFWS Backend		Deltare				

Delft-FEWS Backend

Roadmap PI Webservice: when...

2017.02	2018.01	2018.02				
Simplify installation and configuration	Option in installation procedure Delft-FEWS	Part of install procedure Delft-FEWS (optional)				
Improved testability	Improved performance and stability					
PI-XML SOAP/REST alignment	Data streaming/chunking/thinning					
	Improved security and authentication					
	JSON Support					
		Seamless integration of grid data				
		Web Mapping Tile Service (WMTS)				
Improved documentation	Improved documentation	Improved documentation				



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Roadmap Open Archive: when...

2017.02	2018.01	2018.02				
PI Webservice for Open Archive						
Improved harvester		Harvester for non-FEWS data				
	Improved Data management Tool	Example implementation Deltares Data Viewer				
	Health Checker					
Search & select forecasts/seamless integration	Search & select forecasts/seamless integration					
Improved documentation	Improved documentation	Improved documentation				
Course materials						
	Restyled System Admin Page					
Improved installer	Option in installation procedure Delft-FEWS	Option in installation procedure Delft-FEWS				

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Deltares Open Archive

Roadmap Open Archive: when...

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Deltares Open Archive

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Deltares Open Archive

2017.02 delayed...but & because...

- Roadmaps in general: we started later (first: finish non-roadmap features)
- Some generic / regular features: originally planned for: 2018.01 are in...
- Agile approach: design choices not completely ready at start
- Backend: remove JMS
 - Not possible to split over more releases: → one go…
- Huge increase in knowledge development across developers
 - Same level of knowledge with more than one developer \rightarrow takes time

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- Planning and availability of developers
- Mainly: more has been done
 - Database schema/design: completely new
 - MC-OC synch is in (where only DDA was planned for 2017.02)
 - Synchronisation is prepared for large files (streaming)

Release Summary (with roadmap functionality)

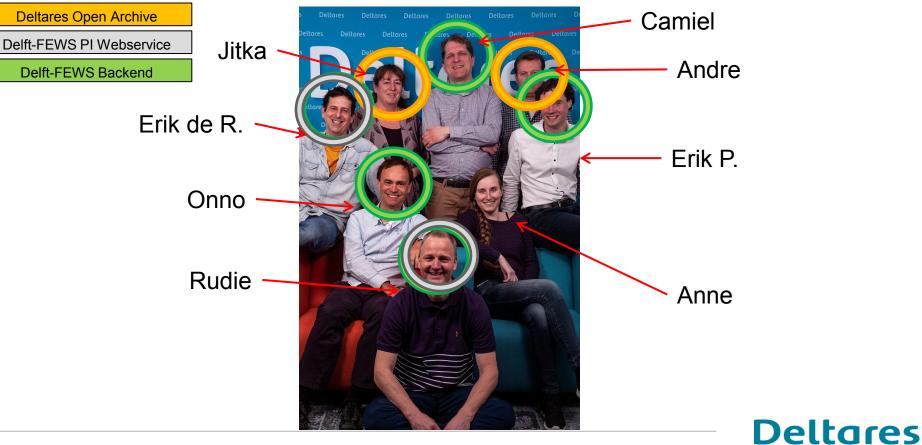
Release	2017.02	2018.01	2018.02	2019.01
Date	1 st of June 2018	1 st of Sept 2018	1 st of Dec 2018	1 st of June 2019

Release	м	ar-18	Арг	-18	Ma	y-18	Jun-	-18	Jul	-18	Aug	-18	Sep	-18	Oct	-18	Νον	v-18	Dec	:-18	Jan	-19	Feb	-19	Mai	r-19	Арі	·-19	May	/-19	Jun-	·19
2017.02																																
2018.01																																
2018.02	2																															
2019.01																																

	test	test	released
development	Intern	extern	version



Who: the Delft-FEWS Development Team...



(Original) Costs...

Roadmap Developments

- Started on all 3
- Backend is most challenging...
- Next to 'ongoing' (regular) request for features

Finances

- Developments: 550 680 kE
- Total: 750 kE 1000 kE

Roadmap Developments	Efforts (k€)
Roadmap 1: Backend	290 – 365
Roadmap 2: PI webservice	100 – 130
Roadmap 3: Open Archive	160 – 185
Total	550 - 680

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* current exchange rates

Community Funding...(april 2018)

Source	Contribute to Roadmap(s)	(k€)	Status			
Rijkswaterstaat in the Netherlands (RWS)	backend	57	guaranteed	100%		1000k€
Tennessee Valley Authority	backend, archive	41	guaranteed		69%	
GO-FEWS (Dutch Waterboards)	all	190	guaranteed	75%	0378	
National Weather Service (US)	all	77	guaranteed	50%		
Australian/SE-Asia users		47.5 37.5 	guaranteed intended under discussion	25%		
Swiss Germany, NRW UK, AT, IT, ES, BE	all	40 53 	guaranteed intended under discussion	0%		0k€
Deltares (internal, research, EU)	all	200	guaranteed	070		UKC
Total (Target is 1000 k€)		688		— D	elt	ares

Roadmap	Content	Finances*
Backend	40%	105%
PI web service	50%	29%
Archive	50%	32%
Total		72%

* Based on: 680 kE estimate



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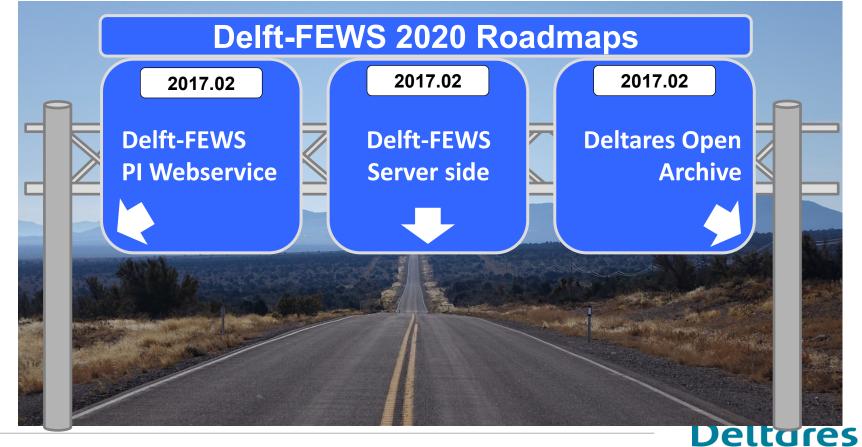


Where are we...(heading)?



What: Features Roadmaps

2017.02 Roadmap Features



27 juni 2018

Delft-FEWS Server side roadmap...

Delft FEWS - FEWS 2017.02 development aubohyt01 postgres

Main menu

» System Status

- » Live System Status
- » View Logs
- » Log Manage
- » Collect System LogFiles
- » Files
- » Forecast Tasks
- » Workflows and FSSs
- » User Administration
- » System Control
- » Database Analysis

Running on aubohytmc01

Logged on as ADMIN » Log Off

System Status

Live System Status

Refresh

Status MCs

MC ID	Status	Pending Tasks	Running Tasks	OC Sessions	Last Heartbeat	Software version	Schema version	DB version
aubohytmc01	ОК	0	0	0	27/04/2018 07:09:11 GMT	MasterController:stable_2017.02 (74822)	v2017.02_20171129_1	PostgreSQL 9.6
nldefedmc01	OK	0	0	0	27/04/2018 07:09:09 GMT	MasterController:stable_2017.02 (74822)	v2017.02_20171129_1	Oracle 12.1
nldefedmc02	OK	0	0	0	27/04/2018 07:09:10 GMT	MasterController:stable_2017.02 (74822)	v2017.02_20171129_1	SqlServer 14.0

Status FSSs

OK

MC ID	FSS ID	Status	Last Run Workflow ID	Last Task Run Dispatch Time	Last Heartbeat
aubohytmc01	FSS00	Complete	Ovens_SWIFT_Ensemble_Forecast	26/04/2018 19:28:06	27/04/2018 07:09:15 GMT
aubohytmc01	FSS01	Complete	Ovens_Rainfall_Forecast	27/04/2018 07:05:02	27/04/2018 07:09:15 GMT
aubohytmc01	FSS02	Complete	Process_Forecasts	27/04/2018 06:28:00	27/04/2018 07:09:15 GMT
aubohytmc01	FSS03	Complete	CalculateAPI	26/04/2018 23:00:05	27/04/2018 07:09:15 GMT
nldefedmc01	FSS00	Complete	Abercrombie_SWIFT_Rainfall_Forecast	27/04/2018 07:05:00	27/04/2018 07:09:14 GMT
nldefedmc02	FSS00	Complete	ImportExternal	27/04/2018 06:44:06	27/04/2018 07:09:13 GMT

Task Run Manager Status MC Rolling Barrel Status System Alerter Status MC Synchronization Status

OK

Status MC Components

2017.02
Roadmap
Features

-

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OK

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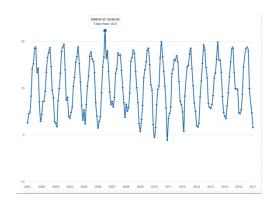
OK

Delft-FEWS PI Webservice Roadmap

- Simplified installation
- New documentation (incl. nice examples for JSON)
- REST / SOAP web services aligned
- Test pages (for each web service)







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2017.02

Roadmap Features

Delft-FEWS PI Webservice Roadmap

- Default FEWS Web Service testpage: <u>http://localhost:8080/FewsWebServices/</u>.
- FEWS Web Services installation and migration: <u>https://publicwiki.deltares.nl/display/FEWSDOC/FEWS+Web+Services</u>
- FEWS PI **REST** Web Service documentation: <u>https://publicwiki.deltares.nl/display/FEWSDOC/FEWS+PI+REST+Web+Service</u>
- Examples (javascript, python) of Web Service usage: <u>https://publicwiki.deltares.nl/display/FEWSDOC/FEWS+PI-JSON+REST+Examples</u>

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Deltares Open Archive Roadmap

New tab Archive server status added to the OC/SA System Monitor

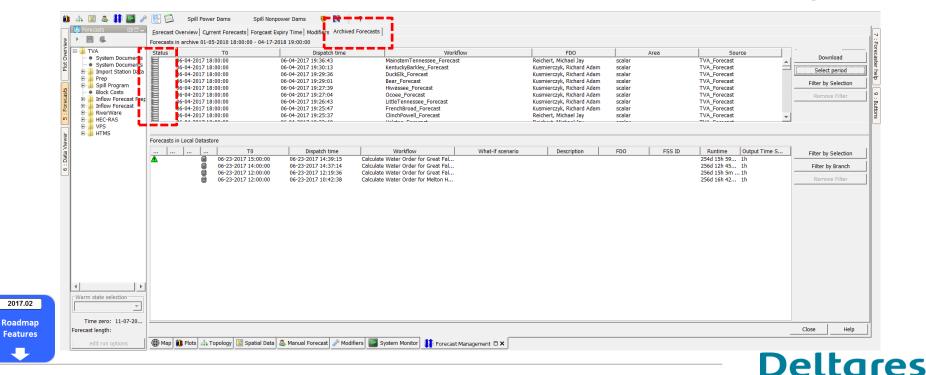
> 田 年	Log Browser Batch Forecasts Import States Archive Server Status Archive Server			Photo: -		7 : Fo
E-	Info		1000 0017 02 h-11 74	Status	Kadawa 7, ann 260au	- 8
 System Documents 	Version Server at http://localhost:8080/deltares-archive-server		running	55 Apr11, type: development, jre: 1.8.0_45, os:\	Vindows 7, mx: 259m	
System Documents Import Station Data			running			- 2
Prep	Data server (Thredds)		running			
B- Spill Program	Records in catalogue		11379			Ľ
 Block Costs 	Total size on disk		1397 GB			
Inflow Forecast Prep Inflow Forecast	Free space on disk		88 GB			
њ 🚡 нтмs						
	Archive Server tasks					
	Tasks) A baar	Repeat Time		Status	
	Tasks internal harvester	2 hour	Repeat Time	pending	Status	
	Tasks internal harvester historical events exporter	2 hour	Repeat Time	pending	Status	
	Tasks internal harvester		Repeat Time	pending pending pending pending	Status	
Varm state selection	Tasks internal harvester historical events exporter system metrics	2 hour 2 hour	Repeat Time	pending	Status	

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2017.02 Roadmap Features

Deltares Open Archive Roadmap

New tab Archived Forecasts added to the OC/SA Forecast Manager ٠



2017.02

Data from the archive can be used in a workflow that runs on the FSS

- Enabled: seamless integration in workflows
- Only enabled if downloadMissingDataFromArchive is configured in workflow!

1	xml version="1.0" encoding="UTF-8"?
2	<workflow p="" xmlns="http://www.wldelft.nl/fews" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:sch<=""></workflow>
3	
4	<runindependent>false</runindependent>
5	<downloadmissingdatafromarchive>true</downloadmissingdatafromarchive>
6	<moduleinstanceid>Demo</moduleinstanceid>
7	-
8	<pre></pre>
9	

2017.02 Roadmap Features

Deltares Open Archive Roadmap

Archive Health Checker is a component with:

- A list of pre-defined checks
- Each check is for specific problem/bug
- Tasks when Health Checker is stated
 - Run analyze,
 - Download report,
 - Inspect report,
 - Run repair.

2017.02 Roadmap Features

$\leftarrow \rightarrow \mathbb{C}$ () localhost:8080/deltares-archive-server/healthchecker.xhtml				९.☆ :
			Name of archive environmen	t version: 2017.02, build: 74455 Apr11
Archive status Health checker Archive tasks Task history Manage configuration System metrics				
health check	status	Analyze	Repair	Report
Missing source ids in observed data sets		Analyze	Repair	+ Download
Search for orphan netcdf files (external forecasts)		Analyze	Repair	+ Download

Dellares

Deltares Open Archive Roadmap

- Overview of the system metrics
- You must run the task system metrics first!

$\leftarrow \ \ni \ G$	(i) localhost:	8080/deltares-	archive-server/	systemmetrics	.xhtml											ର ☆
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-	-	erved		lated	external	forecast	snar	shot	config	uration	rating	curve	forecast	ter notes	proc	ducts
year 🔉	number of netcdf files	size (MB)	number of datasets	size (MB)	number of datasets	size (MB)	number of	size (MB)	number of	size (MB)	number of	size (MB)	number of	size (MB)	number of	
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2017.02

Roadmap Features

+

Questions & Discussion



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27 juni 2018





What's New in Delft-FEWS...

Plenary Presentation DFAT 2018 (Aachen, DE) Maarten Smoorenburg (Deltares)

28th of June 2018

Overview....

- Features (*Funktionen*)
- What else is new?
- Questions & discussion



Where are we...(heading)?



What's new...?



What's new...?



New Displays…



 System wide thresholds display containing an overview of all Threshold Events which can be acknowledged (+ acknowledge is tracked)

Threshold Id	Module Instance	Location Id	Location Name	Parameter Id		Threshold	Module	Location Id	Location Name	Parameter Id	Parameter Name		Time Series Type	Event Time	Event Value	Time till Crossing		d Acknowledg Time	jed
armFase1	ARMA Regge Forecast	WST 2102	074-Middensloot Weerselo	H.updated.voorsp	Gesimuleerde vo	ACTION	ADJUSTQ		WILA2	OINE	OINE - River		imulated forecasting	09-17-2012 00:00		.20 expired	57	1	
armFase1	ARMA_Regge_Forecast		074-Middensloot Weerselo	H.updated.voorsp	Gesimuleerde vo		ADJUSTO		WILA2	OINE	QINE - River		imulated forecasting	09-17-2012 06:00		0.31 expired			_
armFase1	ARMA_Regge_Forecast		074-Middensloot Weerselo	H.updated.voorsp	Gesimuleerde vo		ADJUSTQ		WILA2	QINE	QINE - River		imulated forecasting	09-18-2012 06:00		0.31 expired			
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1						Contrade to	- I and repairs												
hreshold Cross																			

2017.0*

Regular Features

New Displays...

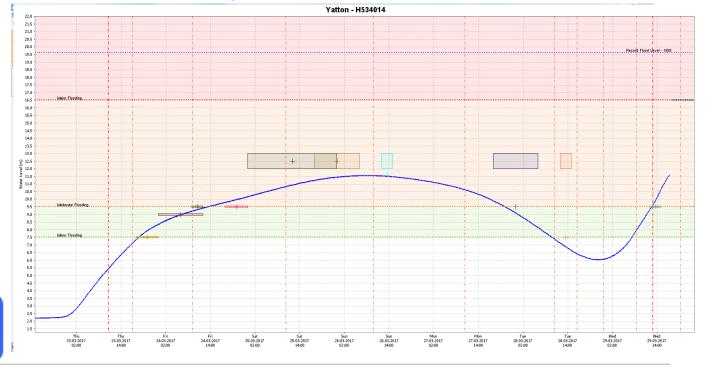
2017.0*

Regular

Features



Verification Analyst Tool



Deltares

New Displays...

• Forecast Mix Display: *blend* your own forecast...

	전 Make Pener - Matter Penerating Analysis System (Stand along) File Tools Optimized - Matter Stand along) @ 전 문 속 입 수 문 년 · 0 Σ 소 년 · 1 급 입 · 0 ዲ 약 약 HH WH H		xer .					- 0 ×				
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Preproce	essing_NAM_00z_Forecast 12-02-2015, 01:00 QPF_KMY	L	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0		
Preproce	essing_NAM_06z_Forecast 12-02-2015, 01:00 QPF_KMY		20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	25.0)
	essing_NAM_12z_Forecast 12-02-2015, 01:00 QPF_KMY		20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	25.0)
Preproce	essing_NAM_18z_Forecast 12-02-2015, 01:00 QPF_KMY		20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	25.0)
			•									
7.0* ular ures	Product IIIL_Versitation - Market Product Versitation - APP-OPP (MMY Direct IIIL_Versitation) - MML Ferenceal - BEND OPP (MM) 6 hours ML Ferenceal - BLPO OPP (MM) 6 hours ML Ferenceal - BLM ML Ferenceal - BLACO DPF (MM) 6 hours ML Ferenceal - BLPO OPP (MM) 6 hours ML Ferenceal - BLM ML Ferenceal - BLACO DPF (MM) 6 hours ML Ferenceal - BLPO OPP (MM) 6 hours ML Ferenceal - BLM ML Ferenceal - CPH OPP (MM) 6 hours ML Ferenceal - CPH OPP (MM) 6 hours ML Ferenceal - BLM ML Ferenceal - CPH OPP (MM) 6 hours ML Ferenceal - CPH OPP (MM) 6 hours ML Ferenceal - CPH ML Ferenceal - CPH OPP (MM) 6 hours ML Ferenceal - CPH OPP (MM) 6 hours ML Ferenceal - CPH ML Ferenceal - DPH OPP (MM) 6 hours ML Ferenceal - CPH OPP (MM) 6 hours ML Ferenceal - CPH ML Ferenceal - DPH OPP (MM) 6 hours ML Ferenceal - CPH OPP (MM) 6 hours ML Ferenceal - CPH ML Ferenceal - DPH OPP (MM) 6 hours ML Ferenceal - CPH OPP (MM) 6 hours ML Ferenceal - CPH ML Ferenceal - DPH OPP (MM) 6 hours ML Ferenceal - CPH OPP (MM) 6 hours ML Ferenceal - CPH ML Ferenceal - PHO CPH (MM) 6 hours ML Ferenceal - CPH OPP (MM) 6 hours ML Ferenceal - CPH ML Ferenceal - EPHO CPH (MM) 6 hours ML Ferenceal - CPHO CPH (MM) 6 hours ML Ferenceal - CPH ML Ferenceal - EPHO CPH (MM) 6 hours ML Ferenceal - CPHO CPH (MM) 6 hours ML Ferenceal - CPHO CPH (MM) 6 hours ML Ferenceal - CPHO CPHO CPHO FOR hours 6 hours ML Ferenceal - CPHO CPHO CPHO FOR hours 6 hours ML Ferenceal - CPHO CPHO FOR 6 hours 6 hurs 6 hours ML Ferenceal - CPHO CPHO FOR 6 hours 6 hurs 6 hours ML Ferenceal - CPHO CPHO FOR 6 hours 6 hurs 6 hours ML Ferenceal - CPHO CPHO FOR 6 hours 6 hurs 6 hours 6 hurs 6 hours 6 hurs 6 hours 6 hours 6 hours 6 hurs 6 hur	SO QPF (MM) 5 hours Mu, Forecast. BOIl QPF (MM) 5 h QPF (MM) 5 hours Mu, Forecast. BTRI QPF (MM) 5 h D QPF (MM) 6 hours Mu, Forecast. CFDI QPF (MM) 6 I QPF (MM) 6 hours Mu, Forecast. CRRO QPF (MM) 6 I QPF (MM) 6 hours Mu, Forecast. DDSI QPF (MM) 6 I QPF (MM) 6 hours Mu, Forecast. DRXI QPF (MM) 6 I QPF (MM) 6 hours Mu, Forecast. ENTI QPF (MM) 6 I QPF (MM) 6 hours Mu, Forecast. ENTI QPF (MM) 6 I QPF (MM) 6 hours Mu, Forecast. ENTI QPF (MM) 6 MI QPF (MM) 6 hours Mu, Forecast. ENTI QPF (MM) 6 MI QPF (MM) 6 hours Mu, Forecast. ENTI QPF (MM) 6 MI QPF (MM) 6 hours Mu, Forecast. ENTI QPF (MM) 6 MI QPF (MM) 6 hours Mu, Forecast.	NET DEFENSION OF A CONTRACT OF	MM) 6 hours Mix_Forecast, Bi F (MM) 6 hours Mix_Forecast, BV MM) 6 hours Mix_Forecast, BV MM) 6 hours Mix_Forecast, CI (MM) 6 hours Mix_Forecast, DM) 6 hours Mix_Forecast, F (MM) 6 hours Mix_Forecast, B (MM) 6 hours Mix_Forecast, FLF M) 6 hours Mix_Forecast, FLF	KLN OPF (IMI) 8 hours Mix_Fore BOSI OPF (IMI) 6 hours Mix_Fore NCI OPF (IMI) 6 hours Mix_Fore NCI OPF (IMI) 6 hours Mix_Fore CVAI OPF (IMI) 6 hours Mix_Fore DRSO OPF (IMI) 6 hours Mix_Fore SPO OPF (IMI) 6 hours Mix_Fore SPO OPF (IMI) 6 hours Mix_Fore	recast, BRBI QPF (MM) 6 hour cast, BYFO QPF (MM) 6 hours cast, COLO QPF (MM) 6 hours ecast, CWFO QPF (MM) 6 hours 1 ecast, DEHI QPF (MM) 6 hours 1 recast, DSPN QPF (MM) 6 hours t, FAFI QPF (MM) 6 hours M	s Mix_Forecast, BRRIQPF (M Mix_Forecast, CASIQPF (M Mix_Forecast, COZIQPF (M Mix_Forecast, COZIQPF (M Mix_Forecast, DUB QPF (M Mix_Forecast, FAFO QPF (M Mix_Forecast, FAFO QPF (M))	M) 6 hours) 6 hours M) 6 hours 6 hours 6 hours MM) 6 hours) 6 hours hours				
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DIY

Enhanced Displays...

• The time window popup used in the time series dialog and grid display is now redesigned.

Display Time	Relative View Period		X
Start Time		-67 🛨 🔟	day 💌
Display Time	10-31-2016 09:00:00	÷ 💿	Reset
End Time		-16 📩 🗔	day 💌
	ОК	Cancel	Apply

Display Time Relative View F	Period	×
Start Time	-36	💿 day 🔻
Display Time	07-18-2017 09:00:00	Today
End Time	1	💿 day 🔻
Reset	OK Cancel	Apply

Deltares

2017.0* Regular Features

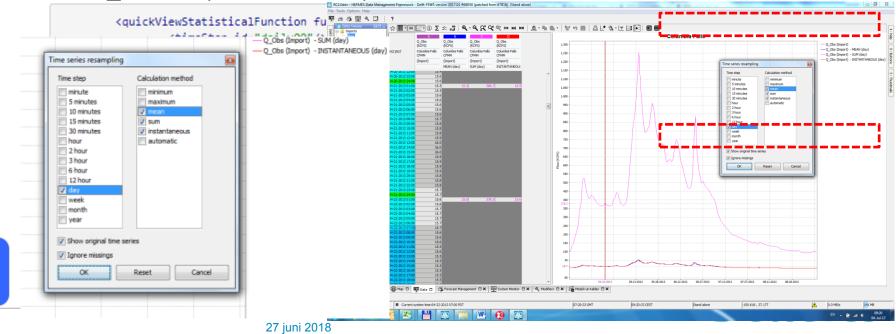
Enhanced Displays...

2017.0*

Regular

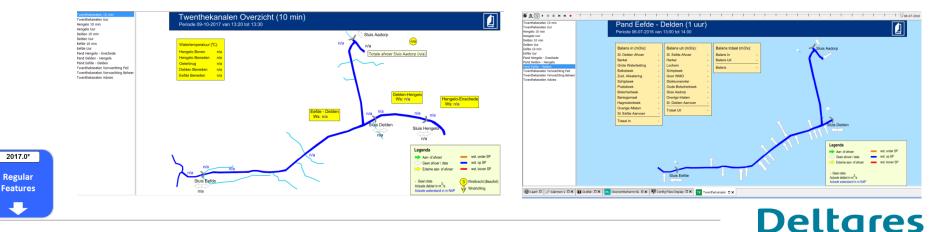
Features

 The CalendarAggregationFunction has now the option to accumulate according to parameter type: SUM (accumulative), MEAN (mean) or LAST_VALUE (instantaneous)

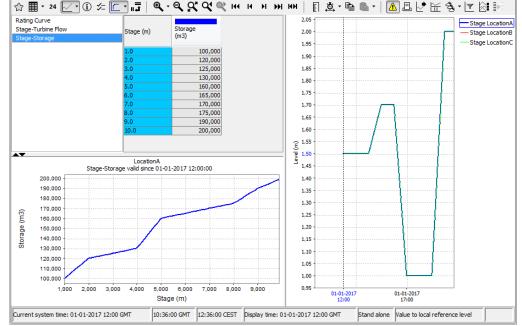


Enhanced Displays...

- Schematic Data Display
 - Background color configurable
 - More visible/clickable no-data character
 - Use of attributes in the 'title' of the 'leftSingleClickAction'
 - Set transparency of SVG elements based on a time series



DIY





Deltares

DIY

Option to configure a custom background color in the table header

	A Q Obs	B Q_Obs		RC2.0dev - HERMES Data Manage <u>File Tools Options H</u> elp		'S version 2017.02 #6	9354 (patched fr	om 67821) (Stand a	alone)		-		_	
	(KCFS)	(KCFS)	- C	👮 🚢 🗳 💻 🔍 🗒 Σ 🗔 🖾 Forecasts 🛛 🖽 🗆 –	_ <u></u>									
PST/PDT	Bonners Ferry	Columbia Falls	ed	¥ ► ■ C.	🖈 🏢 · 24 🗹 · 🛈	Σ ≈ ∎≣ ♦	<u>, s x -</u>	С 式 на эм н	N 🚊 * 🍋	🖫 🛛 🐺 🕨	9 📕 🗮 🗏		Y 🔩 - 🔽 📴 💽 🎟 🎟	
	BFEI	CFMM	Le	Test Data	QO_Obs (KCFS)	QI_Obs (KCFS)	Qinc_Fx (KCFS)	Qinc_Fx (KCFS)	E QS_Obs (KCFS)	F QI_Sim (KCFS)	G QS_Sim (KCFS)	QO_Sin (KCFS)	GCL Facility Summary	
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11-09-2013 19:00	10.0		it	Short Term Planning			04:00:00	24.00.00		24:00:00	24:00:00	24:00:1	1.3 1.3 1.3	
			ad	🛱 🚺 Big 10	08-02-2017 02:00	40.0 69 35.3 67		36.7	0.0			0	7.000 Maximum Power Gare	
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11-09-2013 21:00	10.5		ay	El Lower Columbia	08-02-2017 05:00	33.8 80 38.9 84						0	3,321 4,000	- 66-Nig-sim week
11-09-2013 22:00	10.6	3.6		FCRPS	08-02-2017 06:00 08-02-2017 07:00	38.9 84 56.8 89		.3 134.9 .3 55.8					3,000 - 1	- 66-Wodgerer
11-09-2013 23:00	10.5	3.6		 Riverware (RBS) 	08-02-2017 08:00							0	2 2.142 - 1.000	- 6M Max ModelCalo
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11-10-2013 03:00	10.6		ce	🕀 🧾 Short Term Min.Planning	08-02-2017 15:00								1,250	FB_Max user
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11-10-2013 09:00	10.6			edit run options	🌐 Map 🗆 📮 Data 🗖	Forecast Mana	gement 🗆 🗙 📕	System Monitor	🗆 🗙 🛛 🔍 Modi	fiers 🗆 🗙 🖌 🏫	Model run tables			
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11-10-2013 12:00	10.6	3.7		Matthijs Lemans	system ume:08-02-2017 12:001		09:04:28 G	11:04:2	0 0251	Archive: not conne	cied	Stand alo	-139,500, 39,429	0.0 MB/S
													Delt	nce

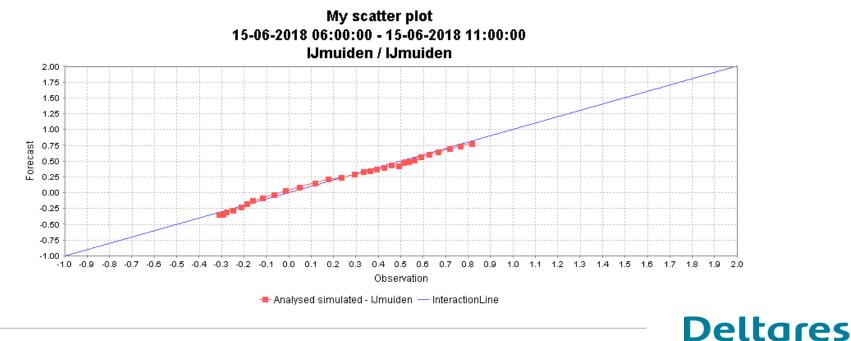
DIY

2017.0* Regular

Features

Add functionality to scatter plot to show multiple parameters for single location

DI

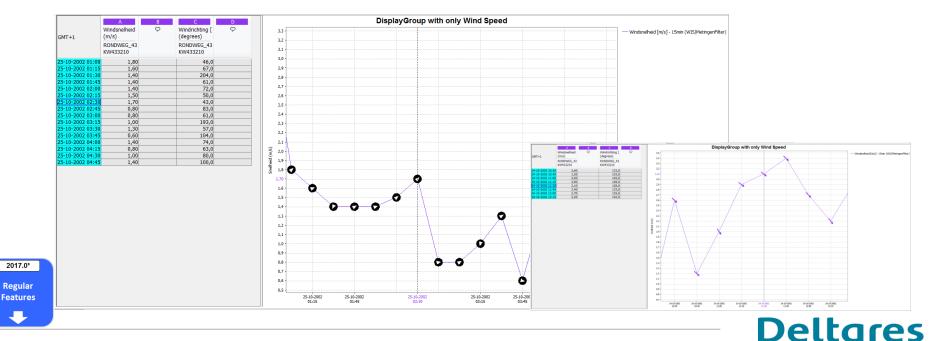


27 juni 2018

2017.0*

Regular Features

- Add configuration option for whitespace between (sub)plots
- **Timeseries Marker** as icon (for displaying wind direction as arrow)

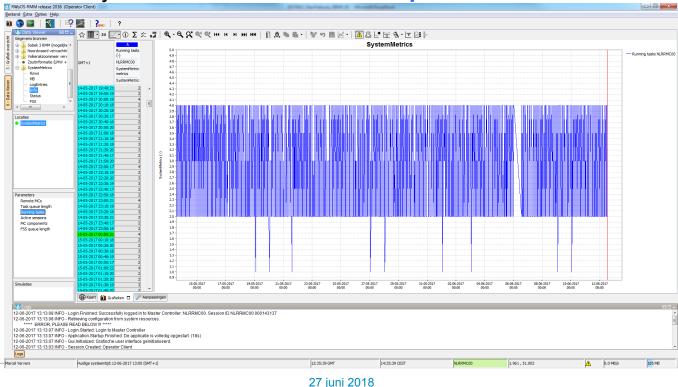


DIY

Tools Options Help	🥕 🏢 👾 🎑 🕅 Interviewieste	ics ?				V.
Data Viewer Data Viewer WMCN Overview Lobith and St.		Time series information	нч н ямин 🗐 💆 – 🖿 🦛 -	· 6 3434 * 1 * * * * *		
Daily Forecast Lobith an Meteoalarm (T02d) Rhine Daily Forecast at Lo	GMT+1 Lobith H-RN-0001	Location id Location name Parameter id Parameter name	H-RN-0001 Lobith Q.m Discharge (Q.m)	2.000 1.950 1.950	Time series information	
Forecast Dutch Rhin Dutch Laterals (Sobek H- Hydro measurement H- Meteo measurement	E 25-05-2017 21:00 1787.63 25-05-2017 22:00 1775.42 25-05-2017 23:00 1751.03	Module instance id Validation rules	ImportMerge 23-05-2017 09:04:39	1.650	Location id	H-RN-0001
Hydro external fore Update Rhine Forecasts Rhine	26-05-2017 01:00 1751.03 26-05-2017 02:00 1756.68	(Current value) Hard Max Soft Max Soft Min	NaN 18000.0 15000.0 865.0	1.650	Location name	Lobith
No Rain Scenario Fo Rhine River Rhine Laterals Rhine Catchment Rainfa	26-05-2017 04:00 1750.15 26-05-2017 05:00 1755.77	Hard Min	600.0	1.500	Parameter id	Q.m
Meuse Meuse River Meuse Laterals	26-05-2017 07:00 1755.77 26-05-2017 08:00 1749.25 26-05-2017 09:00 1749.25			1.400 - 1.350 - 1.300 -	Parameter name	Discharge (Q.m)
Aflaat Berkel	26-05-2017 10:00 1737.13 26-05-2017 11:00 1737.13 26-05-2017 12:00 1742.74 26-05-2017 12:00 1742.74			1.250 - 1.200 - 1.150 -	Module instance id	ImportMerge
Doesburg / Oude Lissel	26-05-2017 14:00 1724.16 26-05-2017 15:00 1724.17 26-05-2017 16:00 1724.17 26-05-2017 16:00 1724.17 26-05-2017 1700.05 1700.05 26-05-2017 18:00 1711.25			(1100 1.050 8.1.000 4.950 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.00000 1.0000 1.0000 1.0000 1.0000 1.00000 1.00000 1.00000 1.0000000 1.00000000	Validation rules	
	26-05-2017 19:00 1699.23 26-05-2017 20:00 1699.23 26-05-2017 21:00 1722.37 26-05-2017 22:00 1722.37 26-05-2017 22:00 1727.91			850		27-05-2017 22:00:00
	27-05-2017 00:00 1715.92 27-05-2017 01:00 1722.38 27-05-2017 02:00 1714.99	E.		700 - 650 - 600 -	(Current value)	1617.5399
	27-05-2017 03:00 1710.38 27-05-2017 04:00 1703.94 27-05-2017 05:00 1686.41 27-05-2017 05:00 1685.57			550	Hard Max	18000.0
Discharge (Q.m)	27-05-2017 07:00 1691.97 27-05-2017 08:00 1685.57 27-05-2017 09:00 1667.25			400	Soft Max	15000.0
Discharge (Q.us) Lateral (Q.uls) Lateral (Q.fls) Water level Updated (H.fas)	27-05-2017 10:00 1684.71 27-05-2017 11:00 1655.36 27-05-2017 12:00 1672.81 27-05-2017 12:00 1660.09			250	Soft Min	865.0
Water level (H.m)	27-05-2017 13:00 1660.09 27-05-2017 14:00 1654.57 27-05-2017 15:00 1689.32 27-05-2017 15:00 1648.24 27-05-2017 16:00 1648.24			150	Hard Min	600.0

2017.0* Regular Features

System metrics available in Operator Client



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

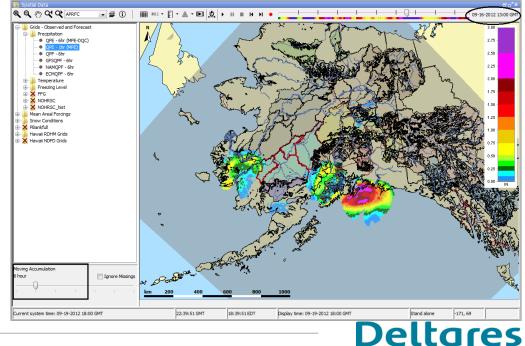
but also:

- MC / FSS status
- FSS queue length
- Size database tables
- Nr spec. eventcode ... for all MC's

Deltares

Spatial Display: features added...

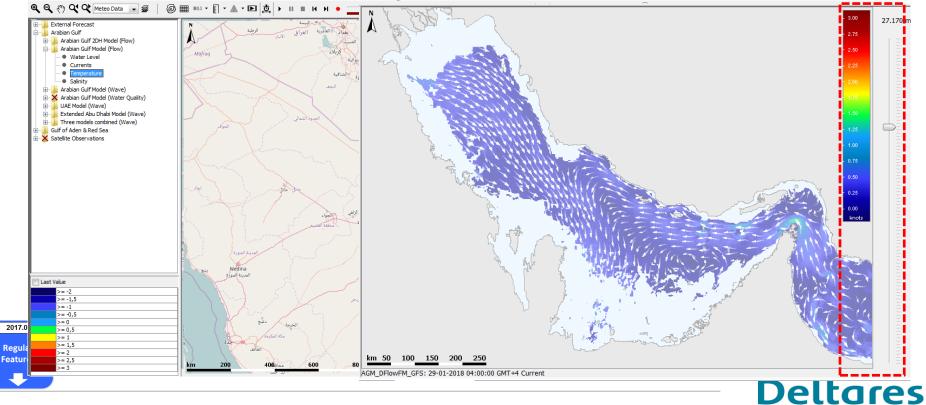
 Using the timeslider in combination with moving accumulation slider only shows common timesteps



2017.0* Regular Features

Spatial Display: features added...

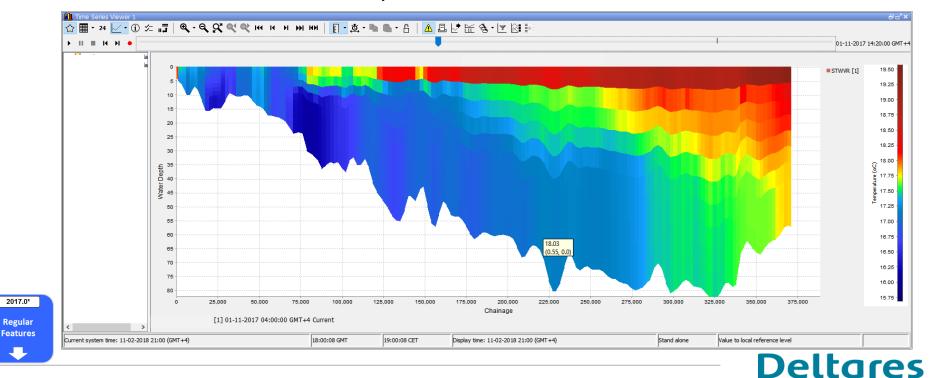
• Vertical Slider (3D modelling)



Spatial to Timeseries Display: features added...

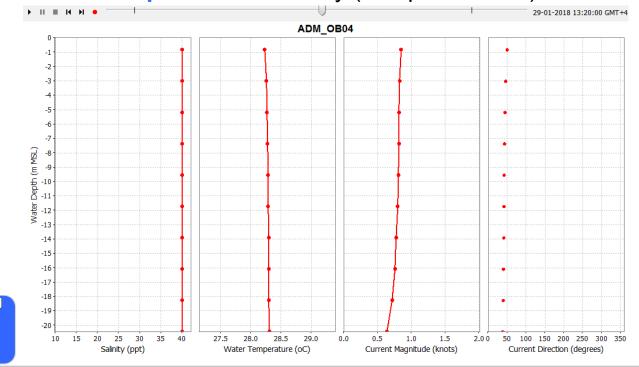
3D vertical cross section plot

2017.0*



Spatial Display: features added...

• Vertical profiles: on-the-fly (and pre-defined)



Deltares

DIY

27 juni 2018

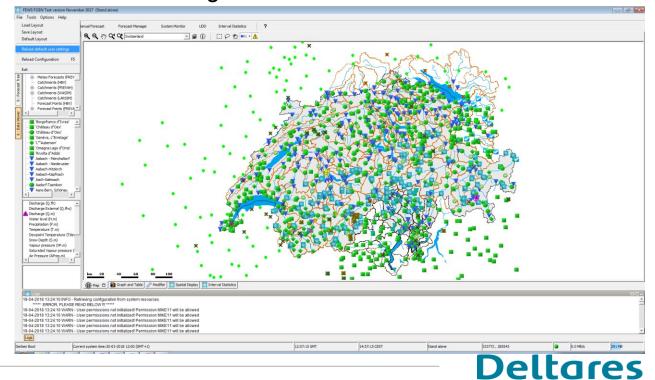
2017.0*

Regular

Features

Explorer improvements...

Menu option "return to default" configuration



2017.0* Regular Features

Explorer improvements...

- Smart labeling for line shapelayers
- Improvements to map legend (dockable & shows information on WMS layers)

Distrik Maps

ZonaAir

Distrik

Contour

Canals

Dams

🗖 OKI Lidar

₫ DTM

Dam assessment

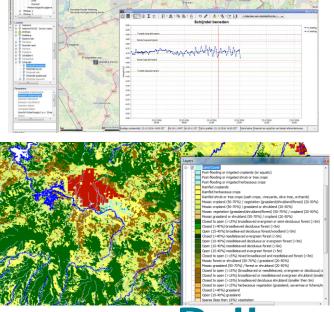
Labels

Fill Color

Line Color

- Option to make labels (in)visible
- Option to add latest value to label
- Add MapExtentId to Gridplot
- Enable classification of point layers





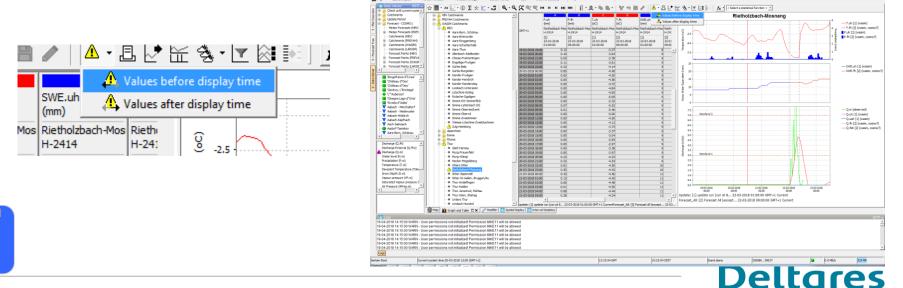
Explorer improvements...

2017.0*

Regular

Features

- Add feature to disable threshold icons in Filters and Map display
- Add a second icon to the icons of the shortcuts to know if thresholds are crossed before or after the system time

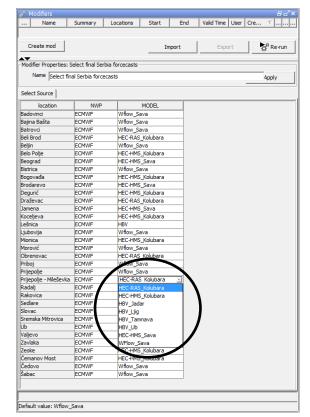


Modifier enhancements...

2017.0*

Regular Features

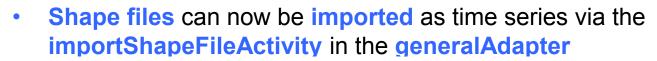
Location specific drop-down enumerations





DIY

General Adapter & Modelling...



<?xml version="1.0" encoding="UTF-8"?> <!-- edited with XMLSPY v2004 rel. 3 U (http://www.xmlspy.com) by rooij_e (WL | Delft Hydraulics) --> <generalAdapterRun xmlns="http://www.wldelft.nl/fews" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"</pre> xsi:schemaLocation="http://www.wldelft.nl/fews http://fews.wldelft.nl/schemas/version1.0/generalAdapterRun.xsd"> <!-- General information for General Adapter run --> <general> <rootDir>\$REGION HOME\$</rootDir> <workDir>%ROOT_DIR%</workDir> <exportDir>%ROOT_DIR%</exportDir> <importDir>%ROOT_DIR%/polygon</importDir> <dumpFileDir>%ROOT_DIR%/polygon/dumpfiledir</dumpFileDir> <dumpDir>%ROOT_DIR%/polygon/dumpdir</dumpDir> <diagnosticFile>%ROOT_DIR%</diagnosticFile> </general> <activities> <importActivities> <importShapeFileActivity> <shapeFileImportDir>import</shapeFileImportDir> <fileDateTimePattern>'ImportShapeFileActivity 'dd MMM yyyy HH mm ss'.shp'</fileDateTimePattern> <geoDatum>EPSG:102736</geoDatum> <timeSeriesSet> <moduleInstanceId>ImportShapeActivity</moduleInstanceId> (valueTupe) pelugep (/valueTupe)

Deltares

27 juni 2018

2017.0*

Regular

Features

Miscellaneous...

Add power function to time series rating curves

Discharge = CR * (STAGE – ALPHA) ^ BETA (where 'cr' and 'beta' are rating curve constants, and 'alpha' is a constant which represents the stage corresponding to zero discharge)

```
<ratingCurve>

<header>

<locationId>LocA</locationId>

<startDate date="2011-01-01" time="00:00:00"/>

<stationName>LoccationA</stationName>

<stageUnit>m</stageUnit>

<dischargeUnit>m3/s</dischargeUnit>

</header>

<stageToDischargePowerEquation minStage="0.02757" maxStage="0.5" cr="8.8605" alpha="0.02757" beta="1.8032"/>

<stageToDischargePowerEquation minStage="0.6" maxStage="10.0" cr="8.8605" alpha="0.02757" beta="1.8032"/>

<stageToDischargePowerEquation minStage="10.0" maxStage="10.0" cr="8.8605" alpha="0.02757" beta="1.8032"/>

</ratingCurve>
```

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2017.0*

Regular Features

Miscellaneous...

- Development of the hydrotel adapter
- Development of the Kisters Hydstra adapter
- New report tag: "UserId"
- HEC DSS Export/Import
- Show temporary timeseries also in WorkflowNavigator
- Interval Statistics Display shows information in displayUnits
- Seamless integration of forecast series also in PI Webservice
- Ability to configure major and minor gridlines in Report charts
- Seamless integration of forecast scalar timeseries (observed already possible) with Open Archive



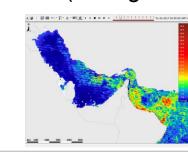


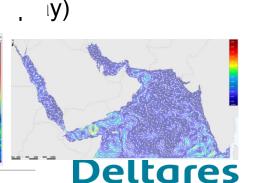
Miscellaneous...

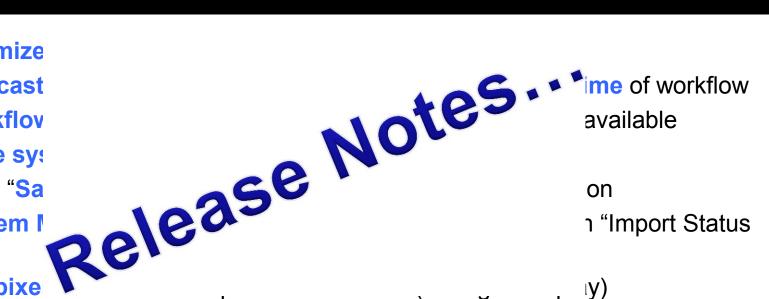
- **Optimize**
- **Forecast**
- **Workflov**
- Store sy: ۲
- SSD: "Sa
- System I tab"
- Add pixe

2017.0* Regular Features New imports: CMEMS, MODIS

...many more

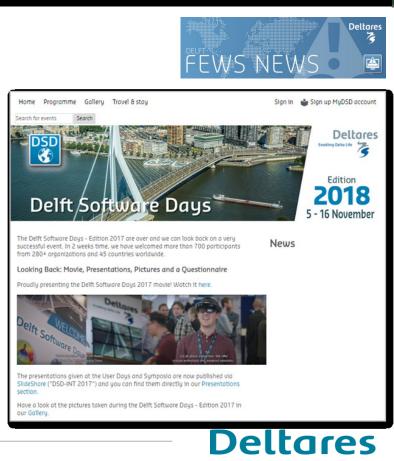






What else is new...?

- FEWS NEWS (2018 edition #2)
 - Subscribe at <u>FEWS-</u> <u>news@deltares.nl</u>
- New Course materials
 - WAQ
 - Deltares Open Archive & Delft-FEWS PI Webservice (online soon)
- New Webinars/instruction videos (6)
- <u>www.delft-fews.com</u> renewed
- Community Events
 - Delft-FEWS Int. User Days 7/8 Nov 2018 (with courses before & after)



Questions & Discussion



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