

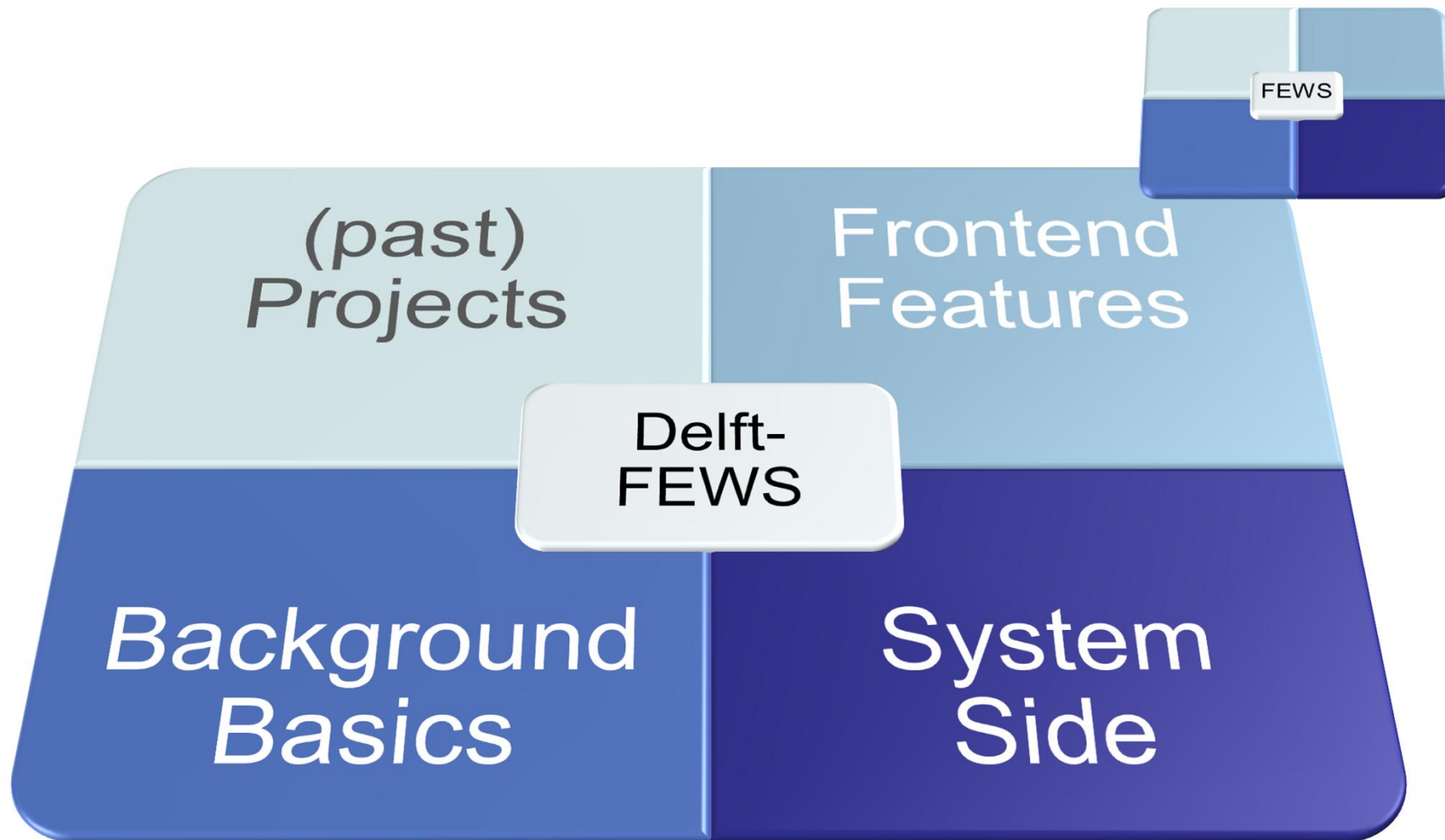
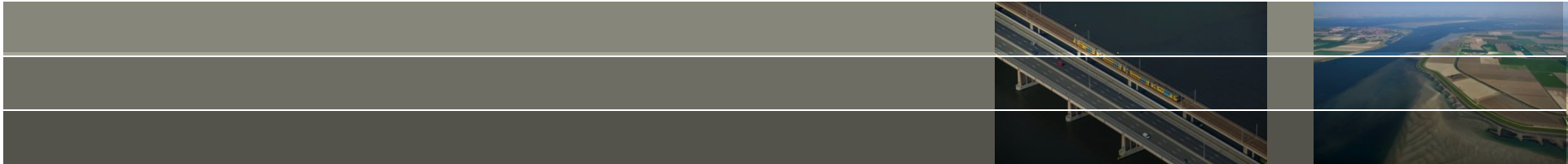


Delft-FEWS

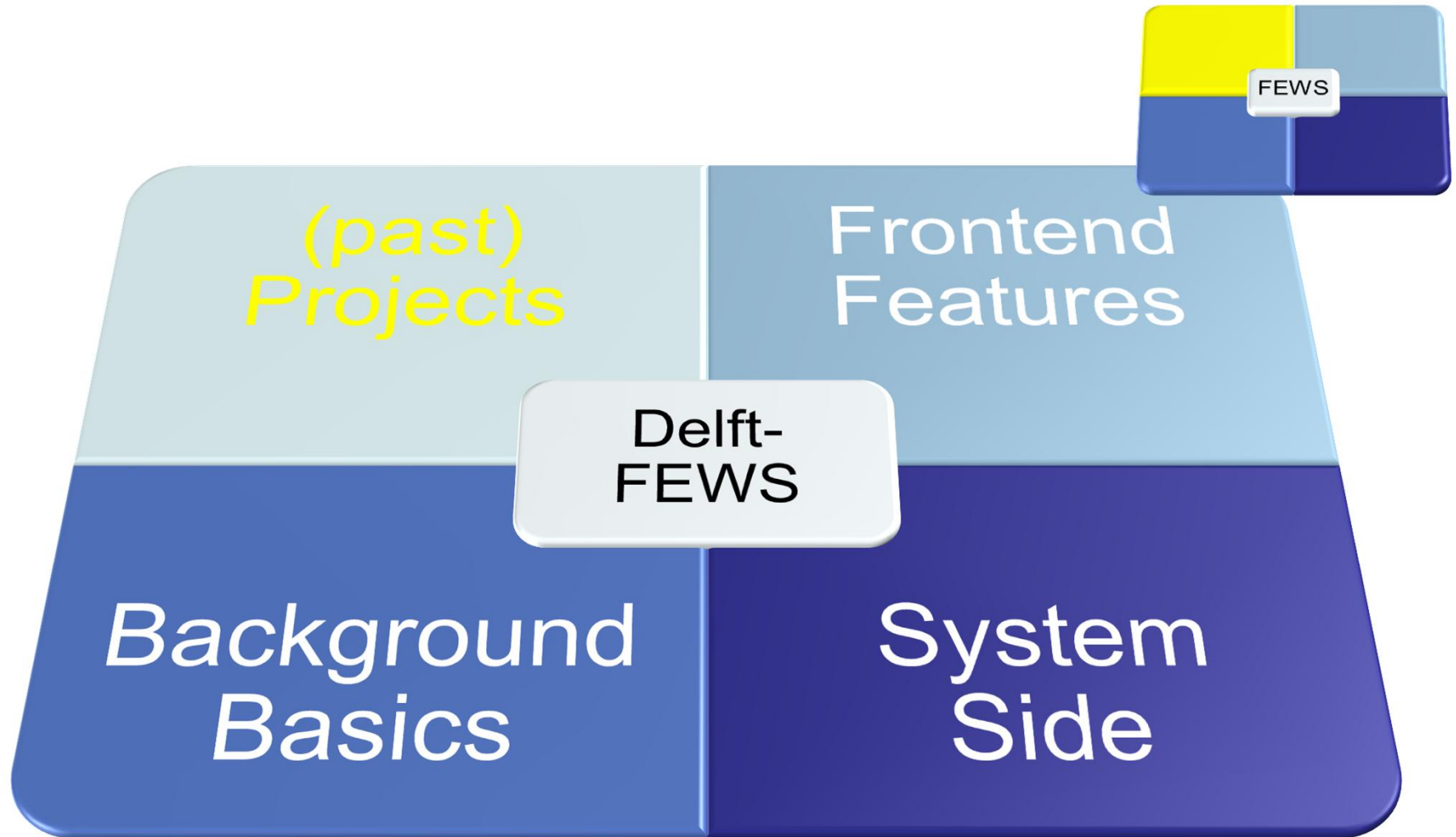
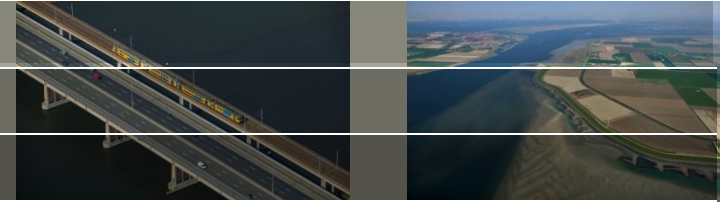
Project Highlights en Nieuwe Ontwikkelingen

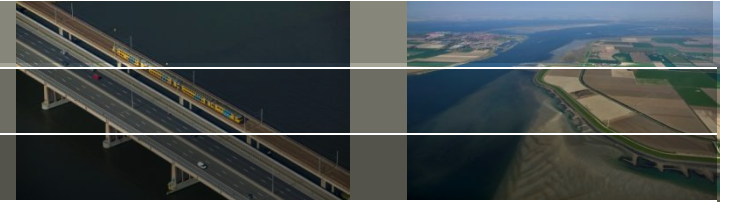
Marcel Ververs en Gerben Boot
Delft-FEWS Productmanagement

17 juli 2013



(past) Projects



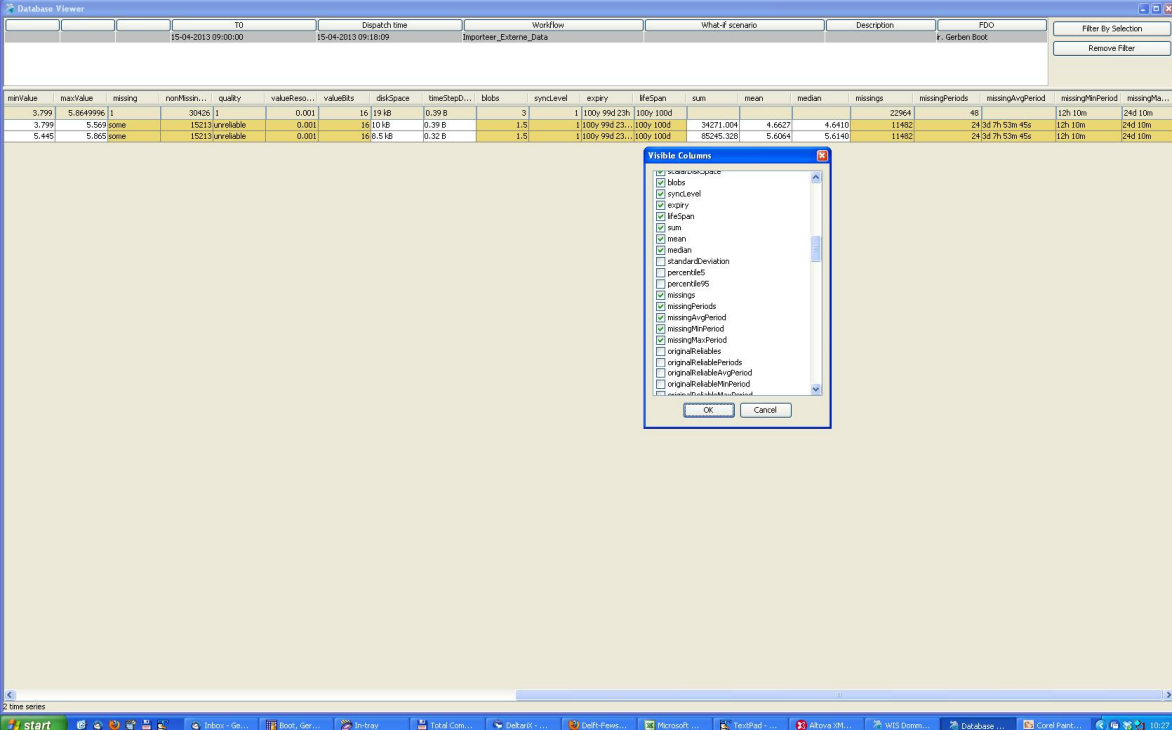


- Aantal nieuwe FEWS functionaliteiten:
 - opslaan van gebruikersinstellingen (met name in grafieken)
 - automatisch commentaar bij validatie
 - filter in de tabel (net als in Excel) op kwaliteitsvlag, commentaar of gebruiker
 - nieuwe transformatie merge-relations
user expression afhankelijk van tijdstip (bijv. zomer/winter)
- Directe koppeling van definitie meetlocaties uit database Ultimo (onderhoudsbeheersysteem)

Uitbreiding (instelbare) kolommen DBViewer

Waterschap De Dommel

- Kolommen selecteerbaar (selectie wordt bewaard);
- Veel nieuwe – statistische - kolommen (on-the-fly berekend)
 - Aantal voorkomens, Aantal perioden (ook: min/gem/max duur)
 - Ontbrekende, gecorrigeerde, betrouwbare, onbetrouwbare, twijfelachtige, afgekeurde waarden (primair/secundaire validatie)

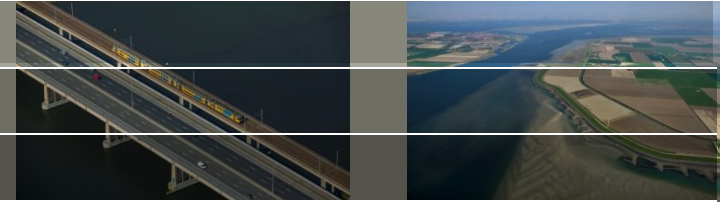


The screenshot shows the Database Viewer application interface. At the top, there are several tabs: '10', '15-04-2013 09:00:00', '15-04-2013 09:18:09', 'Inspreker_Extrens_Data', 'Workflow', 'What-if scenario', 'Description', and 'FDO'. Below the tabs is a table with columns: 'minValue', 'maxValue', 'missing', 'nonMissin...', 'quality', 'valueReso...', 'valueBts', 'diskSpace', 'timeRespD...', 'blobs', 'syncLevel', 'expiry', 'lifeSpan', 'sum', 'mean', 'median', 'missings', 'missingPeriods', 'missingAvgPeriod', 'missingMinPeriod', and 'missingMa...'. The table contains three rows of data. A 'Visible Columns' dialog box is open, showing a list of columns with checkboxes. The columns listed are: 'scanUseSpace', 'blobs', 'syncLevel', 'expiry', 'lifeSpan', 'sum', 'mean', 'median', 'standardDeviation', 'percentile5', 'percentile95', 'missings', 'missingPeriods', 'missingAvgPeriod', 'missingMinPeriod', 'missingMaPeriod', 'originalReliables', 'originalReliablePeriod', 'originalReliableMinPeriod', and 'originalReliableMaxPeriod'. The 'OK' and 'Cancel' buttons are at the bottom of the dialog box.

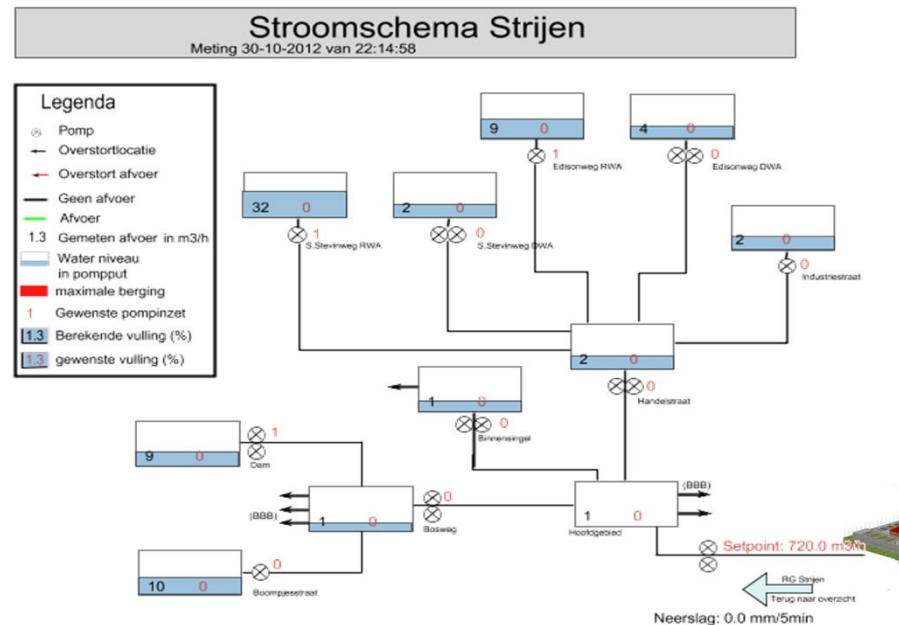
minValue	maxValue	missing	nonMissin...	quality	valueReso...	valueBts	diskSpace	timeRespD...	blobs	syncLevel	expiry	lifeSpan	sum	mean	median	missings	missingPeriods	missingAvgPeriod	missingMinPeriod	missingMa...
3.799	5.8649996	1	30426	1	0.001	16	19 kB	0.39 B	3	1	100y 99d 23h	100y 100d	34271.004	4.6627	4.6410	22964	48	12h 10m	24d 10m	
3.799	5.569	some	15213	unreliable	0.001	16	10 kB	0.39 B	1.5	1	100y 99d 23h	100y 100d	85245.328	5.6864	5.6140	11482	24 3d 7h 53m 45s	12h 10m	24d 10m	
5.445	5.065	some	15213	unreliable	0.001	16	0.5 kB	0.32 B	1.5	1	100y 99d 23h	100y 100d				11482	24 3d 7h 53m 45s	12h 10m	24d 10m	

ControlNEXT Hollandse Delta

Waterschap Hollandse Delta

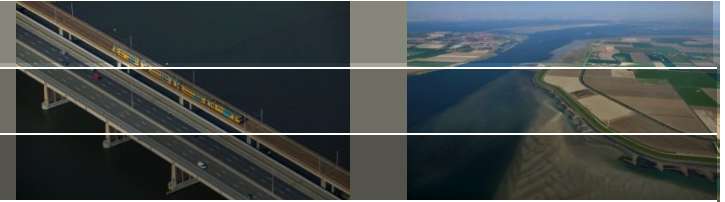


- Real-time sturing van afvalwaterketen (rioolgemalen) in de Hoeksche Waard
- Bijzonderheden:
 - hoog frequente data-inwinning en aansturing (tot 30 sec)
 - Direct Data Access op Centrale Database (geen localdatastores)
 - PI-Webservices
 - RTIEM
 - ControlMaestro

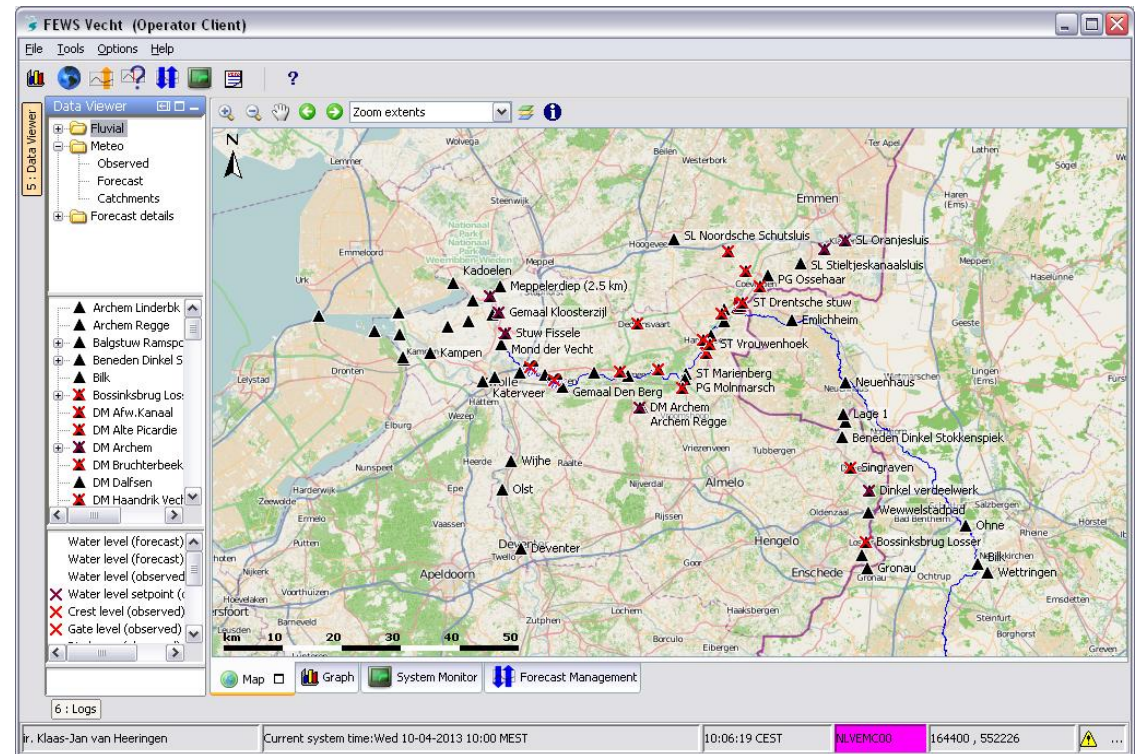
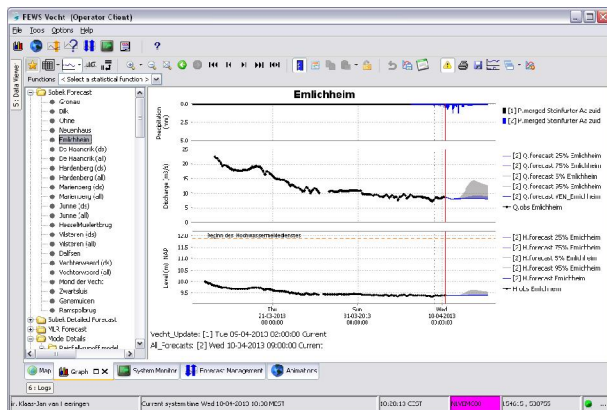


FEWS Vecht

Samenwerkingsverband Vecht - Dinkel



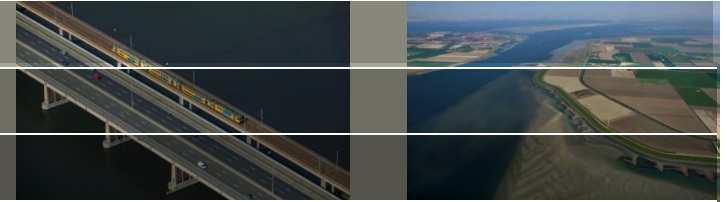
- Eén systeem voor alle waterbeheerders van de Vecht (Dld + NL)
- Inhoudelijk geen noviteit, maar gezamenlijk instrumentarium → samenwerking



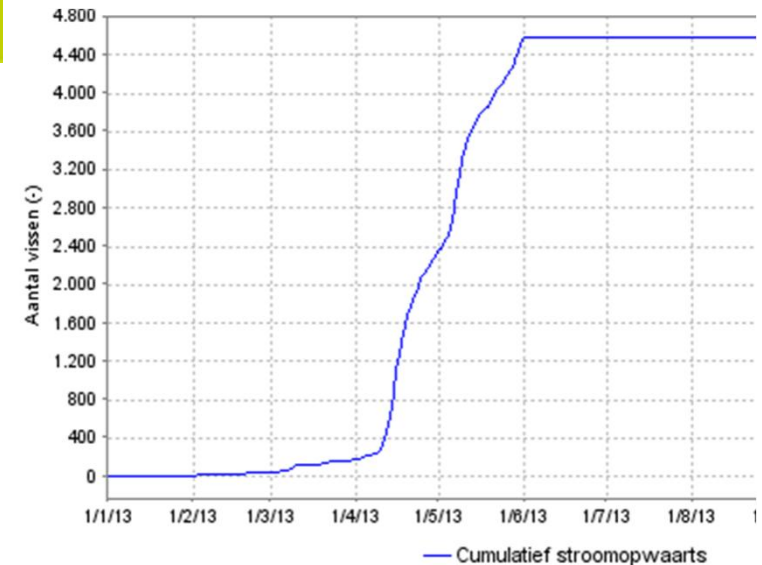
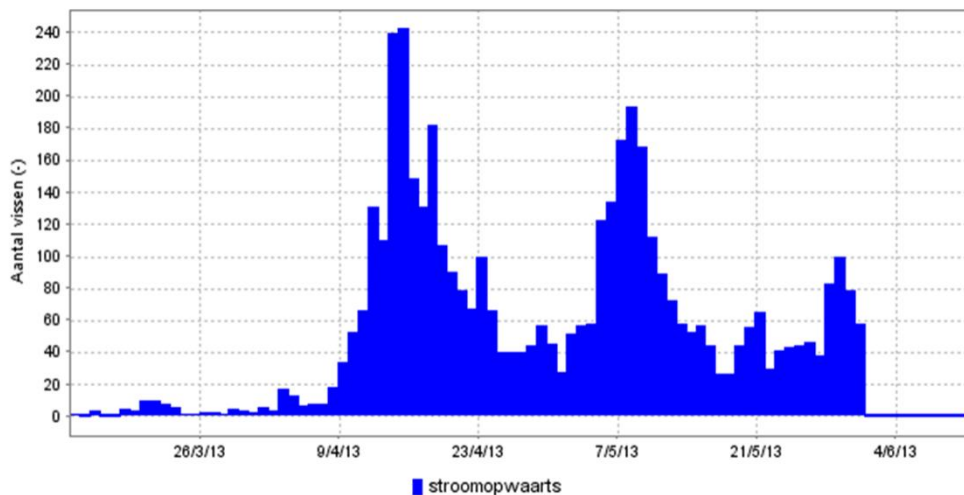
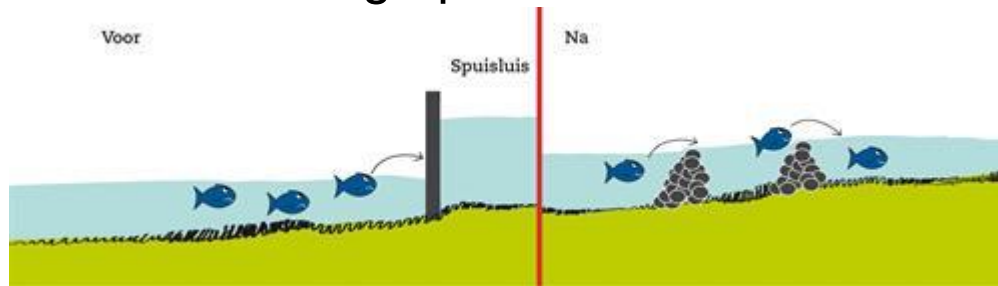
Deltares

FEWS Aa en Maas

Waterschap Aa en Maas

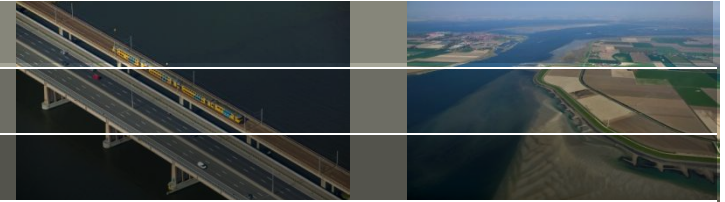


- Operationele visteller bij vispassage spuisluis Crevecoeur
- Parameters aantal vissen, grootte vissen en zwemrichting upstream/downstream

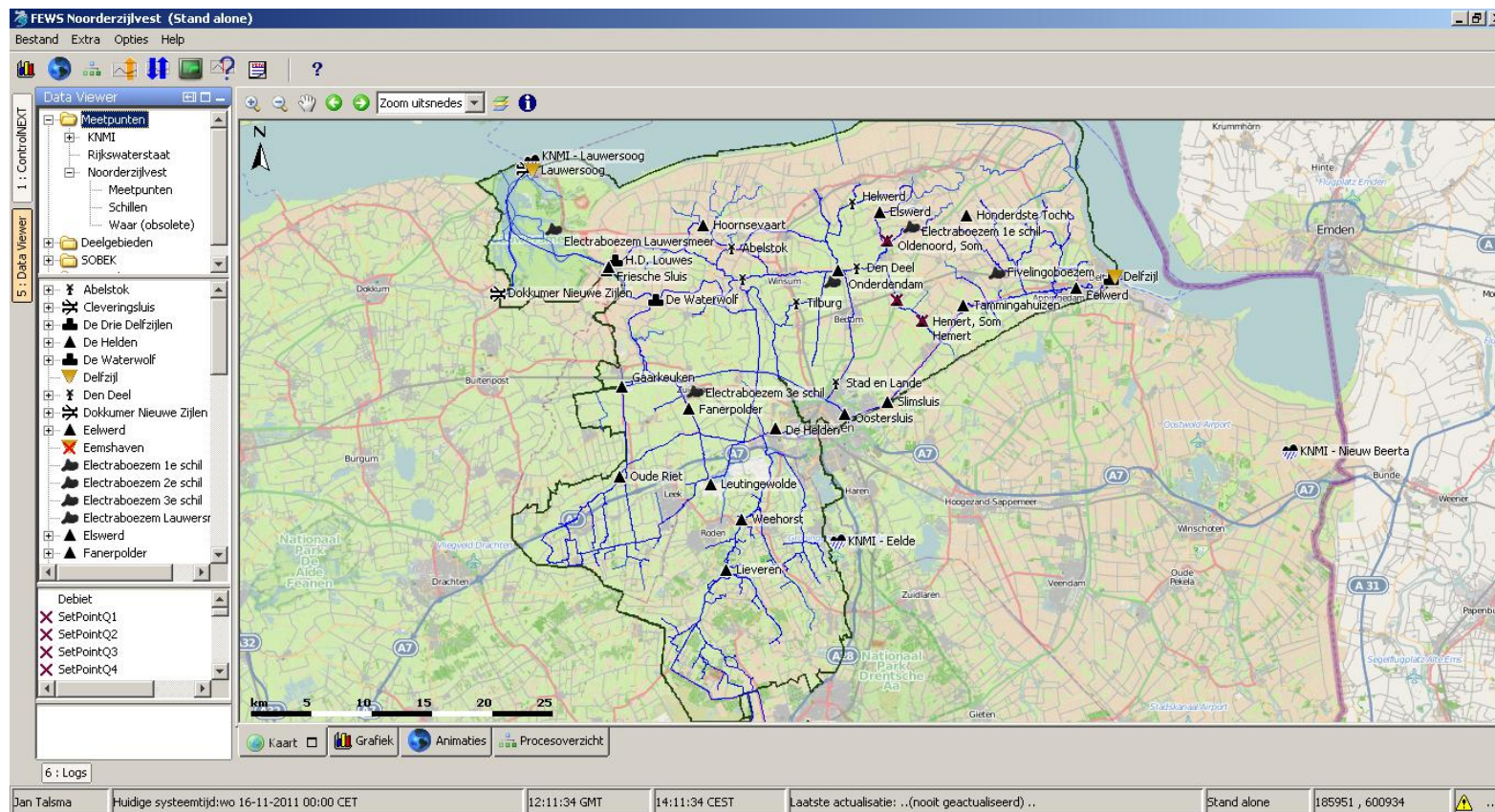


FEWS Noorderzijlvest

Waterschap Noorderzijlvest



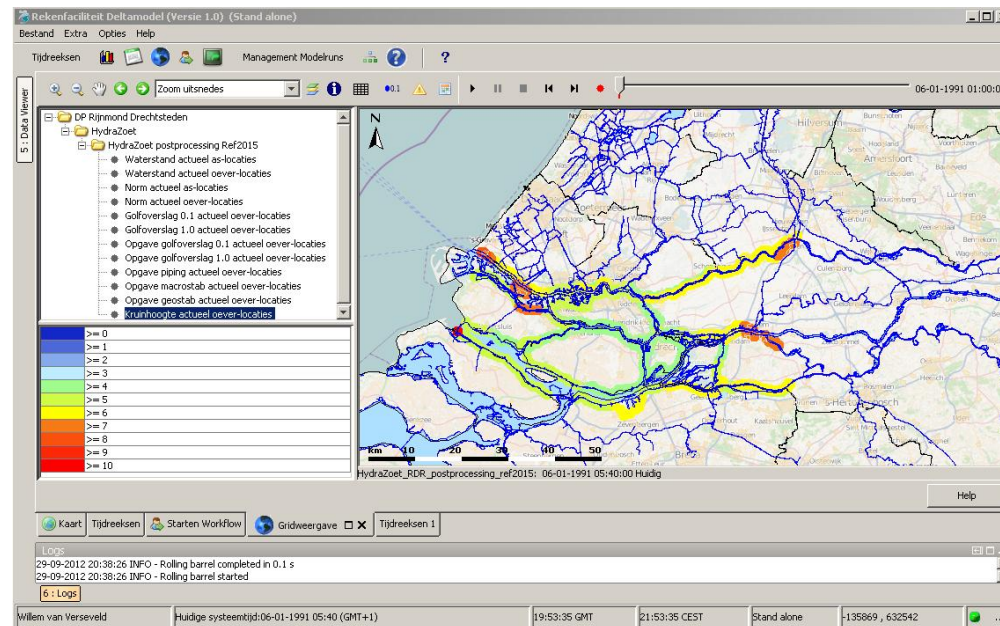
- Toepassing ControlNEXT (sturingsadvies boezemgemaal)
- Model Predictive Control - optimalisatie met RTC-Tools



Rekenfaciliteit Deltamodel

Rijkswaterstaat

- Doorrekenen van klimaat scenario's en strategieën (maatregelen) voor Deltaprogramma
- Aantal nieuwe ontwikkelingen:
 - netCDF met *metadata* (naar Deltaportaal)
 - Automatisch genereren combinaties randen (afvoer, wind, zeespiegel) voor productieberekeningen Deelprogramma Veiligheid

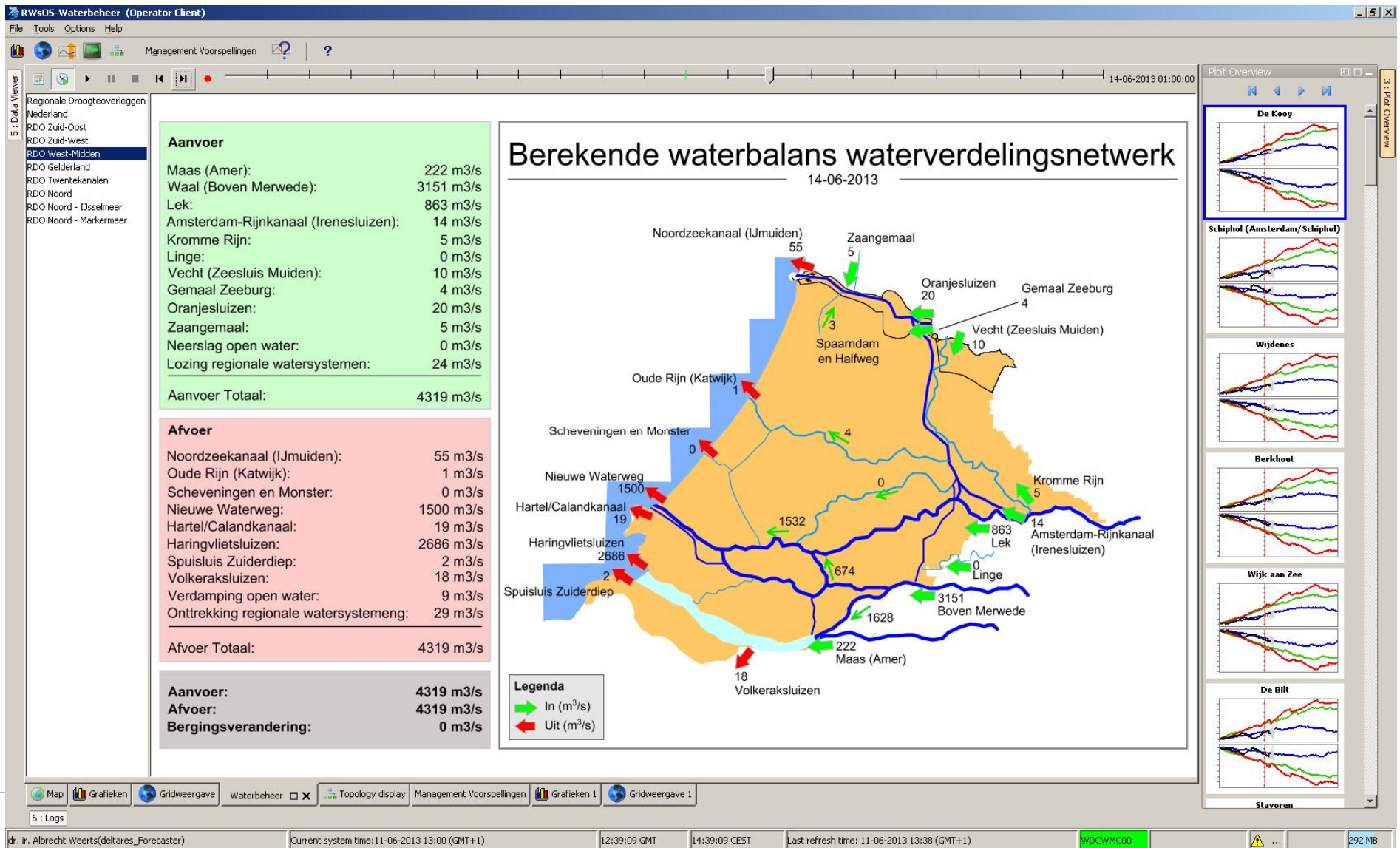


Deltares

RWsOS Waterbeheer

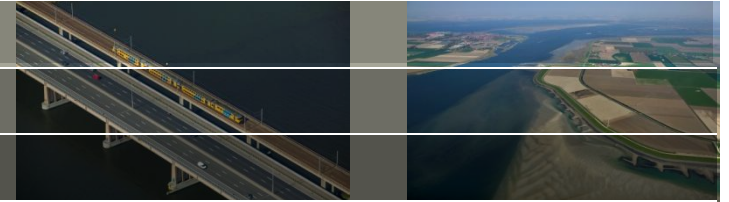
Rijkswaterstaat - LCW

- Operationeel draaien van NHI30 op dagbasis



RWsOS Noordzee

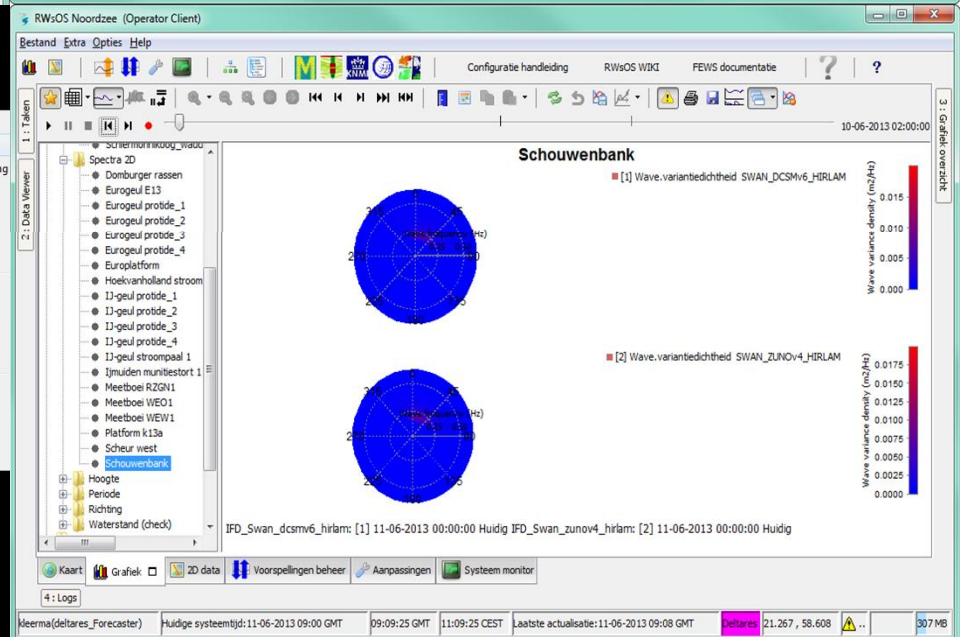
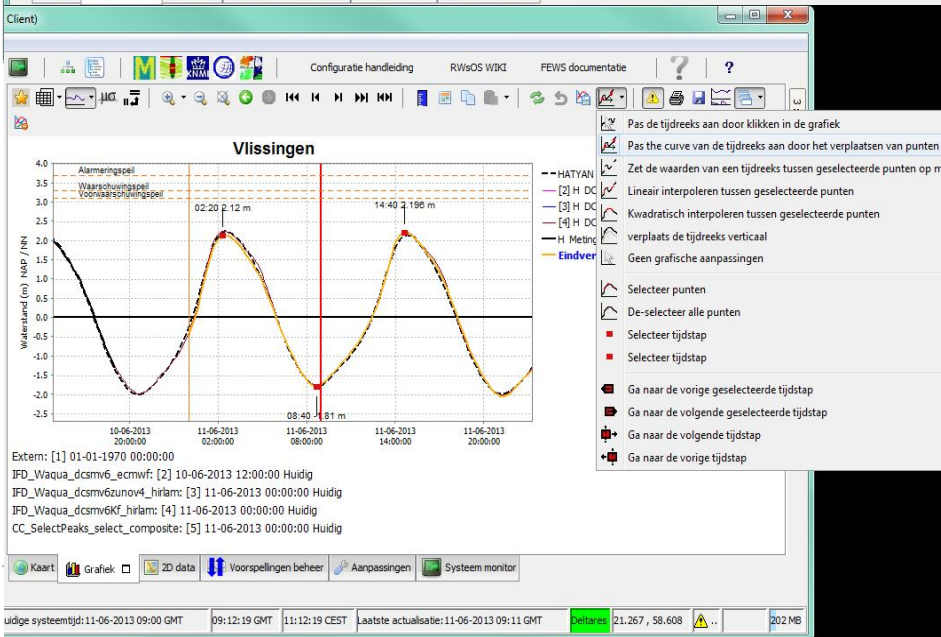
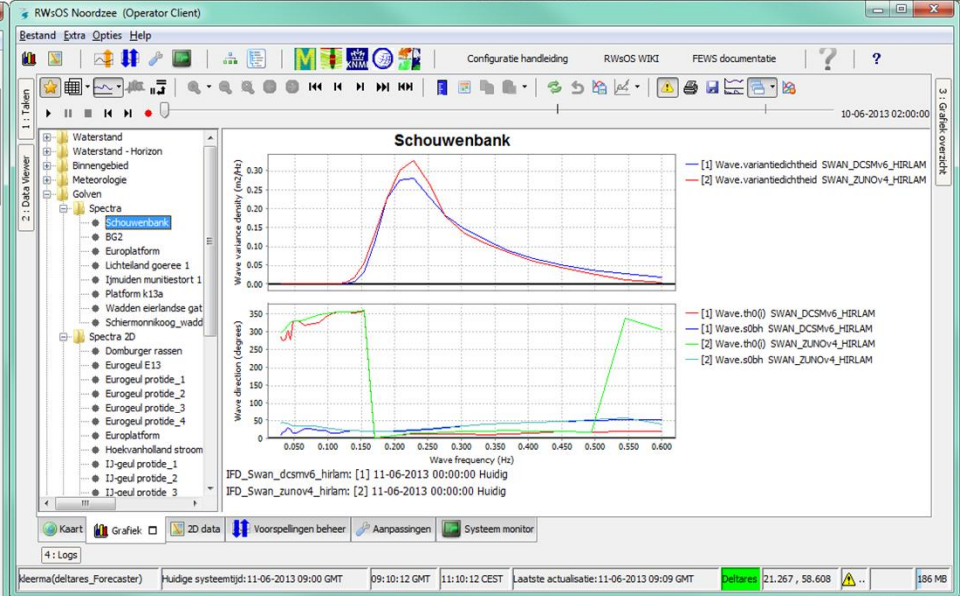
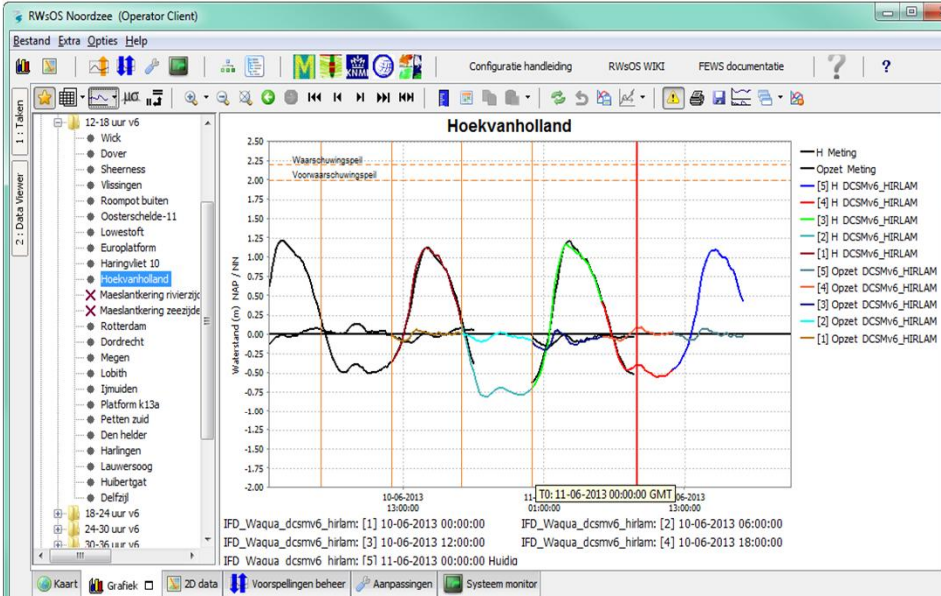
RWS



- Large files (especially WarmStates)
 - Direct Database Access
 - Management of warmstates outside of Central Database
 - MC-MC synch
- Grafical Adjustment Module
 - Additional functions to adjust TimeSeries
- TimeSeriesDisplay
 - (De-)select shown forecasts (adjust visibility)
 - Multiple forecasts (e.g. forecast accuracy 12 hours lead time)
- Spectral data
 - Import and export 1D spectra as NetCDF
 - New data type: 2D Spectral Data

RWOS Noordzee

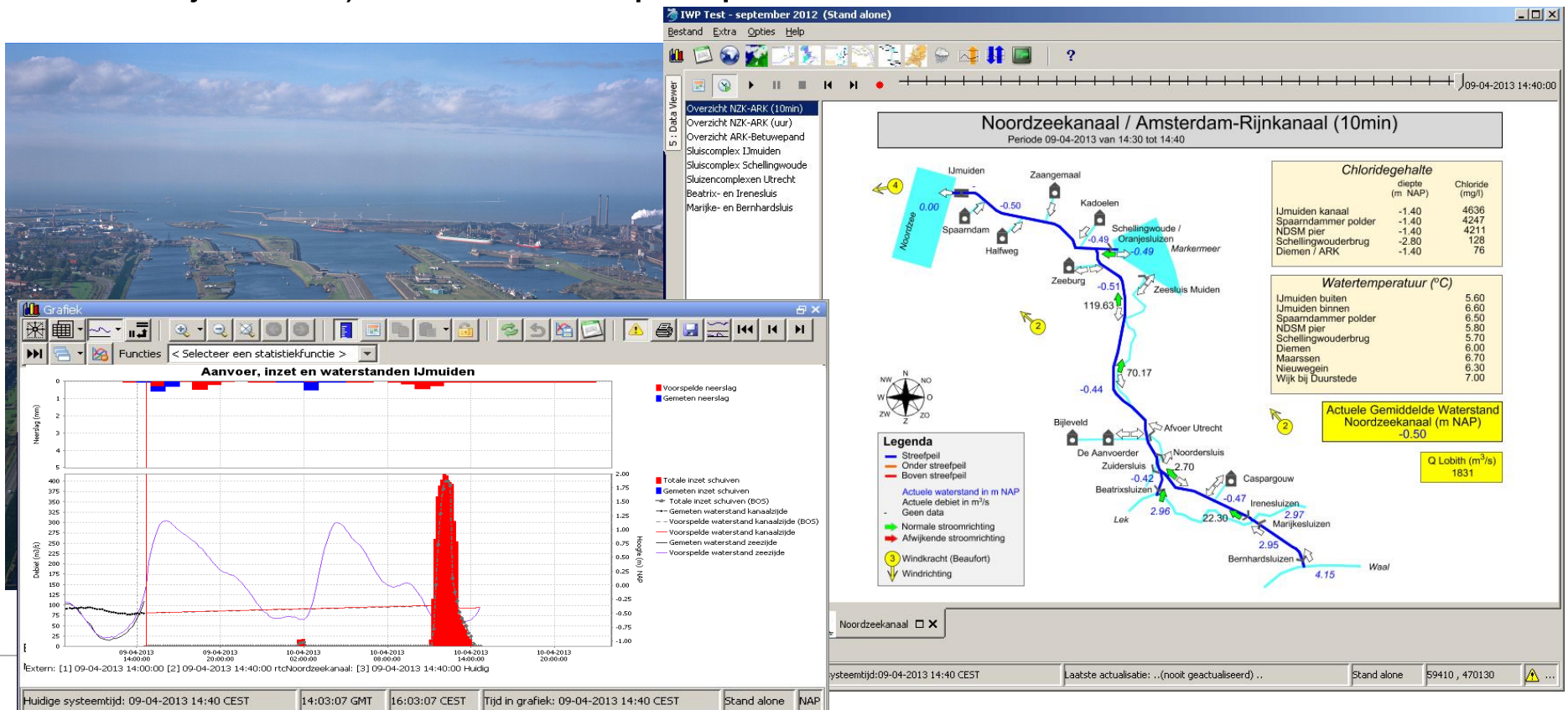
RWS



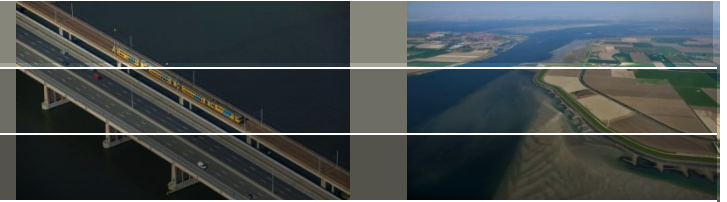
FEWS-Kanalen (RTC Noordzeekanaal)

Rijkswaterstaat

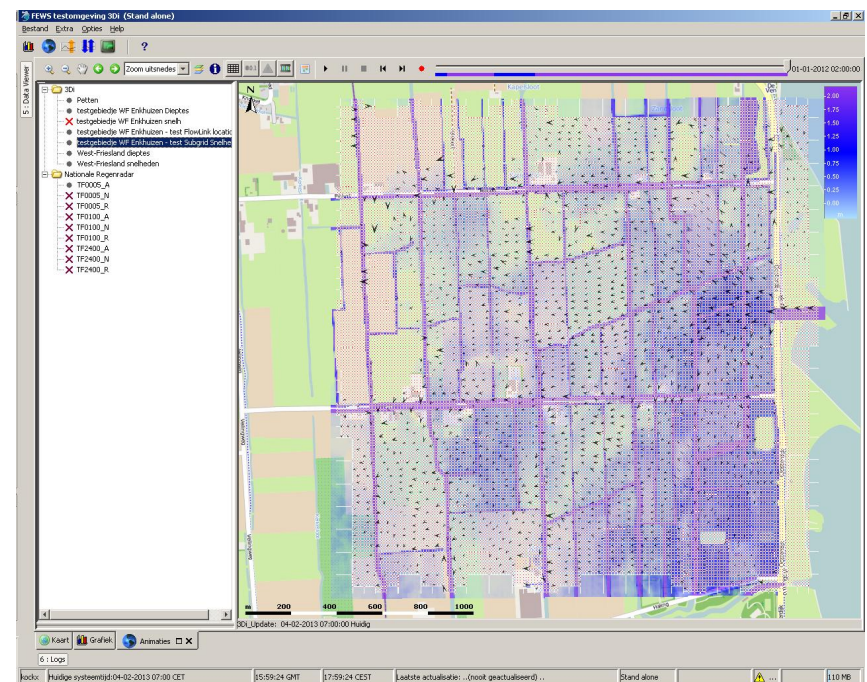
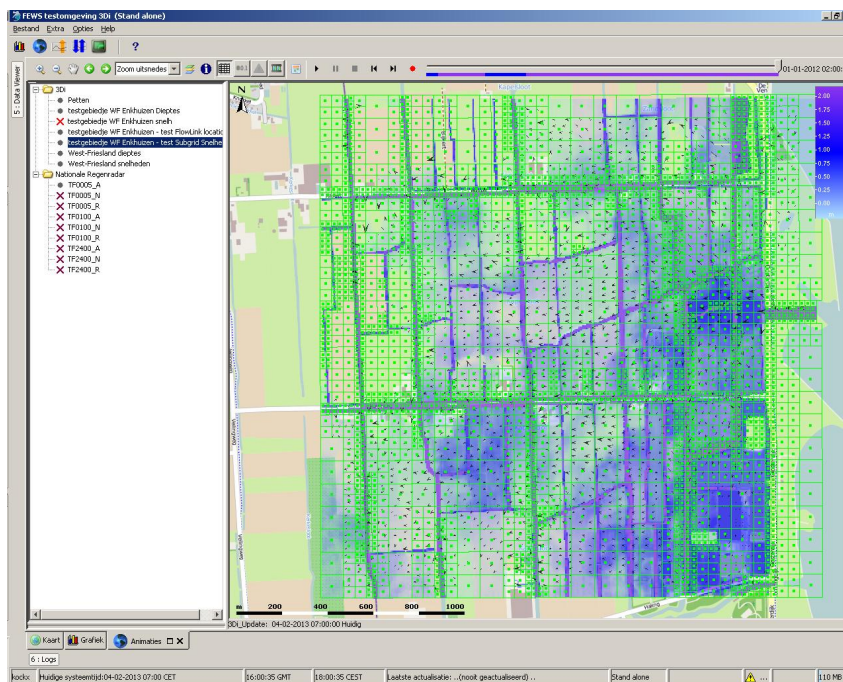
- Uitbreiding bestaand systeem met Noordzeekanaal / Amsterdam-Rijnkanaal
- Koppeling met RTC module voor gemaal IJmuiden (input 50 tijdseries): advies inzet pompen en schuiven



FEWS 3Di



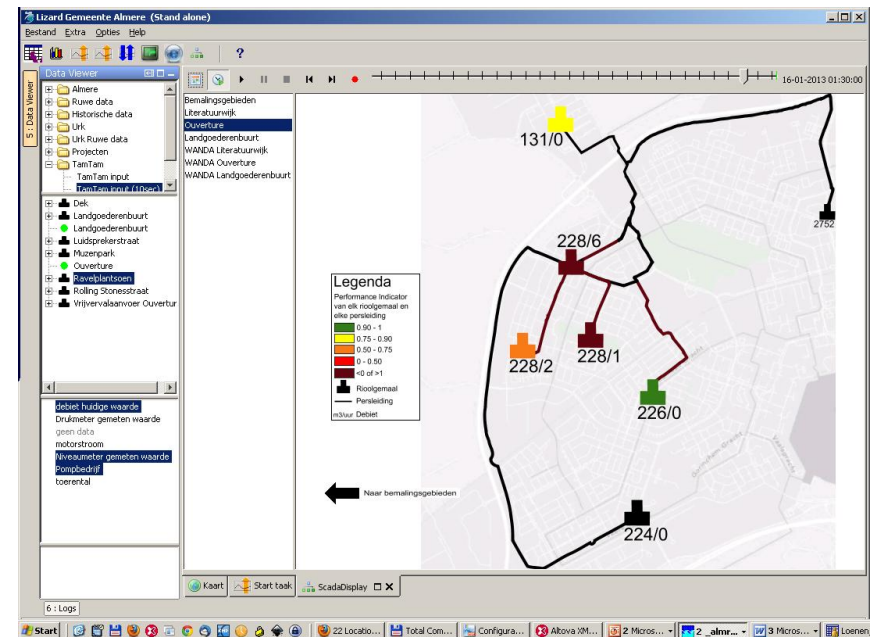
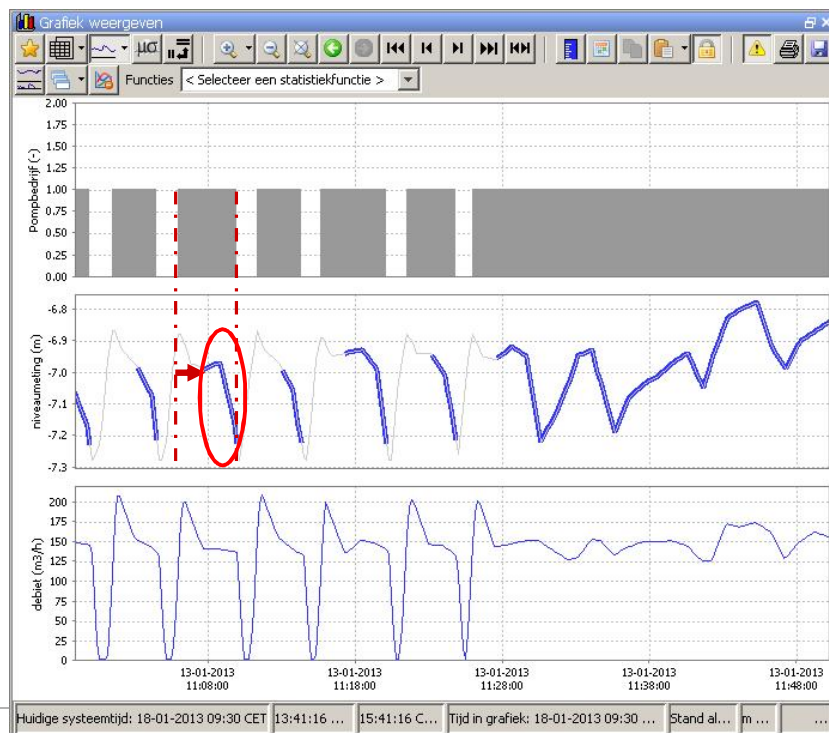
- 'Tiling' van gedetailleerde DEM kaartlagen
- Koppeling FEWS met 3Di (modeladapter)
- Online visualisatie van berekeningsresultaten
- Berekening van waterdiepte/snelheden op subgrid



Toolbox AfvalwaterMonitoring tbv AssetManagement.

Gemeente Almere / STOWA / Stichting Rioned

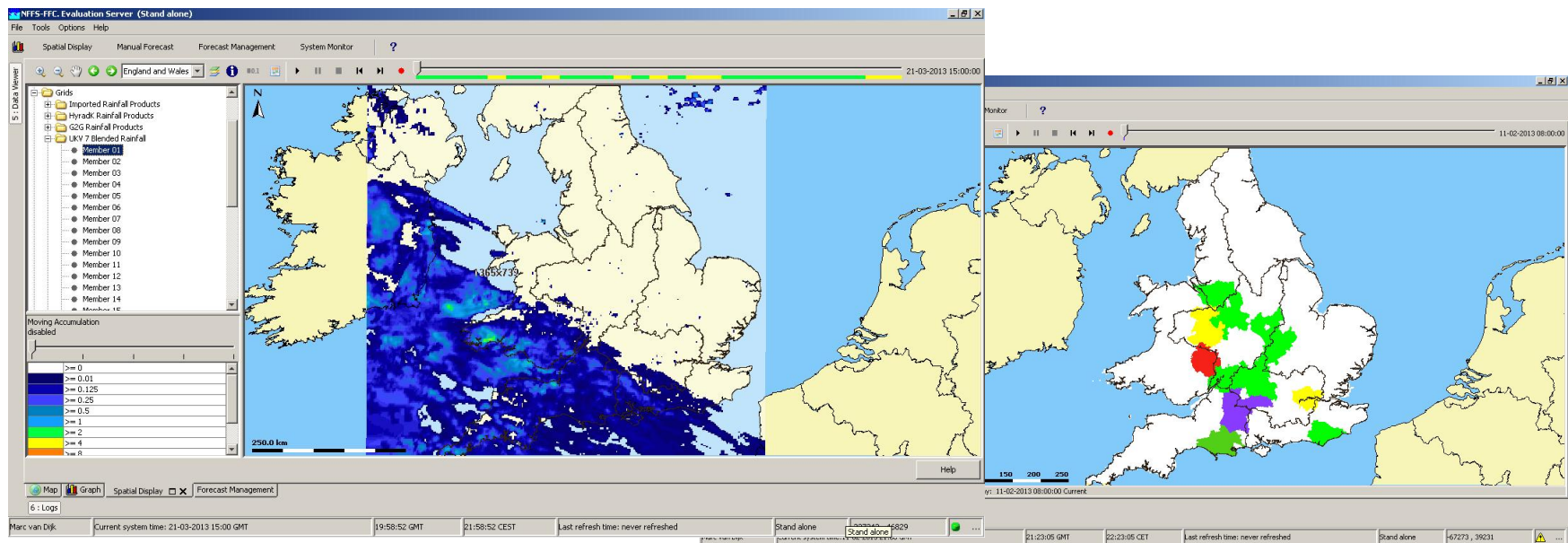
- Berekening Prestatie-indicatoren voor rioolgemaal door vergelijking metingen en berekende theoretische waarden
- Nieuwe koppeling WANDA model suite
- Nieuwe transformatie: selectie tijdseries op basis van verandering



NFFS-FFC: National Systeem voor de UK

Flood forecasting Centre (Environment Agency / UK Met Office)

- National Flood Forecasting Systeem voor de UK; gebruikt door hydrologen en meteorologen
- Gebruik van meeste recente ensemble neerslag verwachtingen
- Integratie van G2G hydrologisch model van CEH Wallingford
- Vertaling van neerslag onzekerheid naar risico kaarten



FLOODFORECASTINGCENTRE

a working partnership between



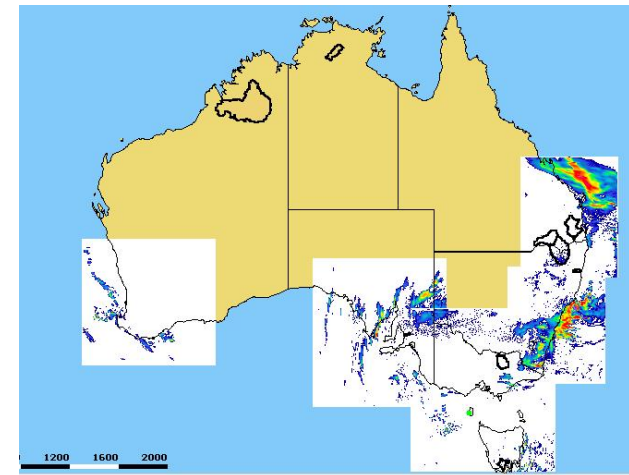
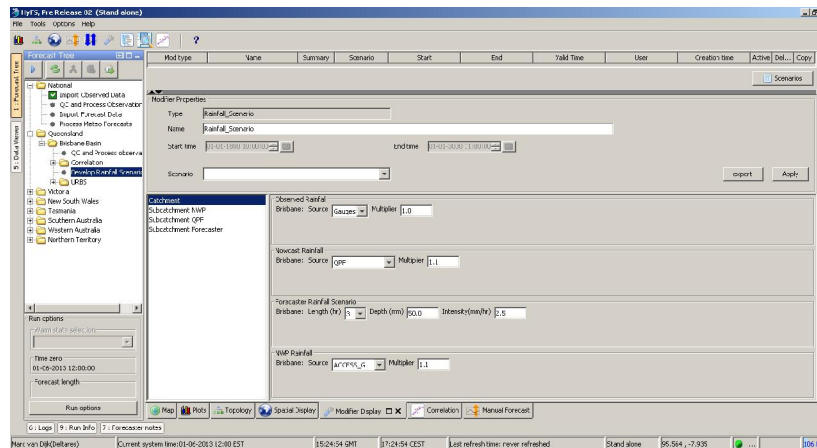
2013

Deltares

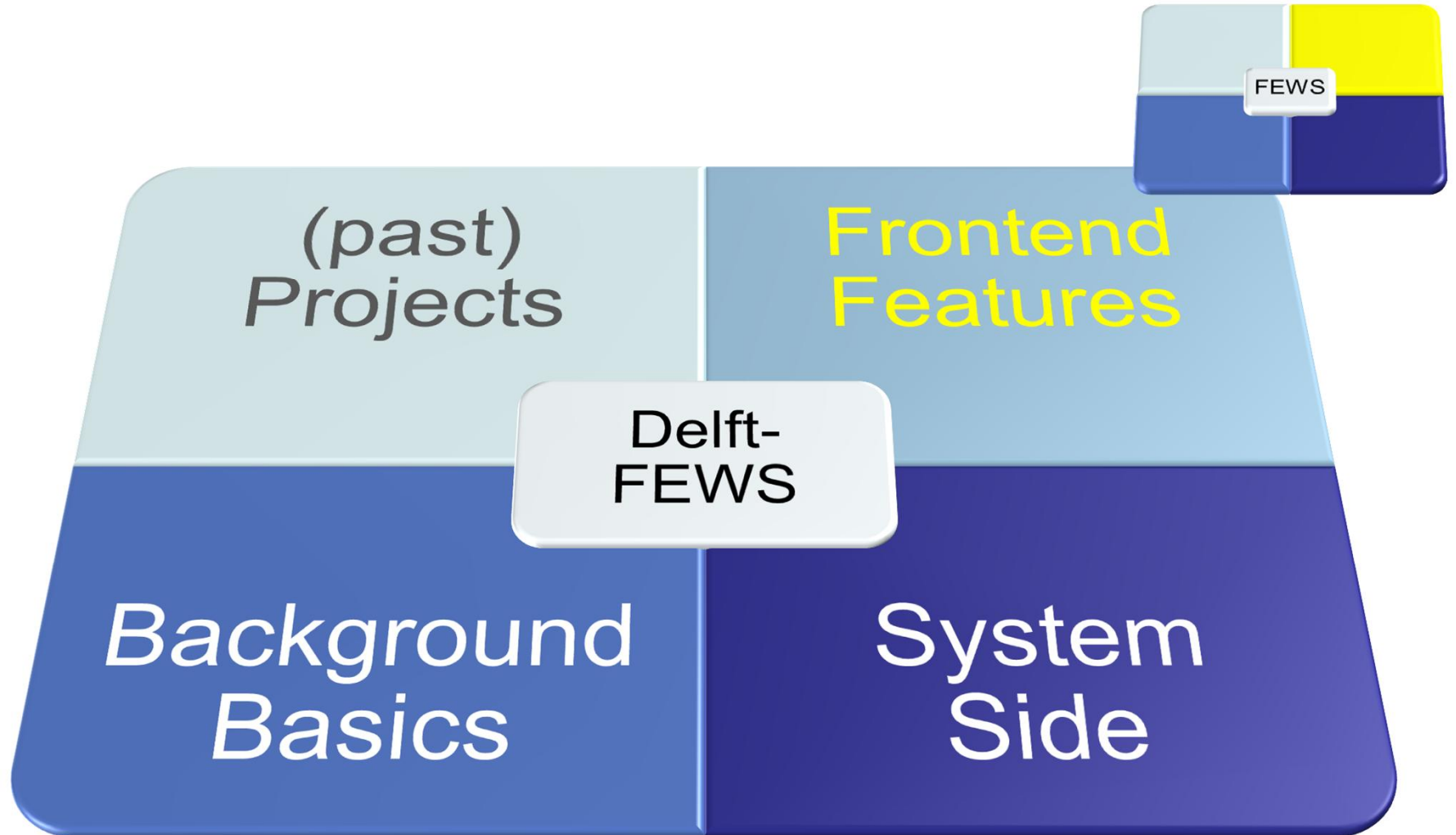
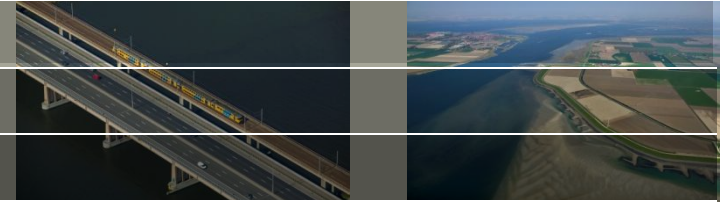
HyFS: National System voor Australië

Bureau of Meteorology (BoM)

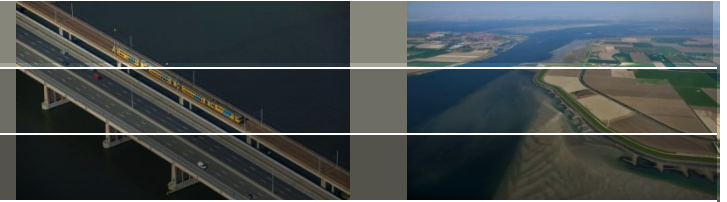
- Nieuw Next Generation Hydrological Forecasting System (HyFS)
- Nationale implementatie van met grote interactie van gebruiker
- Verdere uitwerking van gebruik locatie attributen voor processing van data en model parameters.
- Ontwikkeling van nieuwe scenario schermen
- Gebruik van Water Coach voor training en testen competenties



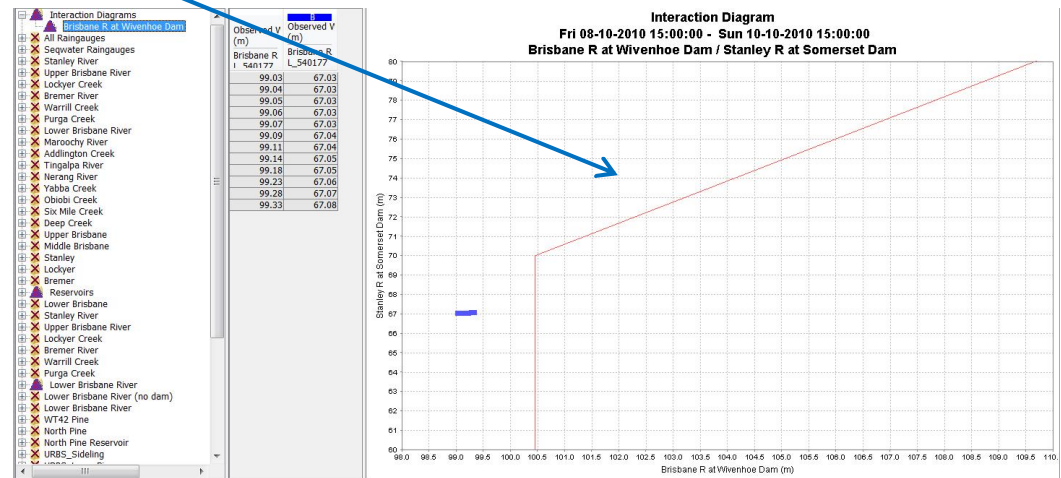
Frontend Features



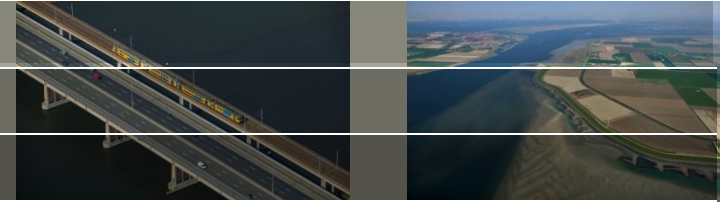
Frontend Features



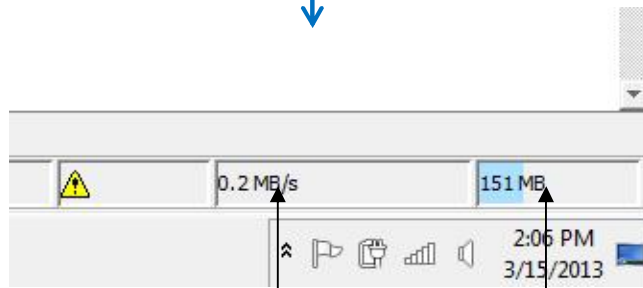
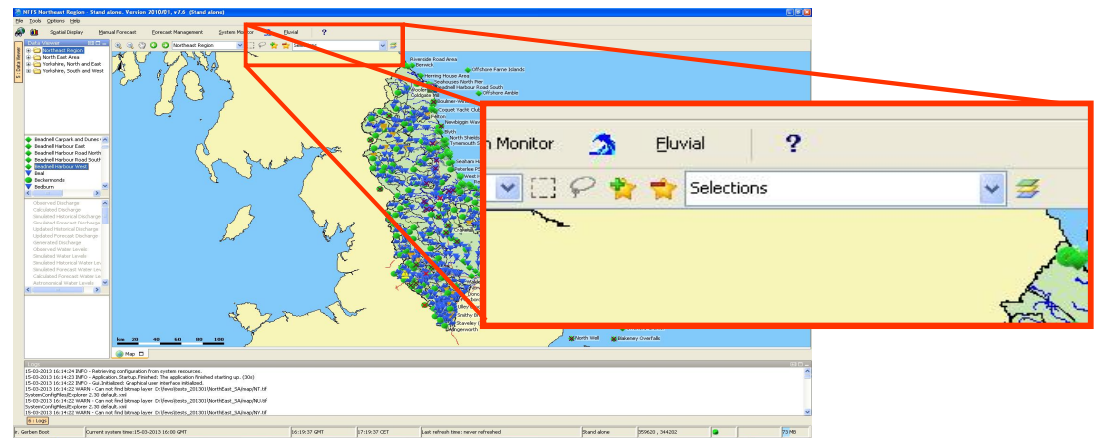
- Schematic Status Display (SSD) as object in html-reports
- Fixed (configurable) lines in Graphs
 - ‘Interaction’ lines
- Improved configurability:
 - FEWS-Launcher
 - TaskrunDialog
- Several Imports
 - Theis CSV
 - ScadaConnect
 - Water Data Transfer Format
 - NetCDF ensembles
 - NHI data
 - GeneralCSV using <TAB>



Frontend Features



- (Save & Share)Custom Selections
- Progress Bar extension

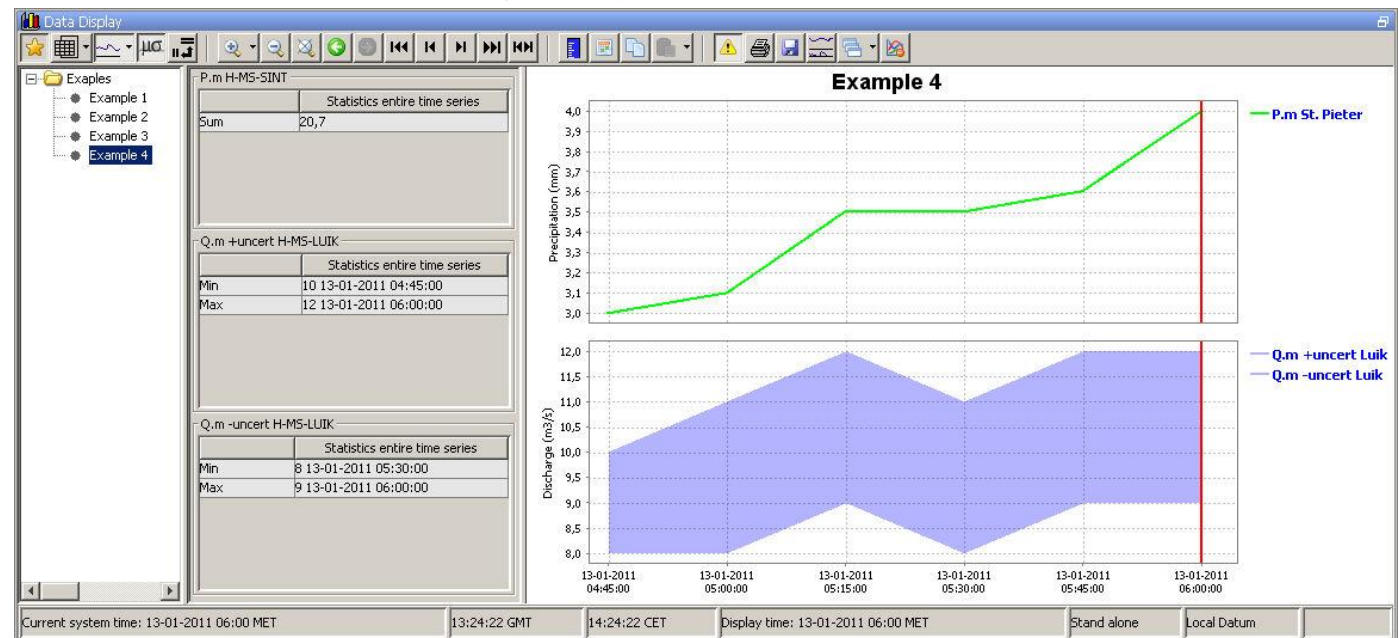


Progress bar
lezen data

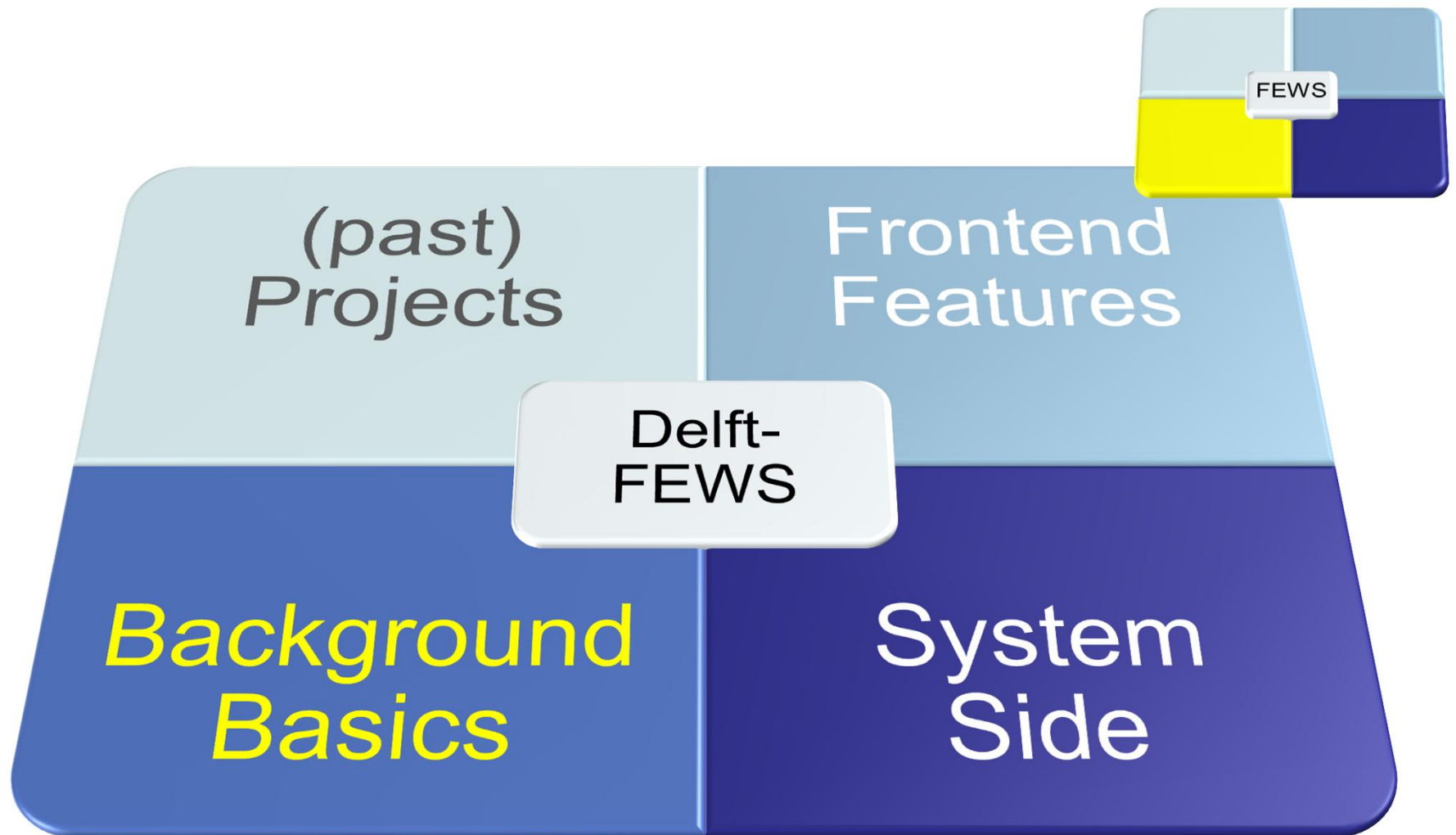
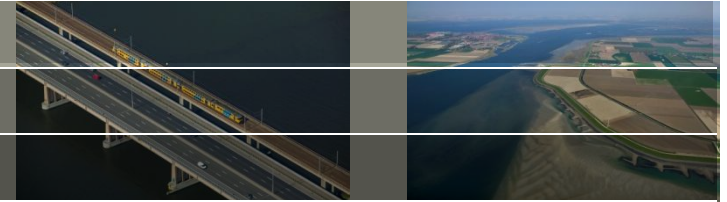
Geheugengebruik
FEWS

Frontend Features

- Dynamic (Rainfall) totals in plots
- Open specific spatial plot from SSD
- Toggle between metric/non-metric units (TSD)
- Toggle between different timezones (Map)
- Make unreliable values invisible (TSD)

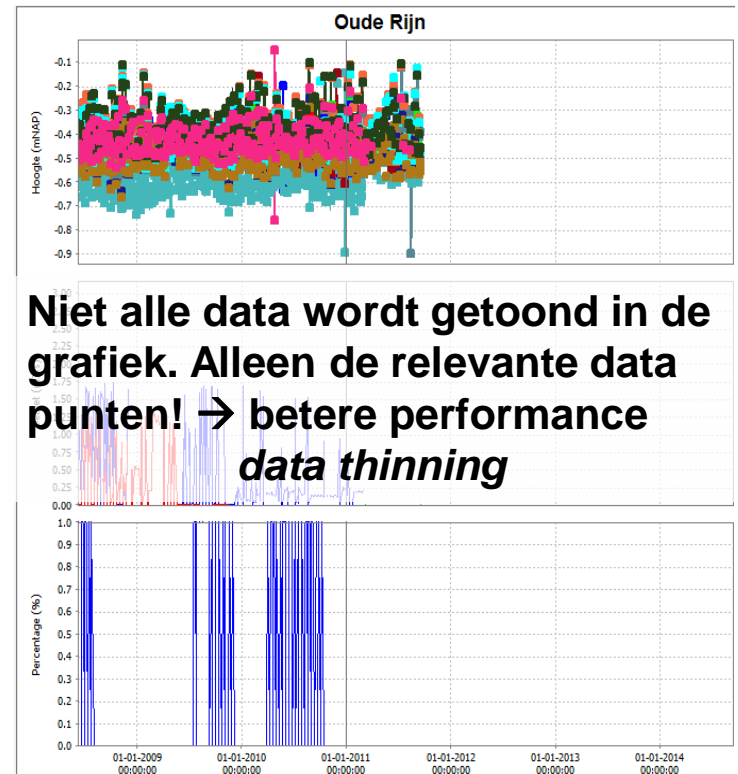


Background Basics



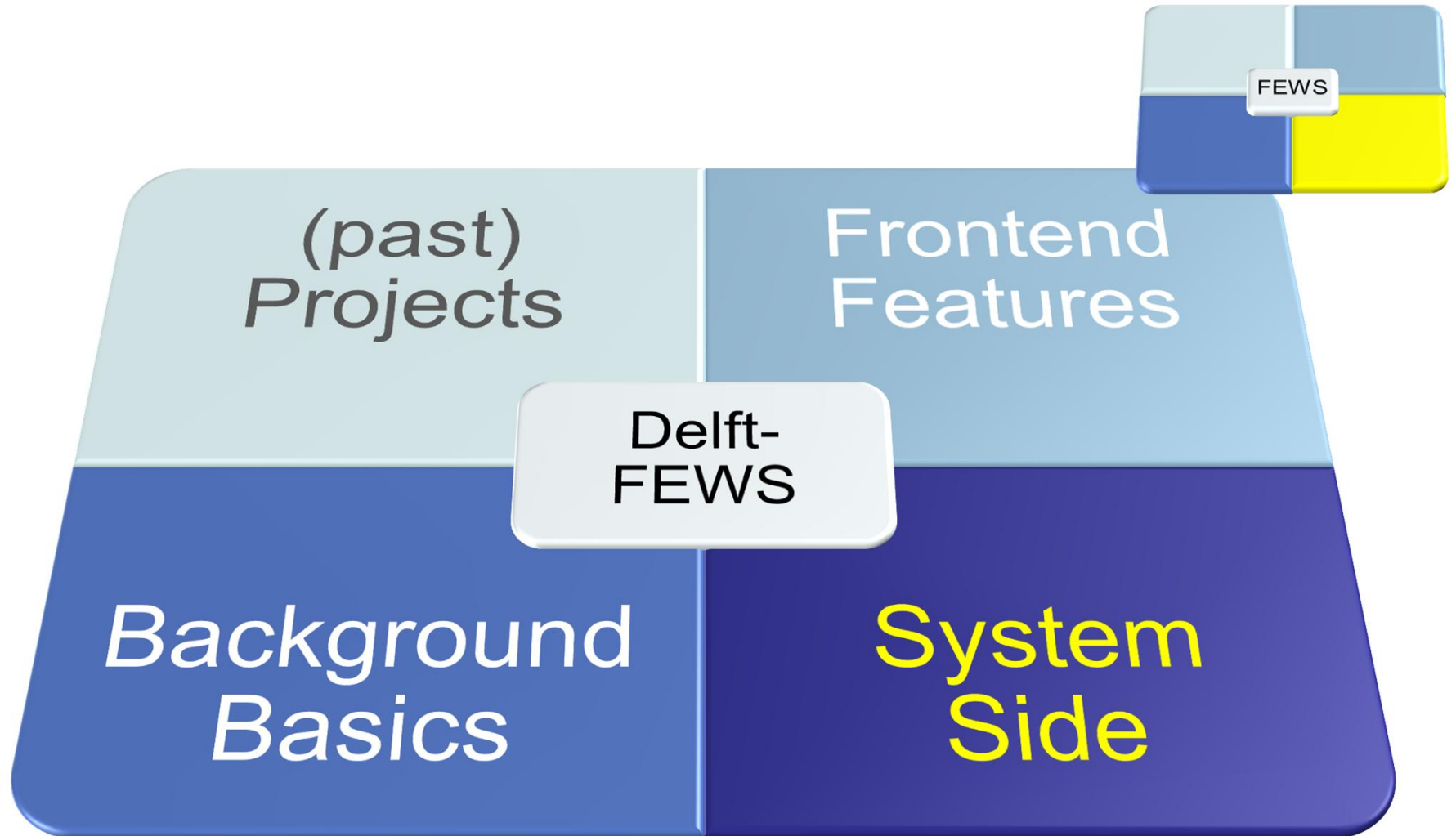
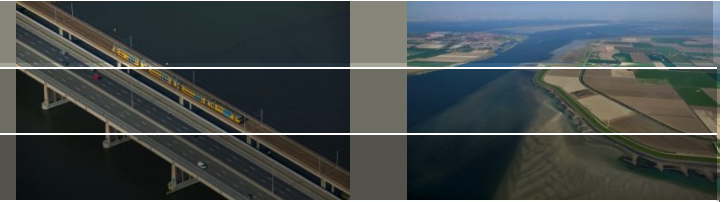
Background Basics

- DCM: Data Conversion Module
 - FEWS 'runnable' which: starts → runs workflow(s) → closes
 - Format A → Format B (import-export)
- Data Thinning
- DBF method → CSV (LocationAttributes)
- Coupling to Aquarius
- Export without configuring timeseries
- Export only manually edited values
- More stringent config check at startup
- Report Module Improvements




Niet alle data wordt getoond in de grafiek. Alleen de relevante data punten! → betere performance
data thinning


System Side



System Side

- Automatic generation of patches (build server)
- Database Analysis Options (Admin Interface)
- Use of JAVA 1.7





Delft FEWS - Thames

Main menu

- » System Status
- » Files
- » Forecast Tasks
- » Workflows and FSSs
- » User Administration
- » System Control
- » Database Analysis
 - > Time Series
 - > Time Series with Multiple SynchLevels
 - > Warm States
 - > Cold States
 - > Map Layers
 - > Module Instance Data Sets
 - > Module Instance Configurations

Running on EATHMC00

Logged on as ADMIN

» Log Off

Database Analysis

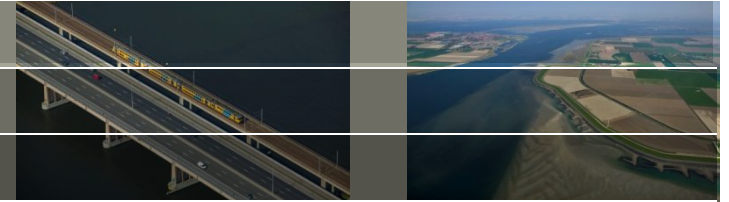
Time Series

Parameter	Value
Total number of records	142258
Total size of BLOBs (MB)	262
Total size incl. BLOBs (MB) (*)	818

(*) Estimated total size as 4 kB/record + size of BLOBs

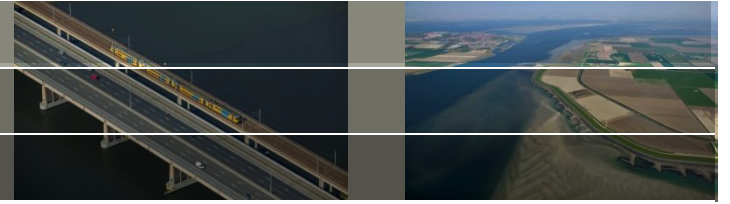
Module Instance ID	Total size of BLOBs (MB)	Total size incl. BLOBs (MB) (*)	Number of records	Maximum expiry duration
ImportTelemetry	85	248	41695	365 days 0 hr 2 min
Nimrod_Process_Radar	28	93	16711	10 days 0 hr 0 min
ImportMOWave	22	22	98	2 days 0 hr 0 min
ImportMOWind	20	21	322	10 days 0 hr 0 min
ImportCatAvg	19	161	36216	10 days 0 hr 0 min
ImportNimrod	17	17	119	2 days 0 hr 0 min
ImportMOSurge	14	22	1928	10 days 0 hr 0 min
Performance_TCM_Forecasts	14	69	14105	366 days 0 hr 0 min

Outlook 2013.02



- (Open) Data Archive – consistent storage and retrieval
- Docking Windows (remove non-docking)
- Displays
 - Correlation Display Improvements
 - Rating Curve Display
 - Modifier Scenario Display
- Configuration
 - Option to split Region/System Configuration Files
 - Remove redundant 'Descriptors' files
 - Looping concepts
- Selection Specific Calculations
- Several Model Adapters
 - SWIFT, URBS, iMod

Vragen?



17 juli 2013

Deltares