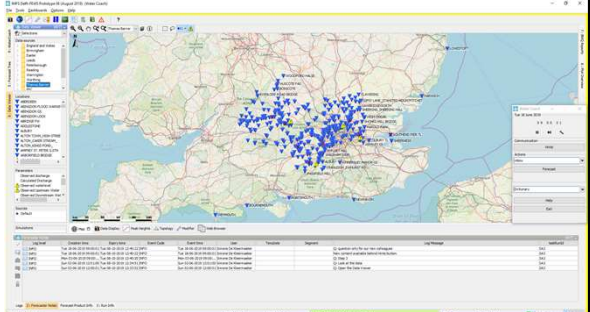




WaterCoach training

Serious gaming environment for Delft-FEWS




Learning objectives



After this training, I understand


- The role of the WaterCoach in training
 - The concept of Scenarios and scripts
 - How to incorporate Learning objectives and competencies



After this training, I can

- Generate a scenario from the Open Archive
- Create a new WaterCoach script
 - Set up a WaterCoach exercise



Online references

<https://publicwiki.deltares.nl/display/FEWSDOC/Water+Coach>

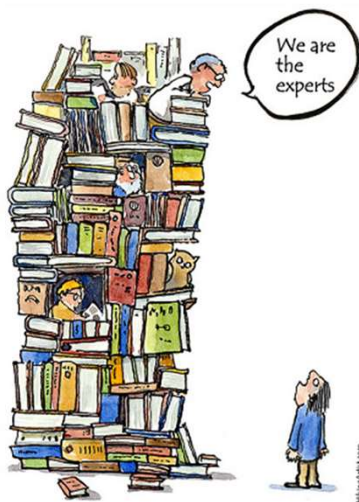
1. Full documentation of all WaterCoach features
2. Conference papers on the WaterCoach
3. Description of WaterCoach used in a Dutch national exercise
4. This presentation (to be updated after this training)
5. And more

<https://publicwiki.deltares.nl/display/FEWSDOC/25.+Using+the+Deltares+Open+Archive>

1. How to download data from the Open Archive

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Learning and serious gaming



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Serious gaming

*Do I find it **engaging**,
immersive, and fun?*

Play

*Can I use this in
(or relate this to)
the **real world**?*

Reality

*Do I retrieve any
value from it?*

Meaning

Deltares

WaterCoach, or Delft-FEWS as Serious Game

Delft-FEWS and WaterCoach arranged side by side

Yellow border =
Training Mode

System Time in
dictated by
WaterCoach

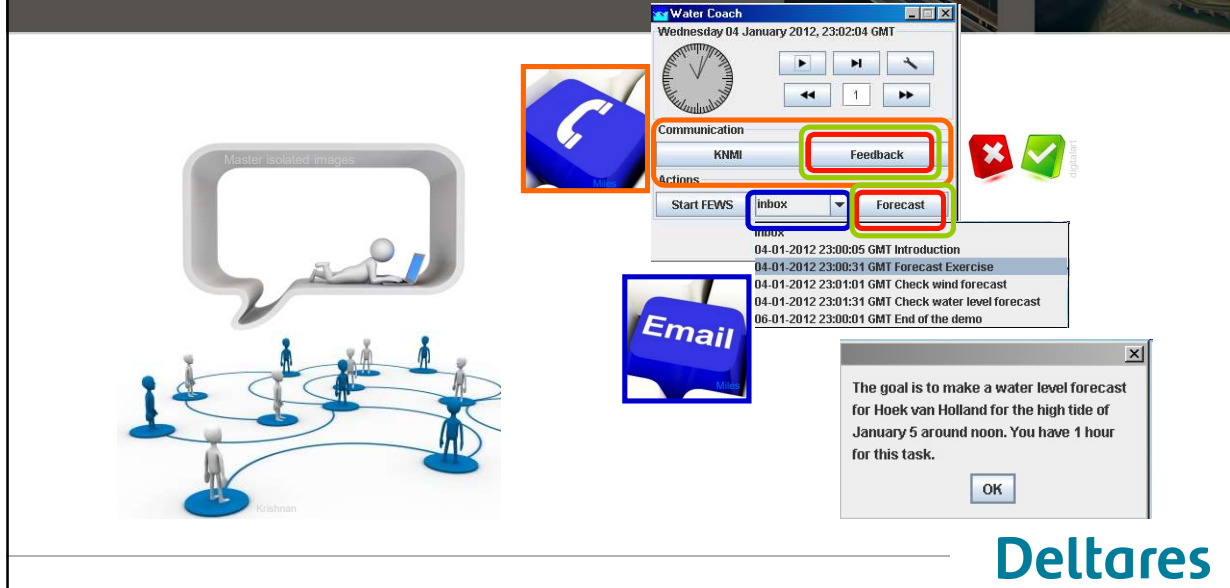
Observations in "the
future" are hidden

WaterCoach sends
messages to
Forecaster Notes

Water Coach
always on top

Deltares

WaterCoach and the outside world

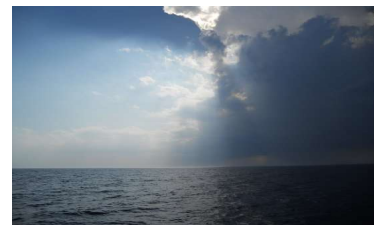


The screenshot shows the WaterCoach interface. A central window titled 'Water Coach' displays a clock and a 'Communication' section with a 'Feedback' button. Below it, an 'Actions' section includes a 'Start FEWS' button and a dropdown menu set to 'inbox', with a 'Forecast' button. An 'Email' icon is also visible. A message box at the bottom right states: 'The goal is to make a water level forecast for Hoek van Holland for the high tide of January 5 around noon. You have 1 hour for this task.' The Deltares logo is in the bottom right corner.

WaterCoach – Scenario and Script

WaterCoach consists of

- Scenario - weather and water
 - > “Delft-FEWS localDataStore”
 - > Change the weather?
- Script - storyline that can be adjusted to aid the learning objective
 - > Communication log
 - > Published forecast
 - > Interactive script?



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WaterCoach – Exercise and Training

WaterCoach can be used in a

- Exercise (team)
 - > Script not required (or at least not the focus)
 - > Focus on team interaction, communication with externals
- Training (individual)
 - > Both scenario and script need to be developed
 - > Focus on training skills, content, procedures



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WaterCoach and learning objectives



Self study

How to....

- access information
- interpret information
- ask for information

Communication

- realistic
- > format
- > distractions
- conditional



Learning by doing

- teach each other
- experience other roles

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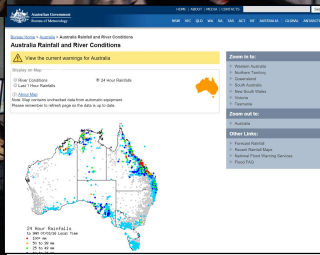
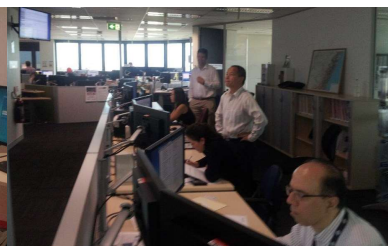
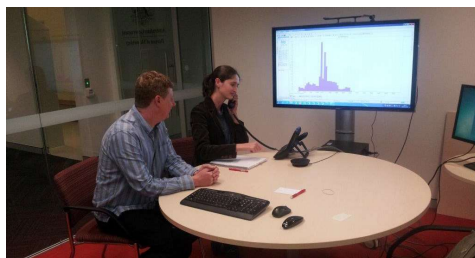
WaterCoach in action

After this training, I understand

- The role of the WaterCoach in training
- The concept of Scenarios and scripts
- How to incorporate Learning objectives and competencies

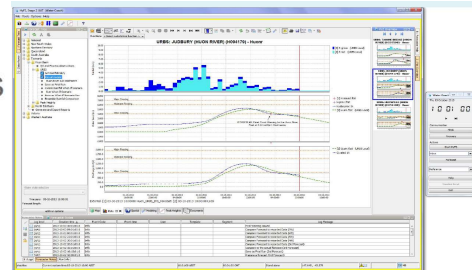


WaterCoach at Bureau of Meteorology, Australia



First use at Bureau

- Part of first end user training course
- Script based on a single 'minor' event in Tasmania
- Used for consolidation of learning/self-assessment
 - Navigating the HyFS System
 - Situational Awareness/Rainfall Grids
 - Forecasting with URBS



Positive feedback received

What those who used Water Coach had to say...

- "very impressed"
- "lots of potential"
- Considered to be a useful tool in consolidating learning
- Requests for more scripts to be created and future potential was discussed
- All attendees now have access to Water Coach and the script on their desktops for further consolidation of learning



Future Potential

Water Coach may be used for:

- Training consolidation
- Competency Assessment
- Maintaining Skills
- Running Scenarios



(multi regional and multi organisation)

Limited only by imagination and available data

Data will be archived with events over time

Each script needs to have specific learning objectives

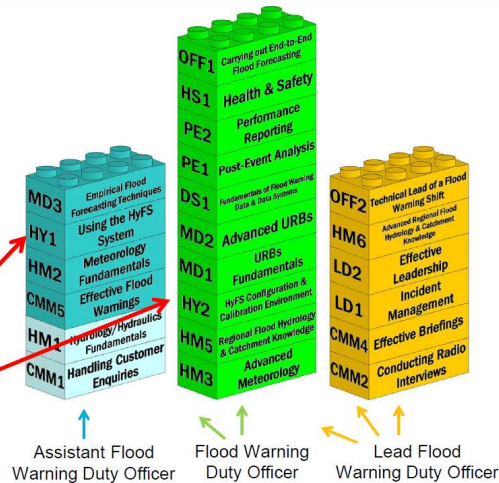
Multiple scripts can be created for the same data set

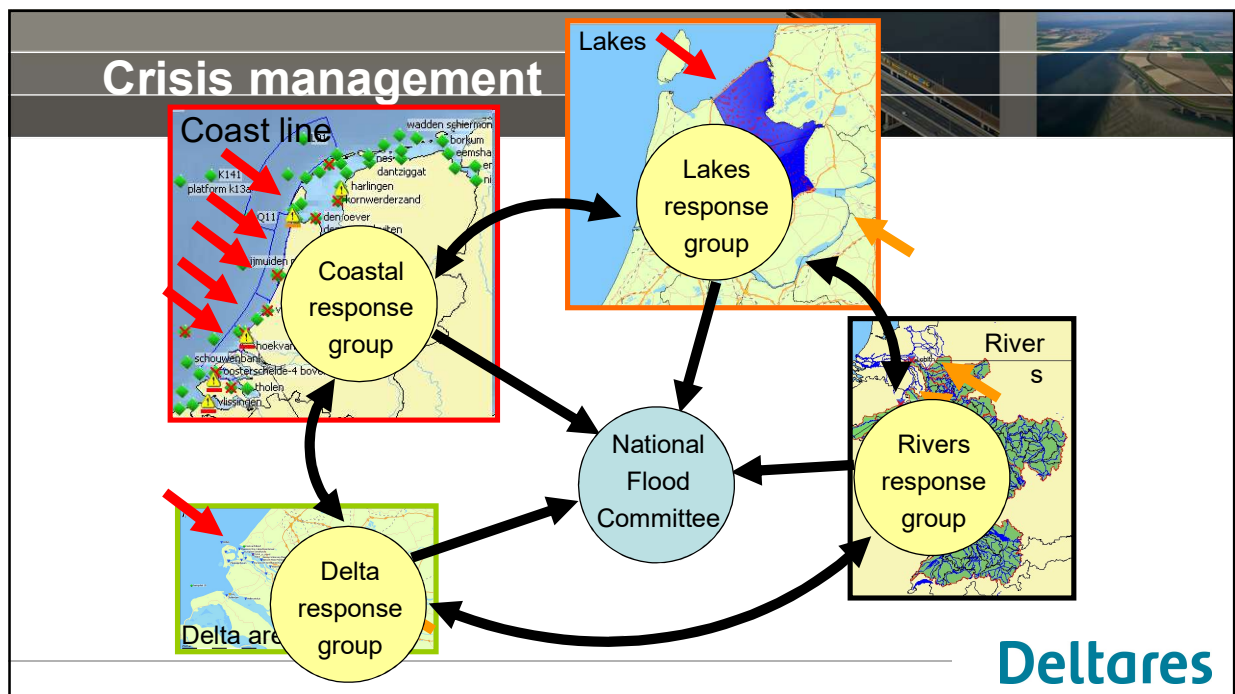
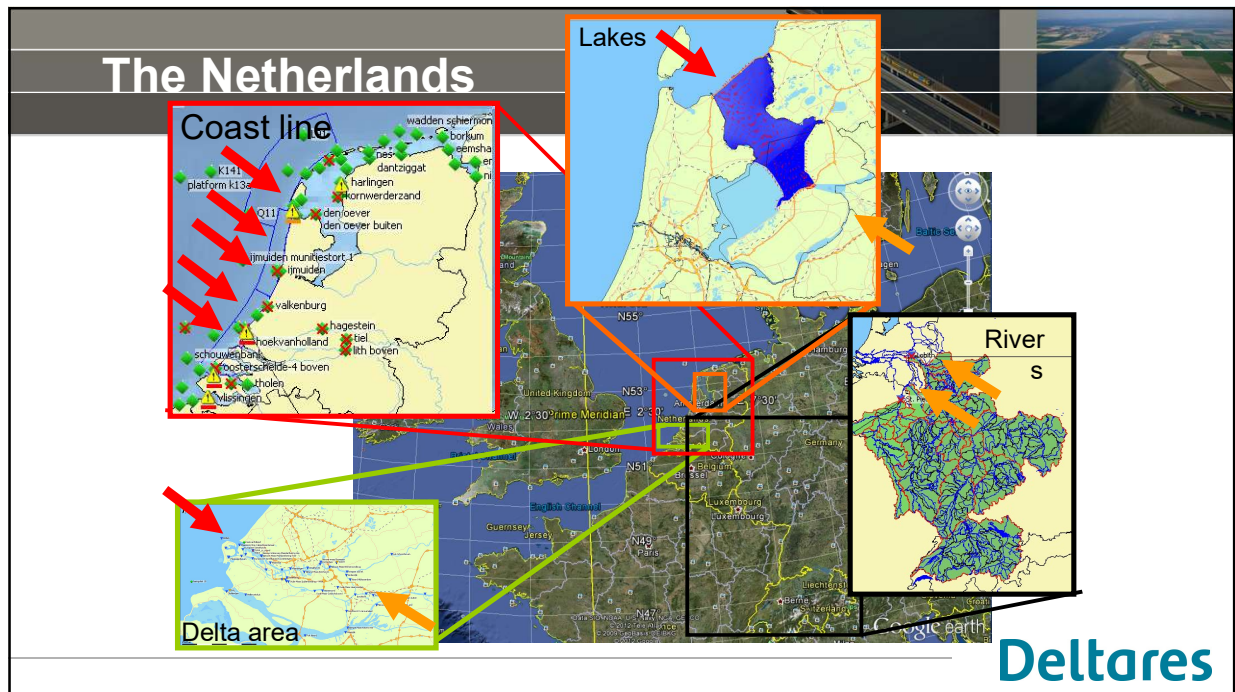


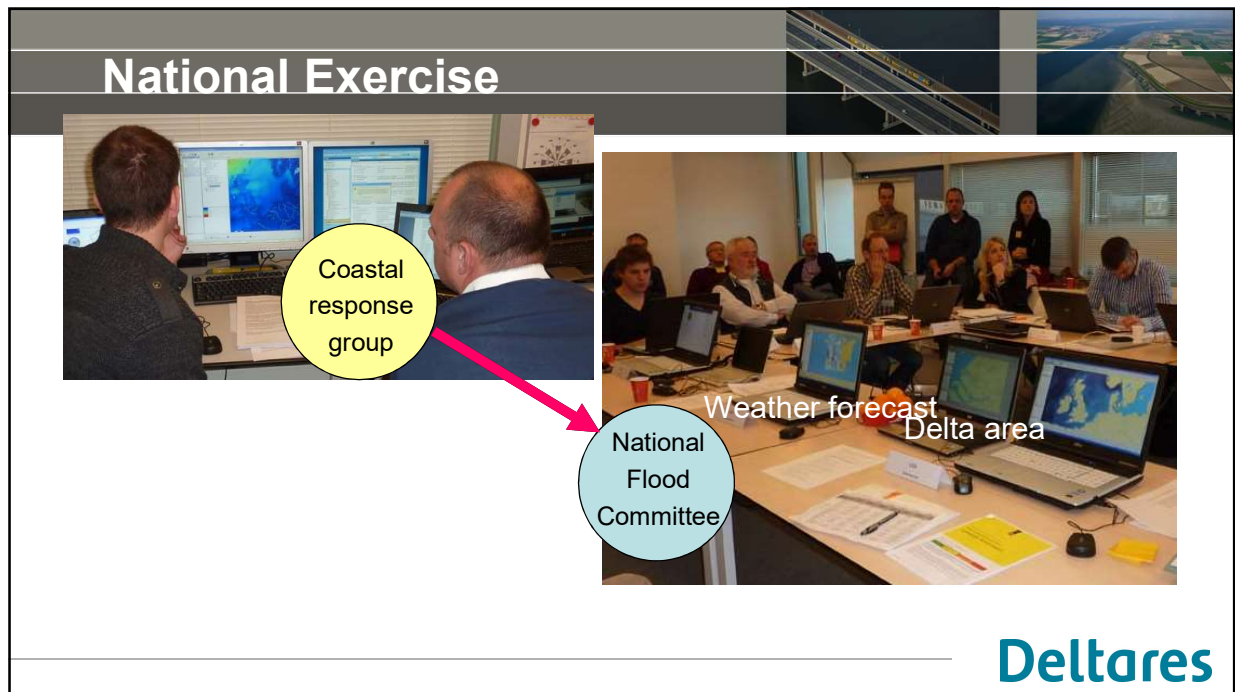
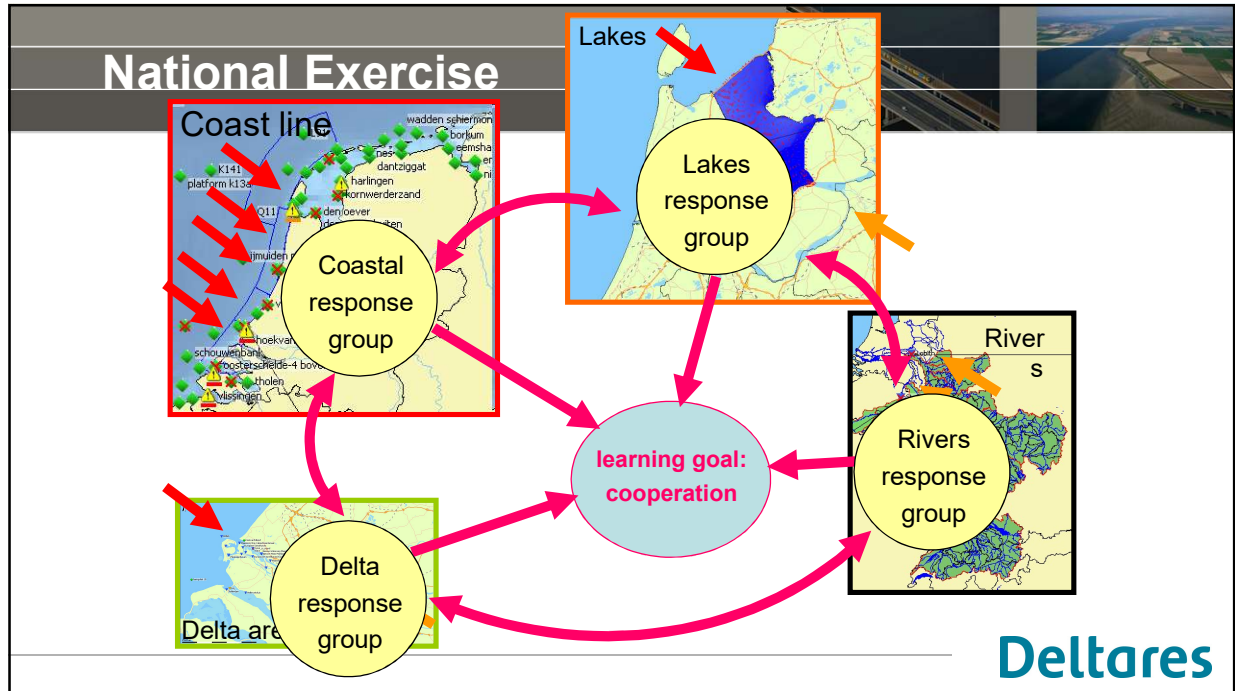
Flood Warning Competency Framework

Flood Warning Duty Officer Role	
Flood Support Duty Officer	Assistant Flood Warning Duty Officer
Flood Warning Duty Officer	Lead Flood Warning Duty Officer
Flood Data & Systems Duty Officer	Incident Manager
Operational Hydro-meteorologist	


- 2 units of competency for HyFS
- Using the System
- Config/Calibration









Evaluation



Observants



Group discussion




Questionnaire

Conclusion:

- **Very realistic**
- Effortless
- Complete, consistent
- Common goal

Communication could be focus



WaterCoach at Seqwater, Australia



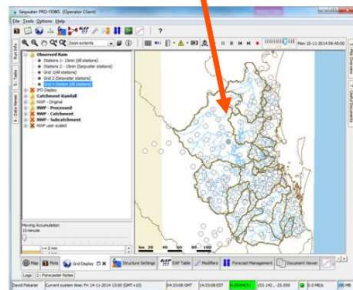
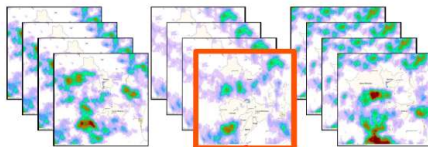
Project Water Coach

Training Using Synthetic Events



User's Perspective: Step 1

User is assigned one synthetic rainfall event




1.1 When user opens Water Coach, one synthetic rainfall event is prepared for import

Configuration required

1.2 synthetic rainfall events were:



- Re-formatted and imported into FEWS
- Exported in NetCDF-Grid format

Set-up WaterCoach environment

After this training, I can

- [Set up a WaterCoach environment](#)
- [Generate a scenario from Open Archive](#)
- [Create a new WaterCoach script](#)
- [Set up a WaterCoach exercise](#)





How to set up a WaterCoach environment

<https://publicwiki.deltares.nl/display/FEWSDOC/How+to+set+up+a+training>

To set-up a WaterCoach environment for your Delft-FEWS application take the following steps:

- Add a stand alone copy of the operational Delft-FEWS system [\(a few changes are necessary\)](#)
- Create the folder for the [ScenarioScriptDatabase](#)



Changes to SA config

[https://publicwiki.deltares.nl/display/FEWSDOC /Application+configuration](https://publicwiki.deltares.nl/display/FEWSDOC/Application+configuration)

- create `<My WaterCoachDisplay>.xml`
 - place in %REGION_HOME%\Config\DisplayConfigFiles\
- global.properties
 - add key WATERCOACH_SCENARIO_DATABASE_PATH
- Explorer.xml - add explorerTask for WaterCoach plugin

Optional

- Delay visibility of forecasts with `<waterCoachDelay>` in WorkflowDescriptors.xml
- Delay external forecasts with `<waterCoachExternalForecastDelay>` in ModuleInstanceDescriptors.xml
- Show specific external historical timeseries in the future (e.g. astronomical tide forecast or climatological data) with `synchLevel=4`
- Participant mode

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WaterCoachDisplay.xml

[https://publicwiki.deltares.nl/display/FEWSDOC /Application+configuration](https://publicwiki.deltares.nl/display/FEWSDOC/Application+configuration)

The screenshot displays the configuration file `few:WaterCoachDisplayComplexType` with the following parameters and descriptions:

- few:scenarioScriptDatabasePath** (highlighted): Path (absolute or relative) to scenario/script databases.
- few:hideYear**: Flag indicating whether the year must be hidden.
- few:fileAssociation**: Path (absolute or relative) to application used for opening file with indicated extension.
- few:timeControl**: Specify which buttons for time control must be available for the user.
- few:experienceLevel**: Specify experience levels, separated by semi-colon (;).
- few:FEWSLogEventCodes**: List of event codes, separated by semi-colon (;), transferred from FEWS log to Water Coach log.
- few:serverHostName**: Host name of game engine (N/A for stand-alone game).
- few:serverPort**: Port number of game engine (N/A for stand-alone game).
- few:writePIOutput**: Option whether to write output in PI format (default: false).
- few:showVisualizeScriptButton**: Option whether to show Visualize Script button (default: true).
- few:copyLocalDatabase**: Option whether to copy the local database or not (default: true).
- few:defaultUserName**: User name that is automatically put into the user name field in the startup screen.
- few:defaultScenario**: Scenario name that is automatically put into the scenario drop down box in the startup screen.
- few:defaultScript**: Script name that is automatically put into the script drop down box in the startup screen.
- few:log4jConfigPath**: Path to the log4j config.xml file. Default value is `log4jConfig.xml` in the current working directory.
- few:logPath**: Path to the file that should contain the log4j output. Default value is `log.txt` in the current working directory.
- few:scriptLogPath**: Path to the directory that should contain the script log output. Default value is `scenarioScriptDatabasePath` log/.
- few:displayConfirm**: Indicates whether (and you sure) confirmation messages should be displayed or not (default: to yes).

The diagram at the bottom shows the relationship between `WaterCoachDisplay`, `few:config`, and `few:participant`.

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WaterCoachDisplay.xml in IMFS_SA

[https://publicwiki.deltares.nl/display/FEWSDOC /Application+configuration](https://publicwiki.deltares.nl/display/FEWSDOC/Application+configuration)

Parameter	Value
scenarioScriptDatabasePath	SWATERCOACH_SCENARIO_DATABASE_PATHS
hideYear	false
timeControl	
pause	true
next	true
set	true
fastForwardBackward	false
experienceLevel	
levels	Novice;Medior;Expert
adjustLevel	false
fewsLogEventCodes	*
copyLocalDataStore	true
defaultUserName	Participant
defaultScenario	2019-06 Observations
defaultScript	How to use IMFS
scriptLogPath	SWATERCOACH_SCENARIO_DATABASE_PATHS/Logs
displayConfirm	false

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ScenarioScriptDatabase

<https://<..>/FEWSDOC/Scenario+and+Script+database>

A scenario directory must contain

- one localDataStore directory, which holds the pre-loaded Delft-FEWS database.
- one or more script directories, each
 - must contain a [script configuration](#) file script_config.xml
 - may contain an arbitrary number of files that are associated with events specified in the [script configuration](#)

```
ScenarioScriptDatabase
|-- storm surge March 10-13
|
|-- localDataStore
| | `-- local.fdb
|
|-- novice
| | |-- script_config.xml
| | |-- exercise1_EN.txt
| | |-- exercise1_NL.txt
| | |-- start_session_EN.txt
| | |-- start_session_NL.txt
| | |-- telephone_call_EN.txt
| | |-- telephone_call_NL.txt
| | |-- weather_map_March12_00hr.pdf
| | |-- weather_map_March12_12hr.pdf
| | `-- weather_map_March13_00hr.pdf
-- advanced
```

Exercise – Set-up Environment

<https://publicwiki.deltares.nl/display/FEWSDOC/How+to+set+up+a+training>

- Modify the stand alone version of your Delft-FEWS system
<https://publicwiki.deltares.nl/display/FEWSDOC/Application+configuration>
 - > section: Delft-Fews Configuration
 - > also take a look at the example WaterCoachDisplay.xml
- Create the ScenarioScriptDatabase folder structure
<https://publicwiki.deltares.nl/display/FEWSDOC/Scenario+and+Script+database>

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IMFS WaterCoach training 2019-10-08 (Stand alone)

File Tools Dashboards Options Help

United Kingdom

6 : Data Viewer 5 : Forecast Tree 9 : WaterCoach

7 : BIM Reports 8 : Plot Overview

km 100 200 300 400 500

Map Data Display Spatial Display Peak Heights Topology Modifier Web Browser

Logs 2 : Forecaster Notes Forecast Product Info 3 : Run Info

Simone De Kieermaeker Current system time: Tue 08-10-2019 06:45 GMT 06:57:51 GMT 07:57:51 BST **ScenarioScriptDatabase** Stand alone -213631, 622591 0.0 MB/s 265 MB

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IMFS WaterCoach training 2019-10-08 (Stand alone)

System:
host: L01905.DIRECTORY.INTRA
VJDBC port: vjdbc server not started

Trainee name
Participant

Scenario
2019-01 KFlows

Script
How to use the KFlows display

Experience level
Novice

Start Exit

socket: not connected

Stand alone: 840937, 624436 0.0 MB/s 280 MB

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IMFS WaterCoach training 2019-10-08 (Water Coach)

Water Coach
Tue 08 January 2019
09 00 39

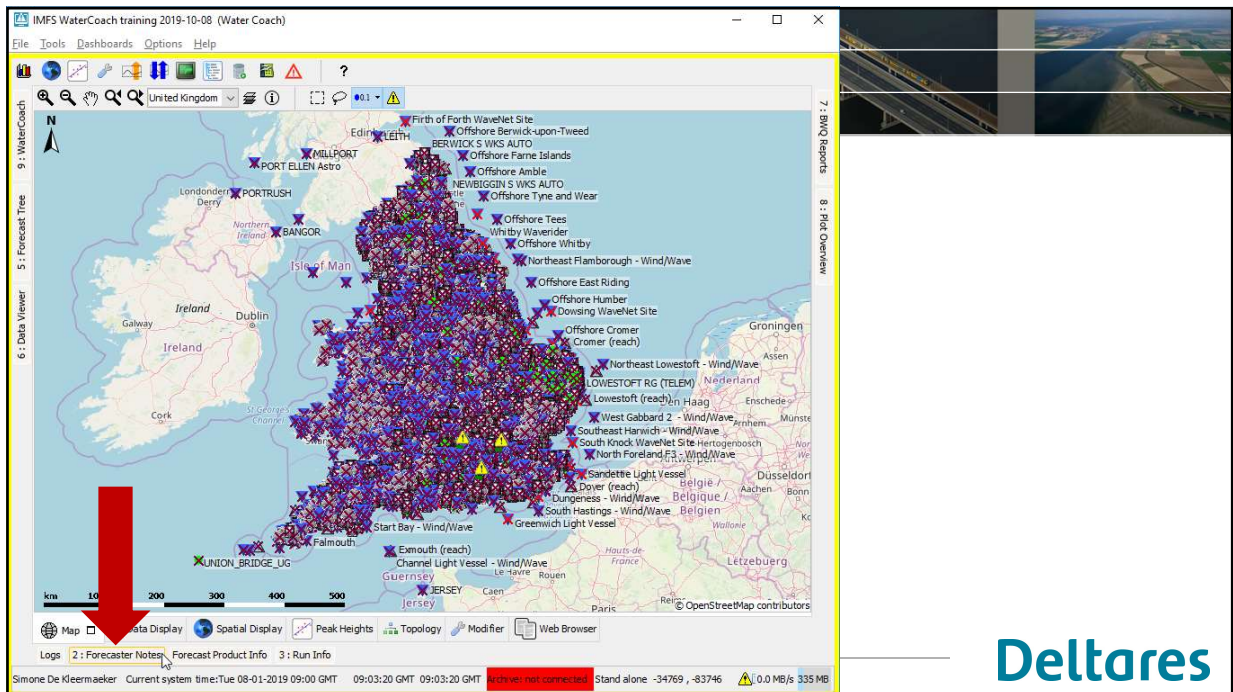
Actions
inbox
Forecast

Dictionary
Help
Exit

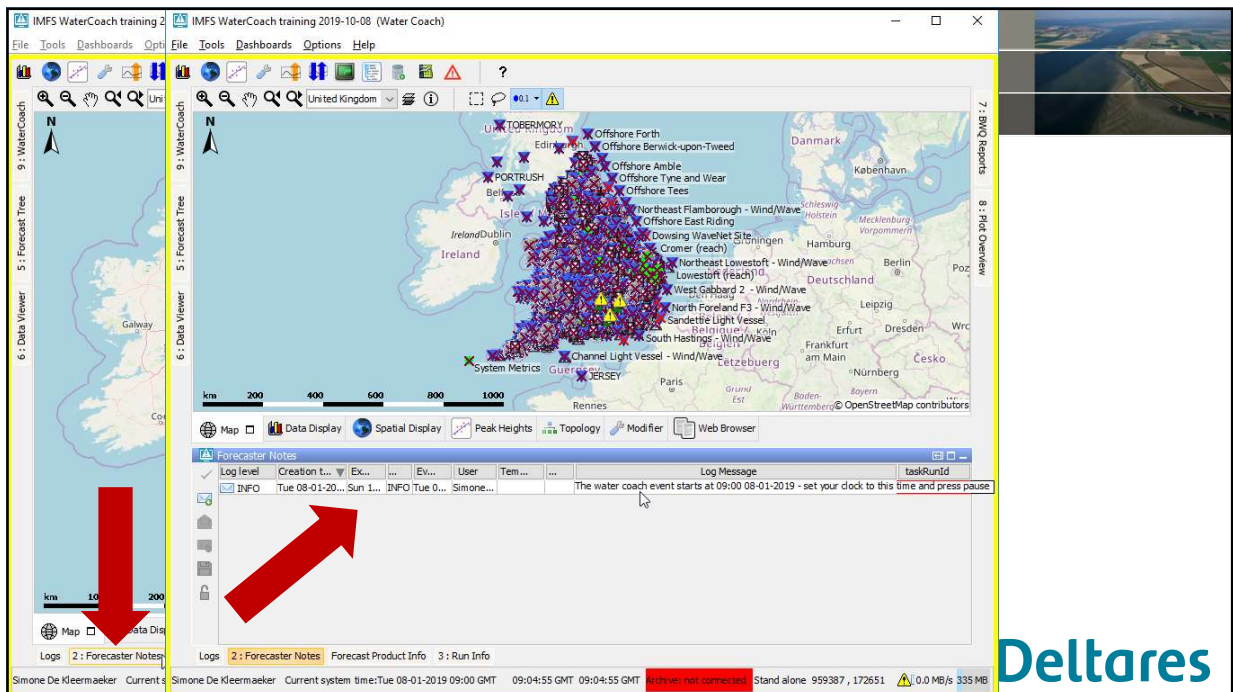
socket: not connected

Stand alone: 618712, 624505 0.0 MB/s 318 MB

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IMFS WaterCoach training 2019-10-08 (Water Coach)

Water Coach
Wed 09 January 2019
12:00:00

Log level	Creation t...	Ex...	Ev...	User	Tem...	Log Message	taskRunid
INFO	Tue 08-01-20...	Sun 1...	INFO	Tue 0...	Simone...	The water coach event starts at 09:00 08-01-2019 - set your dock to th...	SA10
INFO	Wed 09-01-2...	Sun 1...	INFO	Wed 0...	Simone...	Open the KFlows ddisplay from the FFPS Explorer Tools menu	SA10

Simone De Kleermaeker Current system time: Tue 09-01-2019 12:00:00 GMT 12:00:00 GMT 12:00:00 GMT Active not connected Stand alone 959387, 172651 0.0 MB/s 415 MB

IMFS WaterCoach training 2019-10-08 (Water Coach)

The script has ended.

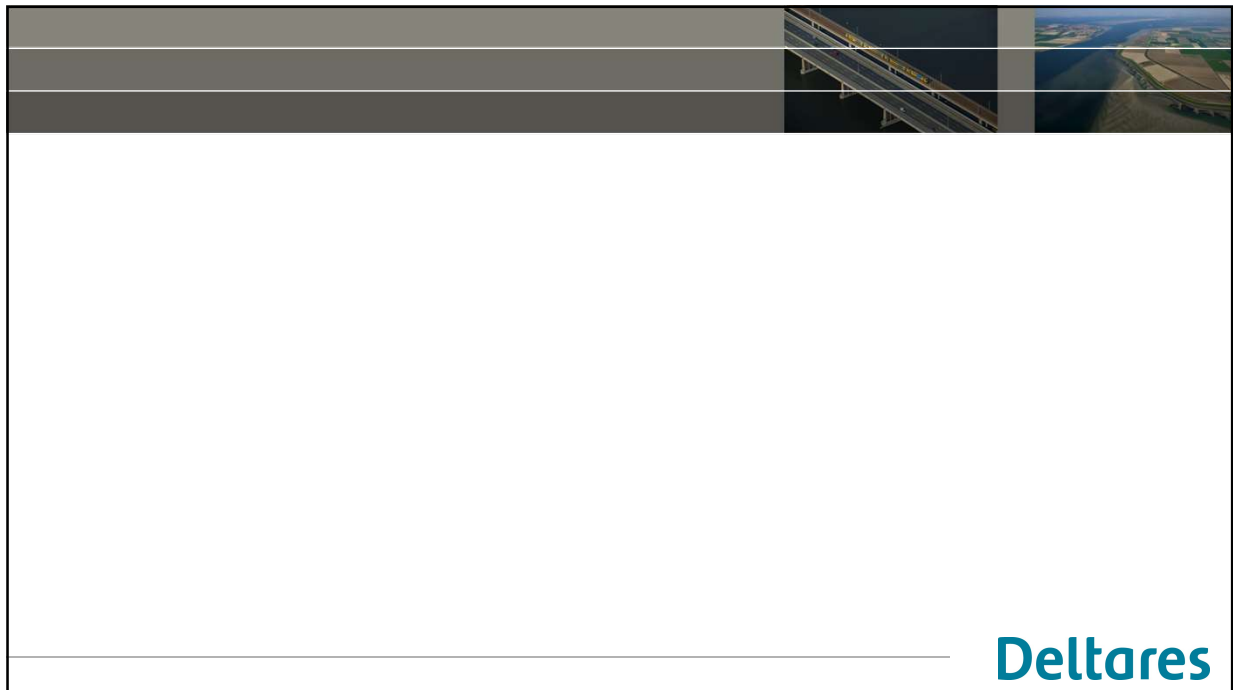
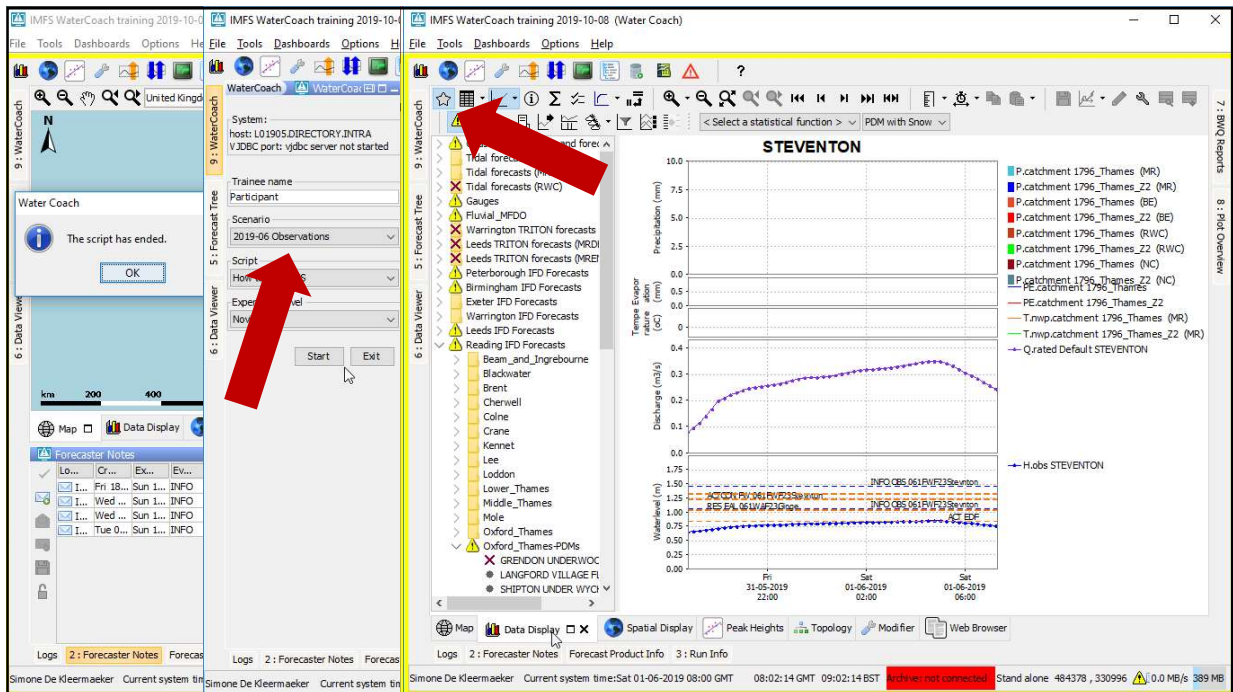
Water Coach
Fri 18 January 2019
09:00:01



Lo...	Cr...	Ex...	Ev...	Ev...	User	Te...	Se...	Log Message	ta...
INFO	Fri 18...	Sun 1...	INFO	Fri 18...	Simon...			Step 3	SA10
INFO	I... Wed ...	Sun 1...	INFO	Wed ...	Simon...			Select the Historical mode in the KFlows display,	SA10
INFO	I... Wed ...	Sun 1...	INFO	Wed ...	Simon...			Open the KFlows display from the FFPS Explorer Tools menu	SA10
INFO	I... Tue 0...	Sun 1...	INFO	Tue 0...	Simon...			The water coach event starts at 09:00 08-01-2019 - set your dock to this time and press pa...	SA10

Simone De Kleermaeker Current system time: Sat 19-01-2019 09:00:00 GMT 09:00:00 GMT 09:00:00 GMT Active not connected Stand alone 1044429, 9253 0.0 MB/s 301 MB

This screenshot shows the IMFS WaterCoach training interface for 2019-10-08 in 'Stand alone' mode. The main window displays a map of the United Kingdom with numerous data points plotted across the country. On the left, there are several panels: 'WaterCoach' with system information (host: L01905.DIRECTORY.INTRA, V JDBC port: vjdbc server not started), 'Trainee name' and 'Participant' fields, 'Scenario' set to '2019-06 Observations', and 'Script' set to 'How to use IMFS'. Below these are 'Experience level' (Novice) and 'Start'/'Exit' buttons. A red arrow points to the 'Start' button. The bottom status bar shows 'Simone De Kleermaeker Current system time: Tue 08-10-2019 06:45 GMT 07:13:43 GMT 08:13:43 BST Active: not connected Stand alone -88624 , 468056 0.0 MB/s 354 MB'. The 'eltares' logo is visible in the bottom right corner.

This screenshot shows the IMFS WaterCoach training interface for 2019-10-08 in 'Water Coach' mode. The main window displays a map of the United Kingdom with data points. On the left, the 'WaterCoach' panel is similar to the previous screenshot, but the 'System' information now includes 'host: L01905.DIRECTORY.INTRA V JDBC port: vjdbc server not started'. The 'Start' button is highlighted with a red arrow. On the right, a 'Water Coach' window is open, showing a timer at '00:00:38', a 'Communication' section with 'Hints', 'Actions', 'Inbox', and 'Forecast' buttons, and a 'Dictionary' dropdown. The bottom status bar shows 'Simone De Kleermaeker Current system time: Sat 01-06-2019 00:00 GMT 00:00:38 GMT 01:00:38 BST Active: not connected Stand alone 642036 , 579642 0.0 MB/s 522 MB'.






Create scenario from the Open Archive

After this training, I can

- [Set up a WaterCoach environment](#)
- [Generate a scenario from the Open Archive](#)
- [Create a new WaterCoach script](#)
- [Set up a WaterCoach exercise](#)




Open Archive

The [Open Archive](#) is an optional component to the Delft-FEWS software. It allows for [long term storage](#) of; observations, forecasts, external forecasts, rating curves, products, forecaster notes and configuration.

The archive can be accessed from the Delft-FEWS client by the so-called "archive display". From this display the archive can be queried and [data can be downloaded to the local file system](#) and imported in a Delft-FEWS local data store.

The Delft-FEWS archive can be coupled to the Delft-FEWS central database. When historical data is not found in the central database, the Delft-FEWS data store will be searched and used from the archive. This feature, the [seamless integration](#), is available in the time series display for external historical scalar data and in the pi-web service also for simulated forecast scalar data.



Water Coach & Open Archive Integration

Water Coach can use data from the Open Archive
 Data can be queried and imported in with the Archive Catalogue display
 Step-by-step procedure to create WaterCoach scenario from Open Archive



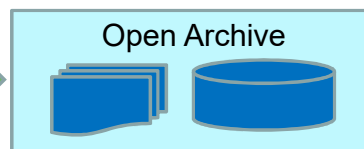
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Water Coach & Open Archive Integration

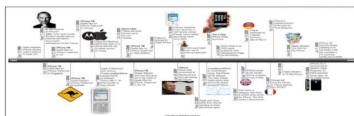
How to create a WaterCoach Scenario and Script



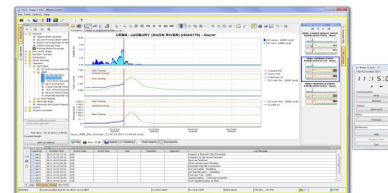
Live system to import and process data. All relevant data is stored in Open Archive



A period can be 'tagged' in the Archive as a WaterCoach event. The data can easily be downloaded and used in a WaterCoach Scenario



Trainer to make a script with learning objectives in mind, and to add additional information



Scenario database together with the Script will form a WaterCoach Training

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What can be stored in the Open Archive?

- Delft-FEWS can archive the following **Types** of data
 - exportConfig: Current **FEWS configuration** files
 - exportProducts: Created end products (**reports**, pdf, export files)
 - exportSnapShot: Creates a **dump of the database** as local.ldb
 - exportExternalForecast: **External Forecast time series** (scalars and grids)
 - exportMessages: Bulletin board log messages (**forecaster notes**)
 - exportSimulated: **Simulates time series** (scalars and grids) with **modifiers**, **model states**, reports (run information)
 - exportObserved **External historical** (observed) time series (scalars and grids)
 - exportRatingCurves **Rating Curve time series**
- All archived data is stored in NetCDF files with an additional metadata file
- Metadata.xml file is used by the catalogue (is harvested)

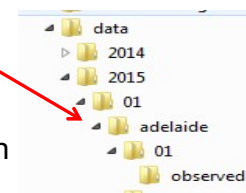
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Archive Display – Area, Period, Dataset, Source

<https://publicwiki.deltares.nl/display/FEWSDOC/25.+Using+the+Deltares+Open+Archive>

Areas and **Sources** are used to be able to organize and filter the archived data

- **Areas** are used in the folder name of the Archive folders
- **Sources** can be used to subdivide archived series
 - NWP forecasts (external forecasts) are best split up in multiple **sources** (UKMO, ECMWF, GFS)



search and download datasets create a new event search and download events

select data sets to download

area: No area selected
 No area selected
 BWQ
 Birmingham
 England and Wales
 Exeter
 FFC
 Leeds
 Peterborough

creation time is between: Sun 22-09-2019 14:00:00 data set: messages
 Wed 02-10-2019 14:00:00 source: No source selected

data set	source	archive time	time zero	start	end	file size (MB)

Map Data Display Spatial Display Peak Heights Topology Modifier Web Browser Archive Catalogue

Archive: prepare the Stand Alone

1. Stop the Delft-FEWS Stand Alone and delete (or rename) your localdataStore folder
2. Start the Delft-FEWS Stand Alone with an empty database

search and download datasets | create a new event | search and download events

select data sets to download

area: Australia | external forecast time is between: Mon 09-04-2018 05:00:00 to Thu 19-04-2018 05:00:00 | data set: external forecast | source: No source selected

data set	area	source	archive time	time zero	start	end	file size (MB)
external forecast	Australia	OCF	Tue 10-04-2018 16:02:58	Mon 09-04-2018 07:00:00	Mon 09-04-2018 07:00:00	Wed 18-04-2018 22:00:00	1.02
external forecast	Australia	ACCESSC_BN	Wed 11-04-2018 16:01:11	Mon 09-04-2018 16:00:00	Mon 09-04-2018 16:00:00	Wed 11-04-2018 04:00:00	0.39
external forecast	Australia	ACCESSC_BN	Wed 11-04-2018 16:01:13	Mon 09-04-2018 10:00:00	Mon 09-04-2018 10:00:00	Tue 10-04-2018 22:00:00	0.33
external forecast	Australia	ACCESSC_AD	Wed 11-04-2018 16:00:55	Tue 10-04-2018 04:00:00	Tue 10-04-2018 04:00:00	Wed 11-04-2018 22:00:00	1.49
external forecast	Australia	ACCESSC_AD	Wed 11-04-2018 16:00:58	Mon 09-04-2018 22:00:00	Mon 09-04-2018 22:00:00	Wed 11-04-2018 10:00:00	0.92
external forecast	Australia	ACCESSC_AD	Wed 11-04-2018 16:00:59	Mon 09-04-2018 16:00:00	Mon 09-04-2018 16:00:00	Wed 11-04-2018 04:00:00	0.51
external forecast	Australia	ACCESSC_AD	Wed 11-04-2018 16:01:01	Mon 09-04-2018 10:00:00	Mon 09-04-2018 10:00:00	Tue 10-04-2018 22:00:00	0.38

Archive: search & download datasets – search

<https://publicwiki.deltares.nl/display/FEWSDOC/25.+Using+the+Deltares+Open+Archive>

Investigate which data is available for the June 2019 event

search and download datasets | create a new event | search and download events

select data sets to download

area: England and Wales | time series is between: Sat 01-06-2019 00:00:00 to Mon 01-07-2019 00:00:00 | data set: observed time series | source: No source selected

data set	area	source	archive time	time zero	start	end	file size (MB)
Flow_Rated.nc	England and Wales	Fluvial Gauges	Sat 06-07-2019 07:...	--	Mon 01-07-2019 00...	Mon 01-07-2019 23...	0.64
Astronomical_15mi...	England and Wales	Coastal Gauges	Sat 06-07-2019 07:...	--	Mon 01-07-2019 00...	Mon 01-07-2019 23...	0.36
Moses.nc	England and Wales	Moses	Wed 03-07-2019 07...	--	Mon 01-07-2019 00...	Mon 01-07-2019 23...	8.22
Radar_Actuals.nc	England and Wales	Radar	Wed 03-07-2019 07...	--	Mon 01-07-2019 00...	Mon 01-07-2019 23...	13.03
Astronomical_none...	England and Wales	Coastal Gauges	Mon 01-07-2019 07...	--	Sun 30-06-2019 00:...	Sun 30-06-2019 23...	0.71
Astronomical_none...	England and Wales	Coastal Gauges	Mon 01-07-2019 07...	--	Sun 30-06-2019 00:...	Sun 30-06-2019 23...	0.71

Map | Data Display | Peak Heights | Topology | Modifier | Web Browser | Archive Catalogue

Archive: search & download datasets – search

<https://publicwiki.deltares.nl/display/FEWSDOC/25.+Using+the+Deltares+Open+Archive>

Investigate which data is available for the June 2019 event

search and download datasets create a new event search and download events

select data sets to download

area: England and Wales time series is between: Sat 01-06-2019 00:00:00 data set: **observed time series** source: No source selected

search and download datasets create a new event search and download events

select data sets to download

area: England and Wales external forecast time is between: Sat 01-06-2019 00:00:00 data set: **external forecast** source: No source selected

data set	area	source	archive time	time zero	start	end	file size (MB)
external forecast	England and Wales	MO Wave Shortran...	Mon 01-07-2019 07:...	Mon 01-07-2019 00:...	Mon 01-07-2019 00:...	Wed 03-07-2019 0...	5.51
external forecast	England and Wales	MO Wind Mediumra...	Tue 02-07-2019 07:...	Mon 01-07-2019 00:...	Mon 01-07-2019 00:...	Sat 06-07-2019 00:...	33.52
external forecast	England and Wales	MO Wind Shortrang...	Tue 02-07-2019 07:...	Mon 01-07-2019 00:...	Mon 01-07-2019 00:...	Wed 03-07-2019 0...	23.19
external forecast	England and Wales	Nowcast	Tue 02-07-2019 07:...	Mon 01-07-2019 00:...	Mon 01-07-2019 00:...	Mon 01-07-2019 06:...	2.97
external forecast	England and Wales	NWP Mediumrange ...	Tue 02-07-2019 07:...	Mon 01-07-2019 00:...	Mon 01-07-2019 00:...	Sat 06-07-2019 00:...	5.65
external forecast	England and Wales	Nowcast	Tue 02-07-2019 07:...	Sun 30-06-2019 23:...	Mon 01-07-2019 00:...	Mon 01-07-2019 05:...	2.97

Map Data Display Peak Heights Topology Modifier Web Browser Archive Catalogue

Archive: search & download datasets – import

<https://publicwiki.deltares.nl/display/FEWSDOC/25.+Using+the+Deltares+Open+Archive>

Select the relevant data sets

Download from the archive and import into the LDS
(or copy these files from the hard drive and import by hand)

search and download datasets create a new event search and download events

select data sets to download

area: England and Wales external forecast time is between: Sat 01-06-2019 00:00:00 data set: external forecast source: No source selected

download and import data

data set	area	source	archive time	time zero	start	end	file size (MB)
external forecast	England and Wales	Nowcast	Mon 03-06-2019 06:...	Mon 03-06-2019 04:...	Mon 03-06-2019 05:...	Mon 03-06-2019 10:...	3.06
external forecast	England and Wales	Nowcast	Mon 03-06-2019 06:...	Mon 03-06-2019 04:...	Mon 03-06-2019 04:...	Mon 03-06-2019 10:...	3.07
external forecast	England and Wales	Nowcast	Mon 03-06-2019 06:...	Mon 03-06-2019 04:...	Mon 03-06-2019 04:...	Mon 03-06-2019 10:...	3.07
external forecast	England and Wales	NWP Shortrange Fo...	Tue 04-06-2019 07:...	Mon 03-06-2019 03:...	Mon 03-06-2019 03:...	Tue 04-06-2019 15:...	13.2
external forecast	England and Wales	MOWave	Mon 03-06-2019 06:...	Mon 03-06-2019 00:...	Mon 03-06-2019 00:...	Wed 05-06-2019 0...	5.91

Deltares

Archive: search & download datasets – download

<https://publicwiki.deltares.nl/display>

(or copy these files from hard drive and import by hand)

data set	area	source
Groundwater_Obs...	England and Wales	Fluvial Gauges
Flow_Rated.nc	England and Wales	Fluvial Gauges
Astronomical_15...	England and Wales	Coastal Gauges
Moses.nc	England and Wales	Moses
Radar_Actuals.nc	England and Wales	Radar
Astronomical_pos...	England and Wales	Coastal Gauges

Archive: create new event

<https://publicwiki.deltares.nl/display/FEWSDOC/25.+Using+the+Deltares+Open+Archive>

Archive Event Types are used to facilitate tagging and download of data. Make sure:

- You use the same description for all areas of the same event.
To test this: When you search for this event, filter on the description.
- Astro timeseries run far enough into the future to cover the event

event properties

area: England and Wales

start time: Tue 01-10-2019 14:45:00

end time: Wed 02-10-2019 14:45:00

name: []

description: []

event type: Calibration Event

ires

Archive: create a new event – create

<https://publicwiki.deltares.nl/display/FEWSDOC/25.+Using+the+Deltares+Open+Archive>

Create an event, by tagging the data you've found for the June 2019 event

- Don't all make the same event
- Tag Watercoach Event

Summary of archive data

- simulated data: 0 Mb
- observed data: 2448.08 Mb
- parameters in observed data: 41 available, 41 selected
- locations in observed data: 4129 available, 4129 selected
- external forecast data: 16382.04 Mb
- messages files: 0
- rating curves files: 0
- configuration files: 11
- report files: 0
- snapshots: 0 Mb

Archive: create a new event – save locally

<https://publicwiki.deltares.nl/display/FEWSDOC/25.+Using+the+Deltares+Open+Archive>

Save the event locally

name	description	creation time	start time	end time	area	event type
2019-06_flood_...	June 2019 Flood Event	Thu 03-10-2019 1...	Sat 01-06-2019 0...	Mon 01-07-2019 0...	England and Wales	water coach event
Morning Event		Wed 05-06-2019 ...	Sun 02-06-2019 2...	Tue 04-06-2019 2...	England and Wales	historic event
TEst 2		Tue 04-06-2019 2...	Mon 27-05-2019 0...	Mon 03-06-2019 0...	England and Wales	calibration event
Test FFFS		Tue 04-06-2019 2...	Mon 27-05-2019 0...	Tue 04-06-2019 0...	England and Wales	calibration event

Archive: create a new event – upload

<https://publicwiki.deltares.nl/display/FEWSDOC/25.+Using+the+Deltares+Open+Archive>

You can upload events you've created to the archive with the upload button
Once they are uploaded, others can see your event

name	description	creation time	start time	end time	area	event type
[2019-06_flood_...	June 2019 Flood Event	Thu 03-10-2019 1...	Sat 01-06-2019 0...	Mon 01-07-2019 0...	England and Wales	water coach event
Morning Event		Wed 05-06-2019 ...	Sun 02-06-2019 2...	Tue 04-06-2019 2...	England and Wales	historic event
TEst 2		Tue 04-06-2019 2...	Mon 27-05-2019 0...	Mon 03-06-2019 0...	England and Wales	calibration event
Test FFFS		Tue 04-06-2019 2...	Mon 27-05-2019 0...	Tue 04-06-2019 0...	England and Wales	calibration event

Archive: search & download events – search

<https://publicwiki.deltares.nl/display/FEWSDOC/25.+Using+the+Deltares+Open+Archive>

In the Archive Catalogue display go to the tab “search and download events”

- Select an Area, Select (wide) time period, Press Search
- Filter for watercoach event

name	description	creation time	start time	end time	area	event type
Morning Event		Wed 05-06-201...	Sun 02-06-2019...	Tue 04-06-2019 20...	England and Wales	historic event
TEst 2		Tue 04-06-2019...	Mon 27-05-201...	Mon 03-06-2019 0...	England and Wales	calibration event
Test FFFS		Tue 04-06-2019...	Mon 27-05-201...	Tue 04-06-2019 07...	England and Wales	calibration event

Archive: search & download events – interrogate

<https://publicwiki.deltares.nl/display/FEWSDOC/25.+Using+the+Deltares+Open+Archive>

You can check the contents of an event data set(s)
🔍 Summary, ⚙️ Parameters, 📍 Locations

The screenshot shows the search interface with the following details:

- Search filters:** area: England and Wales; start time: Mon 01-01-1900 00:00:00; end time: Wed 02-10-2019 14:45:00; thresholds: No threshold selected.
- Summary of archive data (highlighted in red):**
 - simulated data: 0 Mb
 - observed data: 226.69 Mb
 - parameters in observed data: 41 available, 2 selected
 - locations in observed data: 3897 available, 1 selected
 - external forecast data: 747.25 Mb
 - messages files: 0
 - rating curves files: 0
 - configuration files: 2
 - report files: 0
 - snapshots: 0 Mb
- Event List Table:**

name	description	creation time	start time	end time	area	event type
Morning Event		Wed 05-06-201...	Sun 02-06-2019...	Tue 04-06-2019 20:...	England and Wales	historic event
TTest 2		Tue 04-06-2019...	Mon 27-05-201...	Mon 03-06-2019 0...	England and Wales	calibration event
Test FFFS		Tue 04-06-2019...	Mon 27-05-201...	Tue 04-06-2019 07:...	England and Wales	calibration event

Archive: search & download events – download

<https://publicwiki.deltares.nl/display/FEWSDOC/25.+Using+the+Deltares+Open+Archive>

If all data in this dataset is relevant:

1. Select an event and download the data set with the download and import button
2. From the Data Viewer, check if the data has been imported

The screenshot shows the search interface with the following details:

- Search filters:** area: England and Wales; start time: Mon 01-01-1900 00:00:00; end time: Wed 02-10-2019 14:45:00; thresholds: No threshold selected.
- Buttons:** The 'download and import data' button is highlighted with a red box.
- Event List Table:**

name	description	creation time	start time	end time	area	event type
2019-06_flood_e...	June 2019 Flood Event	Thu 03-10-2019 13:...	Sat 01-06-2019 00:...	Mon 01-07-2019 00:0:...	England and Wales	water coach event
Morning Event		Wed 05-06-2019 1...	Sun 02-06-2019 20:...	Tue 04-06-2019 20:0:...	England and Wales	historic event
TTest 2		Tue 04-06-2019 21:...	Mon 27-05-2019 0...	Mon 03-06-2019 07:0:...	England and Wales	calibration event
Test FFFS		Tue 04-06-2019 21:...	Mon 27-05-2019 0...	Tue 04-06-2019 07:0:...	England and Wales	calibration event

Archive: search & download events – download

<https://publicwiki.deltares.nl/display/FEWSDOC/25.+Using+the+Deltares+Open+Archive>

If the dataset contains more information than you need:

1. Select an event and download the data set with the download button
2. ...

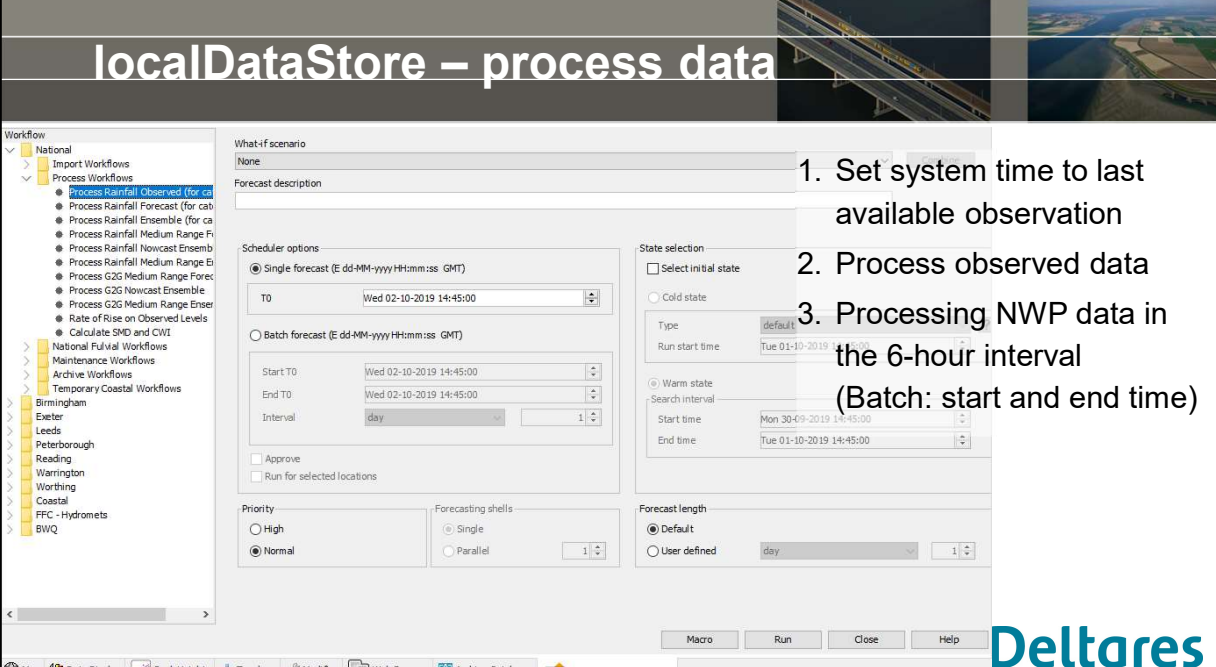
download data	description	creation	start time	end time	area	event type
2019-06_flood_e...	June 2019 Flood Event	Thu 03-10-2019 13...	Sat 01-06-2019 00...	Mon 01-07-2019 00:0...	England and Wales	water coach event
Morning Event		Wed 05-06-2019 1...	Sun 02-06-2019 20...	Tue 04-06-2019 20:0...	England and Wales	historic event
TTest 2		Tue 04-06-2019 21...	Mon 27-05-2019 0...	Mon 03-06-2019 07:0...	England and Wales	calibration event
Test FFFS		Tue 04-06-2019 21...	Mon 27-05-2019 0...	Tue 04-06-2019 07:0...	England and Wales	calibration event

Archive: search & download events – import

<https://publicwiki.deltares.nl/display/FEWSDOC/25.+Using+the+Deltares+Open+Archive>

2. Remove data from download folder you don't want to import (e.g. NWP grids)
3. Import all downloaded data with the Archive Import workflow

localDataStore – process data



The screenshot shows the 'localDataStore' software interface. On the left is a tree view of workflows under 'National' and 'Process Workflows'. The main area is titled 'What-if scenario' and contains several configuration sections:

- Forecast description:** None
- Scheduler options:**
 - Single forecast (E dd-MM-yyyy HH:mm:ss GMT) with T0: Wed 02-10-2019 14:45:00
 - Batch forecast (E dd-MM-yyyy HH:mm:ss GMT) with Start T0: Wed 02-10-2019 14:45:00, End T0: Wed 02-10-2019 14:45:00, Interval: day, 1
- State selection:**
 - Select initial state
 - Cold state
 - Warm state
- Forecast length:**
 - Default
 - User defined: day, 1

Buttons at the bottom include 'Macro', 'Run', 'Close', and 'Help'. The Deltares logo is in the bottom right corner.

1. Set system time to last available observation
2. Process observed data
3. Processing NWP data in the 6-hour interval (Batch: start and end time)



localDataStore – check data and save it

- Spend time checking your local data store in Spatial display. Spot check every x hours (change current system time) if data is complete.
- Make a backup of your local data store and all the data for the water coach event

ScenarioScriptDatabase

- Create a folder for the event in the SSD and copy your LDS there
- Create a folder for the script and copy a script_config.xml in there


The Deltares logo is in the bottom right corner.

Create script

After this training, I can

- [Set up a WaterCoach environment](#)
- [Generate a scenario from Open Archive](#)
- [Create a new WaterCoach script](#)
- [Set up a WaterCoach exercise](#)



WaterCoach – Learning Objectives and Script

- > Communication
 - content and procedures
 - ask the right questions (gather information)
 - supply clear information (e.g. questions from the mayor)
 - deal with interruptions (press, etc)
- > Deal with events (less relevant)
 - failing of measurements, tools, phone lines, etc
 - events that influence procedures like a sinking ship, etc

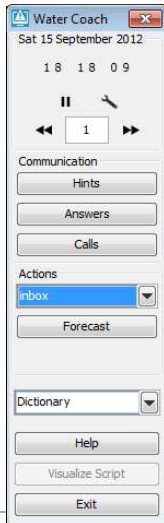
How can we reach these learning objectives?

- Select (and edit) interesting scenario
- Adapt the script to the needs of the player



Script options

<https://publicwiki.deltares.nl/display/FEWSDOC/Script+configuration>



script_config.xml (fixed name)

- Timeline
- Stories Inbox which delivers information to the student
Assignments, specific tasks
 - Frames “Phone-lines” to be approached pro-actively
- Forecast table
 - Conditions
- Dictionary files Test / train knowledge of terminology or theory

Note: clock buttons are configured in DisplayConfigFiles/WaterCoachDisplay.xml



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Let's get to work - script_config.xml

<https://publicwiki.deltares.nl/display/FEWSDOC/Script+configuration>

The exercises will walk through different options of a script.
Get creative!

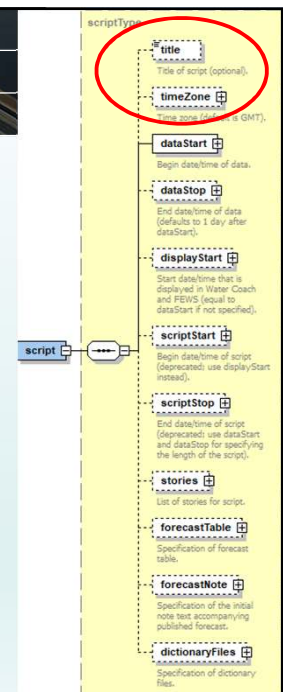
Note: the script file should be named *script_config.xml*

Look at the provided example, or check out the wiki

For starters:

Change the title
(has no effect in displays, will help you as a script developer)

Change the timeZone
(limited list available, timeZone should also be lisiin Explorer.xml, WaterCoach clock doesn't show the time zone used)

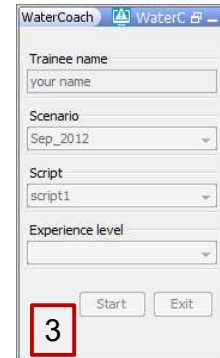
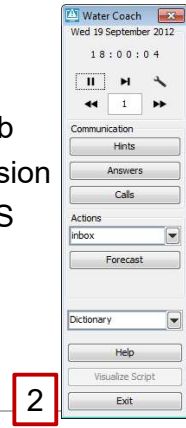
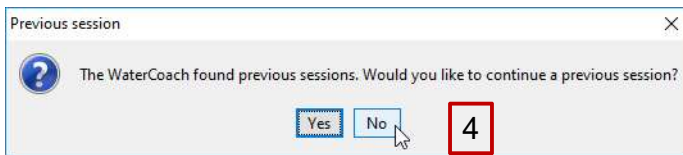


Watercoach development – work in progress

Changes to WaterCoachDisplay.xml can be effectuated by reloading FEWS (F5)
 Changes to the script_config.xml can be effectuated by restarting WaterCoach

1. Save file
2. Press exit in floating WaterCoach display
3. Start a new session in the WaterCoach tab
4. Choose whether to continue previous session


Note: no F5 and no need to exit Delft-FEWS

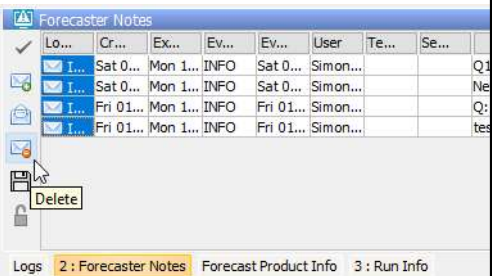
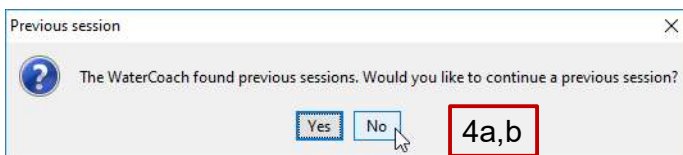


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Watercoach development – work in progress

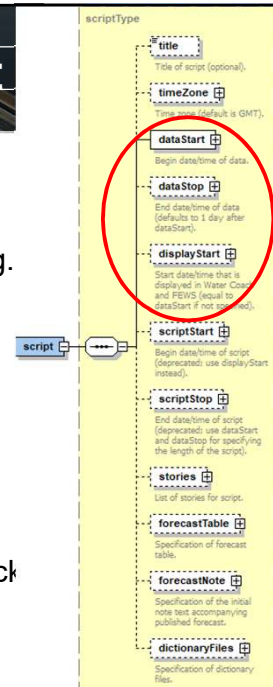
Changes to WaterCoachDisplay.xml can be effectuated by reloading FEWS (F5)
 Changes to the script_config.xml can be effectuated by restarting WaterCoach

- 4a. Choose **No** to start from scratch and get a fresh copy of the LDS
- 4b. Choose **Yes** to restart at the WC time you've left of, with the same LDS and WC messages already there. Remove selected WC messages with the  Delete button in Forecaster Notes display



script_config.xml – time management

- `<dataStart>` Begin of data = actual date of the actual data imported from archive.
Spend some time to find the right block of data for a training. All date/time stamps in script will be in line with `dataStart`.
- `<dataStop>` End of data (defaults to 1 day after `dataStart`)
- `<displayStart>` Don't use when you're developing the script. (defaults to `dataStart`).
When the script is finished, use this to shift the data to a specified date/time. If you use the date and start time of the training, the watercoach time will be in line with the wall clock time.



script_config - Example

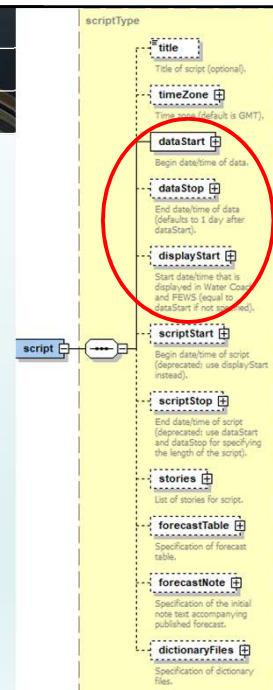
Start the Water Coach demo, follow the on-screen instructions.

What is the difference between `<dataStart>` and `<displayStart>`? How can you use this?

For how long does the example script run?

Change the length of the script by changing the value of the `<DataStop>` keyword (in the file "script_config.xml" in the appropriate directory of the scenario database).

Test it!



Making a script interactive

Timeline of iPhone events:

- 1999: Apple registers iPhone.org and makes it redirect to Apple.com
- Oct 11 2001: Steve Jobs: "It will never be an iPhone? ... We don't usually discuss products we haven't announced"
- Oct 14 2004: iPhone TM (Apple files for iPhone Trademark in Canada)
- Oct 17 2002: iPhone TM (Apple files for iPhone Trademark in UK)
- Oct 20 2002: iPhone TM (Apple registers iPhone Trademark in Australia)
- Oct 11 2005: Steve Jobs: "There are more iPhones yet to roll out."
- Oct 11 2005: Apple and Motorola admit they work on a phone that will use a mobile version of iTunes
- Oct 11 2005: iPhone TM (Apple files for iPhone Trademark in New Zealand)
- Nov 30 2006: Patent is granted for Apple iPhone
- Dec 12 2006: Linksys, owned by Cisco, launched a Wi-Fi phone named iPhone. Cisco owned the iPhone name since 2005.
- Jan 11 2007: Cisco buys Apple over use of iPhone trademark
- Jan 26 2007: The D Day! iPhone finally launched.
- Jul 10 2007: Since there is no such apple, published Web Development Page for the iPhone.
- Oct 31 2007: iPhone is named invention of the year by Time Magazine.
- Oct 31 2007: iPhone confirmed for T-Mobile Germany, also on Nov 9.
- Mar 02 2008: Apple releases the SDK for the iPhone
- Apr 11 2008: iPhone 3G is announced at WWDC 2008. Features 3G, GPS and third party apps, all at a lower price.
- Oct 19 2002: iPhone TM (Apple files for iPhone Trademark in Singapore)
- Oct 24 2005: iPhone TM (Apple registers iPhone Trademark in Australia)
- Oct 24 2005: Apple & Motorola's joint venture, iTunes enabled phone named RIM10 is released. Steve calls it "an iPod Shuffle on your phone"
- Oct 24 2005: iPhone TM (Ocean Telecom Services) through to Apple files for iPhone Trademark in the US)
- Jan 22 2007: Official! Steve Jobs announced at MacWorld that they will release the iPhone
- Mar 29 2007: Engadget publishes an unconfirmed rumor that iPhone will be delayed. The news makes Apple stocks drop almost 3% (that's around \$4 billion)
- Apr 15 2007: Apple and Cisco settle their dispute, according to share the iPhone name.
- Apr 15 2007: iPhone comes to UK via O2. Will be available on Nov 9 2007.
- Apr 15 2007: iPhone comes to France starting on Nov 29 2007.
- Apr 15 2007: iPod Touch is released. Also there is a \$200 price cut for the iPhone. The 4GB OS model is discontinued.

Stories – adds choices for player

Present player with a choice. This is geared towards the task of gathering data.

If the player calls the right person during the proper timeslot, the player gets additional information.

timelines

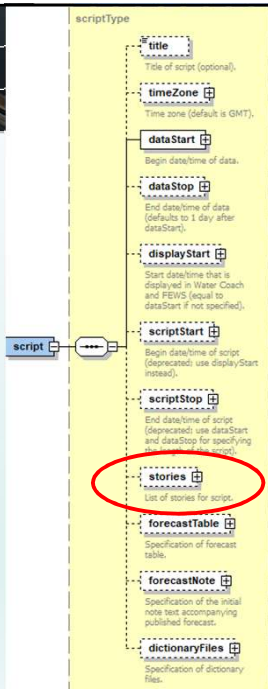
Story KNMI	Frame 1	2		
Story HMCZ	Frame A	B		
Story HMCN	Frame i	ii	iii	iv

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Stories – Inbox and other stories

So-called stories can be used to add dynamical content to the script.

Press the “Story” button in the Water Coach to see an example in the example script.

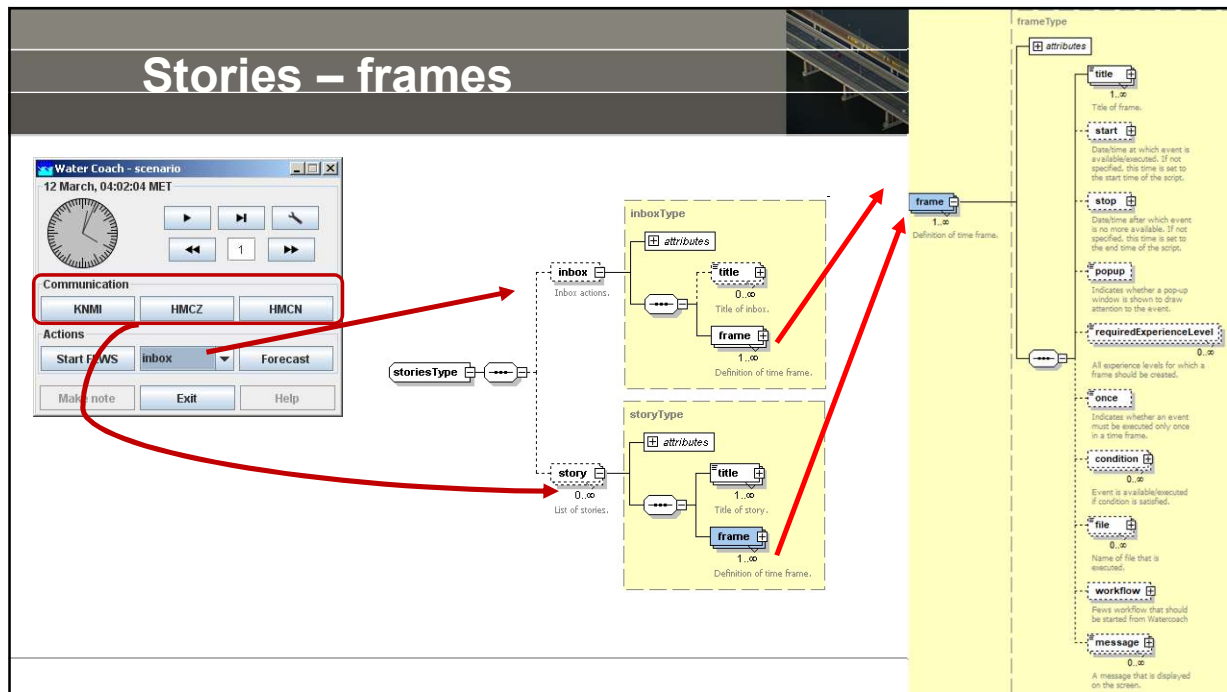


The screenshot shows a configuration window for a script. The 'stories' field is circled in red, indicating its importance. The window includes fields for title, timeZone, dataStart, dataStop, displayStart, scriptStart, scriptStop, stories, forecastTable, forecastNote, and dictionaryFiles.

Stories – Inbox and other stories

- <inbox>: messages that will be delivered automatically to the Forecaster Notes Display on the specified start date/time. These messages can for example contain tips or questions for the user.
- <story>: additional information that will become available in the WaterCoach Display at the specified start date/time. Each frame in the stories refers to a <file> stored in the SSD. E.g.
 - give the user access to background information like a procedures
 - give up-to-date information like Radar images and Current Warnings

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Frame - Start, stop, pop-up

Start and stop keys determine window in time in which the frame is active (format: YYYY-MM-DD hh:mm:ss, optional, default to script start and end)

- Other stories: when time windows overlap, all messages will be pushed to Forecaster Notes when communication button is used (see also: once).

Popup key indicates whether or not to push a message to the Forecaster Notes display at the start of the frame.

- Inbox: popup will push message to Forecaster Notes
- Other stories: push of notification of message availability

Experiment with these keywords
 Add a 2nd story that contains at least 3 frames.
 The 1st frame active for the first 30 seconds,
 the 2nd frame active for the next 30 seconds, and so on.

Frame - Experience level

The requiredExperienceLevel key specifies that an event is only executed for the indicated level.

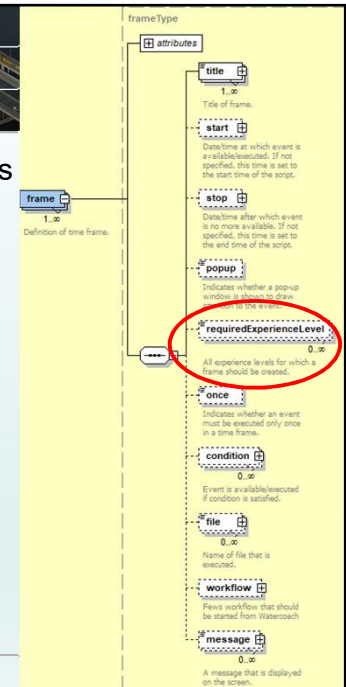
Experience levels are defined in the application configuration as a list
e.g. "Beginner; Intermediate; Expert".

In a frame one refers to these levels by a number (e.g. starting with 0 for Beginner), element can be included multiple times to include several levels.

If this key is not specified, then the event will be executed for all experience levels.

Experiment with experience levels.

Do you want to make changes to your script_config.xml?

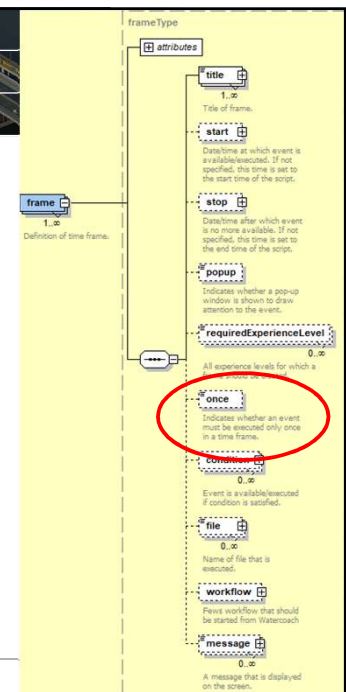


Frame - Once (phone calls)

The once key is a flag indicating that an event must be executed only once during a time frame.

This means that if the story button is activated a 2nd time, the message will not be shown again.

This behaviour is similar to a phone call in real life, opposed to an email which you can always return to.



Frame - Files

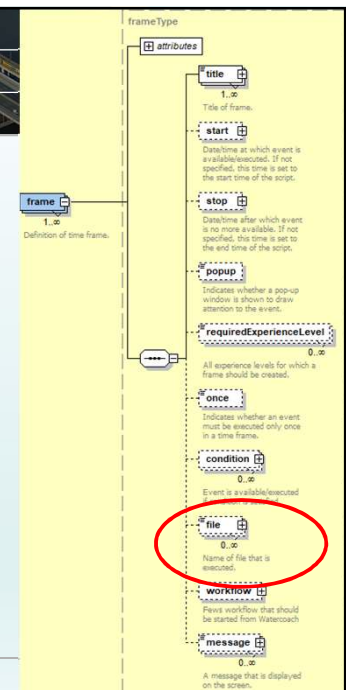
You can refer to files in the scenarioScriptDatabase.

Download an image (e.g. in jpg format) from the internet that you want to show at the beginning of the script (sort of a splash screen).

Add the image to the scenario database directory and add a frame to the inbox that displays this image at the start of the script.

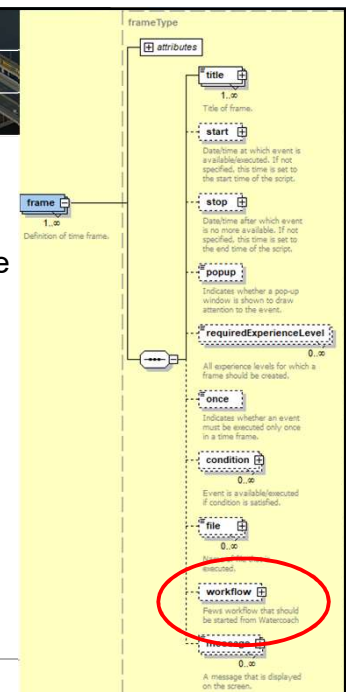
Create a file (e.g. pdf or txt) with a meteo forecast and also add it to a story.

Test it!



Frame – Workflow

- `<workflow>`: Instead of a `<message>` or a `<file>`, you can also run a `<workflow>` from within a story. The workflow is run for the date/time specified. You can use this for example to import NWP data.



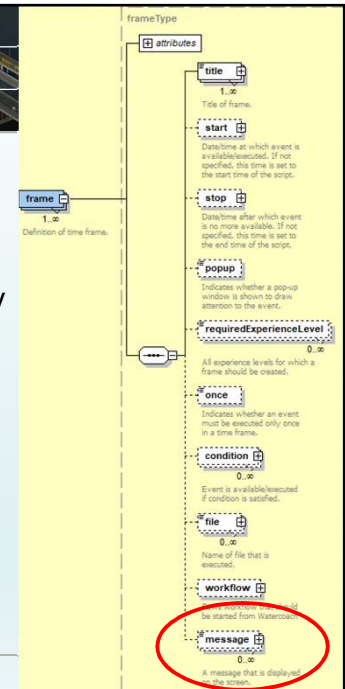
Frame – Message

You can also create (short) message directly in the script using the message format.

You don't refer to a file, but enter the message text directly into the script_config.xml

Add a <Message> event for one time frame.

Test it!

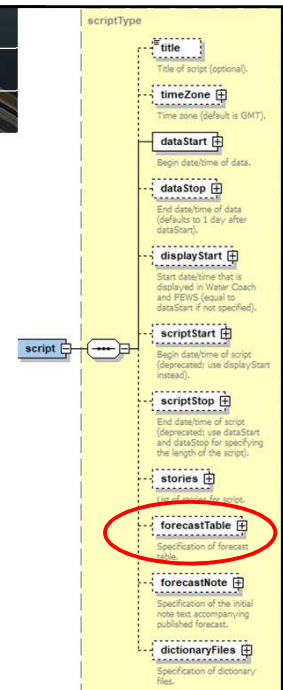


script_config – Forecast table

The goal of the script is to make a forecast.

Press the "Forecast" button to bring up the forecast table.

The content of the forecast table is also configured in the file "script_config.xml".



Forecast table

Fully configurable: number of columns and rows, headers, cells editable columns, units, language.

sector	station	date	time astro HW	astro water level [cm]	SVSD forecast [cm]
Schelde	Viissingen	March 12	17:16	237	
West-Holland	Hoek van Holland	March 12	18:01	122	

```

<forecastTable>
  <header>
    <column id="sector">sector</column>
    [...]
    <column id="astro_level" unit="cm">astro water level</column>
    <column id="svsd_forecast" unit="cm" isEditable="true">SVSD forecast</column>
  </header>
  <row id="Viissingen">
    <cell columnId="sector">Schelde</cell>
    [...]
    <cell columnId="astro_level">237</cell>
  </row>
</forecastTable>
  
```



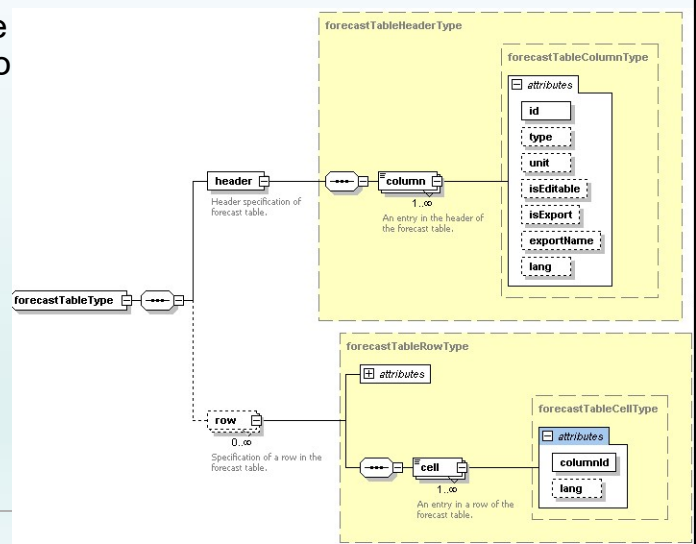
script_config - Forecast table

Add at least one non-editable and one editable column to the forecast table.

Add at least one row to the table.

Use your creativity for suitable content.
Feel free to change the existing content of the forecast table.

Test it!



Conditions (pre-defined in script)

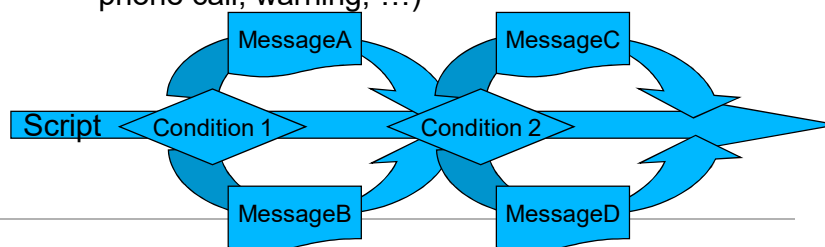
If <event> occurs then <message>

An <event> can be

- prediction above or below a certain value

Such an event can cause

- pop-up of a <message>
 - > Simple version of branching is pop-up of a single message (i.e. phone call, warning, ...)



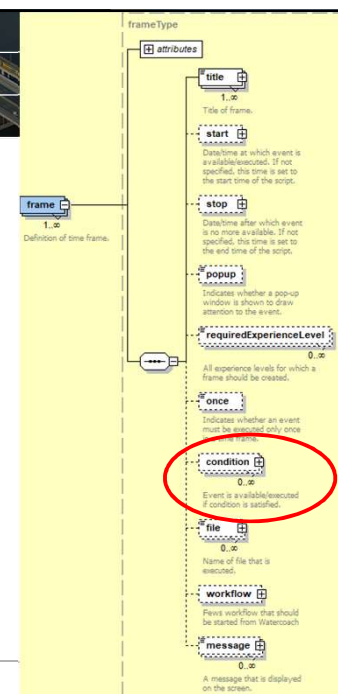
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Frame – Conditions

For each frame (either in the inbox or in a story), a condition can be specified based on the forecast table.

Examples can be found at:

<https://<...>/FEWSDOC/Script+configuration>



Frame – Conditions

Add a condition to a frame

You can also duplicate the frame and use disjunct conditions for the two frames.

Test it!

The diagram illustrates the structure of a `conditionType`. It starts with a `condition` element (containing `0..∞`) which is linked to a `conditionType` element. This type contains `columnId` and `rowId` elements. A central `condition` element (with `0..∞`) is connected via a disjunct operator (two parallel lines) to three sub-conditions: `ifForecastValue`, `ifForecastPublicationTime`, and `ifForecastPublished`. Each sub-condition is further detailed with its own `operator` and `value` elements, and descriptive text:

- `ifForecastValue`: Operator for condition based on integer value. Value: Integer value for condition.
- `ifForecastPublicationTime`: Operator for condition based on dateTime. Value: DateTime value for condition.
- `ifForecastPublished`: Operator for condition based on boolean. Value: Boolean value for condition.

script_config – DictionaryFiles

Reference to dictionary file(s)

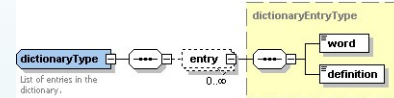
A dictionary file can be specified for an arbitrary number of languages, but only one dictionary file per language is supported

The actual dictionary file, i.e. a separate xml file

The diagram shows the structure of a `scriptType`. It lists several elements: `title` (optional), `timeZone` (default GMT), `dataStart`, `dataStop`, `displayStart`, `scriptStart`, `scriptStop`, `stories`, `forecastTable`, `forecastNote`, and `dictionaryFiles`. The `dictionaryFiles` element is circled in red in the original image. Descriptive text for each element is provided, such as "Begin data/time of data" for `dataStart` and "Specification of dictionary files" for `dictionaryFiles`.

Dictionary.xml

Add your own words and definitions to the dictionary.





This mechanism of a reference guide can also be used as a list of hints for the not so experienced player (experience level 0).

Every time a player looks up a word, this is logged. Therefore, this can be part of the after action evaluation and feedback.

Test it!

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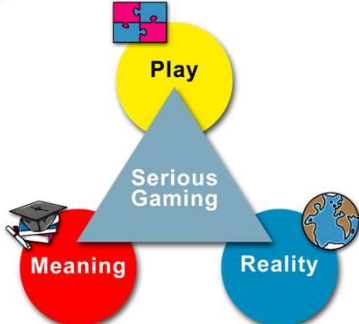
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Create a WaterCoach training

After this training, I can

- [Set up a WaterCoach environment](#)
- [Generate a scenario from Open Archive](#)
- [Create a new WaterCoach script](#)
- [Set up a WaterCoach exercise](#)



Design Scenario and Script





What do you need to edit a scenario to reach the learning objectives?

- Fill Delft-FEWS localDataStore
 - From archive
 - Use saved LDS
 - Run imports, etc...

What do you need to create a script to reach the learning objectives?

- Interactive script
 - Choices (made by player)
 - Conditions (pre-defined in script)
- Format forecast table
- Dictionary
- Feedback



Feedback

Learning is based on feedback, not on a scoring system

Base feedback on

- comparison of player's forecast to
 - > actual forecast
 - > forecasts from previously or simultaneously played games
- choices made and conditions that were triggered
 - > all actions of the player within Water Coach are logged
 - > use of reference material (dictionary.xml)



Watercoach log example

File name:

log-<username>-<datetime start session YYYYMMDDHHMMSS wall clock GMT>

e.g. log-Simone-20191003120610

Stored in %REGION_HOME%/Watercoach/ log/

Datetime computer time	Datetime in game	Log message
2019-10-03 12:06:10 GMT	2019-10-03 12:06:09 GMT	Scenario started.
2019-10-03 12:06:14 GMT	2019-06-01 00:00:04 GMT	Forecast frame activated.
2019-10-03 12:06:20 GMT	2019-06-01 00:00:10 GMT	Forecast column 'Answer' for row 'Q1' published: This is my answer to Q1.
2019-10-03 12:06:20 GMT	2019-06-01 00:00:10 GMT	Forecast note: 'No notes for Q1'.
2019-10-03 12:06:21 GMT	2019-06-01 00:00:11 GMT	Forecast frame activated.
2019-10-03 12:06:23 GMT	2019-06-01 00:00:13 GMT	Forecast column 'Answer' for row 'Q1' published: This is my answer to Q1.
2019-10-03 12:06:23 GMT	2019-06-01 00:00:13 GMT	Forecast column 'Answer' for row 'Q2' published: This is my answer to Q2.
2019-10-03 12:06:23 GMT	2019-06-01 00:00:13 GMT	Forecast note: 'No notes for Q1'.
2019-10-03 12:12:03 GMT	2019-06-01 00:05:53 GMT	Dictionary button activated.
2019-10-03 12:12:03 GMT	2019-06-01 00:05:53 GMT	The following word selected: 'GFS'.



Connecting the dots - Hints and feedback

So far, alterations to the script have been made without referring to the scenario, i.e. the contents of the Delft-FEWS local data store.

Start Delft-FEWS and inspect the data that is available.

Construct a simple script with events for a trainee in which they have to inspect the data in Delft-FEWS to publish a forecast for a location and parameter of your choice.

Prepare feedback at the end of the script based on the published forecast.

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WaterCoach training completed

I now understand

- The role of the WaterCoach in training
- The concept of Scenarios and scripts
 - How to incorporate Learning objectives and competencies



I now can

- Generate a scenario from the Open Archive
- Create a new WaterCoach script
 - Set up a WaterCoach exercise



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