

Delft-FEWS Stable Release 2020.02

Release Notes



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Summary

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1 Introduction

This document contains the Release Notes of the Delft-FEWS version 2020.02.

1.1 New features

Roughly around **130 new features** (paid by implementation projects (new clients), clients working with Delft-FEWS for a long time, etc) have been implemented in this version.

Besides the Delft-FEWS Client-Server system, this document will also highlight the new features in the Delft-FEWS web services and the (Deltares) Open Archive.

Like in previous documents describing a new Delft-FEWS version, references to (new) WIKI pages can be found in here, like the [installation page for 2020.02](#) and [upgrade page](#) (from 2020.01) for this version.

The complete overview of new, implemented features and fixed bugs can be found in the appendices and on the [release notes](#) page on the Delft-FEWS WIKI.

1.2 Delft-FEWS Vision 2025 – Roadmap 2020

This Delft-FEWS version contains several features part of the Delft-FEWS Vision 2025. This new vision is working with yearly roadmaps in which Delft-FEWS product management would like to include general improvements to the software and to its software development process which are of benefit to all our users. More information on the [Delft-FEWS Vision 2025](#) and the yearly roadmaps can be found on the [Delft-FEWS Community Portal](#).

In the following chapter a dedicated section will highlight the aspects which have been implemented as part of the roadmap 2020.

2 Delft-FEWS client-server system

2.1 Server side

An installation of or an upgrade to 2020.02 follows – in general - the new and simplified [installation](#) and [upgrade](#) steps described on the Delft-FEWS WIKI. Both procedures have a large overlap in terms of number/types of steps. We strongly recommend following the special upgrade path pages (from a certain version to the next version). An overview can be found here: [Upgrade paths – overview](#).

On request, Linux RPMs or MS Windows MSIs can be provided. Some instructions may be required (by our ICT colleagues). The following components are deployable via an RPM or MSI.

RPM and MSIs for:

- Delft-FEWS Master Controller
- FSS Launcher

RPMs only for:

- Tomcat9
- Delft-FEWS HTTPS Proxy
- Delft-FEWS Web services
- Delft-FEWS Open Archive

If you are interested in using RPMs (or MSIs), please contact fews.support@deltares.nl or fews-pm@deltares.nl

Important (new) aspects with respect to the backend of the client-servers system are:

2.1.1 Master Controller (and MC Launcher)

The highlights of developments in the Master Controller are:

- Master Controller Configuration schema file (xsd) has been created;
- Merged Master Controller code into Delft-FEWS binaries package (so, patchable).

2.1.2 Admin Interface and Admin Interface API

The highlights of developments in the Admin Interface (AI) and Admin Interface API are:

- Splitted the Admin Interface (API) code from the Master Controller package;
- Enabled upload/download of MC configuration via Admin Interface (GUI + API);
- Enabled upload of complete OC configuration via Admin Interface (GUI + API).

2.1.3 Java version

The Java Runtime Edition included in this version of Delft-FEWS (MC) is 'Amazon Corretto' (11.0.9.11.2) distribution of OpenJDK.

2.1.4 Tomcat version

By default, Delft-FEWS uses the latest version of Tomcat 9. For this version, **Tomcat 9.0.46** is recommended.

2.1.5 Server-side documentation

On the [Admin Manuals](#) page you can find the [Admin Manual for Delft-FEWS 2020.02](#) and on the [Connectivity Guides](#) page you can find the [Connectivity Guide for Delft-FEWS 2020.02](#).

2.2 Client side

Several relevant new features and remarks about this release are highlighted below.

2.2.1 Schematic Status Display (SSD) web service

The Schematic Status Display (SSD) can be requested via an SSD web service serving SVG files for sharing online. These SVGs are clickable and the links underneath can:

- Open another SSD plot;
- Open a graph (link to PI-REST webservice);
- Open a spatial plot (link to WMS service);
- Open an external URL.

2.2.2 Dashboard functionality extended with TimeSeriesDisplay plots

Besides spatial plots, the dashboard panel can now also contain timeseries plots (graphs). The dashboard panel has also been extended with a management dialog in which you can indicate that you want to share your dashboard with others (make 'public') or you can manage your dashboards more easily.

2.2.3 Interactive Forecasting Display (IFD / Forecasting Process)

You can now show where modifiers have been applied. The IFD has an extra button to show in which nodes modifiers apply. At the bottom of the IFD the run options description is always selected so you can easily edit it when prompted.

2.2.4 Spatial Display

For animations the play/pause buttons have been integrated and for comparing different runs (forecasts) you can now open 2 gridded forecasts and visualize absolute or relative differences.

2.2.5 Timeseries Display

In the Timeseries Display many new features have been added. Users can toggle on/off multiple simulation traces directly in the plot (using the search and select forecasts button). The scatterplot has been improved and logarithmic axis can be configured. For the Y-axis new scaling options have been added as well.

2.2.6 Modifiers

New options to change modifiers are now available in the GUI. On a selection of cells (in: multiple rows, a complete table or multiple locations) users can use the context-menu and select the 'apply operation' option. With this dialog you can select the desired math operand (add, subtract, multiply, divide) and the value you want to use. By clicking apply, the selected cells will change accordingly

2.3 Roadmap 2020

2.3.1 Development process & code quality

In (May) 2020 Sonarqube was introduced in the development process. All code commits will be assessed according to up-to-date java coding standards. Focus is to maintain a high-quality level of all new code added and work our way through the whole code base. This will be a multi-year activity. For a good & logical distribution of the workload, the Delft-FEWS code has been split into 12 logical packages which will be analysed daily.

Also, in 2020 the complete Release Testing Process of Delft-FEWS has been reviewed. Automation, organisational and technical improvements have been suggested and will be

implemented in the upcoming releases. Delft-FEWS Product management will share outcomes of these improvements when appropriate and at suitable moments during the year.

2.3.2 **Computational Framework**

The Computational Framework (CF) is Delft-FEWS' ability to run in a 'non-operational' mode with scenario analysis as main objective. The new, "composed what-if" concept (what-if and modifiers combined) forms the basis enabling users to run many scenarios using Delft-FEWS modules and external models, compare, analyse and manage them. A full CF system does not have a complete backend but consists of one or more OC's and an Open Archive for long term storage of these scenario runs.

Examples of developments are:

- Composed what-if concept and display
- Scenario run comparison functionality in Spatial Display and Time Series Display
- Plugin-architecture for externally developed (java) GUIs

3 Delft-FEWS 2020.02: Webservices

The following highlights can be mentioned for the [Delft-FEWS Web services](#):

These requests have been added:

- Retrieve a vertical profile for a grid cell
- Retrieve the timeseries for a grid cell
- Select the elevation (for 3D model output) using a vertical slider
- Retrieve the legend graphic for a spatial plot
- Retrieve comments and descriptions for thresholds

From a deployment perspective, the use of ENV (environment) Variables has been implemented and for performance reasons a pre-loading mechanism for sigma/z-layers (3D model output) has been added.

4 Delft-FEWS 2020.02: Open Archive

Most of the Open Archive and Seamless integration backend improvements were done in 2020.02. Some of them are postponed to later releases.

Currently, there is a set of functionalities available which many clients use to store their own data and data produced by others. It is either stored for rapid access in the Delft-FEWS Datastore or for long term access in the Open Archive. Once this is in place, users can search and retrieve the data on request.

The archive components are:

- the (NetCDF) based FEWS archive containing data produced by Delft-FEWS;
- the NetCDF based External Storage containing data produced by others;
- the (ElasticSearch) Catalogue

Important process are: *harvesters* for the different archives (FEWS archive, NetCDF storage) and the *seamless integration* (knowledge on where to look for the data)

The following highlights can be mentioned for the Open Archive:

- Backend improvements: integrating the different timeseries types and different dimensions (scalar, 2d grids, 3d grids) in the various archive solutions.
- Making sure the seamless integration has the knowledge where to fetch the data from and how to serve it

[More information](#) (Functionality)

[More information](#) (Installation)

5 (Not) Supported (anymore) in 2020.02

On the [Delft-FEWS WIKI](#) a page is maintained with all relevant [hard- and software requirements](#). This page shows which version(s) of middleware, databases, Operating Systems etc. are supported for which Delft-FEWS version.

A New features/solved bugs

A.1 List of New features in Delft-FEWS 2020.02

Please find the list of new features implemented in Delft-FEWS 2020.02 via the link below (dated 18.02.2021)

[List of new features of 2020.02](#)

A.2 List of Solved Bugs in Delft-FEWS 2020.02

Please find the list of solved bugs in Delft-FEWS 2021.01 in the link below (dated 18.02.2021)

[List of fixed bugs in 2020.02](#)

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