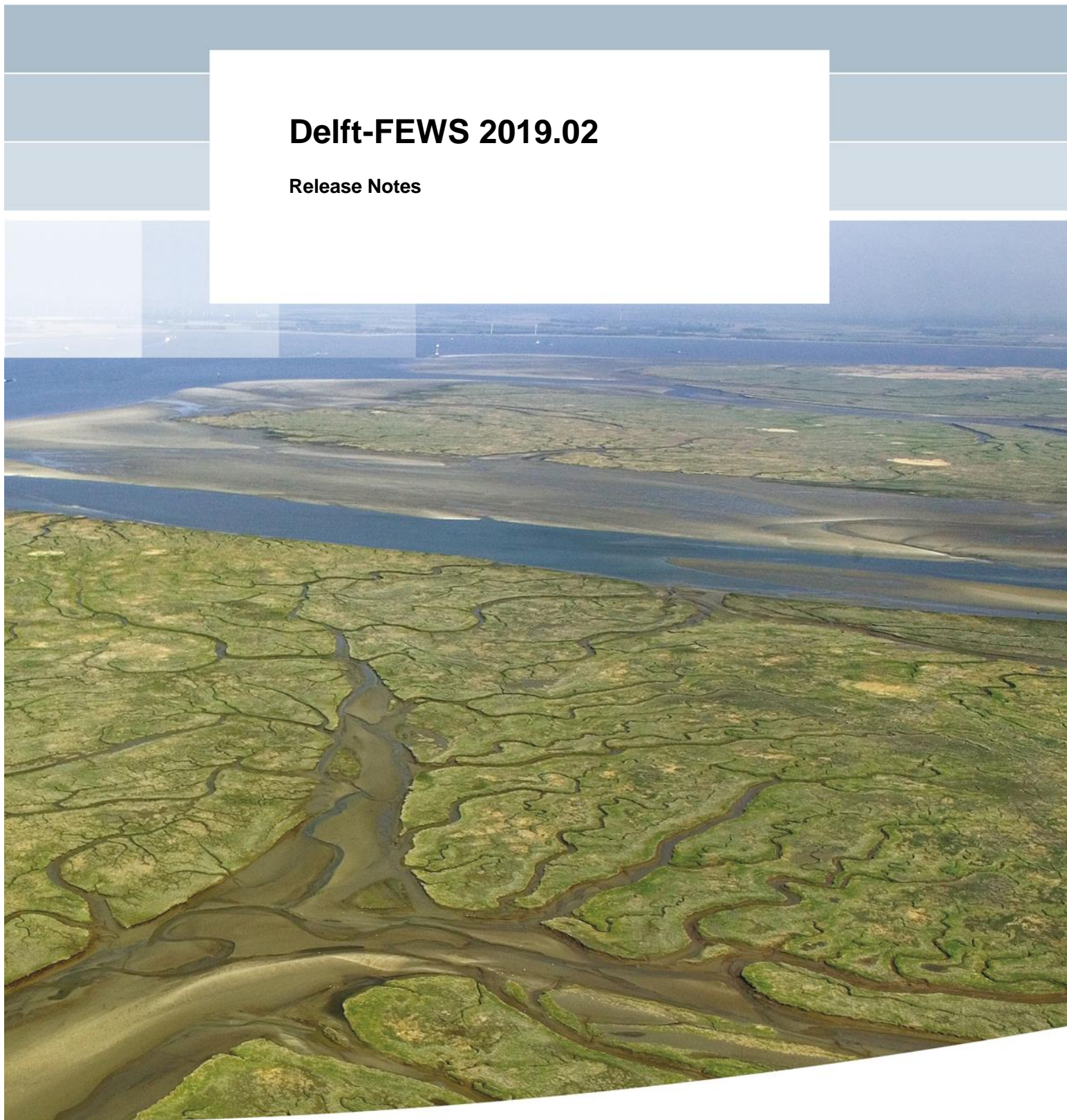


Delft-FEWS 2019.02

Release Notes



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Summary
This document contains the release notes for the Delft-FEWS Stable Release 2019.02.

References
Place references here

Version	Date	Author	Initials	Review	Initials	Approval	Initials
0.1	oct. 2019	Gerben Boot		Nadine Slootjes		Gerard Blom	
1.0	Nov 2019	Gerben Boot		Nadine Slootjes		Gerard Blom	
1.1	Dec 2019	Gerben Boot		Nadine Slootjes		Gerard Blom	

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1 Introduction

This document contains the Release Notes of the Delft-FEWS version 2019.02.

This Delft-FEWS version contains a limited number of final details resulting from the Delft-FEWS 2020 roadmap developments, but the majority of new functionality is originating from (large) implementation projects en 'regular' feature requests from our global user community.

Roughly around 150 new features have been implemented.

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](#) and [upgrade](#) page 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.

2 Delft-FEWS 2019.02 Release: Client-Server

2.1 Server side

An installation of or the upgrade to 2019.02 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. The provided RPM (for the MC) will ease the install even further.

Important aspects with respect to new features are:

Parallel runs

In order to dispatch parallel runs properly, the workflow (sequence) 'logic' needs to be known. The central database is now equipped to contain this type of information. If this information is configured, the Configuration Manager (CM) will transfer this information as part of the *ConfigRevisionSets* to the central database. The Master Controller now triggers the Forecasting Shell Server to initialize, write and sync this sequence logic if it is not up-to-date. Parallel runs can now be initiated from the Admin Interface (AI) as a one-off task, a scheduled task or it can be started from an Operator Client (OC).

FSS upgrade

Other relevant information is that the upgrade procedure for the Forecasting Shell Servers (FSSs) will be very simple once the *boot* build is a recent (2018.02) version. Via the Admin Interface, a new, 2019.02 *base* build needs to be uploaded, together with a 2019.02 patch for the Configuration Manager. The next step is to upload this (same) patch using the Configuration Manager for applying it to all FSS machines.

In this [section](#) on the WIKI the difference between a *boot* build and a *base* build is explained. In short: the *boot* build is used to initialize Delft-FEWS and based on the active *patch* a corresponding *base* build will actually start Delft-FEWS.

Admin Interface

In the Admin Interface the following features are most visible and relevant to mention:

- In the [Scheduled Tasks](#) page now visualizes the latest task run time.
- The [Import Status](#) page now displays the same coloring as the [System Monitor Display](#) in the Operator Client.
- All changes made to task scheduling, FSS groups mapping, starting (and killing) tasks etc are now monitored via an [audit trail](#). The Operator Client is also equipped with this same audit trail event logging functionality.
- The [FSS groups mapping](#) page showing which workflow can run on which FSS group(s) now clearly indicates in red which workflow(s) has (have) not been mapped.
- In the new FSS concept (since 2018.02) new FSS instances can be generated automatically. These new FSS instances will have a new FSS-Id. Tasks have run on the 'old' FSS instances and therefore they will be visible for some time in the Admin Interface. As System Administrator can now acknowledge these 'outdated' (or dead) FSS instances on the [Forecasting Shell Servers](#) page so they do not clutter up the overviews.

2.2 Client side

From the Delft-FEWS Operator Client side a number of striking new elements are available in 2019.02.

New components

The following new components are available.

- A [Dashboard display](#) to collect relevant spatial displays nicely aligned together 'listening' to one time slider in order to evaluate them jointly. This display has been prepared to be extended with timeseries displays, schematic status displays in future releases.
- The modifiers concept has been extended with [Spatial Modifiers](#) which enables users to apply modifiers in time and space to spatial products.
- The [Forecast Product Information Panel](#) enables users to comment on (forecast) products while they are being part of the data processing chain in Delft-FEWS.

Graphical User Interface: One consistent look and feel on Windows and LINUX

The 2019.02 release of Delft-FEWS leaves behind all past issues related to (differences) between what the GUI looked like on (different) Windows or LINUX operating systems.

Including a series of new and updated toolbar icons the look & feel of the Delft-FEWS Operator Client has been brought up-to-date according to Windows 10 look & feel and behaviour which will be consistent regardless the operating system. In case users would like to use and apply different colors, that is still possible using the (extended) [Color schemes](#).

Performance improvements with respect to grid data (streaming grid data)

All (new) gridded data imported into 2019.02 version will be processed in a new way. First of all, a split has been made between the meta-data and the (gridded) data itself. In a database record, one (BLOB) column will be used for administrative/meta-data purposes. The actual gridded data itself will be stored in (26) neighbouring (BLOB) columns enabling much larger storage capacity in one record. It results in a 90% reduction of database rows (1 TB of grid data now only requires 300.000 rows). This means a substantial gain in performance (e.g. in the

database viewer and grid display slider) in which the actual data is not 'needed' yet. Only when a plot is actually opened (e.g. from the database viewer or when the user moves the grid display timeslider to a certain timestamp), then the data is loaded. Besides that, the Transformation module and the Amalgamate module are now much faster as well. On top of the 'regular' Delft-FEWS compression methods an additional GZIP compression has been applied to both scalar and grid data. Conversion of 'pre-2019.02' database is optional but once started the conversion into the new format can be stopped and continued at any time.

Operator Client distribution package

The Java Runtime Edition included in this version of Delft-FEWS is '[Amazon Coretto](#)' (11.0.5) distribution of OpenJDK.

Known issues

The [web browser display](#) (based on chromium) which was introduced in 2018.02 still has the annoying behaviour that 'undocking' the tab, will result in a total closure of Delft-FEWS. Strong recommendation is to leave the web browser as a 'tab' in the FEWS-explorer and NOT undock the tab.

3 Delft-FEWS 2019.02 - Web services

The [Delft-FEWS web services](#) is the complete collection of web services offered by Delft-FEWS.

The following aspects are worth mentioning for the 2019.02 version:

- All web services which can be configured are 'read-only' by default. Write access is – of course (where applicable) - still possible but needs to be configured explicitly.
- A new web service has been added to the collection: [Schematic Status Display webservice](#). A REST implementation to share SVG images of SSD panels over the web.
- New (optional) parameters to retrieve time-dependency information and location relations from the PI REST web service, called *includeTimeDependency* and *includeLocationRelations*.
- Data thinning ('filtering out irrelevant parts of a timeseries') has been added the PI REST webservice in order to visualize more quickly but maintain the peaks, lows and gaps as specific 'shapes' of a graph.
- Older (= not the current) forecasts available in the central database can now also be searched and visualised in a web page (extension of the [GetMap request](#) of WMS service).

4 Delft-FEWS 2019.02 - Open Archive

For the [Open Archive](#), the following aspects are relevant for this version.

- In combination with the Delft-FEWS web service (and WMS) older forecasts than the current one can be searched for and been displayed on request.
- The performance of the harvester has been improved by the introduction of cache files.
- The archive export has been extended: Log messages can be sent to the Archive.

- It is now possible to combine multiple sourceIDs into an overarching (thematic) sourceID which makes configuration easier and searching faster.
- Harvesting of non-Delft-FEWS generated data: NetCDF files from (multiple) different sources can now be harvested and are referenced to from the catalogue. A first version is available in 2019.02, the final implementation will be in 2020.01.

A Appendix A: New Features implemented

Details can be found in [Appendix A: New Features in 2019.02](#)

B Appendix B: Solved Bugs

Details can be found in [Appendix B: Solved Bugs in 2019.02](#)