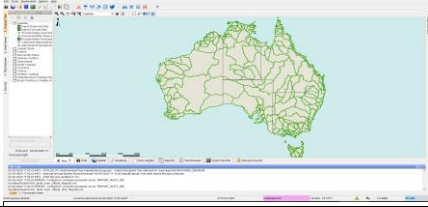

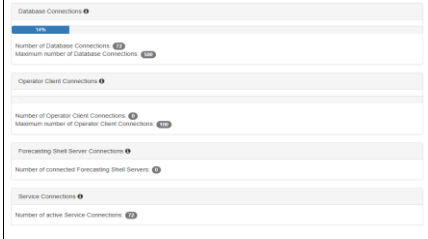
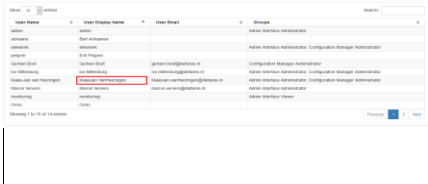
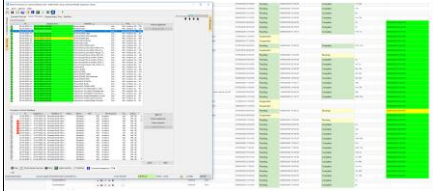
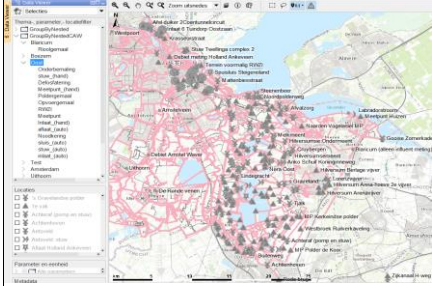

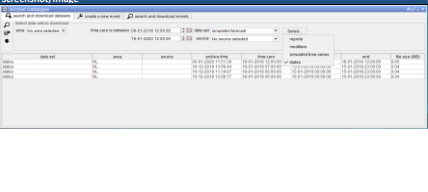
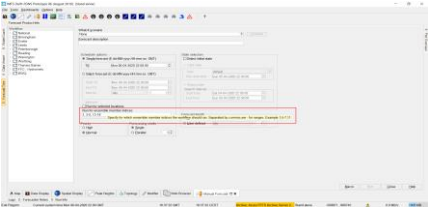



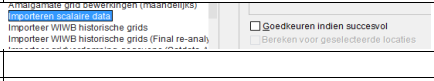
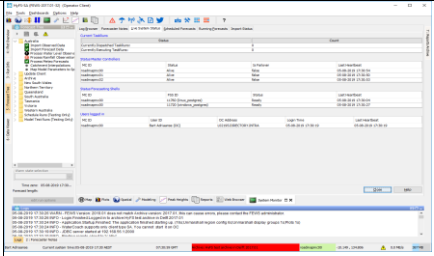
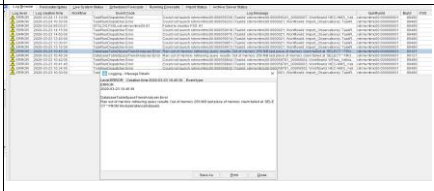
Delft-FEWS 2020.01 Solved Features

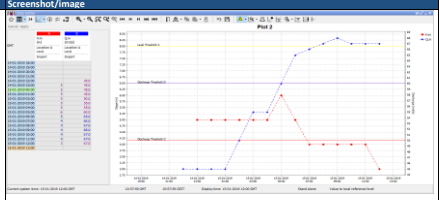
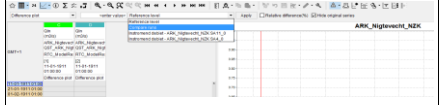
| Component/s                                                    | Key                        | Customer name | Summary                                                                                                     | Release Note Text                                                                       | Release Note Text Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Link to Documentation                                                                                                                                                                                                                                                                   | Config Example                                                                                                                                                                                      | Screenshot/Image                                                                      |
|----------------------------------------------------------------|----------------------------|---------------|-------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| App - Admin Web User Interface                                 | <a href="#">FEWS-22090</a> | Deltares      | Display number of bytes on all database analysis pages and use uniform formatting                           | Display of decimals is now consistent over all pages                                    | Display of bytes is now consistent over all pages                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/Database+trends">https://publicwiki.deltares.nl/display/FEWSDOC/Database+trends</a>                                                                                                                                             |                                                                                                                                                                                                     |                                                                                       |
| App - Admin Web User Interface                                 | <a href="#">FEWS-22193</a> | RWS           | AI API: multiple extensions for monitoring                                                                  | API extensions added for monitoring                                                     | API extensions are available for:<br># lastDispatchTimeBackgroundColor<br># Database information<br># Taskruns**<br># Acknowledge logs**                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/Delft-FEWS+Admin+interface+FEWS+REST+API+and+Wiki+Documentation">https://publicwiki.deltares.nl/display/FEWSDOC/Delft-FEWS+Admin+interface+FEWS+REST+API+and+Wiki+Documentation</a>                                             |                                                                                                                                                                                                     |                                                                                       |
| App - Admin Web User Interface                                 | <a href="#">FEWS-22366</a> | NRW           | FEWS-18387 FEWS forecast schedules should be available to the Forecast Web Service                          |                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                     |                                                                                       |
| App - Admin Web User Interface, Plugin - Gui - System Monitor  | <a href="#">FEWS-22457</a> | NRW           | FEWS-18387 The system should provide a notification when a manually scheduled forecast is about to complete | Give a warning when a manually scheduled task is close to reaching the end.             | scheduledTaskEndWarning is a new optional field in statusBarConfig. It gives a warning when a manually scheduled task is close to reaching the end. You need to configure a time span (how much time before the end would you like the warning to appear) and a colour. (The background colour of tasks that are about to expire will change to this colour in scheduled task panel.)                                                                                                                                                                                                                                                                                                                                                   | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/01+FEWS+Explorer+01FEWS+Explorer+-+scheduledTaskEndWarning">https://publicwiki.deltares.nl/display/FEWSDOC/01+FEWS+Explorer+01FEWS+Explorer+-+scheduledTaskEndWarning</a>                                                       | <pre>(code:xml) &lt;scheduledTaskEndWarning&gt; &lt;color-aquamarine1-c/color&gt; &lt;time unit="minute" multipler="75"/&gt; &lt;/scheduledTaskEndWarning&gt; &lt;/statusBarConfig&gt; (code)</pre> |    |
| App - Admin Web User Interface, App - Master Controller Server | <a href="#">FEWS-22485</a> | Deltares      | hotstart should be improved.                                                                                | Improved scaling of forecasting shells                                                  | The number of forecasting shells in a group is now controlled with the min and max awake count. The previous ready count is removed because it led to unnecessary warming up of forecasting shells while there was no task due in the next couple of minutes. The warming up is CPU intensive because it loads the region config and database indexes into memory using several threads. An extra forecasting shell is now only waked up when there is a task in the queue and no suitable forecasting shell is ready (soon). This will not happen when the max awake count is already reached. A sleeping forecasting is a stand-by forecasting shell that is waked up when necessary. While sleeping the used resources are minimized |                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                     |                                                                                       |
| App - Admin Web User Interface                                 | <a href="#">FEWS-20155</a> | Deltares      | FEWS-19648 WMS layers only support one level of gridPlotGroups                                              | Nested GridPlotGroups supported in WMS GetCapabilities                                  | Nested GridPlotGroups are supported in WMS GetCapabilities now.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <a href="https://publicwiki.deltares.nl/pages/viewpage.action?pageid=134482048&amp;FEWSWebMappingServicewithtimesupport+WMS-T-GetCapabilities">https://publicwiki.deltares.nl/pages/viewpage.action?pageid=134482048&amp;FEWSWebMappingServicewithtimesupport+WMS-T-GetCapabilities</a> |                                                                                                                                                                                                     |                                                                                       |
| App - Admin Web User Interface, MCRRecoveryTool                | <a href="#">FEWS-22235</a> | Deltares      | generate mc user with provided password for admin interface for automation                                  | Admin Interface admin user can be created with the mc recovery tool                     | Admin Interface admin user can be created with the mc recovery tool                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/MCRRecoveryTool">https://publicwiki.deltares.nl/display/FEWSDOC/MCRRecoveryTool</a>                                                                                                                                             |                                                                                                                                                                                                     |                                                                                       |
| App - Admin Web User Interface                                 | <a href="#">FEWS-22364</a> | Deltares      | AI: Auto-refresh on Task Runs page                                                                          | Improved text after killing a task run into: Successfully sent request to kill task run | Improved text after killing a task run into: Successfully sent request to kill task run                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/Running+Tasks">https://publicwiki.deltares.nl/display/FEWSDOC/Running+Tasks</a>                                                                                                                                                 |                                                                                                                                                                                                     |                                                                                       |
| App - Admin Web User Interface                                 | <a href="#">FEWS-22457</a> | RWS           | FEWS-22193 AI API: acknowledge logs                                                                         | logs can be acknowledged with Admin Interface API and gui                               | logs can be acknowledged with Admin Interface API and gui                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/View+Log+View+Logs+-+Acknowledge+logs+since+2020.01">https://publicwiki.deltares.nl/display/FEWSDOC/View+Log+View+Logs+-+Acknowledge+logs+since+2020.01</a>                                                                     |                                                                                                                                                                                                     |                                                                                       |
| App - Admin Web User Interface                                 | <a href="#">FEWS-22456</a> | RWS           | FEWS-22193 AI API: taskruns API documenteren                                                                | Taskruns API is now available as part of the Admin Interface API documentation          | Taskruns API is now available as part of the Admin Interface API documentation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/Admin+interface+REST+API+Usage">https://publicwiki.deltares.nl/display/FEWSDOC/Admin+interface+REST+API+Usage</a>                                                                                                               |                                                                                                                                                                                                     |                                                                                       |
| App - Admin Web User Interface                                 | <a href="#">FEWS-22399</a> | Deltares      | expiry time in admin interface should be called task run expiry time                                        | Removed obsolete creation time column                                                   | Removed obsolete creation time column                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/Workflow">https://publicwiki.deltares.nl/display/FEWSDOC/Workflow</a>                                                                                                                                                           |                                                                                                                                                                                                     |    |
| App - Admin Web User Interface                                 | <a href="#">FEWS-22455</a> | RWS           | FEWS-22193 AI API: database information                                                                     | Database Connections information available with Admin Interface                         | Database Connections information available with Admin Interface                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/Database+Connections">https://publicwiki.deltares.nl/display/FEWSDOC/Database+Connections</a>                                                                                                                                   |                                                                                                                                                                                                     |   |
| App - Admin Web User Interface                                 | <a href="#">FEWS-22826</a> |               | FEWS-22675 Not possible to modify user display name in AI                                                   | User display name can be edited in the Admin Interface                                  | User display name can be edited in the Admin Interface                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/Users">https://publicwiki.deltares.nl/display/FEWSDOC/Users</a>                                                                                                                                                                 |                                                                                                                                                                                                     |  |

| Delft-FEWS 2020.01 Solved Features                                       |                            |               |                                                                                                                                                                    |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                       |                                                                               |                                                                                      |
|--------------------------------------------------------------------------|----------------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Component/s                                                              | Key                        | Customer name | Summary                                                                                                                                                            | Release Note Text                                                                                                                                                                                                                                    | Release Note Text Description                                                                                                                                                                                                                                                                                                                                                                   | Link to Documentation                                                                                                                                                                                                                                                                                                                                                                 | Config Example                                                                | Screenshot/Image                                                                     |
| App - Admin Web User Interface                                           | <a href="#">FEWS-22454</a> | RWS           | FEWS-22193 AI API: lastDispatchTimeBackgroundColor                                                                                                                 | Display latest dispatch time background color for last current task                                                                                                                                                                                  | The latest dispatch time of the last current task can be displayed with a color as configured in the SystemMonitor.xml to display if the dispatch time of the most recent approved task was too long ago.                                                                                                                                                                                       | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/Schedule+Tasks">https://publicwiki.deltares.nl/display/FEWSDOC/Schedule+Tasks</a>                                                                                                                                                                                                                                             |                                                                               |    |
| App - Archive                                                            | <a href="#">FEWS-22252</a> | RWS           | FEWS-22250 Open Archive: harvester for NetCDF-1d series - external forecast and external historical                                                                | The Open Archive harvester is now capable of harvesting 1d files for observed and external forecasts from an external NetCDF storage.                                                                                                                | The NetCDF storage (extension of the Open Archive) is now extended. The harvester is now capable of harvesting 1d files for observed and external forecasts.                                                                                                                                                                                                                                    | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/The+Delta+res+Open+Archive">https://publicwiki.deltares.nl/display/FEWSDOC/The+Delta+res+Open+Archive</a>                                                                                                                                                                                                                     |                                                                               |                                                                                      |
| App - Archive                                                            | <a href="#">FEWS-21637</a> | RWS           | FEWS-22250 Filter external netcdf storage on subdirectory for 2D data                                                                                              | Open Archive NetCDF-storage can be extended with a filter                                                                                                                                                                                            | The external NetCDF-storage of the archive can now be extended with a filter. By applying a filter only the files and directories to which the filter applies are considered part of the the configured NetCDF-storage. This makes it possible to assign a part of the files/directories of a data directory to a certain NetCDF-storage and other files/directories to another data directory. | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/The+Delta+res+Open+Archive">https://publicwiki.deltares.nl/display/FEWSDOC/The+Delta+res+Open+Archive</a>                                                                                                                                                                                                                     |                                                                               |                                                                                      |
| App - Archive                                                            | <a href="#">FEWS-21765</a> | Deltares      | FEWS-21449 Not possible to use 2 archive servers on the same machine                                                                                               | Possibility to run multiple archive servers at the same server                                                                                                                                                                                       | It is now possible to run multiple archive servers at the same server. Previously the port at which elastic was available was always the default port (9200). This is now configurable.                                                                                                                                                                                                         | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/The+Delta+res+Open+Archive">https://publicwiki.deltares.nl/display/FEWSDOC/The+Delta+res+Open+Archive</a>                                                                                                                                                                                                                     |                                                                               |                                                                                      |
| App - Archive                                                            | <a href="#">FEWS-19411</a> | NRW           | FEWS-18387 prevent a non-approved forecast from being exported to the archive (exclude/include workflow nodes in task run properties)                              | WorkflowDescriptor option approvalEventCode to prevent a non-approved forecast from being exported to the archive                                                                                                                                    | "The usage is described in FEWS-16595"                                                                                                                                                                                                                                                                                                                                                          | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/3+Workflow+Descriptor">https://publicwiki.deltares.nl/display/FEWSDOC/3+Workflow+Descriptor</a>                                                                                                                                                                                                                               |                                                                               |                                                                                      |
| App - Configuration Manager Gui                                          | <a href="#">FEWS-20955</a> | Deltares      | FEWS-21136 CM: validation fails to detect inactive essentials such as Explorer.xml                                                                                 | Not implemented, config manager will only check for valid xml                                                                                                                                                                                        | Not implemented, config manager will only check for valid xml                                                                                                                                                                                                                                                                                                                                   | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/20.1+Configuration+Manager+2017.02+and+later+id-20.1+Configuration+Manager+2017.02+and+later+Validation+button+removed+since+2020.01">https://publicwiki.deltares.nl/display/FEWSDOC/20.1+Configuration+Manager+2017.02+and+later+id-20.1+Configuration+Manager+2017.02+and+later+Validation+button+removed+since+2020.01</a> |                                                                               |                                                                                      |
| App - Configuration Manager Gui                                          | <a href="#">FEWS-20954</a> | Deltares      | FEWS-21136 CM: validation fails to detect missing ModuleConfigFiles, ModuleInstanceDescriptor                                                                      | Not implemented, config manager will only check for valid xml                                                                                                                                                                                        | Not implemented, config manager will only check for valid xml                                                                                                                                                                                                                                                                                                                                   | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/20.1+Configuration+Manager+2017.02+and+later+id-20.1+Configuration+Manager+2017.02+and+later+Validation+button+removed+since+2020.01">https://publicwiki.deltares.nl/display/FEWSDOC/20.1+Configuration+Manager+2017.02+and+later+id-20.1+Configuration+Manager+2017.02+and+later+Validation+button+removed+since+2020.01</a> |                                                                               |                                                                                      |
| App - Configuration Manager Gui                                          | <a href="#">FEWS-20841</a> | Deltares      | FEWS-21136 Config Manager does not validate clientconfig.xml                                                                                                       | Not implemented, config manager will only check for valid xml                                                                                                                                                                                        | Not implemented, config manager will only check for valid xml                                                                                                                                                                                                                                                                                                                                   | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/20.1+Configuration+Manager+2017.02+and+later+id-20.1+Configuration+Manager+2017.02+and+later+Validation+button+removed+since+2020.01">https://publicwiki.deltares.nl/display/FEWSDOC/20.1+Configuration+Manager+2017.02+and+later+id-20.1+Configuration+Manager+2017.02+and+later+Validation+button+removed+since+2020.01</a> |                                                                               |                                                                                      |
| App - Configuration Manager Gui                                          | <a href="#">FEWS-20160</a> | Deltares      | FEWS-18245 CM improvements                                                                                                                                         | Multi select delete implemented for config files table                                                                                                                                                                                               | Multi select delete implemented for config files table                                                                                                                                                                                                                                                                                                                                          | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/20.1+Configuration+Manager+2017.02+and+later">https://publicwiki.deltares.nl/display/FEWSDOC/20.1+Configuration+Manager+2017.02+and+later</a>                                                                                                                                                                                 |                                                                               |                                                                                      |
| App - Master Controller Server                                           | <a href="#">FEWS-19341</a> | Deltares      | EventLogProcessor and task upload should complain about event codes in the old eventcode format.                                                                   | The old-style eventCodes with colons are no longer supported by the AdminInterface.                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                       |                                                                               |                                                                                      |
| App - Operator Client Gui (Explorer)                                     | <a href="#">FEWS-17860</a> | EA            | FEWS-18050 FFFS: Automatically link ensemble members in one display and between displays                                                                           | When a specific ensemble member is selected either in the time series dialog or Spatial Thumbnail panel, all other time series that have the same member id will be selected as well. This works for different ensembles as well as long as just the | When a specific ensemble member is selected either in the time series dialog or Spatial Ensemble Thumbnail panel, all other time series that have the same member id will be selected as well. This works for different ensembles as well as long as just the member id is the same.                                                                                                            | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/05+Spatial+Display+id-05+Spatial+Display+Selecting+different+ensemble+members">https://publicwiki.deltares.nl/display/FEWSDOC/05+Spatial+Display+id-05+Spatial+Display+Selecting+different+ensemble+members</a>                                                                                                               |                                                                               |                                                                                      |
| App - Operator Client Gui (Explorer)                                     | <a href="#">FEWS-17734</a> | Waternet      | FEWS-17944 Feature to define filter structure using groupby qualifiers, parameters, location attributes                                                            | GroupBy filters can be nested and multiple parameter, location and qualifier attributes can be used in any order and there is no limit on how many attributes to specify.                                                                            | GroupBy filters can be nested and multiple parameter, location and qualifier attributes can be used in any order and there is no limit on how many attributes to specify.                                                                                                                                                                                                                       | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/07+Filters+id-07+Filters+Groupby">https://publicwiki.deltares.nl/display/FEWSDOC/07+Filters+id-07+Filters+Groupby</a>                                                                                                                                                                                                         |                                                                               |  |
| App - Operator Client Gui (Explorer), Plugin - Gui - Web Browser Display | <a href="#">FEWS-22637</a> | Deltares      | FEWS-19373 JCEF package update - April 2020                                                                                                                        | The Chromium embedded web browser package has been updated to Chromium version 80.0.3987.122                                                                                                                                                         | The Chromium embedded web browser package has been updated to Chromium version 80.0.3987.122                                                                                                                                                                                                                                                                                                    | <a href="https://publicwiki.deltares.nl/x/QdHBw">https://publicwiki.deltares.nl/x/QdHBw</a>                                                                                                                                                                                                                                                                                           |                                                                               |                                                                                      |
| App - Operator Client Gui (Explorer)                                     | <a href="#">FEWS-19158</a> | GO-FEWS       | FEWS-18160 Option to show only visible locations (of map extent) in location filter                                                                                | Dynamically hide locations in dataviewer outside map extent. The locations are added and removed from the tree while zooming and panning the map. The selected locations will always kept visible in the tree.                                       | This new option in the location tree right click menu will hide all locations outside the map extent. The locations are added and removed from the tree while zooming and panning the map. The selected locations will always kept visible in the tree.                                                                                                                                         | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/02+FEWS+Explorer+id-02+FEWS+Explorer+Location+listbox">https://publicwiki.deltares.nl/display/FEWSDOC/02+FEWS+Explorer+id-02+FEWS+Explorer+Location+listbox</a>                                                                                                                                                               | no configuration required                                                     |                                                                                      |
| App - Operator Client Gui (Explorer)                                     | <a href="#">FEWS-22248</a> | Paraguay      | New time zone for Paraguay                                                                                                                                         | New time zone added for Paraguay                                                                                                                                                                                                                     | New time zone added for Paraguay                                                                                                                                                                                                                                                                                                                                                                | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/01+FEWS+Explorer+id-01+FEWS+Explorer+Time+Zone+Offset+to+time+Zone+Name">https://publicwiki.deltares.nl/display/FEWSDOC/01+FEWS+Explorer+id-01+FEWS+Explorer+Time+Zone+Offset+to+time+Zone+Name</a>                                                                                                                           |                                                                               |                                                                                      |
| Database, System                                                         | <a href="#">FEWS-22350</a> | NRW           | FEWS-18387 It must be possible to run a model in the FEWS client with an input forecast timeseries previous to the current one (disable external forecast product) | Disapproving of external forecasts                                                                                                                                                                                                                   | It is now possible to disapprove an external forecast. After disapproving an external forecast an older external forecast will be used in the workflows and displays. An undo of the disapproving is also possible.                                                                                                                                                                             | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/02+Forecast+Product+Information+Panel+id-02+Forecast+Product+Information+Panel+Disapproving+External+Forecasts">https://publicwiki.deltares.nl/display/FEWSDOC/02+Forecast+Product+Information+Panel+id-02+Forecast+Product+Information+Panel+Disapproving+External+Forecasts</a>                                             | no additional configuration besides regular product configuration is required |                                                                                      |

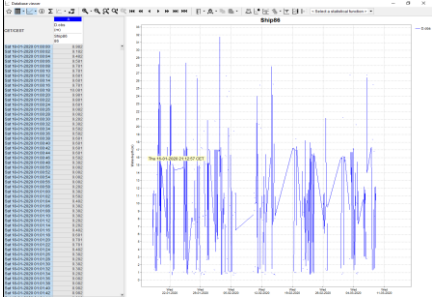
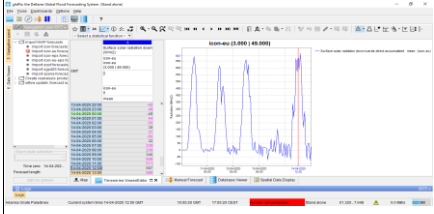
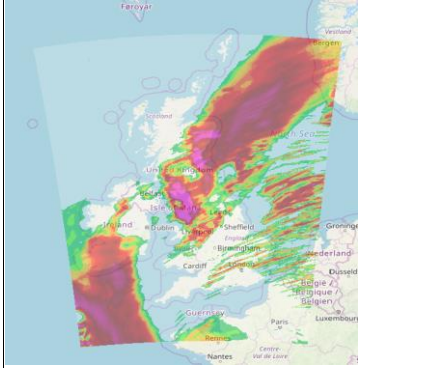
| Component/s              | Key                        | Customer name               | Summary                                                                                                                    | Release Note Text                                                                                                                                                        | Release Note Text Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Link to Documentation                                                                                                                                 | Config Example                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Screenshot/Image                                                                      |
|--------------------------|----------------------------|-----------------------------|----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Database                 | <a href="#">FEWS-19946</a> | UAE Navy                    | FEWS-22250 Store only reference to NetCDF file in database for gridded data                                                | NetCDF grid reference import                                                                                                                                             | It is now possible to import gigabytes of grids in a fraction of a second. To achieve this only references to grid data in NetCDF files, OPeNDAP and the Archive are imported. The grids are streamed from the OPeNDAP service or NetCDF file to the wms service, oc, fss. The seamless archive integration button is now also available in the spatial display besides the time series dialog. The central database can be released of big gridded model results by exporting the model results directly to OPeNDAP and import the references back in the same workflow. This works even without any configuration changes in other areas as long the OPeNDAP service is reachable. |                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                       |
| Database                 | <a href="#">FEWS-18349</a> | NWS                         | FEWS-9861 NWS: #47375 Restrict PostgreSQL, Oracle and SQL Server and Derby from writing date values not valid for firebird | Only allow time stamps ranging from the Jan 3, 0001 to Dec 31, 9999 for all database flavors                                                                             | To make it possible to synchronize and replicate between all supported database flavors limit the time stamp range to the range supported by Firebird. Firebird supports the smallest time stamp range compared to all other supported database flavors                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                       |
| Module Adapter - All     | <a href="#">FEWS-21231</a> | Entidad Binacional Yacyretá | Adapter for Kanali model                                                                                                   | A new FEWS adapter has been developed for the Kanali model, a hydrodynamic model that is used by Yacyretá for the hydraulic routing of hydrographs in the river network. | Yacyretá is a hydroelectric dam located on the Paraná River between Argentina and Paraguay, 83 kilometers downstream of Posadas City, next to Paraguayan city of Ayolas.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <a href="https://publicwiki.deltare.nl/display/FEWSDOC/Modelen+to+Delft+FEWS">https://publicwiki.deltare.nl/display/FEWSDOC/Modelen+to+Delft+FEWS</a> | The model needs first to be installed using:<br>n:\Projects\1220500\1220820\B. Measurements and calculations\Data\Pro-YacyretaModelo\InstalaKANALI\Output\DISK_1\KANALI.msi<br><br>It can then be run with:<br>n:\Projects\1220500\1220820\B. Measurements and calculations\Data\Pro-YacyretaModelo\KANALI.exe<br><br>Boundary conditions:<br>n:\Projects\1220500\1220820\B. Measurements and calculations\Data\Pro-YacyretaModelo Hidrodinamico\Yacyret4.cbo<br><br>Initial condition:<br>n:\Projects\1220500\1220820\B. Measurements and calculations\Data\Pro-YacyretaModelo Hidrodinamico\Yacyret4.ini<br><br>Observations:<br>n:\Projects\1220500\1220820\B. Measurements and calculations\Data\Pro-YacyretaModelo Hidrodinamico\Yacyret4.cbo |                                                                                       |
| Module Adapter - All     | <a href="#">FEWS-21168</a> | Quebec                      | FEWS-16663 Québec: Hydrotel adapter development to allow option to specify saving of states at end of simulation           | Hydrotel adapter has an option now to set saving the state to end of simulation                                                                                          | Hydrotel adapter has an option now to set saving the state to end of simulation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <a href="https://publicwiki.deltare.nl/display/FEWSDOC/Hydrotel+Adapter">https://publicwiki.deltare.nl/display/FEWSDOC/Hydrotel+Adapter</a>           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                       |
| Module Adapter - All     | <a href="#">FEWS-21108</a> | Manitoba Hydro              | FEWS-19982 MH: WATFLOOD adapter (nudge_flags and model parameters)                                                         | A FEWS adapter has been developed for WATFLOOD, a distributed hydrological model.                                                                                        | The WATFLOOD Adapter forms the interface between the FEWS Forecasting Shell and the WATFLOOD model, supporting parameter updating as pre-adapter functionality. The Adapter is not responsible for adapting timeseries and grids to/from the model. WATFLOOD is (re)coded in 2019 to take NetCDF (.nc) scalar/grid timeseries directly as input.                                                                                                                                                                                                                                                                                                                                     | <a href="https://publicwiki.deltare.nl/v/7x0Kc">https://publicwiki.deltare.nl/v/7x0Kc</a>                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                       |
| Module Adapter - All     | <a href="#">FEWS-20805</a> | IBM Informix / ONS - Brasil | FEWS-20984 FEWS-ONS: Develop model adapter for SMAP model                                                                  | For the FEWS-ON project (Brazil), a FEWS adapter for the SMAP rainfall-runoff model has been developed.                                                                  | For the FEWS-ON project, a FEWS adapter for the SMAP model has been developed.<br><br>SMAP is a semi distributed Rainfall Runoff model, at daily timesteps, which produces forecasts for basin outlet current and the coming week                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <a href="https://publicwiki.deltare.nl/v/XYXK">https://publicwiki.deltare.nl/v/XYXK</a>                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                       |
| Module Adapter - All     | <a href="#">FEWS-22468</a> | WarmingUP                   | FEWS-21063 Wanda adapter                                                                                                   | A new 64-bit adapter has been developed for Wanda version 4.6, allowing FEWS to control Wanda directly using a newly released Java API                                   | A new 64-bit adapter has been developed for Wanda version 4.6, allowing FEWS to control Wanda directly using a newly released Java API.<br><br>The new adapter can be used in a typical configuration with separate Pre- and Post adapters, but also includes a combined adapter that directly executes the Wanda calculation for better performance.                                                                                                                                                                                                                                                                                                                                | <a href="https://publicwiki.deltare.nl/display/WANDA/Wanda+Wiki">https://publicwiki.deltare.nl/display/WANDA/Wanda+Wiki</a>                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                       |
| Module Adapter - HEC-HMS | <a href="#">FEWS-21088</a> | Manitoba Hydro              | FEWS-19982 MH - HEC-HMS adapter                                                                                            | The FEWS adapter for the HEC-HMS model has been extended to allow parameter updating of elements in the *.basin and *.met files possible.                                | <a href="https://publicwiki.deltare.nl/display/FEWSDOC/HEC-HMS+model+adapter">https://publicwiki.deltare.nl/display/FEWSDOC/HEC-HMS+model+adapter</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <a href="https://publicwiki.deltare.nl/v/GIGe">https://publicwiki.deltare.nl/v/GIGe</a>                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |

| Component/s                                      | Key                        | Customer name              | Summary                                                                                                                                            | Release Note Text                                                                                                                                                            | Release Note Text Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Link to Documentation                                                                                                                                                                                                                                                                       | Config Example                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Screenshot/Image                                                                    |
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| Plugin - Gui - Archive Display                   | <a href="#">FEWS-20296</a> | TVA / BPA / NWS / BC Hydro | ArchiveDisplay & data set 'simulated' – improve selections                                                                                         | ArchiveDisplay - selection of the simulated data sets improved                                                                                                               | Simulated forecast has four components that can be archived : simulated time series, modifiers, states and reports. When data set 'simulated forecast' is selected, the button 'Select...' becomes enabled and in the underlying drop down menu we can select the components that should be downloaded . By default all components are selected. All components can be downloaded separately. Both time series and states can be imported separately. Modifiers can be imported only together with time series. Reports cannot be imported. | <a href="https://publicwiki.deltare.nl/display/FEWSDOC/A3+Archive+display">https://publicwiki.deltare.nl/display/FEWSDOC/A3+Archive+display</a>                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |   |
| Plugin - Gui - Dashboard                         | <a href="#">FEWS-23000</a> | RWS                        | Option to disable dashboard menu item in GUI                                                                                                       | Option to disable dashboard menu item in GUI                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <a href="https://publicwiki.deltare.nl/display/FEWSDOC/A3+Dashboard+Display">https://publicwiki.deltare.nl/display/FEWSDOC/A3+Dashboard+Display</a>                                                                                                                                         | <pre> &lt;userDashboards&gt; &lt;enabled&gt;false&lt;/enabled&gt; &lt;/userDashboards&gt;                     </pre>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                     |
| Plugin - Gui - Forecast Manager, System Workflow | <a href="#">FEWS-16595</a> | NRW                        | FEWS-18387 Configuration option prevent approved forecasts from exporting automatically to the Forecast Web Service (custom event code on current) | WorkflowDescriptor option approvalEventCode                                                                                                                                  | approvalEventCode is user configured event code that is logged upon approving a forecast, instead of default event code "DataStore.NewCurrentRun" approvalEventCode make it possible to log different approval event codes per workflow, so that different actions can be triggered by Master-Controller after approving particular forecast(s) . approvalEventCode can be any string that meets requirements of the event code pattern                                                                                                     | <a href="https://publicwiki.deltare.nl/display/FEWSDOC/A3+Workflow+Descriptors">https://publicwiki.deltare.nl/display/FEWSDOC/A3+Workflow+Descriptors</a>                                                                                                                                   | <pre> Use 'approvalEventCode' to take more control over the triggering of the actions by Master_controller after the forecast approval . Both workflows below do exactly the same forecast, but log different approval event code. Only the code FluvialForecast.Approved is used in Event Action Mapping (more info: https://publicwiki.deltare.nl/display/FEWSDOC/Event+and+Actions) Master-Controller triggers any follow up action only when FluvialForecast becomes approved. FluvialForecastIntermediate can be run without any follow up actions (code.xml) &lt;workflowDescriptor id="FluvialForecastIntermediate" forecast="true" visible="true" autoApprove="true"&gt; &lt;approvalEventCode&gt;FluvialForecastIntermediate.Approved&lt;/approvalEventCode&gt; &lt;/workflowDescriptor&gt;                     </pre>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                     |
| Plugin - Gui - Grid Display                      | <a href="#">FEWS-22360</a> | NRW                        | FEWS-18387 It should be possible to run a model in the FEWS client with one or more selected ensemble members                                      | In the manual forecast display can now be specified for which ensemble member indices the workflow should run. Separated by comma and use - for ranges. For example 1,5-7,11 | In the manual forecast display can now be specified for which ensemble member indices the workflow should run. Separated by comma and use - for ranges. For example 1,5-7,11                                                                                                                                                                                                                                                                                                                                                                | <a href="https://publicwiki.deltare.nl/display/FEWSDOC/06+Manual+Forecast+Display#06ManualForecastDisplay-Runforselectedensemblemembers">https://publicwiki.deltare.nl/display/FEWSDOC/06+Manual+Forecast+Display#06ManualForecastDisplay-Runforselectedensemblemembers</a>                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
| Plugin - Gui - Grid Display                      | <a href="#">FEWS-22527</a> | ARFS                       | FEWS-20489 Display true color imagery (3-bands) in GridDisplay                                                                                     | True color imagery (3-bands) as grid time series.                                                                                                                            | In the spatial display it is now possible to combine three time series, representing the red, green and blue channel, to one true (16 million) color grid time series. Double clicking a cell will show the three color components as separate time series in the time series dialog.                                                                                                                                                                                                                                                       | <a href="https://publicwiki.deltare.nl/display/FEWSDOC/01+Grid+Display#01GridDisplay-Displaytruecolorimagery(3-bands)since2019.02#3400">https://publicwiki.deltare.nl/display/FEWSDOC/01+Grid+Display#01GridDisplay-Displaytruecolorimagery(3-bands)since2019.02#3400</a>                   | <pre> &lt;code.xml&gt; &lt;gridPlot id="RGB"&gt; &lt;dataLayer&gt; &lt;redTimeSeriesSet&gt; &lt;moduleInstanceId&gt;InterpolateSentinel2&lt;/moduleInstanceId&gt; &lt;valueType&gt;grid&lt;/valueType&gt; &lt;parameterId&gt;Intensity_B4&lt;/parameterId&gt; &lt;locationId&gt;A21&lt;/locationId&gt; &lt;timeSeriesType&gt;external historical&lt;/timeSeriesType&gt; &lt;timeStep unit="nonequidistant"/&gt; &lt;relativeViewPeriod unit="week" end="52" start="-52"/&gt; &lt;readWriteMode&gt;read only&lt;/readWriteMode&gt; &lt;multipliers&gt;1000&lt;/multipliers&gt; &lt;!--red contrast--&gt; &lt;incrementer&gt;20&lt;/incrementer&gt; &lt;!--red brightness--&gt; &lt;/redTimeSeriesSet&gt; &lt;greenTimeSeriesSet&gt; &lt;moduleInstanceId&gt;InterpolateSentinel2&lt;/moduleInstanceId&gt; &lt;valueType&gt;grid&lt;/valueType&gt; &lt;parameterId&gt;Intensity_B3&lt;/parameterId&gt; &lt;locationId&gt;A21&lt;/locationId&gt; &lt;timeSeriesType&gt;external historical&lt;/timeSeriesType&gt; &lt;timeStep unit="nonequidistant"/&gt; &lt;relativeViewPeriod unit="week" end="52" start="-52"/&gt; &lt;readWriteMode&gt;read only&lt;/readWriteMode&gt; &lt;multipliers&gt;1000&lt;/multipliers&gt; &lt;!--green contrast--&gt; &lt;incrementer&gt;20&lt;/incrementer&gt; &lt;!--green brightness--&gt; &lt;/greenTimeSeriesSet&gt; &lt;blueTimeSeriesSet&gt; &lt;moduleInstanceId&gt;InterpolateSentinel2&lt;/moduleInstanceId&gt;                     </pre> |                                                                                     |
| Plugin - Gui - Grid Display                      | <a href="#">FEWS-19428</a> | NRW                        | FEWS-18387 Show all ensembleMembers (rather than 'main' only) after double-clicking a grid cell                                                    | Option to show the time series for each ensemble member at once for a grid cell                                                                                              | Instead of only the selected member it is now possible to show all time series for each ensemble member at a single click. On an OC with a slow connection and large grids this can be time consuming because the grids for each member and time step are downloaded. Because the grids are locally cached the ensemble time series for the second grid cell will be fast.                                                                                                                                                                  | <a href="https://publicwiki.deltare.nl/display/FEWSDOC/05+Spatial+Display#05SpatialDisplay-Extractingcalartimeseriesforeachensemblememberatonce">https://publicwiki.deltare.nl/display/FEWSDOC/05+Spatial+Display#05SpatialDisplay-Extractingcalartimeseriesforeachensemblememberatonce</a> | <pre> see the configuration of the ensemble thumbnails                     </pre>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                     |

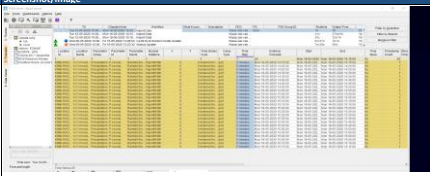
| Component/s                                                  | Key                        | Customer name               | Summary                                                                                             | Release Note Text                                                                                                                                                | Release Note Text Description                                                                                                                                                                                                                                                                                                                                                              | Link to Documentation                                                                                                                                                                                                                                                                                                                                                                                                                                       | Config Example                                                                                                                                                                                                                                                                                                       | Screenshot/Image                                                                      |
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| Plugin - Gui - Grid Display                                  | <a href="#">FEWS-21903</a> | FOEN                        | FEWS-9563 FOEN: hide labels of 0 mm rainfall in spatial display and reports                         | Classbreaks now have the option to hide value labels.                                                                                                            | Break now has the attribute hideValueLabel. Default is false, if it is set to true, labels of values that fall into this classbreak will not be displayed.                                                                                                                                                                                                                                 | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/01+GridDisplay+id=01GridDisplay-break">https://publicwiki.deltares.nl/display/FEWSDOC/01+GridDisplay+id=01GridDisplay-break</a>                                                                                                                                                                                                                                                                     | <pre>(code.xml) &lt;classBreaks&gt; &lt;classBreak color="white" label="0 mg/L" opaquesnessPercentage="30" lowerValue="0" colorSmoothingEnabled="true" hideValueLabels="true"/&gt; &lt;classBreak color="070268" label="10 mg/L" lowerValue="10" colorSmoothingEnabled="true"/&gt; &lt;/classBreaks&gt; (code)</pre> |     |
| Plugin - GUI - IFD - Forecasts                               | <a href="#">FEWS-23085</a> |                             | Find out if the approve when successful checkbox should be disabled when workflow is not a forecast |                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                      |    |
| Plugin - GUI - IFD - Forecasts                               | <a href="#">FEWS-23176</a> | NRW                         | FEWS-18387 Add ensemble member indices selection for workflow to IFD/topology (run options)         |                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                      |                                                                                       |
| Plugin - Gui - Schematic Status Display                      | <a href="#">FEWS-21420</a> | RWS                         | Topology: open certain scadaDisplay, open certain scadaPanel                                        | A new feature has been implemented for SSD (Scada) displays, where nodes in the topology panel can be used to navigate between specific SSD panels and displays. | By adding specific attributes (scadaDisplayId, ScadaPanelId) to nodes of the topology, it is now possible to open a specific SSD panel and display by selecting topology nodes.                                                                                                                                                                                                            | <a href="https://publicwiki.deltares.nl/pages/viewpage.action?pageId=8684020&amp;cid=155SchematicStatusDisplay(formerlyScadaDisplay)-NavigationusingTopology">https://publicwiki.deltares.nl/pages/viewpage.action?pageId=8684020&amp;cid=155SchematicStatusDisplay(formerlyScadaDisplay)-NavigationusingTopology</a>                                                                                                                                       |                                                                                                                                                                                                                                                                                                                      |                                                                                       |
| Plugin - Gui - Schematic Status Display, System - PI Service | <a href="#">FEWS-20579</a> | RWS                         | FEWS-20398 FEWS Webservice development to support actions as configured in Schematic Status Display | The recently developed Schematic Status Display (SSD) web service has been extended with methods to support interaction with a status display                    | The GetAction request has been added to the SSD web service to support interaction with a display. A basic test webpage page has been developed to load a SSD display in the web browser in scalable vector graphics format (SVG) and demonstrate this new GetAction command response.                                                                                                     | <a href="https://publicwiki.deltares.nl/x/xQtH8w">https://publicwiki.deltares.nl/x/xQtH8w</a>                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                      |                                                                                       |
| Plugin - Gui - System Monitor                                | <a href="#">FEWS-18417</a> | Deltares                    | FEWS-18245 Window real estate of the live system status should be optimized                         | In System Monitor - Live System tab the panels can be resized                                                                                                    | To benefit more from available space (real estate) the panels in the System Monitor - Live System tab can be resized                                                                                                                                                                                                                                                                       | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/08+SystemMonitor+id=08SystemMonitor-LiveSystemStatus">https://publicwiki.deltares.nl/display/FEWSDOC/08+SystemMonitor+id=08SystemMonitor-LiveSystemStatus</a>                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                      |   |
| Plugin - Gui - System Monitor                                | <a href="#">FEWS-22619</a> | Deltares                    | Systemmonitor shows MC logfile instead of Admin Interface logging                                   | Collected log files for Admin Interface and Web Services.                                                                                                        | Admin Interface logs now have a custom log source: ai<br><br>When using collected logfiles the indexed logfiles of the AdminInterface are now collected for the current MC in the MCID/ai subdirectory.<br><br>For the WebServices for each webservice a MCID/ws/taskruid folder is created with the collected log files, since there can be multiple WebServices running for the same MC. | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/Collect+System+Log+Files">https://publicwiki.deltares.nl/display/FEWSDOC/Collect+System+Log+Files</a>                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                      |  |
| Plugin - Gui - Time Series                                   | <a href="#">FEWS-17892</a> | GO-FEWS                     | FEWS-17812 Create on-the-fly expression series based on other on-the-fly expression series          | Expression series can now be created based on other expression series as source                                                                                  | Expression series can now be created based on other expression series as source                                                                                                                                                                                                                                                                                                            | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/30+VisibilityDialog+and+On+The+Fly+Expression+Series+id=30VisibilityDialogandOnTheFlyExpressionSeries+Creatingexpressionseriesbasedonotherepressionseries+id=302019_001">https://publicwiki.deltares.nl/display/FEWSDOC/30+VisibilityDialog+and+On+The+Fly+Expression+Series+id=30VisibilityDialogandOnTheFlyExpressionSeries+Creatingexpressionseriesbasedonotherepressionseries+id=302019_001</a> |                                                                                                                                                                                                                                                                                                                      |                                                                                       |
| Plugin - Gui - Time Series                                   | <a href="#">FEWS-11608</a> | GO-FEWS (Dutch Waterboards) | FEWS-18160 Improvement to URL references                                                            | Improved way to store external URLs to images or PDFs on an external (network) drive                                                                             | The functionality to show an image or pdf from an external source when a time step is selected in the time series table has been improved.<br><br>More details can be found here: <a href="https://publicwiki.deltares.nl/pages/viewpage.action?pageId=92579788">https://publicwiki.deltares.nl/pages/viewpage.action?pageId=92579788</a>                                                  | <a href="https://publicwiki.deltares.nl/pages/viewpage.action?pageId=92579788">https://publicwiki.deltares.nl/pages/viewpage.action?pageId=92579788</a>                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                      |                                                                                       |

| Component/s                         | Key                        | Customer name | Summary                                                                               | Release Note Text                                                                                              | Release Note Text Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Link to Documentation                                                                                                                                                                                                                                                                       | Config Example                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Screenshot/Image                                                                    |
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| Plugin - Gui - Time Series          | <a href="#">FEWS-19649</a> | Quebec        | FEWS-16663 Québec: ability to have thresholds displayed on both left/right axes       | TimeSeriesDisplay – ability to have thresholds displayed on both left and right axes                           | <p>Thresholds can be displayed on the left axis, or on the right axis, or on both. By default the thresholds are displayed on the left axis.</p> <p>To change it, an option "thresholdAxis" can be used in DisplayGroups.xml.</p> <p>Configure &lt;thresholdAxis&gt;right&lt;/thresholdAxis&gt; if only the right axis should have thresholds, and &lt;thresholdAxis&gt;both&lt;/thresholdAxis&gt; if both left and right axes should have thresholds</p> <p>Picture plot1.png shows a plot created with the config example below. Option &lt;thresholdAxis&gt;both&lt;/thresholdAxis&gt; creates plot as shown in picture plot2.png</p>                                                                                                                                                                                                                                         | <a href="https://publicwiki.deltare.nl/display/FEWSDOC/03+DisplayGroups+thresholdAxis">https://publicwiki.deltare.nl/display/FEWSDOC/03+DisplayGroups+thresholdAxis</a>                                                                                                                     | <pre>(code:xml) &lt;plot id="StageOnLeftAxis_DischargeOnRightAxis"&gt; &lt;sdplot&gt; &lt;thresholdAxis&gt;right&lt;/thresholdAxis&gt; &lt;/sdplot&gt; &lt;/plot&gt; &lt;timeSeriesSet&gt; &lt;moduleInstanceId=Import&lt;/moduleInstanceId&gt; &lt;valueType=scalar&lt;/valueType&gt; &lt;parameterId=H.m&lt;/parameterId&gt; &lt;locationSetId=AllLocations&lt;/locationSetId&gt; &lt;timeSeriesType=external historical&lt;/timeSeriesType&gt; &lt;timeStep unit="hour"/&gt; &lt;relativeViewPeriod unit="hour" start="-12" end="0"/&gt; &lt;readWriteMode&gt;read only&lt;/readWriteMode&gt; &lt;/timeSeriesSet&gt; &lt;/line&gt; &lt;/line&gt; &lt;/axis&gt;right&lt;/axis&gt; &lt;/timeSeriesSet&gt; &lt;moduleInstanceId=Import&lt;/moduleInstanceId&gt; &lt;valueType=scalar&lt;/valueType&gt; &lt;parameterId=Q.m&lt;/parameterId&gt; &lt;locationSetId=AllLocations&lt;/locationSetId&gt; &lt;timeSeriesType=external historical&lt;/timeSeriesType&gt; &lt;timeStep unit="hour"/&gt; &lt;relativeViewPeriod unit="hour" start="-12" end="0"/&gt; &lt;readWriteMode&gt;read only&lt;/readWriteMode&gt; &lt;/timeSeriesSet&gt; &lt;/code&gt; </pre> |   |
| Plugin - Gui - Time Series, System  | <a href="#">FEWS-21175</a> | ZZL           | FEWS-18160 Freeze old data in timeseries                                              | Introduce readOnlyPeriod, that can make part of a time series uneditable                                       | <p>Since 2020.01 it is possible to "freeze" part of a time series and make that part uneditable. This can be useful if the values need to be evaluated and verified, than used in different systems. This ensures that they all contain the same data, and that cannot change. This can be done by configuring a ReadOnlyPeriod. This contains a relative time, and a time series filter. All time series that match the filter become uneditable before the given relative time.</p> <p>You can configure as many readOnlyPeriods as you wish. They should be configured in the TimeSeriesDisplayConfig, following scrollerDefaultViewPeriod. The image below shows the time from when the time series becomes uneditable. "Frozen" time series can be edited, if "enable editing read only period" option is selected. Time series that are entirely uneditable remain so.</p> | <a href="https://publicwiki.deltare.nl/display/FEWSDOC/04+Data+Display+and+Data+Editor/04DataDisplayandDataEditor+ReadOnlyPeriod">https://publicwiki.deltare.nl/display/FEWSDOC/04+Data+Display+and+Data+Editor/04DataDisplayandDataEditor+ReadOnlyPeriod</a>                               | <pre>(code:xml) &lt;!-- This item is not fully configured, only displayed to show the position of readOnlyPeriod in the XML file--&gt; &lt;description&gt;...&lt;/description&gt; &lt;!-- This item is not fully configured, only displayed to show the position of readOnlyPeriod in the XML file--&gt; &lt;generalDisplayConfig&gt;...&lt;/generalDisplayConfig&gt; &lt;!-- This item is not fully configured, only displayed to show the position of readOnlyPeriod in the XML file--&gt; &lt;defaultViewPeriod unit="day" start="-5" end="5"/&gt; &lt;!-- This item is not fully configured, only displayed to show the position of readOnlyPeriod in the XML file--&gt; &lt;globalDatumLocationSetId=...&lt;/globalDatumLocationSetId&gt; &lt;scrollerDefaultViewPeriod start="-2" end="2" unit="hour"/&gt; &lt;readOnlyPeriod&gt; &lt;relativeTime value="-2" unit="day"&gt;&lt;/relativeTime&gt; &lt;/readOnlyPeriod&gt; &lt;/timeSeries&gt; &lt;locationId=LocA&lt;/locationId&gt; &lt;/timeSeries&gt; &lt;/readOnlyPeriod&gt; &lt;/code&gt; </pre>                                                                                                  |                                                                                     |
| Plugin - Gui - Time Series          | <a href="#">FEWS-20299</a> | GO-FEWS       | FEWS-18160 Jump to latest (non-equi) value                                            | New button to move the view period to the first or to the last data point available in the time series display | <p>Since 2020.01 it is possible to move the view period to the first or to the last data point available in the time series display. This will not change the zoom in the display.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <a href="https://publicwiki.deltare.nl/display/FEWSDOC/04+Data+Display+and+Data+Editor/04DataDisplayandDataEditor+Changingtheviewperiod">https://publicwiki.deltare.nl/display/FEWSDOC/04+Data+Display+and+Data+Editor/04DataDisplayandDataEditor+Changingtheviewperiod</a>                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                     |
| Plugin - Gui - Time Series          | <a href="#">FEWS-22126</a> | WarningUp     | FEWS-21063 warningUP: Show difference of series between two runs (abs/rel)            | Added compare runs option to differences statistical function                                                  | <p>This functionality is added to the Differences statistical function, under the option Compare runs.</p> <p>This option is only available if you have selected at least 2 different runs for each timeSeriesSet in the display. The number can be greater than 2, and does not need to be the same number for all timeSeries. (For example 2 different runs for parameter A, and 3 for B). As reference level, the oldest of this runs is selected, and the difference compared to this run is displayed. (Run value - reference run value)</p> <p>If the checkbox "Relative difference(%)" is checked, the relative difference will be displayed (in %). This is available for all three options.</p> <p>100*(TimeSeries value - reference TimeSeries value)/reference TimeSeries value. If the reference value is 0, N.a.N will be the result.</p>                           | <a href="https://publicwiki.deltare.nl/display/FEWSDOC/Statistical+Functions#Statisticalfunctions-Differences">https://publicwiki.deltare.nl/display/FEWSDOC/Statistical+Functions#Statisticalfunctions-Differences</a>                                                                     | <pre>&lt;statisticalFunction function="differences"/&gt; </pre>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
| Plugin - Gui - Time Series          | <a href="#">FEWS-20889</a> | NWS           | FEWS-20886 NWS: #60808 Config option to size (enlarge) Plot Thumbnail displays        | Thumbnail graph are now cached and only recreated when visible and size or contents changed                    | Thumbnail graph are now cached and only recreated when visible and size or contents changed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <a href="https://publicwiki.deltare.nl/display/FEWSDOC/01+FEWS+Explorer">https://publicwiki.deltare.nl/display/FEWSDOC/01+FEWS+Explorer</a>                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                     |
| Plugin - Gui - Time Series          | <a href="#">FEWS-22265</a> | NRW           | FEWS-18387 Wind direction displays should be appropriate for a directional timeseries | Configure maximum value difference in timeSeriesDisplay                                                        | <p>Optional field. It should be a positive number. If it is configured, two neighboring points in the time series display will not be connected, if the difference between their values is greater than the configured value. This can be useful feature for parameters such as wind direction, when the values can go back and forth between 0 and 360.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <a href="https://publicwiki.deltare.nl/display/FEWSDOC/02+TimeSeriesDisplay+ConfigurationId+02TimeSeriesDisplayConfiguration-maxValueDifference">https://publicwiki.deltare.nl/display/FEWSDOC/02+TimeSeriesDisplay+ConfigurationId+02TimeSeriesDisplayConfiguration-maxValueDifference</a> | <pre>(code:xml) &lt;parameterDisplayOptions id="WindDirection"&gt; &lt;preferredColor&gt;red&lt;/preferredColor&gt; &lt;lineStyle&gt;solid&lt;/lineStyle&gt; &lt;maxValueDifference&gt;250&lt;/maxValueDifference&gt; &lt;/parameterDisplayOptions&gt; &lt;/code&gt; </pre>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                     |
| Plugin - Gui - Time Series          | <a href="#">FEWS-23185</a> | EA            | FEWS-18050 IMFS-SA: group thresholds in graph threshold table                         |                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                     |
| Plugin - Gui - Time Series          | <a href="#">FEWS-23062</a> | Deltare       | Prevent legend items from overlapping                                                 |                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                     |
| Plugin - Gui - Time Series Modifier | <a href="#">FEWS-22265</a> | Deltare       | Improve logging of ModuleConfigQuickScanner                                           | Improved logging of ModuleConfigQuickScanner                                                                   | The module config quick scanner (this part of the software parses the workflows for the IFD) now has better and understandable logging.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                     |
| Plugin - Gui - Time Series Modifier | <a href="#">FEWS-22395</a> | EA            | FEWS-18050 IMFS: Attribute modifier, add option to use date from time series          | Attribute modifier, add option to use date from time series                                                    | <p>For date/time attribute modifier it is now possible to define the default value.</p> <ol style="list-style-type: none"> <li>default value is equal to the system time</li> <li>default value is equal to the first time for which a reliable value is available in a time series</li> </ol> <p>more information can be found here: <a href="https://publicwiki.deltare.nl/display/FEWSDOC/25+ModifierTypes">https://publicwiki.deltare.nl/display/FEWSDOC/25+ModifierTypes</a></p>                                                                                                                                                                                                                                                                                                                                                                                            | <a href="https://publicwiki.deltare.nl/display/FEWSDOC/25+ModifierTypes">https://publicwiki.deltare.nl/display/FEWSDOC/25+ModifierTypes</a>                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                     |

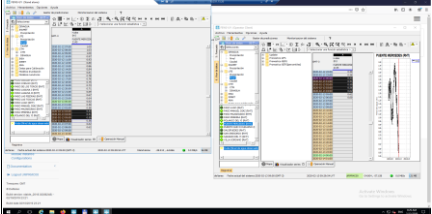
| Component/s                            | Key                        | Customer name | Summary                                                                                                                                          | Release Note Text                                                                                                                                                                                                                                                             | Release Note Text Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Link to Documentation                                                                                                                                                                                                                                                       | Config Example                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Screenshot/Image |
|----------------------------------------|----------------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Plugin - Module - (Primary) Validation | <a href="#">FEWS-21008</a> | HDSR          | New primary validation "Oscillation"                                                                                                             | Add a new primary validation: oscillation detection                                                                                                                                                                                                                           | A new primary validation method was added to detect oscillation. A new flag source "OSC" (oscillation) was added which will be given to values where oscillation has been detected. Support for this flag source was added in various components such as the interval statistics and flag source counts report.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <a href="https://publicwiki.deltareis.nl/display/FEWSDOC/08+ValidationRulesets#id-08ValidationRulesets-ValidationonOscillation">https://publicwiki.deltareis.nl/display/FEWSDOC/08+ValidationRulesets#id-08ValidationRulesets-ValidationonOscillation</a>                   | <pre>(code:xml) &lt;validationRuleSet validationRuleSetId="OscillationSimpleTest" timeZone="GMT"&gt; &lt;oscillation validationFlags="doubtful"&gt; &lt;minDifference constantLimit="0.3"&gt; &lt;maxPeriod constantLimit="259200"&gt; &lt;- 3 days --&gt; &lt;minOscillations constantLimit="2.5"/&gt; &lt;/oscillation&gt; &lt;/timeSeriesSet&gt; &lt;/validationRuleSet&gt; (code)  (code:xml) &lt;validationRuleSet validationRuleSetId="OscillationAttributes" timeZone="GMT"&gt; &lt;oscillationFunctions validationFlags="doubtful"&gt; &lt;minDifference constantLimit="@MIN_DIFF@"/&gt; &lt;maxPeriod constantLimit="@MAX_PERIOD@"/&gt; &lt;minOscillations constantLimit="@MIN_OSC@"/&gt; &lt;/oscillationFunctions&gt; &lt;/timeSeriesSet&gt; &lt;/validationRuleSet&gt; (code)</pre>                                                                                                                                                                     |                  |
| Plugin - Module - (Primary) Validation | <a href="#">FEWS-22212</a> | HDSR          | FEWS-9707 HDSR: BUG: same reading & missing values                                                                                               | Option excludeMissingsFromSameReadingPeriod added to sameReading. If true a same reading period ends when a missing value is found. Default is false.                                                                                                                         | Option excludeMissingsFromSameReadingPeriod added to sameReading. If true a same reading period ends when a missing value is found. Default is false.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <a href="https://publicwiki.deltareis.nl/display/FEWSDOC/08+ValidationRulesets#id-08ValidationRulesets-Validationonseriesofsamereadings">https://publicwiki.deltareis.nl/display/FEWSDOC/08+ValidationRulesets#id-08ValidationRulesets-Validationonseriesofsamereadings</a> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                  |
| Plugin - Module - Archive              | <a href="#">FEWS-20611</a> | RWS           | FEWS-22250 Uitbreiding Seamless integration importactie t.b.v. Open deel van FEWS Archief voor 2D external forecast data                         | All new features/improvements requested for 2020.02 must be known BEFORE 01.06.2020 SummaryRequired Uitbreiding Seamless integration importactie t.b.v. Open deel van FEWS Archief voor 2D external forecast data Description <a href="#">StyleBoldItalicUnderlineText.co</a> | The seamless integration for WMS is extended with the possibility of reading external forecasts from the netcdf storage.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <a href="https://publicwiki.deltareis.nl/display/FEWSDOC/The+Deltares+Open+Archive">https://publicwiki.deltareis.nl/display/FEWSDOC/The+Deltares+Open+Archive</a>                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                  |
| Plugin - Module - Archive              | <a href="#">FEWS-21526</a> | UAE Navy      | FEWS-19924 Extend/improve harvester and catalogue to provide PI web service requests - part 1                                                    | Locations and parameters from the Open Archive's NetCDF-storage available in catalogue                                                                                                                                                                                        | The harvester for the NetCDF-storage is now capable of extracting the locations and parameters which are available in the NetCDF files and store them into the archive catalogue.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <a href="https://publicwiki.deltareis.nl/display/FEWSDOC/The+Deltares+Open+Archive">https://publicwiki.deltareis.nl/display/FEWSDOC/The+Deltares+Open+Archive</a>                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                  |
| Plugin - Module - Archive              | <a href="#">FEWS-21530</a> | UAE Navy      | FEWS-19924 Extend/improve harvester and catalogue to provide PI web service requests - part 2                                                    | Locations and parameters from the Open Archive's NetCDF-storage available in catalogue                                                                                                                                                                                        | The harvester for the NetCDF-storage is now capable of extracting the locations and parameters which are available in the netcdf files and store them into the archive catalogue.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <a href="https://publicwiki.deltareis.nl/display/FEWSDOC/The+Deltares+Open+Archive">https://publicwiki.deltareis.nl/display/FEWSDOC/The+Deltares+Open+Archive</a>                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                  |
| Plugin - Module - Archive              | <a href="#">FEWS-20610</a> | RWS           | FEWS-22250 Uitbreiding Seamless integration zoekactie t.b.v. Open deel van FEWS Archief voor 2D external forecast data                           |                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <a href="https://publicwiki.deltareis.nl/display/FEWSDOC/The+Deltares+Open+Archive">https://publicwiki.deltareis.nl/display/FEWSDOC/The+Deltares+Open+Archive</a>                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                  |
| Plugin - Module - Archive              | <a href="#">FEWS-21374</a> | RWS           | Optimize archive exports                                                                                                                         | Archive Export : <exportTimeSeries> to export (all) time series created by the configured workflow id (without configuration of TimeSeriesSets)                                                                                                                               | <p>&lt;exportTimeSeries&gt; is able to export all time series created or modified in a configured workflow. The amount of the time series to export can be limited by configuration of time series filters.</p> <p>The example below exports all time series created in the configured workflow :</p> <pre>&lt;workflowTimeSeries&gt; &lt;idMapId&gt;IdArchive&lt;/idMapId&gt; &lt;arealId&gt;MyArea&lt;/arealId&gt; &lt;workflowId&gt;FluvialForecast&lt;/workflowId&gt; &lt;/workflowTimeSeries&gt;</pre> <p>And this example exports only external forecasts created by module ImportExternalForecast :</p> <pre>&lt;workflowTimeSeries&gt; &lt;arealId&gt;NL&lt;/arealId&gt; &lt;sourceId&gt;KNMI&lt;/sourceId&gt; &lt;workflowId&gt;ImportExternal&lt;/workflowId&gt; &lt;timeSeries&gt; &lt;moduleInstanceId&gt;ImportExternalForecast&lt;/moduleInstanceId&gt; &lt;timeSeriesType&gt;external forecasting&lt;/timeSeriesType&gt; &lt;/timeSeries&gt; &lt;/workflowTimeSeries&gt;</pre> | <a href="https://publicwiki.deltareis.nl/display/FEWSDOC/2-2+Export+to+Deltareis+Open+Archive">https://publicwiki.deltareis.nl/display/FEWSDOC/2-2+Export+to+Deltareis+Open+Archive</a>                                                                                     | <pre>(code:xml) &lt;?xml version="1.0" encoding="UTF-8"?&gt; &lt;exportArchiveModule xmlns="http://www.widelft.nl/fews" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.widelft.nl/fews http://fews.widelft.nl/schemas/version1.0/exportArchiveModule.xsd"&gt; &lt;exportTimeSeries&gt; &lt;general&gt; &lt;archiveFolder&gt;\${ARCHIVE_FOLDER}/archiveFolder&lt;/archiveFolder&gt; &lt;allowFD&gt;true&lt;/allowFD&gt; &lt;/general&gt; &lt;workflowTimeSeries&gt; &lt;arealId&gt;NL&lt;/arealId&gt; &lt;idMapId&gt;IdArchive&lt;/idMapId&gt; &lt;includeTimeSeriesProperties&gt;false&lt;/includeTimeSeriesProperties&gt; &lt;workflowId&gt;FluvialForecast&lt;/workflowId&gt; &lt;timeSeries&gt; &lt;timeSeriesType&gt;simulated forecasting&lt;/timeSeriesType&gt; &lt;/timeSeries&gt; &lt;/workflowTimeSeries&gt; &lt;workflowTimeSeries&gt; &lt;arealId&gt;NL&lt;/arealId&gt; &lt;sourceId&gt;KNMI&lt;/sourceId&gt;</pre> |                  |
| Plugin - Module - Archive              | <a href="#">FEWS-22009</a> | Deltareis     | daily automatic deployment of archive server from teamcity                                                                                       | teamcity deploys the archive server war to the testserver daily                                                                                                                                                                                                               | teamcity deploys the archive server war to the testserver daily                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <a href="https://publicwiki.deltareis.nl/display/FEWSDOC/Configuration+of+the+Delft+FEWS+Archive+Server">https://publicwiki.deltareis.nl/display/FEWSDOC/Configuration+of+the+Delft+FEWS+Archive+Server</a>                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                  |
| Plugin - Module - Archive              | <a href="#">FEWS-22274</a> | RWS           | FEWS-22250 Uitbreiding Seamless integration importactie t.b.v. Open deel van FEWS Archief voor 1D external historical and external forecast data |                                                                                                                                                                                                                                                                               | It is now possible to import 1d data (observed and external historical) from the external netcdf storage. This is used when the user tries to retrieve data from the external netcdf storage with the pi webservice.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                  |
| Plugin - Module - Archive              | <a href="#">FEWS-22273</a> | RWS           | FEWS-22250 Uitbreiding Seamless integration zoekactie t.b.v. Open deel van FEWS Archief voor 1D external historical and external forecast data   |                                                                                                                                                                                                                                                                               | It is now possible to search for scalar (1d) data in the external netcdf storage of the archive.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                  |
| Plugin - Module - Archive              | <a href="#">FEWS-22916</a> | UAE Navy      | FEWS-19079 No data exported to archive - change ERROR to WARNING                                                                                 |                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                  |
| Plugin - Module - Data Export          | <a href="#">FEWS-22115</a> | Deltareis     | FEWS-18050 IMFS: Convert old EAExport module to new timeseriesExport                                                                             | EA export type to export scalar time series to Environment Agency (EA) xml format                                                                                                                                                                                             | Since 2019.02 <exportType>EA</exportType> should be used in TimeSeriesExport module instead of configuring EA specific exportRun module. EA specific exportRun module is deprecated and will be removed starting with release 2020.02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <a href="https://publicwiki.deltareis.nl/display/FEWSDOC/EA+XML">https://publicwiki.deltareis.nl/display/FEWSDOC/EA+XML</a>                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                  |

| Component/s                   | Key                        | Customer name | Summary                                                                        | Release Note Text                                                                                    | Release Note Text Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Link to Documentation                                                                                                                                                                                                                                                         | Config Example                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Screenshot/Image                                                                      |
|-------------------------------|----------------------------|---------------|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Plugin - Module - Data Export | <a href="#">FEWS-22650</a> | RWS           | FEWS-22250 Include lat / lon in NETCDF-CF_PROFILE_MATROOS                      | Export type NETCDF-CF_PROFILE and NETCDF-CF_PROFILE_MATROOS - optional including lat,lon coordinates | By default these two export types write only x,y coordinates to the NC file. To write also lat,lon coordinates, configure the following property in TimeSeriesExport module:<br><properties><br><bool key="includeLatLonCoordinates" value="true" /><br></properties>                                                                                                                                                                                                                                                               | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/Available+data+types">https://publicwiki.deltares.nl/display/FEWSDOC/Available+data+types</a>                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                       |
| Plugin - Module - Data Export | <a href="#">FEWS-19436</a> | NRW           | FEWS-18387 Add ModuleInstanceId to IdMapping                                   | Module instance in id map.                                                                           | It is now possible to take the module instance into account while mapping internal ids to external ids an visa versa. For example you can now map the internal module instance id to different external parameter ids while the internal parameter is the same.                                                                                                                                                                                                                                                                     | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/01+Id+Mapping">https://publicwiki.deltares.nl/display/FEWSDOC/01+Id+Mapping</a>                                                                                                                                       | <pre>(code:xml) &lt;?xml version="1.0" encoding="UTF-8"?&gt; &lt;idMap xmlns="http://www.wildelf.nl/fews" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.wildelf.nl/fews http://fews.wildelf.nl/schemas/version1.0/IdMap.xsd" version="1.1"&gt; &lt;!----&gt; &lt;map internalModuleInstance="Model-A" internalParameter="Q.m" internalLocation="H-2001" externalParameter="AA" externalLocation="A"/&gt; &lt;map internalModuleInstance="Import" internalParameter="Q.m" internalLocation="H-2001" externalParameter="BB" externalLocation="A"/&gt; &lt;/idMap&gt; (code)</pre> |                                                                                       |
| Plugin - Module - Data Import | <a href="#">FEWS-22862</a> | BHP           | develop Open ID Connect authentication for existing Hydronet (WIWB) API import | WIWB import support for authentication with open id connect bearer token                             | WIWB import support for authentication with open id connect bearer token. Enable by setting the authentication property to BearerToken. The actual token can be configured in the password field.                                                                                                                                                                                                                                                                                                                                   | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/WIWB">https://publicwiki.deltares.nl/display/FEWSDOC/WIWB</a>                                                                                                                                                         | <string key="authentication" value="BearerToken" />                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                       |
| Plugin - Module - Data Import | <a href="#">FEWS-22664</a> | Covadem       | Covadem: add new import for ship tracks                                        | Add new Covadem Track 2 import added.                                                                | Add new Covadem Track 2 import added.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/Covadem+Track2">https://publicwiki.deltares.nl/display/FEWSDOC/Covadem+Track2</a>                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |    |
| Plugin - Module - Data Import | <a href="#">FEWS-22174</a> | gloffis       | to import module, add cumulativeMean option                                    | Implement cumulativeMean in TimeSeriesImport                                                         | Similar to cumulativeSum, cumulativeMean is implemented in TimeSeriesImport.                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/Import+Module+configuration+options#ImportModuleconfiguration+options-externLink">https://publicwiki.deltares.nl/display/FEWSDOC/Import+Module+configuration+options#ImportModuleconfiguration+options-externLink</a> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |   |
| Plugin - Module - Data Import | <a href="#">FEWS-22562</a> | JBA           | Extend Grib2 file format with projection (OS British National Grid)            | Import type GRIB2_UKV to import JBA UKV grib2 file                                                   | UKV grib2 is projected onto a OS British National Grid using a Transverse Mercator projection which is encoded in grib2 using template 12. Since Transverse Mercator is not supported by original NetCDF Grib2 decoder, a patch for this decoder has been included in NetCdf library. The patched Grib2 decoder returns LatLon if the projection is coded in the grib2 using template 12. If needed, the grid definition should be overwritten in Grids.xml. Also, the read grid is automatically reverted along both X and Y axis. | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/Available+data+types">https://publicwiki.deltares.nl/display/FEWSDOC/Available+data+types</a>                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |

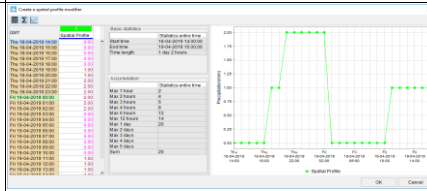


| Component/s                   | Key                        | Customer name                         | Summary                                                                                       | Release Note Text                                                                                                                                 | Release Note Text Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Link to Documentation                                                                                                                                                                                                                                                               | Config Example                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Screenshot/Image                                                                   |
|-------------------------------|----------------------------|---------------------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Plugin - Module - Data Import | <a href="#">FEWS-22806</a> |                                       | Import for KNMI radar nowcast hdf5 file                                                       | Knmi-Hdf5-Radar-Nowcast import type                                                                                                               | Imports gridded time series from KNMI HDF5 file. This file has the following characteristics: <ul style="list-style-type: none"> <li>- grids for separate events are stored in image elements 'image/image_data', 'image2/image_data', 'image3/image_data', ... i.e. one image element per event</li> <li>- event time is stored in image attribute 'image_datetime_valid', using format dd-MMM-yyyy:HH:mm:ss.SSS</li> <li>- the file contains grids for only one variable (parameter), so no Id mapping is needed</li> <li>- the file contains Stereographic geo-datum. Stereographic geo-datum is geo-datum with parameters and in this case the overruling geometry is always required in Grids.xml.</li> </ul> |                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| Plugin - Module - Data Import | <a href="#">FEWS-19954</a> | EA                                    | FEWS-18050 FFFS: Import of external data from BWQ API                                         | For the FFFS project, a new import (parser) was developed for importing Bathing Water Quality (BWQ) data provided by the UK Environmental Agency. | Imports pollution incident and suspension of monitoring event data from a JSON web service provided by the UK Environmental Agency (EA) to meet UK reporting obligations under the EU Bathing Water Directive.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <a href="https://publicwiki.deltares.nl/6/Aa/c">https://publicwiki.deltares.nl/6/Aa/c</a>                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                    |
| Plugin - Module - Data Import | <a href="#">FEWS-22852</a> | RWS                                   | Optionally delete file from import directory when file is not matching specified file pattern | TimeSeriesImport option "importTriggeringFile" to start importing under condition                                                                 | Use option "importTriggeringFile" to configure a path to the file that triggers the import. Import will only start when this triggering file is found. The triggering file will be deleted at the end of the import run.<br><br>Some examples: <pre>&lt;importTriggeringFile&gt;p:\myProject\trigger\importTriggeringFile&lt;/importTriggeringFile&gt;</pre> or <pre>&lt;importTriggeringFile&gt;\$REGION_HOMES\import\external\trigger&lt;/importTriggeringFile&gt;</pre> Restrictions on use:<br>The triggering file cannot be located on the FTP                                                                                                                                                                |                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                    |
| Plugin - Module - Data Import | <a href="#">FEWS-21982</a> | RWS                                   | 3D netCDF importer does not allow additional CONSTIT dimension in netCDF                      | 3D netCDF importer will now allow additional CONSTIT dimension in netCDF                                                                          | 3D netCDF importer will now allow additional CONSTIT dimension in netCDF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/NETCDF+CF+TIMESERIES">https://publicwiki.deltares.nl/display/FEWSDOC/NETCDF+CF+TIMESERIES</a>                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                    |
| Plugin - Module - Data Import | <a href="#">FEWS-21905</a> | Deltares                              | FEWS-21134 Support for passive mode (FTP) in timeseries import module                         | Support for passive mode (FTP) in timeseries import module                                                                                        | Support for passive mode (FTP) in timeseries import module                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/Import+Module+configuration+options#ImportModuleconfigurationoptions-ftpPassiveMode">https://publicwiki.deltares.nl/display/FEWSDOC/Import+Module+configuration+options#ImportModuleconfigurationoptions-ftpPassiveMode</a> | <pre>(code.xml) &lt;general&gt; &lt;importType&gt;importType&lt;/importType&gt; &lt;folders&gt;"ftp://import/external"&lt;/folders&gt; &lt;ftpPassiveMode&gt;true&lt;/useFTPPassiveMode&gt; &lt;/general&gt; (code)</pre>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                    |
| Plugin - Module - Data Import | <a href="#">FEWS-21887</a> | Environment and Climate Change Canada | FEWS-16663 Meteo Canada import WCS (NetCDF)                                                   | Import Meteo Canada import WCS (NetCDF)                                                                                                           | Available since 2018.02.<br>Imports data from:<br><a href="https://geo.weather.gc.ca/geomet?SERVICE=WCS&amp;VERSION=2.0.1&amp;REQUEST=GetCoverage&amp;COVERAGEID=GDPS.ETA_HR&amp;SUBSETTINCRS=EPSG:4326&amp;SUBSET=y{144,70}&amp;SUBSET=y{46,69}&amp;FORMAT=image/netcdf&amp;TIME=2020-01-19T00:00:00Z">https://geo.weather.gc.ca/geomet?SERVICE=WCS&amp;VERSION=2.0.1&amp;REQUEST=GetCoverage&amp;COVERAGEID=GDPS.ETA_HR&amp;SUBSETTINCRS=EPSG:4326&amp;SUBSET=y{144,70}&amp;SUBSET=y{46,69}&amp;FORMAT=image/netcdf&amp;TIME=2020-01-19T00:00:00Z</a><br><br>Please note data is only available for future dates, not present or past. The date in the url is filled in by FEWS based on the view period.        | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/CanadaMeteoWCS">https://publicwiki.deltares.nl/display/FEWSDOC/CanadaMeteoWCS</a>                                                                                                                                           | <pre>(code.xml) &lt;?xml version="1.0" encoding="UTF-8"?&gt; &lt;timeSeriesImportRun xmlns="http://www.widelft.nl/fews" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.widelft.nl/fews http://fews.widelft.nl/schemas/version1.0/timeSeriesImportRun.xsd"&gt; &lt;import&gt; &lt;general&gt; &lt;importType&gt;CanadaMeteoWCS&lt;/importType&gt; &lt;serverUri&gt;https://geo.weather.gc.ca/geomet?SERVICE=WCS&amp;mp;VERSION=2.0.1&amp;REQUEST=GetCoverage&lt;/serverUri&gt; &lt;user&gt;user&lt;/user&gt; &lt;password&gt;password&lt;/password&gt; &lt;relativeViewPeriod unit="day" start="1" end="2" startOverrutable="true" endOverrutable="true"/&gt; &lt;/general&gt; &lt;properties&gt; &lt;string key="subsettingCrs" value="EPSG:4326"&gt;&lt;/string&gt; &lt;/properties&gt; &lt;timeSeriesSet&gt; &lt;moduleInstanceId&gt;CanadaMeteoWCS&lt;/moduleInstanceId&gt; &lt;valueType&gt;grid&lt;/valueType&gt; &lt;parameterId&gt;GDPS.ETA_HR&lt;/parameterId&gt; &lt;locationId&gt;CanadaMeteoWCSGrid&lt;/locationId&gt; &lt;timeSeriesType&gt;external forecasting&lt;/timeSeriesType&gt; &lt;timeStep unit="hour" multiplier="60"/&gt; &lt;readWriteMode&gt;pdf originals&lt;/readWriteMode&gt; &lt;/timeSeriesSet&gt; &lt;/import&gt; &lt;/general&gt; &lt;importType&gt;ONS-CPTEC_ETA&lt;/importType&gt; &lt;folders&gt;D:/fews/Import/ETA&lt;/folders&gt; &lt;fileNameObservationDateTimePattern&gt;ETA40_p?????a'ddMMyy'.dat&lt;/fileNameObservationDateTimePattern&gt; &lt;fileNameForecastCreationDateTimePattern&gt;ETA40_p'ddMMyy'?????.dat&lt;/fileNameForecastCreationDateTimePattern&gt; &lt;deleteImportedFiles&gt;false&lt;/deleteImportedFiles&gt; &lt;unitConversionsId&gt;ImportUnitConversions&lt;/unitConversionsId&gt; &lt;importTimeZone&gt; &lt;timeZoneName&gt;GMT+0&lt;/timeZoneName&gt; &lt;importTimeZone&gt; &lt;dataFeedId&gt;ETA&lt;/dataFeedId&gt; &lt;/general&gt; &lt;timeSeriesSet&gt; &lt;moduleInstanceId&gt;Import_ETA&lt;/moduleInstanceId&gt; &lt;valueType&gt;grid&lt;/valueType&gt; &lt;parameterId&gt;P.forecast&lt;/parameterId&gt; &lt;locationId&gt;ETA&lt;/locationId&gt; &lt;timeSeriesType&gt;external forecasting&lt;/timeSeriesType&gt; &lt;timeStep unit="day00"/&gt;</pre> |                                                                                    |
| Plugin - Module - Data Import | <a href="#">FEWS-21190</a> | IBM Informix / ONS - Brasil           | FEWS-20984 FEWS-ONS:Import CPTEC ETA data                                                     | Import CPTEC ETA data                                                                                                                             | A new parser can import grid data from txt files in the following format:<br><pre>-83.00 -50.20 0.0 -83.00 -49.80 0.0 -83.00 -49.40 0.0 -83.00 -49.00 0.0 -83.00 -48.60 2.0 -83.00 -48.20 0.0 -83.00 -47.80 0.0 -83.00 -47.40 0.0</pre> First two columns are the grid coordinates, third column is the value.<br><br>As the files contain no time data the configuration should contain fileNameObservationDateTimePattern.                                                                                                                                                                                                                                                                                       | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/CPTEC+ETA+data">https://publicwiki.deltares.nl/display/FEWSDOC/CPTEC+ETA+data</a>                                                                                                                                           | <pre>(code.xml) &lt;?xml version="1.0" encoding="UTF-8"?&gt; &lt;timeSeriesImportRun xmlns="http://www.widelft.nl/fews" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.widelft.nl/fews http://fews.widelft.nl/schemas/version1.0/timeSeriesImportRun.xsd"&gt; &lt;import&gt; &lt;general&gt; &lt;importType&gt;ONS-CPTEC_ETA&lt;/importType&gt; &lt;folders&gt;D:/fews/Import/ETA&lt;/folders&gt; &lt;fileNameObservationDateTimePattern&gt;ETA40_p?????a'ddMMyy'.dat&lt;/fileNameObservationDateTimePattern&gt; &lt;fileNameForecastCreationDateTimePattern&gt;ETA40_p'ddMMyy'?????.dat&lt;/fileNameForecastCreationDateTimePattern&gt; &lt;deleteImportedFiles&gt;false&lt;/deleteImportedFiles&gt; &lt;unitConversionsId&gt;ImportUnitConversions&lt;/unitConversionsId&gt; &lt;importTimeZone&gt; &lt;timeZoneName&gt;GMT+0&lt;/timeZoneName&gt; &lt;importTimeZone&gt; &lt;dataFeedId&gt;ETA&lt;/dataFeedId&gt; &lt;/general&gt; &lt;timeSeriesSet&gt; &lt;moduleInstanceId&gt;Import_ETA&lt;/moduleInstanceId&gt; &lt;valueType&gt;grid&lt;/valueType&gt; &lt;parameterId&gt;P.forecast&lt;/parameterId&gt; &lt;locationId&gt;ETA&lt;/locationId&gt; &lt;timeSeriesType&gt;external forecasting&lt;/timeSeriesType&gt; &lt;timeStep unit="day00"/&gt;</pre>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                    |

| Delft-FEWS 2020.01 Solved Features |                            |                             |                                                            |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                  |
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| Component/s                        | Key                        | Customer name               | Summary                                                    | Release Note Text                                          | Release Note Text Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Link to Documentation                                                                                                                         | Config Example                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Screenshot/Image |
| Plugin - Module - Data Import      | <a href="#">FEWS-21188</a> | IBM Informix / ONS - Brasil | FEWS-20984 FEWS-ONS: Import Synoptic Data                  | Import Synoptic Data                                       | This parser can import grid data from txt files in the following format:<br><br>1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10<br>11<br>12<br>13<br>14<br>15<br>SMBZ<br>AAXX 0112<br>SYNOP<br><br>83649 NIL=<br>83650 41598 60401 10290 20227 40180 52005<br>70320 84264                                                                                                                                                                                                                                                                                                                                                                                                                      | <a href="https://publicwiki.deltareis.nl/display/FEWSDOC/ONS_Synoptic">https://publicwiki.deltareis.nl/display/FEWSDOC/ONS_Synoptic</a>       | <pre>(code:xml) &lt;?xml version="1.0" encoding="UTF-8"?&gt; &lt;timeSeriesImportRun xmlns="http://www.widelft.nl/fews" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.widelft.nl/fews http://fews.widelft.nl/schemas/version1.0/timeSeriesImportRun.xs d"&gt; &lt;import&gt; &lt;general&gt; &lt;importType&gt;ONS-Synoptic&lt;/importType&gt; &lt;folders&gt;D/fews/Import/Synoptic&lt;/folders&gt; &lt;fileNameObservationDateTimePattern&gt;\${yy}MMddHH.txt&lt;/fileNa meObservationDateTimePattern&gt; &lt;deleteImportFiles&gt;false&lt;/deleteImportFiles&gt; &lt;idMapId&gt;IdImport_Meteo_Synoptic&lt;/idMapId&gt; &lt;unitConversionId&gt;ImportUnitConversions&lt;/unitConversionId&gt; &lt;importTimeZone&gt; &lt;timeZoneName&gt;GMT&lt;/timeZoneName&gt; &lt;importTimeZone&gt; &lt;dataFeedId&gt;meteo_Synoptic&lt;/dataFeedId&gt; &lt;/general&gt; &lt;timeSeriesSet&gt; &lt;moduleInstanceId&gt;Import_Meteo_Synoptic&lt;/moduleInstanceId&gt; &lt;valueType&gt;scalar&lt;/valueType&gt; &lt;parameterId&gt;P_obs&lt;/parameterId&gt; &lt;locationSetId&gt;meteo_synop&lt;/locationSetId&gt; &lt;timeSeriesType&gt;external historical&lt;/timeSeriesType&gt; &lt;timeStep unit="day12"/&gt; &lt;/timeSeriesSet&gt; &lt;/timeSeriesImportRun&gt;</pre> |                  |
| Plugin - Module - Data Import      | <a href="#">FEWS-21126</a> | Entidad Binacional Yacyretá | New import for webservice data from INA agency (Argentina) | New import for webservice data from INA agency (Argentina) | Data is imported from <a href="https://alerta.ina.gov.ar/pub/mapa">https://alerta.ina.gov.ar/pub/mapa</a> . Example query:<br><br><a href="https://alerta.ina.gov.ar/pub/datos/datos&amp;timeSta rt=2019-06-27&amp;timeEnd=2019-07-03&amp;siteCode=156&amp;varId=2&amp;format=json">https://alerta.ina.gov.ar/pub/datos/datos&amp;timeSta rt=2019-06-27&amp;timeEnd=2019-07-03&amp;siteCode=156&amp;varId=2&amp;format=json</a><br><br>Time start and time end are from the period defined in the configuration file. SiteCode is the (external) location id, varId is the (external) parameter id.<br><br>From the data set 'time start is used as the timestep, varId is the imported value. | <a href="https://publicwiki.deltareis.nl/display/FEWSDOC/Yacyretalimport">https://publicwiki.deltareis.nl/display/FEWSDOC/Yacyretalimport</a> | <pre>(code:xml) &lt;?xml version="1.0" encoding="UTF-8"?&gt; &lt;timeSeriesImportRun xmlns="http://www.widelft.nl/fews" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.widelft.nl/fews http://fews.widelft.nl/schemas/version1.0/timeSeriesImportRun.xs d"&gt; &lt;import&gt; &lt;general&gt; &lt;importType&gt;Yacyretalimport&lt;/importType&gt; &lt;serverUrl&gt;https://alerta.ina.gov.ar/pub/datos/datos&lt;/serverUrl&gt; &lt;user&gt;user&lt;/user&gt; &lt;password&gt;password&lt;/password&gt; &lt;relativeViewPeriod unit="day" starts="-5" end="0" startOverrutable="true" endOverrutable="true"/&gt; &lt;idMapId&gt;YacyretalimportMapper&lt;/idMapId&gt; &lt;/general&gt; &lt;timeSeriesSet&gt; &lt;moduleInstanceId&gt;Yacyretalimport&lt;/moduleInstanceId&gt; &lt;valueType&gt;scalar&lt;/valueType&gt; &lt;parameterId&gt;parameter1&lt;/parameterId&gt; &lt;locationId&gt;locationId&lt;/locationId&gt; &lt;timeSeriesType&gt;external historical&lt;/timeSeriesType&gt; &lt;timeStep unit="nonequidistant"/&gt; &lt;readWriteMode&gt;add originals&lt;/readWriteMode&gt; &lt;/timeSeriesSet&gt; &lt;/import&gt; &lt;/timeSeriesImportRun&gt;(code)</pre>                                                                                              |                  |
| Plugin - Module - Data Import      | <a href="#">FEWS-22243</a> | FEWS-Spain                  | Import: FEWS-Spain EHDCC API REST                          | Import: FEWS-Spain EHDCC API REST                          | Data is imported from EHDCC. Example query:<br><br><a href="https://hdcc.soclog.com/wsOperational/webapi/nrt/2016-05-01T00:00:00/2016-05-04T00:00:00/118/W">https://hdcc.soclog.com/wsOperational/webapi/nrt/2016-05-01T00:00:00/2016-05-04T00:00:00/118/W</a><br><br>In the query:<br><br>Initial date: 2016-05-01T00:00:00<br>Final date: 2016-05-04T00:00:00<br>Station (EFAS ID) (locationID): 118<br>Values of water level and discharge<br><br>In the response:<br>1st column: EFAS ID (locationID)<br>2nd column: timestamp of the measurement<br>3rd column: water level (-999 means 'no value')<br>4th column: discharge (-999 means 'no value')                                      | <a href="https://publicwiki.deltareis.nl/display/FEWSDOC/EHDCCimport">https://publicwiki.deltareis.nl/display/FEWSDOC/EHDCCimport</a>         | <pre>(code:xml) &lt;?xml version="1.0" encoding="UTF-8"?&gt; &lt;timeSeriesImportRun xmlns="http://www.widelft.nl/fews" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.widelft.nl/fews http://fews.widelft.nl/schemas/version1.0/timeSeriesImportRun.xs d"&gt; &lt;import&gt; &lt;general&gt; &lt;importType&gt;EHDCC&lt;/importType&gt; &lt;serverUrl&gt;https://hdcc.soclog.com/wsOperational/webapi/nrt/% TIME_ZERO/yyyyMM ddTHH:mm:ss.432000/&lt;/serverUrl&gt; &lt;user&gt;user&lt;/user&gt; &lt;password&gt;password&lt;/password&gt; &lt;relativeViewPeriod unit="day" starts="0" end="5" startOverrutable="true" endOverrutable="true"/&gt; &lt;idMapId&gt;EHDCCImportIdMapper&lt;/idMapId&gt; &lt;/general&gt; &lt;timeSeriesSet&gt; &lt;moduleInstanceId&gt;EHDCCImport&lt;/moduleInstanceId&gt; &lt;valueType&gt;scalar&lt;/valueType&gt; &lt;parameterId&gt;param1&lt;/parameterId&gt; &lt;locationId&gt;LocA&lt;/locationId&gt; &lt;timeSeriesType&gt;external historical&lt;/timeSeriesType&gt; &lt;timeStep unit="nonequidistant"/&gt; &lt;readWriteMode&gt;add originals&lt;/readWriteMode&gt; &lt;/timeSeriesSet&gt; &lt;/timeSeriesImportRun&gt;</pre>                                                                                                 |                  |

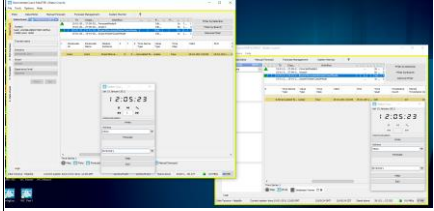
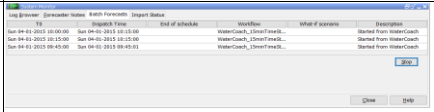
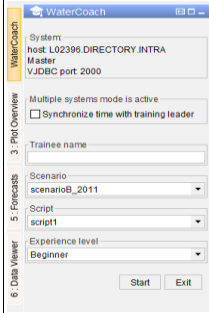
| Component/s                       | Key                        | Customer name      | Summary                                                        | Release Note Text                                                                                            | Release Note Text Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Link to Documentation                                                                                                                                                                                                                                                                     | Config Example                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Screenshot/Image                                                                     |
|-----------------------------------|----------------------------|--------------------|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Plugin - Module - Data Import     | <a href="#">FEWS-22105</a> | FEWS-Uruguay       | FEWS-22108 FEWS-UY Salto Grande Web Service Import             | UY Salto Grande Web Service Import                                                                           | Imports data form Web service of Salto Grande: <a href="https://www.saltogrande.org/ws.php?wsdl">https://www.saltogrande.org/ws.php?wsdl</a> .<br><br>Available since 2018.02.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <a href="https://publicwiki.deltare.nl/display/FEWSDOC/UY-Salto+import">https://publicwiki.deltare.nl/display/FEWSDOC/UY-Salto+import</a>                                                                                                                                                 | <pre> &lt;?xml version="1.0" encoding="UTF-8"?&gt; &lt;!-- edited with XMLSpy 2008 rel. 3 sp1 (http://www.altova.com) by Computer Services (W.L.J. DeltH Hydraulics) --&gt; &lt;timeSeriesImportRun xmlns="http://www.widelft.nl/fews" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.widelft.nl/fews http://fews.widelft.nl/schemas/version1.0/timeSeriesImportRun.xsd"&gt;   &lt;import&gt;   &lt;/import&gt;   &lt;/general&gt;   &lt;importType&gt;UySalto&lt;/importType&gt;   &lt;serverUri&gt;https://www.saltogrande.org/ws.php&lt;/serverUri&gt;   &lt;!-- this field is not used, but it is necessary to be able to configure connection timeout --&gt;   &lt;backupServerUri&gt;https://www.saltogrande.org/ws.php&lt;/backupServerUri&gt;   &lt;!-- if this field is not configured, it will be set at 2000 automatically --&gt;   &lt;connectionTimeOut&gt;10000&lt;/connectionTimeOut&gt;   &lt;user&gt;user&lt;/user&gt;   &lt;password&gt;password&lt;/password&gt;   &lt;relativeViewPeriod unit="day" start="-3" end="0" startOverrutable="true" endOverrutable="true"/&gt;   &lt;idMapId&gt;UySaltoMap&lt;/idMapId&gt;   &lt;/general&gt;   &lt;timeSeriesSet&gt;   &lt;moduleInstanceId&gt;UySalto&lt;/moduleInstanceId&gt;   &lt;valueType&gt;scalar&lt;/valueType&gt;   &lt;/timeSeriesSet&gt;   &lt;/timeSeriesImportRun&gt; </pre> |                                                                                      |
| Plugin - Module - Data Import     | <a href="#">FEWS-22103</a> | FEWS-Uruguay       | FEWS-22108 FEWS-UY ANA Web Service Import                      | FEWS-UY ANA Web Service Import                                                                               | Available since 2020.01. Present parser allows to download and import meteorological observations from <a href="http://telemetriaws1.ana.gov.br/ServiceANA.asmx">http://telemetriaws1.ana.gov.br/ServiceANA.asmx</a> .<br><br>Example url request:<br><br><a href="http://telemetriaws1.ana.gov.br/ServiceANA.asmx/DadosHidrometeorologicos?codEstacao=7675000&amp;dataInicio=01/12/2018&amp;dataFim=15/12/2019">http://telemetriaws1.ana.gov.br/ServiceANA.asmx/DadosHidrometeorologicos?codEstacao=7675000&amp;dataInicio=01/12/2018&amp;dataFim=15/12/2019</a><br><br>In which:<br>CodEstacao - location ID<br>dataInicio - start time<br>dataFim - end time<br>When configuring view period, please note that start and end times in the url increase/decrease by day, so the view period should also be at least a day long. | <a href="https://publicwiki.deltare.nl/display/FEWSDOC/UY-ANA+import">https://publicwiki.deltare.nl/display/FEWSDOC/UY-ANA+import</a>                                                                                                                                                     | <pre> &lt;?xml version="1.0" encoding="UTF-8"?&gt; &lt;timeSeriesImportRun xmlns="http://www.widelft.nl/fews" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.widelft.nl/fews http://fews.widelft.nl/schemas/version1.0/timeSeriesImportRun.xsd"&gt;   &lt;import&gt;   &lt;/import&gt;   &lt;/general&gt;   &lt;importType&gt;UyAna&lt;/importType&gt;   &lt;serverUri&gt;http://telemetriaws1.ana.gov.br/ServiceANA.asmx/DadosHidrometeorologicos?codEstacao=&lt;/serverUri&gt;   &lt;user&gt;user&lt;/user&gt;   &lt;password&gt;password&lt;/password&gt;   &lt;relativeViewPeriod unit="day" start="-5" end="0" startOverrutable="true" endOverrutable="true"/&gt;   &lt;idMapId&gt;UyAnaIdMap&lt;/idMapId&gt;   &lt;/general&gt;   &lt;timeSeriesSet&gt;   &lt;moduleInstanceId&gt;UyAna&lt;/moduleInstanceId&gt;   &lt;valueType&gt;scalar&lt;/valueType&gt;   &lt;parameterId&gt;rain&lt;/parameterId&gt;   &lt;locationId&gt;LocB&lt;/locationId&gt;   &lt;timeSeriesType&gt;external historical&lt;/timeSeriesType&gt;   &lt;timeStep unit="nonequidistant"/&gt;   &lt;readWriteMode&gt;add originals&lt;/readWriteMode&gt;   &lt;/timeSeriesSet&gt;   &lt;/timeSeriesImportRun&gt; </pre>                                                                                                                                                        |                                                                                      |
| Plugin - Module - Data Import     | <a href="#">FEWS-22104</a> | FEWS-Uruguay       | FEWS-22108 FEWS-UY DINAGUA Web Service Import                  | Import data from Dinagua service                                                                             | Imports data from <a href="https://app.mvotma.gub.uy/dinaguaws/dinaguaws?wsdl">https://app.mvotma.gub.uy/dinaguaws/dinaguaws?wsdl</a> .<br><br>When configuring the import for the first time, the certificate of the service needs to be added to the FEWS truststore.<br>To add it to the truststore, use F12, convert, convert certificate file to clientConfig.keystore, like shown on the image. This has to be done only one time.<br>The Dinagua service has different sources, including: DINAGUA, CTM, UTE. Different locations belong to different services. If data is required from different services, a separate import should be configured for each source, as show below.<br>Please note, names of parameters may also vary per source.                                                                          | <a href="https://publicwiki.deltare.nl/display/FEWSDOC/UY-Dinagua+import">https://publicwiki.deltare.nl/display/FEWSDOC/UY-Dinagua+import</a>                                                                                                                                             | <pre> &lt;?xml version="1.0" encoding="UTF-8"?&gt; &lt;timeSeriesImportRun xmlns="http://www.widelft.nl/fews" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.widelft.nl/fews http://fews.widelft.nl/schemas/version1.0/timeSeriesImportRun.xsd"&gt;   &lt;import&gt;   &lt;/import&gt;   &lt;/general&gt;   &lt;importType&gt;UyDinagua&lt;/importType&gt;   &lt;serverUri&gt;https://app.mvotma.gub.uy/dinaguaws/dinaguaws.dinaguaws?wsdl&lt;/serverUri&gt;   &lt;!-- this field is not used, but it is necessary to be able to configure connection timeout --&gt;   &lt;backupServerUri&gt;url&lt;/backupServerUri&gt;   &lt;!-- if this field is not configured, it will be set at 2000 automatically --&gt;   &lt;connectionTimeOut&gt;10000&lt;/connectionTimeOut&gt;   &lt;user&gt;USERNAME&lt;/user&gt;   &lt;password&gt;PASSWORD&lt;/password&gt;   &lt;relativeViewPeriod unit="day" start="-3" end="0" startOverrutable="true" endOverrutable="true"/&gt;   &lt;idMapId&gt;UyDinaguaMap&lt;/idMapId&gt;   &lt;/general&gt;   &lt;properties&gt;   &lt;string key="Source" value="DINAGUA"&gt;&lt;/string&gt;   &lt;/properties&gt;   &lt;timeSeriesSet&gt;   &lt;moduleInstanceId&gt;UyDinagua&lt;/moduleInstanceId&gt;   &lt;valueType&gt;scalars&lt;/valueType&gt;   &lt;/timeSeriesSet&gt;   &lt;/timeSeriesImportRun&gt; </pre>            |  |
| Plugin - Module - Data Import     | <a href="#">FEWS-21561</a> | WS Vallei & Veluwe | Web service (import/connection) with Multiflexmeter API        | Import Multiflexmeter API                                                                                    | Import and documentation are complete. Still waiting for client to test.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <a href="https://publicwiki.deltare.nl/display/FEWSDOC/Multiflex+Meter">https://publicwiki.deltare.nl/display/FEWSDOC/Multiflex+Meter</a>                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                      |
| Plugin - Module - Data Import     | <a href="#">FEWS-20301</a> | MDBA               | FEWS-14730 Connect to MQTT protocol for receiving data (R_301) | Azure IOT Hub Import for messages in the PI XML Format                                                       | Azure IOT Hub Import for messages in the PI XML Format.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <a href="https://publicwiki.deltare.nl/display/FEWSDOC/AzureIotHub">https://publicwiki.deltare.nl/display/FEWSDOC/AzureIotHub</a>                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                      |
| Plugin - Module - General Adapter | <a href="#">FEWS-21934</a> | Land-OOE           | FEWS-11611 FEWS extend ZIPActivity in General Adapter Module   | The General adapter Zip activity has been extended to allow selection of files to be zipped using wildcards. | In addition to zipping complete directories, the General adapter zip activity can now also be used to zip only selected files using a search pattern that supports wildcards.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <a href="https://publicwiki.deltare.nl/display/FEWSDOC/05+General+Adapter+Module#id-05GeneralAdapterModule-zipActivity">https://publicwiki.deltare.nl/display/FEWSDOC/05+General+Adapter+Module#id-05GeneralAdapterModule-zipActivity</a>                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                      |
| Plugin - Module - General Adapter | <a href="#">FEWS-21069</a> | WarmingUp          | FEWS-21063 warmingUP: GA export location attributes in csv     | Exports location attributes to csv format. Supports empty location sets. <locationIdColumn> optional         | Exports location attributes to csv format. Supports empty location sets. <locationIdColumn> optional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <a href="https://publicwiki.deltare.nl/display/FEWSDOC/05+General+Adapter+Module#id-05GeneralAdapterModule-exportLocationAttributesCsvActivity">https://publicwiki.deltare.nl/display/FEWSDOC/05+General+Adapter+Module#id-05GeneralAdapterModule-exportLocationAttributesCsvActivity</a> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                      |

Delft-FEWS 2020.01 Solved Features

| Component/s                         | Key                        | Customer name | Summary                                                                                                      | Release Note Text                                                                                                                                                                                       | Release Note Text Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Link to Documentation                                                                                                                                                                                                                                           | Config Example                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Screenshot/Image                                                                    |
|-------------------------------------|----------------------------|---------------|--------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Plugin - Module - General Adapter   | <a href="#">FEWS-22589</a> | HNK           | Support of NetCDF4 in General Adapter                                                                        | Support of NetCDF4 in General Adapter                                                                                                                                                                   | Optional formatid <br> <netcdfFormat>netcdf4</netcdfFormat> was added to the configuration. Default value is netcdf3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/05+GeneralAdapter+Module#id-05GeneralAdapterModule-netcdfFormat">https://publicwiki.deltares.nl/display/FEWSDOC/05+GeneralAdapter+Module#id-05GeneralAdapterModule-netcdfFormat</a>                     | <pre> &lt;code&gt;xml &lt;exportNetcdfActivity&gt; &lt;exportFile&gt;timeseries.nc&lt;/exportFile&gt; &lt;netcdfFormat&gt;netcdf4&lt;/netcdfFormat&gt; &lt;timeSeriesSets&gt; &lt;timeSeriesSet&gt; &lt;moduleInstanceId&gt;GeneralAdapterRun&lt;/moduleInstanceId&gt; &lt;valueType&gt;scalar&lt;/valueType&gt; &lt;parameterId&gt;WaterLevel&lt;/parameterId&gt; &lt;locationId&gt;H-2001&lt;/locationId&gt; &lt;timeSeriesType&gt;external_historical&lt;/timeSeriesType&gt; &lt;timeStep unit="minute" divider="1" multiplier="15"/&gt; &lt;relativeViewPeriod unit="hour" start="0" end="12"/&gt; &lt;readWriteMode&gt;read_only&lt;/readWriteMode&gt; &lt;ensembleId&gt;prognose&lt;/ensembleId&gt; &lt;/timeSeriesSet&gt; &lt;/timeSeriesSets&gt; &lt;/exportNetcdfActivity&gt; &lt;/code&gt; </pre>                                                                                                                                                                                                                                                                                                                                                              |                                                                                     |
| Plugin - Module - General Adapter   | <a href="#">FEWS-21460</a> | Yacreta       | FEWS-21231 Add option to general adapter execute activity to still run after previous execute activity fails | ExecuteActivity has an attribute called "executeOnPreviousError", when true it will be executed even though previous activity has failed                                                                | ExecuteActivity has an attribute called "executeOnPreviousError", when true it will be executed even though previous activity has failed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/05+GeneralAdapter+Module#id-05GeneralAdapterModule-executeOnPreviousError">https://publicwiki.deltares.nl/display/FEWSDOC/05+GeneralAdapter+Module#id-05GeneralAdapterModule-executeOnPreviousError</a> | <pre> &lt;code&gt;xml &lt;executeActivities&gt; &lt;executeActivity&gt; &lt;command&gt; &lt;className&gt;nl.wdelt.fews.system.plugin.generaladapter.TestFailingModuleRunnable&lt;/className&gt; &lt;/command&gt; &lt;timeOut&gt;10000&lt;/timeOut&gt; &lt;ignoreDiagnostics&gt;true&lt;/ignoreDiagnostics&gt; &lt;/executeActivity&gt; &lt;executeActivity executeOnPreviousError="true"&gt; &lt;command&gt; &lt;className&gt;nl.wdelt.fews.system.plugin.generaladapter.TestModuleAdapterRunnable&lt;/className&gt; &lt;/command&gt; &lt;arguments&gt; &lt;argument&gt;output/TestExecuteOnPreviousError.log&lt;/argument&gt; &lt;/arguments&gt; &lt;timeOut&gt;10000&lt;/timeOut&gt; &lt;ignoreDiagnostics&gt;true&lt;/ignoreDiagnostics&gt; &lt;/executeActivity&gt; &lt;/code&gt; </pre>                                                                                                                                                                                                                                                                                                                                                                             |                                                                                     |
| Plugin - Module - Reports           | <a href="#">FEWS-19423</a> | NRW           | FEWS-18387 Export reports only when all separate forecasts have finished                                     | ManualForecast option "F12 Select modules to include in next run Ctrl+R" is applicable also in client-server system.                                                                                    | Since the reference to the workflow modules is stored in TaskProperties.xml, element moduleInstanceIndices, the workflow can be run for the selected modules also on FSS. If the element moduleInstanceIndices is omitted, all module instances of the workflow are included                                                                                                                                                                                                                                                                                                                                             | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/06+ManualForecast+Display">https://publicwiki.deltares.nl/display/FEWSDOC/06+ManualForecast+Display</a>                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                     |
| Plugin - Module - Spatial Modifiers | <a href="#">FEWS-21541</a> | EA            | FEWS-18050 Add statistics to spatial profile modifier panel                                                  | Add time length and moving accumulation max statistics, add statistics to spatial profile editor                                                                                                        | Two new descriptive statistical functions have been added: "timeLength" and "movingAccumulationMax". The "timeLength" statistic states the length of the time series, for example "1 day 3 hours". The "movingAccumulationMax" statistic can be given several time spans for which the maximum of the moving accumulation is reported. A statistics panel has been added to the spatial profile modifier editor. The descriptive statistics included in this statistics panel can be configured through the ModifierTypes.xml (and differ from the descriptive functions configured in the TimeSeriesDisplayConfig.xml). | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/25+ModifierTypes#id-25ModifierTypes-SpatialProfileModifier">https://publicwiki.deltares.nl/display/FEWSDOC/25+ModifierTypes#id-25ModifierTypes-SpatialProfileModifier</a>                               | <pre> &lt;code&gt;xml &lt;spatialProfileModifier id="SpatialProfileBE" name="Spatial Profile"&gt; &lt;expiryTime unit="day" multiplier="2"/&gt; &lt;userDefinedDescriptionField id="Comment" descriptionFields="Comment"/&gt; &lt;timeSeries&gt; &lt;moduleInstanceId&gt;Import_NWP_Mediumrange&lt;/moduleInstanceId&gt; &lt;qualifierId&gt;BE&lt;/qualifierId&gt; &lt;/timeSeries&gt; &lt;descriptiveFunctionGroups&gt; &lt;descriptiveFunctionGroup name="Basic statistics"&gt; &lt;descriptiveFunction function="startTime" ignoreMissings="true"/&gt; &lt;descriptiveFunction function="endTime" ignoreMissings="true"/&gt; &lt;descriptiveFunction function="timeLength" ignoreMissings="true"/&gt; &lt;/descriptiveFunctionGroup&gt; &lt;descriptiveFunctionGroup name="Accumulation"&gt; &lt;descriptiveFunction function="movingAccumulationMax" ignoreMissings="true"&gt; &lt;timeSpan unit="hour" multiplier="1"/&gt; &lt;timeSpan unit="hour" multiplier="2"/&gt; &lt;timeSpan unit="hour" multiplier="3"/&gt; &lt;timeSpan unit="hour" multiplier="4"/&gt; &lt;timeSpan unit="hour" multiplier="6"/&gt; &lt;timeSpan unit="hour" multiplier="12"/&gt; </pre> |  |
| Plugin - Module - Transformation    | <a href="#">FEWS-21724</a> | HDSR          | FEWS-21187 Loop over time dependent location relations used in transformation                                | The usage of time dependent location relations and time dependent location set constraints is supported in the transformation module from 2020.01 onwards, this was not the case in 2019.02 and before. | The usage of time dependent location relations and time dependent location set constraints is supported in the transformation module from 2020.01 onwards, this was not the case in 2019.02 and before.                                                                                                                                                                                                                                                                                                                                                                                                                  | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/21+Time+Dependent+Locations#id-21TimeDependentLocations-Transformations">https://publicwiki.deltares.nl/display/FEWSDOC/21+Time+Dependent+Locations#id-21TimeDependentLocations-Transformations</a>     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                     |
| Plugin - Module - Transformation    | <a href="#">FEWS-21723</a> | HDSR          | FEWS-21187 Loop over time dependent location relations in time series set                                    | The usage of time dependent location relations and time dependent location set constraints is supported in the transformation module from 2020.01 onwards, this was not the case in 2019.02 and before. | The usage of time dependent location relations and time dependent location set constraints is supported in the transformation module from 2020.01 onwards, this was not the case in 2019.02 and before.                                                                                                                                                                                                                                                                                                                                                                                                                  | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/21+Time+Dependent+Locations#id-21TimeDependentLocations-Transformations">https://publicwiki.deltares.nl/display/FEWSDOC/21+Time+Dependent+Locations#id-21TimeDependentLocations-Transformations</a>     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                     |
| Plugin - Module - Transformation    | <a href="#">FEWS-21722</a> | HDSR          | FEWS-21187 Loop over time dependent changes in location sets                                                 | The usage of time dependent location relations and time dependent location set constraints is supported in the transformation module from 2020.01 onwards, this was not the case in 2019.02 and before. | The usage of time dependent location relations and time dependent location set constraints is supported in the transformation module from 2020.01 onwards, this was not the case in 2019.02 and before.                                                                                                                                                                                                                                                                                                                                                                                                                  | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/21+Time+Dependent+Locations#id-21TimeDependentLocations-Transformations">https://publicwiki.deltares.nl/display/FEWSDOC/21+Time+Dependent+Locations#id-21TimeDependentLocations-Transformations</a>     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                     |

[Link](#) Delft-FEWS 2020.01 Solved Features

| Component/s                      | Key                        | Customer name      | Summary                                                                                                                        | Release Note Text                                                                                                                                                                   | Release Note Text Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Link to Documentation                                                                                                                                                                                                                                                 | Config Example                                                                                                                                                                                                                                                                                                                                                                         | Screenshot/Image |
|----------------------------------|----------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Plugin - Module - Transformation | <a href="#">FEWS-18368</a> | Deltares           | FEWS-21187 Add check in transformation module whether input is time dependent and if the transformation function supports this | There will be a warning for transformations that do not support time dependent location set constraint changes or time dependent location relation changes within their run period. | There will be a warning for transformations that do not support time dependent location set constraint changes or time dependent location relation changes within their run period, this will mainly be transformations that have multiple time input and or output (like aggregation and accumulation), because the individual transformation can not handle a change in within their input or output period.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/1+Time+Dependent+Locations+id-211TimeDependentLocations+Transformations">https://publicwiki.deltares.nl/display/FEWSDOC/1+Time+Dependent+Locations+id-211TimeDependentLocations+Transformations</a>           |                                                                                                                                                                                                                                                                                                                                                                                        |                  |
| Plugin - Module - Transformation | <a href="#">FEWS-14329</a> | EA                 | FEWS-18050 Improvements to Transformation functions for Coastal Forecasting                                                    | This transformation can be used to determine the threshold level for a certain location by using location attributes.                                                               | This transformation can be used to determine the threshold level for a certain location by using location attributes.<br><br>The location attributes define for each output location which time series should be used to determine the threshold level. Also the range for each threshold can be defined here.<br><br>More information can be found here.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/Multi+var+ate+threshold+transformation">https://publicwiki.deltares.nl/display/FEWSDOC/Multi+var+ate+threshold+transformation</a>                                                                             |                                                                                                                                                                                                                                                                                                                                                                                        |                  |
| Plugin - Module - Transformation | <a href="#">FEWS-21125</a> | Taolinku Reservoir | merge->selectDataSource only works for scalar time series, but not for grid time series                                        | An issue with the Merge transformation SelectDataSource has been fixed so it works correctly with both gridded and scalar data sources.                                             | An issue with the Merge transformation SelectDataSource has been fixed so it works correctly with both gridded and scalar data sources.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <a href="https://publicwiki.deltares.nl/v/f4XnBQ">https://publicwiki.deltares.nl/v/f4XnBQ</a>                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                        |                  |
| System                           | <a href="#">FEWS-22169</a> | WarmingUp          | FEWS-21063 Accommodate client-type CF (Computational Framework)                                                                | New Client Type: Computational Framework                                                                                                                                            | New Client Type: Computational Framework<br><br>The CF (Computational Framework) client type is intended for desk studies with strong emphasis on scenario analysis, scenario management and comparison. Client type CF works as a stand-alone desktop application with access to the archive.<br><br>ClientType CF is introduced to protect the live system functionality from Computational Framework functionality which may use displays that do not work in client-server systems or may use features (e.g. not configured files on the file system) that do not work in a client-server environment. Most of the times, the CF client type has similar behaviour to an SA.                                                                                                                                                                                                                    | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/01+Root+Configuration+Files+for+Operator+Client">https://publicwiki.deltares.nl/display/FEWSDOC/01+Root+Configuration+Files+for+Operator+Client</a>                                                           | <code>(code.xml)</code><br><?xml version="1.0" encoding="UTF-8"?><br><clientConfiguration xmlns="http://www.widelft.nl/fews" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.widelft.nl/fews http://fews.widelft.nl/schemas/version1.0/clientConfig.xsd"><br><clientType>Computational Framework</clientType><br></clientConfiguration><br>(code) |                  |
| System                           | <a href="#">FEWS-21989</a> | FEWS-Vietnam       | FEWS-21636 update FEWS translation EN - VN                                                                                     | update FEWS translation EN - VN                                                                                                                                                     | update FEWS translation EN - VN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/Home">https://publicwiki.deltares.nl/display/FEWSDOC/Home</a>                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                        |                  |
| System - PI Service              | <a href="#">FEWS-20765</a> | HDSR               | Add info on time dependency to getLocations call of PIwebservice                                                               | Added new optional request parameter to PI web service getLocations call: includeTimeDependency                                                                                     | Added new optional request parameter to PI web service getLocations call: includeTimeDependency<br><br>Default value is true. For XML format response this option is available from version 1.26 or greater. If the option is set to true, the response will include:<br>- start end time of the location, if location is time dependent.<br>- if showAttributes is true, and if an attribute is time dependent, for each value it can take it will be listed along with the start and end time and value.<br>- if include RelationLocations is true, and the location relation is time dependent, the end and start time of the relation will be listed.<br><br>Example response:<br>(code)<br>{<br>"locationId" : "locB",<br>"shortName" : "B",<br>"lat" : "7.0",<br>"lon" : "77.0",<br>"x" : "7.0",<br>"y" : "77.0",<br>"z" : "7.0",<br>"attributes" : [{"<br>"name" : "TEST_ATTRIBUTE"  }]<br>} | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/FEWS+PI+REST+Web+Service#FEWSPIRESTWebService-GETLocations">https://publicwiki.deltares.nl/display/FEWSDOC/FEWS+PI+REST+Web+Service#FEWSPIRESTWebService-GETLocations</a>                                     |                                                                                                                                                                                                                                                                                                                                                                                        |                  |
| System - PI Service              | <a href="#">FEWS-21781</a> | RWS                | FEWS-20398 Enhance PI service timeseries endpoint to support filtering on time series type                                     | filtering on timeseries type supported in pi rest service                                                                                                                           | filtering on timeseries type supported in pi rest service                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/FEWS+PI+REST+Web+Service#FEWSPIRESTWebService-GETimeseries">https://publicwiki.deltares.nl/display/FEWSDOC/FEWS+PI+REST+Web+Service#FEWSPIRESTWebService-GETimeseries</a>                                     |                                                                                                                                                                                                                                                                                                                                                                                        |                  |
| System - PI Service              | <a href="#">FEWS-22322</a> | RWS                | FEWS-22250 PI Service - get time series from archive                                                                           |                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                        |                  |
| System - PI Service              | <a href="#">FEWS-21181</a> | NRW                | FEWS-18387 Delft-FEWS PI Service developments                                                                                  | WMS support for ensembles added                                                                                                                                                     | WMS support for ensembles added:<br><br>GetCapabilities will return a list of keywords from which the ensemble members can be determined<br><br>GetMap has support for an ensembleId and ensembleMemberId to access an ensemble map<br><br>The WMS test page will show a dropdown list for ensembles when available.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <a href="https://publicwiki.deltares.nl/v/gAgEC">https://publicwiki.deltares.nl/v/gAgEC</a>                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                        |                  |
| System - PI Service              | <a href="#">FEWS-23187</a> | EA                 | FEWS-18050 IMFS-PI: Add label, description and comment element to PI Service timeseries thresholds                             | support for comment and description for thresholds in pi timeseries endpoint                                                                                                        | support for comment and description for thresholds in pi timeseries endpoint                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/FEWS+PI+REST+Web+Service#FEWSPIRESTWebService-GETimeseries">https://publicwiki.deltares.nl/display/FEWSDOC/FEWS+PI+REST+Web+Service#FEWSPIRESTWebService-GETimeseries</a>                                     |                                                                                                                                                                                                                                                                                                                                                                                        |                  |
| System - PI Service              | <a href="#">FEWS-19939</a> | UAE Navy           | FEWS-19924 PI Service: retrieve data for a certain X,Y coordinate and datalayer                                                | Get timeseries from grid cell                                                                                                                                                       | the PI REST service can now get the timeseries for a grid cell by specifying a x and y position.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/FEWS+PI+REST+Web+Service#FEWSPIRESTWebService-GETimeseries/grid(2018.02)">https://publicwiki.deltares.nl/display/FEWSDOC/FEWS+PI+REST+Web+Service#FEWSPIRESTWebService-GETimeseries/grid(2018.02)</a>         |                                                                                                                                                                                                                                                                                                                                                                                        |                  |
| System - PI Service              | <a href="#">FEWS-19926</a> | UAE Navy           | FEWS-19924 PI Service: get locations from archive request                                                                      | archive locations can be requested through the pi rest service                                                                                                                      | archive locations can be requested through the pi rest service                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/FEWS+PI+REST+Web+Service#FEWSPIRESTWebService-GETarchive/locations(2020.01)">https://publicwiki.deltares.nl/display/FEWSDOC/FEWS+PI+REST+Web+Service#FEWSPIRESTWebService-GETarchive/locations(2020.01)</a>   |                                                                                                                                                                                                                                                                                                                                                                                        |                  |
| System - PI Service              | <a href="#">FEWS-19925</a> | UAE Navy           | FEWS-19924 PI Service: get parameters from archive request                                                                     | archive parameters can be requested through the pi REST service                                                                                                                     | archive parameters can be requested through the pi REST service                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/FEWS+PI+REST+Web+Service#FEWSPIRESTWebService-GETarchive/parameters(2020.01)">https://publicwiki.deltares.nl/display/FEWSDOC/FEWS+PI+REST+Web+Service#FEWSPIRESTWebService-GETarchive/parameters(2020.01)</a> |                                                                                                                                                                                                                                                                                                                                                                                        |                  |

| Delft-FEWS 2020.01 Solved Features |                            |               |                                                                                                             |                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                      |
|------------------------------------|----------------------------|---------------|-------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Component/s                        | Key                        | Customer name | Summary                                                                                                     | Release Note Text                                                                                                                       | Release Note Text Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Link to Documentation                                                                                                                                                                                                           | Config Example                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Screenshot/Image                                                                     |
| System - PI Service                | <a href="#">FEWS-22279</a> | Deltares      | FEWS-21828 PI service GeoJSON obsolete                                                                      | removed deprecated geosjon service                                                                                                      | Removed deprecated geosjon service. This was an undocumented and now unused API.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/FEWS+Web+Services">https://publicwiki.deltares.nl/display/FEWSDOC/FEWS+Web+Services</a>                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                      |
| System - PI Service                | <a href="#">FEWS-22278</a> | Deltares      | FEWS-21828 Digitale Delta API V1 obsolete                                                                   | Digitale Delta Api V1 has been removed from code                                                                                        | Digitale Delta Api V1 has been removed from code                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <a href="https://digitaledeltaorg.github.io/dd-apis.html">https://digitaledeltaorg.github.io/dd-apis.html</a>                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                      |
| System - PI Service                | <a href="#">FEWS-18927</a> | Deltares      | FEWS-19646 Thinning support in REST service                                                                 | Thinning support for timeseries in pi service                                                                                           | Thinning is used to retrieve the visually interesting time steps of timeSeries. It tries to keep the peaks and gaps and minimizes the number of time steps that have to be retrieved. It is typically used for visualizations. The value to be specified should be equal to the view period in milliseconds of the timeSeries that is visualized divided by the number of pixels that are available for display. For example: visualizing a view period of 5 years (157784760000 milliseconds) on a display of 1024 pixels, the thinning parameter should be set to $157784760000/1024 = 15408668$ . (Since 2019.02)                                                                                                                                                                                                                                                                                                                                                                                                                              | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/FEWS+PI+REST+Web+Service#FEWSPRESTWebService-GETimeseries">https://publicwiki.deltares.nl/display/FEWSDOC/FEWS+PI+REST+Web+Service#FEWSPRESTWebService-GETimeseries</a> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                      |
| Water Coach                        | <a href="#">FEWS-21055</a> | RWS           | FEWS-21093 WaterCoach: Export (and import?) results with the right timesteps                                | WaterCoach – exporting and importing time series with the times that correspond with the time delay configured in the WaterCoach script | <p>Presently the time series with delayed times are exported resp. imported in :</p> <ul style="list-style-type: none"> <li>- Reports,</li> <li>- TimeSeriesDialog using table popup menu "Save As.."</li> <li>- Interactive exporter using menu File -&gt; Export timeseries. Only available if &lt;interactiveExportFormats&gt; are configured in Explorer.xml.</li> <li>- Time series export module</li> <li>- Time series Import module</li> </ul> <p>Time delay can be positive or negative</p> <p>{color:#000000}Please note:{color}</p> <p>{color:#000000}GeneralAdapter does not support timeDelay. {color}</p>                                                                                                                                                                                                                                                                                                                                                                                                                           | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/WaterCoach">https://publicwiki.deltares.nl/display/FEWSDOC/WaterCoach</a>                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |   |
| Water Coach                        | <a href="#">FEWS-21053</a> | RWS           | FEWS-21093 WaterCoach: Automatically import new forecasts exported from other WC systems                    | WaterCoach – automatically running workflows configured in the script                                                                   | <p>{color:#000000}Instead of 'stories' it is possible to configure a list with workflows. These workflows will be launched periodically from the script.{color}</p> <p>{color:#000000}The start of scheduling and scheduling interval can be configured with 'schedulingStart' and 'schedulingInterval'. The interval must be larger than 1 second. {color}{color:#000000}If we speed up WaterCoach time, the scheduling interval will be speeded up too. {color}</p> <p>{color:#000000}The workflows waiting for the execution are listed in the SystemMonitor, tab Batch Forecasts. Here you can also to cancel the workflows, using the button Stop. See picture SystemMonitorBatchRuns.png{color}</p> <p>{color:#000000} {color}</p>                                                                                                                                                                                                                                                                                                          | <a href="https://publicwiki.deltares.nl/display/FEWSDOC/WaterCoach">https://publicwiki.deltares.nl/display/FEWSDOC/WaterCoach</a>                                                                                               | <pre> &lt;code&gt;xml &lt;title&gt;-WaterCoach test script&lt;/title&gt; &lt;timeZone&gt; &lt;name&gt;GMT&lt;/name&gt; &lt;/timeZone&gt; &lt;dataStart date="2019-01-15" time="11:00:00"/&gt; &lt;dataStop date="2019-01-15" time="13:00:00"/&gt; &lt;displayStart date="2019-01-15" time="11:00:00"/&gt; &lt;/code&gt; &lt;workflow&gt; &lt;workflowId&gt;Import&lt;/workflowId&gt; &lt;schedulingStart date="2019-01-15" time="11:00:00"/&gt; &lt;schedulingInterval unit="second" multiplier="15"/&gt; &lt;/workflow&gt; &lt;workflow&gt; &lt;workflowId&gt;Forecast&lt;/workflowId&gt; &lt;schedulingStart date="2019-01-15" time="11:15:00"/&gt; &lt;schedulingInterval unit="second" multiplier="60"/&gt; &lt;/workflow&gt; &lt;/code&gt; </pre> |   |
| Water Coach                        | <a href="#">FEWS-21052</a> | RWS           | FEWS-21093 WaterCoach: Master Water Coach instance writes time file for participants from different systems | WaterCoach Multiple Systems - sharing system time                                                                                       | <p>Multiple systems are WaterCoach instances with different configurations, for example FewsMeren, FewsRivieren and so on. These instances are members of the multiple systems.</p> <p>All members share the same water coach system time. The system time is written by the 'leader' member to a NetCDF file on a shared drive and other members read the time from this file to synchronize their exercises.</p> <p>This shared file can be configured with an element 'multipleSystems' in WaterCoachDisplay.xml (code:xml)</p> <pre> &lt;multipleSystems enabled="true"&gt; &lt;systemTimeFiles&gt; &lt;systemTimeFiles&gt;WaterCoachTemp/systemTimeFile.nc&lt;/systemTimeFile&gt; &lt;/multipleSystems&gt; &lt;/code&gt; </pre> <p>When multipleSystems is enabled, a check box 'Synchronize time with training leader' appears in the WaterCoach display, where the WaterCoach instance can be marked as follower of the training leader (see attached WaterCoach.png) Only one member of the multiple systems can be a training leader</p> | <a href="https://publicwiki.deltares.nl/display/EAT/Application+configuration">https://publicwiki.deltares.nl/display/EAT/Application+configuration</a>                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
| Xml Schemas for Configuration      | <a href="#">FEWS-19460</a> | NWS           | FEWS-22536 NWS: #53505 xjc (XML to Java class converter) duplicate properties error                         |                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                      |
| Xml Schemas for Configuration      | <a href="#">FEWS-22707</a> | Deltares      | Schema checks for 2020.01                                                                                   | XML schemas (XSD) for Delft-FEWS 2020.01 have been validated and reviewed                                                               | XML schemas (XSD) for Delft-FEWS 2020.01 have been validated and reviewed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                      |