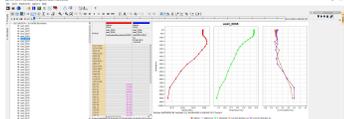
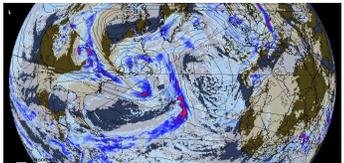


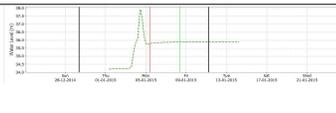
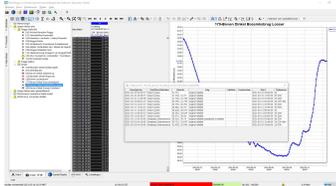
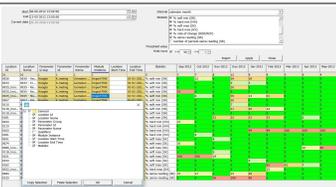
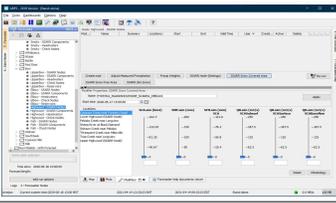
Delft-FEWS 2021.01 New Features								
Component/s	Key	Fix Version/s	Summary	Release Note Text	Release Note Text Description	Link to Documentation	Configuration Example	Images
App - Admin Interface, System - Admin Interface API	<a href="#">FEWS-24029</a>	FEWS 2021.01	MC Status in Admin Interface and API	MC Status codes are now available in Admin Interface	MC Status codes are now available in Admin Interface	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/Master+Controllers">https://publicwiki.deltares.nl/display/FEWS/DOC/Master+Controllers</a>		
App - Admin Interface, App - Master Controller Server	<a href="#">FEWS-24578</a>	FEWS 2020.02, FEWS 2021.01, FEWS 2020.02 RWS	FEWS-22594 MC SystemAlerter task: allow multiple recipients in one string in the recipient element of the email alert	Allow multiple system alerter recipients on the same line	Allow multiple system alerter recipients on the same line (also supported by environment variables in mcConfig upload).	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/Setting+up+sending+emails+on+events++2020.02+and+later">https://publicwiki.deltares.nl/display/FEWS/DOC/Setting+up+sending+emails+on+events++2020.02+and+later</a>	<pre> &lt;?xml version="1.0" encoding="UTF-8" standalone="no"?&gt; &lt;mc-system-alerter xmlns="http://www.wildfire.nl/feWS" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.wildfire.nl/feWS http://feWS.wildfire.nl/schemas/Version1.0/mcSystemAlerter.xsd"&gt;   &lt;alerts&gt;     &lt;emailAlert&gt;       &lt;recipients&gt;         &lt;recipient email="Some.body1@somewhere.org;Some.body2@somewhere.org"/&gt;         &lt;recipient email="JFEWS_MC_SYSTEM_ALERTER_RECIPIENTS@"/&gt;       &lt;/recipients&gt;       &lt;configuration&gt;         &lt;smtp fromAddress="Some.body@somewhere.org" host="smtp.mailhost.nl"/&gt;       &lt;/configuration&gt;       &lt;subject&gt;         &lt;subjectline content="The subject line of the email to send"/&gt;         &lt;substitutions/&gt;       &lt;/subject&gt;       &lt;body value="&amp;LDIGM"/&gt;       &lt;attachments/&gt;     &lt;/emailAlert&gt;   &lt;/alerts&gt; &lt;/mc-system-alerter&gt; </pre>	
App - Admin Interface	<a href="#">FEWS-24320</a>	FEWS 2021.01	CM should add build number as default comments to patches	Minor improvements to CM User interface	Some minor improvements to the CM Graphical User interface were done: Delft-FEWS version and patch number have been added in the comments column, The filter checkbox is selected by default and the rows in the config manager table are sorted based on the creation time.	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/20.1+Configuration+Manager++2017.02+and+later">https://publicwiki.deltares.nl/display/FEWS/DOC/20.1+Configuration+Manager++2017.02+and+later</a>		
App - Admin Interface	<a href="#">FEWS-24552</a>	FEWS 2021.01	FEWS-23599 Admin Interface OAuth2 support	Admin interface has support for oauth 2 login with Azure AD	Admin interface has support for oauth 2 login with Azure AD	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/Delft-FEWS+Installation++Deploy+Admin+Interfaces++2020.02+and+later">https://publicwiki.deltares.nl/display/FEWS/DOC/Delft-FEWS+Installation++Deploy+Admin+Interfaces++2020.02+and+later</a>		
App - Admin Interface	<a href="#">FEWS-23735</a>	FEWS 2021.01	FEWS-24400 AI UX verbeteringen: Show/hide knop locatie en functie	menu icon has been updated to the hamburger icon (3 rows) and put in the top left location.	menu icon has been updated to the hamburger icon (3 rows) and put in the top left location.	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/Delft-FEWS+Admin+interface++introduction">https://publicwiki.deltares.nl/display/FEWS/DOC/Delft-FEWS+Admin+interface++introduction</a>		
App - Admin Interface	<a href="#">FEWS-24164</a>	FEWS 2021.01	FEWS-23599 Extra functionality AI / Web API	allow deletion of base builds	Allow deletion of base builds	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/Delft-FEWS+Admin+interface++Software+and+Configuration+Management+Delete+Base+builds+since+2021.01">https://publicwiki.deltares.nl/display/FEWS/DOC/Delft-FEWS+Admin+interface++Software+and+Configuration+Management+Delete+Base+builds+since+2021.01</a>		
App - Admin Interface	<a href="#">FEWS-24242</a>	FEWS 2021.01	Create automatic load tests scripts for Tomcat using AI Rest API	JMeter script to do performance tests on Admin Interface API	JMeter script to do performance tests on Admin Interface API. Added to Teamcity as a unit test job.	<a href="https://dpcbuild.deltares.nl/viewType.html?buildTypeId=FewsDevelopment_AIPerformanceTests">https://dpcbuild.deltares.nl/viewType.html?buildTypeId=FewsDevelopment_AIPerformanceTests</a>		
App - Admin Interface	<a href="#">FEWS-23391</a>	FEWS 2021.01	Version check in AI	Admin Interface will display a warning in case of a version mismatch with database	Admin Interface will display a warning in case of a version mismatch with database	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/Delft-FEWS+Admin+interface++introduction#Delft-FEWSAdmininterface-Introduction-VersionCheck">https://publicwiki.deltares.nl/display/FEWS/DOC/Delft-FEWS+Admin+interface++introduction#Delft-FEWSAdmininterface-Introduction-VersionCheck</a>		
App - Archive	<a href="#">FEWS-23373</a>	FEWS 2021.01	FEWS-22250 properties file for archive configuration	It is now possible to use an archive.properties file	It is now possible to use properties in the archive server configuration. The properties should be defined in the archive config folder and should be called archive.properties.	<a href="https://publicwiki.deltares.nl/pages/viewpage.action?pageId=97289286">https://publicwiki.deltares.nl/pages/viewpage.action?pageId=97289286</a>		
App - Archive, System - FEWS webservices	<a href="#">FEWS-24173</a>	FEWS 2021.01	FEWS-22250 FEWSWebservices - server side configuration for seamless integration external netcdf storage	Configuration options added to point out in which archive data is stored	It is now possible to define in which external data storage (open archive, external netcdf storage) time series are stored. This will improve the speed of the seamless integration because it knows where certain data is stored. In addition it is also possible now to define that the seamless integration is activated by default for requests in the WMS and the pi-webservice.	<a href="https://publicwiki.deltares.nl/pages/viewpage.action?pageId=97289286">https://publicwiki.deltares.nl/pages/viewpage.action?pageId=97289286</a>		
App - CreateShortcuts	<a href="#">FEWS-24627</a>	FEWS 2021.01	Change reference under Help Button (CreateShortcuts application)	Help Reference in CreateShortcuts Application improved	Help Reference in CreateShortcuts Application improved	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/02+AI+archiving+FEWS">https://publicwiki.deltares.nl/display/FEWS/DOC/02+AI+archiving+FEWS</a>		
App - Delft-FEWS	<a href="#">FEWS-24162</a>	FEWS 2021.01	FEWS-23599 Config examples in basebuild	Config examples added in basebuild	Config examples added in basebuild	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/A+archiving+Delft-FEWS++2018.02+and+later">https://publicwiki.deltares.nl/display/FEWS/DOC/A+archiving+Delft-FEWS++2018.02+and+later</a>		
App - Delft-FEWS	<a href="#">FEWS-24163</a>	FEWS 2020.02, FEWS 2021.01	FEWS-23599 Extra functionaliteit mc tool	encrypt tool added to mctools	The encrypt tool added to mctools to allow generating an encrypted password.  The microcopy tool has been extended with a --silent flag that will prevent logging to the console.	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/EncryptTool">https://publicwiki.deltares.nl/display/FEWS/DOC/EncryptTool</a>		

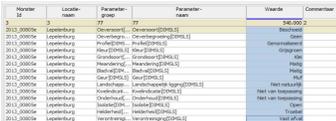
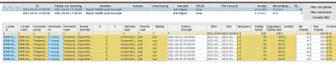
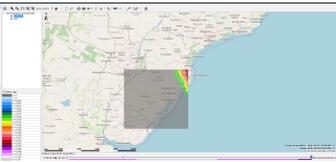
Delft-FEWS 2021.01 New Features								
Component/s	Key	Fix Version/s	Summary	Release Note Text	Release Note Text Description	Link to Documentation	Configuration Example	Images
App - Delft-FEWS	<a href="#">FEWS-24165</a>	FEWS 2021.01	FEWS-23599 Authenticatie AI via AD	Admin Interface can login using Active Directory	Admin Interface can login using Active Directory	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/Delft-FEWS+Installation+-+Deploy+Admin+Interfaces+-+2020.02+and+later#Delft-FEWSInstallation-DeployAdminInterfaces-2020.02andlater-ActiveDirectoryauthenticationsince2021.01">https://publicwiki.deltares.nl/display/FEWS/DOC/Delft-FEWS+Installation+-+Deploy+Admin+Interfaces+-+2020.02+and+later#Delft-FEWSInstallation-DeployAdminInterfaces-2020.02andlater-ActiveDirectoryauthenticationsince2021.01</a>		
App - Forecasting Shell Server	<a href="#">FEWS-24321</a>	FEWS 2021.01, FEWS 2020.02 RWS	FEWS-24400 Overrule global properties with environment variables	Allow referencing environment variables in global.properties	It is now possible to copy environment variables to global properties. These properties can be used as regular global properties in the xml configuration. Environment variables can easily be passed to docker containers. %REGION_HOME% is still recognized as a predefined property. Other usages of % in global.properties are now reserved for referencing environment variable. %% is translated to a literal %.	<a href="https://publicwiki.deltares.nl/x/CICE">https://publicwiki.deltares.nl/x/CICE</a>		
App - Forecasting Shell Server	<a href="#">FEWS-24307</a>	FEWS 2021.01	FEWS-24400 Forecasting Shell Server should be able to run without fssLauncher	Forecasting Shell Server without fssLauncher	Forecasting Shell Server can be configured to run without fssLauncher	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/Delft-FEWS+Installation+-+Install+Forecasting+Shell+Server+instances+-+2018.02+and+later">https://publicwiki.deltares.nl/display/FEWS/DOC/Delft-FEWS+Installation+-+Install+Forecasting+Shell+Server+instances+-+2018.02+and+later</a>		
App - Forecasting Shell Server	<a href="#">FEWS-23545</a>	FEWS 2021.01	FEWS-24399 FSS: introduction ModuleRunTimes table	Duration time of last successful run calculated and stored	To enable estimation of run completion, this table registers - when configured - the duration of the last successful execution of a module instance. As soon as the workflow is started, an estimate of the pending duration is updated.	<a href="https://publicwiki.deltares.nl/x/loGE">https://publicwiki.deltares.nl/x/loGE</a>	<pre>&lt;moduleInstanceDescriptor id="Dummy"&gt; &lt;description&gt;Dummy moduleInstanceDescriptor&lt;/description&gt; &lt;updateModuleRunTimeOfCompletionUser/updateModuleRunTimeOfCompletion&gt; &lt;/moduleInstanceDescriptor&gt;</pre>	
App - Forecasting Shell Server	<a href="#">FEWS-24840</a>	FEWS 2021.01, FEWS 2020.02 RWS	FEWS-24400 Resolve environment variables in clientConfig	Referencing environment variables in clientConfig.xml	It is now possible to reference environment variable in the clientConfig.xml. %REGION_HOME% is still recognized as predefined property in the clientConfig.xml. Global properties can no longer be used in the clientConfig.xml. They did not work consistently for all elements in the clientConfig.xml	<a href="https://publicwiki.deltares.nl/x/R0YsC">https://publicwiki.deltares.nl/x/R0YsC</a>		
App - Master Controller Server, Database - Central Database, Database - localDataStore	<a href="#">FEWS-24476</a>	FEWS 2021.01	schema - updates, add time0 column to TaskRuns table and other adjustments.	Separate database column to store the time zero of a task run.	Till now the time zero of a run was reconstructed from the scheduling information, the forecast completion properties xml and the triggered cardinal time step hidden in encodedTaskRepeatTime column. This gives issues when the scheduling information is changed afterwards or when the forecast length estimator changes the timeZero for a import run that does not have a completion properties xml. The time zero set by the forecast length estimator is now visible before the end of the run. For triggered tasks the MC can now set time zero explicitly without setting the cardinal time step in the encodedTaskRepeatTime column For backward compatibility the old method is used when the new timeZero column contains a null.			
App - Master Controller Server	<a href="#">FEWS-24306</a>	FEWS 2021.01	FEWS-24400 Allow running Master Controller without mcLauncher	Master Controller can start without Launcher	The Master Controller component can be configured to start without McLauncher component. Meant for Docker environments.	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/Delft-FEWS+Installation+-+Configure+Master+Controller+Launchers+-+2020.02+and+later">https://publicwiki.deltares.nl/display/FEWS/DOC/Delft-FEWS+Installation+-+Configure+Master+Controller+Launchers+-+2020.02+and+later</a>		
App - Operator Client Gui (Explorer)	<a href="#">FEWS-23087</a>	WarmingUp, FEWS 2021.01	FEWS-23086 CustomDisplayPlugin for java-application					
App - Operator Client Gui (Explorer)	<a href="#">FEWS-24438</a>	FEWS 2020.02, FEWS 2021.01	FEWS-19373 JCEF package update - February 2021	A updated JCEF (Java Chromium Embedded Framework) package (chromium 88.0.4324, Feb 2021) has been provided to update the embedded web browser in FEWS.	A updated JCEF (Java Chromium Embedded Framework) package (chromium 88.0.4324, Feb 2021) has been provided to update the embedded web browser in FEWS. In addition to the usual security updates provided by the chromium package a few related new features have been added to the FEWS 2020.02 release: <ul style="list-style-type: none"> <li>- the update of the JCEF package is optional</li> <li>- the chrome developer tool can be used for troubleshooting of web applications</li> <li>- the downloads folder can be configured.</li> </ul>	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/24+Web+Browser+Display">https://publicwiki.deltares.nl/display/FEWS/DOC/24+Web+Browser+Display</a>		

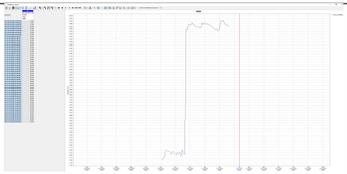
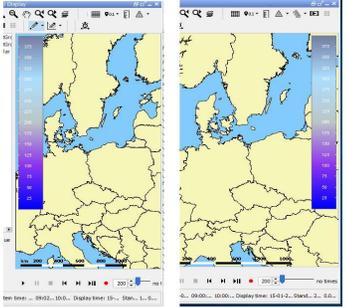


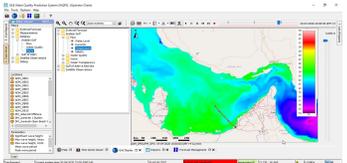
Delft-FEWS 2021.01 New Features								
Component/s	Key	Fix Version/s	Summary	Release Note Text	Release Note Text Description	Link to Documentation	Configuration Example	Images
Module Adapter - Calibration	<a href="#">FEWS-23607</a>	FEWS 2021.01	FEWS-17002 Generate OpenDA config from FEWS	By specifying observed and simulated time series FEWS can calibrate workflows via module parameter modifiers	By specifying observed and simulated time series FEWS can calibrate workflows via module parameter modifiers by letting the external software package OpenDA calculate the error between the observed and simulated time series and suggest new parameters for FEWS to rerun the workflow. This will continue until the error is minimized, a minimized error will be a sign of optimal parameters. The calibration will apply to the same workflow that is connected to the IFD node.	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/Auto+Calibration">https://publicwiki.deltares.nl/display/FEWS/DOC/Auto+Calibration</a>		
Module Adapter - Calibration	<a href="#">FEWS-23606</a>	FEWS 2021.01	FEWS-17002 FEWS OpenDA Calibration panel	By specifying observed and simulated time series FEWS can calibrate workflows via module parameter modifiers	By specifying observed and simulated time series FEWS can calibrate workflows via module parameter modifiers by letting the external software package OpenDA calculate the error between the observed and simulated time series and suggest new parameters for FEWS to rerun the workflow. This will continue until the error is minimized, a minimized error will be a sign of optimal parameters. The calibration will apply to the same workflow that is connected to the IFD node.	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/Auto+Calibration">https://publicwiki.deltares.nl/display/FEWS/DOC/Auto+Calibration</a>		
Module Adapter - Calibration	<a href="#">FEWS-23608</a>	FEWS 2021.01	FEWS-17002 Let FEWS run workflow with modifiers attributes based on OpenDA calculations	By specifying observed and simulated time series FEWS can calibrate workflows via module parameter modifiers	By specifying observed and simulated time series FEWS can calibrate workflows via module parameter modifiers by letting the external software package OpenDA calculate the error between the observed and simulated time series and suggest new parameters for FEWS to rerun the workflow. This will continue until the error is minimized, a minimized error will be a sign of optimal parameters. The calibration will apply to the same workflow that is connected to the IFD node.	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/Auto+Calibration">https://publicwiki.deltares.nl/display/FEWS/DOC/Auto+Calibration</a>		
Module Adapter - DIMR	<a href="#">FEWS-25274</a>	FEWS 2021.01	FEWS-BMA: Add Delft3D-RR support to DIMR Adapter					
Plugin - GUI - Annotations Panel	<a href="#">FEWS-23758</a>	FEWS 2021.01	FEWS-22228 Add, edit, delete annotations based on permissions	Annotations: edit, add and delete based on permissions	Annotations: edit, add and delete based on permissions	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/30+Annotation+Display">https://publicwiki.deltares.nl/display/FEWS/DOC/30+Annotation+Display</a>		
Plugin - GUI - Annotations Panel	<a href="#">FEWS-23759</a>	FEWS 2021.01	FEWS-22228 Extend import and export for annotations	Annotations: import and export	Annotations can be imported and exported (via CSV files)	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/Import+Module+configuration+options+Annotationlocalionsetid">https://publicwiki.deltares.nl/display/FEWS/DOC/Import+Module+configuration+options+Annotationlocalionsetid</a>		
Plugin - GUI - Annotations Panel	<a href="#">FEWS-23756</a>	FEWS 2021.01	FEWS-22228 Add time series with valueType "text"	Annotations: new valueType added	To support the Annotation concept, a new valueType ("text") was needed. This has been added to the central database.	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/30+Annotation+Display">https://publicwiki.deltares.nl/display/FEWS/DOC/30+Annotation+Display</a>		
Plugin - GUI - ComposedWhatif	<a href="#">FEWS-24542</a>	FEWS 2021.01	FEWS-21063 WhatifEditor: keep editable until saved persistently with taskrun					
Plugin - GUI - ComposedWhatif	<a href="#">FEWS-24188</a>	FEWS 2021.01	FEWS-21063 WhatifTemplates: apply modifiers					
Plugin - GUI - ComposedWhatif	<a href="#">FEWS-23939</a>	FEWS 2021.01	FEWS-22165 Whatif: hide pattern in dropdown	WhatifTemplates and the option "hidePattern"	Value type configFile has, in addition to the option pattern, also an option hidePattern  If this option is set to true, then the dropdown box in the Whatif editor shows the configFile names without the configured pattern  If this option is omitted or set to false, then the dropdown box in the Whatif editor shows the full configFile name.  Note that the (optional) config file suffix 'Default' is never shown.  An example:  If we configure <configFile id="coldStateFiles" type="cold state" pattern="run_ribasim*" hidePattern="true"/> and the cold state file name is run_ribasim_WQland Default.zip, then the dropdown box shows ".WQland". If hidePattern="false", the dropdown box shows 'run_ribasim_WQland'			
Plugin - GUI - ComposedWhatif, Plugin - GUI - IFD - Forecasts	<a href="#">FEWS-24387</a>	FEWS 2021.01	FEWS-21063 IFD-Topology dynamically builds up sub-nodes with whatif-instances					
Plugin - GUI - ComposedWhatif	<a href="#">FEWS-24584</a>	FEWS 2021.01	FEWS-21063 WhatifEditor: apply defaults at startup	WhatifEditor: default properties values	Each value type has an attribute default value. When creating a new what-if, this default values are shown in the properties rows Whatif Editor			

Delft-FEWS 2021.01 New Features								
Component/s	Key	Fix Version/s	Summary	Release Note Text	Release Note Text Description	Link to Documentation	Configuration Example	Images
Plugin - GUI - ComposedWhatif	<a href="#">FEWS-24514</a>	FEWS 2021.01	FEWS-21063 Whatif: distinction between name and description					
Plugin - GUI - ComposedWhatif	<a href="#">FEWS-23998</a>	FEWS 2021.01	FEWS-22165 WhatifTemplates: allow multiple config files	WhatifTemplates and multiple config files	<p>The multiple WhatifTemplates.xml are allowed. The templates in separate files may share the value types.</p> <p>For example, it is possible to configure all value types in WhatifTemplates_A.xml. The whatifTemplate configured in WhatifTemplates_B.xml may refer to the value types configured in WhatifTemplates_A.xml</p> <p>There is presently one restriction: every WhatifTemplates.xml must have at least one value type, since &lt;valueTypes&gt; is an obligatory element.</p> <p>Config example is available in MultipleWhatifTemplates.zip</p>			
Plugin - GUI - ComposedWhatif, Plugin - Module - General Adapter	<a href="#">FEWS-23988</a>	FEWS 2021.01	FEWS-21063 GA/whatif: allow export of moduleDataSets without configuring moduleInstanceCids	Allow export of ModuleDataSet files without moduleInstanceDescriptors registration	<p>The exportDataSetActivity of the General Adapter is extended to allow exporting of a moduleDataSet file by filename without the need to register this moduleDataSet in the ModuleInstanceDescriptors.</p> <p>This feature aligns with the new Whatif- functionality, where properties can be used to select a moduleDataSet file based on a filename pattern. The allows new whatif-choices to be added to a stand-alone or computational framework application without the need to adjust other configuration files (i.e. moduleInstanceDescriptors),</p>		<pre>(code) &lt;exportDataSetActivity&gt; &lt;moduleDataSetName&gt;MModuleDataSetFile/moduleDataSetName &lt;/exportDataSetActivity&gt; (code)</pre>	
Plugin - Gui - Dashboard	<a href="#">FEWS-24581</a>	FEWS 2020.01, FEWS 2021.01	FEWS-23579 store plotId instead of plotname in dashboard/usersettings.ini					
Plugin - Gui - Grid Display, Plugin - GUI - IFD - Forecasts	<a href="#">FEWS-24454</a>	FEWS 2021.01	FEWS-21063 IFD-Spatial Display updates based on selected whatif node					
Plugin - Gui - Grid Display	<a href="#">FEWS-23817</a>	FEWS 2020.02, FEWS 2021.01, FEWS 2020.02 RWS	TSD Allow "on the fly" vertical profiles and domain parameter vertical profiles in the same plot	Allow all types of vertical profiles in the same plot.	<p>Fews supports two types of vertical profiles.</p> <ol style="list-style-type: none"> <li>"on the fly" vertical profiles that are stored as multiple regular scalar time series that share the same parent location</li> <li>vertical profiles that are stored as a single time series with a domain parameter z. Both types can now be displayed in the same plot together.</li> </ol>			
Plugin - Gui - Grid Display	<a href="#">FEWS-24510</a>	FEWS 2021.01	NGMS: singleLocationDisplay config option in spatial display	Spatial display. Configure multiple plot nodes at once.	You can now configure a plot node for every child of a location at once.		<pre>(code)xml &lt;plotGroup id="PlotGroup"&gt; &lt;singleLocationGridPlots id="PlotGroup1 Plot0"&gt; &lt;dataLayer&gt; &lt;timeSeries&gt; &lt;moduleInstanceCid&gt;import/moduleInstanceCid (code)</pre>	
Plugin - Gui - Grid Display	<a href="#">FEWS-24612</a>	FEWS 2021.01	Base isolines on pixels instead of grid cells	Smooth contours for multiple domain flexible mesh grids.	<p>Contours in the grid display is now possible for irregular grids and for joining grids (multiple domains). When the contour button is pressed bilinear interpolation is used to calculate a value for every pixel individually. The grid cell for every pixel at the current map extent and zoom level is known by the grid display. The neighbour cell detection is done at screen pixel level and works for existing configurations. The interpolation is automatically switched off for individual cells that are not rectangular or rotated more than 10 degrees compared to the screen. The contours are calculated for the interpolated pixel values for the current zoom extent</p>			
Plugin - GUI - IFD - Forecasts, Plugin - Gui - Time Series	<a href="#">FEWS-24453</a>	FEWS 2021.01	FEWS-21063 IFD-timeseries display updates based on whatif node selection	The time series display displays the time series of the selected what-ifs	The time series display now listens to which what-if are selected in the forecast selection (IFD) panel. The time series of the selected what-ifs are now displayed together with the current time series in the time series display.	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/07+Display+Configuration">https://publicwiki.deltares.nl/display/FEWS/DOC/07+Display+Configuration</a>		
Plugin - Gui - Map	<a href="#">FEWS-25140</a>	FEWS 2021.01	Merge gt-*.jar to single jar to reduce classpath length	Reduce number of jars to reduce classpath length	A smaller number of jars allows a longer bin dir pathname. Bin dir validator now also checks the bin dir pathname length to prevent class not found errors.			
Plugin - GUI - Sample Viewer	<a href="#">FEWS-11737</a>	FEWS 2021.01	FEWS-22632 Filtering for samples, enable filtering in time - sprint 3 - prio 1	Since 2021.01 it is possible filter samples on time	Since 2021.01 it is possible filter samples on time, for this start and end time date choosers are added on top of the samples panel	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/18+Sample+Viewer#18SampleViewer-Seasonandtimefiltering">https://publicwiki.deltares.nl/display/FEWS/DOC/18+Sample+Viewer#18SampleViewer-Seasonandtimefiltering</a>		

Delft-FEWS 2021.01 New Features								
Component/s	Key	Fix Version/s	Summary	Release Note Text	Release Note Text Description	Link to Documentation	Configuration Example	Images
Plugin - GUI - Sample Viewer	<a href="#">FEWS-24654</a>	FEWS 2021.01	FEWS-22632 Make predefined periods configurable - sprint 3 - prio 2	Since 2021.01 it is also possible to define a list of seasons for filtering of samples	Since 2021.01 it is also possible to define a list of seasons for filtering of samples, this will make a dropdown list appear on top of the sample viewer.	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/18+Sample+Viewer#id-18SampleViewer-Seasonfiltering">https://publicwiki.deltares.nl/display/FEWS/DOC/18+Sample+Viewer#id-18SampleViewer-Seasonfiltering</a>		
Plugin - GUI - Sample Viewer	<a href="#">FEWS-24893</a>	FEWS 2020.02, FEWS 2021.01	FEWS-22632 Editor permissions for SampleDisplay.xml					
Plugin - GUI - Schematic Status Display, System - FEWS webservices	<a href="#">FEWS-24516</a>	FEWS 2020.02, FEWS 2021.01, FEWS 2020.02 RWS	FEWS-23543 Schematic status displays: cycle symbols in the svg with thresholds	A new option has been implemented for Schematic Status Displays (SSD/Scada) that allows the swapping of graphic elements linked to thresholds.	A new option has been implemented for Schematic Status Displays (SSD/Scada) that allows the swapping of graphic elements linked to thresholds. This involves SVG <use/> elements that are linked to graphic element in de <defs/> part of a SVG document by ID.	<a href="https://publicwiki.deltares.nl/pages/viewpage.action?pageId=8684020">https://publicwiki.deltares.nl/pages/viewpage.action?pageId=8684020</a>		
Plugin - GUI - Time Series	<a href="#">FEWS-23676</a>	FEWS 2019.02, FEWS 2020.01, FEWS 2020.02, FEWS 2021.01	FEWS-10487 Add vertical lines for (systemTime/TO/displayTime) to long term scroller.	Vertical lines for System time and Display time to long term scroller.	Vertical lines for System time and Display time to long term scroller. Especially useful for combination with special plots that do not have a normal TSD graph and thus no vertical lines for System and display time.	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/04+Data+Display+and+Data+Editor#id-04DataDisplayandDataEditor-LongTermScroller">https://publicwiki.deltares.nl/display/FEWS/DOC/04+Data+Display+and+Data+Editor#id-04DataDisplayandDataEditor-LongTermScroller</a>		
Plugin - GUI - Time Series	<a href="#">FEWS-24571</a>	FEWS 2021.01	Extend popup window header info for Show history (CTRL+H) with time(period)	Since 2021.01 the history popup will show the times of the selected data in the title	Since 2021.01 the history popup will show the times of the selected data in the title	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/04+Data+Display+and+Data+Editor#id-04DataDisplayandDataEditor-Historypopup">https://publicwiki.deltares.nl/display/FEWS/DOC/04+Data+Display+and+Data+Editor#id-04DataDisplayandDataEditor-Historypopup</a>		
Plugin - GUI - Time Series	<a href="#">FEWS-23880</a>	FEWS 2019.02, FEWS 2020.01, FEWS 2020.02, FEWS 2021.01	Option in TSD to undelete removed nonequidistant values	Undelete time steps in non-equidistant in time series dialog	A time step from a non-equidistant time series that is manually deleted is skipped on re-import. It is now possible to show the deleted time steps in the time series dialog. After unchecking you can restore the deleted time steps.	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/04+Data+Display+and+Data+Editor">https://publicwiki.deltares.nl/display/FEWS/DOC/04+Data+Display+and+Data+Editor</a>		
Plugin - GUI - Time Series	<a href="#">FEWS-24457</a>	FEWS 2020.02, FEWS 2021.01	Vertical profiles: auto scaling vertical axis	Automatic vertical axis scaling for vertical profiles.	Like regular time series automatic scaling is now also possible for vertical profiles in the time series dialog.			
Plugin - GUI - Time Series	<a href="#">FEWS-22542</a>	FEWS 2020.02, FEWS 2021.01	FEWS-22536 NWS: #46491 Ability to remove unwanted imported time series from SA datastores	Default grid time series synch levels	By default grid time series now get synch level 2 (external) and 6 (simulated). Only applies when no explicit synch level is configured in the time series set. This makes it possible to filter out grids while making a database snapshot also when there is no synch level configuration. A new debug menu option "database - repair grid synch levels" is added to convert the 0 and 1 synch levels of grid time series to 2 and 6 for existing databases. Synch levels 0 and 1 for grid time series are no longer allowed.	<a href="https://publicwiki.deltares.nl/x/SoGE">https://publicwiki.deltares.nl/x/SoGE</a>		
Plugin - GUI - Time Series Interval Statistics	<a href="#">FEWS-24211</a>	FEWS 2019.02, FEWS 2020.02, FEWS 2021.01	Extra location attributes to interval statistics display	Starting from 2019.02 you can add extra columns based on location attributes to the display.	Starting from 2019.02 you can add extra columns based on location attributes to the display. For this, the user needs to right-click on the table and "Select columns" (or shortcut key F8). The selected columns will be stored in the user settings.	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/28+Interval+Statistics+Dialog">https://publicwiki.deltares.nl/display/FEWS/DOC/28+Interval+Statistics+Dialog</a>		
Plugin - GUI - Time Series Modifier	<a href="#">FEWS-24768</a>	FEWS 2020.02, FEWS 2021.01	FEWS-24767 Order of Compound Modifiers seems random	The order of the parameters in the gui is now always as configured	When qualifiers were used for the compound modifier the order of the parameters in the modifier panel were random. This is now fixed. The order is now also the order as used in the config.	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/25+ModifierTypes">https://publicwiki.deltares.nl/display/FEWS/DOC/25+ModifierTypes</a>		
Plugin - GUI - Topology Editor	<a href="#">FEWS-24229</a>	FEWS 2021.01	TopologyEditor: network info tab					

Component/s	Key	Fix Version/s	Summary	Release Note Text	Release Note Text Description	Link to Documentation	Configuration Example	Images
Plugin - Module - Archive, Plugin - Module - Data Export	<a href="#">FEWS-23650</a>	FEWS 2021.01, FEWS 2020.02 RWS	FEWS-24398 NetCDF export: allow export location attributes (as variable like stationids)	NetCDF export: allow export location attributes	NetCDF export: allow export location attributes  Feature is supported by archive export and all NetCDF export types: NetcdfScalarTimeSeriesSerializer NetcdfMatroosScalarTimeSeriesSerializer NetcdfScalarNonEquidistantTimeSeriesSerializer NetcdfVerticalProfileSerializer NetcdfGridTimeSeriesSerializer NetcdfZLayersTimeSeriesSerializer NetcdfDomainTimeSeriesSerializer	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/Export+module+ExportModule+exportLocationAttributeAsNetCDFVariable">https://publicwiki.deltares.nl/display/FEWS/DOC/Export+module+ExportModule+exportLocationAttributeAsNetCDFVariable</a>	<pre>(code.xml) &lt;export&gt;   &lt;general&gt;     &lt;exportType&gt;NETCDF_CF_TIME SERIES&lt;/exportType&gt;     &lt;folder&gt;_junk_test_output/n/widely/news/system/plugin/dataexport/TimeSeriesExportTest     &lt;exportNetcdfScalarTimeSeriesWithLocationAttributeExportFolder&gt;     &lt;exportFileName&gt;     &lt;exportFileName&gt;     &lt;exportFileName&gt;     &lt;exportFileName&gt;     &lt;exportMissingValueString&gt; 9999.0&lt;/exportMissingValueString&gt;     &lt;general&gt;     &lt;exportLocationAttributeAsNetCDFVariable&gt;     &lt;ncVariableLocationAlias&lt;/ncVariable&gt;     &lt;attributeName&lt;/attributeName&gt;     &lt;exportLocationAttributeAsNetCDFVariable&gt;     &lt;timeSeriesSet&gt;     ...     &lt;/timeSeriesSet&gt;     &lt;/export&gt;   &lt;/timeSeriesExportRun&gt; &lt;/code&gt;  (code.xml) &lt;exportIsUsed&gt; &lt;general&gt; &lt;searchFolder&gt;SARCHIVE_DIRS&lt;/archiveFolder&gt; &lt;startTimePeriod start="S" end="0" unit="day"&gt;relativePeriod&lt;/general&gt; &lt;activities&gt; &lt;netcdfExportActivity&gt; &lt;netcdfExportActivity&gt; &lt;fileName&gt;az&lt;/fileName&gt; &lt;searchIsUsed&gt; &lt;exportLocationAttributeAsNetCDFVariable&gt; &lt;ncVariableLocationAttribute&lt;/ncVariable&gt; &lt;attributeName&lt;/attributeName&gt;</pre>	
Plugin - Module - Data Export	<a href="#">FEWS-23702</a>	FEWS 2021.01	FEWS-24399 Export: add description to export meta data	Time series Export - keywords %TASK_DESCRIPTION% and %WHAT_IF_NAME% can be also used in the section <metaData>	Besides in the config file TimeSeriesExportRun.xml, this keyword can be also used in the section <ncMetaData> of the config file ExportArchiveModule.xml	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/Export+module">https://publicwiki.deltares.nl/display/FEWS/DOC/Export+module</a>		
Plugin - Module - Data Export	<a href="#">FEWS-11733</a>	FEWS 2020.01, FEWS 2021.01	FEWS-22632 export UM-Aquo: flexible writing of (sample)attributes (serializer) - sprint 2 - prio 4				<pre>&lt;equalHeaderColumn name="QualifierID" prefix="QC" defaultvalue="testDefaultValue2"/&gt; &lt;doubleNumberColumn name="testLineColumn" /&gt;</pre>	
Plugin - Module - Data Import	<a href="#">FEWS-22642</a>	FEWS 2020.01, FEWS 2021.01	FEWS-22632 Import/export alphanumerice waarde - sprint 2 - prio 3	Alphanumerical values are now shown in the sample viewer with their text	Alphanumerical values are now shown in the sample viewer with their text	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/18+Sample+viewer+id-18SampleViewer-SeasonsFiltering">https://publicwiki.deltares.nl/display/FEWS/DOC/18+Sample+viewer+id-18SampleViewer-SeasonsFiltering</a>		
Plugin - Module - Data Import	<a href="#">FEWS-23837</a>	FEWS 2018.02, FEWS 2019.02, FEWS 2020.01, FEWS 2020.02, FEWS 2021.01	WIWB - request to import an older (not the most recent) forecast	For each externalForecastTimesCardinalTimeStep within externalForecastTimesSearchRelativePeriod, multiple external forecasts are requested to be imported.	For each externalForecastTimesCardinalTimeStep within externalForecastTimesSearchRelativePeriod, multiple external forecasts are requested to be imported. This way it is possible to import data for multiple (older) forecast times and not just the most recent. Only supported by specific import types, like WIWB.	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/Import+Module+configuration+options+importModuleconfigurationoptions+externalForecastTimesSearchRelativePeriod+externalForecastTimesCardinalTimeStep">https://publicwiki.deltares.nl/display/FEWS/DOC/Import+Module+configuration+options+importModuleconfigurationoptions+externalForecastTimesSearchRelativePeriod+externalForecastTimesCardinalTimeStep</a>	<pre>Extra choice instead of relativeTimePeriod in general section of import (code.xml) &lt;externalForecastTimesSearchRelativePeriod unit="day" start="1" end="0" startDernVariable="true"/&gt; &lt;externalForecastTimesCardinalTimeStep unit="hour" multiplier="12"/&gt; &lt;/code&gt;</pre> 	
Plugin - Module - Data Import	<a href="#">FEWS-24408</a>	FEWS 2020.02, FEWS 2021.01	FEWS-24406 FEWS-Itaipu: Import GRADS data	New import type: GRADS	Reader for ingesting of gridded time series from the GRADS files. The reader reads first the Ascii meta data file with a description of the binary data. This description is used to read the binary data file.  The meta data file must have an extension .ctl, and both .ctl file and binary file must be in the same folder.  The detailed description of the GRADS files can be found on [http://cola.gmu.edu/grads/gadoc/aboutgriddeddata.html]  Important to know: The GRADS reader does not support all features from the meta data file. The reader supports only LINEAR grid mapping and only a single level (Z dimension). As for the variable records, only the variable name is read from these records			

Delft-FEWS 2021.01 New Features								
Component/s	Key	Fix Version/s	Summary	Release Note Text	Release Note Text Description	Link to Documentation	Configuration Example	Images
Plugin - Module - Data Import	<a href="#">FEWS-24607</a>	FEWS 2020.02, FEWS 2021.01	FEWS-BMA: New JSON import for observed BMA data			<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/BMALatest+Import">https://publicwiki.deltares.nl/display/FEWS/DOC/BMALatest+Import</a>	<pre> &lt;code&gt; &lt;?xml version="1.0" encoding="UTF-8"?&gt; &lt;!-- edited with XMLSpy v2014 rel. 2 sp1 (http://www.altova.com) by Afsteleg ICT (Dutching Deltares) --&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;BMALatest&lt;/importType&gt; &lt;serverUrl&gt;http://weather.bangkok.go.th/d6s_webservices/cgi/rain/lastdata/&lt;serverUrl&gt; &lt;!-- this field is not used, but it is necessary to be able to configure connection timeout --&gt; &lt;backupServerUrl&gt;http://weather.bangkok.go.th/d6s_webservices/cgi/rain/lastdata/backup ServerUrl &lt;!-- if this field is not configured, it will be set at 10000 automatically --&gt; &lt;connectionTimeOutInMillis&gt;1000000&lt;/connectionTimeOutInMillis&gt; &lt;username&gt;user&lt;/username&gt; &lt;password&gt;PassWord&lt;/password&gt; &lt;relativeViewPeriod&gt;units="day" start="2" end="1" startOverridable="true" endOverridable="true"/&gt; &lt;idMapId&gt;BMALatestAge&lt;/idMapId&gt; &lt;missingValue&gt;999.0&lt;/missingValue&gt; &lt;/general&gt; &lt;timeSeriesSet&gt; &lt;moduleInstanceId&gt;BMALatest&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&gt;units="nonequidistant"/&gt; &lt;readWriteMode&gt;add original&lt;/readWriteMode&gt; &lt;syncLevel&gt;1&lt;/syncLevel&gt; &lt;/timeSeriesSet&gt; &lt;/timeSeriesSet&gt; &lt;/moduleInstanceId&gt;BMALatest&lt;/moduleInstanceId&gt; &lt;valueType&gt;scalars&lt;/valueType&gt; </pre>	
Plugin - Module - Data Import	<a href="#">FEWS-23703</a>	FEWS 2021.01	FEWS-22250 Import NetCDF References while NetCDF file on openpad is not available yet	Configure future NetCDF url on importing NetCDF file grid references	When a netcdf file is created in a workflow an external process is often moving this file to the final openpad location later on. This future file url can now be configured. The data becomes visible in the OC as soon the netcdf file is moved to the final location.			
Plugin - Module - Data Import	<a href="#">FEWS-24374</a>	FEWS 2020.02, FEWS 2021.01	WIS: Bij migreren van oude WIS database naar nieuwe ook validatiestatus meenemen	FEWSDatabase import type now imports all new time series columns for scalars and grids	In recent years we added a lot of new columns to the time series. value range, time range, custom flag source columns, value properties. The new columns are now also imported by the FEWSDatabase import type			
Plugin - Module - Data Import	<a href="#">FEWS-24054</a>	FEWS 2020.02, FEWS 2021.01	FEWS-24053 API import for SENCROP sensors	support imports with the Sencrop API	support imports with the Sencrop API	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/Sencrop">https://publicwiki.deltares.nl/display/FEWS/DOC/Sencrop</a>		
Plugin - Module - Data Import	<a href="#">FEWS-20301</a>	FEWS 2020.01, FEWS 2021.01	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.deltares.nl/display/FEWS/DOC/AzureIoTHub">https://publicwiki.deltares.nl/display/FEWS/DOC/AzureIoTHub</a>		
Plugin - Module - Data Import	<a href="#">FEWS-23601</a>	FEWS 2021.01	FEWS-24053 Soil moisture sensors: API imports (SENSOTERRA AND FARM21)	Farm21 import supported	Farm21 import is now supported as importType: +Farm21+	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/Farm21">https://publicwiki.deltares.nl/display/FEWS/DOC/Farm21</a>		
Plugin - Module - General Adapter, System-Logging	<a href="#">FEWS-23986</a>	FEWS 2020.01, FEWS 2021.01	FEWS-17145 Add name/group of coldState used in General Adapter to log	The cold state found in the general adapter will now be logged in debug	The cold state found in the general adapter will now be logged in debug	<a href="https://issuetracker.deltares.nl/browse/FEWS-23986">https://issuetracker.deltares.nl/browse/FEWS-23986</a>		
Plugin - Module - Reports	<a href="#">FEWS-23497</a>	FEWS 2020.01, FEWS 2021.01	Legend bar text improvements for grid display and snapshots reports	GridDisplay and spatialPlotSnapshots report : new options to customize bar legend	Three new options has been added to the barLegend: * labels.Color - color of the tick labels. If omitted then the outside labels are black and the inside labels are white, * labels.BackgroundColor - background color of the tick labels, * labels.OpaquenessPercentage - transparency(opaqueness) of the background of the tick labels. 0% is completely transparent and 100% is completely opaque. If omitted then the background is completely opaque.  Please *note* that the options labels.BackgroundColor and labels.OpaquenessPercentage are implemented only for outside labels .	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/01+Grid+Display+id-01+Grid+Display+bar+Legend">https://publicwiki.deltares.nl/display/FEWS/DOC/01+Grid+Display+id-01+Grid+Display+bar+Legend</a>	<pre> &lt;code&gt; &lt;barLegend&gt; &lt;position&gt;right&lt;/position&gt; &lt;width&gt;50&lt;/width&gt; &lt;length&gt;400&lt;/length&gt; &lt;labelsInside&gt;false&lt;/labelsInside&gt; &lt;labelsColor&gt;blue&lt;/labelsColor&gt; &lt;labelsBackgroundColor&gt;yellow&lt;/labelsBackgroundColor&gt; &lt;labelsOpaquenessPercentage&gt;50&lt;/labelsOpaquenessPercentage&gt; &lt;/barLegend&gt; </pre>	
Plugin - Module - Reports	<a href="#">FEWS-23208</a>	FEWS 2021.01	Create unit tests for threshold reports	Unit test for thresholds reports added	Unit test for thresholds reports added	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/09+Report+Module">https://publicwiki.deltares.nl/display/FEWS/DOC/09+Report+Module</a>		
Plugin - Module - Reports	<a href="#">FEWS-23577</a>	FEWS 2021.01, FEWS 2020.02 RWS	FEWS-23543 Reports: use display id from displayGroups for chart export in report module	In the report module, a new <displayChart/> element can be used to insert a chart by direct reference to an existing display ID	In the report module, a new <displayChart/> element can be used to insert a chart by direct reference to an existing display ID in the DisplayGroups configuration. This way there is no need to manually reconfigure such charts specifically for the report and the charts will look mostly the same as they do in the TimeSeries Display (TSD)	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/09+Report+Module">https://publicwiki.deltares.nl/display/FEWS/DOC/09+Report+Module</a>	<pre> &lt;code&gt; &lt;displayChart width="400" height="400" id="displayChart1"&gt; &lt;displayId&gt;endisplay&lt;/displayId&gt; &lt;/displayChart&gt; &lt;/code&gt; </pre>	

Delft-FEWS 2021.01 New Features								
Component/s	Key	Fix Version/s	Summary	Release Note Text	Release Note Text Description	Link to Documentation	Configuration Example	Images
Plugin - Module - Reports	<a href="#">FEWS-24187</a>	FEWS 2019.02 EA, FEWS 2021.01	FEWS-18050 Report: Add options element to generatePDF in reports	More options to generate pdf in report module	Allow specifying command line options for wkhtmltopdf.exe with the new generatePdf(CommandLineOptions) element. eg. --orientation Landscape	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/Generate+PDF+from+HTML+report">https://publicwiki.deltares.nl/display/FEWS/DOC/Generate+PDF+from+HTML+report</a>		
Plugin - Module - Transformation	<a href="#">FEWS-24360</a>	FEWS 2019.02, FEWS 2020.02, FEWS 2021.01	XML schema value element under percentileExceedence does not accept template property	Percentile schema element for transformations now accepts properties within \$S	Percentile schema element for transformations now accepts properties within \$S	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/20+Transformation+Module+-+improved+schema">https://publicwiki.deltares.nl/display/FEWS/DOC/20+Transformation+Module+-+improved+schema</a>		
Plugin - Module - Transformation	<a href="#">FEWS-23422</a>	FEWS 2021.01	FEWS-16169 FEWS Wales: FEWS Spatial interpolation grid to polygon					
Plugin - Module - Transformation	<a href="#">FEWS-23801</a>	FEWS 2020.02, FEWS 2021.01	FEWS-23777 Introduce bed level concept	Location bed level	A location can now have a bed level attribute. This bed level can be used in vertical interpolation/aggregation transformation.			
Plugin - Module - Transformation	<a href="#">FEWS-23648</a>	FEWS 2020.01, FEWS 2021.01	FEWS-23777 Transformation Module - Vertical interpolation/averaging for scalar (z-layers)	new transformation for vertical interpolation/averaging for scalar (z-layers)	This transformation calculates a weighted average of a parameter (for example water temperature) measured at the same location, but at different heights (different z layers). The (water) depth is divided into layers. The weight of the temperature is the thickness of the layer it was measured in. The area that should be averaged is configurable. This area can contain more layers, partial layers, or a single (partial) layer. If the area contains a partial layer, the weight of that layer is only the part that is included in the calculation. If the area start and end are the same the transformation simply extracts the temperature of one layer from a scalar map into a scalar time series.  The area of the calculation can be counted from a standard point of comparison (0 m) or the current water level, which changes in time. Input waterLevelReference is optional. If waterLevelReference is configured the starting point of the top water layer should be updated with each time step to match the water stand.	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/Average+Scalar+Vertical+Layers">https://publicwiki.deltares.nl/display/FEWS/DOC/Average+Scalar+Vertical+Layers</a>	<pre>(code=java) &lt;?transformation id="StatisticsVerticalAverageScalarZLayerFunction"&gt; &lt;statisticsVerticalLayers&gt; &lt;averageScalarVerticalLayers&gt; &lt;input&gt; &lt;variable&gt;input&lt;/variable&gt; &lt;/input&gt; &lt;waterLevelReference&gt; &lt;variable&gt;waterLevelReference&lt;/variable&gt; &lt;/waterLevelReference&gt; &lt;startDepth&gt; 2&lt;/startDepth&gt; &lt;endDepth&gt; 15&lt;/endDepth&gt; &lt;outputVariable&gt; &lt;variable&gt;output&lt;/variable&gt; &lt;/outputVariable&gt; &lt;/averageScalarVerticalLayers&gt; &lt;/statisticsVerticalLayers&gt; &lt;/transformation&gt; &lt;/transformableModule&gt; (code)</pre>	
Plugin - Module - Transformation	<a href="#">FEWS-23649</a>	FEWS 2020.01, FEWS 2021.01	FEWS-23777 Transformation Module - Vertical interpolation/averaging for grids (z-layers)	Implement new transformation for averaging values from different Z-layers in a grid	This transformation calculates a weighted average of a parameter (for example water temperature) measured at the same location, but at different heights (different z layers). Each Z layer is represented by a TimeSeriesSet. (They have to have the same geometry). The entire (water) depth is divided into layers. The z layers are the center points of these water layers.  In the average calculation the weight of the parameter is the thickness of the water layer it was measured in. The calculation is done per grid cell. The (vertical) area that should be averaged is configurable. This area can contain more water layers, partial water layers, or a single (partial) layer. If the averaging area contains a partial layer, the weight of that water layer is only the part that is included in the calculation. If the averaging area start and end are the same the transformation simply extracts the temperature of one layer from the time series array.  The area of the calculation can be counted from a standard point of comparison (0 m) or the current water level, which changes in time. Input waterLevelReference is optional. If	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/Vertical+Average+Grid+Z+layer">https://publicwiki.deltares.nl/display/FEWS/DOC/Vertical+Average+Grid+Z+layer</a>	<pre>(code=xml) &lt;?transformationModule version="1.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://www.wideff.nl/FEWS" xsi:schemaLocation="http://www.wideff.nl/FEWS http://FEWS.wideff.nl/schemas/version1.0/TransformationModule.xsd"&gt; &lt;variable&gt; &lt;variable&gt;input&lt;/variable&gt; &lt;timeSeriesSet&gt; &lt;moduleInstance&gt;StatisticsVerticalAverageGridZLayerFunctionTest&lt;/moduleInstance&gt; &lt;valueType&gt;grid&lt;/valueType&gt; &lt;parameterName&gt;parameter&lt;/parameterName&gt; &lt;locationId&gt;ZLayerAverageLocationSet&lt;/locationId&gt; &lt;timeSeriesType&gt;external historical&lt;/timeSeriesType&gt; &lt;timeStep unit="day"&gt;1&lt;/timeStep&gt; &lt;relativeViewPeriod unit="day" start="0" end="3"&gt; &lt;readWriteMode&gt;add original&lt;/readWriteMode&gt; &lt;/timeSeriesSet&gt; &lt;/variable&gt; &lt;variable&gt; &lt;variable&gt;waterLevelReference&lt;/variable&gt; &lt;timeSeriesSet&gt; &lt;moduleInstance&gt;StatisticsVerticalAverageGridZLayerFunctionTest2&lt;/moduleInstance&gt; &lt;valueType&gt;grid&lt;/valueType&gt; &lt;parameterName&gt;waterLevel&lt;/parameterName&gt; &lt;locationId&gt;ZLayerAverage_0&lt;/locationId&gt; &lt;timeSeriesType&gt;external historical&lt;/timeSeriesType&gt; &lt;timeStep unit="day"&gt;1&lt;/timeStep&gt; &lt;relativeViewPeriod unit="day" start="0" end="3"&gt; &lt;readWriteMode&gt;add original&lt;/readWriteMode&gt; &lt;/timeSeriesSet&gt; &lt;/variable&gt; &lt;variable&gt; &lt;variable&gt;output&lt;/variable&gt; &lt;timeSeriesSet&gt; &lt;moduleInstance&gt;StatisticsVerticalAverageGridZLayerFunctionTest2&lt;/moduleInstance&gt; &lt;valueType&gt;grid&lt;/valueType&gt; </pre>	
Plugin - Module - Transformation	<a href="#">FEWS-23619</a>	FEWS 2020.01, FEWS 2021.01	FEWS-23777 Transformation Module - Vertical interpolation/averaging for scalar (sigma layers)					
System	<a href="#">FEWS-24412</a>	FEWS 2021.01	FEWS-21828 Roadmap: Remove unused modules and displays from FEWS code	Roadmap 2021: Code Clean-up	Roadmap 2021: Code Clean-up. Under the hood moved code to separate libraries for easy removal in a later stage.	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/Delft-FEWS+End+of+Life+Modules+and+Displays">https://publicwiki.deltares.nl/display/FEWS/DOC/Delft-FEWS+End+of+Life+Modules+and+Displays</a>		
System	<a href="#">FEWS-24414</a>	FEWS 2021.01	FEWS-21828 Roadmap: Move code from FEWS main to FEWS_Obsolete.jar	Roadmap 2021: Code Clean-up.	Roadmap 2021: Code Clean-up. Under the hood moved code to separate libraries for easy removal in a later stage.	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/Delft-FEWS+End+of+Life+Modules+and+Displays">https://publicwiki.deltares.nl/display/FEWS/DOC/Delft-FEWS+End+of+Life+Modules+and+Displays</a>		
System - FEWS webservices	<a href="#">FEWS-24218</a>	FEWS 2021.01	FEWSWebservices should provide parent locations of children					
System - FEWS webservices	<a href="#">FEWS-19940</a>	FEWS 2021.01	FEWS-22250 PI Service: retrieve data for a certain X,Y,Z coordinate and datalayer	PI REST Service now supports requesting the time series of a grid for 3D data.	PI REST Service now supports requesting the time series of a grid for 3D data. Also a vertical profile can be requested.	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/FEWS+PI+REST+Web+Service+FEWSPIRESTWebService-GETtimeseries/grid(2018.02)">https://publicwiki.deltares.nl/display/FEWS/DOC/FEWS+PI+REST+Web+Service+FEWSPIRESTWebService-GETtimeseries/grid(2018.02)</a>		

Delft-FEWS 2021.01 New Features								
Component/s	Key	Fix Version/s	Summary	Release Note Text	Release Note Text Description	Link to Documentation	Configuration Example	Images
System - FEWS webservices - PI REST	<a href="#">FEWS-23902</a>	FEWS 2019.02, FEWS 2021.01	ZZL: toevoegen van limit symbols in de FEWSWebServices (read)	detection attribute added to time series and samples	The detection attribute (also known as a limit symbol) has been added to time series and samples responses.	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/FEWS+PI+REST+Web+Service#FEWSPIRESTWebService-GETtimeseries">https://publicwiki.deltares.nl/display/FEWS/DOC/FEWS+PI+REST+Web+Service#FEWSPIRESTWebService-GETtimeseries</a>	<pre>(code:java) &lt;table&gt; &lt;row parameterId="Pilot" qualifierId="CD_19" qualifierId2="QU_27" qualifierId3="UE_27" # age="0" value="3.58" detection="8&amp;#215;" unit="mg/l"/&gt; &lt;row parameterId="Pilot" qualifierId="CD_19" qualifierId2="QU_27" qualifierId3="UE_34" # age="0" value="0.11" detection="8&amp;#215;" unit="mg/l"/&gt;&lt;/table&gt; (code)</pre>	
System - FEWS webservices - SSD	<a href="#">FEWS-24488</a>	FEWS 2020.02, FEWS 2021.01	SSD Service - default TIMEZERO for getAction request	A minor improvement of the SSD webservice, the way default time is set	A minor improvement of the SSD webservice, the way default time is set	<a href="https://publicwiki.deltares.nl/x/OwXkC">https://publicwiki.deltares.nl/x/OwXkC</a>		
System - FEWS webservices - SSD	<a href="#">FEWS-24489</a>	FEWS 2020.02, FEWS 2021.01	SSD Service - No supported click actions defined	A minor improvement of the SSD webservice, the way clickable objects are rendered in SVG	A minor improvement of the SSD webservice, the way clickable objects are rendered in SVG	<a href="https://publicwiki.deltares.nl/x/OwXkC">https://publicwiki.deltares.nl/x/OwXkC</a>		
System - FEWS webservices - WMS	<a href="#">FEWS-23913</a>	FEWS 2021.01	FEWS-22250 WMS Service - retrieve most recent external forecast from external storage when externalForecastTime is omitted	Latest forecast can now be retrieved from the archive	If a request is done to the WMS and the request doesn't specify an external forecast time then the system will look into the archive to find the latest forecast. If the forecast is never then the forecast in the database then the forecast from the archive will be used.	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/FEWS+Web+Services">https://publicwiki.deltares.nl/display/FEWS/DOC/FEWS+Web+Services</a>		
System - FEWS webservices - WMS	<a href="#">FEWS-23921</a>	FEWS 2021.01	FEWS-22250 WMS Service - Support default time in getCapabilites	get capabilities now reports a default time	get capabilities now reports a default time and time is no longer required for GetMap.	<a href="https://publicwiki.deltares.nl/pages/viewpage.action?pageId=134482048#FEWSWebMappingServicewithtimesupport(WMS-T)-GetCapabilitesdefaulttime(2021.01)">https://publicwiki.deltares.nl/pages/viewpage.action?pageId=134482048#FEWSWebMappingServicewithtimesupport(WMS-T)-GetCapabilitesdefaulttime(2021.01)</a>		
System - FEWS webservices - WMS	<a href="#">FEWS-24147</a>	FEWS 2021.01	track layer spatial display in webservice	Tracklayers now available in WMS service	Tracklayers now available in WMS service	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/FEWS+Web+Services">https://publicwiki.deltares.nl/display/FEWS/DOC/FEWS+Web+Services</a>		
System - Logging	<a href="#">FEWS-24308</a>	FEWS 2021.01	FEWS-24400 Enable logging to stdout (if in docker mode)	log to console enabled for web services and admin interface	log to console enabled for web services and admin interface	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/09+Logging">https://publicwiki.deltares.nl/display/FEWS/DOC/09+Logging</a>		
System - Workflow	<a href="#">FEWS-24191</a>	FEWS 2021.01	Allow loopLocationSet in workflow to be empty	The loop location set in workflows is now allowed to be empty	A location set is sometimes empty when based on constraints. The location set is added in this case to anticipate on locations that are added in the future.			
Water Coach	<a href="#">FEWS-24573</a>	FEWS 2019.02 EA, FEWS 2021.01	WaterCoach - empty database table "WaterCoach" in scenario database	Remove information concerning the WaterCoach session from the SSD	The scenario/script database should not contain any information concerning the WaterCoach session. This information (selected scenario, script and time) is stored in the localDataStore whenever we start a session.  It makes possible to leave an uncompleted session and start it again to continue. When we decide to copy localDataStore to the scenario/script database folder, we should first remove the session info.  This can be done with the Explorer F12 menu P database -> delete WaterCoach session info	<a href="https://publicwiki.deltares.nl/pages/viewpage.action?pageId=17661956#ScenarioandScriptDatabase(SSD)-RemoveinformationconcerningtheWaterCoachsessionfromtheSSD">https://publicwiki.deltares.nl/pages/viewpage.action?pageId=17661956#ScenarioandScriptDatabase(SSD)-RemoveinformationconcerningtheWaterCoachsessionfromtheSSD</a>		
Water Coach	<a href="#">FEWS-24041</a>	FEWS 2021.01, FEWS 2020.02 RWS	WaterCoach - move grid data in the datastore to readonly gbin file on a network drive	Move grid data from local datastore to GBIN file.	To reduce the size of local data store copies dramatically the grid data in a local data store (LDS) can now be moved to separate GBIN file and shared by the copies and the original LDS. Because a GBIN is read-only new grid data is always written to the LDS. When a new GBIN file is created it will also include grid data from an existing GBIN file if necessary. The GBIN file can be located on a network share or on a http(s) file server (e.g. THREDDS). This feature is used by the watercoach but can also be used in stand alone system.	<a href="https://publicwiki.deltares.nl/display/FEWS/DOC/Application+configuration">https://publicwiki.deltares.nl/display/FEWS/DOC/Application+configuration</a>		