
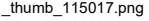
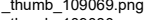
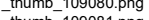
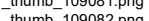
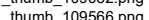
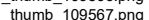

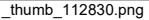
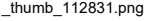
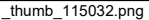
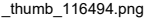
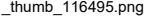


Delft-FEWS 2021.01 New Features

Component/s	Key	Fix Version/s	Summary	Release Note Text	Release Note Text Description	Link to Documentation	Images
App - Admin Interface, App - Master Controller Server	FEWS-24578	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 emailalert	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).	https://publicwiki.deltares.nl/display/FEWS/DOC/Setting+up+sending+emails+on+events++2020.02+and+later	
App - Admin Interface	FEWS-24557	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	https://publicwiki.deltares.nl/display/FEWS/DOC/Delft-FEWS+Installation+-+Deploy+Admin+Interfaces+-+2020.02+and+later	
App - Admin Interface	FEWS-23391	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	https://publicwiki.deltares.nl/display/FEWS/DOC/Delft-FEWS+Admin+Interface+-+Introduction#Delft-FEWSAdminInterface-Introduction-VersionCheck	
App - Admin Interface	FEWS-23735	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.	https://publicwiki.deltares.nl/display/FEWS/DOC/Delft-FEWS+Admin+Interface+-+Introduction	      
App - Admin Interface	FEWS-24164	FEWS 2021.01	FEWS-23599 Extra functionality AI / Web API	allow deletion of base builds	Allow deletion of base builds	https://publicwiki.deltares.nl/display/FEWS/DOC/Delft-FEWS+Admin+Interface+-+Software+and+Configuration+Management#Delft-FEWSAdminInterface-SoftwareandConfigurationManagement-DeleteBasebuilds(since2021.01)	
App - Admin Interface	FEWS-24320	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.	https://publicwiki.deltares.nl/display/FEWS/DOC/20.1+Configuration+Manager+-+2017.02+and+later	 
App - Admin Interface	FEWS-24242	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.	https://dpcbuild.deltares.nl/viewType.html?buildTypeId=FewsDevelopment_AIPerformanceTests	
App - Archive	FEWS-23373	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.	https://publicwiki.deltares.nl/pages/viewpage.action?pageId=97289286	
App - Archive, System - FEWS webservices	FEWS-24173	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.	https://publicwiki.deltares.nl/pages/viewpage.action?pageId=97289286	
App - CreateShortcuts	FEWS-24627	FEWS 2021.01	Change reference under Help Button (CreateShortCuts application)	Help Reference in CreateShortcuts Application improved	Help Reference in CreateShortcuts Application improved	https://publicwiki.deltares.nl/display/FEWS/DOC/02+Launching+FEWS	
App - Delft-FEWS	FEWS-24162	FEWS 2021.01	FEWS-23599 Config examples in basebuild	Config examples added in basebuild	Config examples added in basebuild	https://publicwiki.deltares.nl/display/FEWS/DOC/Launching+Delft-FEWS+-+2018.02+and+later	
App - Delft-FEWS	FEWS-24163	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 mcrecovery tool has been extended with a --silent flag that will prevent logging to the console.	https://publicwiki.deltares.nl/display/FEWS/DOC/EncryptTool	
App - Delft-FEWS	FEWS-24165	FEWS 2021.01	FEWS-23599 Authenticatie AI via AD	Admin Interface can login using Active Directory	Admin Interface can login using Active Directory	https://publicwiki.deltares.nl/display/FEWS/DOC/Delft-FEWS+Installation+-+Deploy+Admin+Interfaces+-+2020.02+and+later#Delft-FEWSInstallation-DeployAdminInterfaces-2020.02andlater-ActiveDirectoryauthentication(since2021.01)	  

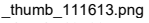
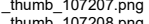
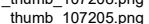
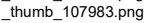
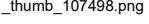


Component/s	Key	Fix Version/s	Summary	Release Note Text	Release Note Text Description	Link to Documentation	Images
App - Forecasting Shell Server	FEWS-23545	FEWS 2021.01	FEWS-24399 FSS: Update Tasks table (field: lastSuccessfulDurationMills)	Duration time of last successful calculated and stored	After every (successful) run the duration of this run is stored (updated). The average of the last 2 successful runs is calculated as well and shown in Admin Interface and the system monitor of the Operator client.		
App - Forecasting Shell Server	FEWS-24321	FEWS 2021.01, FEWS 2020.02 RWS	FEWS-24400 Overrule global properties with environment variables			https://publicwiki.deltares.nl/x/CICE	
App - Forecasting Shell Server	FEWS-24307	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	https://publicwiki.deltares.nl/display/FEWS/DOC/Delft-FEWS+Installation++Install+Forecasting+Shell+Server+instances++2018.02+and+later	
App - Master Controller Server, Database - Central Database, Database - localDataStore	FEWS-24476	FEWS 2021.01	schema - updates, add time0 column to TaskRuns table and other adjustments.				
App - Master Controller Server	FEWS-24306	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.	https://publicwiki.deltares.nl/display/FEWS/DOC/Delft-FEWS+Installation++Configure+Master+Controller+Launcher++2020.02+and+later	
App - Operator Client Gui (Explorer)	FEWS-23087	WarningUp, FEWS 2021.01	FEWS-23086 CustomDisplayPlugin for java-application				
App - Operator Client Gui (Explorer), System - Language files	FEWS-24515	FEWS 2020.02, FEWS 2021.01	FEWS-BMA: Add Thai font type to FEWS	Thai language files added	Thai language files are added. LANGUAGE=th COUNTRY=TH		_thumb_116923.png _thumb_116931.png
App - Operator Client Gui (Explorer)	FEWS-24266	FEWS 2021.01	Facilitate GUI look & feel using Flatlaf	New GUI look: flat look & feel	New libraries added for a (Windows 10) 'flat' look and feel. This is the default look & feel for both Windows and Linux. More information on the used libraries can be found here: [https://www.formdev.com/flatlaf/https://eur03.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.formdev.com%2Fflatlaf%2F&data=04%7C01%7C%7C8ac55dd9bcbf4a1d9ac408d8bd1cb460%7C15f3fe0ed7124981bc7cfe949af215bb%7C0%7C0%7C637467278268323914%7CUnknown%7CTWFPbGZsb3d8eyJWJoiMC4wLjAwMDAiLCJQJoiV2luMzIiLCJBTiI6I1haWwILCJXVCi6Mn0%3D%7C1000&sdata=8RjdwWiz53%2B0N4cunaJrOAmvWoSjadpTUn7EmZBtguY%3D&reserved=0]	https://publicwiki.deltares.nl/display/FEWS/DOC/The+F12+menu	_thumb_116549.png _thumb_117162.png _thumb_117164.png _thumb_117329.png _thumb_117330.png _thumb_117331.png _thumb_117641.png _thumb_117078.png _thumb_117404.png _thumb_117406.png _thumb_116717.png _thumb_116715.png
App - Operator Client Gui (Explorer)	FEWS-24416	FEWS 2021.01	FEWS-21828 Roadmap: Make a F12 function that logs when a FEWS system uses Obsolete or Legacy functions or modules	Explorer F12 function to log obsolete Explorer and workflow plugins	The obsolete Explorer and workflow plugins can be logged using the function F12 -> T Export -> log obsolete modules and explorer plugins This function scans all module config files and all display config files to detect the obsolete configuration . Also the explorerTask's without <displayConfigFileName> are scanned. When any obsolete plugin is detected, the following message is logged (an example) : INFO – WhatIfScenarioDisplay is obsolete and not supported anymore in Fews version 2023.01 [https://publicwiki.deltares.nl/display/FEWS/DOC/04+Lookup+Table+Display] The version (2023.01) and the additional text, for example a link to the documentation, is included in the Fews code.	https://publicwiki.deltares.nl/display/FEWS/DOC/The+F12+menu	

Component/s	Key	Fix Version/s	Summary	Release Note Text	Release Note Text Description	Link to Documentation	Images
App - Operator Client Gui (Explorer)	FEWS-24438	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: - the update of the JCEF package is optional - the chrome developer tool can be used for troubleshooting of web applications - the downloads folder can be configured.	https://publicwiki.deltares.nl/display/FEWS/DOC/24+Web+Browser+Display	thumb_118483.png
Configuration	FEWS-22130	FEWS 2021.01	FEWS-22129 ComposedWhatif: enable configuration whatif definition blocks	Design WhatifTemplates.xsd and associated implementations			
Configuration	FEWS-21807	FEWS 2020.02, FEWS 2021.01	Ability to connect attribute csv file to database based locationSet			https://publicwiki.deltares.nl/display/FEWS/DOC/22+Locations+and+attributes+defined+in+CSV+files%2C+Shape+DBF+files+or+external+tables	thumb_113991.png
Database - Datastore	FEWS-23659	FEWS 2021.01	FEWS-23658 Assist/review database / JSON schemas MongoDB				
Database - Datastore	FEWS-22645	FEWS 2020.02, FEWS 2021.01	FEWS-22632 Handmatig beheer van meetwaarden is mogelijk per stuk (correctie of verwijderen record) of voor meerdere tegelijk (verwijderen records) - sprint 5 - prio 1			https://publicwiki.deltares.nl/display/FEWS/DOC/18+Sample+Viewer#id-18SampleViewer-Editsamples(since2020.02)	thumb_118812.png thumb_118813.png
Database - localDataStore	FEWS-24035	FEWS 2021.01	Visualize partly current workflows, handle workflows that are sharing module instance ids				
Module Adapter - Calibration	FEWS-23608	FEWS 2021.01	FEWS-17002 Let FEWS run workflow with modifiers attributes based on OpenDA calculations				
Module Adapter - Calibration	FEWS-23607	FEWS 2021.01	FEWS-17002 Generate OpenDA config from FEWS				
Module Adapter - Calibration	FEWS-23606	FEWS 2021.01	FEWS-17002 FEWS OpenDA Calibration panel				
Plugin - GUI - Annotations Panel	FEWS-23759	FEWS 2021.01	FEWS-22228 Extend import and export for annotations	Annotations: import and export	Annotations can be imported and exported (via CSV files)	https://publicwiki.deltares.nl/display/FEWS/DOC/Import+Module+configuration+options#ImportModuleconfigurationoptions-Annotationlocationsetid	
Plugin - GUI - Annotations Panel	FEWS-23757	FEWS 2021.01	FEWS-22228 Create Annotationspanel	New Display: Annotation Display	A new display has been added: the Annotation Display. This display shows and manages (time dependent) remarks about locations.	https://publicwiki.deltares.nl/display/FEWS/DOC/30+Annotation+Display	
Plugin - GUI - Annotations Panel	FEWS-23758	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	https://publicwiki.deltares.nl/display/FEWS/DOC/30+Annotation+Display	
Plugin - GUI - Annotations Panel	FEWS-23756	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.	https://publicwiki.deltares.nl/display/FEWS/DOC/30+Annotation+Display	
Plugin - GUI - ComposedWhatif	FEWS-24542	FEWS 2021.01	FEWS-21063 WhatifEditor: keep editable until saved persistently with taskrun				

Component/s	Key	Fix Version/s	Summary	Release Note Text	Release Note Text Description	Link to Documentation	Images
Plugin - GUI - ComposedWhatf	FEWS-23998	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 <valueTypes> is an obligatory element.</p> <p>Config example is available in MultipleWhatifTemplates.zip</p>		
Plugin - GUI - ComposedWhatf	FEWS-23939	FEWS 2021.01	FEWS-22165 Whatif: hide pattern in dropdown	WhatifTemplates and the option "hidePattern"	<p>Value type configFile has, in addition to the option pattern, also an option hidePattern</p> <p>If this option is set to true, then the dropdown box in the Whatif editor shows the configFile names without the configured pattern</p> <p>If this option is omitted or set to false, then the dropdown box in the Whatif editor shows the full configFile name.</p> <p>Note that the (optional) config file suffix 'Default' is never shown .</p> <p>An example:</p> <p>If we configure <configFile id="coldStateFiles" type="cold state" pattern="run_ribasim" hidePattern="true"/> and the cold state file name is run_ribasim_WQlandDefault.zip,</p> <p>then the dropdown box shows 'WQland'. If hidePattern="false", the</p>		
Plugin - GUI - ComposedWhatf, Plugin - GUI - IFD - Forecasts	FEWS-24387	FEWS 2021.01	FEWS-21063 IFD-Topology dynamically builds up sub-nodes with whatif-instances				_thumb_113432.png _thumb_115470.png
Plugin - GUI - ComposedWhatf	FEWS-24584	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		
Plugin - GUI - ComposedWhatf	FEWS-24514	FEWS 2021.01	FEWS-21063 Whatif: distinction between name and description				_thumb_114978.png

Component/s	Key	Fix Version/s	Summary	Release Note Text	Release Note Text Description	Link to Documentation	Images
Plugin - GUI - ComposedWhatif, Plugin - Module - General Adapter	FEWS-23988	FEWS 2021.01	FEWS-21063 GA/whatif: allow export of moduledatasets without configuring moduleinstanceids	Allow export of ModuleDataSet files without moduleInstanceDescriptors registration	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. 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).		
Plugin - Gui - Grid Display, Plugin - GUI - IFD - Forecasts	FEWS-24454	FEWS 2021.01	FEWS-21063 IFD-Spatial Display updates based on selected whatif node				
Plugin - Gui - Grid Display	FEWS-23817	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				_thumb_109246.png _thumb_109247.png
Plugin - Gui - Grid Display	FEWS-24612	FEWS 2021.01	Base isolines on pixels instead of grid cells				_thumb_116862.png _thumb_116852.png _thumb_116861.png _thumb_116853.png _thumb_116854.png _thumb_116855.png _thumb_116856.png _thumb_116857.png _thumb_116858.png _thumb_116859.png _thumb_116860.png
Plugin - Gui - Grid Display	FEWS-24510	FEWS 2021.01	NGMS: singleLocationDisplay config option in spatial display				_thumb_114528.png _thumb_116586.png thumb_114750.png
Plugin - GUI - IFD - Forecasts, Plugin - Gui - Time Series	FEWS-24453	FEWS 2021.01	FEWS-21063 IFD-timeseries display updates based on whatif node selection				
Plugin - GUI - Sample Viewer	FEWS-22654	FEWS 2021.01	FEWS-22632 Make predefined periods configurable - sprint 3 - prio 2				
Plugin - GUI - Sample Viewer	FEWS-11737	FEWS 2021.01	FEWS-22632 Filtering for samples, enable filtering in time - sprint 3 - prio 1				
Plugin - Gui - Schematic Status Display, System - FEWS webservice	FEWS-24516	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 the <defs/> part of a SVG document by ID.	https://publicwiki.deltares.nl/pages/viewpage.action?pageId=8684020	
Plugin - Gui - Time Series	FEWS-24571	FEWS 2021.01	Extend popup window header info for Show history (CTRL+H) with time(period)				_thumb_115260.png _thumb_115257.png
Plugin - Gui - Time Series	FEWS-24497	FEWS 2020.02, FEWS 2021.01	Vertical profiles: auto scaling vertical axis				
Plugin - Gui - Time Series	FEWS-23676	FEWS 2019.02, FEWS 2020.01, FEWS 2020.02, FEWS 2021.01	FEWS-10487 Add vertical lines for (systemTime/T0/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. !SystemAndDisplayTime.png thumbnail!	https://publicwiki.deltares.nl/display/FEWS/DOC/04+Data+Display+and+Data+Editor#id:04DataDisplayandDataEditor-LongTermScroller	_thumb_112611.png
Plugin - Gui - Time Series	FEWS-23880	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 unhiding you can restore the deleted time steps.	https://publicwiki.deltares.nl/display/FEWS/DOC/04+Data+Display+and+Data+Editor	
Plugin - Gui - Time Series Interval Statistics	FEWS-24211	FEWS 2019.02, FEWS 2020.02, FEWS 2021.01	Extra location attributes to interval statistics display				_thumb_112051.png

Component/s	Key	Fix Version/s	Summary	Release Note Text	Release Note Text Description	Link to Documentation	Images
Plugin - Gui - Time Series Modifier	FEWS-24768	FEWS 2020.02, FEWS 2021.01	FEWS-24767 Order of Compound Modifiers seems random		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.		_thumb_117197.png _thumb_117198.png
Plugin - Gui - Topology Editor	FEWS-24229	FEWS 2021.01	TopologyEditor: network info tab				
Plugin - Module - Data Export	FEWS-23702	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	https://publicwiki.deltares.nl/display/FEWSDOC/Export+module	
Plugin - Module - Data Import	FEWS-22642	FEWS 2020.01, FEWS 2021.01	FEWS-22632 Import/export alfnumerieke waarde - sprint 2 - prio 3				_thumb_111116.png _thumb_109504.png _thumb_110636.png _thumb_111093.png _thumb_99220.png _thumb_107260.png _thumb_111094.png _thumb_107261.png _thumb_111111.png
Plugin - Module - Data Import	FEWS-24408	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		_thumb_116376.png _thumb_116492.png _thumb_116386.png
Plugin - Module - Data Import	FEWS-23703	FEWS 2021.01	FEWS-22250 Import NetCDF References while NetCDF file on opendap is not available yet				
Plugin - Module - Data Import	FEWS-24374	FEWS 2020.02, FEWS 2021.01	WIS: Bij migreren van oude WIS database naar nieuwe ook validatiestatus meenemen				
Plugin - Module - Data Import	FEWS-24054	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	https://publicwiki.deltares.nl/display/FEWSDOC/Sencrop	
Plugin - Module - Data Import	FEWS-24407	FEWS 2020.02, FEWS 2021.01	FEWS-24406 FEWS-Itaipu: Import from database BDH	Itaipu Import	Delft-FEWS now supports the Itaipu REST Import	https://publicwiki.deltares.nl/display/FEWSDOC/ItaipuBDH	
Plugin - Module - Data Import	FEWS-23837	FEWS 2018.02, FEWS 2019.02, FEWS 2020.01, FEWS 2020.02, FEWS 2021.01	WfWB - request to import an older (not the most recent) forecast			https://publicwiki.deltares.nl/display/FEWSDOC/Import+Module+configuration+options#ImportModuleconfigurationoptions-externalForecastTimesSearchRelativePeriod&externalForecastTimesCardinalTimeStep	_thumb_114542.png
Plugin - Module - Data Import	FEWS-23601	FEWS 2021.01	FEWS-24053 Soil moisture sensors: API imports (SENSOTERRA AND FARM21)	Farm21 import supported	Farm21 import is now supported as importType: +Farm21+	https://publicwiki.deltares.nl/display/FEWSDOC/Farm21	_thumb_109957.png
Plugin - Module - Data Import	FEWS-24607	FEWS 2020.02, FEWS 2021.01	FEWS-BMA: New JSON import for observed BMA data			https://publicwiki.deltares.nl/display/FEWSDOC/BMALatest+Import	
Plugin - Module - Data Import	FEWS-20301	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.	https://publicwiki.deltares.nl/display/FEWSDOC/AzureIoTHub	
Plugin - Module - General Adapter, System - Logging	FEWS-23986	FEWS 2020.01, FEWS 2021.01	FEWS-17145 Add name/group of coldState used in General Adapter to tooltip in Forecast Dialog				_thumb_111291.png
Plugin - Module - Reports	FEWS-24187	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 generatePdfCommandLineOptions element. eg. --orientation Landscape	https://publicwiki.deltares.nl/display/FEWSDOC/Generate+PDF+from+HTML+report	

Component/s	Key	Fix Version/s	Summary	Release Note Text	Release Note Text Description	Link to Documentation	Images
Plugin - Module - Reports	FEWS-23208	FEWS 2021.01	Create unit tests for threshold reports	Unit test for thresholds reports added	Unit test for thresholds reports added	https://publicwiki.deltares.nl/display/FEWS/DOC/09+Report+Module	
Plugin - Module - Reports	FEWS-23497	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	<p>Three new options has been added to the barLegend:</p> <ul style="list-style-type: none"> * labelsColor - color of the tick labels. If omitted, then the outside labels are black and the inside labels are white, * labelsBackgroundColor - background color of the tick labels, * labelsOpacityPercentage - 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. <p>Please *note* that the options labelsBackgroundColor and labelsOpacityPercentage are implemented only for outside labels .</p>	https://publicwiki.deltares.nl/display/FEWS/DOC/01+Grid+Display#id-01GridDisplay-barLegend	     
Plugin - Module - Transformation	FEWS-24360	FEWS 2019.02, FEWS 2020.02, FEWS 2021.01	XML schema value element under percentileExceedence does not accept template property				
Plugin - Module - Transformation	FEWS-23422	FEWS 2021.01	FEWS-16169 FEWS Wales: FEWS Spatial interpolation grid to polygon				
Plugin - Module - Transformation	FEWS-23801	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	FEWS-23619	FEWS 2020.01, FEWS 2021.01	FEWS-23777 Transformation Module - Vertical interpolation/averaging for scalar (sigma layers)				
Plugin - Module - Transformation	FEWS-23649	FEWS 2020.01, FEWS 2021.01	FEWS-23777 Transformation Module - Vertical interpolation/averaging for grids (z-layers)	Implement new transformation for averiging values from different Z-layers in a grid	<p>This transformation calculates a weighted average of 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.</p> <p>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.</p> <p>The area of the calculation can be counted from a standard point of</p>	https://publicwiki.deltares.nl/display/FEWS/DOC/VerticalAverageGridZLayer	

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Plugin - Module - Transformation	FEWS-23648	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.	https://publicwiki.deltares.nl/display/FEWSDOC/AverageScalarVerticalLayers	
System	FEWS-24412	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.	https://publicwiki.deltares.nl/display/FEWSDOC/Delft-FEWS+End+of+Life+Modules+and+Displays	
System	FEWS-24414	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.	https://publicwiki.deltares.nl/display/FEWSDOC/Delft-FEWS+End+of+Life+Modules+and+Displays	
System - FEWS webservices	FEWS-24218	FEWS 2021.01	FewsWebservices should provide parent locations of children				
System - FEWS webservices	FEWS-19940	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.	https://publicwiki.deltares.nl/display/FEWSDOC/FEWS+PI+REST+Web+Service#FEWSPIRESTWebService-GETtimeseries/grid(2018.02)	_thumb_100240.png _thumb_100241.png _thumb_100242.png
System - FEWS webservices - PI REST	FEWS-23902	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.	https://publicwiki.deltares.nl/display/FEWSDOC/FEWS+PI+REST+Web+Service#FEWSPIRESTWebService-GETtimeseries	
System - FEWS webservices - SSD	FEWS-24488	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	https://publicwiki.deltares.nl/x/OwXkC	
System - FEWS webservices - SSD	FEWS-24489	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	https://publicwiki.deltares.nl/x/OwXkC	
System - FEWS webservices - WMS	FEWS-23921	FEWS 2021.01	FEWS-22250 WMS Service - Support default time in getCapabilities	get capabilities now reports a default time	get capabilities now reports a default time and time is no longer required for GetMap.	https://publicwiki.deltares.nl/pages/viewpage.action?pageId=134482048#FEWSWebMappingServiceWithTimesupport(WMS-T)-GetCapabilitiesdefaulttime(2021.01)	
System - FEWS webservices - WMS	FEWS-23913	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.	https://publicwiki.deltares.nl/display/FEWSDOC/FEWS+Web+Services	
System - FEWS webservices - WMS	FEWS-24147	FEWS 2021.01	track layer spatial display in webservice	Tracklayers now available in WMS service	Tracklayers now available in WMS service	https://publicwiki.deltares.nl/display/FEWSDOC/FEWS+Web+Services	_thumb_111688.png _thumb_113268.png
System - Logging	FEWS-24308	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	https://publicwiki.deltares.nl/display/FEWSDOC/09+Logging	
System - Workflow	FEWS-24191	FEWS 2019.02, FEWS 2020.01, FEWS 2020.02, FEWS 2021.01	Allow loopLocationSet in workflow to be empty				_thumb_111952.png



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Water Coach	FEWS-24573	FEWS 2019.02 EA, FEWS 2021.01	WaterCoach – empty database table 'WaterCoach' in scenario database	Remove information concerning the WaterCoach session from the SSD	<p>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.</p> <p>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 .</p> <p>This can be done with the Explorer F12 menu P database -> delete WaterCoach session info</p>	https://publicwiki.deltares.nl/pages/viewpage.action?pageId=17661956#ScenarioandScriptdatabase(SSD)-RemoveinformationconcerningtheWaterCoachsessionfromtheSSD	
Water Coach	FEWS-24041	FEWS 2021.01, FEWS 2020.02 RWS	WaterCoach - move grid data in the datastore to readonly gbin file on a network drive			https://publicwiki.deltares.nl/display/FEWSDOC/Application+configuration	