

CAP Alerts

Overview

The Common Alerting Protocol (CAP) import function (`<importType>CapAlerts</importType>` and `<importType>CapAlert</importType>`) import functions import time series with CAP messages. The Common Alerting Protocol (CAP) is a simple but general format for exchanging all-hazard emergency alerts and public warnings over all kinds of networks. Import of Common Alerting Protocol Version 1.2 is implemented, more information can be found at: <http://docs.oasis-open.org/emergency/cap/v1.2/CAP-v1.2-os.html>

There are two import types:

- CapAlerts: This imports the active Web feeds of CAP alerts; typically link to the XML content of the full CAP alert.
- CapAlert: This imports individual CAP alert messages.

CapAlerts Web Feeds

In general the CapAlerts importType will be used in operational forecasting systems. This import type will import the Web feed with the links to the active CAP alert messages. A typical CAP web feed is an XML file with the following content (<https://alerts.ncdr.nat.gov.tw/RssAtomFeed.ashx?AlertType=11>)

id	title	updated	author	link	summary	category
1	WRA_WaterLevelWarn_20190905181403:河川高水位	2019-09-05T18:14:03+08:00		https://alerts.ncdr.nat.gov.tw/Capstorage/WRA/2019/highWater/WRA_WaterLevelWarn_20190905181403.cap		term:河川高水位
2	WRA_WaterLevelWarn_20190908050945:河川高水位	2019-09-08T05:09:45+08:00		https://alerts.ncdr.nat.gov.tw/Capstorage/WRA/2019/highWater/WRA_WaterLevelWarn_20190908050945.cap		term:河川高水位
3	WRA_WaterLevelWarn_20190910175937:河川高水位	2019-09-10T17:59:37+08:00		https://alerts.ncdr.nat.gov.tw/Capstorage/WRA/2019/highWater/WRA_WaterLevelWarn_20190910175937.cap		term:河川高水位

The CapAlerts import function will import the `<entry>` elements and use the `<link>` element to find the active CAP messages.

The Delft FEWS import function for CAP web feeds looks as follows; the importType in the `<general>` section is CapAlerts. The `<serverUrl>` is required when using the importType; the other configurable elements will be covered in the CapAlert import below.

general	properties	timeSeriesSet
<code>importType</code> CapAlerts <code>serverUrl</code> https://alerts.ncdr.nat.gov.tw/RssAtomFeed.ashx?AlertType=11 <code>idMapId</code> IdImport_CAP <code>dataFeedId</code> CAP import	<code>string</code> <code>key</code> geoCodeValueName <code>value</code> Taiwan_Geocode_103	<code>moduleInstancelId</code> Import_CAP <code>valueType</code> scalar <code>parameterId</code> Alert <code>qualifierId</code> Waterlevel <code>locationSetId</code> Catchments_Taiwan_Town <code>timeSeriesType</code> external historical <code>timeStep</code> unit=nonequidistant <code>readWriteMode</code> add originals <code>expiryTime</code> unit=day multiplier=14

CapAlert Messages

The Cap Alert messages can be imported from a server or from a local file. When downloaded from a server it is best to use the CapAlerts import as this import contains the links to the active CAP messages. For importing historic or already downloaded CAP messages the CapAlert importType can be used. Importing CAP messages requires the following Delft-FEWS configuration files to be edited/added.

- CAP import module instance
- Parameters XML with enumeration of severity CAP element
- ID mapping of location ids

CAP Import module instance

The CAP import module instance is a standard Delft-FEWS import configuration file; example provided below.

import (2)		general		properties		timeSeries Set	
1		general		properties		timeSeries Set	
		() importType CapAlert () folder \$IMPORT_FOLDERS/CAP () idMapId IdImport_CAP () dataFeedId CAP Import		() string = key geoCodeValueName = value Taiwan_Geocode_103		() moduleInstanceId Import_CAP () valueType scalar () parameterId Alert () qualifierId Waterlevel () locationSetId Catchments_Taiwan_Town () timeSeriesType external historical () timeStep unit=nonequidistant () readWriteMode add originals () expiryTime unit=day multiplier=14	

This example imports CAP messages from the \CAP import folder of a local file system. an example CAP file is presented below.

alert	
() xmlns	urn:oasis.names.tc.emergency.cap:1.2
() identifier	WRA_WaterLevelWarn_20190905181403
() sender	ddmt01@wra.gov.tw
() sent	2019-09-05T18:14:03+08:00
() status	Actual
() msgType	Alert
() scope	Public
() code	Progress
info	
() language	zh-tw
() category	Met
() event	河川高水位
() responseType	Monitor
() urgency	Future
() severity	Moderate
() certainty	Possible
eventCode	
() effective	2019-09-05T18:14:03+08:00
() expires	2019-09-05T18:24:03+08:00
() senderName	水利署
() headline	香葉橋三級
() description	水利署訊：急水溪-香葉橋水位24.17M >= 三級警戒24M(堤防高29.36M)，警戒區 東山區，請及早應變，並遠離河川區域，如上游地區持續降雨，請河川沿岸民眾配合地方政府進行疏散撤離。
() instruction	請將堤外車輛駛離，注意後續水位警戒訊息
() web	http://fhy.wra.gov.tw/fhy/Alert/Water
parameter (3)	
area	
() areaDesc	臺南市東山區
geocode	
() valueName	Taiwan_Geocode_103
() value	6700600

From this file the following elements will be imported by FEWS.

- status: stored as time series property
- msgtype: stored as time series property
- responseType: stored as time series property
- urgency: stored as time series property
- severity: this is the imported time series value, after converting the severity string with a parameter enumeration
- certainty: stored as time series property
- effective: this is the date/time of the imported value
- expires: stored as time series property
- geocode: this is the location id of the imported series

The import module instance has a <property> element that is used for the geocode valueName. The property key = geoCodeValueName and the property value the geocode provided in the CAP file. If a geocode valueName is different from the configured property the CAP values will not be imported. It is therefore important to first check the CAP messages to import and copy the geocode value to the Delft-FEWS import module instance property. The property is added as sometimes new geocodes are used that require different location id mapping files. The property element allows for filtering the imported CAP messages on correct id mapping tables.

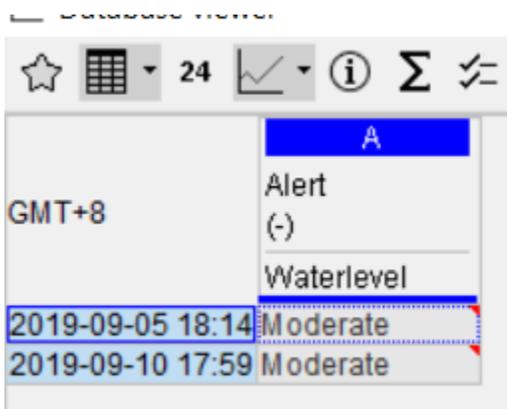
Parameters xml

As indicated above the severity will be imported from the CAP messages. this severity will be a string that needs to be converted to a value on importing. This value is the actual time series value that will be stored in the FEWS database. The parameter of the time series will require an enumeration to do this value conversion on importing. a typical CAP parameter enumeration is provided below.

enumerations		
enumeration		
= id	AlertEnum	
value (5)		
= code	= label	
1	Unknown	
2	Minor	
3	Moderate	
4	Severe	
5	Extreme	

parameterGroups							
parameterGroup (25)							
= id	= name	() parameterType	() unit	() valueResolution	() usesDatum	() enumerationId	() parameter
1	Alert	Alert				AlertEnum	parameter (1)
= id	= name	()		()		shortName	
1	Alert	Alert	Alert	Alert	Alert	Alert	Alert

When the imported CAP time series is presented in the time series display table, the value will be automatically converted to the enumerated label.



ID mapping

When importing data from an external system, location ID mapping is a standard import process. An example of an ID mapping configuration file is provided below.

idMap		
= xmlns	http://www.wdelft.nl/fews	
= xmlns:xsi	http://www.w3.org/2001/XMLSchema-instance	
= xsi:schemaLocation	http://www.wdelft.nl/fews http://fews.wdelft.nl/schemas/version1.0/idMap.xsd	
= version	1.1	
locationIdFunction (1)		
= internalLocationSet	= externalLocationFunction	
1	Catchments_Taiwan_Town	@ID_MOI@