

# 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](http://docs.oasis-open.org/emergency/cap/v1.2/CAP-v1.2-os.html) 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>)

The screenshot shows an RSS Atom feed with the following structure:

- feed** (root element)
  - xmlns**: http://www.w3.org/2005/Atom
  - xmlns:cap**: urn:oasis:names:tc:emergency:cap:1.1
  - xmlns:georss**: http://www.georss.org/georss
  - id**: https://alerts.ncdr.nat.gov.tw/RSS.aspx
  - title**: NCDR\_CAP-即時防災資訊
  - updated**: 2019-09-10T17:59:00+08:00
  - author**: {empty element}
  - link** (rel=self href=https://alerts.ncdr.nat.gov.tw/RssAtomFeed.ashx?AlertType=11)
  - entry** (3)
    - entry 1**: WRA\_WaterLevelWarn\_20190905181403 河川高水位 2019-09-05T18:14:03+08:00. Includes a link to the CAP message.
    - entry 2**: WRA\_WaterLevelWarn\_20190908050945 河川高水位 2019-09-08T05:09:45+08:00. Includes a link to the CAP message.
    - entry 3**: WRA\_WaterLevelWarn\_20190910175937 河川高水位 2019-09-10T17:59:37+08:00. Includes a link to the CAP message.

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.

The screenshot shows the configuration for the CapAlerts import function in the Delft FEWS configuration file:

- import** (2)
  - general**
    - importType**: CapAlerts
    - serverUrl**: https://alerts.ncdr.nat.gov.tw/RssAtomFeed.ashx?AlertType=11
    - idMapId**: IdImport\_CAP
    - dataFeedId**: CAP Import
  - properties**
    - string**
      - key**: geoCodeValueName
      - value**: Taiwan\_Geocode\_103
  - timeSeriesSet**
    - 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)

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

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	香鑾橋-三級
description	水利署訊：急水溪-香鑾橋水位24.17M >= 三級警戒24M(堤頂高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

1

Unknown

2

2

Minor

3

3

Moderate

4

4

Severe

5

5

Extreme

parameterGroups

parameterGroup (25)

id

name

parameterType

unit

valueResolution

usesDatum

enumerationId

parameter

1

Alert

Alert

AlertEnum

parameter (1)

id

name

shortName

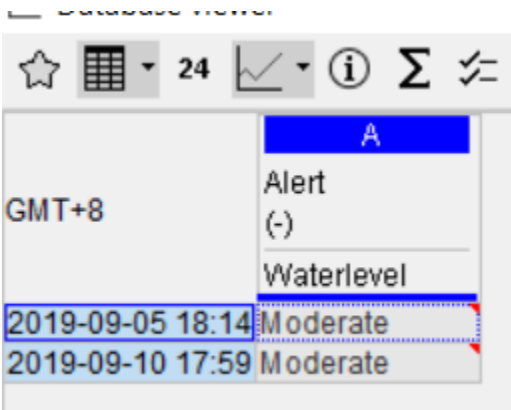
1

Alert

Alert

Alert

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