

Matroos NetCDF

Overview



This import is available in DELFT-FEWS versions after 25-11-2008

Imports time series data in NetCDF format from MATROOS Forecast databases. The import reader creates a perl URL for direct data retrieving from Matroos. This NetCDF data import retrieves regular and/or irregular grids from the MATROOS database. There are also three types of NOOS import functions in Delft FEWS to import scalar time series from MATROOS, see the NOOS import function for this type.

The import function for direct retrieval of grid data (maps) is **matroos_netcdfmapseries**.

More information on the retrieval of time series from Matroos can be found on: <http://matroos.deltares.nl/direct/index.html>

Configuring the Import

An example of the **matroos_netcdfmapseries** configuration will be given here. The reader is named **matroos_netcdfmapseries** which should be configured in the general section of the import. The general section must also contain the server URL and a correct username and password if you need to log-in. The **relativeViewPeriod** in the general section is used to select the period to retrieve data for.

An example import configuration is shown below:

ImportMatroosMap 1.00 default.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<timeSeriesImportRun 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/timeSeriesImportRun.
xsd">
  <import>
    <general>
      <importType>matroos_netcdfmapseries</importType>
      <serverUrl>http://matroos.deltares.nl</serverUrl>
      <user>dummy_username</user>
      <password>dummy_password</password>
      <relativeViewPeriod unit="hour" start="-1" end="12"/>
      <idMapId>IdImportMatroosMap</idMapId>
      <unitConversionsId>ImportUnitConversions</unitConversionsId>
      <importTimeZone>
        <timeZoneOffset>+00:00</timeZoneOffset>
      </importTimeZone>
      <dataFeedId>Matroos</dataFeedId>
    </general>
    <timeSeriesSet>
      <moduleInstanceId>ImportMatroos_Maps</moduleInstanceId>
      <valueType>grid</valueType>
      <parameterId>Snelheid.u.F0</parameterId>
      <locationId>hmcn_zeedelta</locationId>
      <timeSeriesType>external forecasting</timeSeriesType>
      <timeStep unit="minute" multiplier="30"/>
      <readWriteMode>add originals</readWriteMode>
      <synchLevel>6</synchLevel>
    </timeSeriesSet>
    <timeSeriesSet>
      <moduleInstanceId>ImportMatroos_Maps</moduleInstanceId>
      <valueType>grid</valueType>
      <parameterId>Snelheid.v.F0</parameterId>
      <locationId>hmcn_zeedelta</locationId>
      <timeSeriesType>external forecasting</timeSeriesType>
      <timeStep unit="minute" multiplier="30"/>
      <readWriteMode>add originals</readWriteMode>
      <synchLevel>6</synchLevel>
    </timeSeriesSet>
  </import>
</timeSeriesImportRun>
```

When a locationSet or multiple time series sets are configured in the import module instance, the Noos readers will construct URL's for each time series and retrieve the data from the Matroos database sequentially. An improvement of the import readers could be to construct a more complex URL and retrieve the data for multiple time series in one URL query.

The IdMapping configuration is very important because this maps the internal FEWS Id's to the Matroos Id's. In the IdMapping the following FEWS and Matroos elements are mapped:

- the FEWS **externalLocation** is used to map the Matroos **source** element
- the FEWS **externalParameter** is used to map the Matroos **color** element

The FEWS external qualifiers can be used to add extra information to the URL. In the example below the following information is stored in the external qualifiers. This information is used to resample the grid. MATROOS will interpolate the original grid to the grid definition you give in the qualifiers.

- the FEWS **externalQualifier1** is used to map the Matroos **coordsys** element
- the FEWS **externalQualifier2** is used to map the Matroos **xmin** and **xmax** elements
- the FEWS **externalQualifier3** is used to map the Matroos **ymin** and **ymax** elements
- the FEWS **externalQualifier4** is used to map the Matroos **xn** and **yn** elements

An example of URL can be: <http://matroos.deltares.nl/matroos/scripts/matroos.pl?>

source=hmcn_zeedelta&color=velv&coordsys=RD&xmin=54000&xmax=67000

&ymin=442000&ymax=449000&xn=101&yn=101&from=200811250810&to=200811252110&timezone=gmt&format=nc

An example IdMapping file for the **matroos_netcdfmapseries** reader is shown below:

IdImportMatroosMap 1.00 default.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<idMap version="1.1" 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">
  <map internalParameter="Snelheid.u.F0" internalLocation="hmcn_zeedelta" externalLocation="hmcn_zeedelta"
externalParameter="velu" externalQualifier1="coordsys=RD" externalQualifier2="xmin=54000&xmax=67000"
externalQualifier3="ymin=442000&ymax=449000" externalQualifier4="xn=101&yn=101"/>
  <map internalParameter="Snelheid.v.F0" internalLocation="hmcn_zeedelta" externalLocation="hmcn_zeedelta"
externalParameter="velv" externalQualifier1="coordsys=RD" externalQualifier2="xmin=54000&xmax=67000"
externalQualifier3="ymin=442000&ymax=449000" externalQualifier4="xn=101&yn=101"/>
</idMap>
```

When importing grids in the FEWS database it is required to configure the grid characteristics in the grids.XML file. The grid characteristics must be similar to the grids imported from MATROOS.

Grids 1.00 default.xml

```
<regular locationId="hmcn_zeedelta">
  <description>HMCN Zeedelta Model</description>
  <rows>101</rows>
  <columns>101</columns>
  <geoDatum>Rijks Driehoekstelsel</geoDatum>
  <firstCellCenter>
    <x>54000</x>
    <y>449000</y>
  </firstCellCenter>
  <xCellSize>130</xCellSize>
  <yCellSize>70</yCellSize>
</regular>
```

NetCDF format

The NetCDF format used can be found on the MATROOS webpage and the FEWS-PI pages.