GloFAS Web Map Service Time (WMS-T)

GloFAS Team

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1 General information

1.1 What is a WMS-T?

A Web Map Service (WMS) is a standard protocol for serving geo-referenced map images over the Internet that are generated by a map server using data from a GIS database. The specification was developed and first published by the Open Geospatial Consortium in 1999 (www.opengeospatial.org). A WMS server can provide support to temporal requests (WMS-T). This is done by providing a TIME parameter with a time value in the request.

1.2 What is the GloFAS WMS-T?

GloFAS WMS-T gives access to the www.globalfloods.eu layers in a GIS environment. You can access those layers using any WMS viewer, such as e.g. QGIS (www.qgis.org) or ArcMap. GloFAS WMS-T can be freely used.
2 How to access to the GloFAS WMS?

2.1 Using ArcMAP (version 10.0.2)

A Web Mapping Service (WMS) is a service hosted on a remote server. Similar to a website, you can access it as long as you have a connection to the server. Using ArcMAP, you can load a WMS directly into your existing map. A detailed explanation is available on the ESRI website: http://resources.arcgis.com/en/help/main/10.1/index.html#/00sp0000001n000000

A quick start guide

1. Open ArcMAP

2. Go to Catalog or Add Data and click on GIS Server ’ Add WMS Server
3. A new popup will appear where you need to enter the following connection details: URL, username and password. URL: http://globalfloods-ows.ecmwf.int/glofas-ows/ows.py?. Then finalize the request by clicking “OK”.

![Add WMS Server dialog box with URL and account details]
4. Go again to Catalog or Add Data (picture is referred to Catalog) and you will see that GloFAS WMS appears in the list.

5. Simply drag and drop GloFAS WMS layers in the ArcGIS window into the “table of contents”
6. load the layer’s legend with a right mouse click on the layer and chose “add WMS legend to map” (Note: problems with this feature appeared using ArcGIS 10.0, build 2800. To avoid those please update ArcGIS to the latest version 10.2)

7. Use the ArcMAP Time Slider (version 10.0.2)
   
   (a) Open the Time Slider Window and a popup will appear
(b) Go to Options (in the popup) and modify the following inputs: display date format = yyyy-MM-dd, display time format = none

(c) Now, using the Time slider you can load the GloFAS WMS layers specified in the available range
2.2 Using QGIS (version 2.2.0-Valmiera)

Using QGIS, you can load a WMS directly into your existing map. A detailed explanation is available on the QGIS website: www.qgis.org/en/docs/training_manual/online_resources/wms.html

A quick start guide

1. Open QGIS

2. Click on Add WMS/WMTS layer (left menu bar) and a popup will appear.
3. Click on the “New” button. A new popup will appear where the following connection details need to be entered. Name: GloFAS WMS (or what else you prefer) URL: http://globalfloods-ows.ecmwf.int/glofas-ows/ows.py?

4. Now the GloFAS WMS-T is saved in QGIS and you can connect to the GloFAS WMS-T and load the layers that you prefer using the “Add” button.

As an example we loaded the latest Acc. Precip. Det. ECMWF, Accumulated rainfall [mm] over the entire forecast range (10 days) of the deterministic ECMWF forecast. On top right
of the map you see the latest available forecast date. The legend can be loaded through a double-click on the layer.
2.3 Using the browsers or via console

Example loading the layer Accumulated Precipitation for 2018-04-18T00:00:00:

```python
http://globalfloods-ows.ecmwf.int/glofas-ows/ows.py?SERVICE=WMS&VERSION=1.3.0&REQUEST=GetMap&TIME=2018-04-18T00:00:00&BBOX=23.07970000000000255,-44.29690000000000083,73.77580000000000382,76.99219999999999686&CRS=EPSG:4326&WIDTH=1439&HEIGHT=602&LAYERS=AccRainEGE&STYLES=&FORMAT=image/png&DPI=96&MAP_RESOLUTION=96&FORMAT_OPTIONS=dpi:96&TRANSPARENT=TRUE
```

Example loading latest layer Accumulated Precipitation:

```python
http://globalfloods-ows.ecmwf.int/glofas-ows/ows.py?SERVICE=WMS&VERSION=1.3.0&REQUEST=GetMap&BBOX=23.07970000000000255,-44.29690000000000083,73.77580000000000382,76.99219999999999686&CRS=EPSG:4326&WIDTH=1439&HEIGHT=602&LAYERS=AccRainEGE&STYLES=&FORMAT=image/png&DPI=96&MAP_RESOLUTION=96&FORMAT_OPTIONS=dpi:96&TRANSPARENT=TRUE
```