



# The Copernicus Emergency Management Service



Early warning and monitoring

Copernicus is an EU programme aimed at developing European information services based on satellite Earth Observation and in situ data. The Copernicus Emergency Management Service (CEMS) supports all actors involved in the management of natural or manmade disasters by providing geospatial data and images for informed decision making. CEMS constantly monitors Europe and the globe for signals of an impending disaster or evidence of one happening in real time. It immediately notifies national authorities of their findings or can be activated on-demand and offers to provide them with maps, time-series or other relevant information to better manage disaster risk. CEMS products show information about a disaster event on a scale, timeline, and perspective that only geospatial information can provide. They can examine changes to an area of Earth over a series of days, weeks, months, or years. The Copernicus Emergency Management service has two main components: On demand Mapping as well as Early Warning and Monitoring.

On-demand mapping



Rapid Mapping



Risk and Recovery Mapping

Early warning and monitoring



Floods



Fires

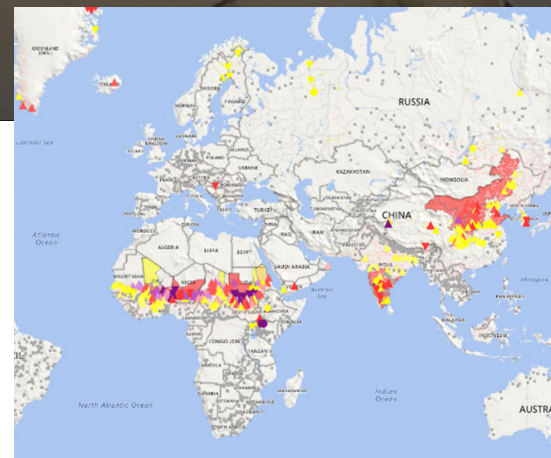


Droughts

## FLOODS – GLOBAL FLOOD AWARENESS SYSTEM (GLOFAS)

The CEMS Early Warning and Monitoring component supports the preparedness and emergency response at the European and global level, through the provision of early warning, risk and impact assessment, and monitoring of specific natural hazards – namely floods, forest fires and droughts – through publicly accessible on-line services.

The Global Flood Awareness System (GloFAS) is an operational, freely accessible web service for global hydrological forecasting and monitoring. It provides probabilistic hydrological predictions and overviews across the world on time scales from days to few months, independent of administrative and political boundaries. It is therefore especially beneficial for the flood risk management of large trans-national river basins, as well as for international and national water management or aid-related organisations. Water resources manager can also benefit from GloFAS seasonal hydrological outlook (up to 4 months ahead) for decision-making. In addition to forecasting where and when large riverine floods are likely to occur, the potential socio-economic impacts are also estimated and mapped within GloFAS.



Example of GloFAS products including different types of available flood forecast information: reporting points highlighting the maximum flood expected in the next few weeks (coloured symbols) and administrative regions with expected flood-inundation impact (coloured areas).

Space



# Examples from the GloFAS product family



GloFAS products are based on flood forecast simulations and are represented as a set of easily readable maps aimed at offering the users a fast and dynamic situational awareness about potential flood risks anywhere around the world. All GloFAS products and data are freely available to everyone, via web services and direct download.

GloFAS **medium-range flood forecasts** provide a global overview of upcoming flood events for the next 30 days, including possible **flood impacts**. The forecasts are updated every day and are used by national and international institutions for flood risk management around the world. When severe flood impacts are expected, the acquisition of satellite images, through CEMS on-demand mapping, is pre-tasks to enable faster satellite-based flood mapping.

The GloFAS **seasonal hydrological outlook** summarises globally, for each river region, the hydrological situation over the next 4 months and predicts changes to the long-term river flows. The outlook is issued every month and can be used to support different national and global water-related applications such as reservoir management, navigation, irrigation or drought risk management.

**Key users** include national and regional water authorities, water resources managers, hydroelectric power companies, civil protection and first line responders, international humanitarian aid organisations and the EU's Emergency Response Coordination Centre (ERCC).



Access the Map Viewer



Also available for Europe as EFAS

## KEY NUMBERS

AVAILABLE  
**24/7/365**

**30-DAY**  
FORECAST  
LEAD TIME

**4-MONTH**  
SEASONAL  
OUTLOOK

MORE THAN  
**2000**  
REPORTING  
POINTS

AROUND **6000**  
REGISTERED  
USERS

## HOW TO ACCESS THE SERVICE

GloFAS is freely accessible to the public. Access point to all GloFAS products and information is through the dedicated GloFAS website: [www.globalfloods.eu](http://www.globalfloods.eu)

Three different solutions are provided for the direct access to GloFAS products:

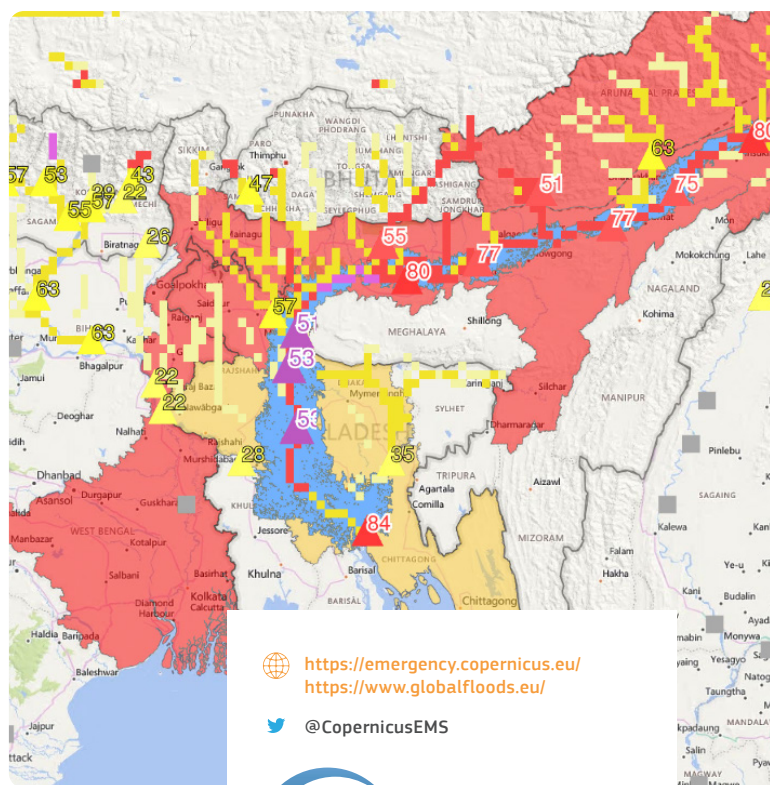
- A Web Map Service Time (WMS-T), which allows the easy integration of any GloFAS layer in any GIS environment
- A tailored File Transfer Protocol (FTP) service, on request to [info@globalfloods.eu](mailto:info@globalfloods.eu)
- Direct data download through the ECMWF Meteorological Archival and Retrieval System (MARS) and the Copernicus Climate Change Service "Climate Data Store" (CDS)



Information on data and services



GloFAS on CDS



<https://emergency.copernicus.eu/>  
<https://www.globalfloods.eu/>

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