



The European Flood Awareness System

current & future data requirements

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European Commission

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Aim and objectives of EFAS

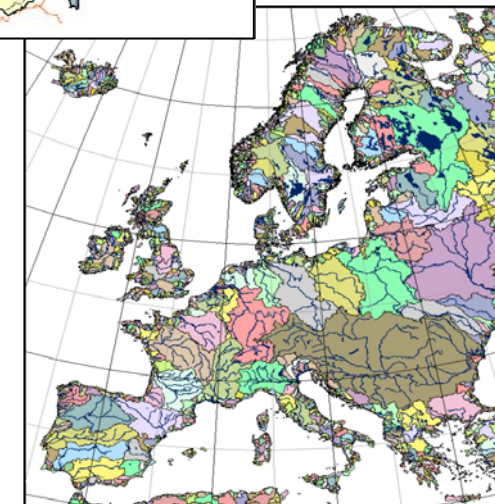
Added value for National Hydrological Services

- Catchment based information
- Longer leadtimes up to 10 days
- Probabilistic information
- Operationally targeted research



Novel products for European Civil Protection (MIC)

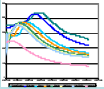
- Comparable information across Europe
- Tool for aid assistance during crisis



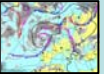
European Flood Awareness System (EFAS)

DATA


Real-time data (EU-FLOOD-GIS/ETN-R)




Historical Data




Static Data



Europ. Data Layers

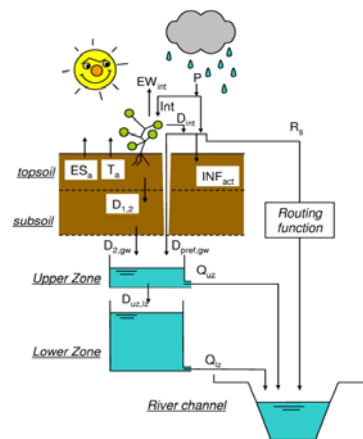


Meteo -Data



Expert Knowledge of Member States

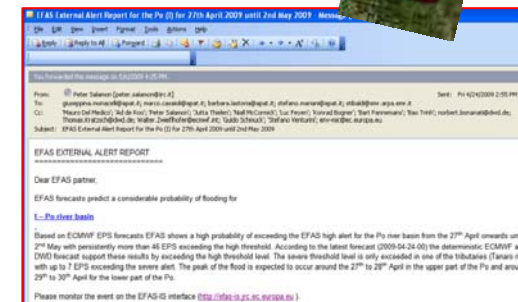
LISFLOOD model



EFAS user interface



Alert email

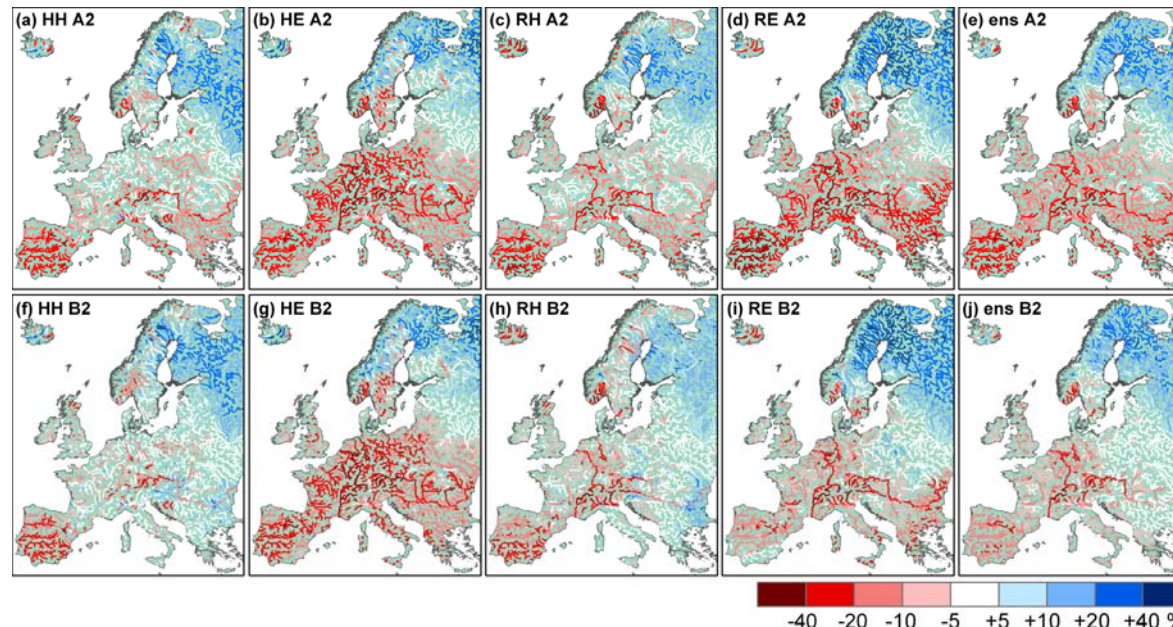



EFAS partner network



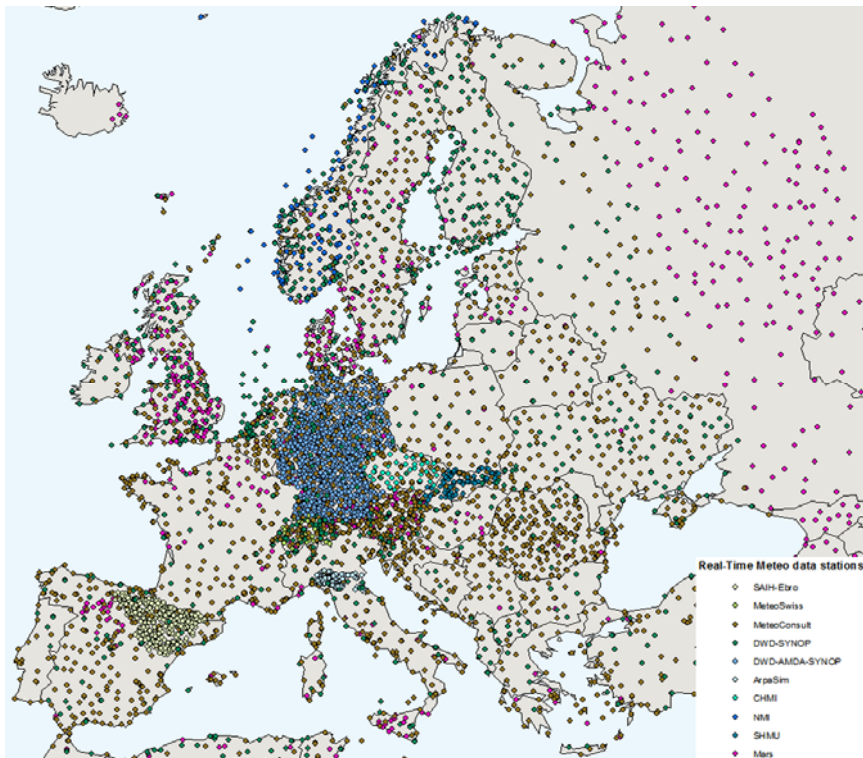
Pan-European Model set-up as EU policy support

- EU Climate Change strategy (impact of CC on floods and droughts, efficiency of adaptation measures)
- Water Framework Directive, Floods Directive (e.g. Blueprint)

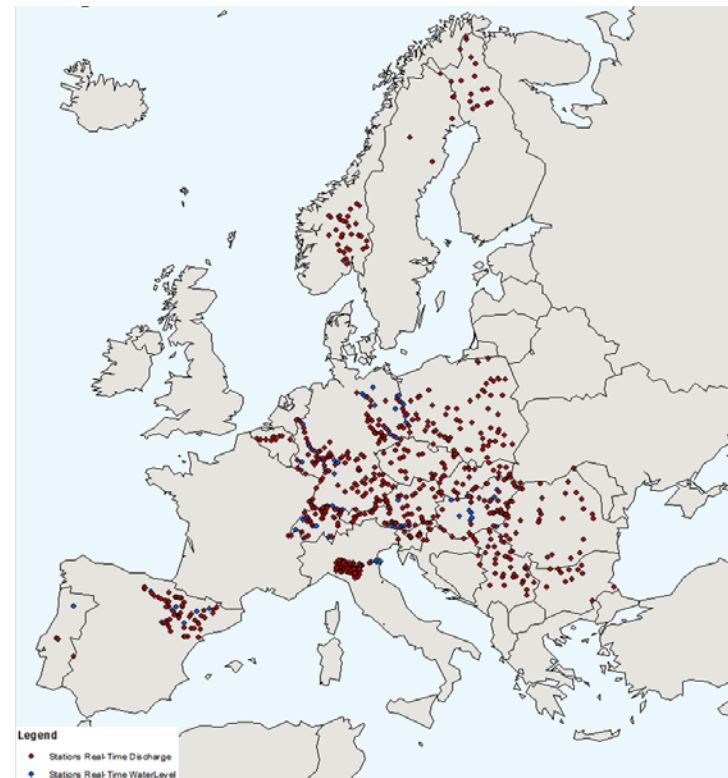


Current hydrological and meteorological data collection

Approx. 6000 stations reporting meteorological near real time data



Stations reporting near real time discharge and water levels



Current hydrological and meteorological data

Meteo obs:

Who: JRC

Main data providers:

- JRC MARS (in House DB with daily obs)
- SYNOP (received through German weather service DWD)
- 8 national hydro-meteorological services
- European Climate Assessment & Dataset (only historic data)

Near real-time discharge obs:

Who: Consortium REDIAM
(Andalusian Environmental
Agency) & ELIMCO Sistemas
(Spanish private company)

Data providers:

- 25 different regional & national hydrological services

Major problems encountered when collecting hydrological data:

- **Station meta data incomplete** (e.g., poorly defined horizontal/vertical datum, timestamp not correct defined)
- **General difficulty to contact providers**
- **22 “types” of discharge** (timesteps, units, accumulation interval) – makes quality checking and aggregation extremely difficult
- **Each provider has different way to transmit data** – requires a provider specified data parser (prone to errors!)



Real Time Hydrological Data Providers

- 1012 Spain / Confederaciones Hidrográficas
- 1004 Germany / GK-Info
- 1003 Switzerland / Bundesamt für Umwelt
- 1010 Germany / Rhineland-Palatinate (Environment State Agency Rhineland Palatinate)
- 1015 Germany / Brandenburg State Office Of Environment
- 1024 Poland / Institute of Meteorology and Water Management
- 1025 Germany / Bavarian Hydrological Service
- 1005 Slovenia / Environmental Agency of the Republic of Slovenia
- 1014 Sweden / Swedish Meteorological and Hydrological Institute (SMHI)
- 1021 France / Schapi
- 1018 Slovakia / Slovak Hydro Meteorological Institute
- 1002 Norway / Norwegian Water Resources and Energy Directorate
- 1007 Germany / Saxonia (Landesamt für Umwelt und Geologie Sachsen, LFUG)
- 1017 Hungary / Environmental Protection and Water Management Research Institute
- 1019 Czech Republic / CHMI
- 1020 Serbia / Republic Hydrometeorological Service
- 1013 Austria / BMLFUW
- 1026 Bulgaria / National Institute of Meteorology and Hydrology
- 1022 Belgium, Flanders / Hydrological Information Centre (HIC)
- 1001 Romania / National Institute for Hydrology and Water Management
- 1008 The Netherlands / Institute for Inland Water management and Wastewater Treatment
- 1011 Finland / Finnish Environment Institute
- 1016 Arpa Sim (Italy)
- 1023 Portugal / SNIRH
- 1009 Germany / Hesse (HLUG Wiesbaden)