

Water related activities of the European Commissions Joint Research Center

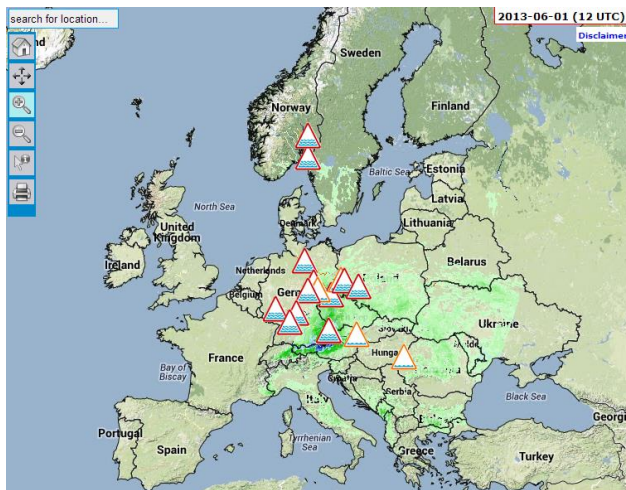
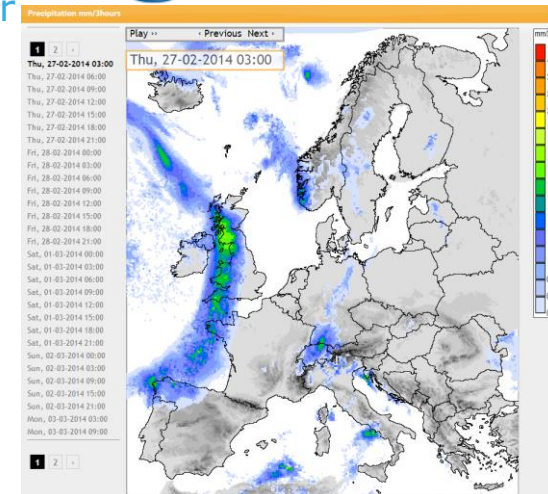
Overview

Peter Salamon

European Flood Awareness System (EFAS)

News & Updates

- **EFAS fully operational:** EFAS is fully operational since September 2012 under the Copernicus Emergency Management Service.
- **Objectives of EFAS:**
 - ✓ Provide complementary flood forecasting information
 - ✓ Provide European scale overview



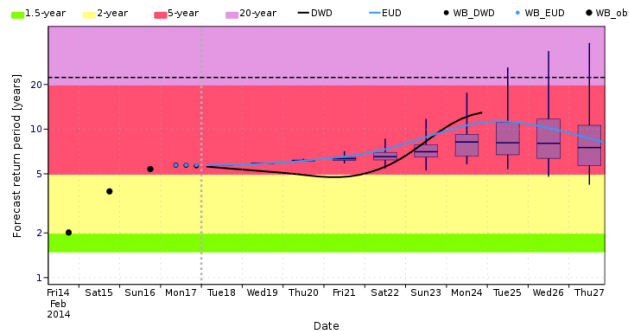
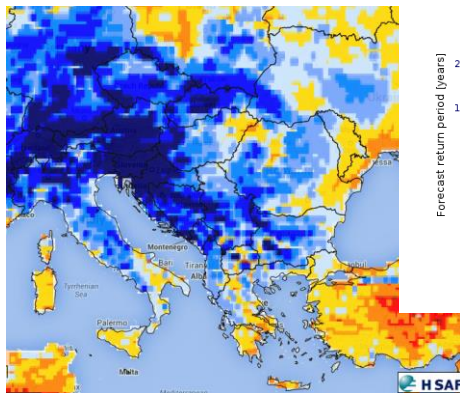
- **New EFAS partners:** Ukrainian Hydrometeorological Center, Confederación Hidrográfica del Duero & Cantabrico (Spain), Latvian Environment, Geology and Meteorology Centre, **EFAS has now more than 35 partner authorities.**
- **10th EFAS Annual meeting:** 28-29 April 2015, Emergency Response and Coordination Center, EC, Brussels

European Flood Awareness System (EFAS)

News & Updates

• New EFAS features:

- ✓ Improved visualization of end products (return period hydrographs)
- ✓ Integration of satellite products (H- SAF snow, soil moisture) and anomalies
- ✓ Integration of landslide risk information based on flash flood indicator
- ✓ Web services (WMS-T and SOS)
- ✓ Publication of forecast verification skills in the EFAS bulletins



• Planned features:

- ✓ Model domain extension
- ✓ ... and many more

EFAS performance for the May 2014 floods:

Overview active EFAS warnings for 2014-05-15 12UTC forecast:



EFAS Flood/Watch/Flash Flood Watch issued



ERCC Activation

EFAS General rule:

EFAS alerts are sent to all EFAS partners sharing the same river basin

- Heavy rain started 14 May and flooding 15/16 May
- First EFAS alert to RS, BG, RO issued **11th May** (*Note: BA is currently not an EFAS partner*)
- Subsequently **18 EFAS Flood Alerts/Watches/Flash Flood Watches** were issued for the Balkan region and lower Danube river basin between the 11th and 16th May

- Daily detailed reports based on EFAS and national information were provided to the Emergency Response and Coordination Center of DG ECHO from 12th May onwards
- EFAS was employed for pre-tasking of satellites for Copernicus Rapid Mapping

European & Global Water Resources

Collab. work with DG ENV EEA & DG REGIO

- Evaluating River Basin Management Plans, Programs of measures (WFD) and Flood Risk management plans (FD)
- Setup Water Accounts (EEA), which will improve JRC's model calibration and validation
- Explore water efficiency options
- European water resources outlook 2050, 2100

Danube Water Nexus project:

- Food-Energy-Water nexus;
- Contribution to Danube Strategy
- Benchmarking models in the Danube (LISFLOOD-SWAT-MONERIS)
- Case study Sava sub-river basin (coll. UNECE, KTH)

Global water resources

- Reanalysis 1961-2010 (Earth2Observe project)
- Global Water Futures until 2100 (with IIASA, Kassel, Utrecht, PIK)

Issues to be discussed:

- Further promote the use of OGC standards for data exchange (WaterML, WFS, SOS etc.)
- Establish databases on lake & reservoirs levels
- more central information on groundwater bodies, groundwater levels
 - recent hydrogeological map of BGR good step, but quantitative info also needed
- Support the building of a European gridded historic meteo dataset for hydrologic modeling (based on existing projects like ECA&D, JRC-MARS, EURO4M, CarpatClim, ERAInterim etc.)

Technical study on the capacities of flood early warning and/or monitoring systems for EU (potential) candidate and Eastern/Southern Neighborhood countries

Initiator: EC Directorate General Humanitarian Aid and Civil Protection (DG ECHO)

Scope:

- Guideline for DG ECHO for future support programs and projects
- Official EC report which can be used for fund raising by the respective countries

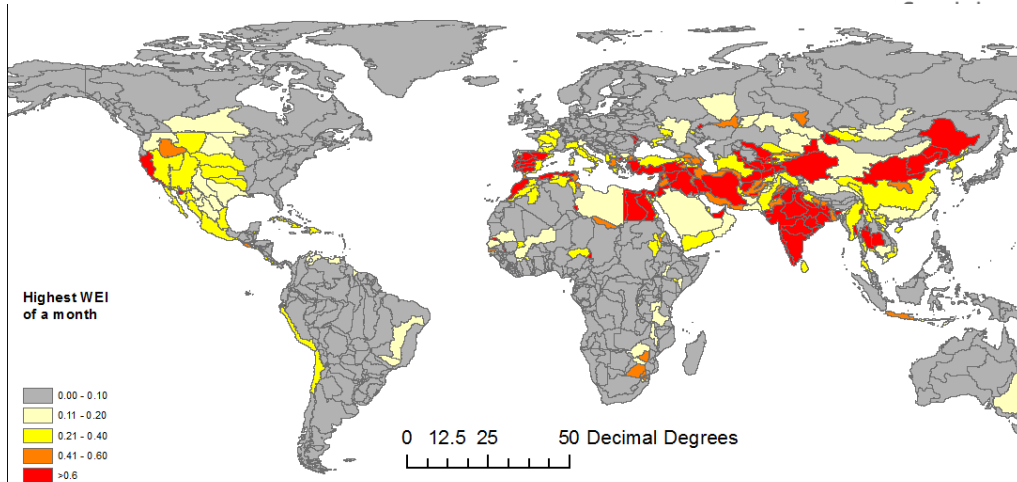
What needs to be done: Provision of information on flood monitoring/early warning capacities through a questionnaire and possible workshop/stay at JRC

Who: Albania, Bosnia & Herzegovina, the Former Yugoslav Republic of Macedonia, Montenegro, Serbia, Turkey, Armenia, Azerbaijan, Belarus, Georgia, Moldova, Ukraine, Israel, Jordan and Lebanon

Thanks for your attention!

Contacts:

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Water consumption 2006 and changes until 2030

Water Exploitation Index (WEI)

- 1.) Wei calculated for each month (1980-2010)
- 2.) Averaged for each month (e.g. 30 x January)
- 3.) "Reference year" of average monthly values
- 4.) Highest value of this reference year

