



EFAS Bulletin

Issue 2011(1) *January - July 2011*

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EUR 23385 EN - 2010

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JRC67556

EUR 23385 EN
ISSN 1018-5593 (EUR Collection)
ISSN 1831-1555 (EFAS Bulletin)

Luxembourg: Publications Office of the European Union

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Printed in Luxembourg

EFAS news

Joint Annual EFAS & FP7 KULTURisk meeting was held at Stresa, Italy, 12 & 13 April 2011

This year's meeting was aimed at the EFAS partner network as well as partners of the FP7 project KULTURisk (www.kulturisk.eu). From the EFAS partner network at least one representative was present from all organizations except AT, BG, UA, DE (Brandenburg, Hessen), RS, MD and BE. Newly represented this year were Ireland (Office of Public Works) and DE with the Bundesamt für Bevölkerungsschutz und Katastrophenhilfe.

The meeting was split into two days. The first day was dedicated to EFAS, its current and future development and a hands-on training for the new interface. The second day was dedicated to early warning systems in general as part of the KULTURisk project. The aim of the two days was to foster exchange of information on flood forecasting but also from cross-cutting disciplines such as weather forecasts, coastal floods, flashfloods, landslides, civil protection and others.

EFAS is now officially part of the Emergency management service of the Global Monitoring of Environment and Security (GMES) led by DG ENTERPRISE of the European Commission, which has entered its initial operation (GIO) phase following the entry into application of Regulation (EU) n°911/2010 of 22 September 2010 of the European Parliament and the Council on the European Earth monitoring programme (GMES) and its initial operations (2011 to 2013). In May the GMES partner board and user forum approved the work programme for 2011 with regard to EFAS under the condition that the name of EFAS will be changed from Flood Alert System to Flood Awareness System. This is to avoid

misunderstanding of the role of EFAS when being operational, in particular for francophone spoken countries. Thus, from next year onwards, EFAS will stand for European Flood Awareness System.

Release of updated EFAS-IS

The updated EFAS-IS was released on the 20 June 2011. The new features include improved personalization of the interface as well as additional and restructured map layers for a clearer and simpler interpretation of the EFAS forecasts. Users can now personalize the interface much more (e.g., map zoom and activated maps can be saved). Furthermore, new map layers, like the ongoing floods, EU catchments, MoU EFAS partner, Bing maps, as well as the re-categorization into easier understandable classes improve the usability and interpretation of the forecasts. A detailed guide about all the new features can be downloaded from the EFAS-IS webpage.

EFAS training workshop held with the new EFAS partner Environment and Water Public Agency of Andalusia [ES]

A first training with EFAS and its new web interface EFAS-IS was provided to the Environment and Water Public Agency in Sevilla, Spain on 27 & 28 June, who will soon become an official EFAS partner. J. Thielen-del Pozo and P. Salamon gave an overview of EFAS and provided some examples of EFAS forecasts. Furthermore, the participants could get hands-on experience on how to use and interpret the information provided by EFAS-IS. A more extensive data exchange between EFAS and the Environment and Water Public Agency was agreed in order to improve EFAS forecasts for the major rivers in Andalusia. EFAS is currently the only forecasting system active in Andalusia.

Publications by EFAS team members

Thielen, et al (2011) State of the art of flood forecasting – from deterministic to probabilistic approaches, In: “Flood Hazards: Impacts and Responses for the Built Environment, Eds: Lamond, J., Booth, C., Hammond, F., Proverbs D., Francis and Taylor, 371 pp,

Bogner, K. and Pappenberger F., (2011) Multiscale Error Analysis, Correction and Predictive Uncertainty Estimation in a Flood Forecasting System, Water Resources Research 47, W07524, doi:10.1029/2010WR009137.

Burek P, et al. (2011) Das Europäische Hochwasser-Frühwarnsystem (EFAS). Korrespondenz Wasserwirtschaft 4/11; 2011. p. 193-199. JRC61562

F. Pappenberger, et al. (2011) Forecast convergence score: a forecaster's approach to analysing hydro-meteorological forecast systems, Adv. in Geosciences, 29, 27–32.

EFAS Alerts for January until June 2011

EFAS FLOOD ALERTS have been sent in the period between January and June 2011 for the following river basins: Rhine and some of its tributaries [DE,FR], Saale and Weisse Elster [DE], Naab, Altmuehl [DE], Notec [PL] Crisul Alb [HU, RO] and Olt [RO].

EFAS FLOOD WATCHES have been sent in the period between January and June 2011 for the following river basins: Weisse Elster, Spree, Havel [DE], Drweca, Brda [PL], Tanaro [IT], Timok [RS, RO, BU], Jiu [RO, BU], Koeroes [HU], and Upper Ume [SE].

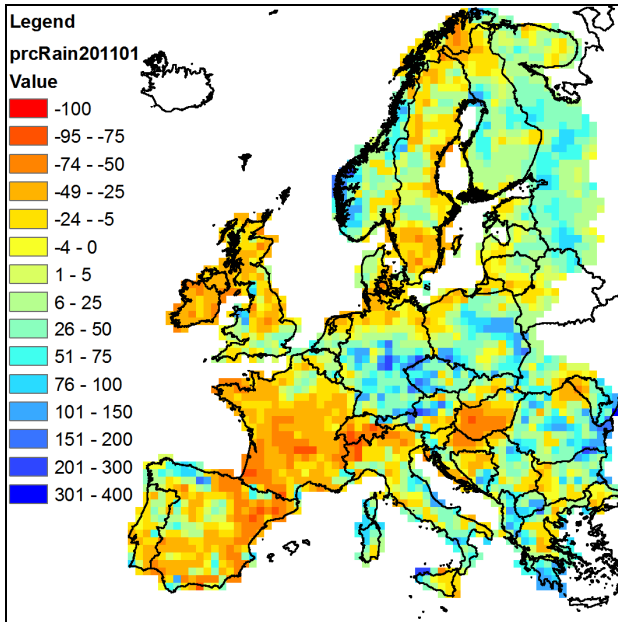


Figure 1: Difference in precipitation [%] for January 2011 in comparison to long term average (1990-2004)

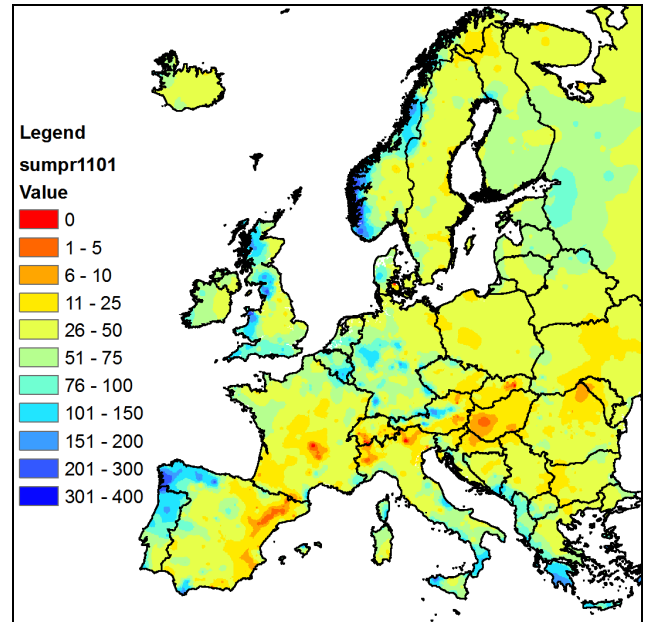


Figure 2: Accumulated Precipitation [mm] for January 2011

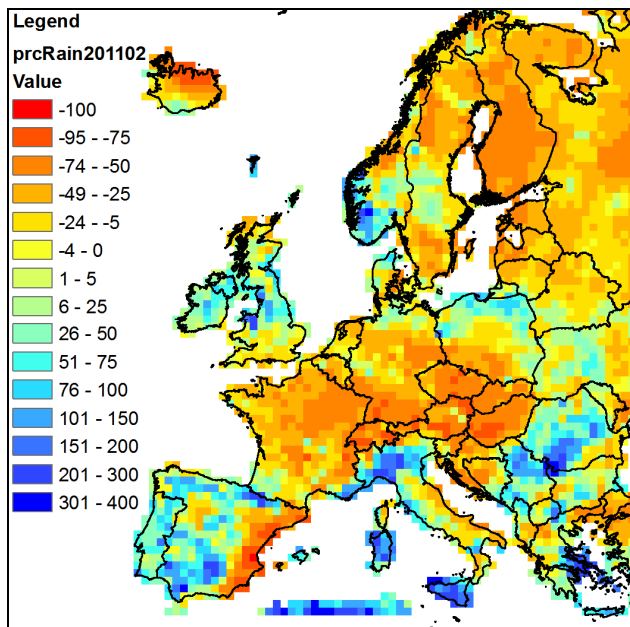


Figure 3: Difference in precipitation [%] for February 2011 in comparison to long term average (1990-2004)

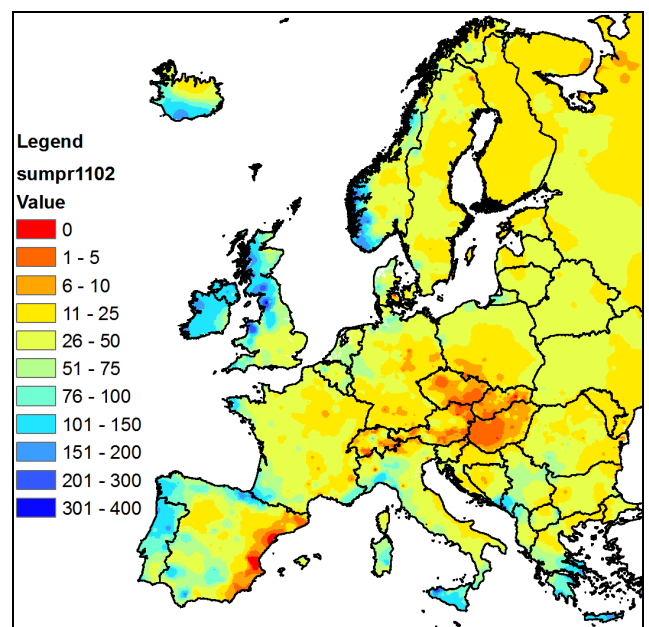


Figure 4: Accumulated Precipitation [mm] for February 2011

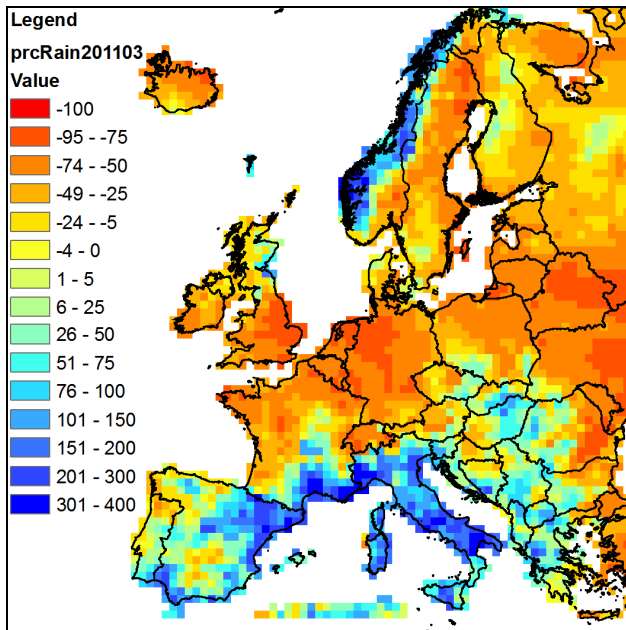


Figure 5: Difference in precipitation [%] for March 2011 in comparison to long term average (1990-2004)

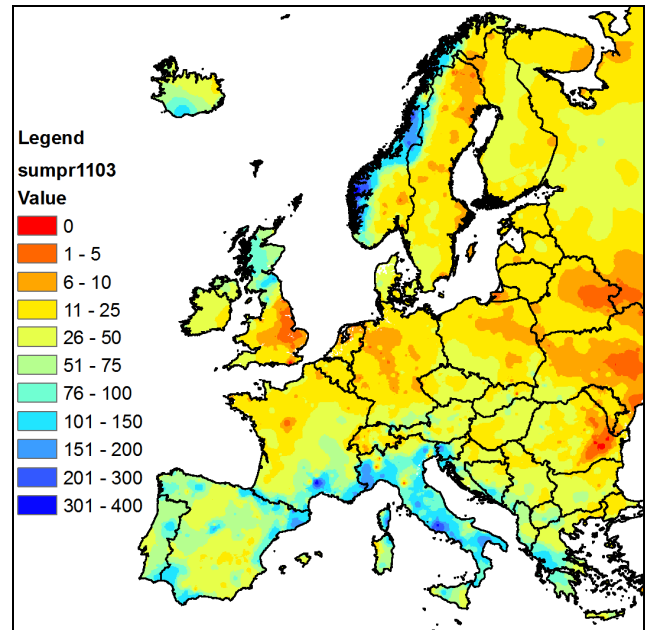


Figure 6: Accumulated Precipitation [mm] for March 2011

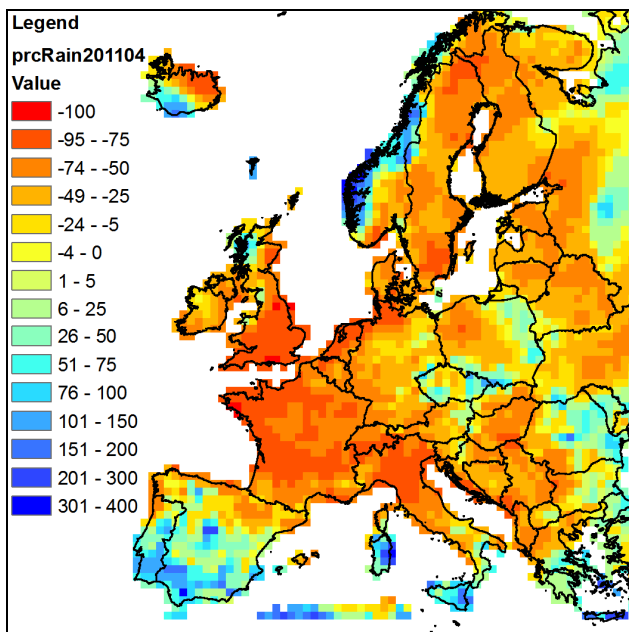


Figure 7: Difference in precipitation [%] for April 2011 in comparison to long term average (1990-2004)

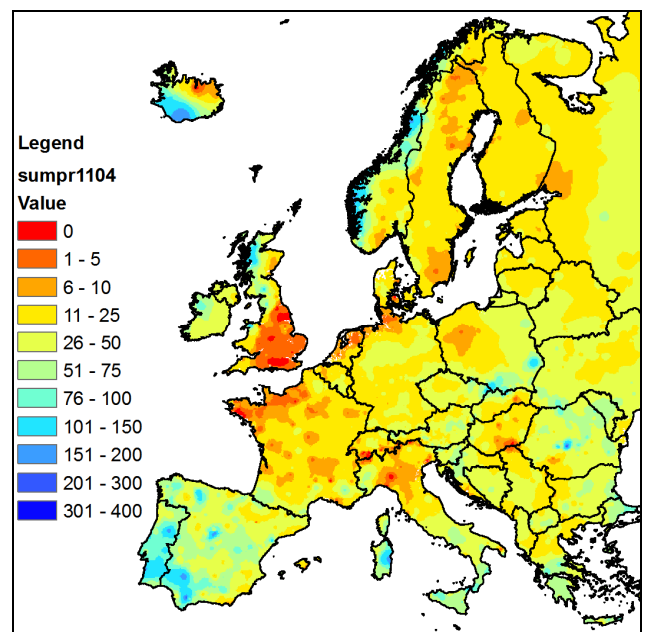


Figure 8: Accumulated Precipitation [mm] for April 2011

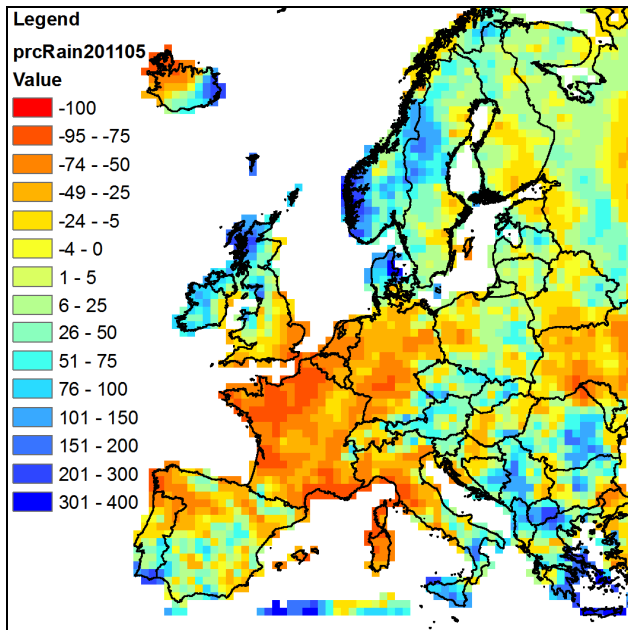


Figure 9: Difference in precipitation [%] for May 2011 in comparison to long term average (1990-2004)

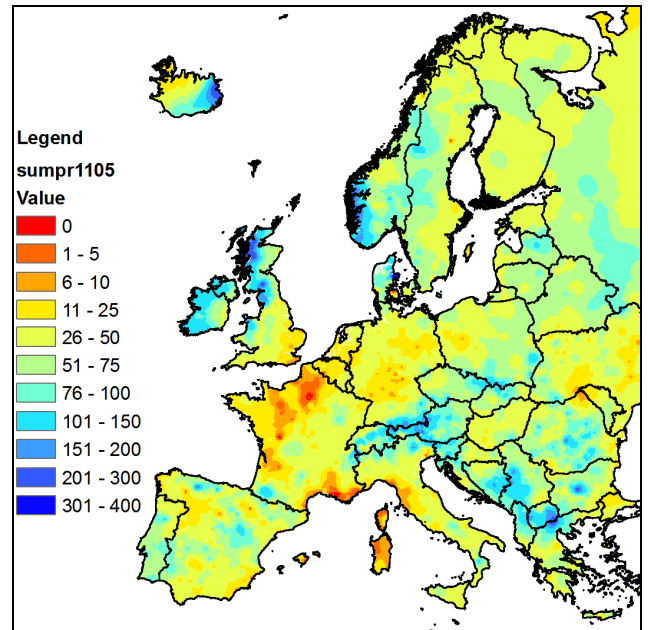


Figure 10: Accumulated Precipitation [mm] for May 2011

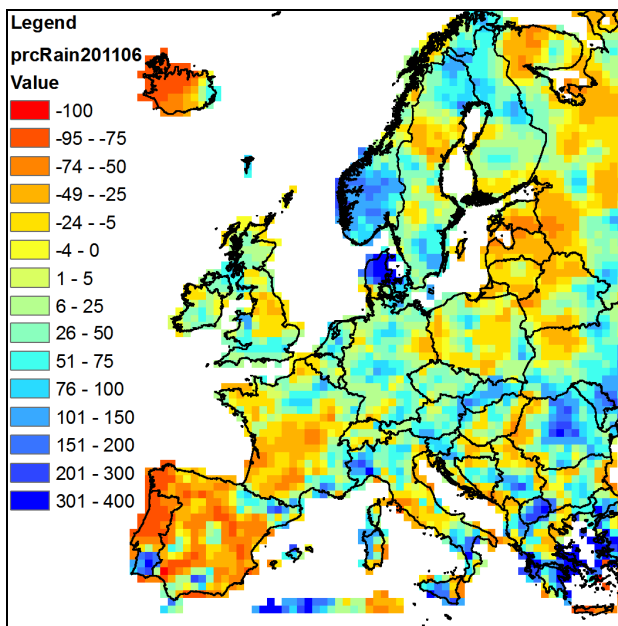


Figure 11: Difference in precipitation [%] for June 2011 in comparison to long term average (1990-2004)

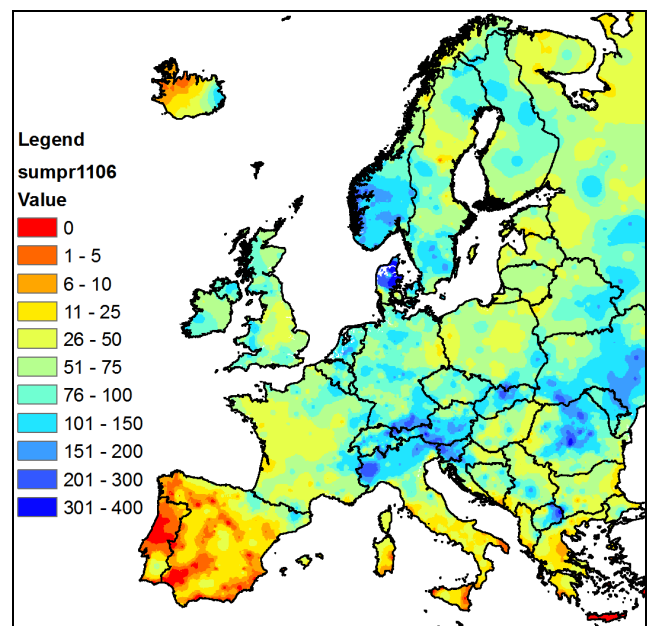


Figure 12: Accumulated Precipitation [mm] for June 2011

Meteorological situation from January until June 2011

Large parts of Europe received during the first five months of 2011 significantly lower precipitation than normal as can be seen in Figs 1 to 10. Especially France, but also Germany and various other central European regions received unusually low

amounts of precipitation throughout the first months of 2011, whereas most of southern Europe received either slightly more or equal amounts of precipitation with respect to the long term average.

April 2011 was especially dry for most of Europe as less than approx 25mm of rain, which corresponds to a decrease of 50 to 95 % in comparison to the long term average

for this month, was received in almost all of Europe (see Figs. 7 and 8).

Finally, in June the situation changed and normal or slightly higher amounts of precipitation in comparison to the long term average were recorded for most areas, except for the Iberian Peninsula, parts of France, and some other areas in central Europe (see Figs. 11 and 12).

For actual soil moisture distribution, see also: <http://desert.jrc.ec.europa.eu>.

Simulated hydrological situation by EFAS

An overview of the threshold exceedances resulting from LISFLOOD simulations using observed meteorological data (JRC-MARS) is shown in Figs. 13 to 18.

As described in the previous section in the first half of 2011 generally lower precipitation for large parts of Europe in comparison to the long term average was

recorded. This resulted only in few major floodings throughout this period. Persistent high threshold exceedance was simulated in January for some rivers in Germany, Czech Republic, Netherlands Poland and Belgium. However, these high discharges were principally caused by snowmelt processes which occurred during the end of December 2010 and the beginning of January 2011. EFAS alerts were sent out to the corresponding partners.

EFAS did not simulate a persistent threshold exceedance for a large river basin during February, March and May 2011. During April and June some rivers in Sweden, Finland, the Baltic States, as well as Romania exceeded the EFAS high threshold for various days. However, most of them were not located within an EFAS partner river basin and thus no official alerts were sent out. Only for the Olt river [RO] an official EFAS alert was sent to the corresponding authorities.

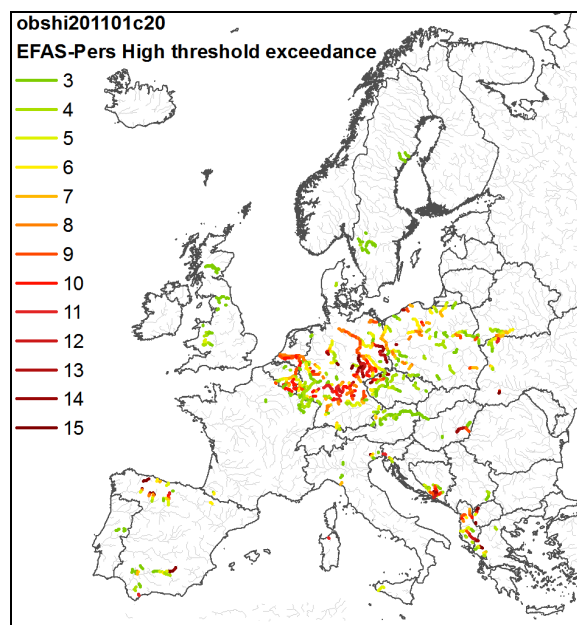


Figure 13: EFAS high threshold exceedance (January 2011) for LISFLOOD simulations with observed meteorological data

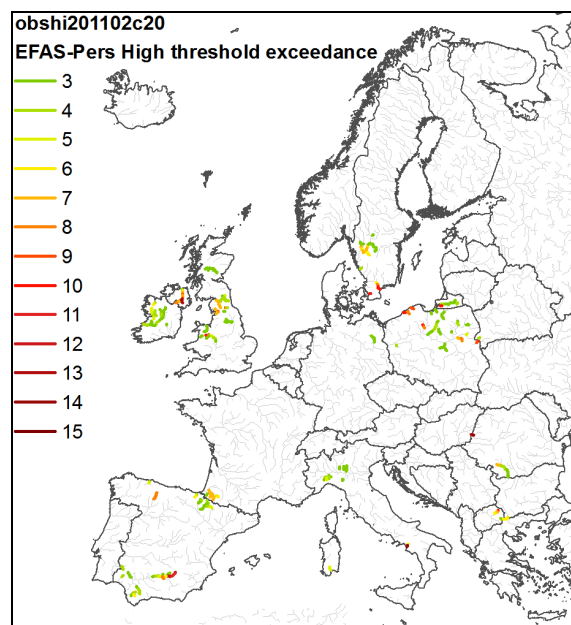


Figure 14: EFAS high threshold exceedance (February 2011) for LISFLOOD simulations with observed meteorological data

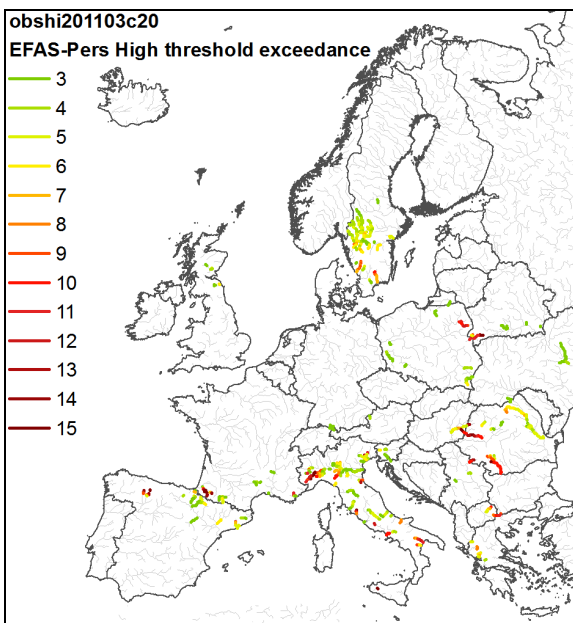


Figure 15: EFAS high threshold exceedance (March 2011) for LISFLOOD simulations with observed meteorological data

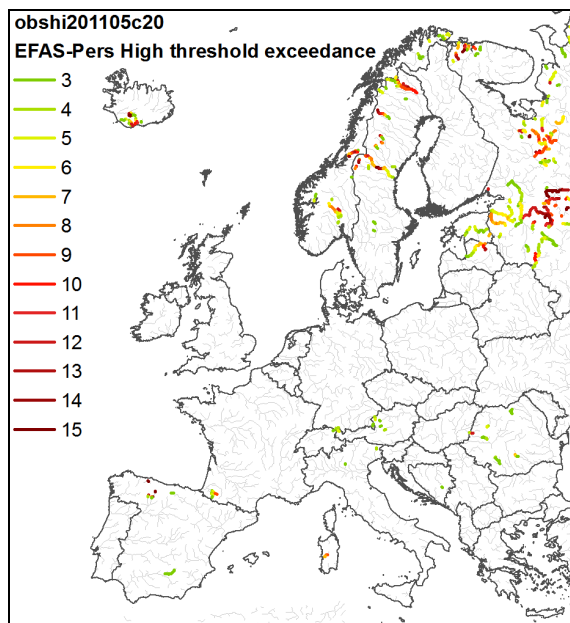


Figure 17: EFAS high threshold exceedance (May 2011) for LISFLOOD simulations with observed meteorological data

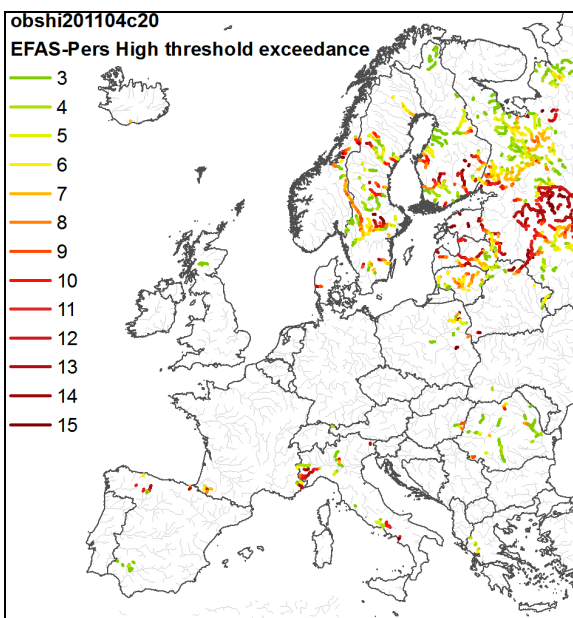


Figure 16: EFAS high threshold exceedance (April 2011) for LISFLOOD simulations with observed meteorological data

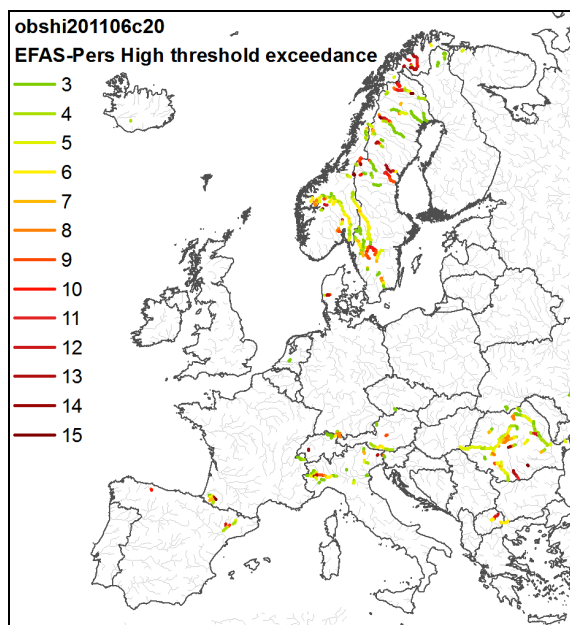


Figure 18: EFAS high threshold exceedance (June 2011) for LISFLOOD simulations with observed meteorological data

European Media Monitoring (EMM) information is provided also by the IPSC.

Acknowledgements

Meteorological forecast data are provided by ECMWF, DWD and ARPA-SIM. The observed meteorological data are provided by the AGRICULTURE Unit of the DG JRC IPSC and the World Meteorological Organization (WMO). The

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European Commission

EUR 23385 EN– Joint Research Centre – Institute for Environment and Sustainability

Title: EFAS bulletin Issue 2011(1) – January – June 2011

Author(s): Peter Salamon, Jutta Thielen, Ad de Roo

Luxembourg: Publications Office of the European Union

2011 – 8 pp.

EUR – Scientific and Technical Research series – ISSN 1018-5593

EFAS Bulletin – ISSN 1831-1555

Abstract

EFAS Bulletin summarizes the meteorological and simulated hydrological information for the corresponding months.

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LB-AE-11-001-EN-C

