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EFAS bulletins Yearbook 2006

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EFAS bulletins

Yearbook 2006

- *Foreword*
- *Overview of EFAS alerts in 2006*
- *All EFAS bulletins of 2006*

Foreword

During the year 2006 great progress was made regarding the European Flood Alert System EFAS. The number of official EFAS partners with an MoU in place rose to 22 at the end of the year. Measuring EFAS skill in terms of EFAS external information reports and their hit rate the year 2006 was very successful as ca. 75% of all sent reports forecasted events well and with a considerable leadtime. Observed event magnitude was not always as high as forecasted, as most extreme alerts turned out to be critical river levels but without bank overtopping or large scale flooding. The feedback following the EFAS information reports underlined the added value that EFAS reports can have for the national forecasting services, which in great part confirmed that the reports were useful and appreciated. Even in the case of a

false alarm the effect of EFAS alerts were not perceived as adverse. This goes in line with the concept that EFAS is an early warning system that is supposed to raise early preparedness, and which gives additional information on possible flood events. The detailed short term forecasts of the respective forecasting centers can use this early information to be more prepared but they will always be the ones that make the more detailed forecasts at shorter leadtimes. In this sense EFAS was seen as a source of useful complementary information.

The EFAS bulletin yearbook contains an EFAS alert overview of the year 2006 as well as all EFAS bulletins of 2006.

The EFAS team wishes you a happy and tranquil new year!

Floods in 2006					
Number of reports					
	Forecasted Events	Nr of confirmed events	external	internal	Nr of weekend days with reporting
Jan	0	0	0	0	0
Feb	0	0	0	0	0
Mar	7	7	32	6	4
Apr	5	4	45	1	6
May	0	0	2	0	0
Jun	4	1	32	3	0
Jul	0	0	3	0	1
Aug	2	2	16	1	4
Sep	2	1	11	0	2
Oct	0	0	0	0	0
Nov	0	0	0	0	0
Dec	0	0	0	0	0
sum	20	15	141	11	17

Table 1: Report overview for the year 2006

The EFAS bulletins were created to inform the interested parties on a bi-monthly basis about EFAS related news and facts. They give an overview of the precipitation during the 2-moths period in absolute and in relative terms, i.e. the current precipitation is compared to the last 14 years Mars precipitation average and expressed in %. Furthermore, an overview on the EFAS alert threshold exceedance is given for the whole of Europe. The number of days for which in a 5x5km pixel the EFAS high threshold is exceeded are counted up for each month and displayed on a monthly overview map. This does not directly reflect for which areas also EFAS alerts were sent out as this is the raw situation that does not take into account the EFAS discussion process. Before a threshold exceedance in a pixel becomes also an EFAS alert several criteria have to be met.

First of all the affected area has to be big enough. For most of 2006 this area threshold was set to at least 30.000

km². After the positive appraisal of the EFAS performance report to ECMWF the EFAS area threshold was lowered to at least 4.000 km² which from 2007 on is valid.

Second, persistence criteria are applied, i.e. a pixel is only considered for an EFAS alert if in this pixel also in the preceding days the critical threshold was exceeded.

Third, the EFAS alert is based on several types of meteorological forecast that are routed through the system, and only if a sufficient percentage of this threshold exceedances indicate a possible event, the pixel in question is considered. This is equally valid for deterministic as well as probabilistic forecasts.

Fourth, and not least of all, expert knowledge based on experience with the EFAS system plays an important role to judge if a threshold exceedance leads to a full external EFAS report.

The following pages are a collection of all EFAS bulletins of the year 2006.



EFAS bulletin
Issue 2006(1) Jan/Feb 2006

- **EFAS news**
- **Meteorological situation**
- **Simulated hydrological situation by the EFAS**

EFAS news

On the 23rd of January 2006 the 1st technical EFAS meeting took place at the JRC Ispra. Invited were all the hydrological institutes that had already signed (or agreed to sign) the Memorandum of Understanding (MoU). Representatives of 14 MoU partner organisation including Czech Hydrometeorological Institute (Cz), National Institute of Meteorology and Hydrology (BG), Vituki (HU), SAIH-Ebro (ES), Landesamt fuer Umwelt, Wasserwirtschaft und Gewerbeaufsicht Rhein (DE), Slovak Hydrometeorological Institute (SK), Environment Agency (UK), Landesumweltamt Brandenburg (DE), Agenzia per la protezione dell'Ambiente e per i Servizi Tecnici (IT), Vilnius University (LT), ARPA servizio Idrometeo (IT), Agencija republike Slovenije (SI), Flanders Hydraulics research (BE), Ministry for ecology and sustainable development- SCHAPI (FR) participated. The scope was to discuss the current state of the EFAS system, related research, feedback and the future improvements for EFAS directly with them.

From the feedback of the meeting it became clear that EFAS information reports, where

received on time, have been used actively in the local flood forecasting team. Generally the MoU partners would like to have the EFAS reports as early as possible even if this may mean a higher false alarm rate.

During the meeting results from the 1st EFAS workshop on the use of EPS in flood forecasting, held 21-22nd November 2005 with selected EFAS partners were presented.

The EU-FLOOD-GIS and IDABC-GRDC / ETN-R (<http://grdc.bafg.de/servlet/is/11523/>) (kick-off- meeting 7th February 2006) initiative for data collection within the framework of EFAS was presented and it was announced that the National Authorities will be approached here in the near future.

It was agreed to hold the next technical EFAS meeting at the end of January/beginning of February 2007.

Since February 2006 EFAS is using the new (3 day lead time) DWD Lokal Model (LM) data, which means that now the high resolution LM is used for the first 3 days and covers the whole of Europe that is integrated with the DWD GM data with 7 days of lead time.

By the end of February 14 MoUs were signed.

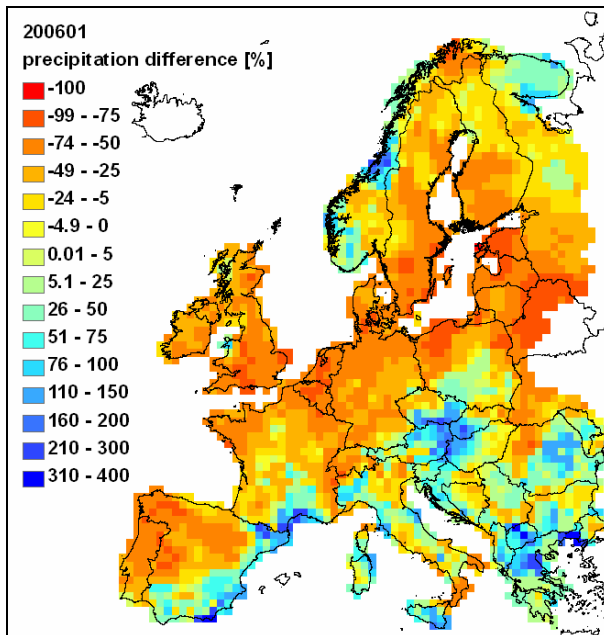


Figure 1 : Difference in precipitation [%] 01 2006 in comparison to long term average (1990-2004)

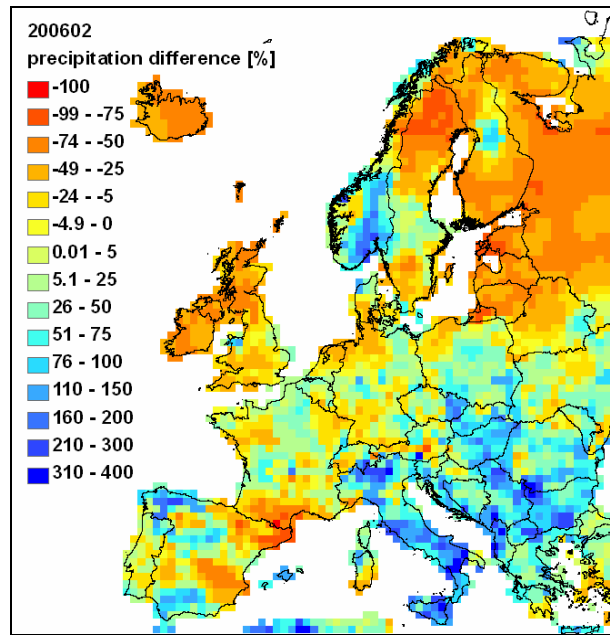


Figure 3 : Difference in precipitation [%] 02 2006 in comparison to long term average (1990-2004)

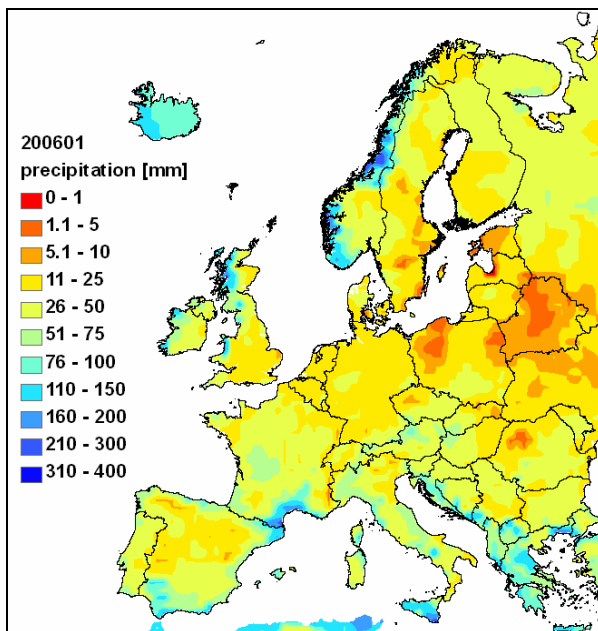


Figure 2 : Accumulated Precipitation [mm] 01 2006

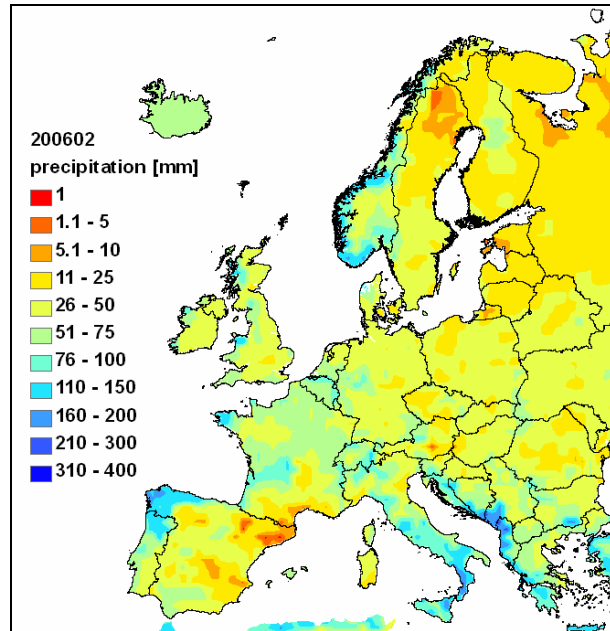


Figure 4 : Accumulated Precipitation [mm] 02 2006

Meteorological situation Jan/Feb 2006

In January most of Europe received less than average precipitation amounts (see Fig.1). Only in Greece and some smaller regions of Italy, as well as in coastal regions in the South of Spain and South of France precipitation amounts of up to 300 mm/month were observed (see Fig.2). February was comparatively wet in Italy, the North of Spain and the Eastern part of Europe that received

up to 4 times more precipitation than the average precipitation (see Fig.3) for this month (from 1990 to 2004, observed MARS data). Maximum precipitation amounts of more than 200 mm/month were only observed in the Adriatic region and the North of Spain (see Fig.4).

For actual soil moisture see also: <http://natural-hazards.jrc.it/>.

Simulated hydrological situation by EFAS

An overview of the threshold exceedances resulting from LISFLOOD simulations using observed meteorological data (JRC-MARS) is shown in figures 5 and 6.

In January and February 2006 high river levels were simulated only for rivers with small upstream areas and for the Maritsa/Evros (see Fig.5).

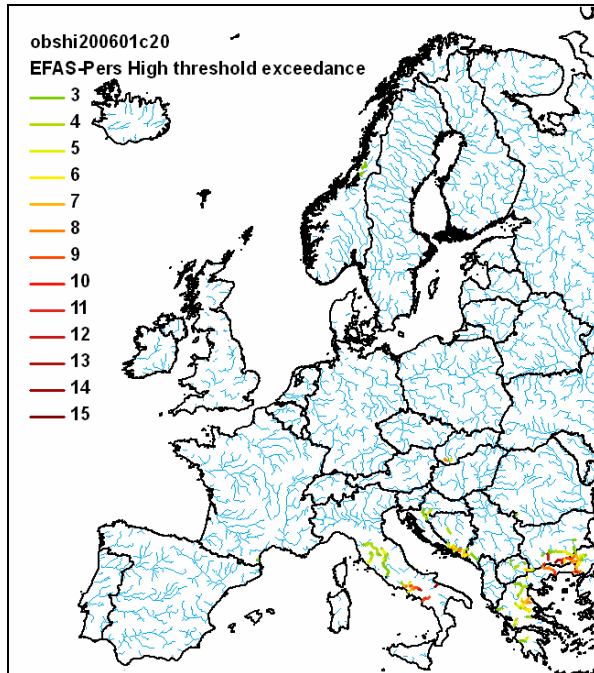


Figure 5 : EFAS high threshold exceedance (200601) for LISFLOOD simulations with observed meteorological data (JRC-MARS)

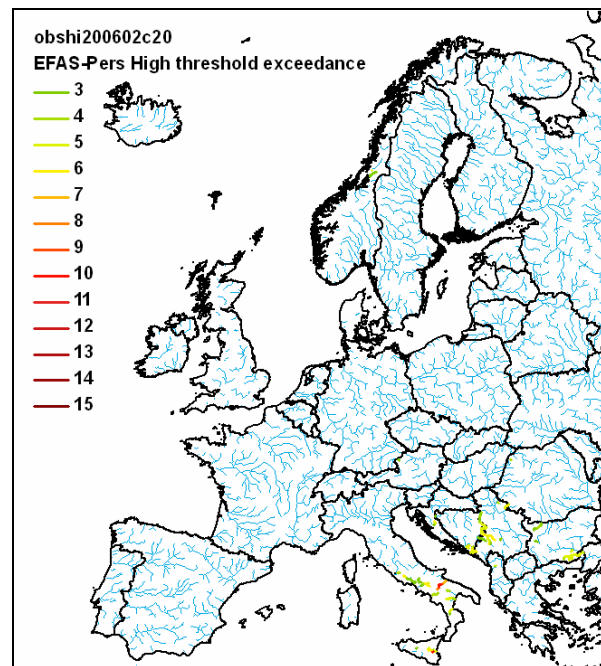


Figure 6 : EFAS high threshold exceedance (200602) for LISFLOOD simulations with observed meteorological data (JRC-MARS)

None of these events qualified for an EFAS information report so no alerts were sent during this period.

Acknowledgements

Meteorological forecast data are provided by ECMWF and DWD. The observed meteorological data are provided by the JRC MARS Unit. The European Media Monitoring (EMM) information is provided by JRC IPSC.

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EFAS bulletin
Issue 2006(2) Mar/Apr 2006

- **EFAS news**
- **Meteorological situation**
- **Simulated hydrological situation by the EFAS**

EFAS news

During the months of March and April 2006 flooding took place in many European rivers including Danube, Elbe, Oder and Rhine. Particularly severe were the floods in Elbe and Danube where 100 year return period floods were caused by a combination of snowmelt and rainfall. For Danube and Tisza record river levels were observed, and in the downstream Elbe the river levels were higher than in 2002. During this period a total of 71 EFAS information reports were compiled and sent. Especially, the last March week and the first week of April were very busy and 5 EFAS information reports were produced per day, 7 days a week. This brought the EFAS team to

the limit of its operational capacity. One consequence was that the Slovakian authorities were alerted only very late about the potential flooding of the Morava although EFAS had predicted the floods well more than 6 days in advance. In order to avoid similar problems in the future, the EFAS interface will be further developed and the reporting procedures further automated. In addition, the dissemination strategy of EFAS information reports will be changed and from now on the reports are sent immediately to all partner authorities in the catchment, even if problems for the downstream authorities are not predicted at the time when the report is made.

△ EFAS Information Reports

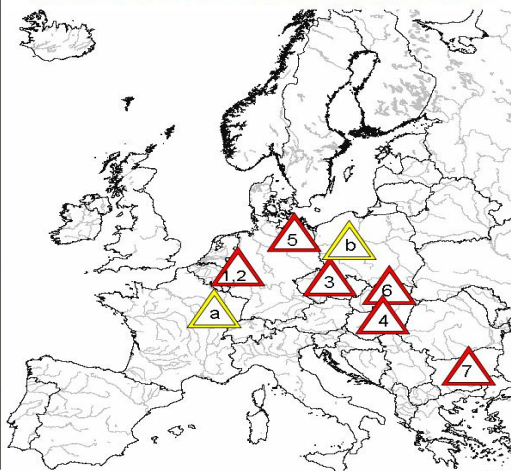
- 1 : Rhine (DE), 07-12th
- 2 : Rhine (DE), 23-31st
- 3 : Elbe&Morava (Cz), 25-31st
- 4 : Danube/Tisza (HU), 27-31st
- 5 : Elbe (DE), 28-31st
- 6 : Morava (SK), 29-31st
- 7 : Danube (BG), 31st

△ Informal Flood Information

a – Saone/Rhone (FR)
b – Oder (PL)

△ Full EFAS information reports send to MoU partners
△ Full EFAS information reports *not* send because MoU not established, informal exchange only

EFAS FLOOD ALERTS in MAR 2006



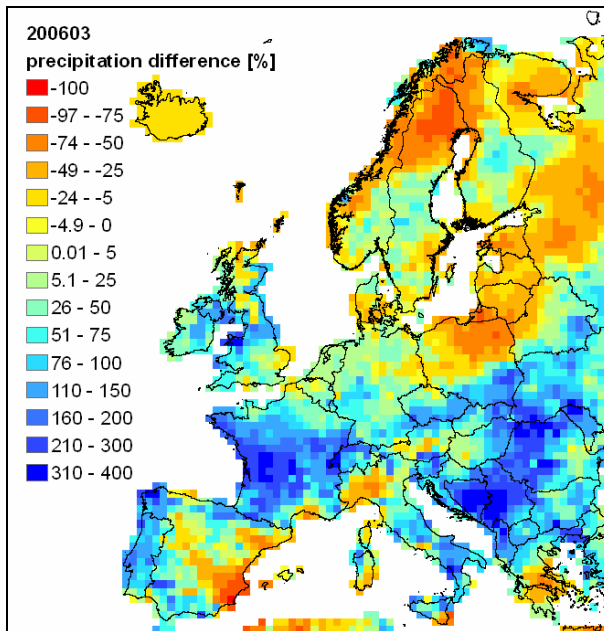


Figure 1 : Difference in precipitation [%] 03 2006 in comparison to long term average (1990-2004)

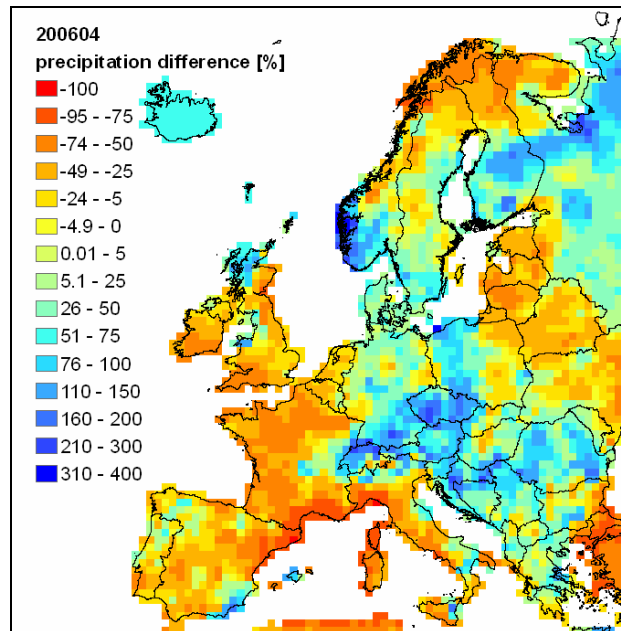


Figure 3 : Difference in precipitation [%] 04 2006 in comparison to long term average (1990-2004)

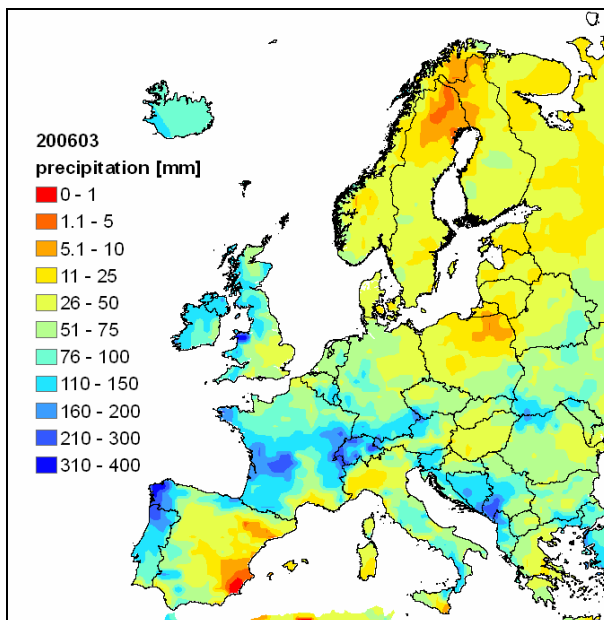


Figure 2 : Accumulated Precipitation [mm] 03 2006

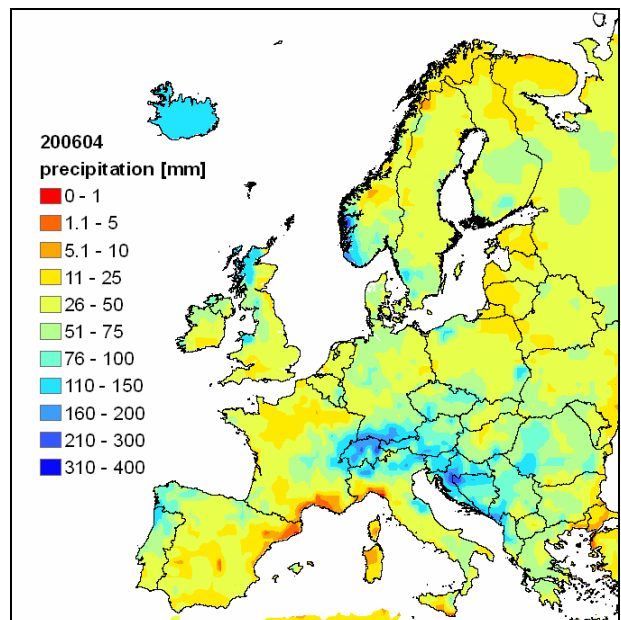


Figure 4 : Accumulated Precipitation [mm] 04 2006

Meteorological situation Mar/Apr 2006

In March most of Europe received much more than average precipitation amounts for this month (from 1990 to 2004, observed MARS data), in places up to 3 times more than average (see Fig.1). In France, Switzerland and the Adriatic East coast 300 mm/month were exceeded (see Fig.2) whereas parts of Poland and Spain received almost no precipitation at all. In April larger

amounts of precipitation were measured in the triangle between Switzerland, Czech Republic and Serbia as well as in Romania (see Fig.3 and 4). In addition to the precipitation in the Elbe, Danube and Rhine basin large amounts of snow melted in a short time in these regions. In some locations in the Czech Republic a water equivalent of more than 200 mm melted in the period from the 25th of March to the 3rd of April.

Simulated hydrological situation by EFAS

An overview of the threshold exceedances resulting from LISFLOOD simulations using observed meteorological data (JRC-MARS) is shown in figures 5 and 6.

For the onset of the March/April floods they correspond well with the information on observed critical river stretches from external sources and the European Media Monitoring (EMM). In fact, in April Danube, Elbe, Morava and Tisza were simulated to exceed the EFAS high threshold for several days (see Fig.6). However, the recession of these snowmelt driven floods were simulated too early. That was probably the result of too few accumulated snow in the initial conditions of EFAS. This aspect is being investigated further and strategies to get a more realistic estimate of the actual snowcover are currently being developed within EFAS.

The EFAS team sent EFAS information reports with lead times in the order of 6 days for these severe flooding events. For the Czech Elbe the 1st EFAS information report was sent on the 25th of March and the peak was observed in Prag on the 2nd of April (8 days lead time). The decision to send the EFAS information report on the 25th was mainly based on the EFAS EPS forecast. In figure 7, showing EFAS forecast history diagrams, the deterministic forecasts are compared to the EPS forecasts. In this case the EPS forecast gave already on the 22nd of March a clear and persistent signal (ca. 25 EPS members out of 51) indicating a high probability of discharges to exceed the EFAS high threshold (HAL) from the 30th of March onwards. The ECMWF deterministic forecast picked up the signal on the 23rd but indicated, intermittently, a less severe event. The DWD started to be persistent only on the 27th of March. This is a good example of a possible gain in lead time that can be achieved by being more confident in the EFAS EPS forecasts. In ongoing research the EFAS team is analyzing the historical operational data to find rules to get to the optimal combination of deterministic and EPS forecasts in order to improve reliability and increase lead time of the EFAS forecasts.

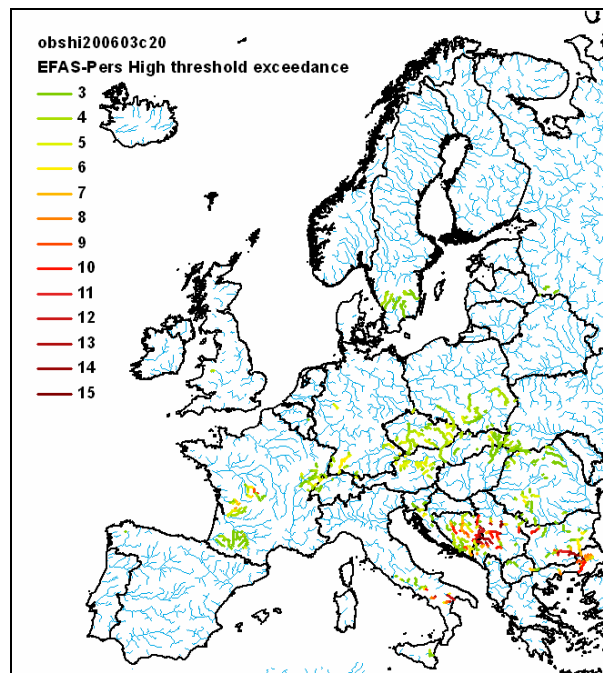


Figure 5 : EFAS high threshold exceedance (200603) for LISFLOOD simulations with observed meteorological data (JRC-MARS)

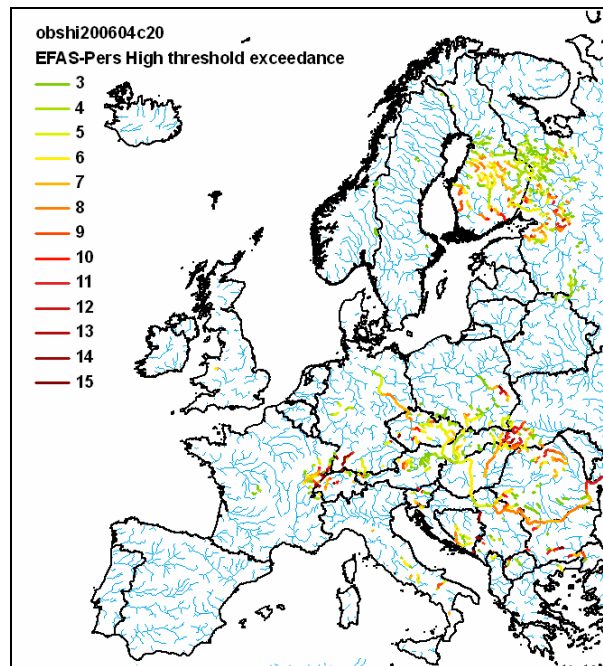


Figure 6: EFAS high threshold exceedance (200604) for LISFLOOD simulations with observed meteorological data (JRC-MARS)

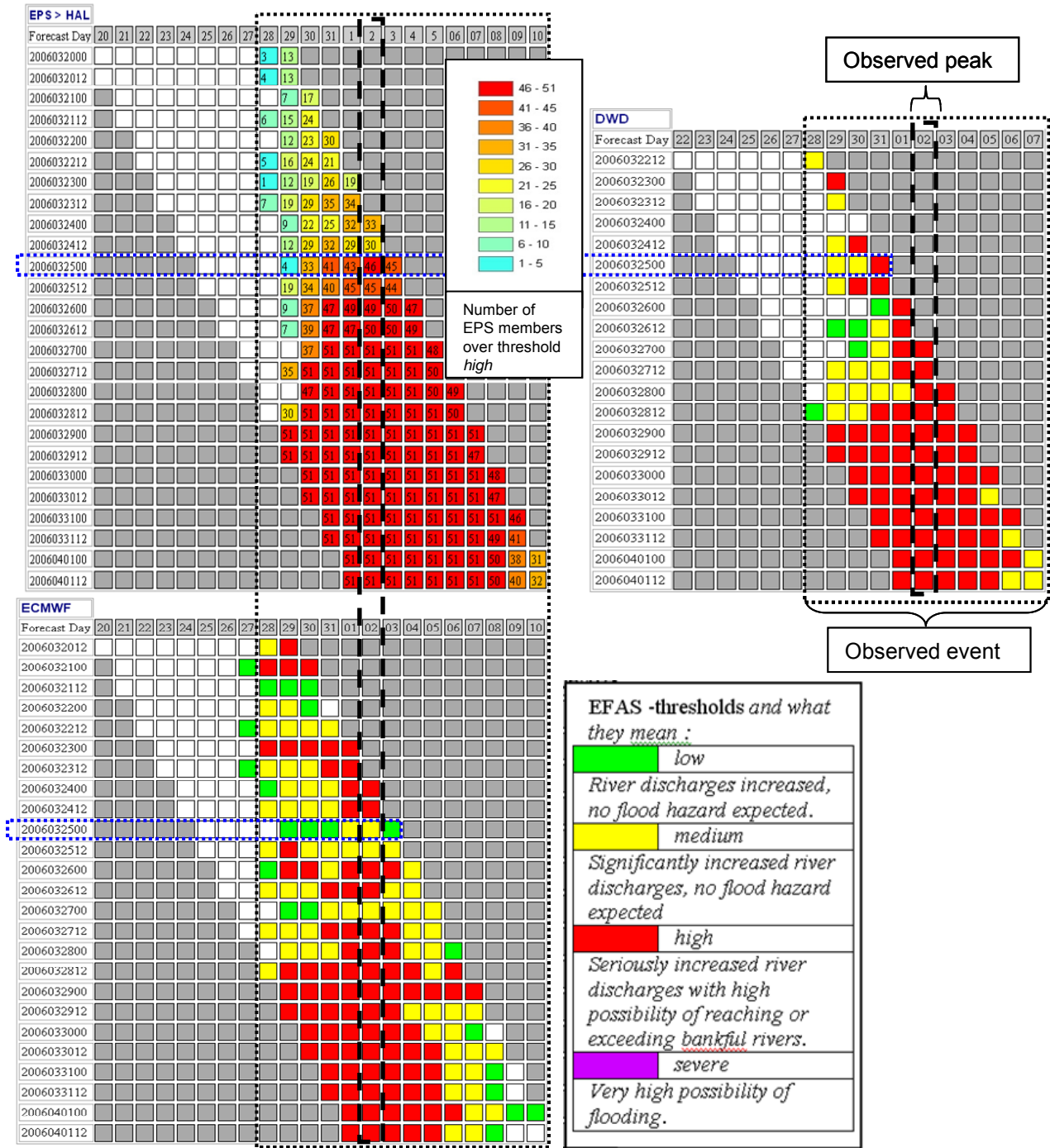


Figure 7 : EFAS forecast history diagram for the river Labe (Elbe) close to Prague. Upstream area 26.500 km². The first EFAS information report was sent to the Czech authorities on the 25.03. The observed river discharges rose over the first local alarm level on the 28.03.. The peak was observed around the 02.04.

Acknowledgements

Meteorological forecast data are provided by ECMWF and DWD. The observed meteorological data are provided by the JRC MARS Unit. The European Media Monitoring (EMM) information is provided by JRC IPSC.

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EFAS bulletin
 Issue 2006(3) *May/Jun 2006*

- **EFAS news**
- **Meteorological situation**
- **Simulated hydrological situation by the EFAS**
- **On EFAS feedback**

EFAS news

In May no big flood events were reported for Europe. On the 31st of May 2 EFAS information reports were sent for the rivers Prut, Dnestr (Moldova) and some Eastern Danube tributaries. These information reports were continued until the 7th of June. From the 28th of June EFAS information reports were sent out for Elbe, Oder and some Danube tributaries. Minor flooding was reported for these periods.

In terms of research the EFAS forecasts for an 11 months period from July 2005-June 2006 have been analyzed in depth statistically. Evaluated were missed events as well as hit and false alarm rates. EPS and deterministic forecasts were compared to each other and results have been examined with regard to lead time and upstream area. One of the main results is that EFAS did quite well also for upstream areas of less than 30.000 km². Furthermore the potential increase in lead time of EFAS EPS forecasts over the deterministic forecasts was confirmed by the analysis. Publications on the detailed results of the study will follow in the next months.

At the end of June a total of 19 MoU's were signed (see also fig. 1)

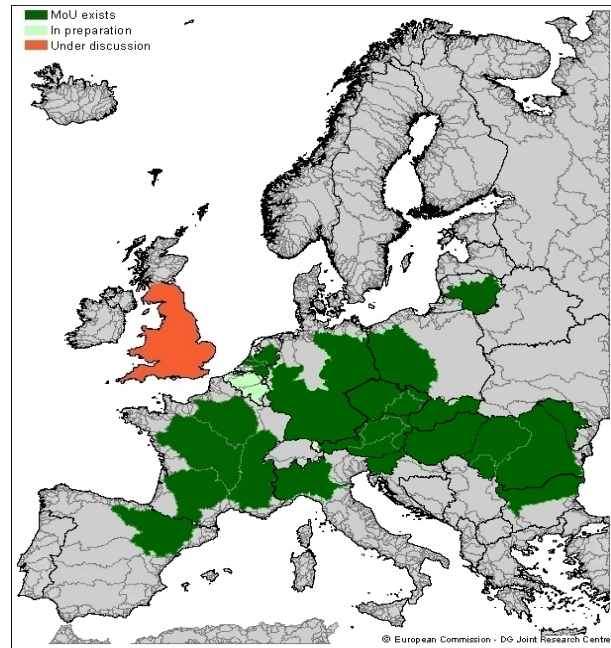


Figure 1 : Memorandum of Understanding (MoU) status 06/2006. Dark green MoU exists, light green MoU is in preparation, orange MoU under discussion.

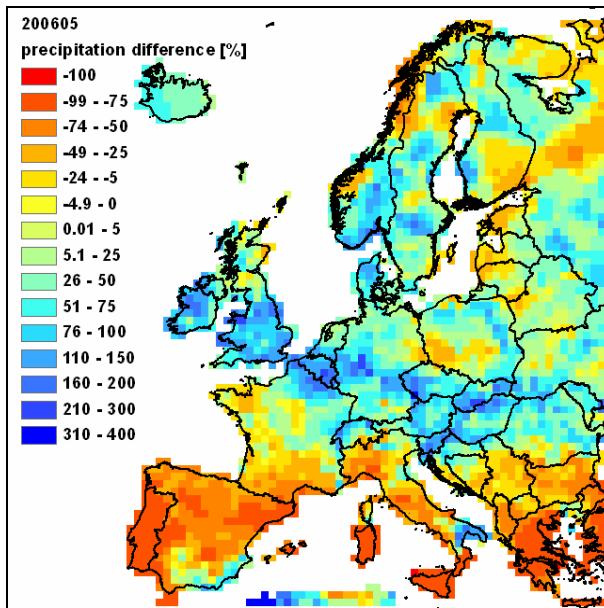


Figure 2 : Difference in precipitation [%] 05 2006 in comparison to long term average (1990-2004)

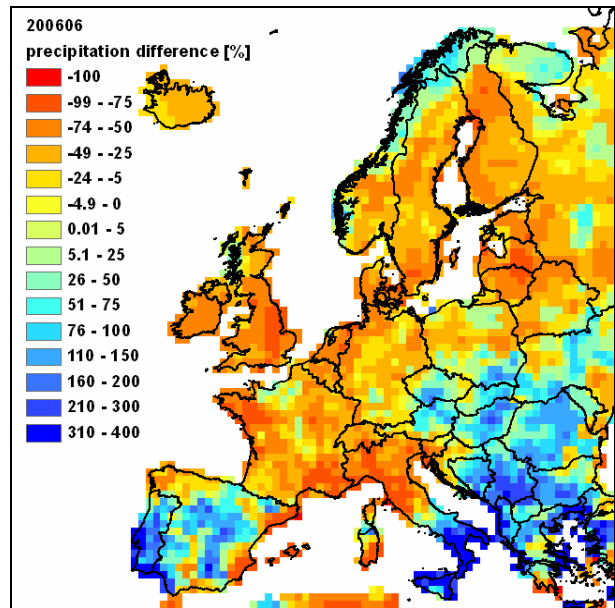


Figure 4 : Difference in precipitation [%] 06 2006 in comparison to long term average (1990-2004)

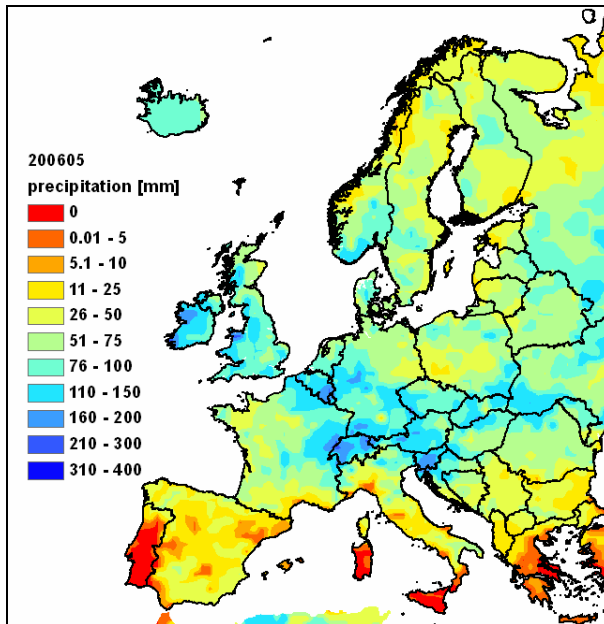


Figure 3 : Accumulated Precipitation [mm] 05 2006

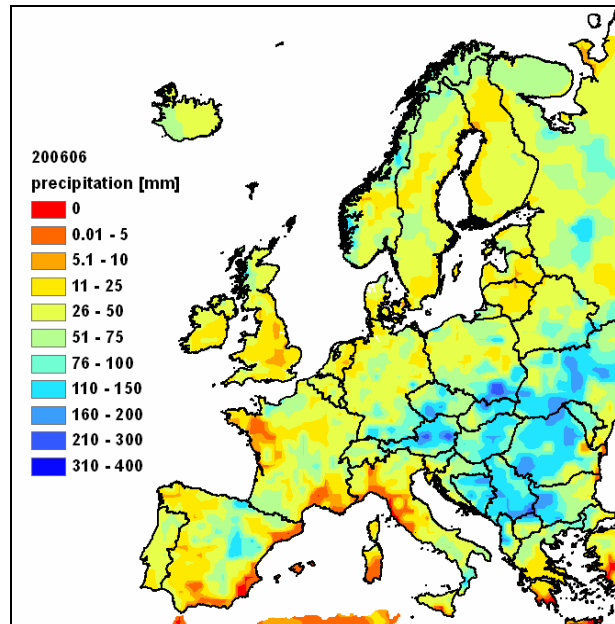


Figure 5 : Accumulated Precipitation [mm] 06 2006

Meteorological situation May/Jun 2006

In May the South of Europe received very little precipitation, in some parts even none at all (see Fig.3). For most of the Center/North of Europe more than average precipitation amounts for this month (from 1990 to 2004, observed MARS data) were observed (see Fig.2).

In April Portugal and the South-East of Europe the observed precipitation was up to

4 times higher than the average for this month (see Fig.4), but this, however, equaled in most places relatively low absolute precipitation amounts (see Fig. 5).

In Austria total observed precipitation amounts for the months May and June together reached in some places 400 mm.

For actual soil moisture see also: <http://natural-hazards.jrc.it/>.

Simulated hydrological situation by EFAS

An overview of the threshold exceedances resulting from LISFLOOD simulations using observed meteorological data (JRC-MARS) is shown in figures 6 and 7.

In May high river levels were simulated only for rivers with small upstream areas (see Fig.6).

At the beginning of June discharges exceeding the EFAS high alert level (HAL) were simulated for the rivers Prut (border Moldavia and Romania) and Dneestr (Moldavia). EFAS information reports were sent from the 31st of May. Warnings of increased river levels were later given out by the national authorities for the 5th of June.

On the 28th of June EFAS information reports were sent for Elbe, Oder, Danube and its tributaries Morava and Tisza. Only for the Morava the European Media Monitoring (EMM) confirmed a critical situation around the 30th of June. Around the 29th of June heavy storms struck Austria but the flooding was observed only in rivers with small upstream areas.

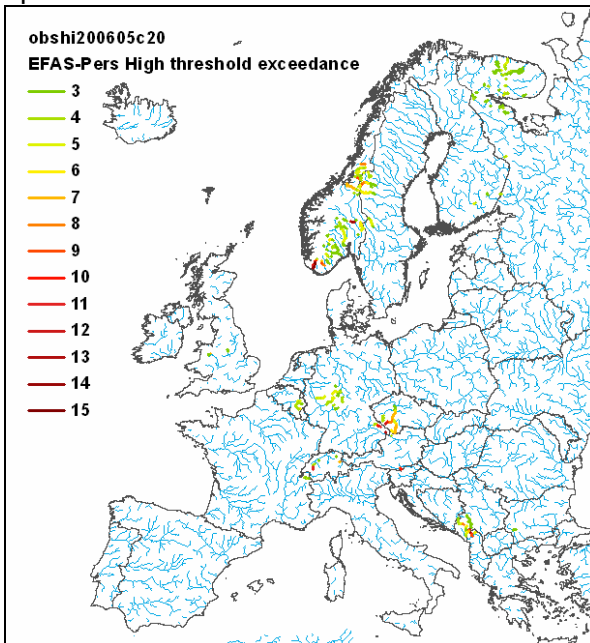


Figure 6 : EFAS high threshold exceedance (200605) for LISFLOOD simulations with observed meteorological data (JRC-MARS)

On EFAS feedback

It must be underlined that feedback from the improvement of the system and thus of benefit for all involved parties.

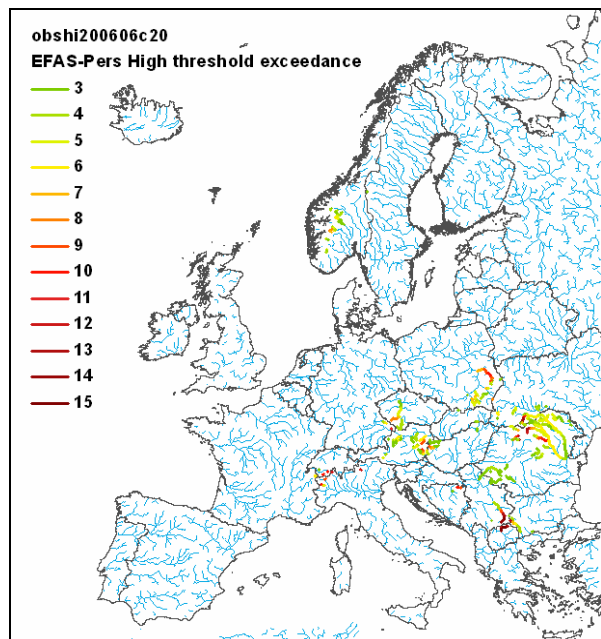


Figure 7 : EFAS high threshold exceedance (200606) for LISFLOOD simulations with observed meteorological data (JRC-MARS)

Feedback obviously is not only welcome in the case of a well forecasted event, but also in case of missed events or false alerts. It has to be highlighted that often feedback from the EFAS partners is the only way to check the EFAS forecasts as other sources as the press will not mention non-critical or not happened events. Furthermore, it is sometimes impossible to extract hydrologically valuable information from press articles.

Therefore the JRC has launched to projects, the **ETN-R** project conducted by the GRDC and the **EU-FLOOD-GIS** project conducted by Atkins, to collect the necessary hydrological and meteorological data for EFAS across Europe.

Acknowledgements

Meteorological forecast data are provided by ECMWF and DWD. The observed meteorological data are provided by the JRC MARS Unit. The European Media Monitoring (EMM) information is provided by JRC IPSC.

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EFAS bulletin
Issue 2006(4) Jul/Aug 2006

- **EFAS news**
- **Meteorological situation**
- **Simulated hydrological situation by the EFAS**
- **Data collection for EFAS**

EFAS news

In July big flood events were not reported for Europe. Flood alerts regarding the Oder and the Vistula were sent to the Polish Parters. High levels were reported in these areas but no serious flooding.

The **2nd EFAS user meeting** will take place at the JRC in Ispra on the **22nd of January 2007**. An overview of the current EFAS status quo, development issues and future plans will be given.

Currently, 22 EFAS partners signed the Memorandum of Understanding (MoU) and the area that is now covered with these agreements is depicted in Fig. 1.

The prolongation of EFAS MoU's beyond the year 2006 is being prepared. The timely renewal of the MoU is of importance as it is necessary

for receiving the EFAS forecasts also in the next year.

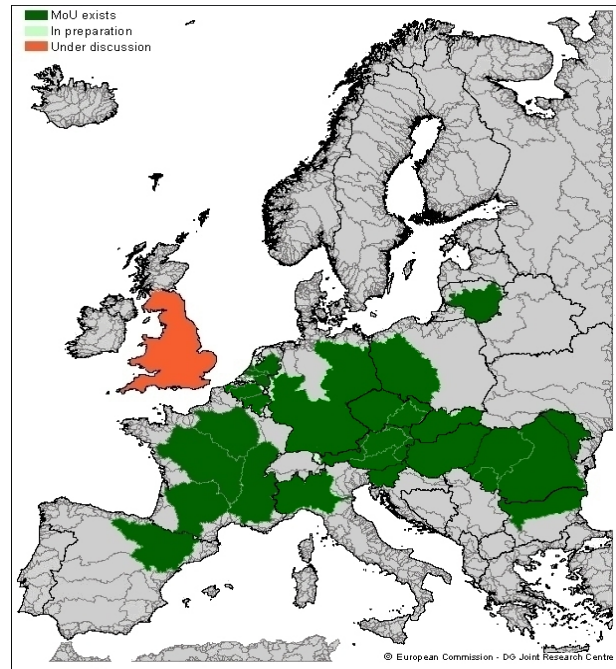


Figure 1 : Status quo of EFAS MoU 08.2006

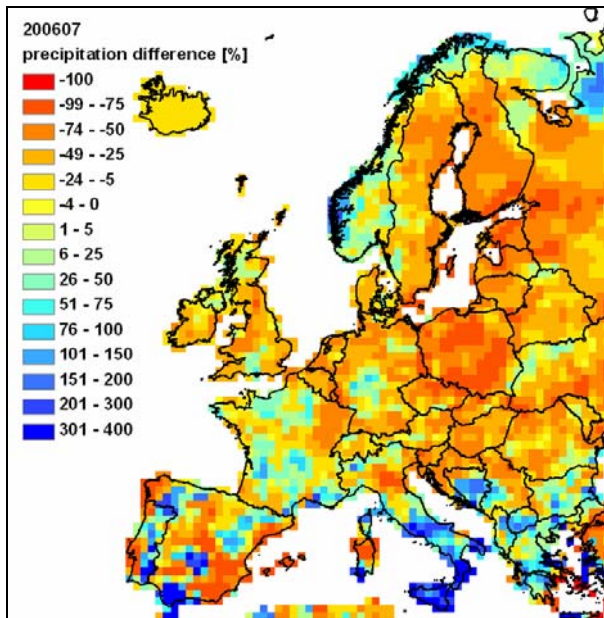


Figure 2 : Difference in precipitation [%] 07 2006 in comparison to long term average (1990-2004)

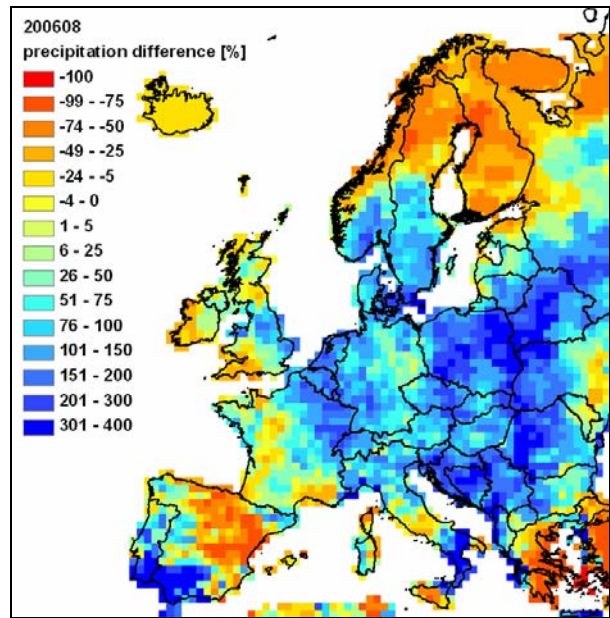


Figure 4 : Difference in precipitation [%] 08 2006 in comparison to long term average (1990-2004)

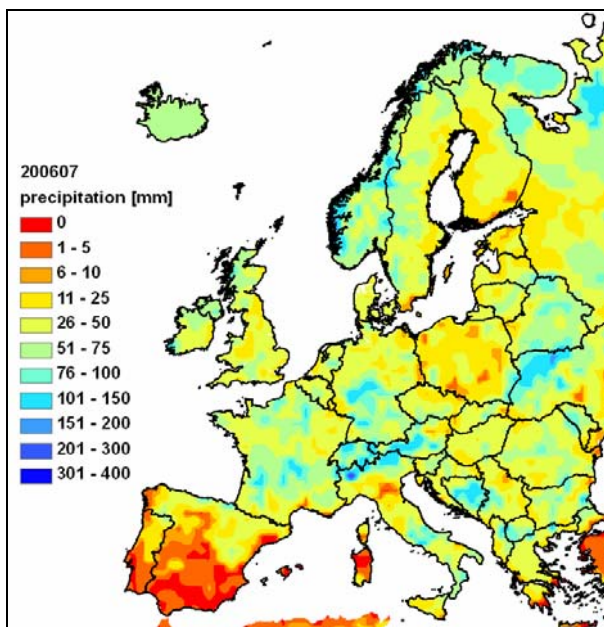


Figure 3 : Accumulated Precipitation [mm] 07 2006

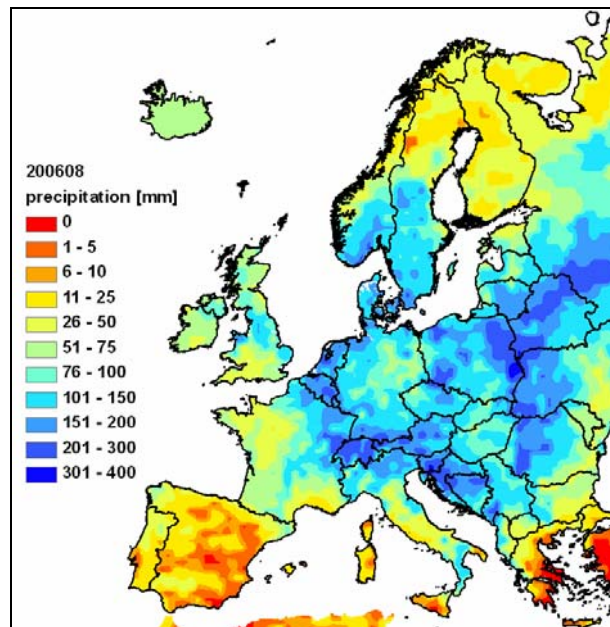


Figure 5 : Accumulated Precipitation [mm] 08 2006

Meteorological situation Jul/Aug 2006

In July most of Europe received less than average precipitation amounts for this month (from 1990 to 2004, observed MARS data) (see Fig.2). Those regions (like in Spain) where comparatively more precipitation than average was observed were in absolute terms, however, quite dry (see Fig.3).

In contrast, in August high precipitation amounts (up to 400 mm) were observed in most parts of Northern/Central Europe (see

Fig. 5) that were equivalent to 4 times the normal average precipitation for this month (see Fig.4). In the South of Europe observed precipitation amounts for August were mostly less than 25 mm and only in the South of Italy precipitation in the order of 100 mm was observed.

For actual soil moisture see also: <http://natural-hazards.jrc.it/>.

Simulated hydrological situation by EFAS

An overview of the threshold exceedances resulting from LISFLOOD simulations using observed meteorological data (JRC-MARS) is shown in figures 6 and 7.

In July no EFAS flood alerts were sent out. High levels, barely reaching the EFAS high alert were simulated for upper parts of the Elbe in the Czech Republic. In August flood alerts regarding the Oder and the Vistula were sent to the Polish authorities starting from the 10th of August 2006. The alerts were continued for 11 days. For these days high levels were reported for the Czech-Polish border region, especially in the first days, while for the whole period that was covered by the EFAS alarm high levels were observed in upstream areas of some Vistula tributaries, but no serious flooding occurred.

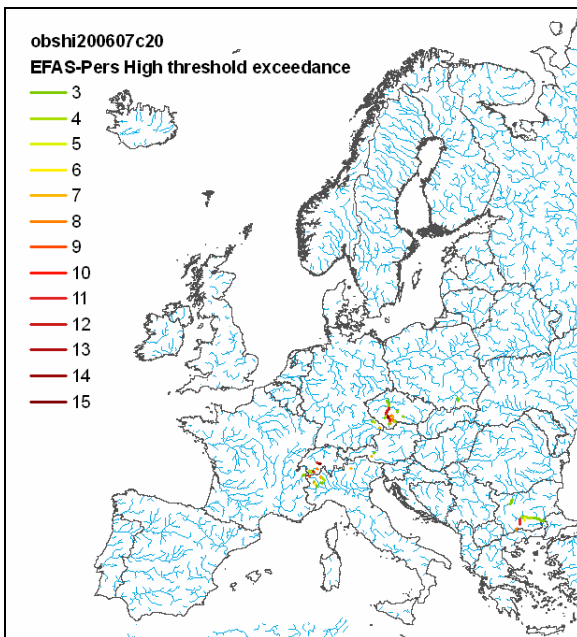


Figure 6 : EFAS high threshold exceedance (200607) for LISFLOOD simulations with observed meteorological data (JRC-MARS)

Data collection for EFAS

The JRC has launched two projects, the **ETN-R** project conducted by the **GRDC** and the **EU-FLOOD-GIS** project conducted by **Atkins**, to collect hydrological and meteorological data for EFAS across Europe. The (meta-)data collection process has started and the relevant agencies will be contacted.

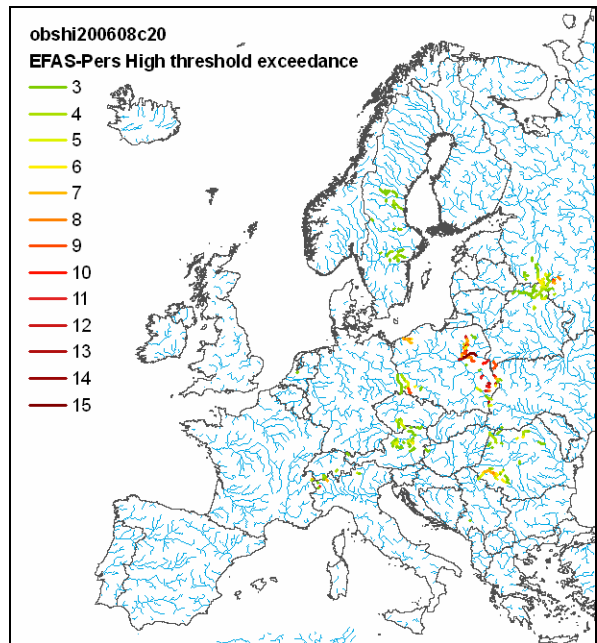


Figure 7 : EFAS high threshold exceedance (200608) for LISFLOOD simulations with observed meteorological data (JRC-MARS)

Until the afore mentioned projects for data collection will have produced a operational system, individual feedback from EFAS users is the most helpful data source to access the performance of the system. For this reason EFAS questionnaires are of great importance for the improvement of the system.

Acknowledgements

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EFAS bulletin
Issue 2006(5) Sept/Oct 2006

- **EFAS news**
- **Meteorological situation**
- **Simulated hydrological situation by the EFAS**
- **Data collection for EFAS**

EFAS news

In September flood alerts were sent to the respective MoU partners for the river Po. Later on high levels in these areas were reported but no serious flooding occurred. For the Loire/Garonne region EFAS information reports were sent as well but only moderately increased or normal river discharges were reported. In October 2006 EFAS forecasted no critical river discharges for Europe and, to our knowledge, none have been reported.

The EFAS report that was prepared for the ECMWF council was received well. The statistical analysis of 11-month EFAS pre-operational data showed that the system can produce added value and that the sent alerts in roughly 75% of the cases predicted

the floods well, and in comparison to the national forecasting centers, with a notably extended leadtime. This brought about the renewal of the collaboration agreements between ECMWF and EFAS. The report led also to the re-discussion of the former area threshold of at least 30.000 km², and based on the EFAS results for the last year the threshold was lowered. Now EFAS forecasts can be sent out for catchment areas of at least 4.000 km².

The **2nd EFAS user meeting** will take place at the JRC in Ispra on the **22nd of January 2007**. An overview of the current EFAS status quo, development issues and future plans will be given. The invitations have been sent out already. For questions on this matter please contact: efas@jrc.it

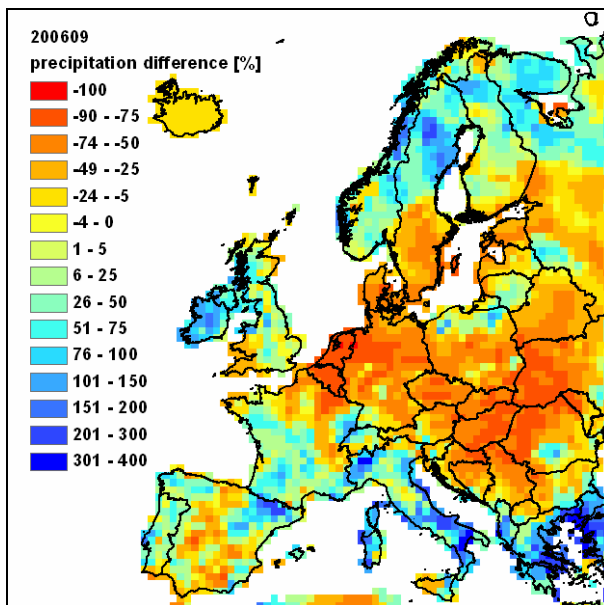


Figure 1 : Difference in precipitation [%] 09 2006 in comparison to long term average (1990-2004)

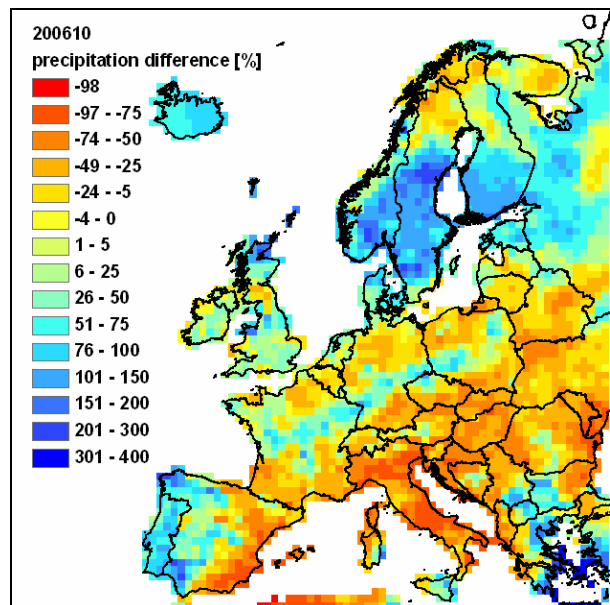


Figure 3 : Difference in precipitation [%] 10 2006 in comparison to long term average (1990-2004)

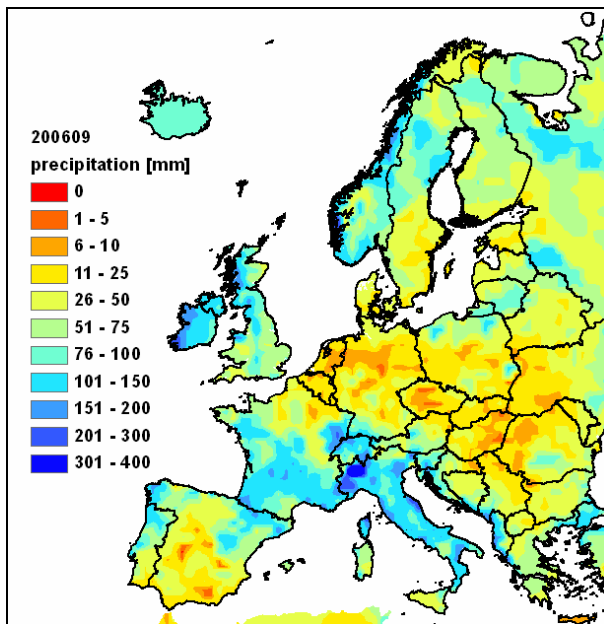


Figure 2 : Accumulated Precipitation [mm] 09 2006

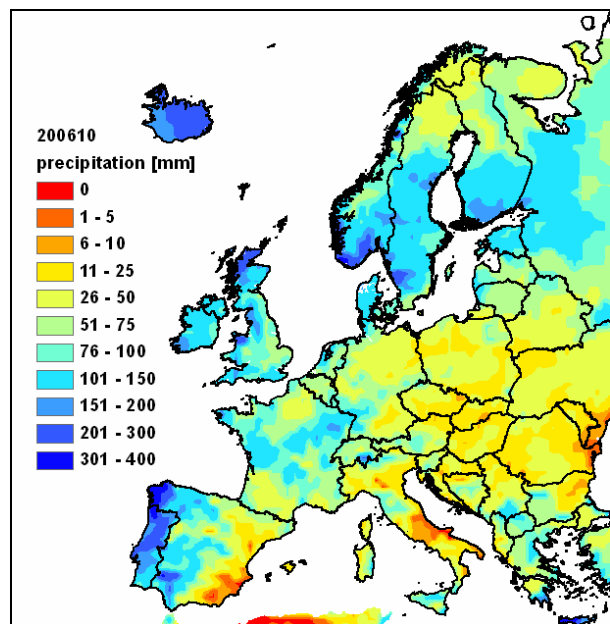


Figure 4 : Accumulated Precipitation [mm] 10 2006

Meteorological situation Sept/Oct 2006

In September the South-East of Europe received up to 4 times more rain than average precipitation amounts for this month (from 1990 to 2004, observed MARS data) (see Fig.1). Precipitation amounts of up to 400 mm were measured in the Italian part of the Alps. In Greece, where comparatively more precipitation than average was observed, were in absolute terms, with

precipitation amounts of less than 100 mm, however, not very wet (see Fig.2).

In October, the North of Portugal, Spain and Scotland as well as great parts of Scandinavia received relatively large amounts of precipitation with observed values of up to 400mm. Compared to the average precipitation amounts for this month the rest of Europe was quite dry.

For actual soil moisture see also: <http://natural-hazards.jrc.it/>.

Simulated hydrological situation by EFAS

An overview of the threshold exceedances resulting from LISFLOOD simulations using observed meteorological data (JRC-MARS) is shown in figures 5 and 6.

In September flood alerts were sent on the 13.09 (2-3 days leadtime) to the MoU partners for the river Po. High levels were reported in these areas but no serious flooding occurred.

For the Loire/Garonne EFAS reports were sent starting the 20.09 forecasting a peak on the 25.09. However, only moderately increased or normal discharges were observed later on.

On October the 1st an informal EFAS report was sent to the French MoU partners regarding forecasted flooding in the river Doubs on the 04.10. The catchment size did (then) not qualify for a full EFAS report but was considered worthwhile sending. The forecasted event did happen, but no serious flooding occurred.

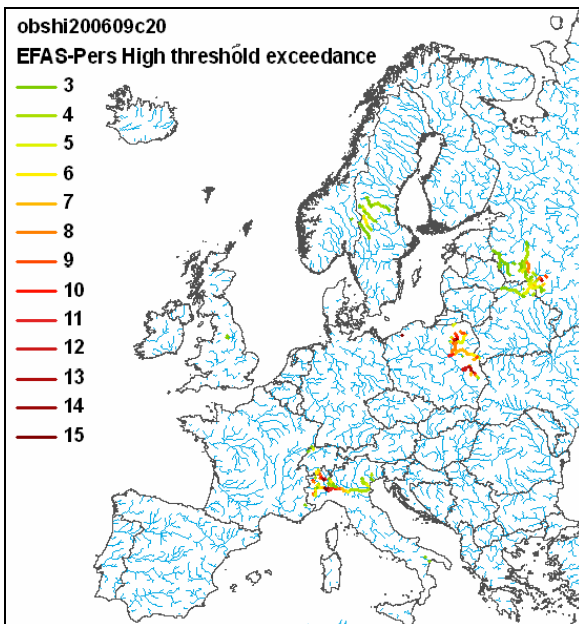


Figure 5 : EFAS high threshold exceedance (200609) for LISFLOOD simulations with observed meteorological data (JRC-MARS)

Data collection for EFAS

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meteorological data for EFAS across Europe. The (meta-)data collection process has started and the relevant agencies have been or will be contacted.

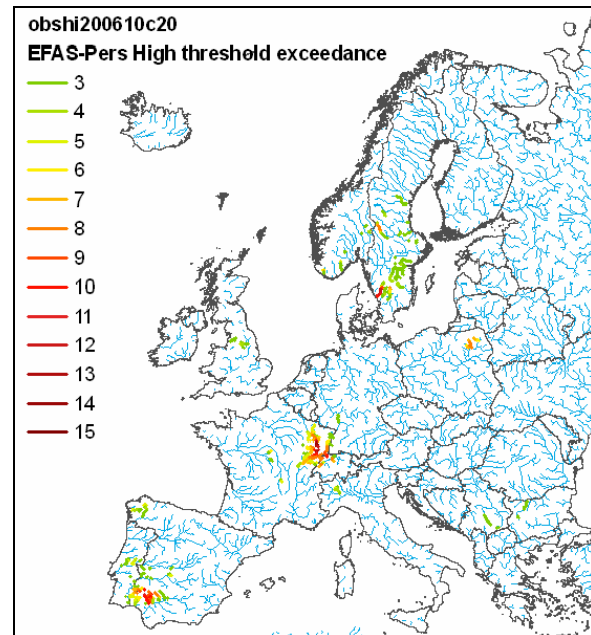


Figure 6 : EFAS high threshold exceedance (200610) for LISFLOOD simulations with observed meteorological data (JRC-MARS)

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EFAS bulletin
Issue 2006(6) Nov/Dec 2006

- **EFAS news**
- **Meteorological situation**
- **Simulated hydrological situation by the EFAS**
- **Data collection for EFAS**
- **EFAS new calibration**

EFAS news

In November and December 2006 no EFAS information reports were sent out and no large scale flooding was observed in Europe.

Following the call for the renewal of the MoUs all EFAS partners but one asked for prolongation of official collaboration with the EFAS and the administrative work has been concluded. The EFAS MoU network comprises now 21 partners.

The 2nd **EFAS user meeting** will take place at the JRC in Ispra on the 22nd of **January 2007**. An overview of the current EFAS

status quo, development issues and future plans will be given.

On **27-29th June 2007** the **3rd HEPEX workshop** will be held at the hotel La Palma in Stresa at the Lago Maggiore, Italy. This is not strictly related to EFAS but HEPEX is a large exchange platform regarding EPS research, bringing together researchers in fields of meteorology and hydrology from all over the world. For further information please contact: jutta.thielen@jrc.it

The EFAS team wishes you a happy and tranquil new year!

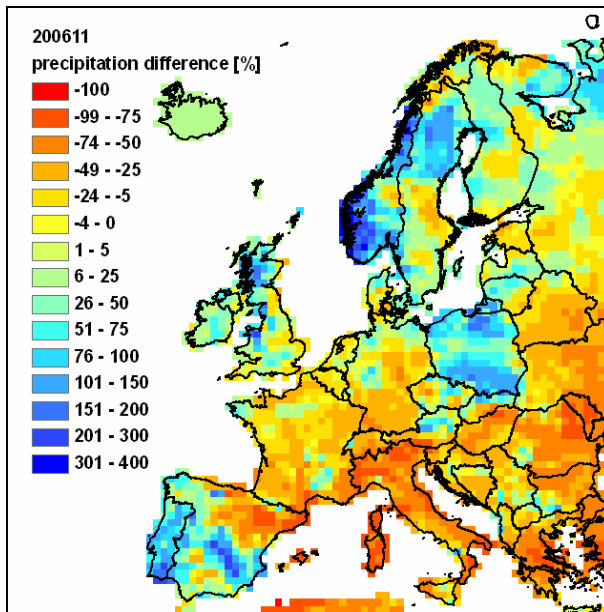


Figure 1 : Difference in precipitation [%]11 2006 in comparison to long term average (1990-2004)

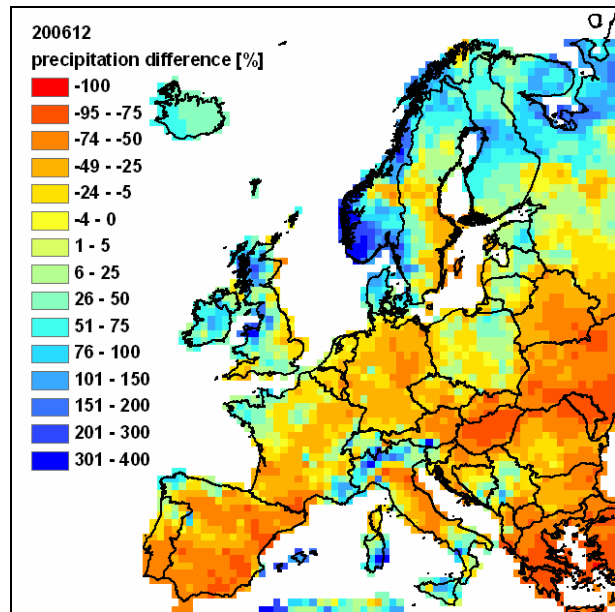


Figure 3 : Difference in precipitation [%]12 2006 in comparison to long term average (1990-2004)

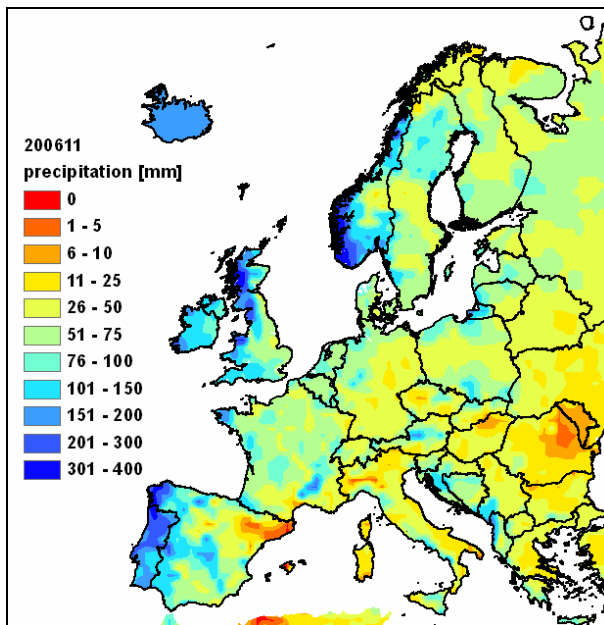


Figure 2 : Accumulated Precipitation [mm]11 2006

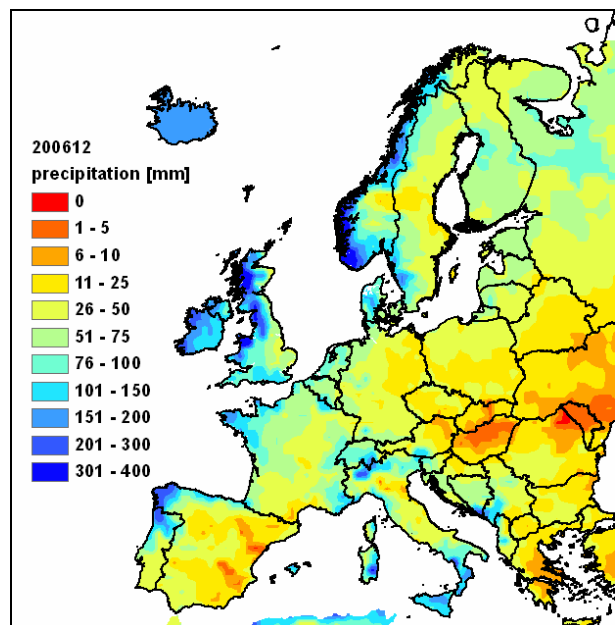


Figure 4 : Accumulated Precipitation [mm]12 2006

Meteorological situation Nov/Dec 2006

In November Portugal, parts of Spain, Poland, Scandinavia and Scotland received more than average precipitation amounts for this month (from 1990 to 2004, observed MARS data) (see Fig.1) and precipitation amounts of up to 400mm were observed. December was relatively even drier but with very similar absolute rain patterns (see Fig. 3 and 4).

For actual soil moisture see also: <http://natural-hazards.jrc.it/>.

Simulated hydrological situation by EFAS

An overview of the threshold exceedances resulting from LISFLOOD simulations using observed meteorological data (JRC-MARS) is shown in figures 5 and 6.

In November and December 2006 no EFAS flood alerts were sent out. Consistent high levels, were simulated only in December and

only for very small upstream areas that did not qualify for EFAS information reports. In the UK several events in these small areas were forecasted well with several days of leadtime.

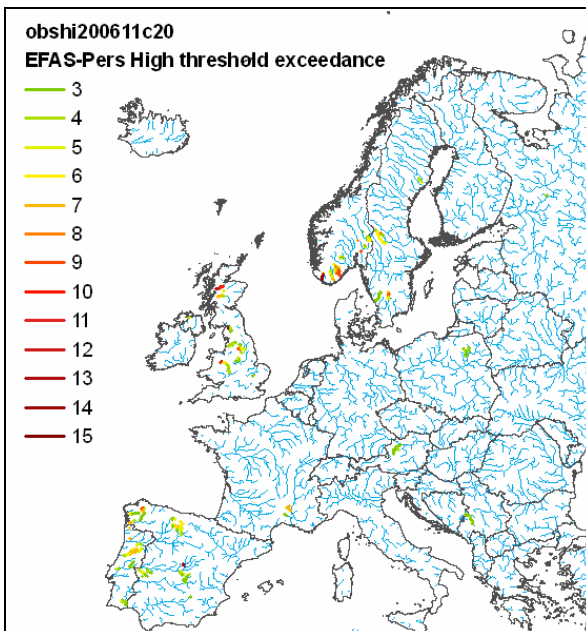


Figure 5 : EFAS high threshold exceedance (200611) for LISFLOOD simulations with observed meteorological data (JRC-MARS)

Data collection for EFAS

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Until the afore mentioned projects for data collection will have produced a operational system, individual feedback from EFAS users is the most helpful data source to access the performance of the system. For this reason EFAS questionnaires are of great importance for the improvement of the system.

EFAS new calibration

In order to improve the system and to make use of newly available data EFAS is recalibrated for the whole of Europe on a 5km grid scale. For selected catchments like the Elbe and great parts of the Danube the

recalibration is also done on a 1km grid scale, using a vast amount of data that was collected over the last 3 years.

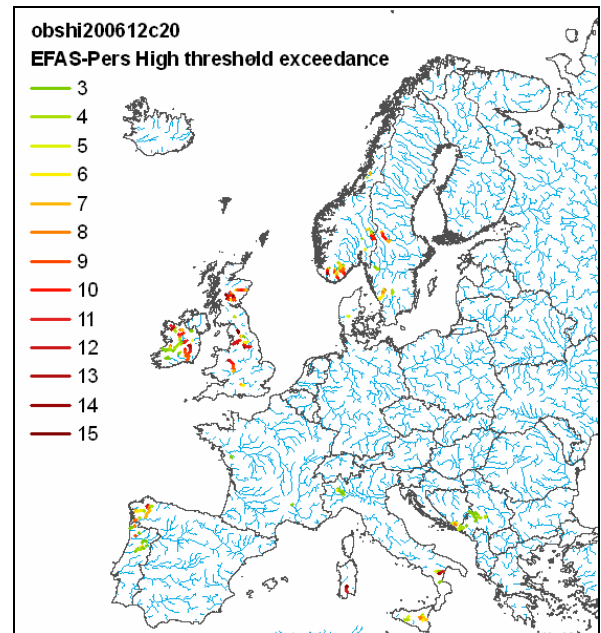


Figure 6 : EFAS high threshold exceedance (200612) for LISFLOOD simulations with observed meteorological data (JRC-MARS)

Once the calibration is ready and tested it will be transferred in the highest available resolution to the operational system. Several papers including more information regarding this exercise are in progress.

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For more information on EFAS or ideas for improvement please do not hesitate to contact the EFAS team under efas@jrc.it or visit the EFAS webpage at <http://efas.jrc.it>

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Abstract

The EFAS bulletin yearbook contains an European Flood Alert System EFAS alert overview of the year 2006 as well as all EFAS bulletins of 2006.



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