


Joint Research Centre

European Flood Alert System
EFAS

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& EFAS team

EC, Joint Research Centre,
IES-LMNH, Ispra (IT)

Potential advantages of EFAS

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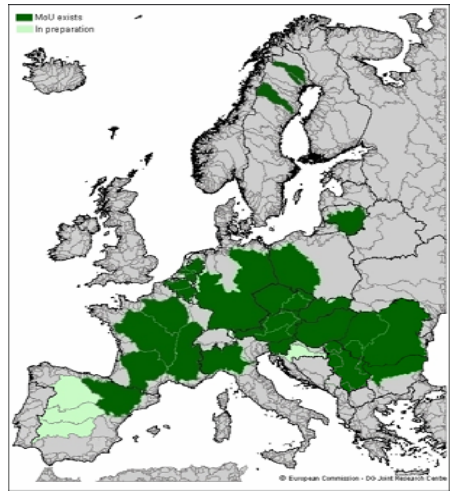

European Commission

- assist aid management during a crisis
- comparable information across Europe

National hydrological services

- extend leadtime to medium-range (+ most services)
- flood information for entire river basin *(+ most services)*
- operationally applied research (++ all services)
- information exchange (++ all services)
- backup *(+ most services)*

!! Aim: additional information ***not*** replace local expertise

EFAS setup

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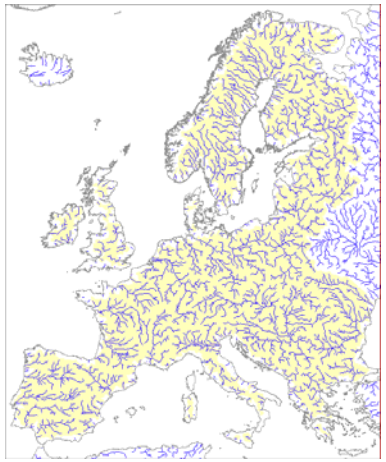
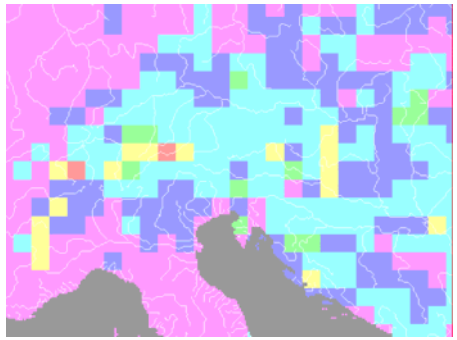
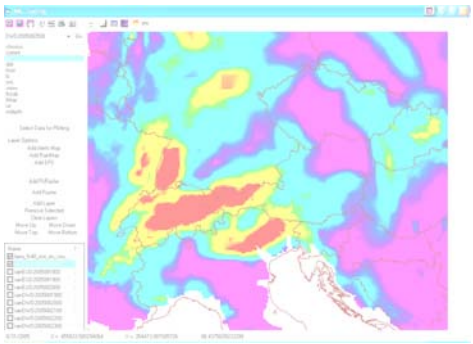


EFAS hydrologic model : **LISFLOOD**

- Europe : **5 km grid**
- **1, 6h** or **24 h** timesteps
- EFAS forecasts are based on **00** hrs &**12** hrs weather forecasts



Meteo Input



- 2x **DWD**, 7 days
- 2x **ECMWF** – Deterministic, 10 days
- 51x2 **ECMWF EPS**, 10 days
- observed meteo data (**JRC-MARS**)

EFAS thresholds

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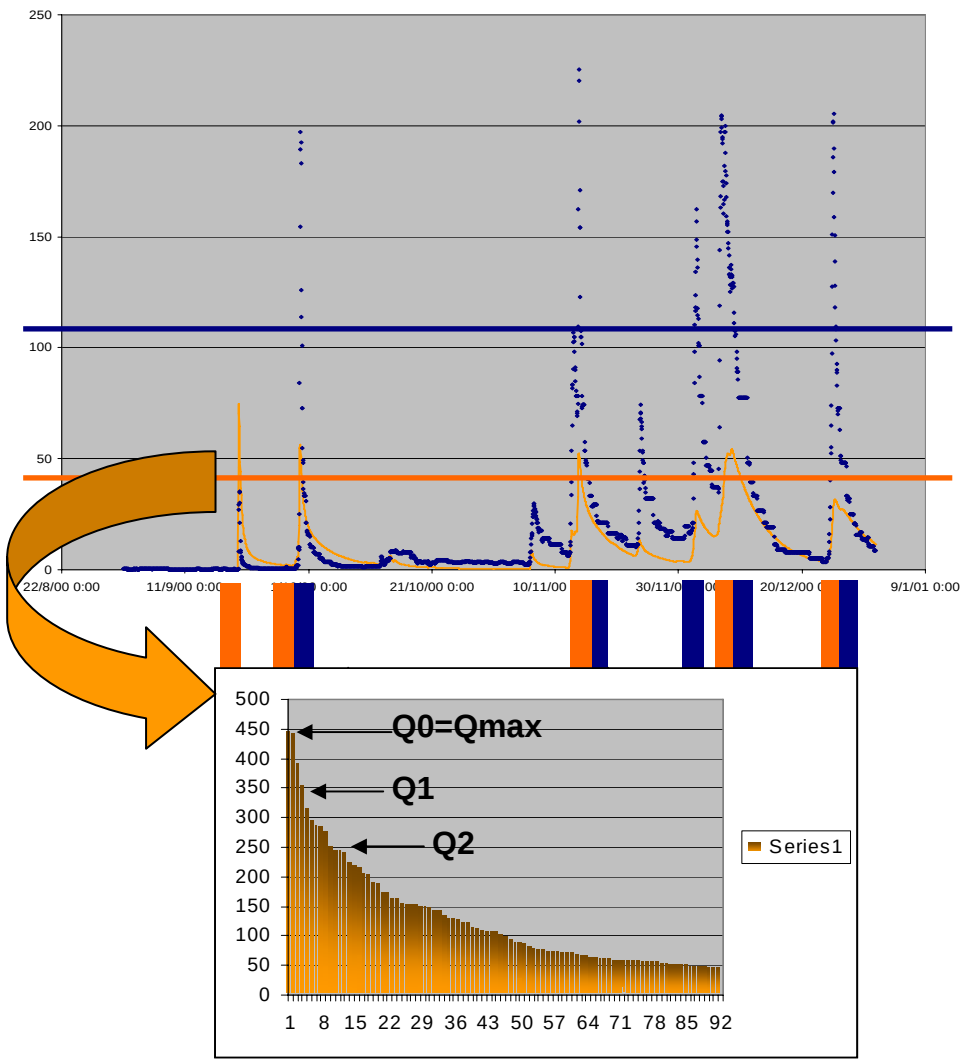

Advantage of EFAS thresholds

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- systematic over- under predictions are compensated for
- EFAS alarm thresholds are available for every pixel
- easy to understand / display

EFAS Level		Description
S (Severe)		
H (High)		
M (Medium)		significantly increased river discharges, no flooding expected
L (Low)		river discharges increased, no flooding expected

EFAS forecasts

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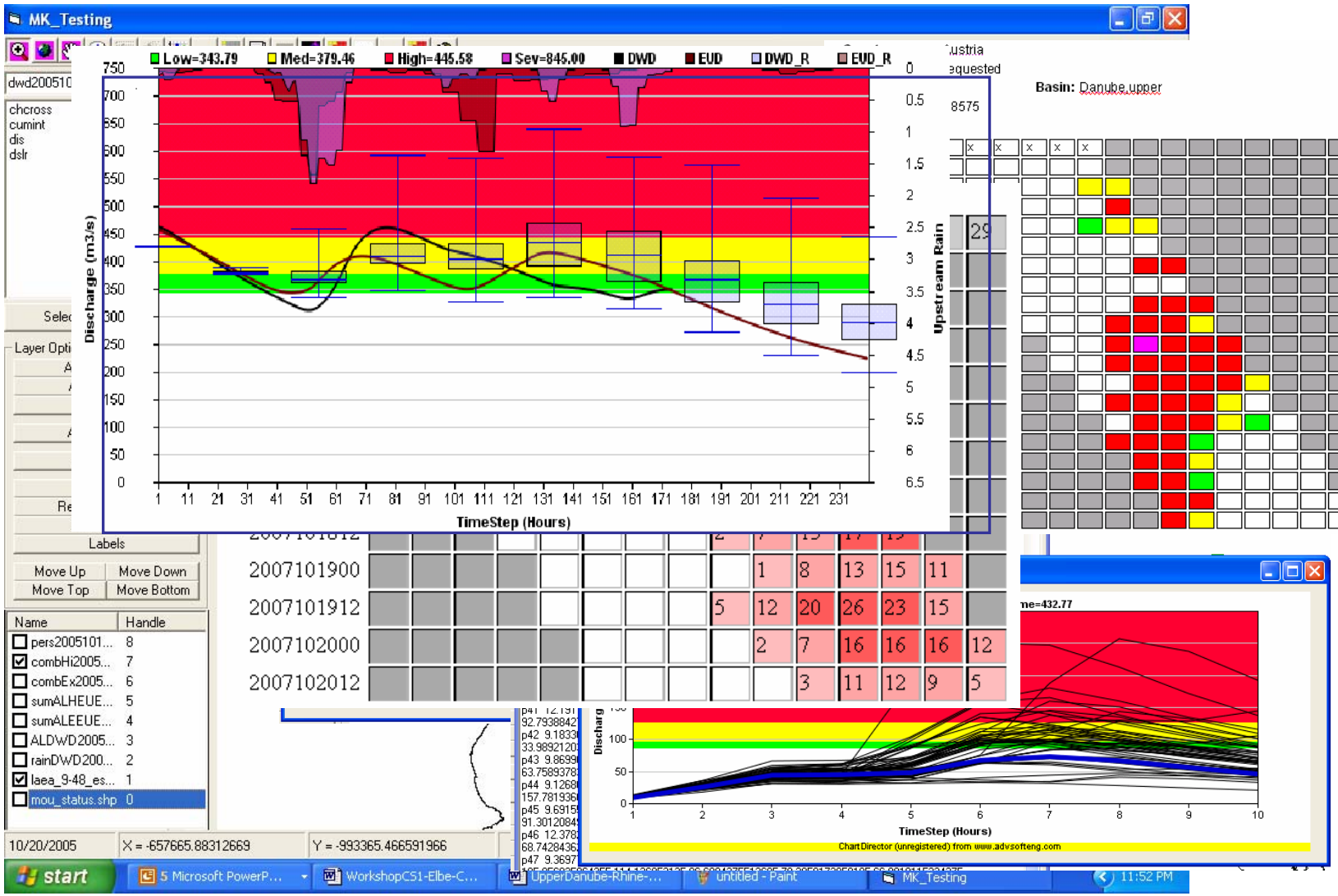

EFAS forecasts

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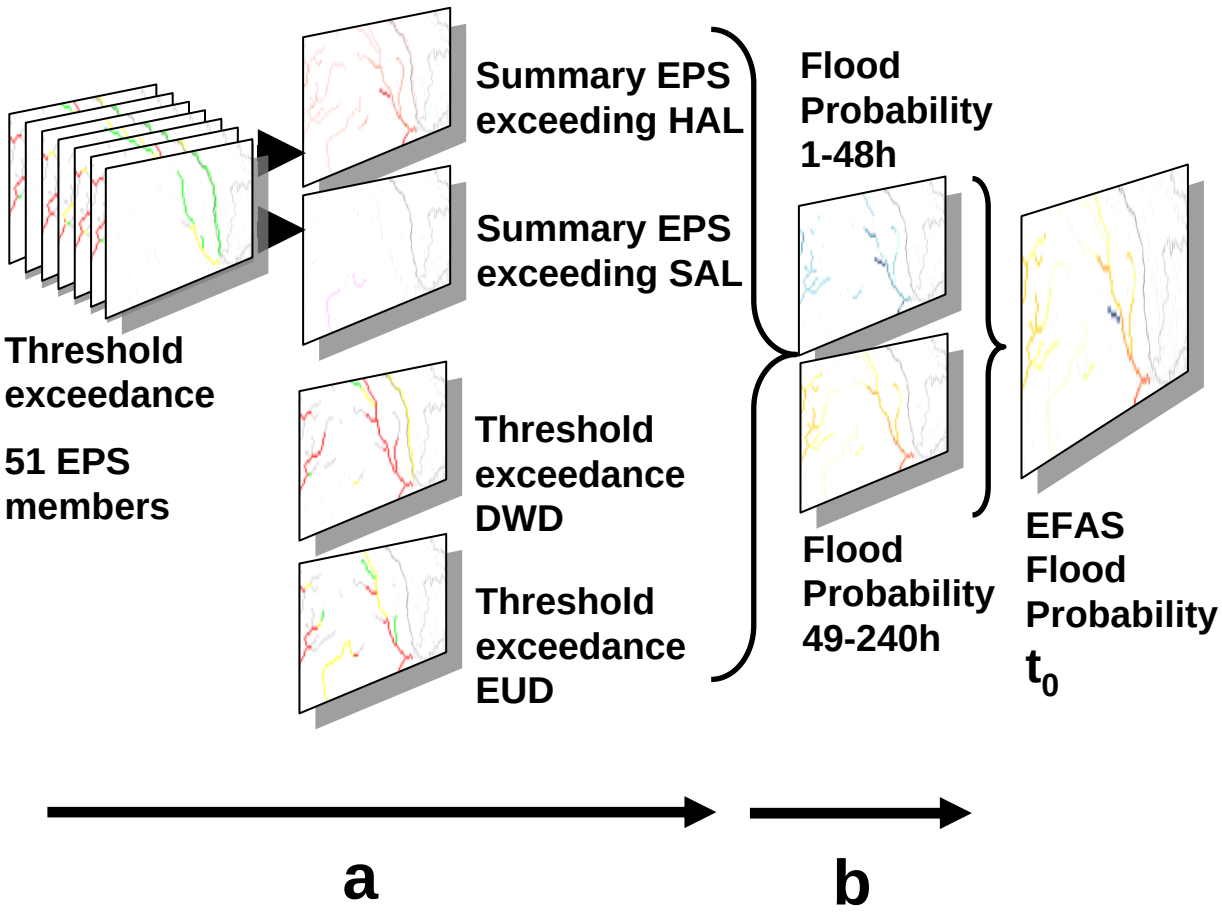

EFAS persistence

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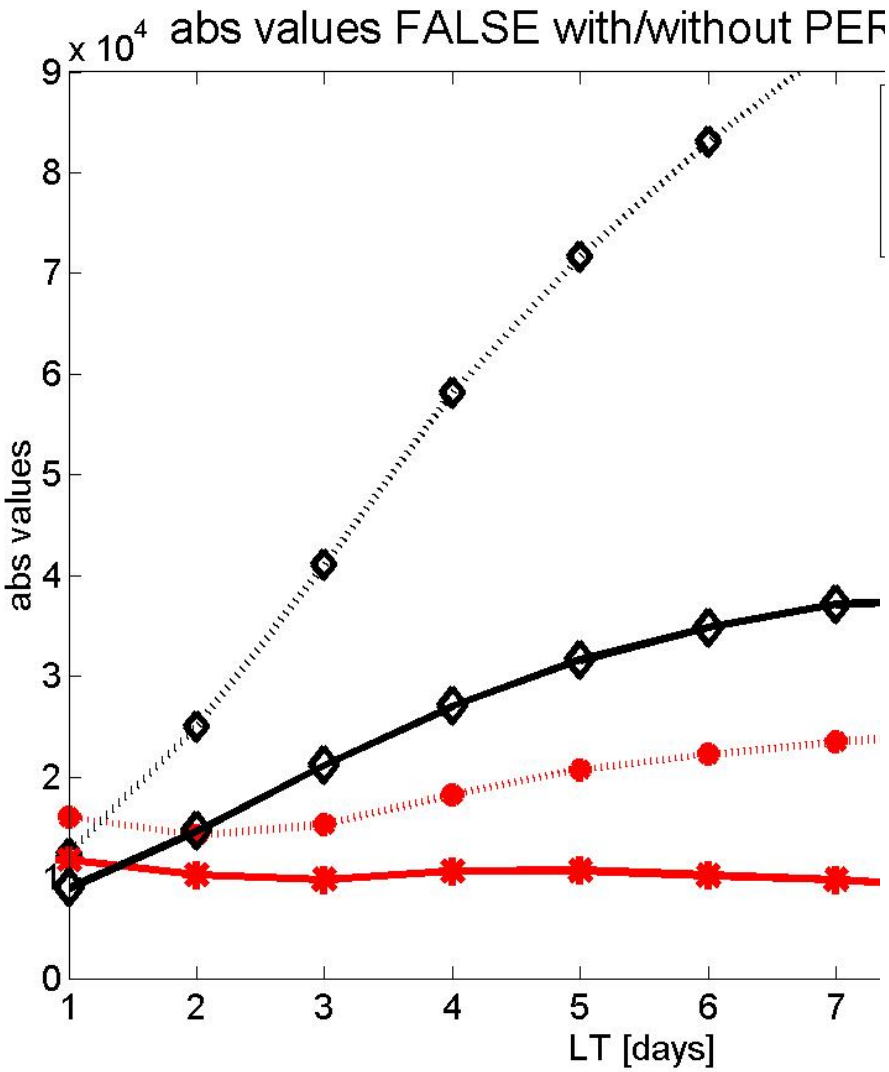

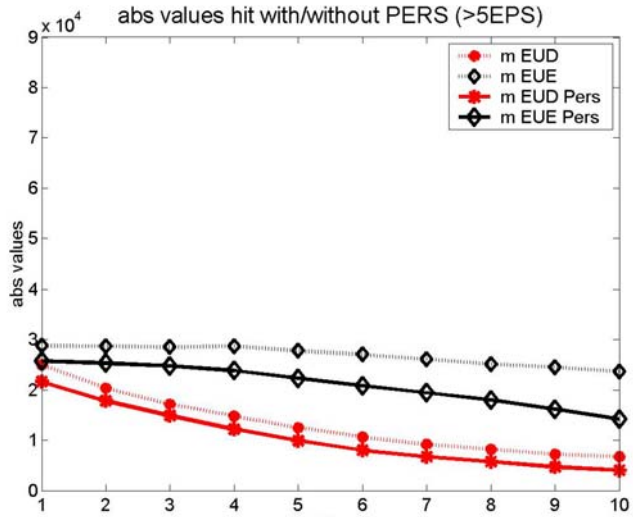

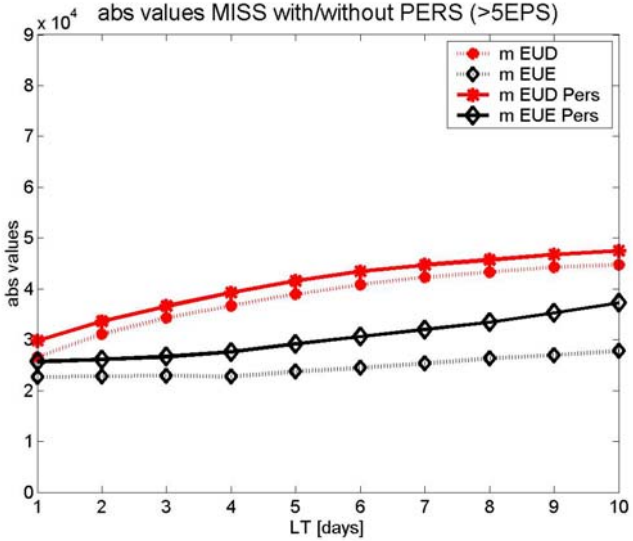

EFAS forecasts

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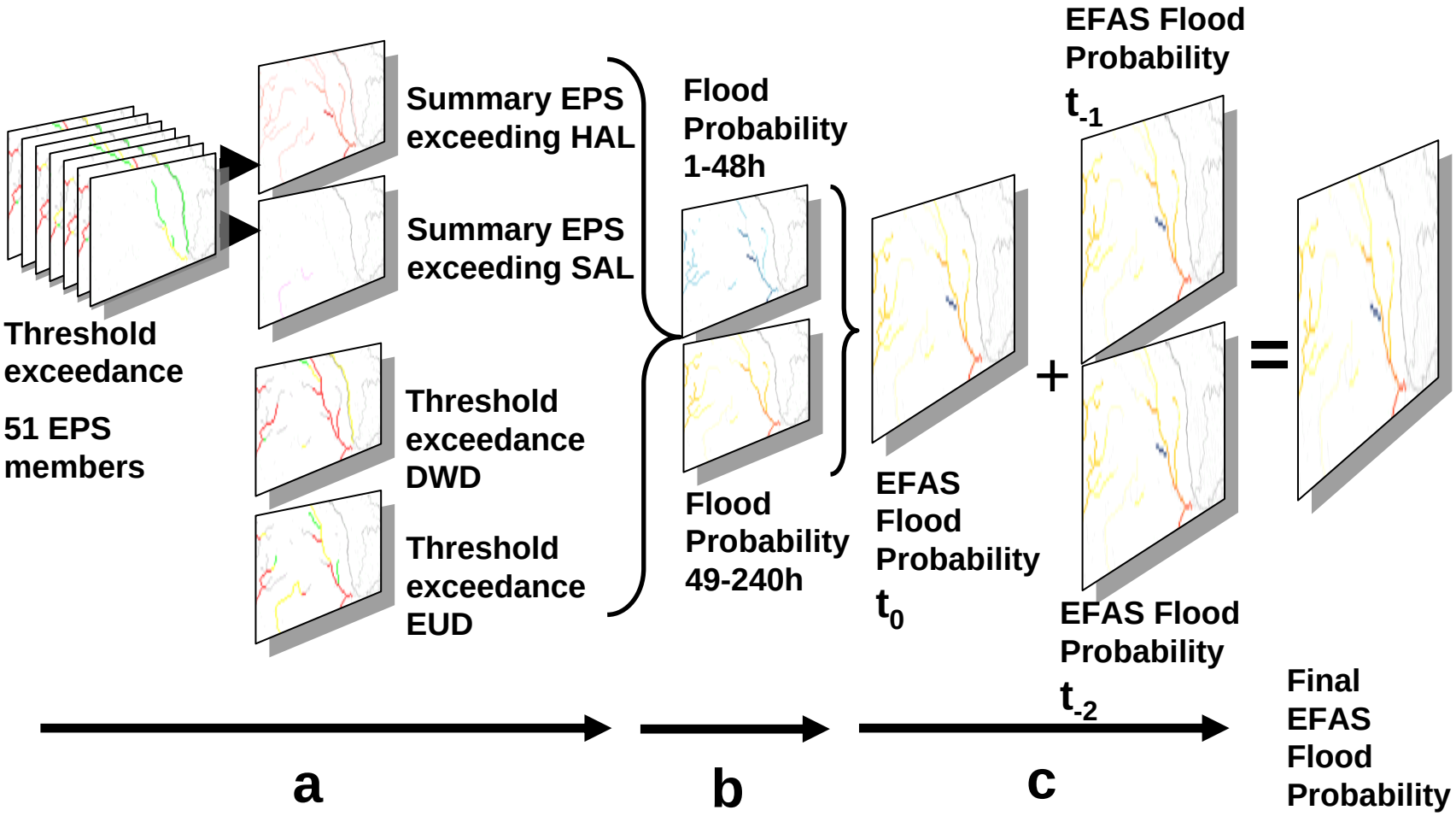

EFAS-IS

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- Password protected web interface EFAS-IS for EFAS Partner organizations was launched in October 2007

EFAS-IS

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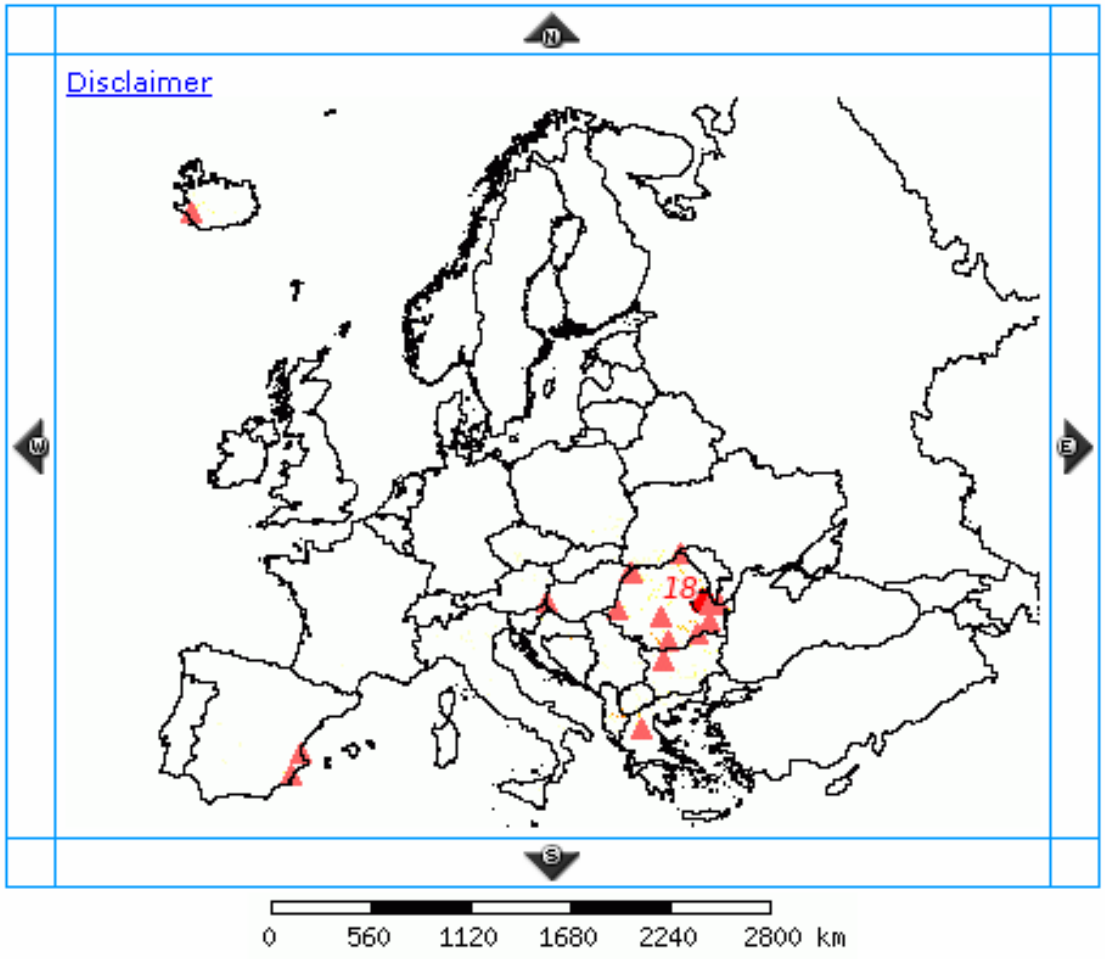

Jens Bartholmes

EFAS-IS

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Country: Romania

MoU Status MoU_Status

River: Siret **Basin:** Danube/Siret

Upstream Area: 36025

Probability Tendency:

Probability value: 83.720

PointID: 1011 **Lat:** 45.5 **Long:** 27.5

Forecast Day	23	24	25	26	27	28	29	30	31	32
DWD										
ECMWF										
EPS > HAL			31	37	19	5	3	2	2	3
EPS > SAL										

EFAS-IS

Joint Research Centre

- Real time access to EFAS forecasts 24/7
- Built up experience on a day to day basis
- EMM floods DB

Flood date	River	Country	Language	Title	Date inserted article	Entered by
23-OCT-07 to 26-OCT-07	Trotus	Romania	English	Waters withdraw, weather improves	26-OCT-07	McCormick Niall
23-OCT-07 to 26-OCT-07	Trotus	Romania	English	Flood warning for 10 Romanian counties	26-OCT-07	McCormick Niall
23-OCT-07 to 26-OCT-07	Trotus	Romania	English	Thousands of Romanians isolated by floods	26-OCT-07	McCormick Niall
18-SEP-07 to 18-SEP-07	Sava, above Kupa	Slovenia	English	Železniki a week after the storm	05-OCT-07	McCormick Niall
18-SEP-07 to 18-SEP-07	Sava, above Kupa	Slovenia	English	Flooding in Slovenia leaves six dead	09-OCT-07	McCormick Niall
07-SEP-07 to 08-SEP-07	Danube	Germany	German	Hochwasser in Südbayern - Donau in Passau stark angestiegen	18-OCT-07	McCormick Niall
06-SEP-07 to 09-SEP-07	Danube	Austria	German	20-jährliches Hochwasser für Donau in NÖ erwartet	22-OCT-07	McCormick Niall
06-SEP-07 to 09-SEP-07	Danube	Austria	German	Hochwasser: Situation entspannt sich	16-OCT-07	McCormick Niall
06-SEP-07 to 09-SEP-07	Danube	Austria	German	Angespannte Hochwasserlage an der Donau	09-OCT-07	McCormick Niall

Conclusions

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- EFAS is now available online to EFAS partners 24/7
- EFAS is producing medium-range probabilistic flood forecasts with leadtimes up to 10 days
- Feedback is positive and products are used by partners

Way forward:

- Try Var-EPS
- Include forecasts of other weather forecasting services

Joint Research Centre

European Flood Alert System
EFAS

Jens Bartholmes, EFAS team

European Commission, DG Joint Research Centre
Institute for Environment and Sustainability
Land Management Unit
Weather Driven Natural Hazard Action

Research issues