

Pan-European Products

Challenges...opportunities

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Benefits

Added value

National Services

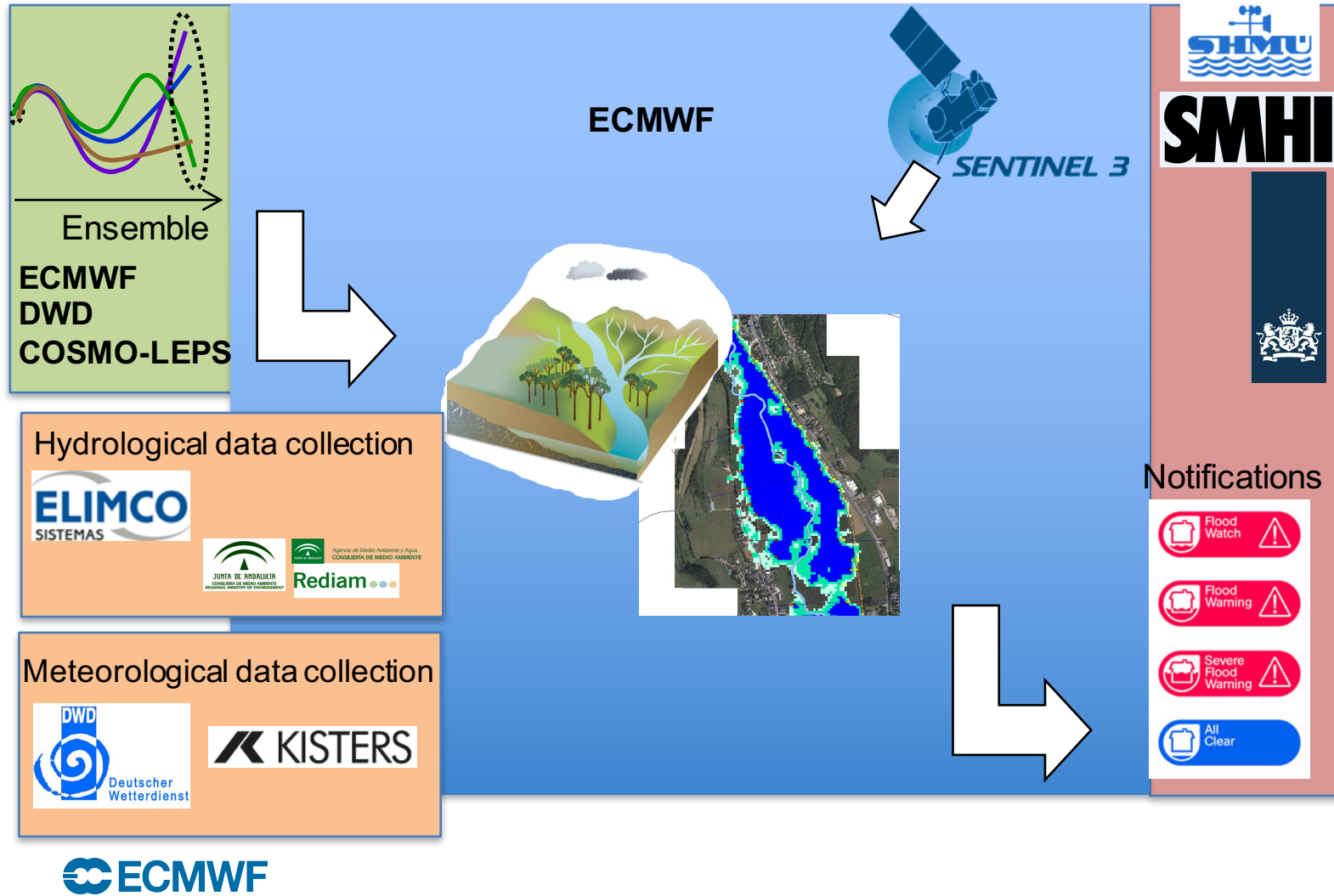
- Longer lead-times up to 15 days through probabilistic information
- Network of operational services
- Promotion of novel tools, techniques and data sets (e.g. satellite data)

Novel information

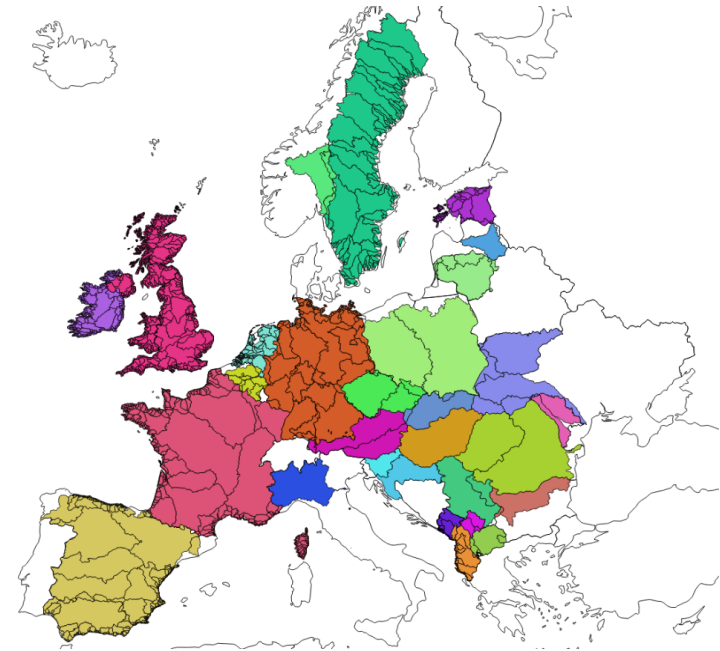
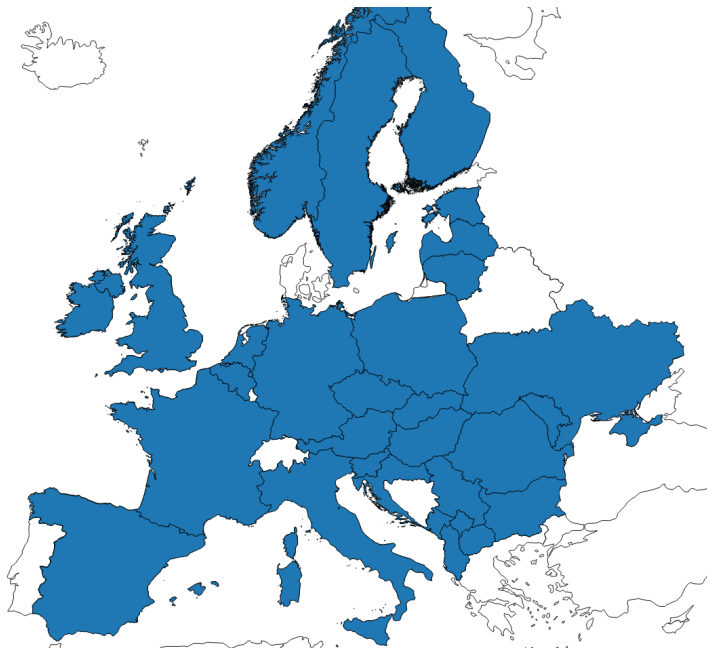
European Commission

- Comparable information across Europe
- Tool for anticipation of crisis management:
- Civil Protection aid assistance during crisis
- COPERNICUS Mapping Service

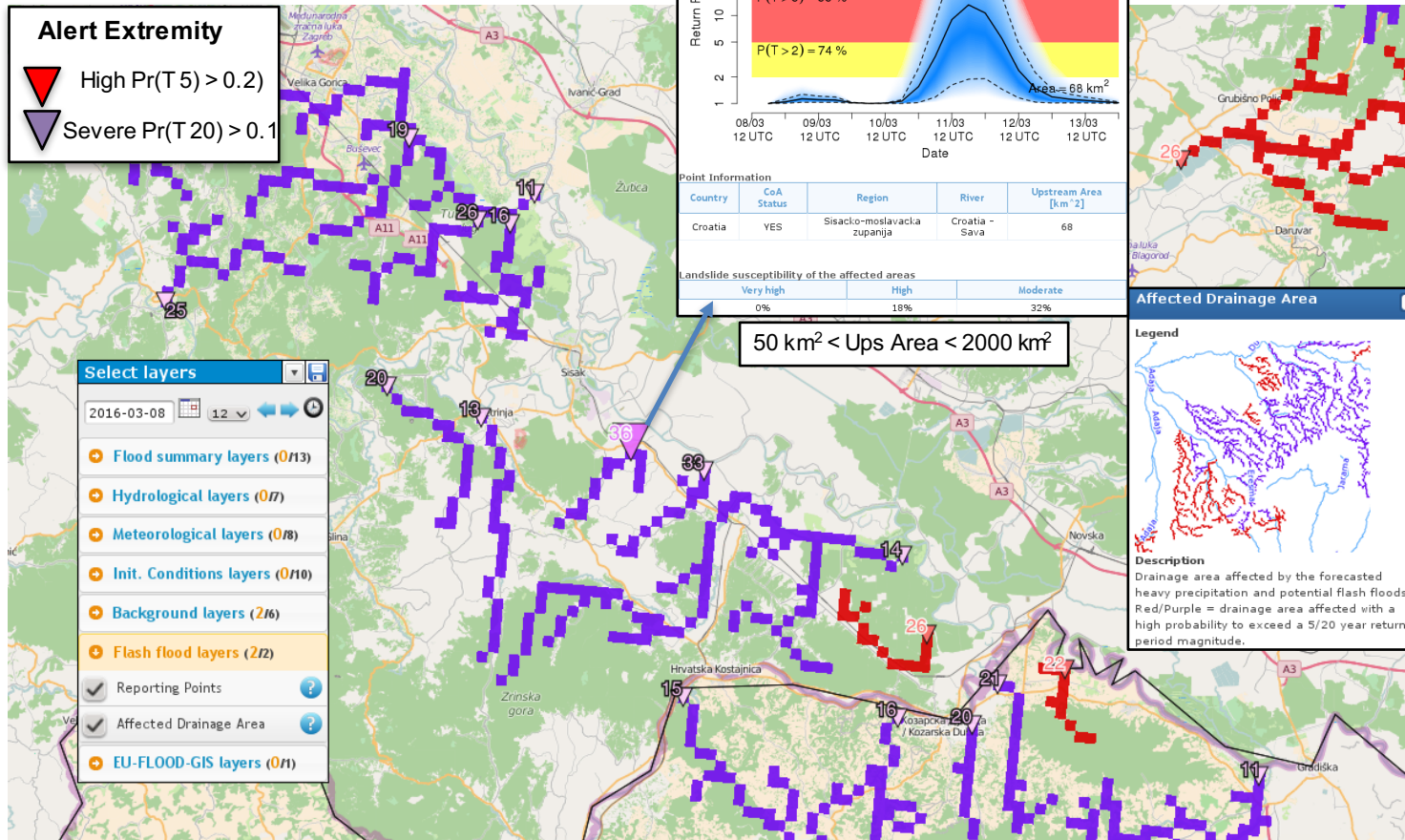
European Flood Awareness System (EFAS)



EFAS coverage (countries & catchments)

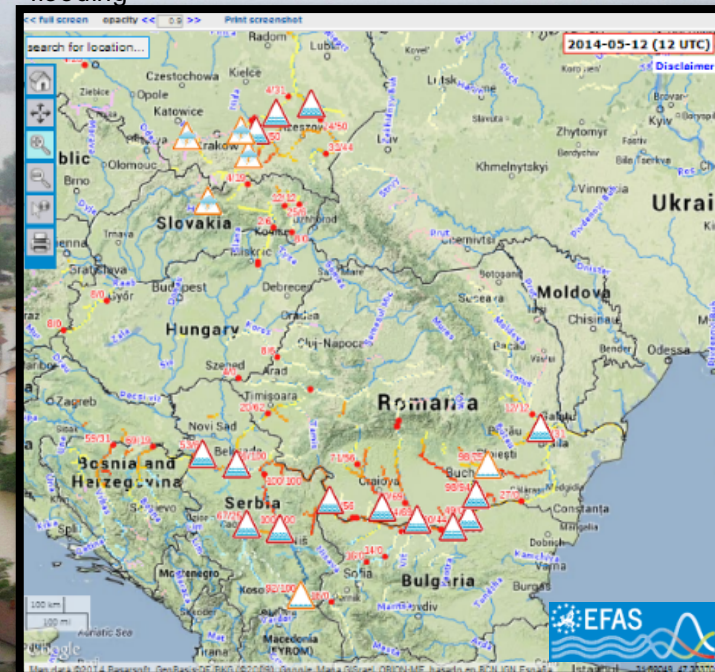


Forecast Products

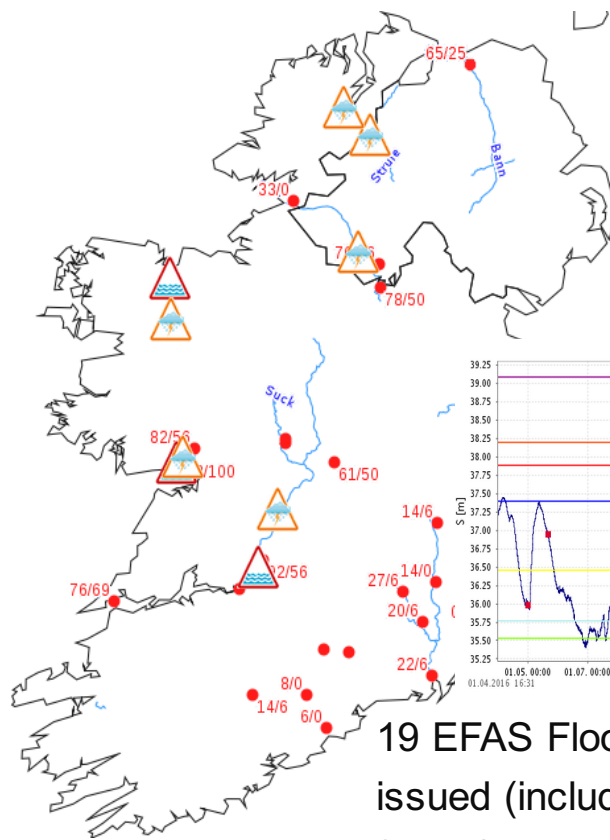


Severe floods in the Balkans, May 2014

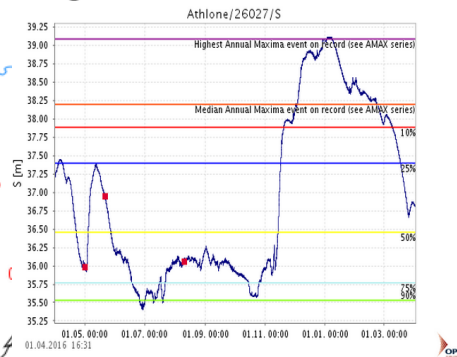
Warnings to EC Emergency Response Coordination Centre and National Authorities, 8 days before the flooding



Floods in Ireland in Dec 2015 & Jan 2016



Most synoptic weather stations reported rainfall amounts of between 200 and 300% of their normal rainfall for the December, some stations over 420mm



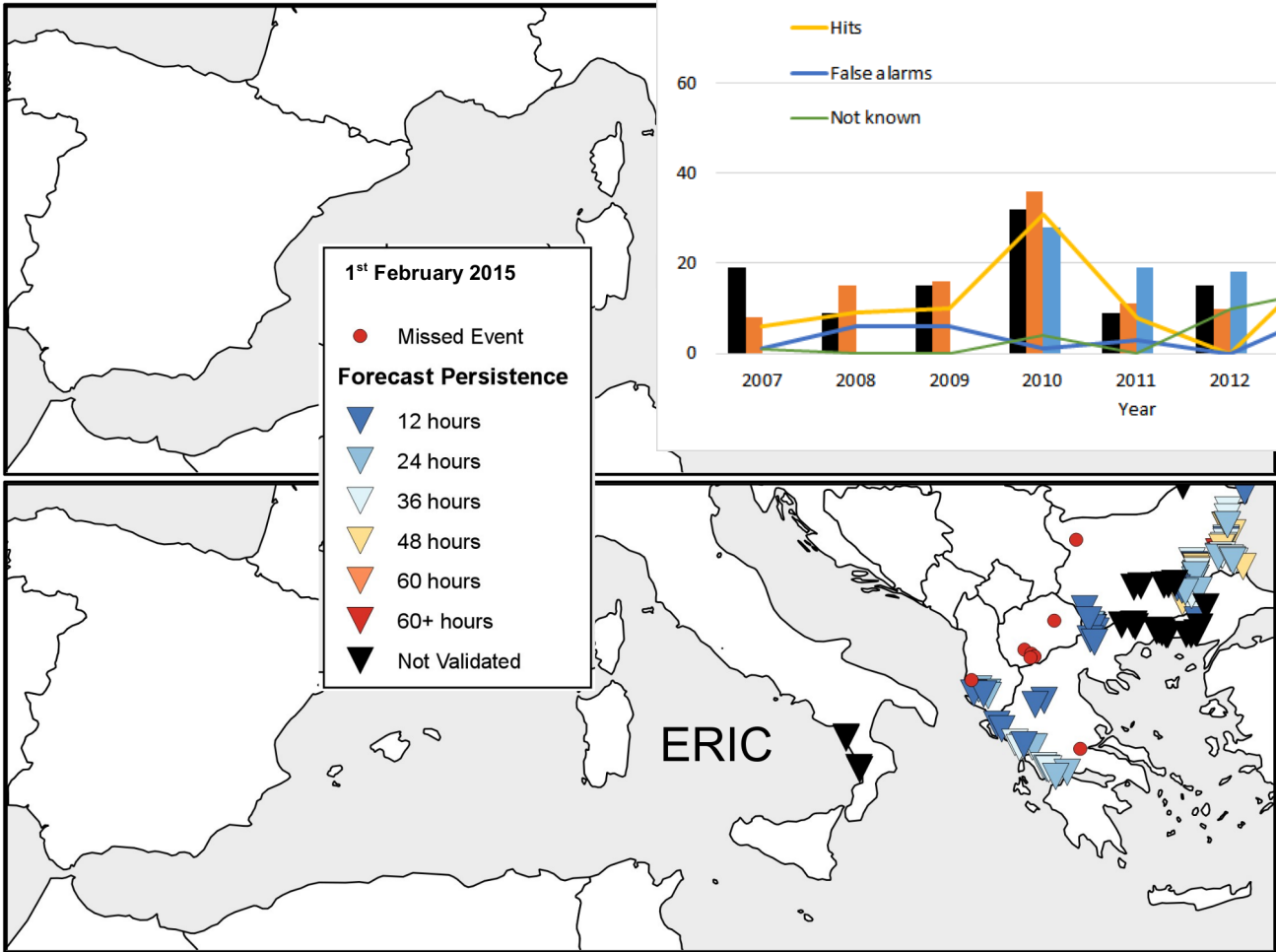
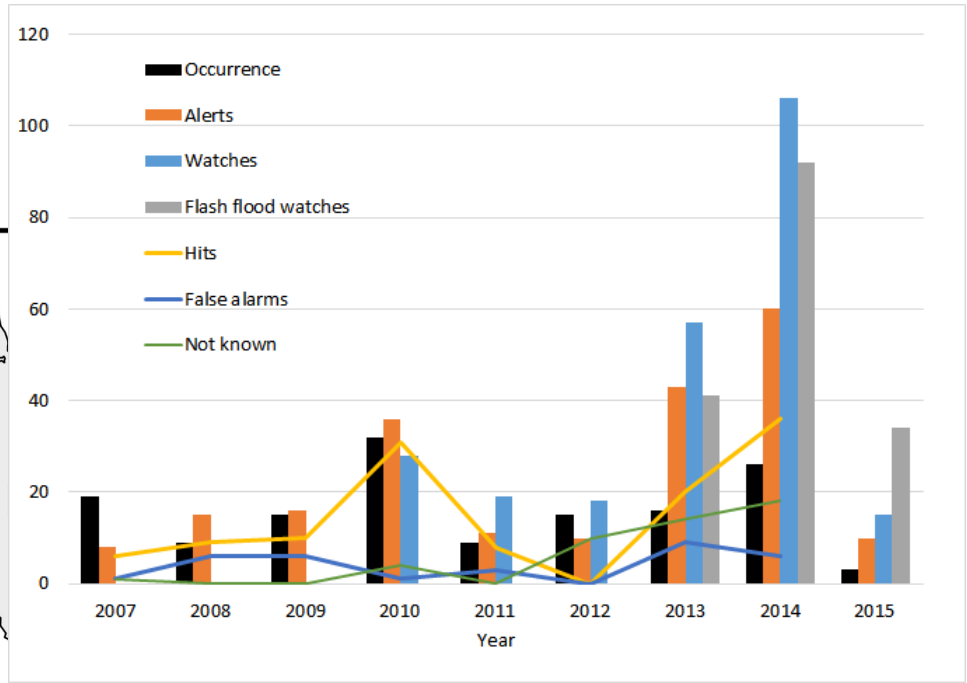
19 EFAS Flood Notifications issued (including flash floods)



3-4 day lead times

Courtesy: Office of Public Works, Ireland.

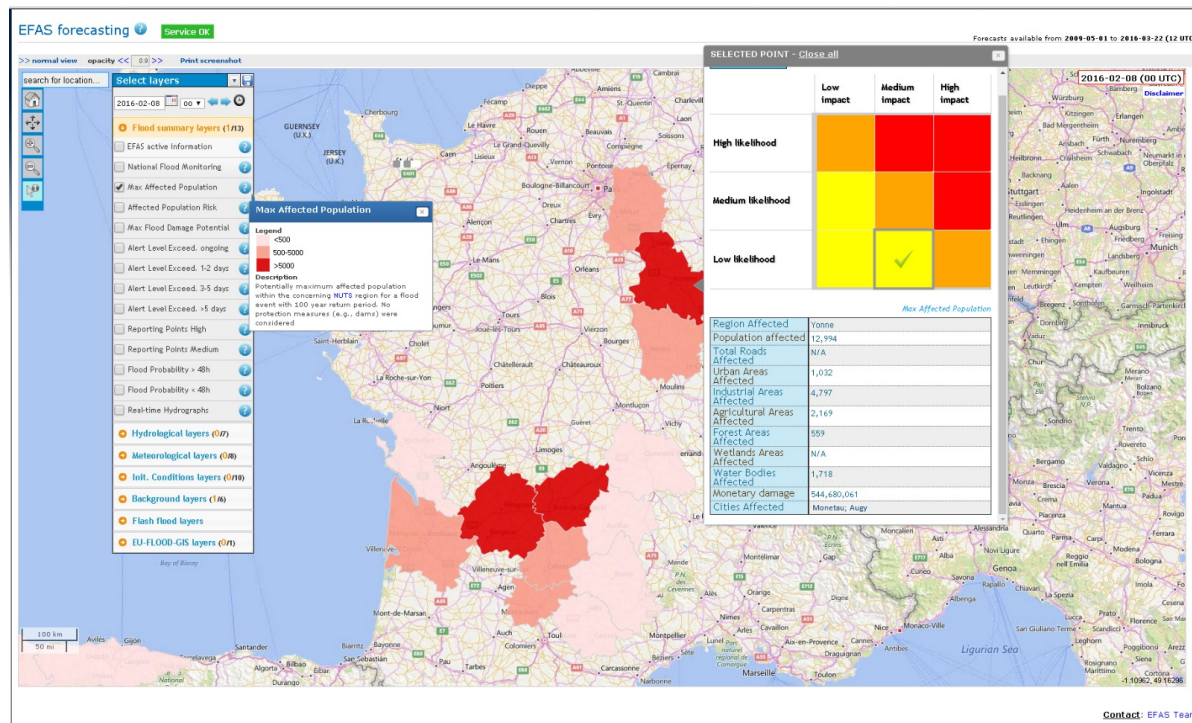
European Flood Awareness System (EFAS) Performance



EFAS Rapid Risk Assessment

Aim: near real time information on possible impact of floods based on flood forecasts

- Based on linking EFAS forecasts with 100x100m resolution flood hazard map
- Potential impact on population, land use (agriculture, urban), infrastructure (major roads/train networks), critical infrastructure
- Pre-tasking of satellites for improved rapid mapping (COPERNICUS)



The European Drought Observatory (EDO)

The screenshot shows the EDO website with the following elements:

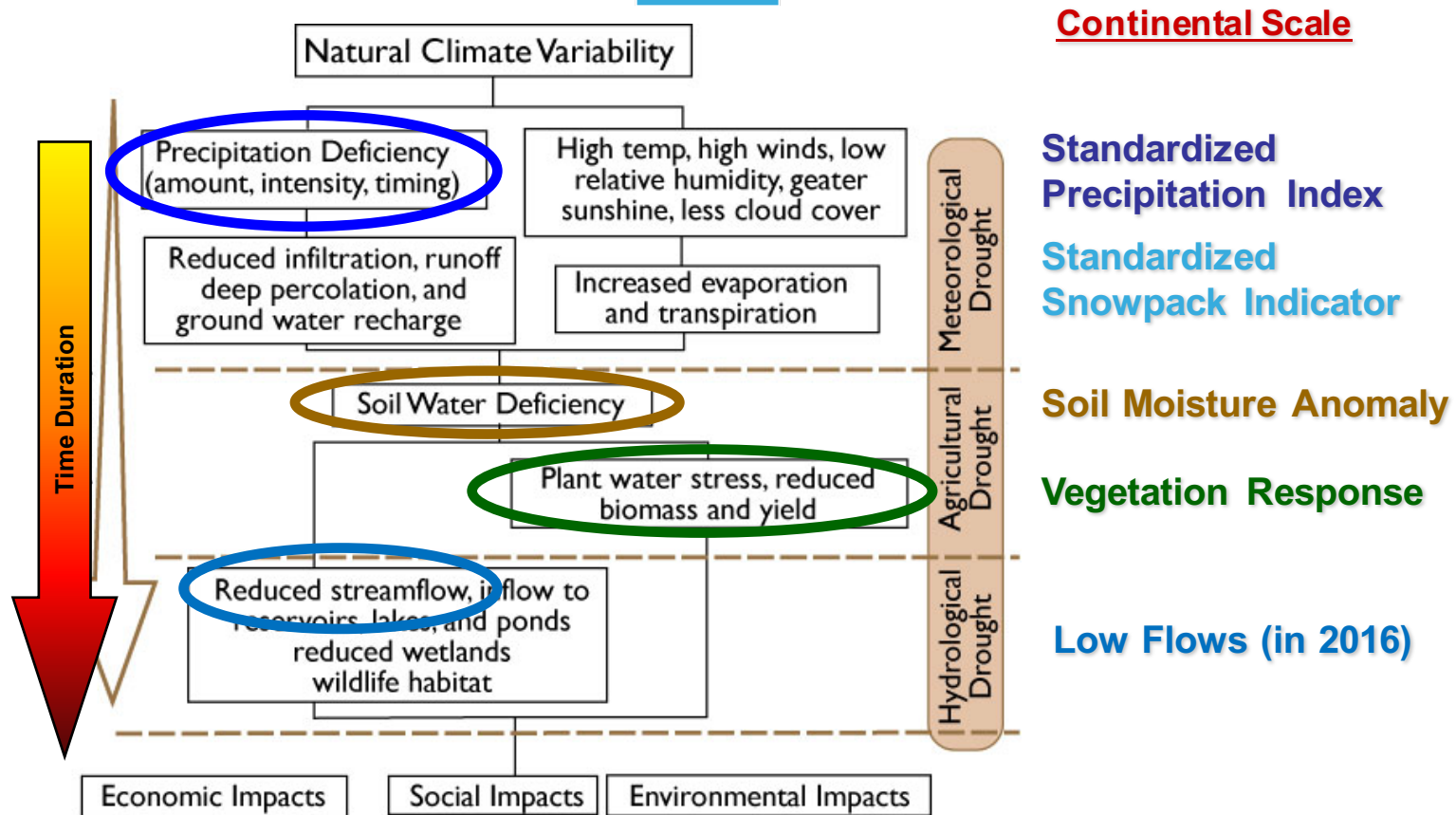
- Header:** European Commission logo, Joint Research Centre logo, and EDO - European Drought Observatory title.
- Navigation:** Sitemap, Legal notice, Contact, Search, and a main menu with EDO HOME, CURRENT DROUGHTS, and DATA & TOOLS.
- Main Content:**
 - Welcome to the European Drought Observatory!** - Introduction text about drought-relevant information and tools like Maps, Graphs, and Compare Layers.
 - Map:** A map of Europe titled "Situation of Combined Drought Indicator in Europe - 1st ten-day period of February 2016". The legend includes:
 - Watch: rainfall deficit (light yellow)
 - Warning: soil moisture deficit (yellow)
 - Alert: vegetation stress following rainfall / soil moisture deficit (orange)
 - Partial recovery of vegetation (light green)
 - Full recovery of vegetation to normal conditions (dark green)
 - Right Sidebar:** A vertical banner with a photo of a dry field and the text "current DROUGHT information for YOU". Below it are sections for "last UPDATES", "related PROJECTS", and "last REPORTS", listing news items like "Drought News in Europe: Situation in August 2015" and "Drought News in Europe: Situation in May 2011".
- Footer:** A horizontal menu with various tools and resources: Current Droughts, Factsheets, Data Availability, MapViewer, In the Media, Time Series, Compare Layers, Data Download, CDI Animation, MD Catalogue, and a search bar.

- Internet-based
- at multiple scales through interoperable map servers
- provides multiple indicators, including high level indicators targeted to decision makers
- Maps, graphs, time series, reports

<http://edo/jrc.ec.europa.eu>



Multi-Indicator Approach



Source: National Drought Mitigation Center, University of Nebraska-Lincoln, USA

EDO Map Viewer



Monitoring,
forecasting,
time series
Continental
layers

Regional / Local
layers

The screenshot shows the EDO Map Viewer interface. At the top, it displays the European Commission logo and the text "JOINT RESEARCH CENTRE EDO - European Drought Observatory". Below this is a navigation bar with "EDO HOME", "CURRENT DROUGHTS", and "DATA & TOOLS". The main interface is divided into a left sidebar and a central map area. The sidebar contains several sections: "Monitoring" (with sub-sections "Forecast" and "Timeseries"), "European Drought Products" (with a sub-section "Combined Drought Indicator" and a legend for "Watch: rainfall deficit", "Warning: soil moisture deficit", "Alert: vegetation stress following rainfall / soil moisture deficit", "Partial recovery of vegetation", and "Full recovery of vegetation to normal conditions"), "Regional, National, Local Products" (with sub-sections "Southeastern Europe", "France", "Ebro River Basin", and "Integrated Drought Management Programme in Central and Eastern Europe (IDMP CEE)"), and "Base Layers" (with "Geographic Background"). The central map area shows a map of Europe with various colored regions indicating drought levels. A "Map" toolbar is visible above the map, and a "Help" button is in the bottom right corner of the map area.

Tools to navigate
and query



European Forest Fire Information System

EFFIS

effis@jrc.ec.europa.eu

Joint Research Centre

Follow us on:



Copernicus EU



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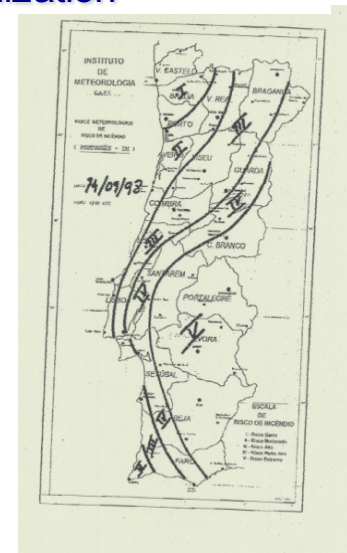
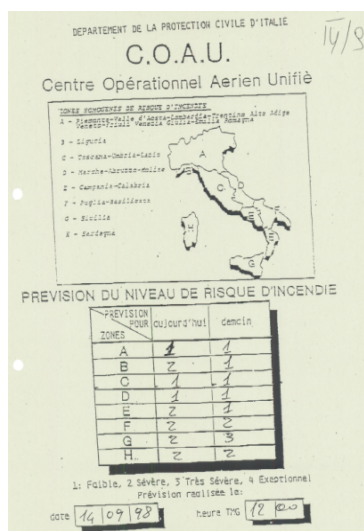
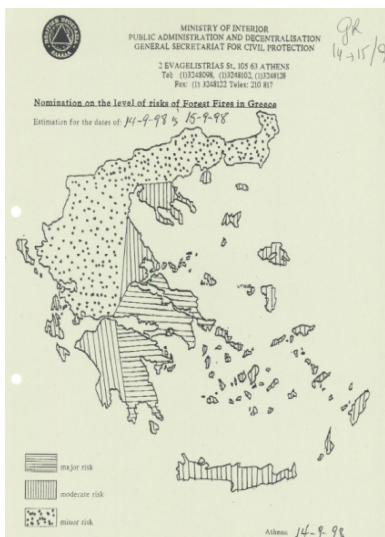
www.ernicus.eu

Space





Fire danger exchange 1998... First steps for the establishment of EFFIS...the need for harmonization



Space

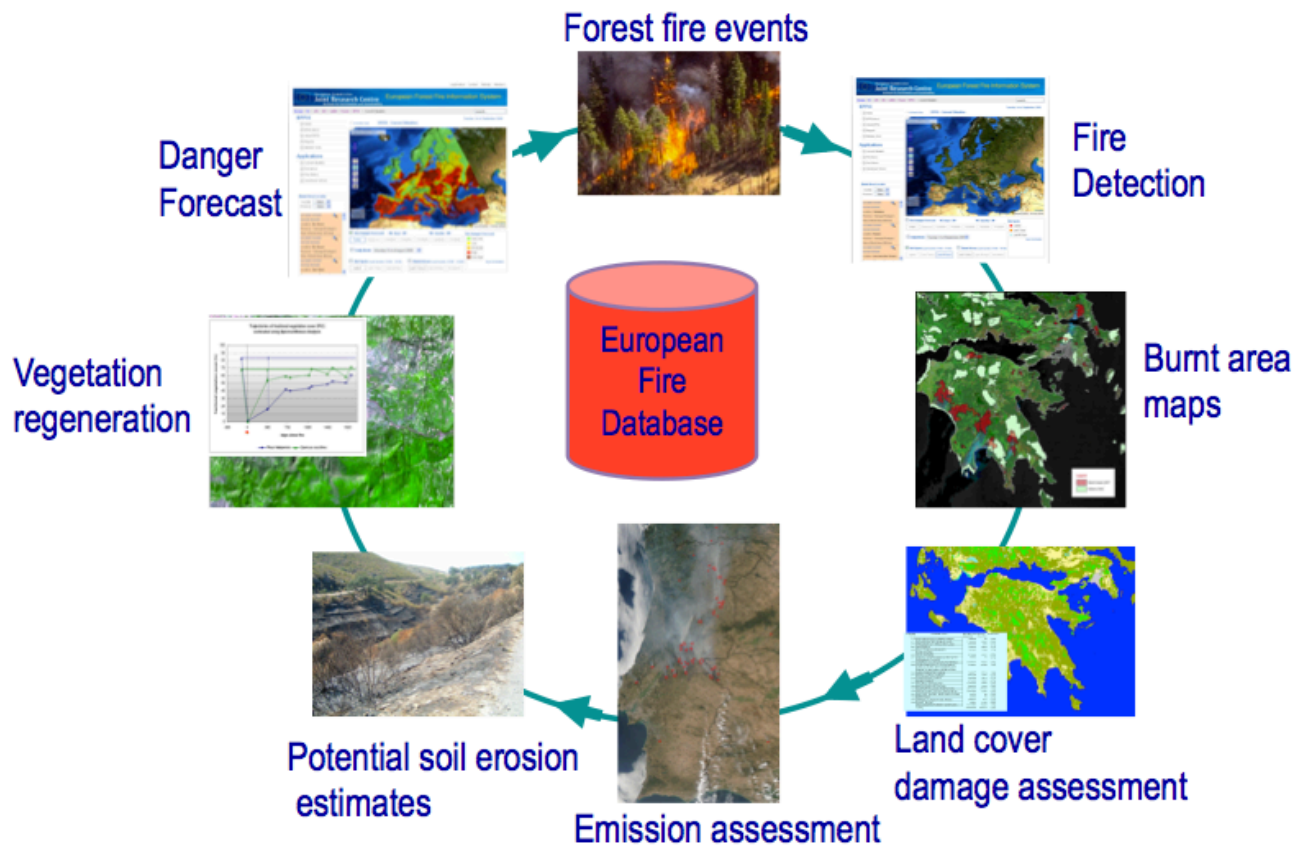
effis@jrc.ec.europa.eu





EFFIS covers the full cycle of wildfires from prevention/preparedness & impact assessment up to vegetation regeneration

EFFIS



Space

effis@jrc.ec.europa.eu

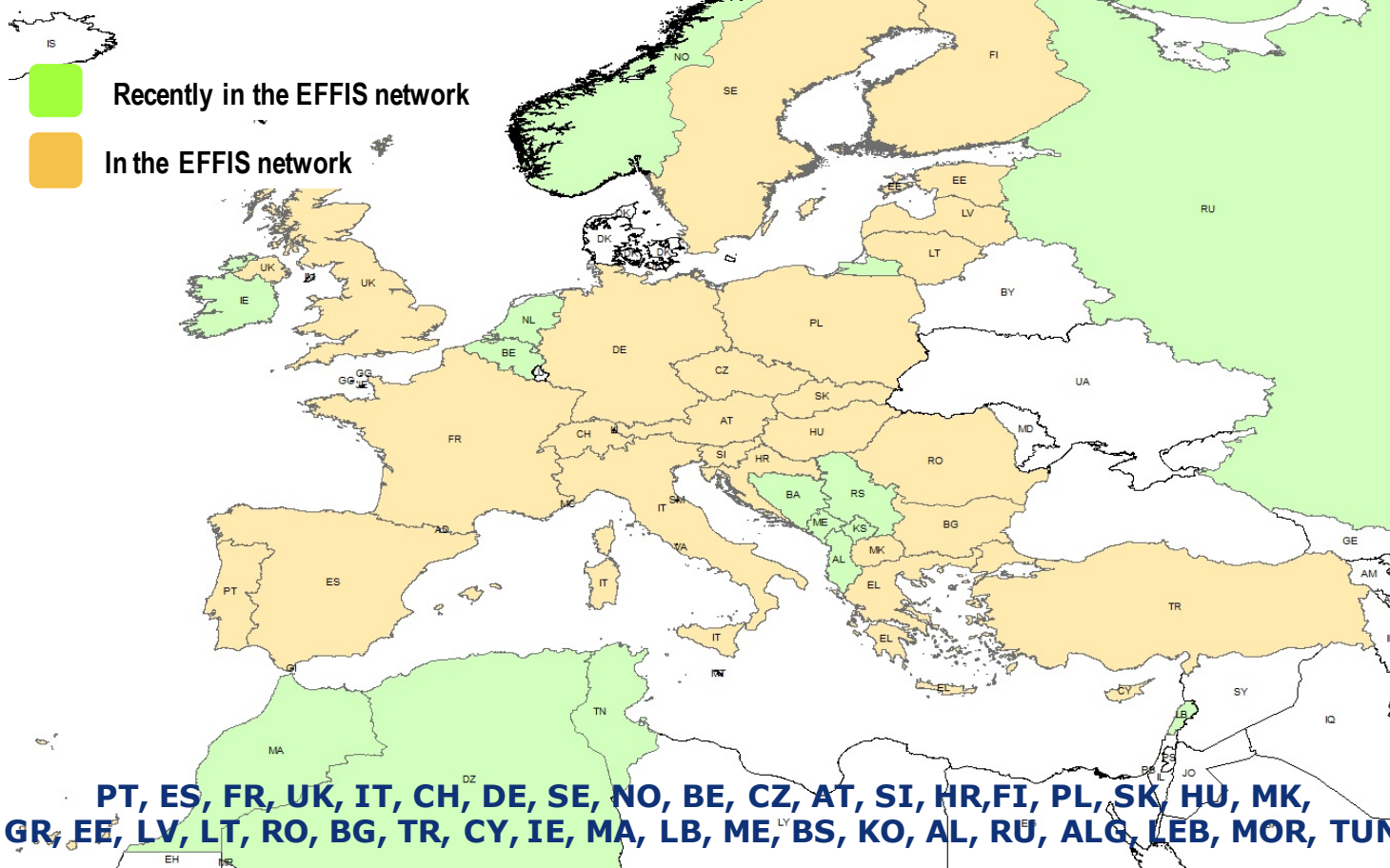


Joint effort of national and EC services

Network of 39 Countries

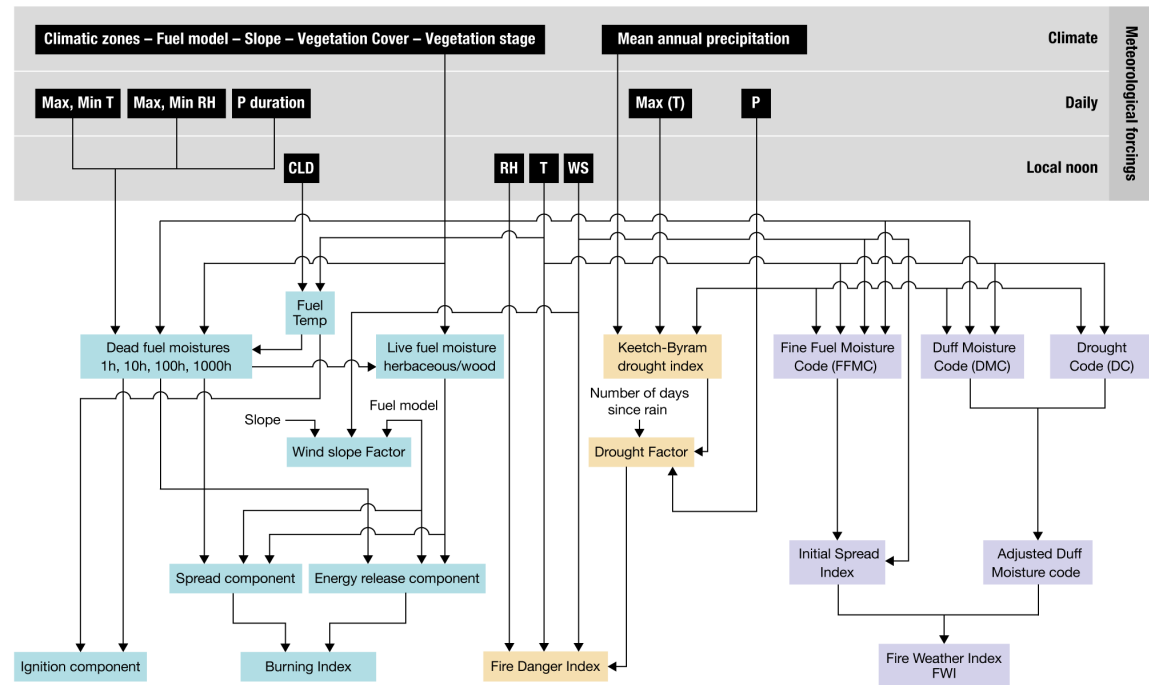
Over 2.4 million records in its fire database

EFFIS Network



Forecasts of fire danger indices up to 10 days ahead

Danger indices categorized (Very low/low/Moderate/High/Very high)



RH = Relative Humidity **WS** = Wind Speed **P** = Precipitation **T** = Temperature **CLD** = Cloud Cover

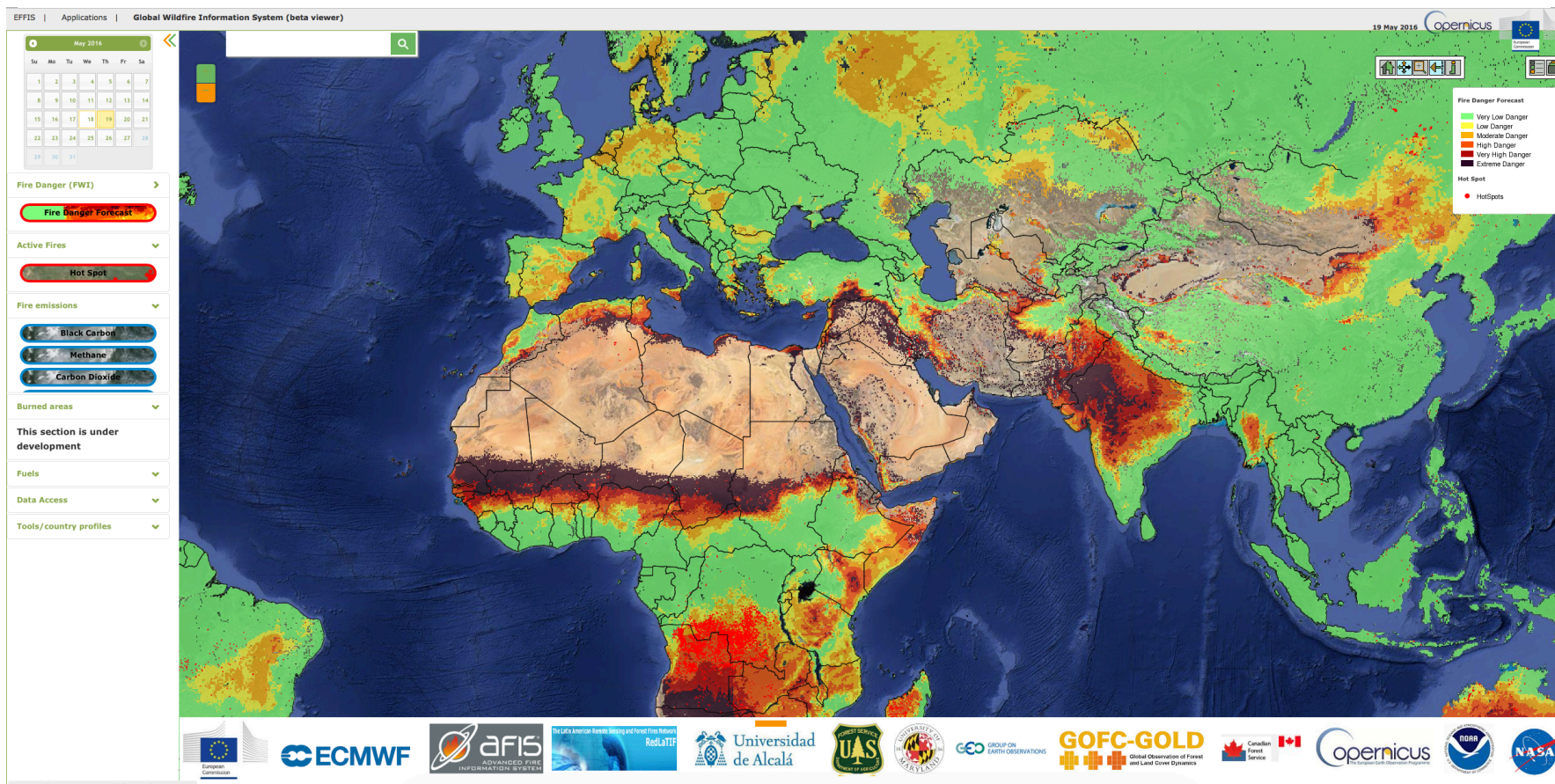
 US model (NFDRS)

 Australian model (MARK-5)

 Canadian model (FWI)



Global Wildfire Information System – development in the context of Copernicus & GEO (https://www.earthobservations.org/activity.php?id=42)



<http://effis.jrc.ec.europa.eu/applications/global-viewer/>

Space

effis@jrc.ec.europa.eu

Copernicus
Europe's eyes on Earth

Summary

- European products offer a consistent overview across Europe
- Products and platforms to build upon
- Always looking to improve – what can be learnt from this project