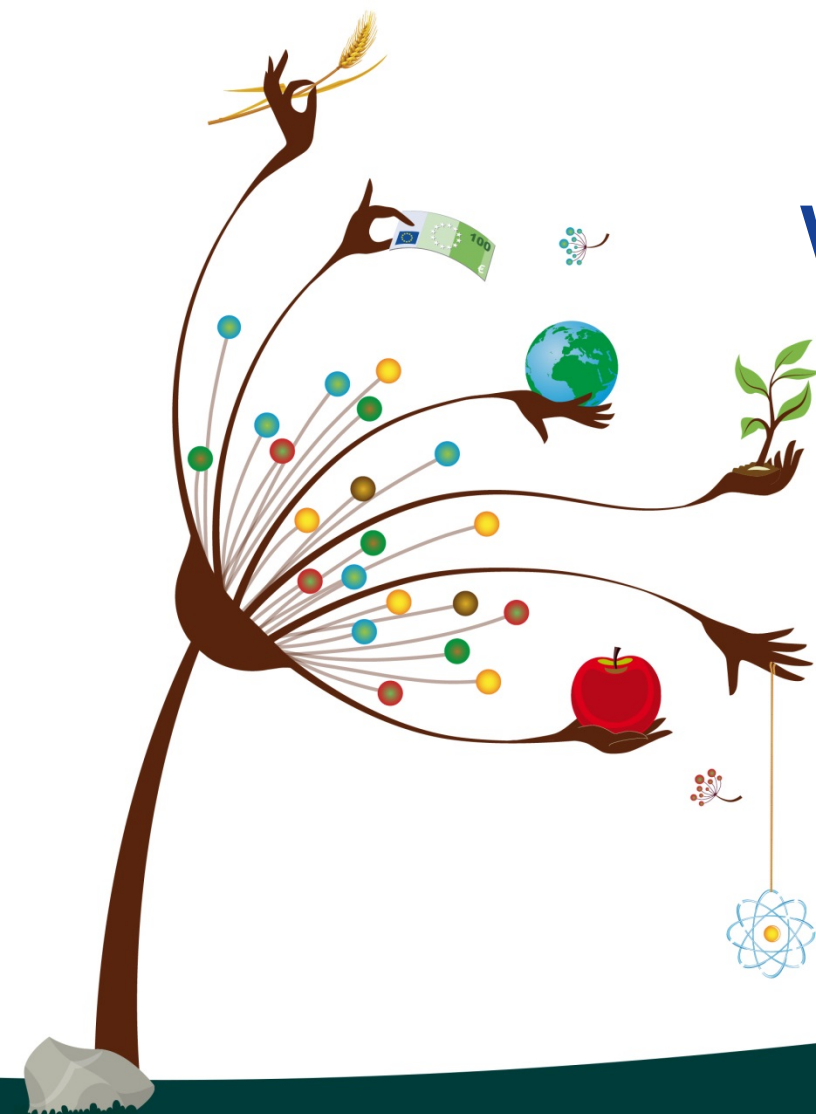


The European Commission's science and knowledge service

Joint Research Centre

Water related activities

Jon Olav Skøien
Peter Salamon



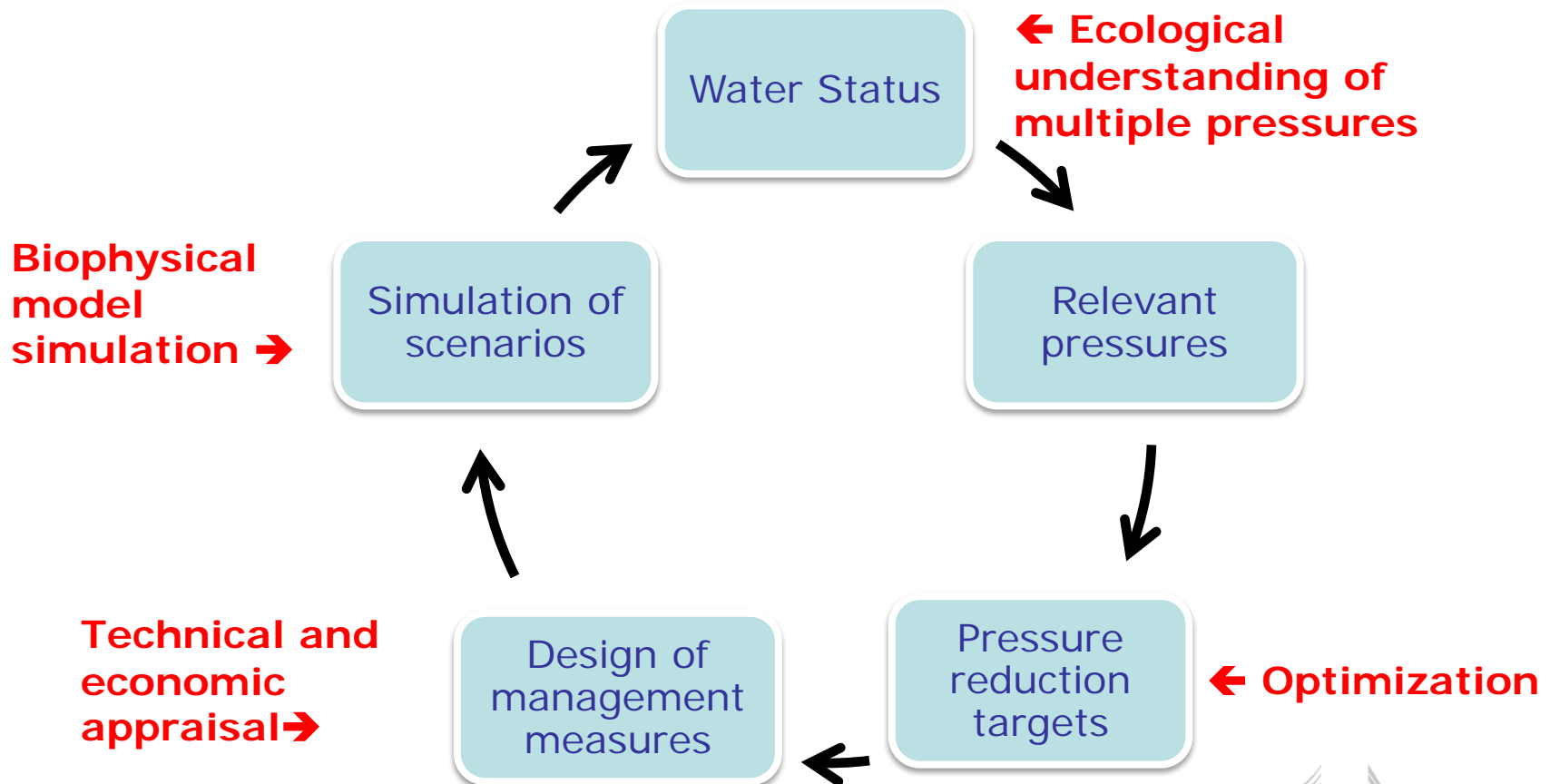
Joint Research Centre

- Giving the European Commission independent scientific and technical advice and support to member states
- 3000 employees
- 8 directorates – 6 locations
- Ispra, Italy is the largest
- Working mainly on European and Global scale
- Water activities as part of
 - **Water resources & water quality**
 - **Disaster risk**
 - **Earth observation**
 - **Climate change**

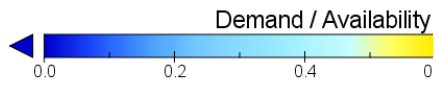
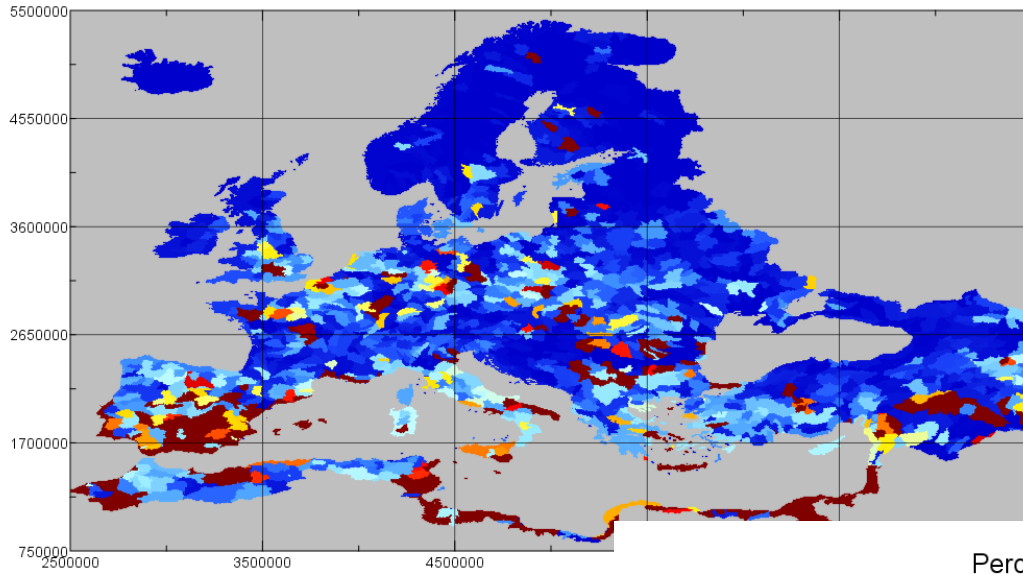


Water resources and water quality

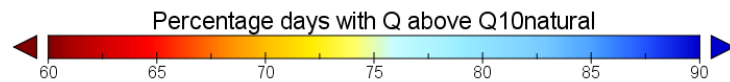
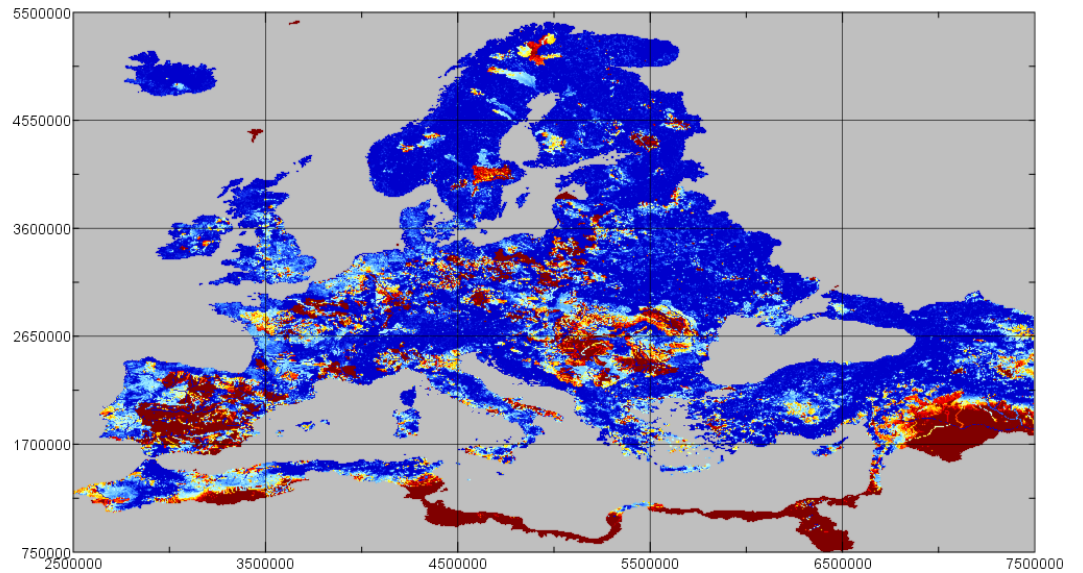
Integrated River Basin Management support and WFD implementation



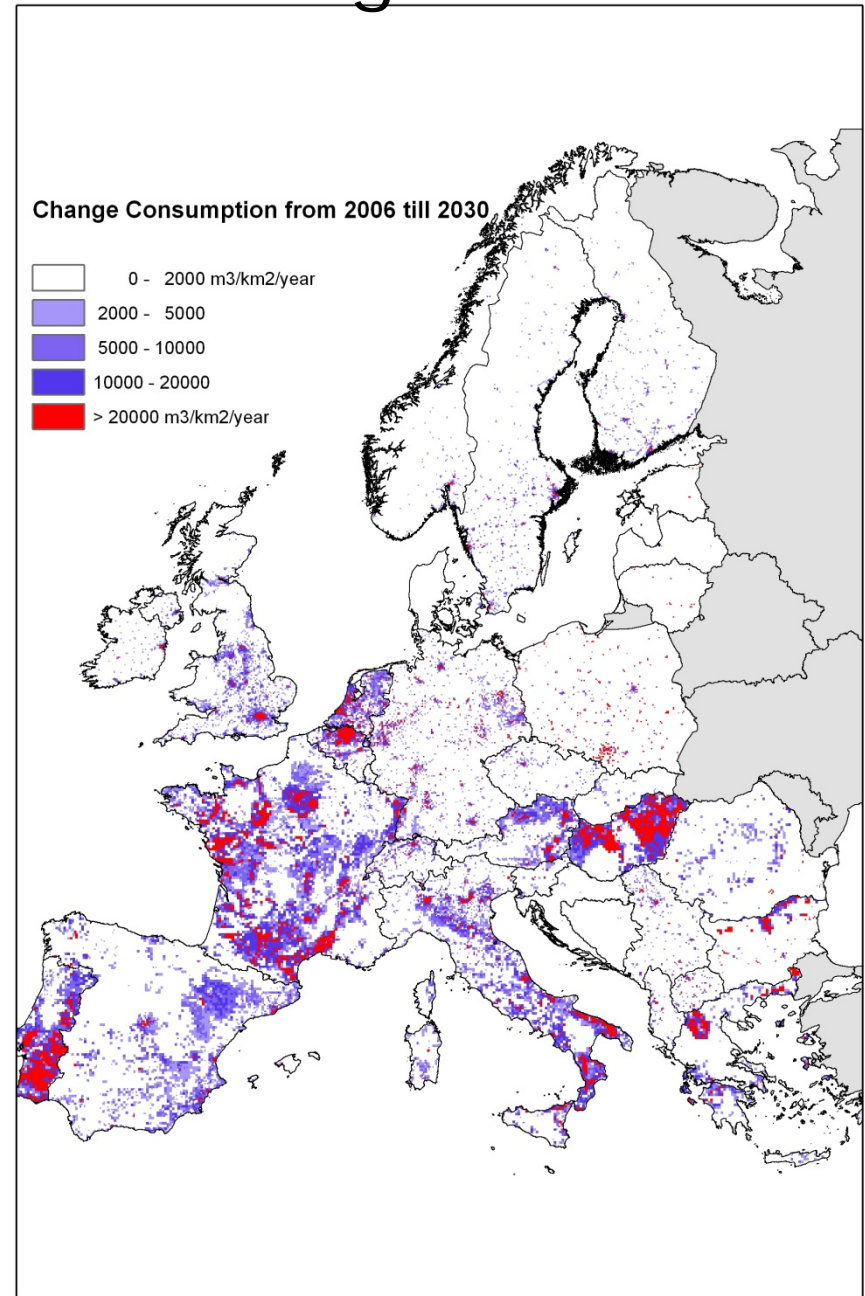
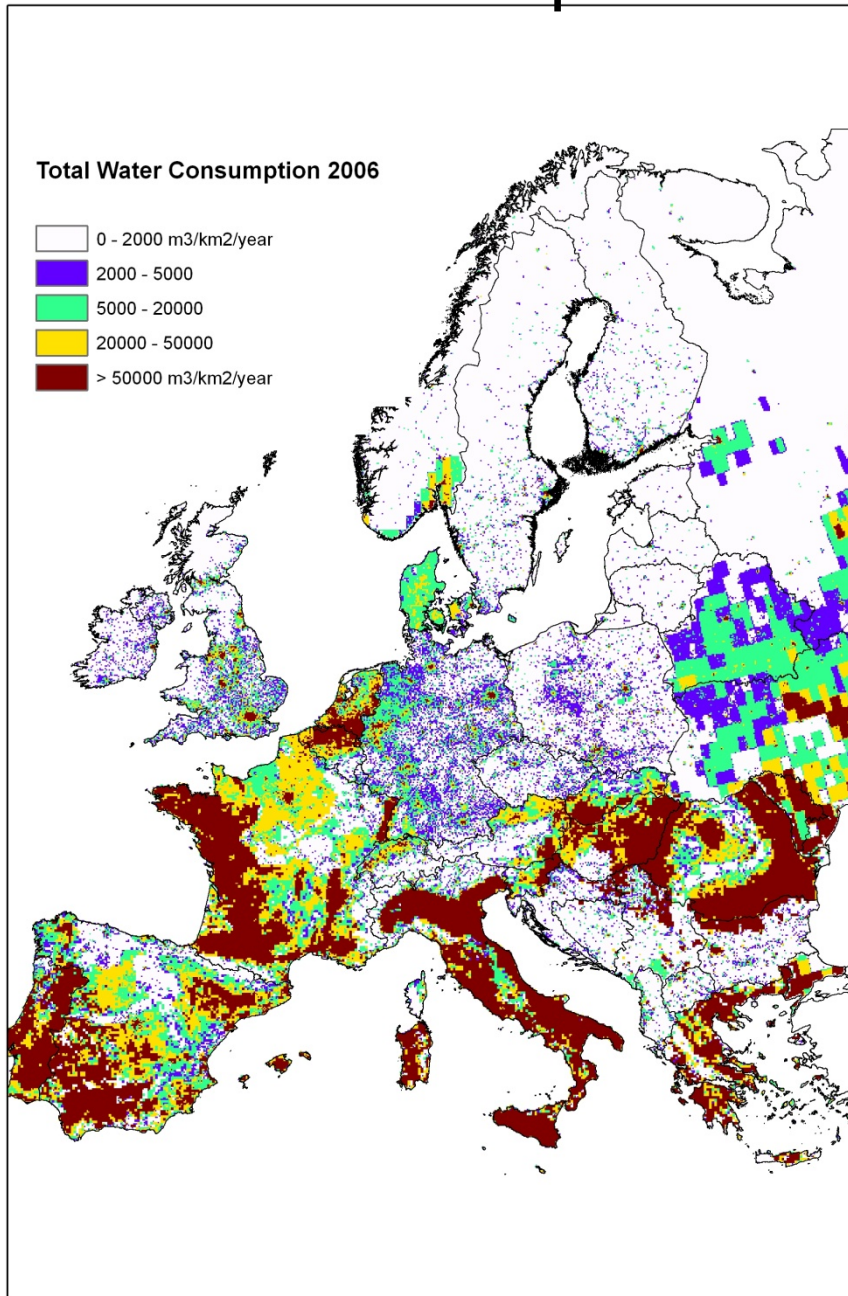
Demand vs Availability Ratio (Average 1990-2014)



Percentage days with Q above Q10natural

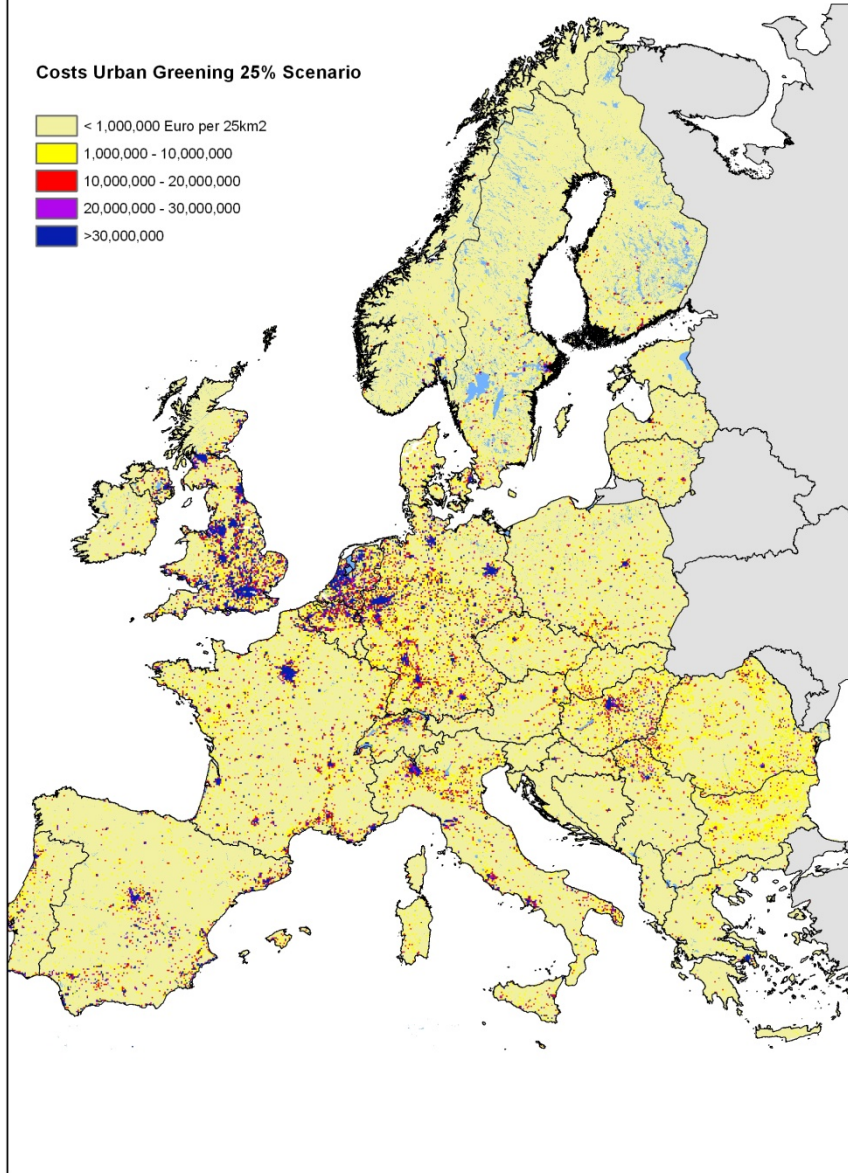


Water consumption 2006 and changes until 2030

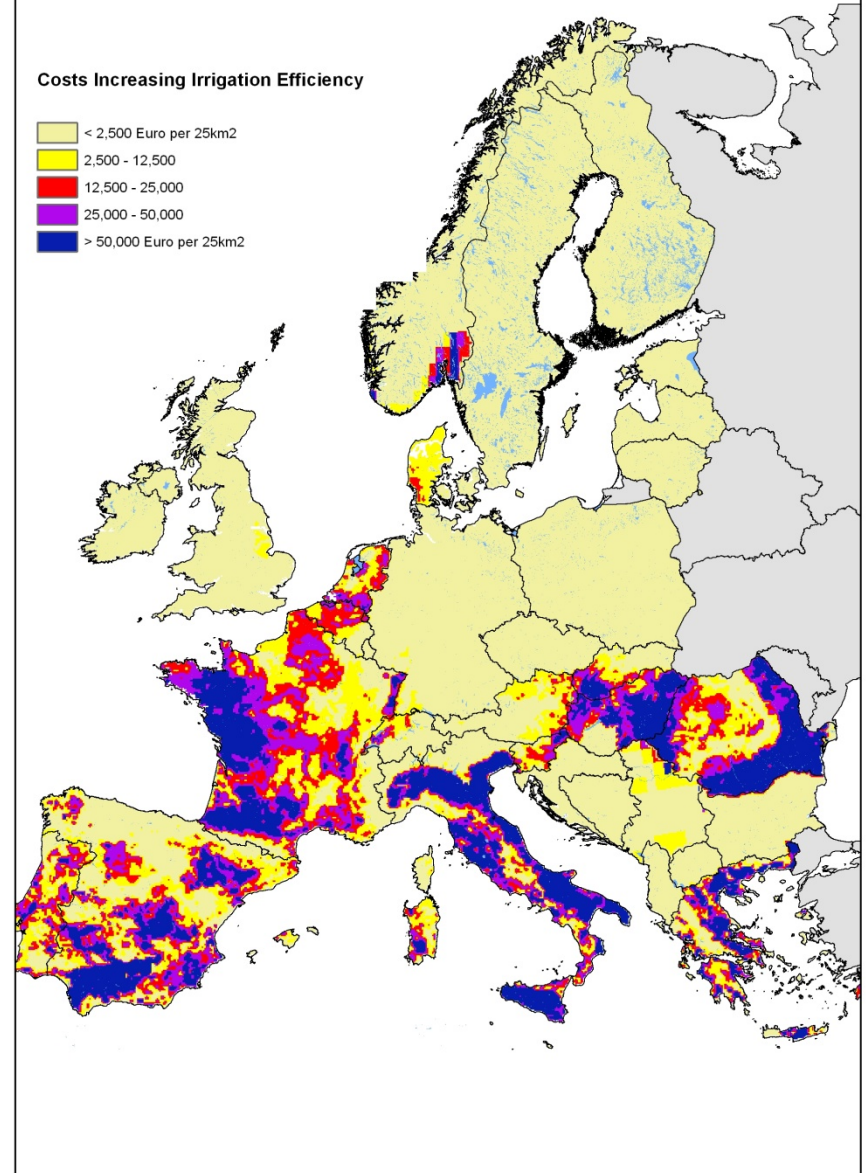


Cost of scenarios

Costs Urban Greening 25% Scenario



Costs Increasing Irrigation Efficiency



Disaster risk: European Flood Awareness System (EFAS)

- JRC main developer of European Flood Awareness system (EFAS)
- Forecasts flood return periods for Europe
- 1-10 days forecast
- Uses distributed hydrological model (pixel based)
- Only distributed to NHSS (and some civil protection)
- Similar service available globally (GLOFAS)



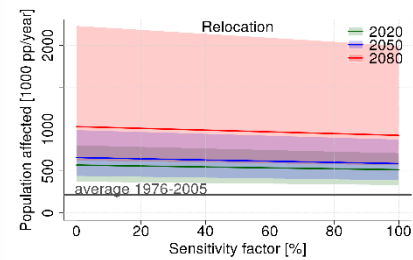
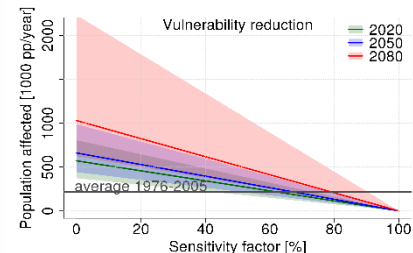
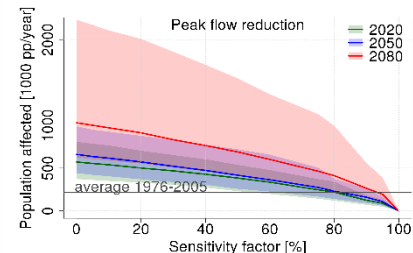
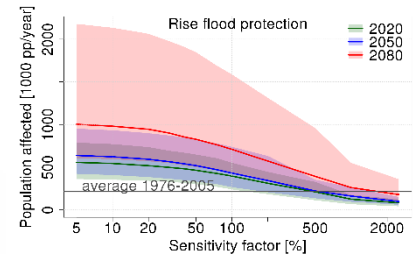
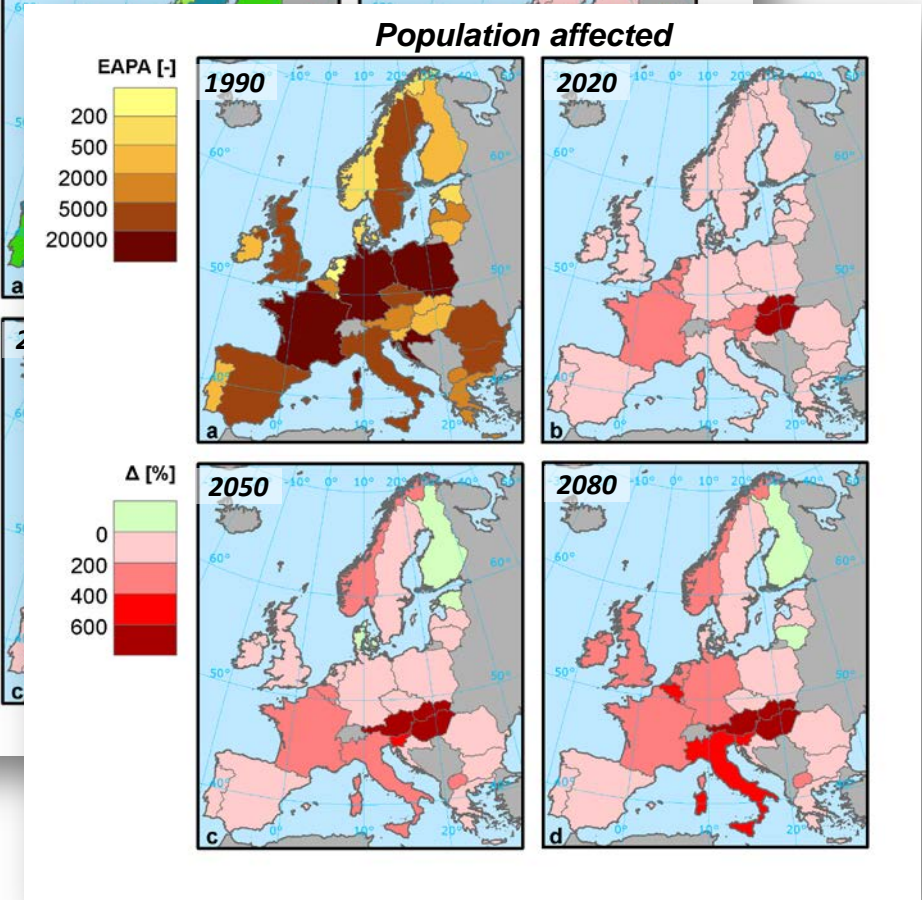
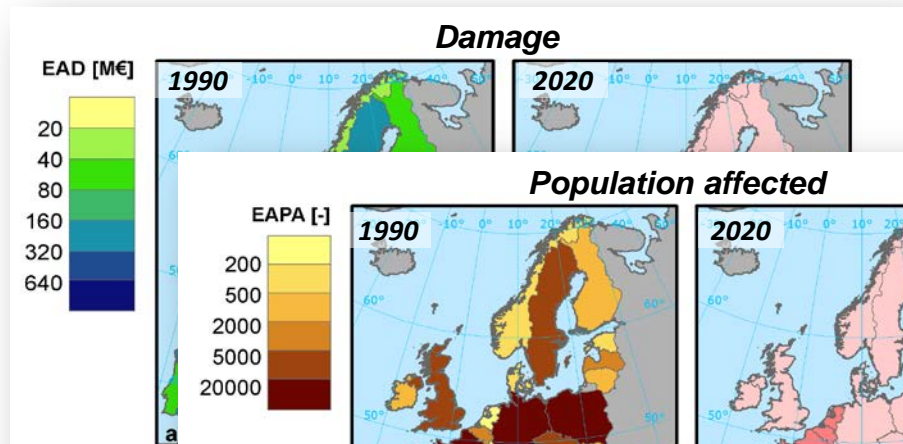
European Drought Observatory (EDO)

The screenshot shows the EDO website homepage. At the top, there is a navigation bar with links for 'Sitemap', 'Legal notice', 'Contact', and 'Search'. Below this is the European Commission logo and the text 'JOINT RESEARCH CENTRE EDO - European Drought Observatory'. A secondary navigation bar includes 'EDO HOME', 'CURRENT DROUGHTS', and 'DATA & TOOLS'. The main content area features a welcome message, a paragraph explaining the EDO's purpose, and a map titled 'Situation of Combined Drought Indicator in Europe - 1st ten-day period of February 2016'. The map uses a color-coded legend: yellow for 'Watch: rainfall deficit', orange for 'Warning: soil moisture deficit', red for 'Alert: vegetation stress following rainfall / soil moisture deficit', dark green for 'Partial recovery of vegetation', and light green for 'Full recovery of vegetation to normal conditions'. To the right of the map, there is a section for 'current DROUGHT information for YOU' with a background image of a dry field. Below this, there are links for 'last UPDATES', 'related PROJECTS', and 'last REPORTS', with specific links for 'Drought News in Europe: Situation in August 2015', 'Drought News in Europe: Situation in August 2014', 'Drought News in Europe: Situation in March 2012', and 'Drought News in Europe: Situation in May 2011'. At the bottom, there is a section for 'Explorative MapViewers' and a footer with various tool links like 'Current Droughts', 'Factsheets', 'Data Availability', 'MapViewer', 'In the Media', 'Time Series', 'Compare Layers', 'Data Download', 'CDI Animation', 'MD Catalogue', and 'MapGenerator'.

EDO:

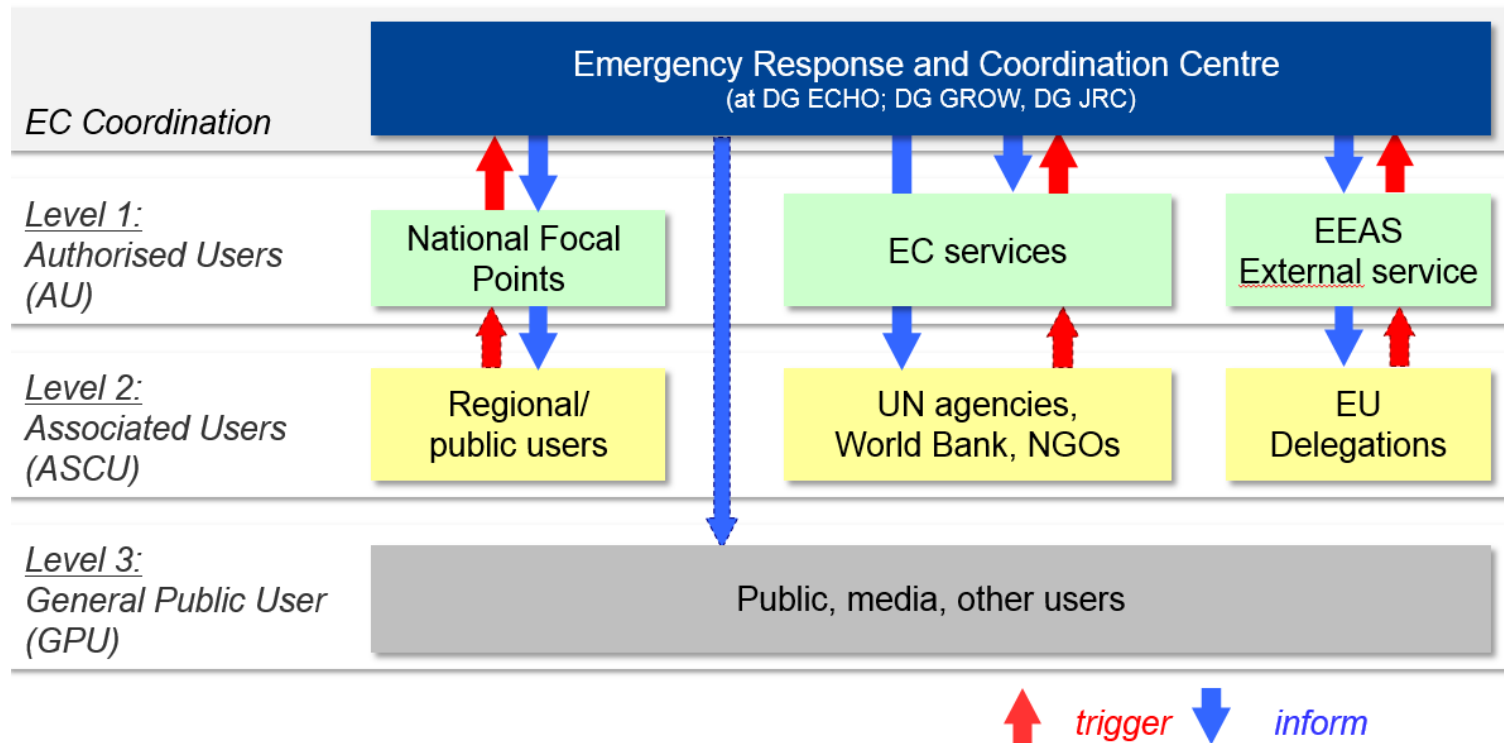
- provides different types of information and tools
- at multiple scales
- through multiple indicators, including high level indicators targeted to decision makers
- Low flow, soil moisture, rainfall deficit, vegetation stress

Flood risk and adaptation under climate change scenarios



Earth observation: Copernicus Emergency Mapping Service

- Operational since April 2012
- 24/7 addressing natural and man-made disasters globally
- Provides disaster management information based on space data combined with other information
- Two components: Mapping and Early Warning Systems (EWS – EFAS & EFFIS)



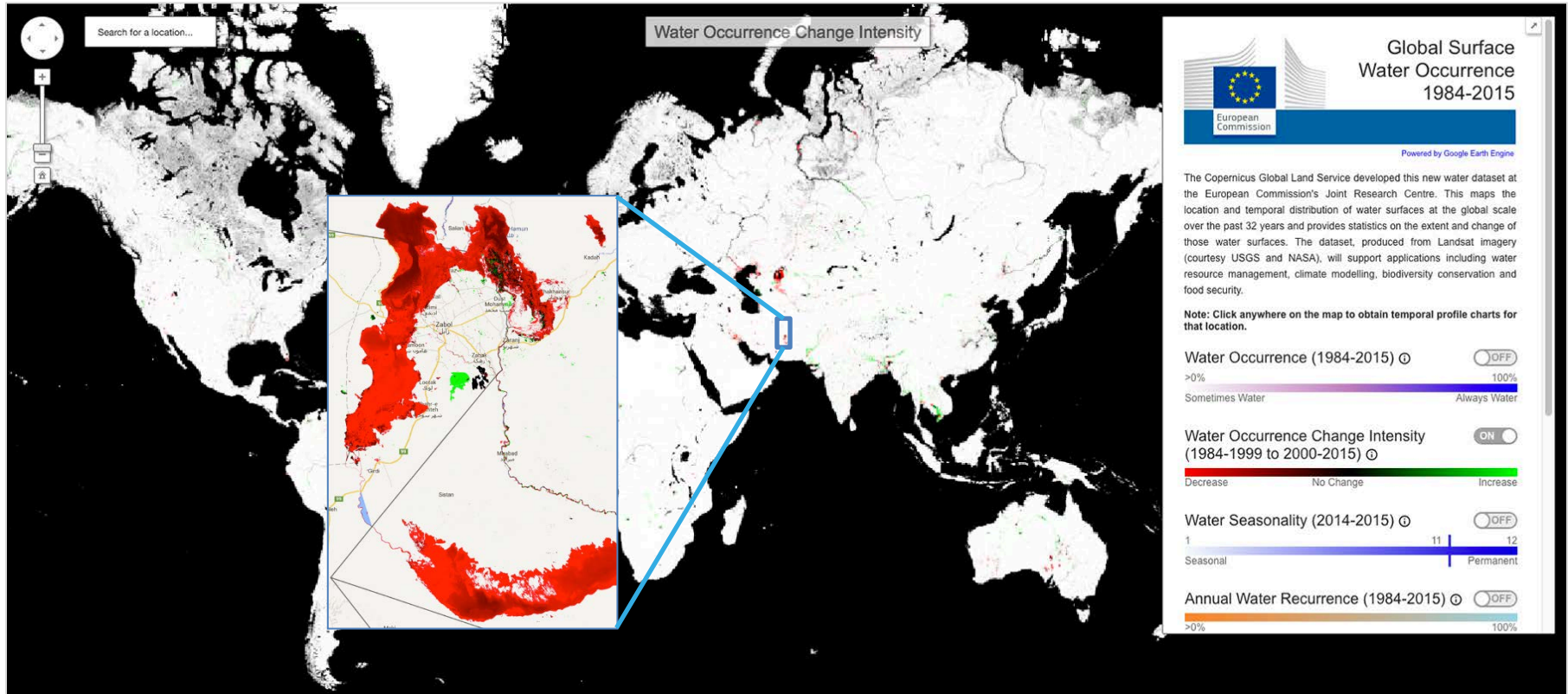
Earth observation: Global Surface water occurrence

3,066,102 Landsat scenes

16th March 1984
18th October 2015
1823 TB data

Processing 3 million
Scenes on one computer would have taken
1,212 years

Google's Earth Engine: 45 days



Stay in touch



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