

PROJECT EDgE

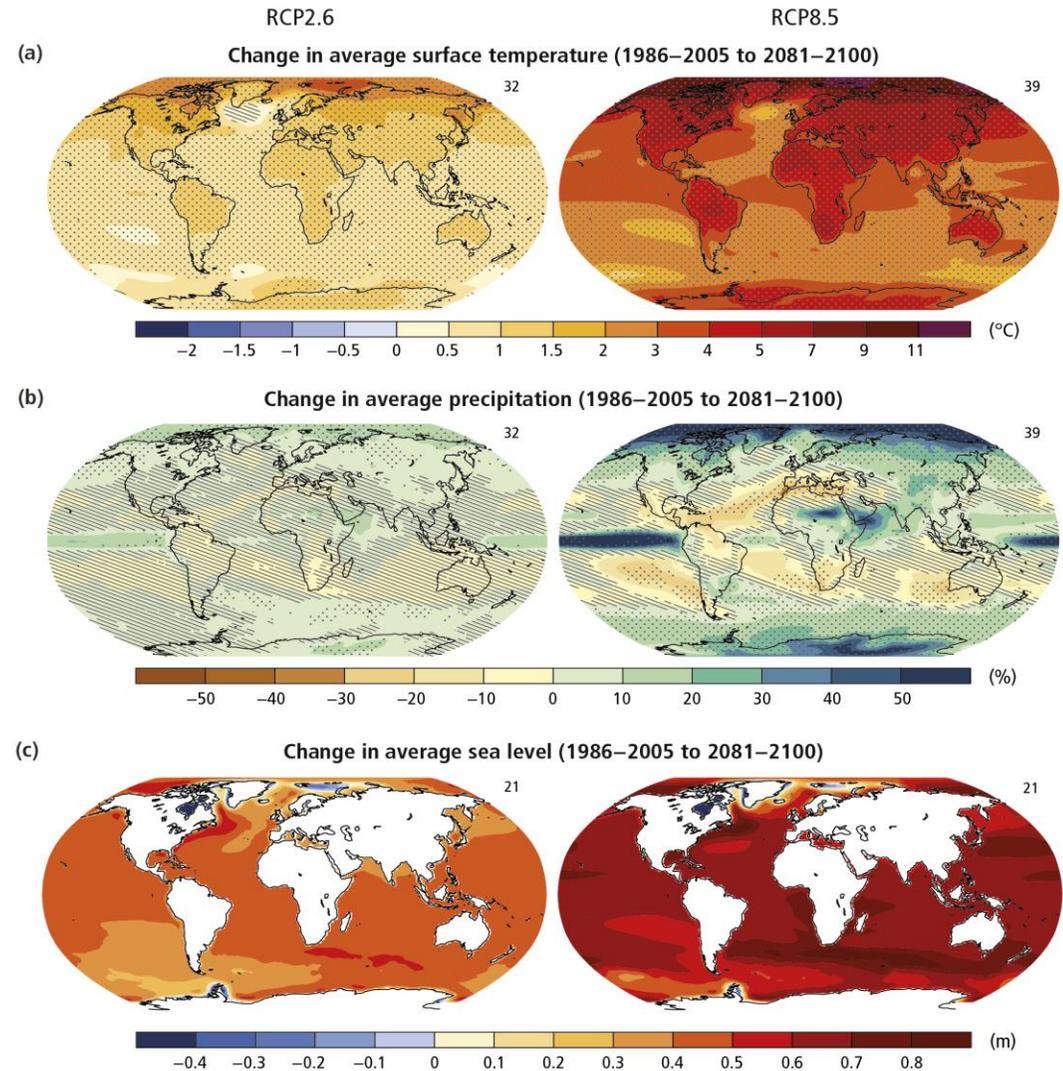
End-to-end demonstrator for improved decision making in the water sector in Europe

<http://edge.climate.copernicus.eu/>

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Technical supporter of MENBO

Variability

Evidence and climatic projections suggest that water resources will be seriously affected by climate change in EU areas prone to water scarcity and droughts.



Source: 5th Evaluation Report (AR5) (IPCC, 2014)

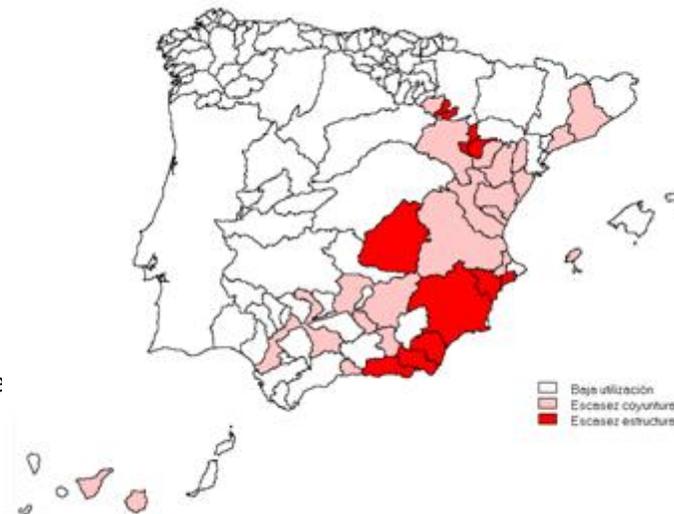
Droughts, scarcity and climate change

In Spain, the impacts of climate change is aggravated in regions affected by frequent droughts, scarcity of resources and thus it will cause imbalances between water demand and resources.



Map of reduction of runoff with a decrease of 5% in the mean annual precipitation and increase of 1°C in the temperature (MMA, 2000)

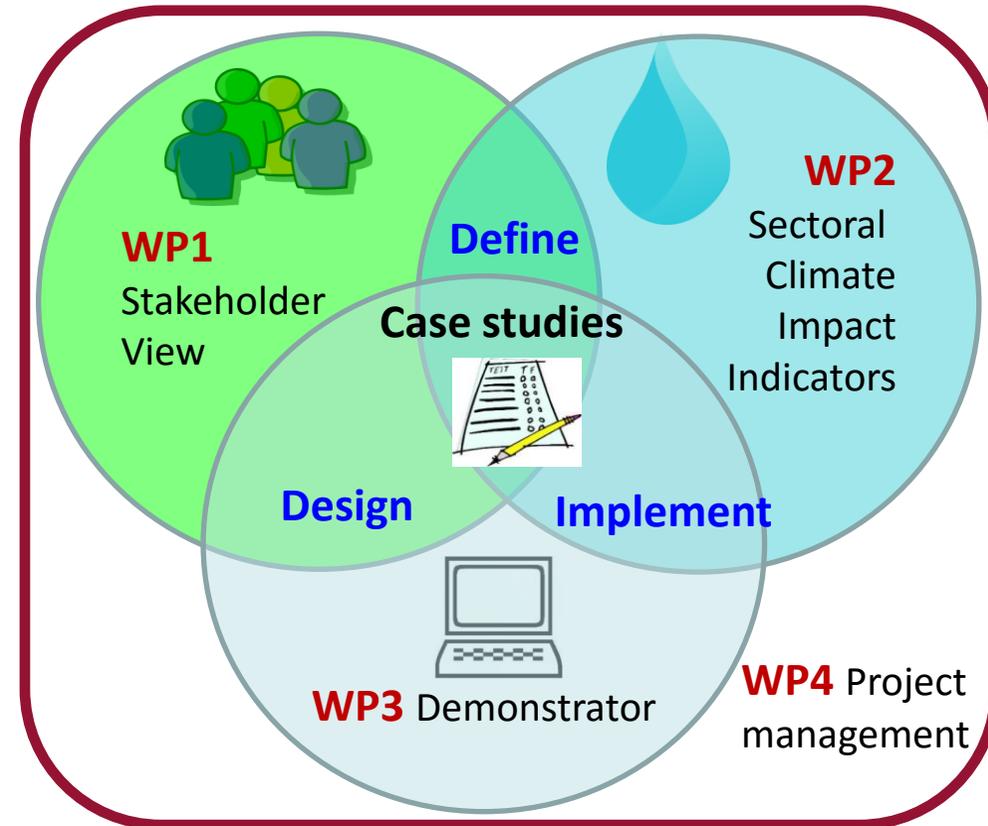
Map of Water Exploitation Index in Spanish water resource systems (MMA, 2000)



EU projects in water COPERNICUS Programme

Object of EDGE project: Build a hydro-climate web service co-designed with stakeholders to deliver climate impact indicators to help water users to improve decision making as regards mitigation and adaptation strategies facing climate change.

EDgE will provide CC predictions and seasonal forecast for Europe



Value: €1.6 M
Duration: 25 Moths

➤ Iterative development:

- **Copernicus Climate Change Service (CS3-ECMWF):** data provider
- **Environmental Agency (EA, UK):** WP1
- **Helmholtz Centre of Environmental Research (UFZ, DE):** WP2
- **Centre of Ecology and Hydrology (CEH, UK):** WP3 + WP4

➤ External users included by focus groups and case studies to shape the delivery mechanism for EDgE products

- **Mediterranean Network of Basins Organisations (MENBO)**
- **Norwegian Water Resources and Energy Directorate (NVE)**
- **CET Aqua**

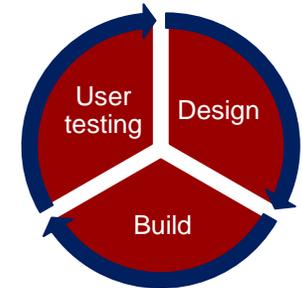


Focus groups:



A very participatory approach has been adopted to capturing the stakeholder view:

- Who makes/what decisions do they make?
- What climate information do they use/need now?
- How might decisions be improved?



Spain



Norway



United Kingdom

Demonstrator:

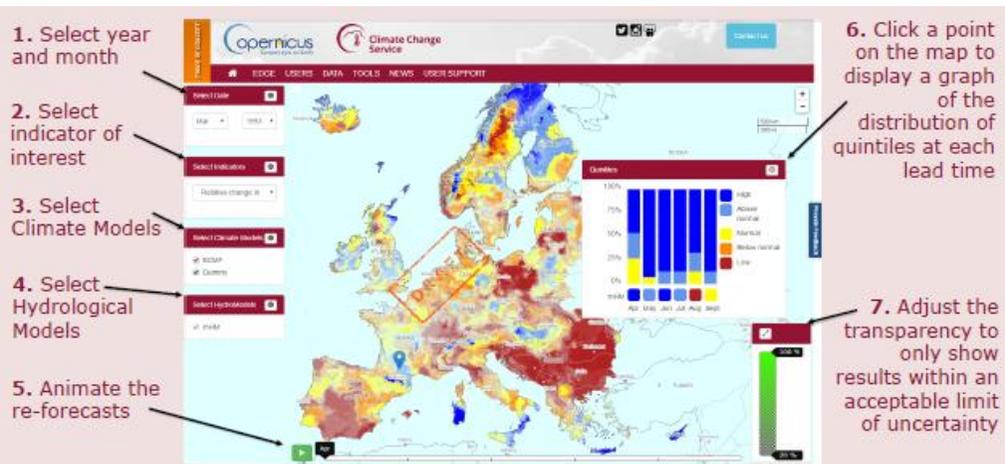
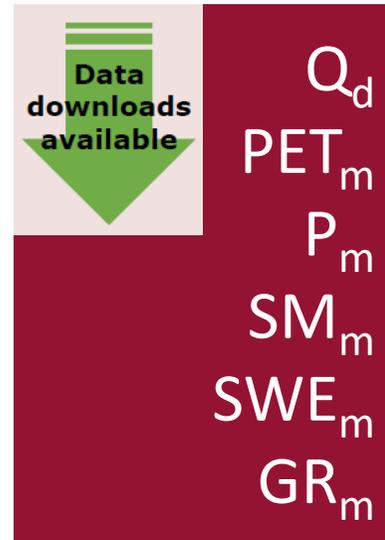


➤ A near-real-time climate monitoring facility

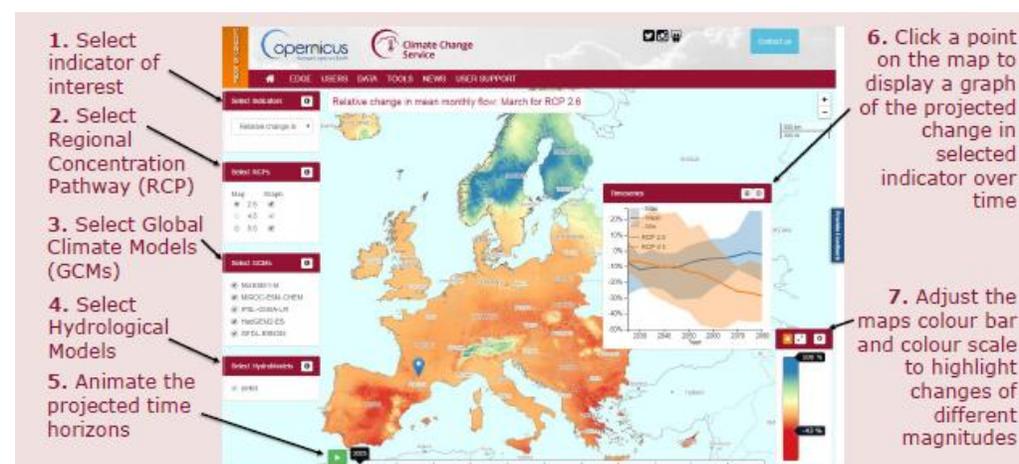
- Discover and map hydro-climate information
- Allow users to interact and downloads the data
- Help users to make basic decisions

➤ Graphical forecast products:

- Multi-model seasonal forecast
- Climate projections at global and regional scales to 2100

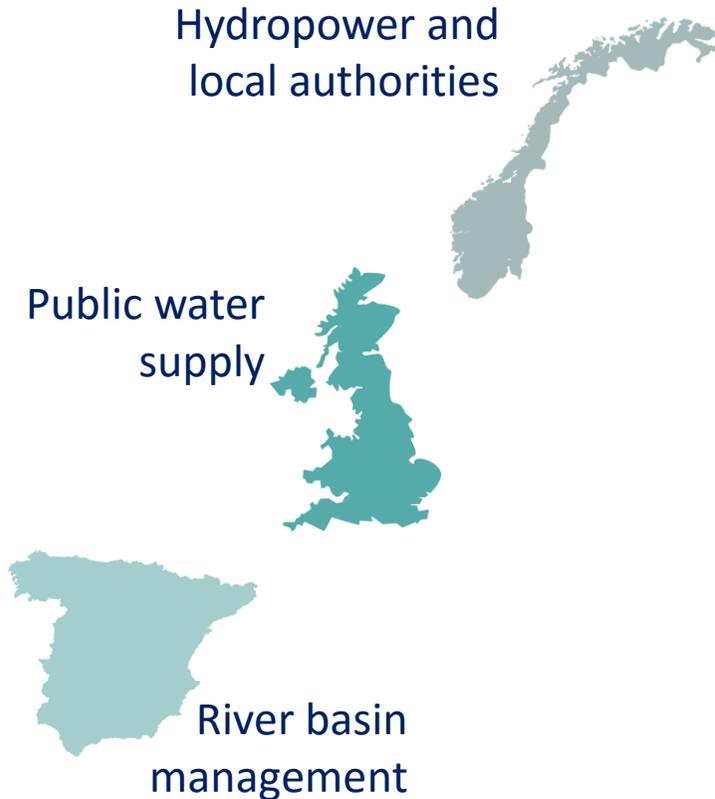


Service for Seasonal Forecast



Service for Climate Projections

Testing with Case studies



- **CS1**-Climate change adaptation in snow-dominated region (NVE)
- **CS2**- Urban water management: Operation and planning water supply (CETAQUA)
- **CS3**- Water resources planning. Value of the European system compared with existing national services (EA)
- **CS4**- Integrated water resources management through EDgE derived indicators (MENBO)

The way forward

- EDgE can only compete with national services by providing more complete hydro-climatic information and easier accessible to all stake-holders
- Preliminary users' feedback on the prototype demonstrator is positive
- Depending on the users: **seasonal** (3-6 months), medium and long-term predictions are needed (timescale)
- Data for specific regions defined by the users are very useful as searches can be focused on areas of interest (spatial scale)
- Translation of the information into different EU languages is desirable

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decision making in the water sector in
Europe**

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