

Online event

“The role of water in the new EU Strategy on Adaptation to Climate Change”

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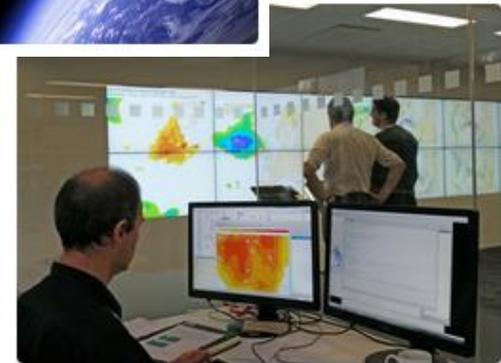
20 November 2020

Who we are, what we do

- Leading organisation for Earth, planetary and space science research in Europe
- Union of scientists with about 20,000 members from all over the world
- Meetings, Publications, Awards, Outreach & Education, Science & Policy
- 22 Scientific Divisions



Water in Geosciences



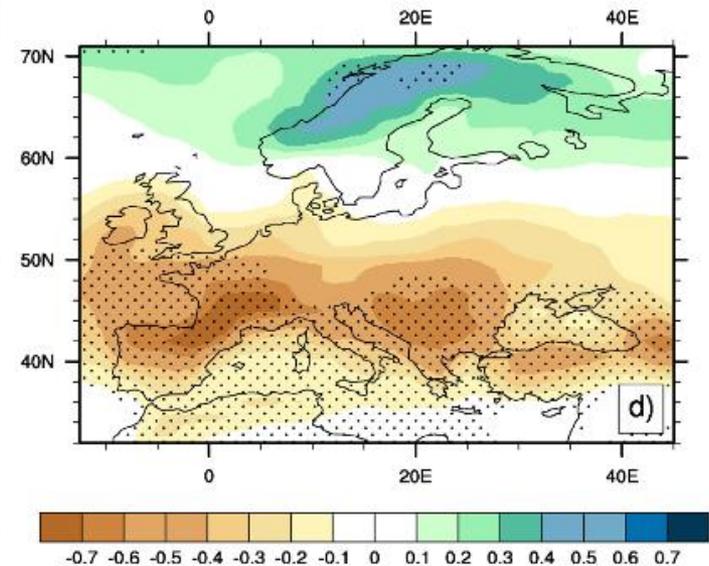
Climate Change Adaptation in the Water Sector

- Changes in precipitation (incl. snow) and temperature affect the water cycle

“(...) the rate of warming may increase by a factor 2 to 3 during the 21st century (...)”

“(...) a significant fraction of the future summer precipitation changes over England and western France is due to changes in circulation regimes.”

“Uncertainties about the amplitude of [the] precipitation changes remain large.”



Precipitation projected changes (mm/day) relative to the 1900-1929 period. Late 21st century, **summer**

Climate Change Adaptation in the Water Sector

- Rivers basins integrate climate processes and human activities
- Impacts at different levels: global, regional, local

“(...) increasing trend in future “Irrigation water demand”, (...) depending on the degree of global warming and associated regional precipitation changes.”



“(...) climate change not only increases [irrigation water demand], but also shifts its seasonality.”



Geophysical Research Letters

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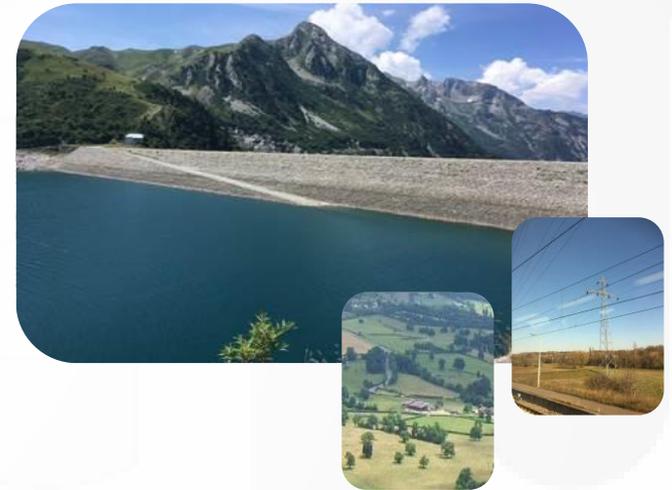
Multimodel projections and uncertainties of irrigation water demand under climate change

Yoshihide Wada , Dominik Wisser, Stephanie Eisner, Martina Flörke, Dieter Gerten, Ingjerd Haddeland, Naota Hanasaki, Yoshimitsu Masaki, Felix T. Portmann ... [See all authors](#) v

Climate Change Adaptation in the Water Sector

- Not only a matter of how much, but also when
- Towards versatile multi-sectorial water management practices

“Multi-sectoral co-benefit analysis:
potential for win-win situations”



“Multi-sectoral contexts can foster commitments to align policies and practices among sectors by taking into account interlinkages and trade-offs on short-term operations and long-term strategic planning.”



ABOUT • SECTORS • CASE STUDIES • RESOURCES •

IMPRES SECTORAL SURVEYS • HYDROPOWER



The hydropower sector uses hydro-meteorological predictions to guarantee people safety and dam security, and to optimise energy production and the economic value of water resources.

POLICY BRIEF

The benefits of informing hydropower reservoir operations with climate and inflow forecasts



Water challenges

- A multi-sectoral responsibility approach to be fostered
- Impacts are already felt throughout a range of sectors: practitioners and stakeholders are dealing with a transition period



**How versatile are current tools and practices
(water management and risk assessment)?**

Water in the new EU Adaptation Strategy

- Interdependencies and interlinkages to be explored in the routes to a climate-neutral Europe

“We have always adapted, we will adapt”



“We have water management rules; these cannot be changed”



Too confident?

Too rigid?

Role of Science, Scientists and Scientific Unions

- Knowledge to solutions, from today to tomorrow
- Bridging local needs to EU-wide or global data/models
- Scaling up local adaptation solutions: ensuring that actions do not end up cancelling each other out (evaluation)

Retreat, Inaction



Advance, Action



Thank you for your attention



Credit: Antonello Provenzale

An informative document for policymakers and geoscientists



HOW GEOSCIENCE CAN SUPPORT THE EUROPEAN GREEN DEAL

An informative document for policymakers and geoscientists

September 2020

ZERO POLLUTION AMBITION FOR AIR, WATER, AND SOIL

The Green Deal's Zero Pollution Action Plan for Air, Water and Soil, to be adopted in 2021, will address the serious problem of pollution, which can be hazardous to wildlife, human health, and the environment. The Zero Pollution Action Plan aims to

EGU members are experts in such as emissions of pollution, formation of secondary pollutants, and techniques for non-point source pollution measurements.

propagation, and techniques for non-point source pollution measurements.

Ocean and coastal waters

Marine pollution is difficult to manage due to its wide variety of direct and diffuse sources and its dispersal via ocean currents. A 2020 report on the first implementation cycle of the Marine Strategy Framework Directive outlined the EU's action to combat plastic

Freshwater systems

To restore fresh water ecosystems and accomplish the objectives outlined in the EU Water Framework Directive, the EU Biodiversity Strategy for 2030 also sets a