



**Barcelona
Supercomputing
Center**

Centro Nacional de Supercomputación



EARTH SCIENCE DEPARTMENT

Agencia Catalana de l'Aigua (ACA)
Arnau Cangròs, tècnic en gestió de recursos hídrics

Services – Earth Science Department



- Created in 2005; 350 employees
- Research, develop and manage information technology
- Facilitate scientific progress and its application in society

Earth Science Department

- **Atmospheric composition modelling**
- **Climate prediction modelling**
- **Computational Earth Sciences**
- **Earth Sciences Services**



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Chloé Prodhomme 
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Climate Prediction

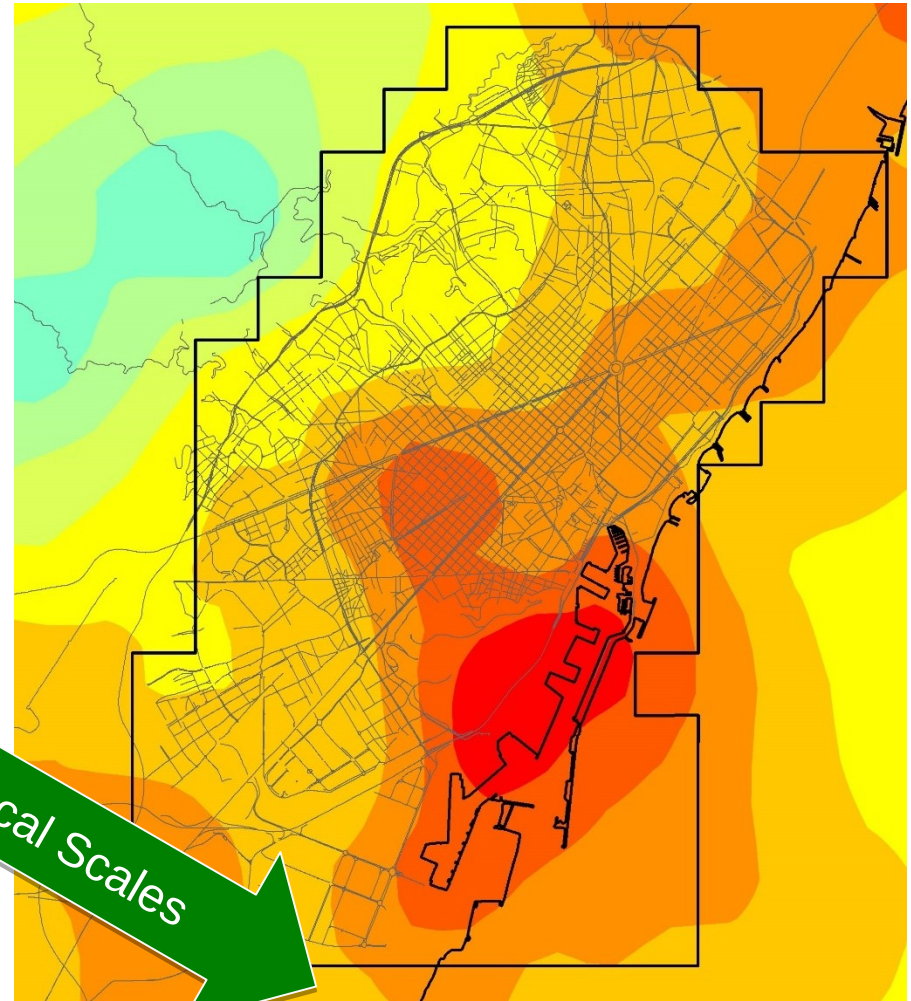
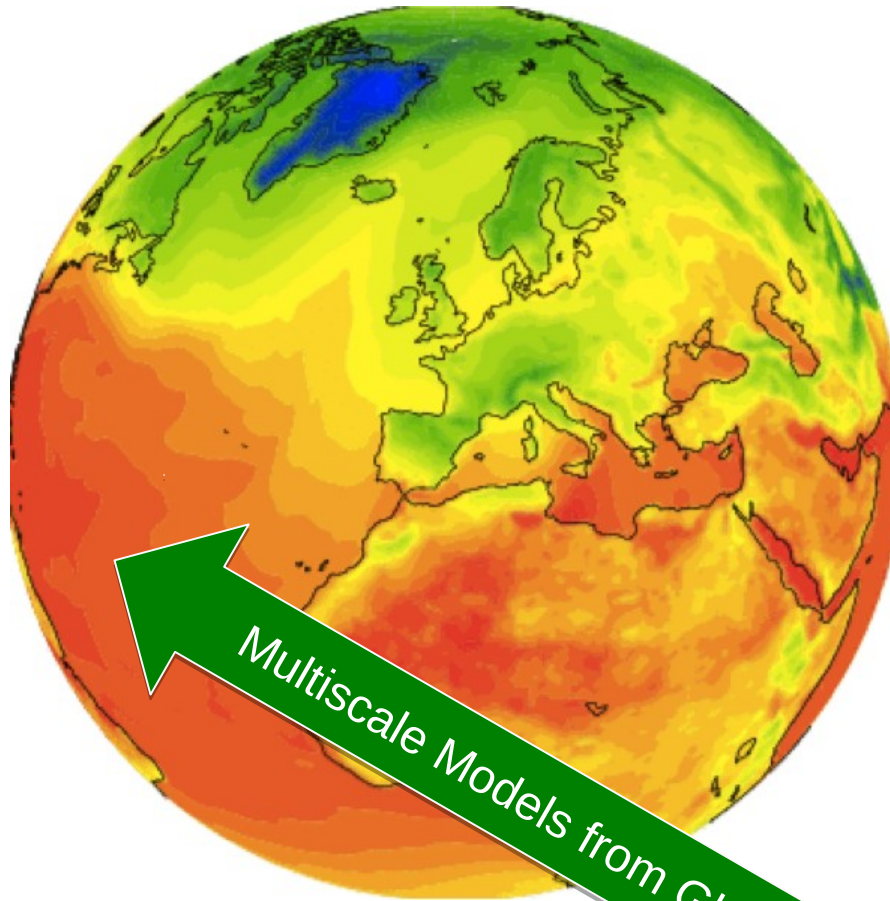
Earth System Services

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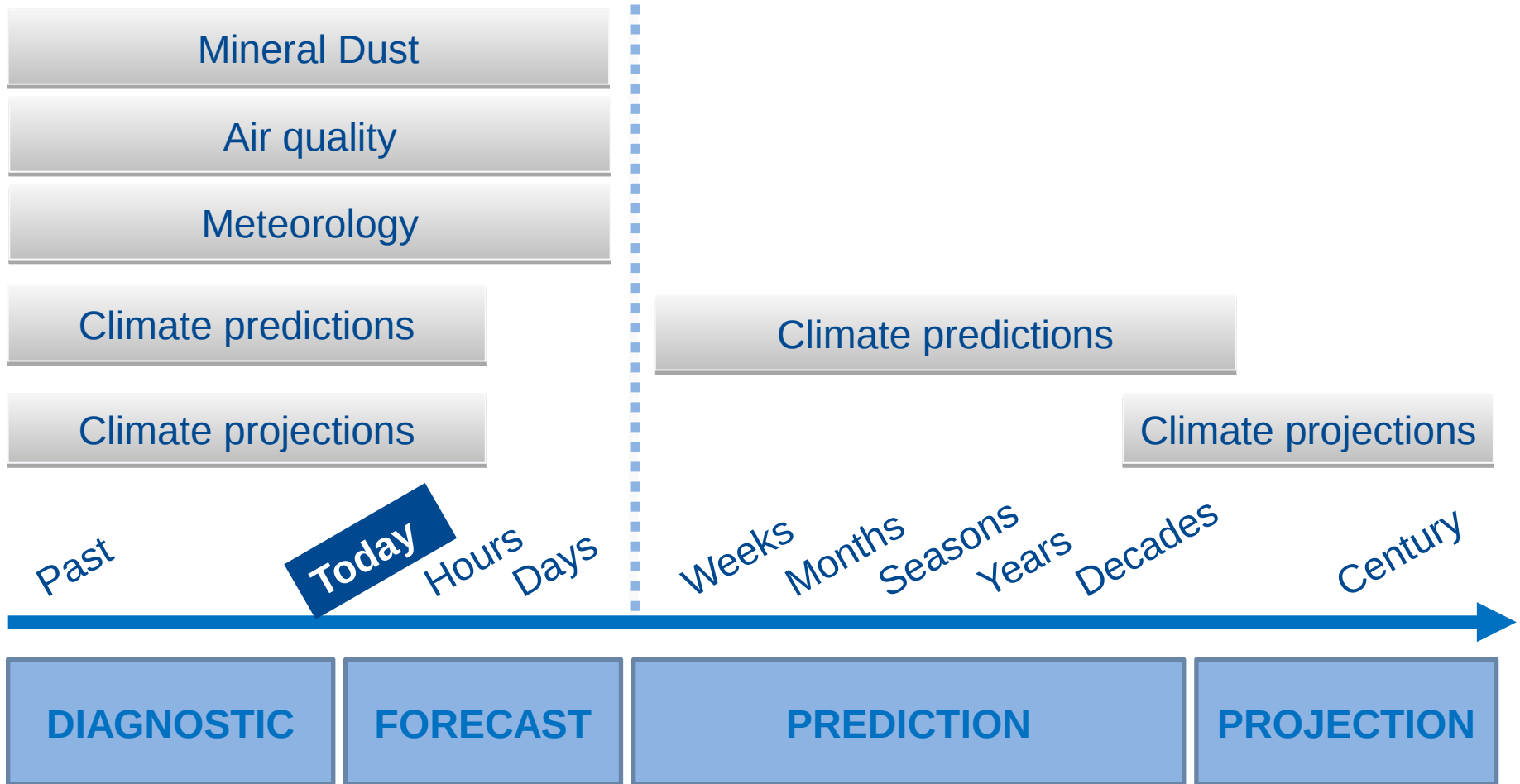
Atmospheric Composition

Multi-scale models from global to local scales



Multiscale Models from Global to Local Scales

Temporal scales





Earth System Services

National and International collaborations



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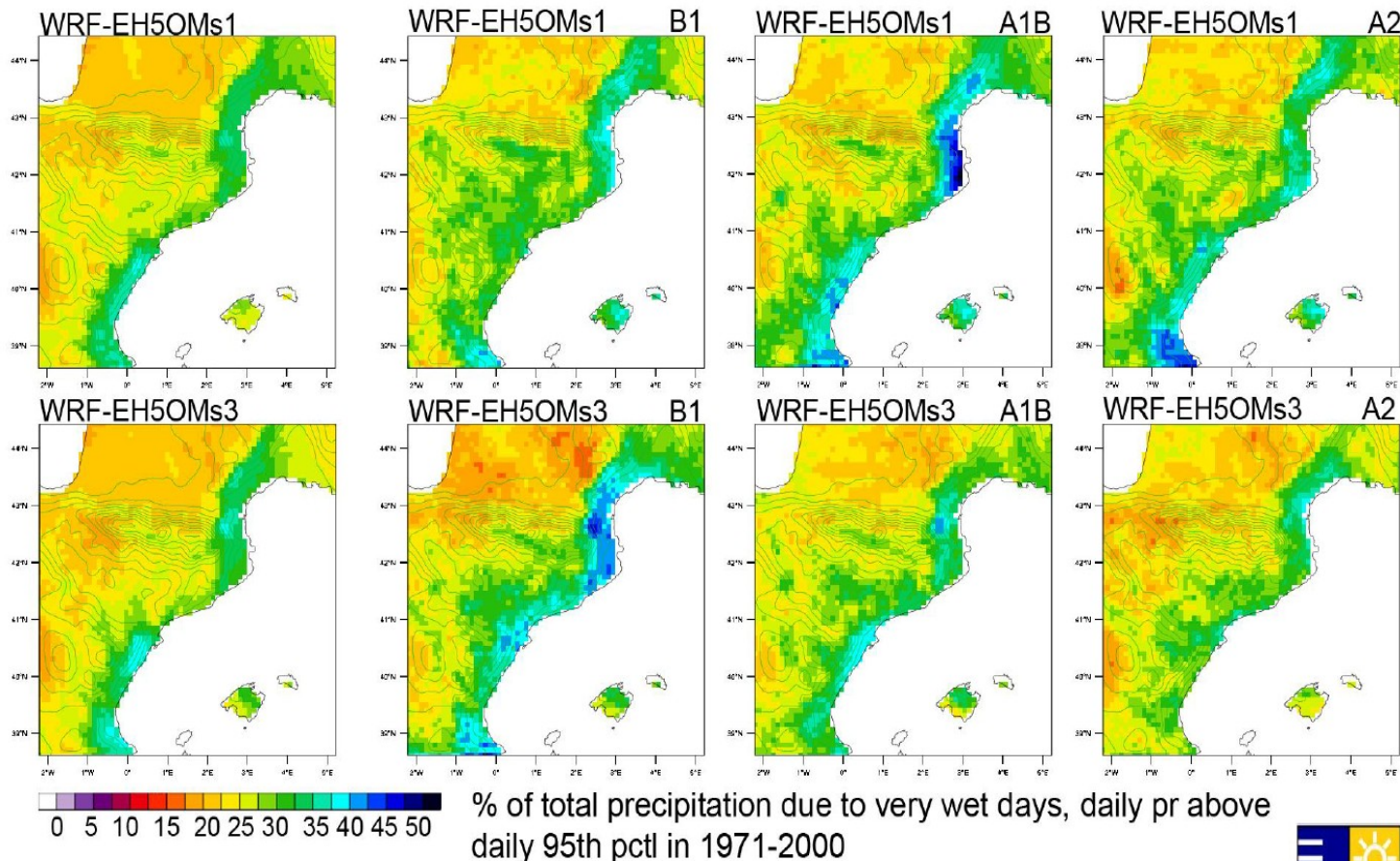
EXCELENCIA SEVERO OCHOA



September 2008

Dynamical downscaling of climatic temperature and precipitation trends

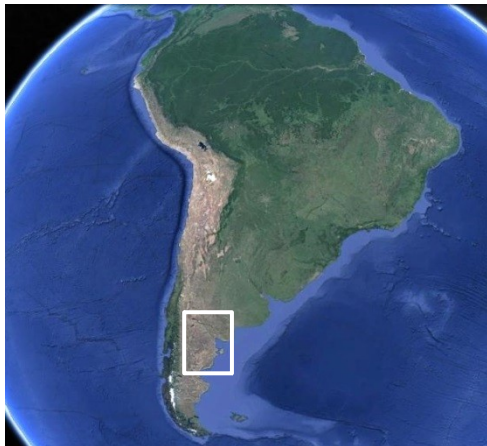
This work aims to provide an assessment of temperature and precipitation projections for mid-21st century in the North Western Mediterranean Basin (NWMB) at high resolution.



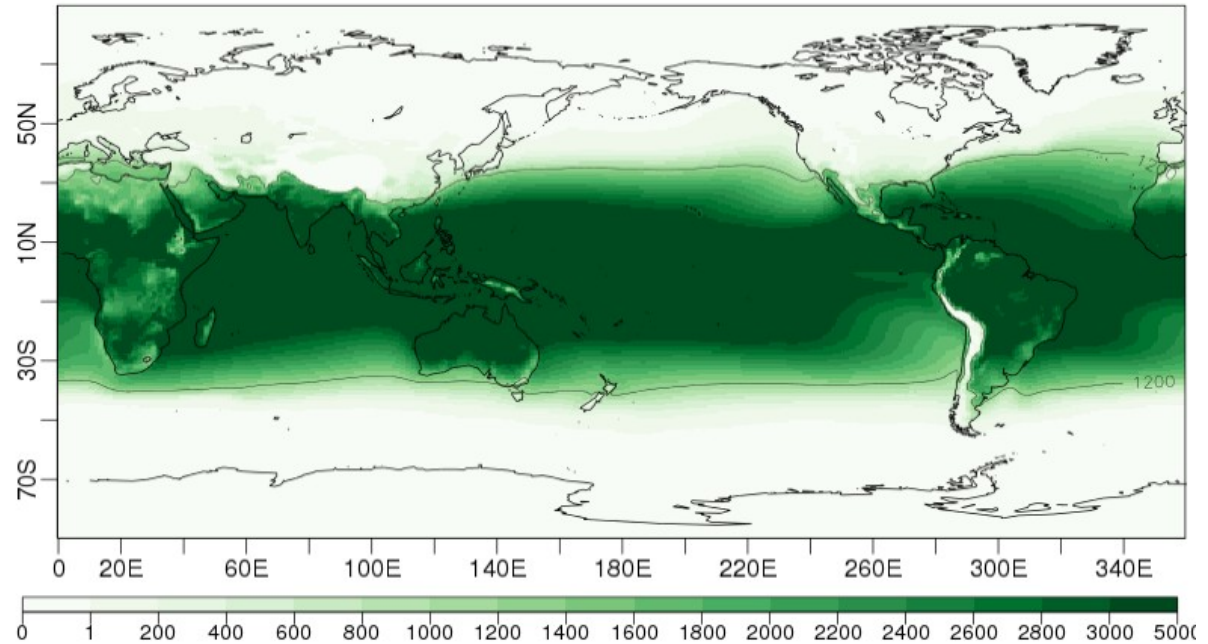
TORRES



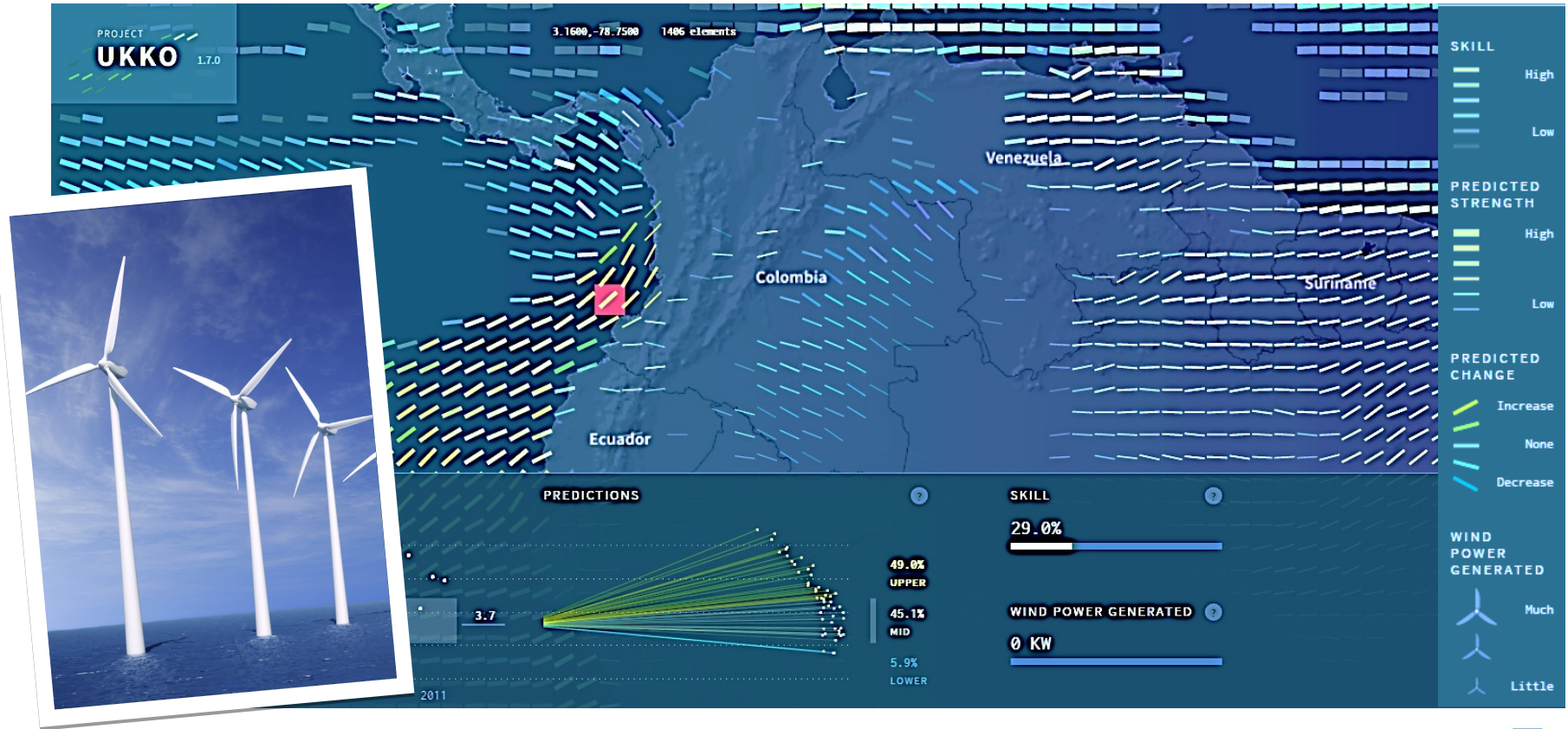
1870



Winkler Index: Oct-Abr



Seasonal wind power predictions



RESILIENCE
PROTOTYPE



Potential applications in FLOOD RISK - WATER SUPPLY

- **Sub-seasonal** predictions (one month ahead)
 - **Seasonal** predictions (the season ahead)
 - General trends for precipitation, Temperature, etc.
 - **Downscaling** of climate variables.
-
- Informing Hydroelectric power management
 - Early warning systems for extreme events
 - Information on drought periods or flood risk

- **IMPRESX (Horizon 2020).** (Improving predictions and management of hydrological extremes)
 - Updates on research advances
 - Feedback
 - Participation in user workshops
- **New projects** as partners or stakeholders
 - New program H2020 2016-2017
 - ITN CODA



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Thank you!

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