Overview of IMPREX:

Improving predictions and management of hydrological extremes (H2020 2015-2019)

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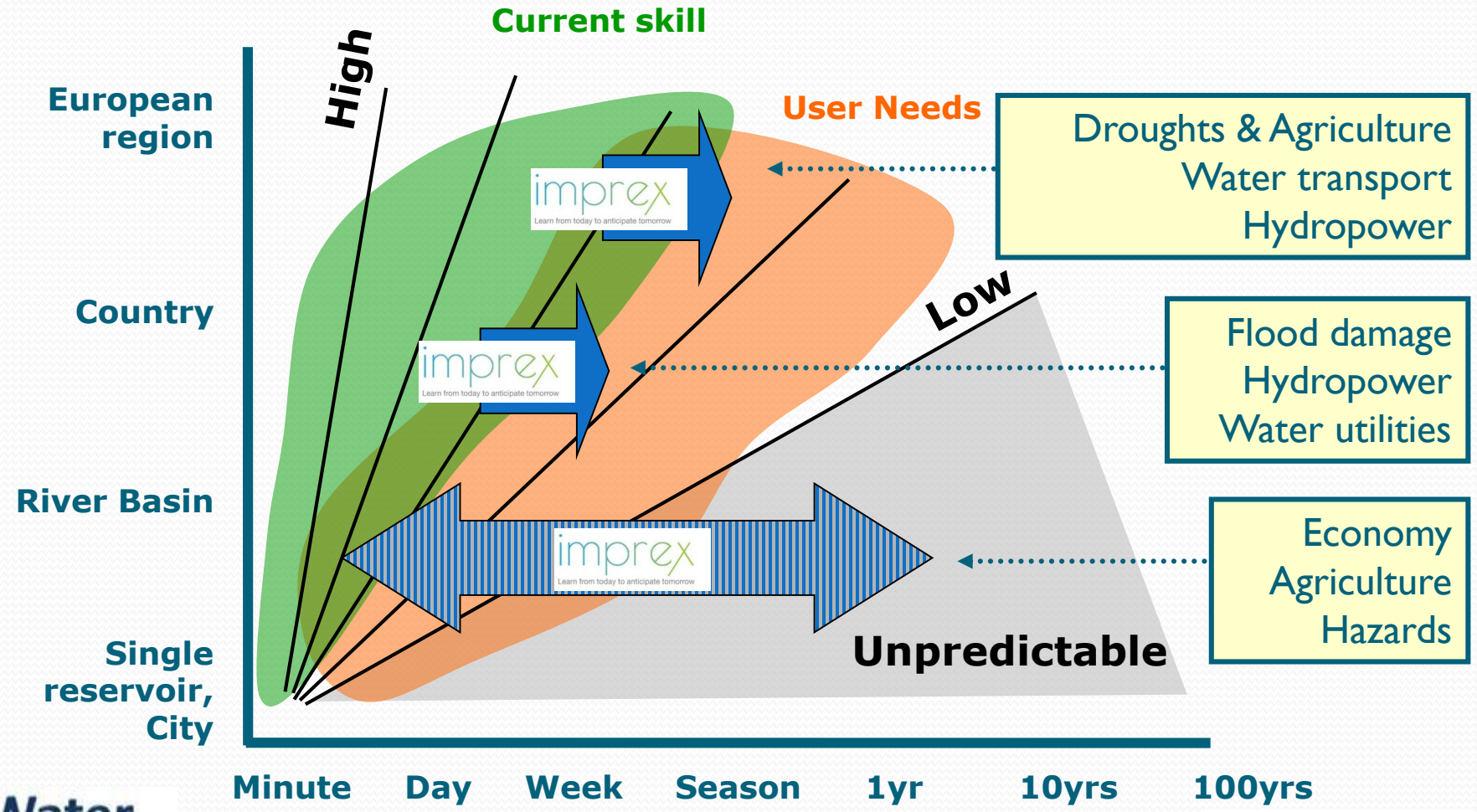
Weather and climate services



Project - Main features

- Research on forecasts/projections and application-oriented research: urgent need for "actionable research" to guide decisions
- Weather events in a climate context: making the bridge between now and later
- Strong team combining:
  - forecasting climate/hydrologic modelling
  - sectoral experts & SMEs
  - outreach & dissemination
- Embedded in actions of users, national and regional water authorities

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Project - Objectives

- A measurable improvement in forecast skill of meteorological and hydrological extremes and their impacts
- Novel risk assessment concepts that respond to limitations of current methods and assessment practices
- A demonstration of the value of the information on hydrological impacts to relevant stakeholders
- Improved science-based support for existing and adapted risk management and adaptation strategies
- A pan-European periodic hydrological risk outlook (built on Copernicus Sectoral Service)

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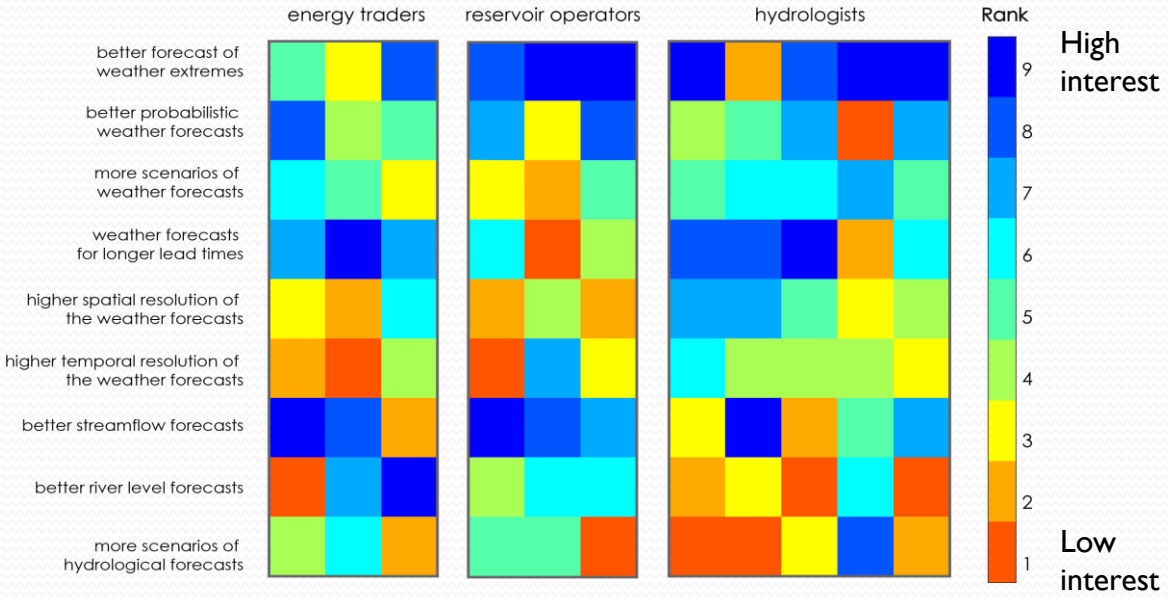
Project - Some outputs so far

- **Improved uptake** of hydrometeorology information
  - E.g. in dry Mediterranean seasonal forecasting is currently not used for water resource planning in a multi-use context
  - Diverse interest in the hydropower sector
  - Potential 3% of revenue increase when operations of reservoirs consider forecast information



Project - Some outputs so far

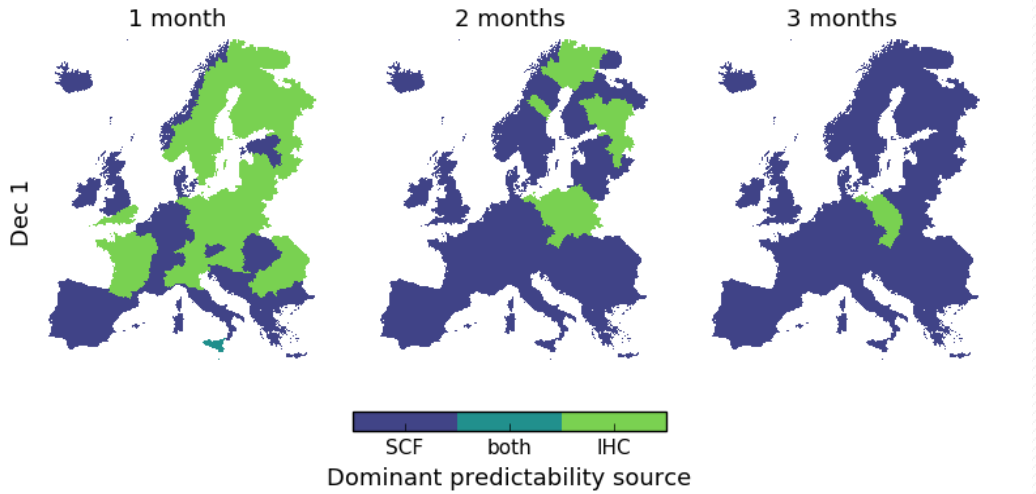
- **Identification of key drivers** that control and influence the skill of streamflow forecasts on sub-seasonal to seasonal time scales and for a range of

  locations,

  seasons and

  extreme events

  in Europe



Maps of the dominant **predictability source** for December initialisation date and the first three months of lead time for the EFAS regions across Europe. Blue colours signify that the forecast quality forms the dominant source of predictability, green implies important role for initial conditions.

RDI Gaps for the Future

- **Improving predictability** of extreme events
- **Integrate** approaches developed for water management and climate change effects
- **EU Adaptation Strategy**
  - Improved (sectoral) risk assessments as basis for adaptation strategies (national, sectoral, local)
  - Assessment of economic sectors' dependence on water resources outside Europe
- **Water Framework Directive, Drought policy and Floods Directive**
  - Climate change and drought events insufficiently taken into account in RBMPs
  - Links and input on flood risk and hazard maps, damage modelling

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Link to SRIA Themes

- Weather- and climate-**sensitive activities**
- Actionable water **services** (data and risk outlook):
  - Mapping complexity of interactions and dependencies in the real world / decision-making contexts
- **Competitiveness** in the water industry ⇔ **opportunities:**
  - Water and energy, agriculture, tourism, and ecosystems
  - Facilitating SMEs to extend their product portfolio (tailoring climate services to local needs, innovating on NBS)
- **Integrated strategy**:
  - Where different policies can affect each other
  - Multi-risk governance to anticipate tomorrow

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Project – Contact Details

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