The societal benefits of Earth System Modelling for climate services

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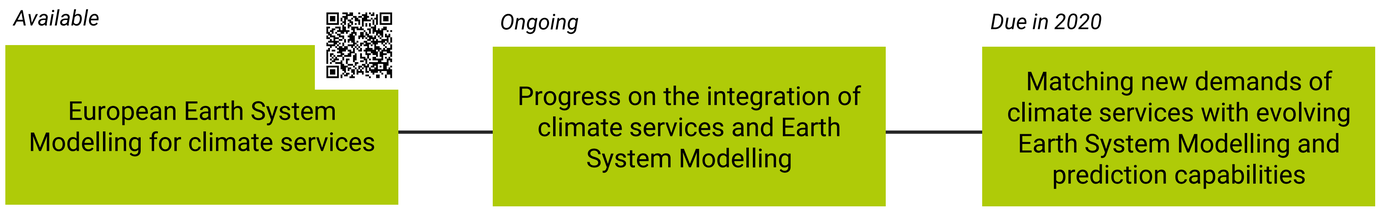
What is Climateurope?

The network

- The Europe-wide network for researchers, suppliers an users of climate information.
- A place to share best practices, gaps and recommendations and discover the state of the art of climate observations, climate modelling and climate services.
- An opportunity to actively interact with users and suppliers of climate information.

Activities: reports and policy briefs

Climateurope will produce, among other products oriented towards the climate modelling and services communities, a series of 3 reports to map and analyse relevant initiatives, challenges and emerging needs relating to Earth System Modelling and climate services in Europe, involving expertise from a range of stakeholders.

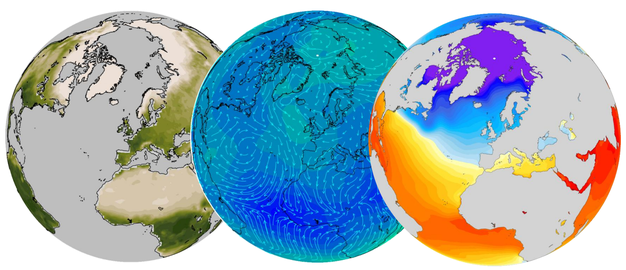


Lessons learned from each of these reports can help develop recommendations to the different communities engaged and, especially, for the European Commission.

Integration of Earth System Models and climate services

Earth System Models

Earth System Models (ESMs) describe the global climate system and its development in time by a combination of coupled physical and biogeochemical cycles.



Courtesy of Veronica Torralba -BSC

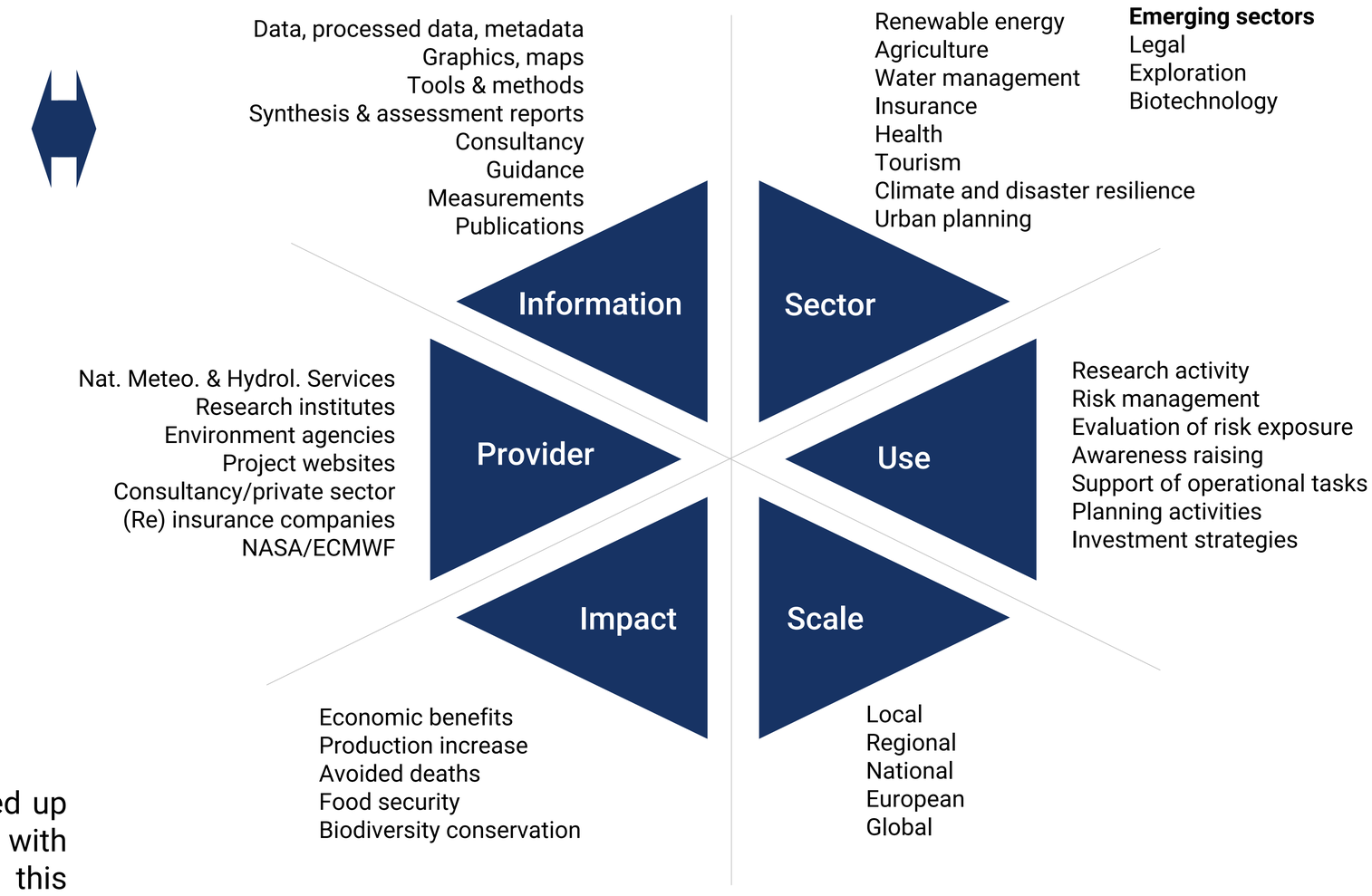
Priorities

- Understand the cascade of **uncertainties** from ESMs to climate services
- Generate **region- and sector-specific** information (downscaling & bias-correction)
- Develop new **evaluation tools**
- Continued **dialogue** between ESM developers and climate service providers

Climate services

Climate services provide information that assists decision making. They are the transformation of climate-related data into customized products (projections, forecasts, information, best practices, etc.) that are of use for society. The landscape of climate services has been rapidly evolving through the improvement of different aspects of climate models and ESMs. The modelling community needs to consider new requirements formulated by the climate services community about developing a common R&D agenda where ESM and climate services overlap.

Potential ways to classify climate services



Priorities

- Transition from pre-operational and 'proof-of-concept' to **operational services**
- **Knowledge brokers or intermediaries** to enhance communication between service providers and users
- Transition from an academic nature of climate services providers to a **market for climate services**, necessary for a sustained demand over time

Conclusions

ESM and climate services have been integrated up to a certain point and do provide society with relevant and useful information, although this integration should be further developed.

A classification of climate services from a stakeholder point of view is not a simple task because there are many potential ways to do it. However, it will help to provide an overview of the climate services and products currently available in Europe and some hints on the future directions of the joint development of ESM and climate services.

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