

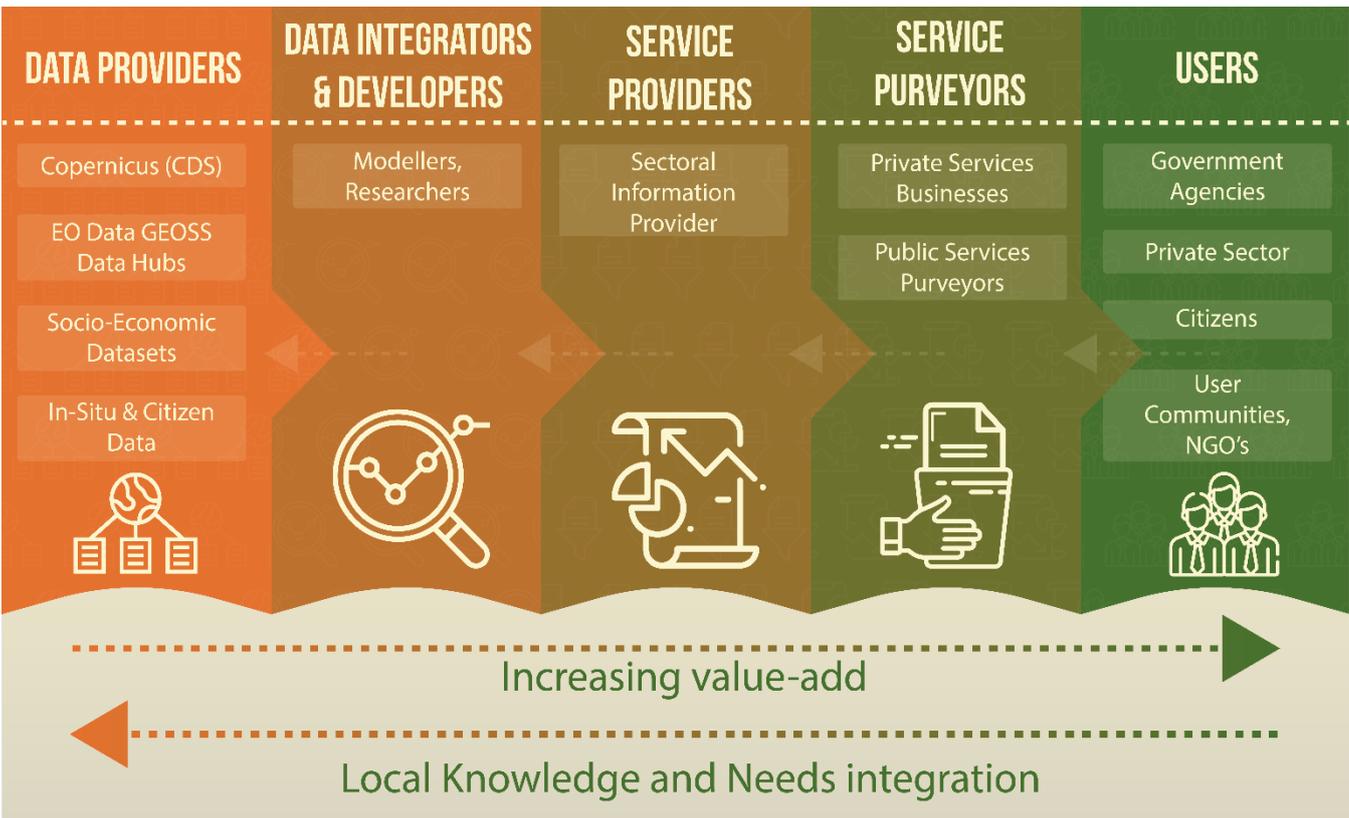
Integrating scientific and local knowledge to tackle climate challenges now and in the future

Climate change is one of the defining issues of the 21st century. The climate is becoming more variable, and extreme weather events such as floods, droughts and extreme heat are occurring more frequently, increasing the risk of harm and damage such events bring. This affects all sectors; including agriculture, energy, forestry tourism, health, and land-use; and requires policy makers, public agencies, businesses and citizens to adapt. To take climate smart decisions in the face of the extreme events of today and the changes of the future climate, all actors need tailored climate information that is relevant to their needs. Climate science developed globally, however, rarely takes local needs, local knowledges and perceptions into account.

The European Green Deal seeks to support efforts by citizens, government and businesses and adapt to change, while working towards a carbon neutral EU by 2050. As part of the Research and Innovation actions that underpin the Green Deal, the innovating climate services through Integrating Scientific and local Knowledge project, I-CISK in short, aims to bridge this gap by innovating how Climate Services are developed, through co-producing these with local stakeholders and citizens. For example, forecasting drought is a climate service that is useful to water dependant sectors such as tourism, but also to agriculture, though each of these sectors may be impacted differently, and the sector specific needs and knowledges will influence how climate information is used, interpreted and acted on.

Developing Climate Services for the future

Climate Services combine climate-related data, including projections, forecasts, and trends, with socio-economic data, advisories and best-practices, and are crucial in empowering citizens, stakeholders and decision-makers to decide how to adapt to climate change and mitigate the impact of extreme events. The I-CISK project will develop a framework that innovates Climate Services through a human-centred approach, co-producing these with the users, and integrating their knowledge to transform scientific information into tailor made information to meet their needs, while exploring feedback loops between the decisions users make and the climate system.



Living labs

The project will establish seven Living Labs in Europe and Africa. Each is located in a climate change hotspot with specific geographical and climatic settings. The Climate Services developed in each Living Lab will be co-produced with end-users from multiple sectors to meet their climate information needs.

The Living Labs are located in:

- Spain and Namibia - semi-arid and arid areas that are challenged by multiple and increasing climate-related hazards such as droughts and heatwaves, as well as land-use transitions due to rural abandonment;
- Netherlands and Greece - delta and coastal areas challenged by increasing incidence of drought, heatwaves and floods, as well as sea level rise; and temperate river basins with seasonal snow cover, challenged by changing precipitation patterns and rising temperatures
- Hungary - urban areas challenged by rising temperatures and heatwaves, exacerbated by urban heat islands.
- Georgia and Italy – river basins in temperate and sub-tropical continental climates challenged by water excesses but also water shortages to meet the needs of agriculture, the environment, and hydropower, as well as other sectors such as tourism and forestry.

The main objective of I-CISK is to develop a next generation of Climate Services that follow a social and behaviourally informed approach of coproduction. The project aims to meet the climate information needs of citizens, decision makers and stakeholders at the spatial and temporal scale relevant to them.

Expected outputs and impacts

I-CISK has set ambitious targets on generating key outputs to help achieve its objectives; a co-production framework & guidelines for co-production of climate services; a cloud-web system platform to support development and operation of new, tailored climate services; a set of pre-operational climate services in each of the living labs; a host of educational products in the form of online courses; and new insights that go beyond the climate services, helping citizens, governments and businesses take decisions to adapt to change and understand the feedbacks between their adaptation actions and the climate system.

Partners and Contact

I-CISK brings together a highly specialised and multi-disciplinary team of experts from 13 consortium members: IHE Delft, The Netherlands (coordinator); European Centre for Medium Range Weather Forecasting (ECMWF), United Kingdom; Sveriges Meteorologiska och Hydrologiska Institut (SMHI), Sweden; Free University Amsterdam; The Netherlands; Centro de Investigación Ecológica y Aplicaciones Forestales (CREAF), Spain; Uppsala University, Sweden; Red Cross 510, The Netherlands; GECO-Sistema, Italy; Caucasus Environmental NGO Network (CENN), Georgia, Universidad Complutense de Madrid, Spain; 52°North Spatial Information Research, Germany; IDEAS-Science, Hungary; and EMVIS, Greece.

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More information on the project and updates are available on www.icisk.eu

