Engagement, Evaluation and Entrepreneurship in climate services

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Vision for Climate Services

Customised climate-related resources, products and information that enable climate-smart, strategic decisions – Matching users' needs with solutions

- Building resilience to climate variability and change by strengthening the global market for climate services

EU Agenda

- Add value to the Copernicus investments
- Provide incentives for developing specific applications in the framework of GEOSS
- Further promote Climate-ADAPT
- Contribute and benefit from the GFCS

A European research and innovation Roadmap for Climate Services

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Rationale and Motivation

Flagship initiative requiring investment within H2020 towards a strong and flourishing climate services sector across Europe – working with partners to deliver

Benefits to Europe and Member States

- Resilience and sustainability
- Deriving economic and social benefits from investments in data, and investments in research and innovation

Investment by a variety of actors – European Commission, Member states and private sector

Move to ***demand/decision-driven and science informed*** – service focus to climate services

Strong public and private sector collaborating to realise the vision – nurturing an emerging business sector and a supportive climate service community

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Engagement – Essential to realising this vision

Demand and supply are both relatively unknown (fragmented) - Less than it should be to deliver the required benefits

- The demand potential is largely untapped;
- Community and infrastructure insufficient to support development; and
- Services are primarily supply-driven and to some degree user informed

Decision/demand driven, science informed – requires engagement

- Value systems and intended use by users should be central to climate service production and delivery
- Climate services are used for an evolving range of purposes:
  - Mitigation, DRR and impacts, vulnerability, risk and adaptation assessments
  - Monitoring, reporting and evaluation of adaptation and resilience measures
- Used by an evolving and dynamic user community – more of a web involving researchers, providers, purveyors and users playing different roles

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Draws on 'A European research and innovation Roadmap for Climate Services' (2015) and 'Towards an ethical framework for climate services: A white paper of the CSP working group on Climate Service Ethics (2015)

Engagement – Essential to realising this vision

Challenges – engaging 'users':

- Difficulty integrating available climate information with organisation's logic, management practices, and with other socio-economic information influencing decision making
- Different timeframes – planning, investment and return on investment cycles
- Climate is not among the main criteria informing decisions – reluctance to adapt planning methods and models
- Capacities and perceived benefits – both providers and users

Challenges – engaging providers and purveyors

- Academic, public and private sector providers and purveyors
- Competition and IP considerations – what is a public and private good?
- Different perspectives on what constitute climate services
- Nature of supply – climate services only or sector-specific suppliers

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The Roadmap Challenges

Building the market framework

Main activities		Specific actions
Challenge 2: Building the market framework		
	2.1: Communities and infrastructures to support and grow the climate services market.	(a) Developing a viable climate services community that engages users, providers, purveyors and researchers.
		(b) Building and widening capacity for climate services development, provision and use.
		(c) Computing, data and information technology (IT) infrastructure required to develop, deliver and support access/use of climate services.
	2.2: Standards, quality assurance and control, access and legal aspects.	(a) Demonstrating credibility and assuring quality of climate services.
		(b) Implications of limited, and open and free access to data and information for services supply and demand.
		(c) Liability in providing climate services and market implications.
		(d) Intellectual property (IP) implications of co-design, co-development and co-delivery.
	2.3: International cooperation.	(a) Engaging the European climate service community internationally.
		(b) Supporting the growth of climate service capacities (demand and supply) within least developed countries (LDCs), with a focus on Africa.

Building and supporting the sustainability of a viable/vibrant European climate service community – engaging users, providers and purveyors, innovators and researchers

- Platform for engagement, building capacities, addressing issues and challenges, and supporting and sustaining the growth of the climate service market

Building and widening the capacity of those using, developing and delivering climate services across Europe – investments in growing the market in Europe and internationally

Role in enhancing and sustaining the results of H2020 investments – working with C3S, national climate services, the private sector, purveyors and users

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Collaboration with the international climate service community to support the growth of the climate service market

- Sharing research and innovations and reflecting that decisions and service developments are linked internationally

Computing and IT infrastructure that can support the market and its growth

- Co-design, co-development, co-delivery and co-evaluation of climate service and that are able to address associated ‘big data’ challenges

Building trust across the community - able to evaluate and demonstrate credibility and assure quality of the services and those providing them

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Evaluation of Climate Services

Raises a number of questions and issues:

- From whose perspective is the evaluation being done and why?
  - Recipients – relevance, impact/benefits, utility, credibility, and costs (financial and human resources)
  - Producers/Purveyors – credibility, robustness, breadth of utility, costs and return on investments, and impacts on reputation (public and private sector perspectives), as well as impacts on the service pull
  - Researchers – credibility, impacts on reputation, appropriate use of science…
- Who should be responsible for and undertake the evaluation?
  - Service perspective suggests that the recipients of those services should be engaged in defining QA and QC
  - Scientific basis of the services suggests researchers and providers / purveyors have responsibilities for the scientific quality of the services

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Evaluation of Climate Services

Scope of the evaluation:

- Those providing climate services should be accountable for:
  - The integrity and transparency of their practices and products; and
  - Demonstrating the value of their services relative to intended recipients needs and capabilities, and their validity and consistency with science

Main activities	*Specific actions*
Challenge 1: Enabling market growth	
1.1: Assessing the nature of climate services market.	(a) Assessing the climate services market (demand and supply).
	(b) Translating users' needs into services and access required.
	(c) Exploring the public and private domains of the market.
1.2: Growing the climate services market.	(a) Developing foresight into perspective market growth: identifying untapped potentials, and measures to promote market growth.
	(b) Establishing the means of enhancing the awareness of, and promoting, climate services.
	(c) Developing appropriate business models for the provision of climate services.
1.3: Demonstrating the added value.	(a) Identifying mature markets and front-runners.
	(b) Demonstrating the impacts and full value of climate services as standalone services and/or integrated into broader decision-support systems.

  - Updating their services as the science changes – and appropriately communicating that to users, including the impacts on use.
- Climate services (and the science behind them) should be open to scrutiny and comparison

Providers / Purveyors should maintain an M&E protocol – co-evaluation engaging users

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Entrepreneurship

Needed to grow the climate service market

- Increase the demand / pull for climate services by demonstrating the added value of climate services – users' perspectives
- Identifying and demonstrating the potential for growth

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- Where and how to grow the climate service market
  - Roles and relationships for the public sector and private sector in development and provision of climate services
  - Relative roles for climate service providers and established sector-specific purveyors

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Entrepreneurship

Need for innovation

- Meeting the *diverse and evolving needs and capacities* of those using climate services, while remaining true to the science
- The *complexity of uses* and providing *relevant and informative services* – transparency with respect to use and capability and limits of the science

There is a need for a **mixture of private and public providers** of climate services

- *Stimulating innovation and targeting users* (what is a public good and what should be delivered by the private sector?) – will evolve with time as needs and expectations change
- *Appropriate business models* for the provision of climate services, including merging with sector-specific providers

Challenge / opportunity – multiple sources for climate services?

Entrepreneurship

Multiple sources both private and public sector services

- No individual or institution has a monopoly on climate knowledge or on scientific authority

From perspective of providing a service and growing the market there is the need for a supportive 'business' environment that:

- Stimulates innovations;
- Enables collaboration - a community of service providers; and
- Encourages the provision of credible and defensible services (including transparent QA/QC that are available and meaningful to intended users)

Innovation requires *updating skills and knowledge*, and *sustained and informed engagement of users* – staying in touch with uses and capacities – and the *research community* – staying in touch with the science

Engagement, Evaluation and Entrepreneurship

- Essential to growing the climate service market and achieving a well adapting and resilient society

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http://www.ukcip.org.uk/