Lessons from other dialogues and experiences

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Outline

- 'Lessons learnt' from the UKCIP experience

    - Drawing on experience over the past 10 years working with users and other stakeholders

    - Results of recent workshops held across the UK

- Thoughts on how climate services in Europe can best serve users / stakeholders and decision makers over the coming decade

Many users and stakeholders (now and potential) are not familiar with the use of the term climate services

- Some even believe it is similar to ecosystem good and services

- There are climate and related data, information and knowledge being provided and used that are not called climate services.

Climate Services

Different definitions – wide variety of stakeholders and needs, as well as of the differing functions of the organisations delivering

Global Framework of Climate Services:
- Providing climate information in a way that assists decision making by individuals and organizations. A service requires appropriate engagement along with an effective access mechanism and must respond to user needs.

JPI Climate
- User driven development and provision of knowledge for understanding the climate, climate change and its impacts, as well as guidance in its use to researchers and decision-makers in policy and business.

European Commission
- The transformation of climate related data – together with other relevant information and data – into customised products and other services in relation to climate or responding to climate change that are of use to society.
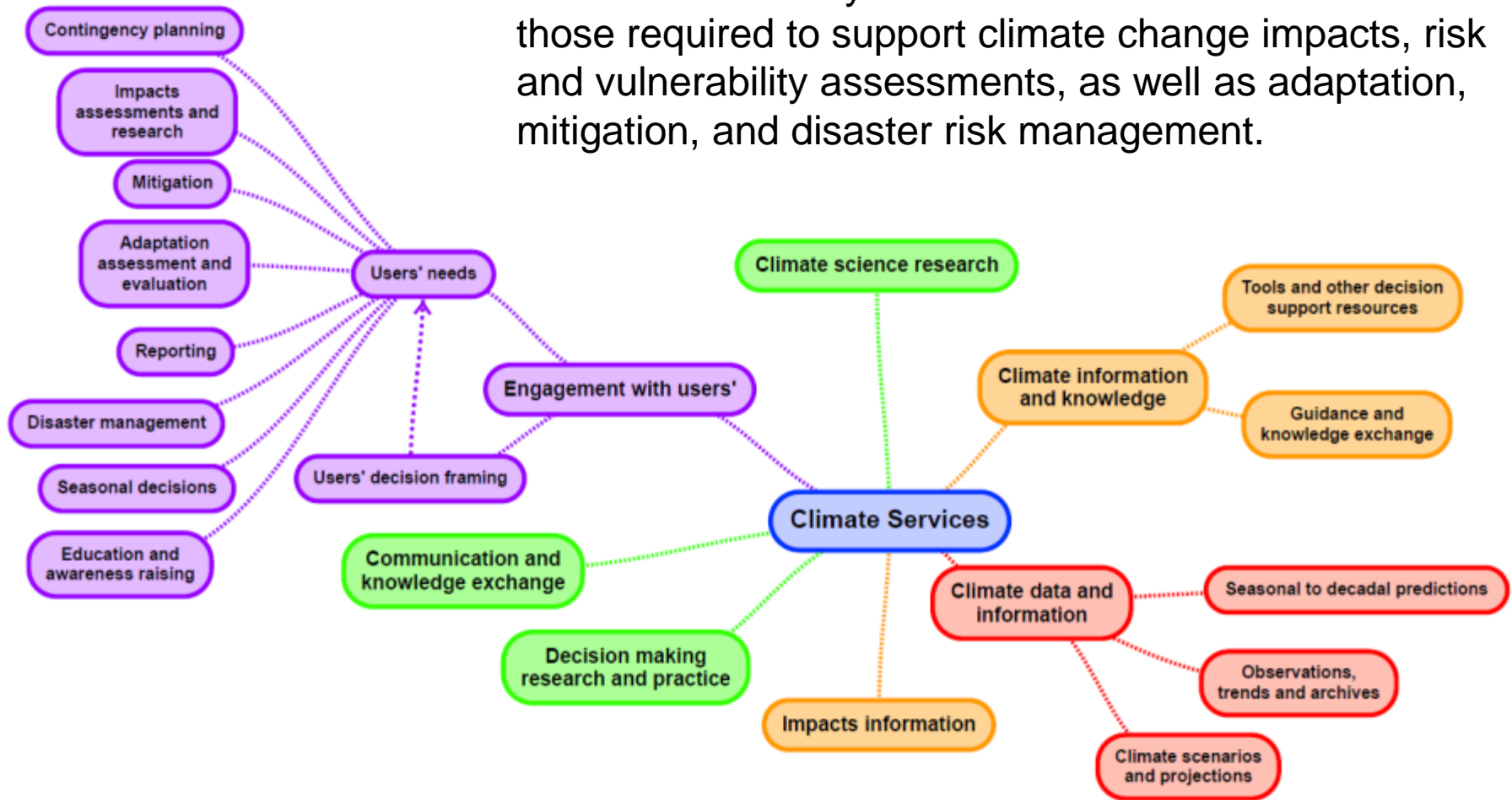
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Climate Services – a perspective

The uses to society considered are in the context of those required to support climate change impacts, risk and vulnerability assessments, as well as adaptation, mitigation, and disaster risk management.

Providers/purveyors, users and stakeholders

Who are these users, providers / purveyors, and other stakeholders?

- Many play different roles within the climate service space and this is seen as particularly important where climate services, especially as climate services should be user-driven and science informed.

- There is often not a clear boundary between users and providers/purveyors – not a chain but a web.

Stakeholders – include those funding and benefitting from the provision of climate services beyond users

Lessons Learned – Users' Needs

- Services needed are those that support decision and policy making
    - Starting with the decision / policy framing – vulnerabilities, sensitivities
    - More than just descriptions of the current (and future) climate or impacts
    - Adaptation is a decision-making process that requires reflection of uncertainties framed in the context of that process
- Reliable baseline information on current climate, including anomalies and extremes (more than climate variables) – relative to thresholds and sensitivities
- Future information (e.g., relative to thresholds, extreme, spatial and joint dependence between variables, end-user derived variables and derived metrics, annual maximum rainfall, monthly and seasonal rainfall with inter-annual variability, heat and cold waves, and wind)

Support and engagement are critical elements of climate services – understand what is available and how it can and is intended to be used; recognising that these will change over time

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Lessons Learned – Users' Needs

Climate summaries, trends and projections / scenarios related to:
- Known thresholds, variability and extremes related to requirement to inform adaptation decisions, not just impacts
- Drought, water availability, and river flow
- Extremes (temperature and precipitation), but also related to storms and wind

Need for demonstration projects / programmes / activities that:
- Bridge gaps between providers, users and climate (service) research
- Demonstrate how existing and new climate information can improve decision making

Development and dissemination of good practice guidance:
- Learn from research and application projects
- End-user engagement in science for climate services through trans-disciplinary research and knowledge exchange

Lessons Learned – Providers' Needs

Awareness of users' / decision makers' needs and of what climate services are providing and can provide:

- The gap between climate data and information provided and that needed

- How climate services fit into users' decision-making processes

- How to put users at the heart of climate services and climate service science – reflecting the diversity of users' needs

- Where users currently access climate services and why

- Nature and scope of current and future users' needs (foresight)

- Users' current and changing technical capacity to ingest climate services

- Capacity (including funds) and willingness to be engaged in developing and delivering climate services and in the related science

Lessons Learned – Providers' Needs

Relative priority of climate considerations in decision-making processes
- Enhancing the pull from users for climate services
- A lack of policy (or even regulatory) drivers for users to consider climate in decisions

Breadth of users those engaged represent and how better to engage the spectrum of users

Need for interdisciplinary research to support development of climate services that meet users' needs – services fit-for-purpose

Thoughts on how climate services in Europe can best serve users / stakeholders and decision makers over the coming decade
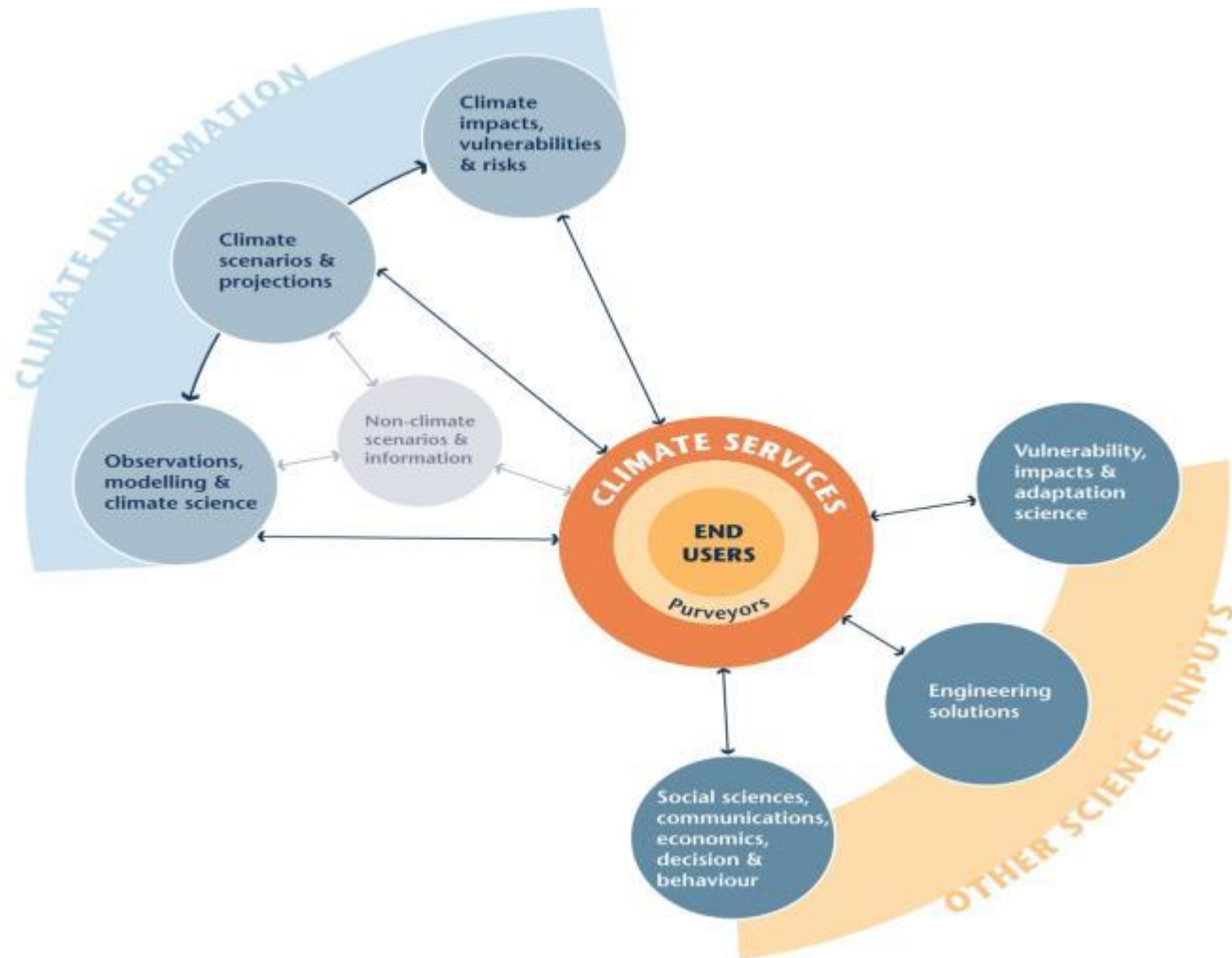
'Successful' Climate Services

- Need to build the demand for climate services through demonstrating their added value in a manner that is meaningful to users

- Move from science-driven and user informed to **user-driven and science-informed**

- A strong climate service sector across Europe comprised of public and private sector components that collaborate to support users and society at large – a healthy market dynamic

    - Public – free and open access to climate services

    - Private sector using these services and other data and information to provide customised high added-value services

    - Public and private sectors stimulating and delivering innovations

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Delivering 'Successful' Climate Services

An engaged climate services community (researchers, providers and users):

- Opportunity to share learning and sharing of perspectives on challenges, opportunities and innovations
- Identify and map current activities, users, providers/purveyors, researchers and other stakeholders, and information needs
- Supporting the development and delivery of climate services, including through co-production and co-evaluation of the services
- Establishing and implementing standards for service quality and appropriate use (regulations and certification) – co-defined and administered
- Fostering links and collaborations (enabling partnership opportunities) across Europe at both the research and innovation project levels across Europe

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Delivering 'Successful' Climate Services

Support for, and investment in, the development and maintenance of engaged climate services community

Building the capacity of users and those working at the supply-demand interface, including to enhance the quality and relevance of climate services

Supportive computing and IT infrastructure, including addressing the associated 'big data' challenges

Creating a cohesive climate service community could help drive growth and avoid the risk of activities being side-lined or siloed, and grow capacities across the Europe

Providing a stronger and recognised voice promoting climate service priorities within and on behalf of Europe

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Climate service research & innovation

Integration of data and information to support decision making

- Physical, socio-economic and other non-physical data and information that are needed to support decision-making
- Confidence and the role of uncertainty in climate services and decision-support systems

Strengthening the relevance and scientific basis

- Improving modelling and predictive capability relevant to better informing decisions and reflecting these in supportive climate services
- Demonstrating the added values of improvements – users' perspectives

Innovations in services and their presentation consistent with users' needs and capabilities

Structures and Mechanisms to Support

- An **interdisciplinary / trans-disciplinary research and innovation programme**, including the support of research funders, research coordination, engaged users and research community, and sufficient funding to be seen as viable.

- Targeted **demonstration projects/activities** – to enhance engagement and to demonstrate how climate services can be used to inform decision making – end-to-end value of climate services

- A **service delivery approach – user-driven and science informed** – that includes targeted engagement of users, purveyors / providers, and researchers, with an appropriate public good-private sector balance and quality assurance of climate services.

- An **engaged climate science community** capable to support the growth of the climate service market across Europe

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