

Types of Climate Services

Varying ways of differentiating climate services (products) are used in practice. However, what differentiation is used also varies per portal, report or the purpose of the study.

These factors make it hard to get an overview of what climate services are available, and what existing gaps there are.

In this context, a comprehensive typology or characterization of the

Definition of Climate Services

When looking at the various definitions of "Climate Services" (for example: Global Framework for Climate Services, EU Roadmap for Climate Services) many different products or services can be considered climate services, also many products that were not called climate services in the past.

This causes confusion about which services should or should not be included in an overview and it various types of climate services is needed for:

• Getting a better **overview** of available climate services and for a **gap analysis.**

• Giving (potential) users an overview of **available climate services** and **where to find them**.

In this policy briefing we give some recommendations for making a more comprehensive typology of climate services.

complicates understanding of what climate services are developed and available in countries, in Europe or worldwide. It also complicates the analysis of potential gaps between offered climate services and user requirements.

For the (potential) users it may also be easier to find what they need, if there is a generally accepted typology of the available climate services and their products. **Table of Contents**

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Definition of climate services in the **European Roadmap for Climate Services** (EC, 2015):

the transformation of climate-related data, together with other relevant information, into customized products such as projections, forecasts, trends, information, economic analysis, assessments (including technology assessment), counselling on best practices, development and evaluation of solutions and any other service in relation to climate that may be of use for the society at large.

Existing Typologies

Many differentiations of climate services are used already. The main differentiations used relate to:



Level of background knowledge of the intended user (basic or advanced users).



Data sources: there are several data sources used in climate services, such as observations, seasonal forecasts, climate change projections.



Time horizon of interest: for operational decisions to short, medium and long term strategic decision making.







Purpose of use: for research, policy making or decision making.

Climate versus impacts: some decisionmakers will be interested in climate information, others may be interested in impacts of climate variability and change.



Sectors: for example services tailored towards specific applications in energy, agriculture, health, disaster risk reduction.



This policy brief is based on:

Climateurope, 2018. D3.2 Progress on the integration of climate services and Earth System modelling.

And refers to:

EC, 2015. A European Research and Innovation Roadmap for Climate Services, Dir.-Gen. Res. Innovation. Hewitt, C., S. Mason & D. Walland, 2012. The global framework for climate services, Nat. Clim. Change, 2, 831–832.

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Climateurope is:

• The Europe-wide network for researchers, suppliers and users of climate information;

 A place to share best practices, gaps and recommendations and discover the state of the art about climate observations, climate modelling and climate services;

• An opportunity to actively interact with users and suppliers of climate information.

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These differentiations make it easier for users to find data or information that they need or to analyse existing services.

Differentiations between climate services (products) are often not combined, or are only combined to a limited level (e.g. data sources and background knowledge.)

The various ways of differentiating between types of climate services each have their own advantages and disadvantages when used to provide overviews to users, and gap analyses.

Challenges

Based on the expertise gathered in the Climateurope Coordination and Support Action (available from the website, project deliverables, webinars and literature reviews) the following challenges are identified for making useful typologies of climate services:

• There are many different types of users within a sector, from impact researchers to policy makers. They often have different needs (e.g. time series, infographics) and they have different levels of background knowledge;

 Users with little background knowledge in climate data needs much more help in navigating their way around the increasingly large amount of climate data available. Not all of the users will be aware of the data sources, or the advantages and disadvantages, or the specific terminology used;

• Users are often experts in their own field of work, but not necessarily in the use of climate data. Therefore, a distinction on portals between expert users and non-expert users can be confusing;

• For users it is not clear where "weather" services become "climate" services. They often use the terms interchangeably. For them the distinction does not seem important. However, climate service providers know that the data sources and methods used for "weather" or "climate" differ clearly;

• A differentiation in data sources would be logical from the point of view of climate data providers, but users often need combined data from various sources. A distinction between data sources is only beneficial to users with considerable knowledge about climate data.

Recommendations

It is (almost) impossible to make a onestop-shop to provide overview of potential climate services (products) for all users, since they differ too much in their interests and what they require. Furthermore, the limited background knowledge of users or intermediary providers can be barriers to accessing the data most suitable for their application.

Therefore

 More than one factor is needed to make a useful overview of the various types of climate services (products) either to provide overview for users or for analysis of gaps;

• From the point of view of users, it is logical for the sector and the intended use of the data to form a basis for a typology of climate services;

• Guidance at portals and providing training resources can be very helpful.

Each climate service provider can offer a variety of climate services, and what they can and are allowed to provide may differ from country to country.

Therefore

• a differentiation based on climate service providers alone is probably not what users want or need.

Gap analysis of available climate services focuses predominantly on the gaps related to user requirements. Therefore, the differentiation of climate services in the gap analysis should ideally correspond with the differentiation in the overview given to users.