Climateurope2

Importance of Decision-making context in Climate Services

Climateurope2 has identified four main components as steps towards defining the boundaries of climate services, which will help support the discussions on what constitutes a quality-assured and equitable climate service. One of these four components is the **decision-making context** for which climate services must deliver value: it refers to the kind of decisions the climate service supports, including its geographical, social, and political context. To be useful, climate information needs to be tailored to the user's decision context, often through collaboration between providers and users. This helps ensure that the information is relevant, understandable, and appropriate for the decision at hand. Below, we provide an example on the output from climate model simulations. Three key elements; the choice of climate model ensembles, types of emission scenarios and reference periods influence how climate model results are interpreted and compared.

Climate models

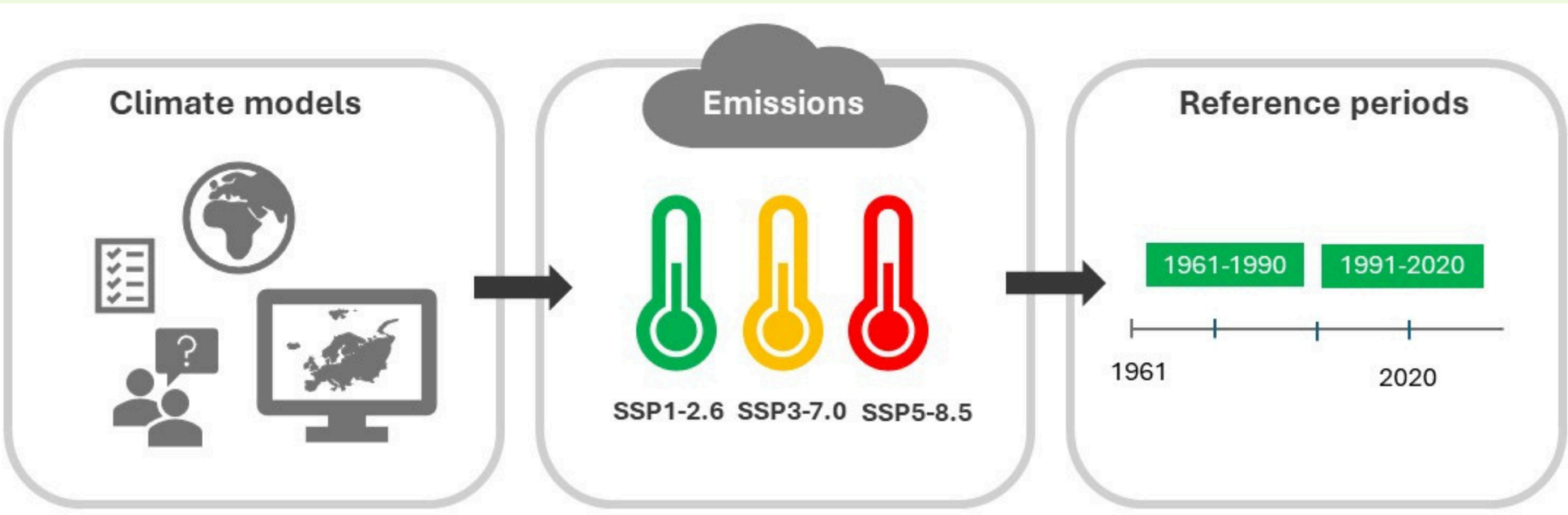
A climate model ensemble is a group of three-dimensional representations of the earth system used to simulate variations in the climate. Different models describe physical processes in different ways. The model resolution increases from global to regional ensembles, used for different purposes. For your context you choose models with appropriate geographical regions and resolution. By combining models in an ensemble the outcome becomes more robust and reliable.

Emission scenarios

Emission scenarios are assumptions based on the future socio-economic development; population growth, technology etc. Climate services generally use the same scenarios as the UN Intergovernmental Panel on Climate Change (IPCC). The earlier Representative Concentration Pathways (RCP) scenarios have been accompanied by the Shared Socio-economic Pathways (SSP). The key question is which scenario is most relevant for the decision in question.

Reference periods

Possible future climate is compared to an earlier period called reference period. When comparing climate services it is important to know which reference period has been used. Now the most commonly used is the latest 30 years normal period, 1991-2020. Also other periods can be used such as pre-industrial periods to analyse human impact on the climate. Data availability and the need to conserve computing power for climate model simulations are also important when choosing reference period.



Source: SMHI.

Why these choices matter:

The Climateurope2 project aims to simplify the use of climate services. By making these choices transparent, and by working together with users, climate services can better support effective and equitable climate-resilient decisions. In addition, it is also important to consider the other three components; (1) Ecosystem of actors and co-production processes, (2) Delivery mode and evaluation, and (3) Knowledge systems.

This infosheet is based on the Standardisation of equitable climate services by supporting a community of practice and the information on the SMHI scenario tool and the infosheet: What are climate services and why do they need to be standarised?

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