



Open access to Water Indicators for Climate Change Adaptation: proof-of-concept for the Copernicus Climate Change Service (C3S)

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Copernicus Climate Change Service (C3S) is still in the development phase and will combine observations of the climate system with the latest science to develop authoritative, quality-assured information about the past, current and future states of the climate and climate dependent sectors in Europe and worldwide. C3S will provide key indicators on climate change drivers and selected sectorial impacts. The aim of these indicators will be to support adaptation and mitigation. This presentation will show one service already operational as a proof-of-concept of this future climate service.

The project “Service for Water Indicators in Climate Change Adaptation” (SWICCA) has developed a sectorial information service for water management. It offers readily available climate-impact data, for open access from the web-site <http://swicca.climate.copernicus.eu/>. The development is user-driven with the overall goal to speed up the workflow in climate-change adaptation of water management across Europe. The service is co-designed by consultant engineers and agencies in 15 case-studies spread out over the continent. SWICCA has an interactive user-interface, which shows maps and graphs, and facilitates data download in user-friendly formats. In total, more than 900 open dataset are given for various hydrometeorological (and a few socioeconomical) variables, model ensembles, resolutions, time-periods and RCPs.

The service offers more than 40 precomputed climate impact indicators (CIIs) and transient time-series of 4 essential climate variables (ECVs) with high spatial and temporal resolution. To facilitate both near future and far future assessments, SWICCA provides the indicators for different time ranges; normally, absolute values are given for a reference period (e.g. 1971-2000) and the expected future changes for different 30-year periods, such as early century (2011-2040), mid-century (2041-2070) and end-century (2071-2100). An ensemble of model results is always given to indicate confidence in the estimates. The SWICCA demonstrator also includes user guidance, information sheets, tutorials, and links to other relevant websites.

The aim of this service is to provide research data and guidance for climate impact assessments in the water sector. The main target group is consulting engineers (so called Purveyors) working with climate change adaptation in the water sector. By using indicators, climate impact assessments can be done without having to run a full production chain from raw climate model results – instead the indicators can be included in the local workflow with local methods applied, to facilitate decision-making and strategies to meet the future. Working with real users will ensure that useful data is inserted into the C3S Climate Data Store (CDS).