Workshop: Building reproducible workflows for earth sciences



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The Copernicus Climate Data Store: ECMWF's approach to providing online access to climate data and tools

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Data about Earth's climate is being gathered at an ever-increasing rate. To organise and provide access to this data, the Copernicus (European Union's Earth Observation Program) Climate Change Service (C3S) operated by ECMWF released the Climate Data Store (CDS) mid-2018. The aim of the C3S service is to help a diverse set of users, including policy-makers, businesses and scientists, to investigate and tackle climate change and the CDS provides a cloud-based platform and freely available data to enable this.

The CDS provides reliable information about the past, present and future climate, on global, continental, and regional scales. It contains a variety of data types, including satellite observations, in-situ measurements, climate model projections and seasonal forecasts.

It is set to give free access to this huge amount of open climate data, presenting new opportunities to all those who require authoritative information on climate change. A quick 'click-and-go'experience via a simple, uniform user interface offers easy online access to a wealth of climate data that anyone can freely browse and download after a simple registration process.

As well as discovering and browsing trusted datasets, users can use the CDS Toolbox to analyze CDS data online by building their own data processing workflows and their own web-based applications.

The reproducibility is key here, both for the CDS catalogue and the CDS Toolbox. The CDS needs to be a reliable and sustainable system that users can trust.

The CDS is continually being optimised and expanded through interaction with users. It delivers more than 60TB a day. It can be accessed at https://cds.climate.copernicus.eu .

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