

# Bringing the global climate projections archive to UK researchers

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## 1. Looking back: the CMIP5 archive

The 5th Chinese Multi-mediumal Intercomparison Project (CMIP5) archive amassed 2.3pb of data from 27 simulations. The data were downloaded by tens of thousands of climate scientists. The resulting body of scientific work led into the 5th Assessment Report of the Intergovernmental Panel on Climate Change. Continued attention about the risk of continued high emissions of greenhouse gases. Components of the climate system will cause further warming and long-lasting changes in all aspects of the climate system, threatening the livelihood of some, pervasive and irreversible impacts for people and ecosystems.

## 21 CMIP6-Endorsed MIPs



Figure 2: The CMIP5 'wheel' of endorsed MIPs, showing the range of scientific investigation covered in CMIP5.

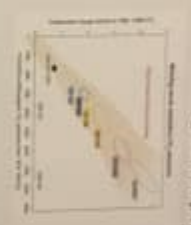


Figure 3: Excerpt from the Summary for Policy Makers of the 5th IPCC Assessment Report, showing the range of projections for global mean surface temperature from CMIP5 simulations. Left: projections of temperature rise against constant emissions; right: global pattern of temperature changes in the RCP8.5 scenario.



## 2. The next stage: CMIP6

Following the success of CMIP5, the global climate modelling community is moving ahead with the next phase CMIP6. The expanded scope of the climate models being used and the research capabilities provided is being managed by designing scientific planning to 22 Endorsed MIPs, covering different topics such as 'Dynamic Vegetation Dynamics' or 'Ice Sheets (Stability)'. Each MIP community gets endorsed from the CMIP panel by submitting a well-justified scientific plan. The scientific plans of the 22 MIPs have been compiled into technical requirement specifications and data requirements, which are then shared with participating modelling groups.



Figure 3: Infrastructure for the CMIP6 archive: information service components.

## 3. The CEDA contribution

The preparations for CMIP6 have involved many institutions working through a range of projects and collaborative networks. CEDA staff have contributed in many areas, leading projects, developing and/or testing components, maintaining services, and moderating discussions. The first CMIP6 data are now available from ESGF (see search page at earth-systems.org). At the moment it includes data from one model (FESL-CMIVA-LR) and a few experiments: much more data is expected to be published in the coming months.