

Comment on Dunne et al 2025: ‘An evolving Coupled Model Intercomparison Project phase 7 (CMIP7) and Fast Track in support of future climate assessment’

This is a very timely and important paper that lays out the evolution of the CMIP project and details the plans for its next phase, CMIP7. I have a couple of comments;

1. An important part of the design of CMIP7 that differs from earlier phases is the separation of policy relevant simulations (the Fast-Track) from the research orientated simulations designed to address the scientific questions and provide a rich characterisation of climate model capability to support future development. I feel the thinking behind this new development could be made more explicit. In particular, how this came about - at least in part- from the feedback from modelling groups about the burden of CMIP6 simulations. Engagement and support for modelling groups contributing to CMIP7 will be critical and documenting more clearly the influence they had on the design of CMIP7 will give reassurance to the community that they can achieve a balance between delivering to their national agendas as well as engagement in international community science.
2. There are numerous references to the critical role that CMIP has played in underpinning the IPCC assessments. This is absolutely right and an important point to be made. I also think the authors have tried to carefully lay out that CMIP has - and will continue to support the national and international science communities. However what is perhaps missing is a third important role that the policy relevant simulations have played in supporting the national assessments of many countries. A quick question to ChatGPT(!) gives the following 12 countries/communities that have used CMIP scenarios to deliver their national assessments. It would be good to document this important role emphasising the support CMIP plays for national agendas.

a. United States

- National Climate Assessment (NCA)
- Led by the U.S. Global Change Research Program (USGCRP)
- Uses CMIP5 and CMIP6 projections for national and regional climate impact assessments.
- Latest report: Fifth National Climate Assessment (NCA5, 2023)

b. United Kingdom

- UK Climate Projections (UKCP)
- Developed by the Met Office Hadley Centre
- Uses CMIP5 (UKCP18) and CMIP6 (UKCPNext) to provide probabilistic and high-resolution UK-specific projections.

c. European Union

- European Climate Risk Assessment (EUCRA)
- Managed by Copernicus Climate Change Service (C3S) and European Environment Agency (EEA)
- Uses CMIP6 projections within EURO-CORDEX for downscaled regional assessments.

d. Canada

- Canada’s Climate Change Report (CCCR)
- Produced by Environment and Climate Change Canada (ECCC)
- Uses CMIP5 and CMIP6 for projections at the national level.

e. Australia

- State of the Climate Report (by CSIRO & Bureau of Meteorology)
- Climate Change in Australia Projections
- Uses CMIP5 and CMIP6, downscaled for Australian conditions.

f. Germany

- GERICS Climate Fact Sheets (by the Climate Service Center Germany)
- German Climate Change Assessment Report
- Uses CMIP6 projections, often combined with EURO-CORDEX downscaling.

g. France

- Drias Future Climate Scenarios (by Météo-France)
- GREC (Regional Climate Group) Reports
- Uses CMIP5 and CMIP6, combined with CNRM-CM models and EURO-CORDEX.

h. China

- China's Third National Climate Change Assessment Report
- Uses CMIP5 and CMIP6 within China's regional modeling framework (BNU-ESM, FGOALS).

i. Japan

- Climate Change in Japan Report (by Japan Meteorological Agency, JMA)
- Uses CMIP6 and the JRA-55 reanalysis dataset.

j. New Zealand

- NIWA Climate Change Projections
- Uses CMIP5 and CMIP6, often with regional downscaling via VCSN (Virtual Climate Station Network).

k. South Africa

- South African Risk and Vulnerability Atlas (SARVA)
- Uses CMIP5 and CORDEX-Africa for regional climate projections.