

CMIP7 the next phase: ongoing status and planning – Thu #116

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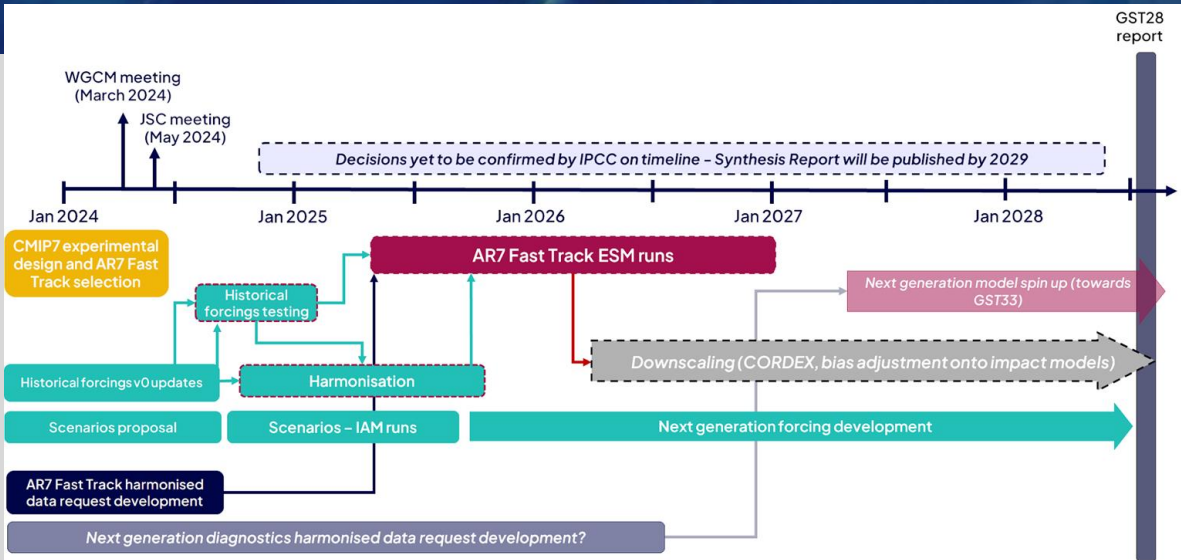
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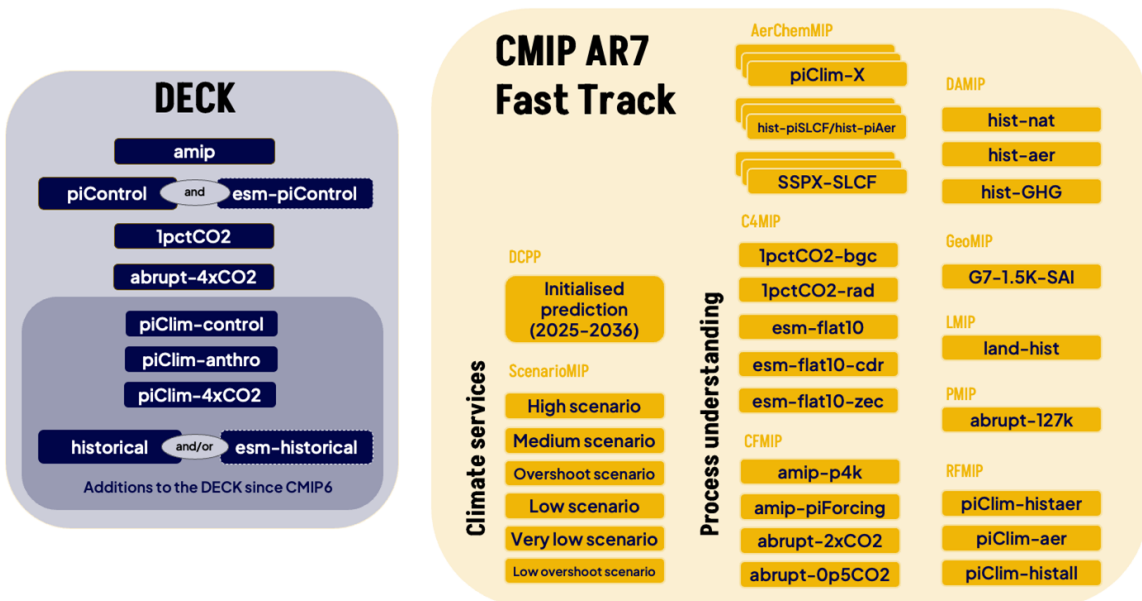
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North Bethesda, Washington DC
August 2024

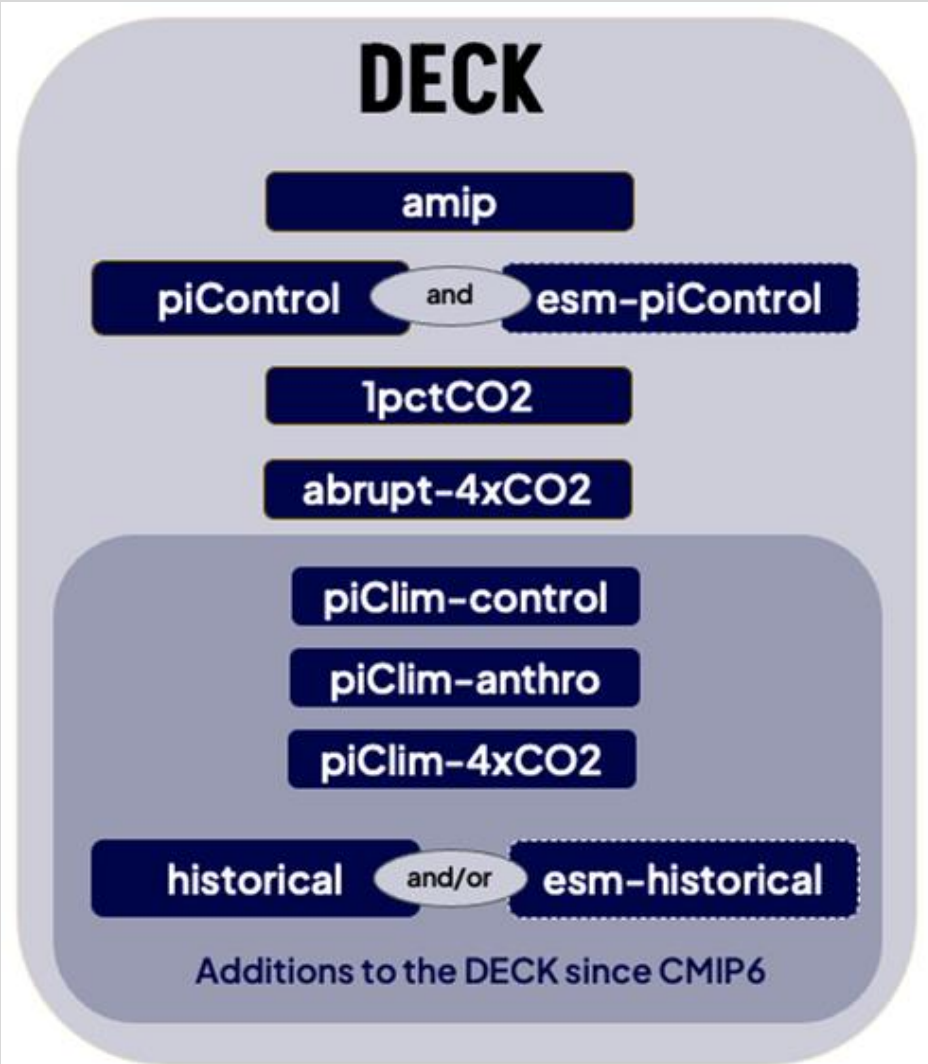
CMIP7 take home points



- CMIP7 - starts with AR7 Fast Track ~2025-26
- CMIP DECK, 8 experiments - *model evaluation*
- +MIPs plus ~50 experiments - *model sensitivity* (AerChemMIP, C4MIP, CFMIP, LMIP, GeoMIP, PMIP, RFMIP) - *model forcing responses* (C4MIP, DAMIP, ScenarioMIP)
- ~5 PB of simulation data
- Science: forcing responses, extremes, carbon cycle, tipping points
- +33 additional MIPs identified for broader CMIP7 phase, broadening science focus
- Engagement opportunities - many

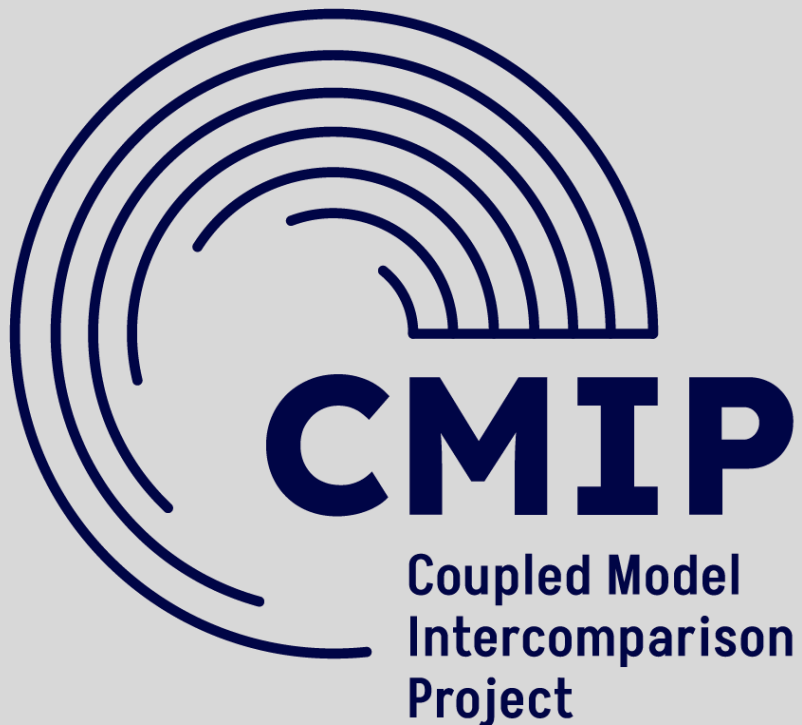


DECK: expanding core model evaluation experiments



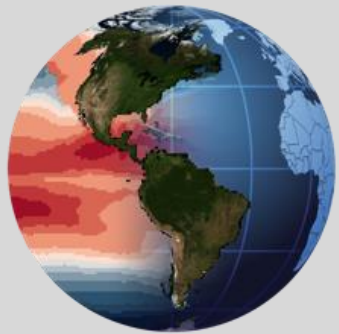
- CMIP DECK provides key experiments to evaluate simulation fidelity, linking model performance and improvement across CMIP phases
- Added historical – key evaluation experiment
- Added RFMIP piClim-* atmospheric-only experiments to quantify radiative impacts and feedbacks to forcing
- Added esm-* emissions-driven experiment variants

CMIP7: engagement opportunities

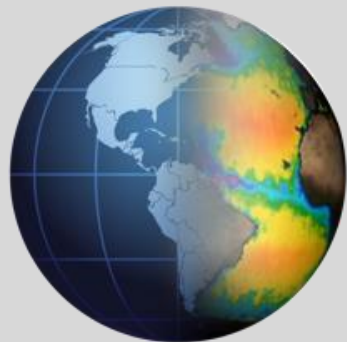


- CMIP7 model documentation – community feedback – 12 August 2024 - <https://wcrp-cmip.org/essential-model-documentation-feedback-wanted/>
- CMIP7 data request – what model data will be collected for what MIPs/experiments – 8 September 2024 - <https://wcrp-cmip.org/have-your-say-on-the-cmip7-variables/>
- CMIP7 model benchmarking – See Forrest/Jiwoo
- Forcings workshop – 28-31 October 2024 - evaluating next-generation forcing and working toward “sustained” regular updates ~annually <https://wcrp-cmip.org/event/forcings-workshop/>

Climate forcing and observations for evaluation



input4MIPs
input datasets for Model Intercomparison Projects



obs4MIPs
Observations for Model Intercomparison Projects

- CMIP7 will benefit from comprehensive climate forcing approach
- CMIP Climate Forcing Task Team working on next-generation data addressing CMIP6 known issues
- Quantify forcing uncertainty through forcing intercomparison, and identification of missing forcing agents
- obs4MIPs working to serve coordinated model evaluation efforts of the CMIP Model Benchmarking Task Team
- Engage observing communities across NASA, ESA, MetOffice, DLR, RSS ... connecting observationalists to modelers

Better CMIP data access and availability



- **See Forrest!**
- ESGF2-US consortium will replicate CMIP7 data across multiple US-nodes (CMIP6, 5, 3 already copied)
 - ORNL
 - ANL
 - LLNL
- Discussions underway at
 - NERSC (CESMAC data lake exists already)
- NIMBUS-LLNL – prototype jupyterhub cluster at LLNL direct access to LLNL ESGF data

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Latest CMIP info at

<https://bit.ly/CMIP-mailinglists>

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