



The ACCESS contributions to CMIP6

Simon Marsland (CSIRO), WCRP/WGCM-CMIP, 16th Dec 2020

CMIP6 and ACCESS - entry

| MIP | Experiment | ACCESS-CM2 | ACCESS-ESM1.5 |
|-------------|----------------------|------------|---------------|
| CMIP | DECK | Yes | Yes |
| | historical | 3 | 10 (30) |
| | esm-historical | | 10 |
| ScenarioMIP | Ssp126, 245 370, 585 | 3 | 10 |

Equilibrium Climate Sensitivity – ECS

Gregory method – abrupt-4xCO₂ @ 150 years

ACCESS-CM2 4.7K

ACCESS-ESM1.5 3.9 K

CMIP6 and ACCESS - continuing

| MIPs | CM2 | ESM1.5 | OM2 | OM2-025 |
|--------------------------------------|------|---------|-----|---------|
| CMIP/DECK | Yes | Yes | - | - |
| historical | 3 | 10 (30) | - | - |
| esm-historical | - | 10 | - | - |
| ScenarioMIP Tier 1 LTE's underway | 3 | 10 | - | - |
| FAFMIP | 7 | | - | - |
| C4MIP | - | 10 | - | - |
| CDRMIP | - | 3 | - | - |
| RFMIP | 5 | 6 | - | - |
| DAMIP | (14) | 9 | - | - |
| OMIP | - | - | (1) | (1) |
| CovidMIP | - | (60+) | - | - |

Recent ACCESS successes - 2020

- **Apr** – NCI Australasian Leadership Computing Grant (37M SU)
 - ACCESS Climate Modelling – ensembles and new MIPs
- **Oct** – ACCESS - National Research Infrastructure - \$7.8M/3 years announcement
- **Oct** – “Getting Started with ACCESS-CM2 and ACCESS-ESM1.5” model release
 - [Slides and recording: http://nespclimate.com.au/access-evaluation-and-application-5-1/](http://nespclimate.com.au/access-evaluation-and-application-5-1/)
- **Nov** - COSIMA-II ARC Linkage Project – 4 years (ACCESS, MOM-ocean modelling)
- **Dec** – National Environmental Science Program – Climate Systems Hub
 - <https://minister.awe.gov.au/ley/media-releases/149-million-commitment-environmental-science>

Appetite for CMIP7



Fig. 1: The Official ACCESS CMIP6 Cake: *Baked by Rachel Law (CSIRO Climate Science Centre ACCESS Group Leader). Photo by Simon Marsland*

References - 2020

RESEARCH ARTICLE (Open Access)

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Configuration and spin-up of ACCESS-CM2, the new generation Australian Community Climate and Earth System Simulator Coupled Model

Daohua Bi ^{A I}, Martin Dix ^A, Simon Marsland ^{A B C}, Siobhan O'Farrell ^A, Arnold Sullivan ^A, Roger Bodman ^D, Rachel Law ^A, Ian Harman ^E, Jhan Srbinovsky ^A, Harun A. Rashid ^A, Peter Dobrohotoff ^A, Chloe Mackallah ^A, Hailin Yan ^F, Anthony Hirst ^F, Abhishek Savita ^{A B C}, Fabio Boeira Dias ^{A B C}, Matthew Woodhouse ^A, Russell Fiedler ^G and Aidan Heerdegen ^{C H}

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The Australian Earth System Model: ACCESS-ESM1.5

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Geoscientific
Model Development
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ACCESS-OM2 v1.0: a global ocean–sea ice model at three resolutions

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