

COSIMA Update

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Australian
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ARC CENTRE OF EXCELLENCE FOR

CLIMATE SYSTEM SCIENCE

1. A collaborative consortium (COSIMA) within Australia's ocean & sea ice modelling community that integrates capability from different groups.
2. A 4-year, \$800k ARC Linkage Project which aims to develop a high-resolution (0.1°) global modelling framework that will be adopted nationwide for:
 - ▶ ocean and wave forecasting;
 - ▶ sea ice forecasting;
 - ▶ ocean reanalysis;
 - ▶ ocean process studies, and ultimately,
 - ▶ coupled climate simulations.

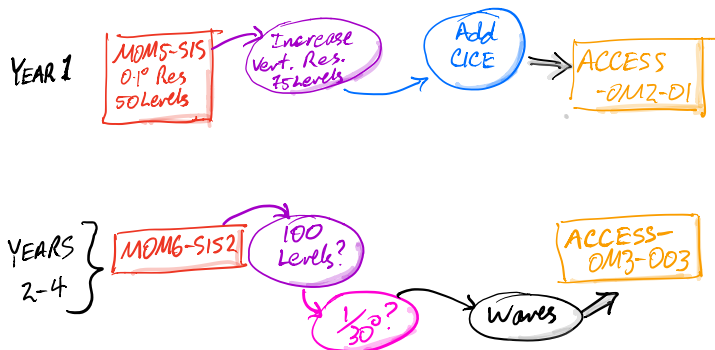
Partners (investigators) include:

- ▶ ANU, UNSW (England, Spence) & UTas (Nikurashin)
- ▶ BoM (Brassington)
- ▶ Australian Antarctic Division (Heil)
- ▶ CSIRO (Oke)

COSIMA Linkage Project Plan

2017 Upgrade vertical resolution MOM5 0.1° , couple with CICE and enhance bathymetry

2018-20 Global MOM6 configurations, possible at higher resolution



Currently, ACCESS-OM2-01 is timestepping, but not yet released (Nic Hannah's talk).

COSIMA Linkage Project Update

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Community

MOM-SIS-025

MOM-SIS-01

ACCESS-OM2

Questions

ACCESS-OM2-01: Progress on implementation:

- ▶ MOM5
- ▶ CICE5
- ▶ MATM
- ▶ OASIS3-MCT
- ▶ ESMF to generate grid weights
- ▶ Progress on scaling

<https://github.com/OceansAus/access-om>

Research Fellow position at ANU filled by Andrew Kiss;
starting in August.

COSIMA Community Models

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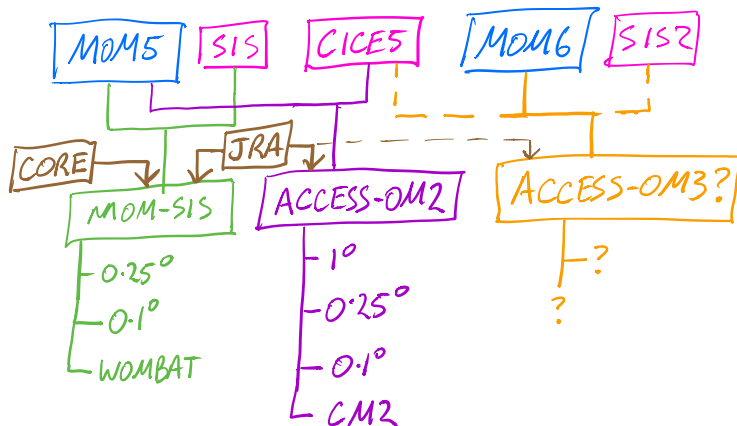
Community

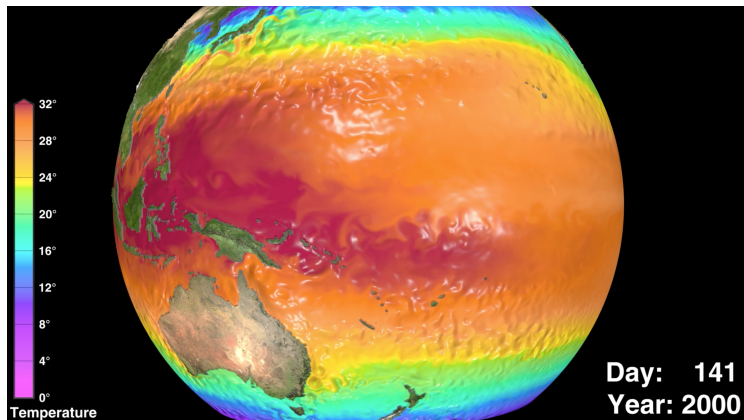
MOM-SIS-025

MOM-SIS-01

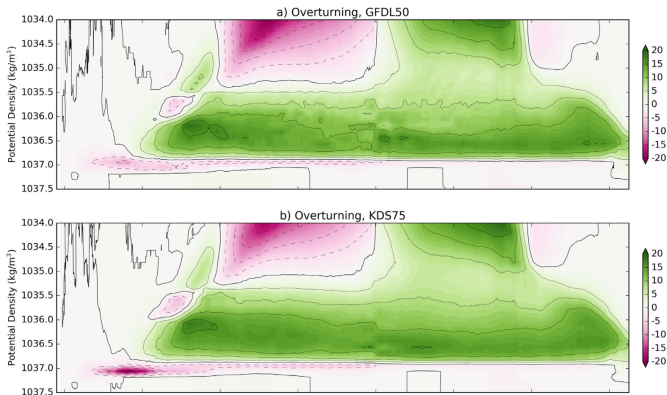
ACCESS-OM2

Questions





- ▶ Paul Spence's workhorse
- ▶ Now a WOMBAT version (see Matt Chamberlain's talk)



- ▶ Testing higher vertical resolution
- ▶ A full century run this year!
- ▶ Data processing is a huge challenge (see James Munroe)

Stewart et al. *Ocean Modell.* (2017)

- 1° Currently testing with JRA and NYF Forcing (Fabio Dias)
- 0.25° Planning to use for future simulations (Kial Stewart) and align with ACCESS-CM2-025
- 0.1° Under development, see above.

We need to discuss ways to merge and maintain our configuration with these models, and how to synchronise with ACCESS-CM2.

COSIMA Working Groups

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Questions

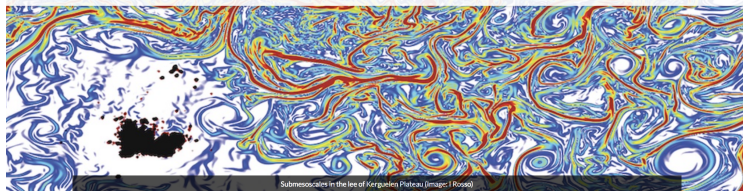
- ▶ Technical Working Group (see Aidan Heerdegen's talk)
- ▶ Linkage Project Management Committee
- ▶ Sea Ice Working Groups (yet to form)
- ▶ ??

COSIMA Website

COSIMA

Consortium for Ocean-Sea Ice Modelling in Australia

[Home](#) [Models](#) [Working Groups](#) [Gallery](#) [Meetings](#) [About](#) [Q](#)



Submesoscales in the lee of Kerguelen Plateau (image: I Rosso)

Please Attend The 2017 COSIMA Annual Meeting

Date: May 25 and 26 (all day), 2017

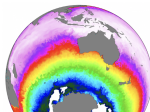
Location: Climate Change Research Centre, UNSW, Sydney

Select the Meetings page above for more details

Welcome to the COSIMA Home Page.

These pages are built by Australian researchers involved in global ocean and sea ice modelling. We aim to distribute information on the current supported models, the research we do and the future trajectory of models we will use.

COSIMA stands for the Consortium of Ocean-Sea Ice Modelling in Australia. We are comprised of a number of university nodes (ANU, UNSW, UTas, UAdelaide) and the major publicly-funded research agencies (Bureau of Meteorology, Australian Antarctic Division and the CSIRO). We are strongly supported by the National Computational Infrastructure and the Australian Research Council.



RECENT POSTS

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[2017](#)

[Technical Working Group Meeting, April](#)

[2017](#)

[COSIMA Cookbook](#)

[Technical Working Group Meeting, March](#)

[2017](#)

[Technical Working Group Meeting,](#)

[February 2017](#)

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[May 2017](#)

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- Blogs?
- Significant papers?
- Model Releases?
- Results?

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[ACCESS-OM2](#)

Questions

Announcing COSIMA-announce:

- ▶ `cosima-announce@mailman.anu.edu.au`
- ▶ `http://mailman.anu.edu.au/mailman/listinfo/cosima-announce`
- ▶ To be used for:
 - ▶ Meeting announcements
 - ▶ Major updates
 - ▶ Model releases
 - ▶ Help requests??

Questions

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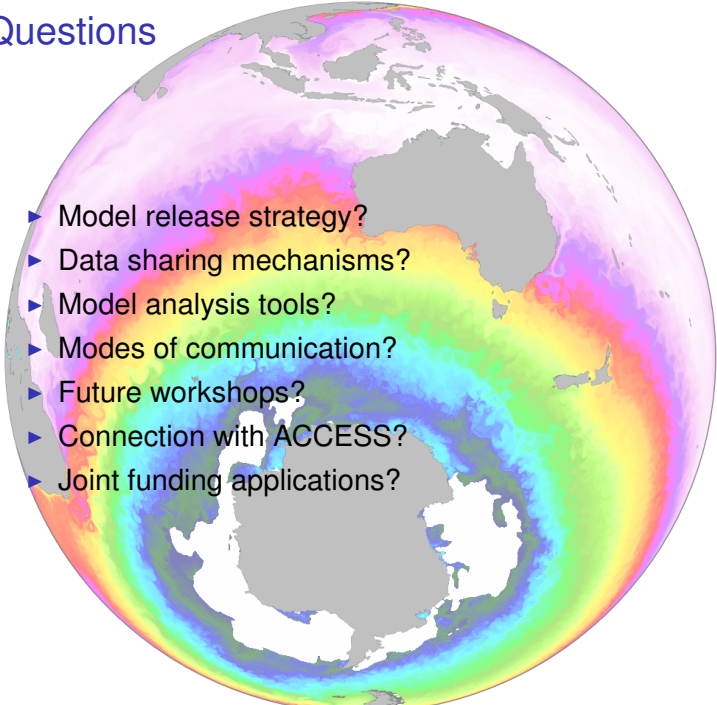
Community

MOM-SIS-025

MOM-SIS-01

ACCESS-OM2

Questions

- 
- ▶ Model release strategy?
 - ▶ Data sharing mechanisms?
 - ▶ Model analysis tools?
 - ▶ Modes of communication?
 - ▶ Future workshops?
 - ▶ Connection with ACCESS?
 - ▶ Joint funding applications?