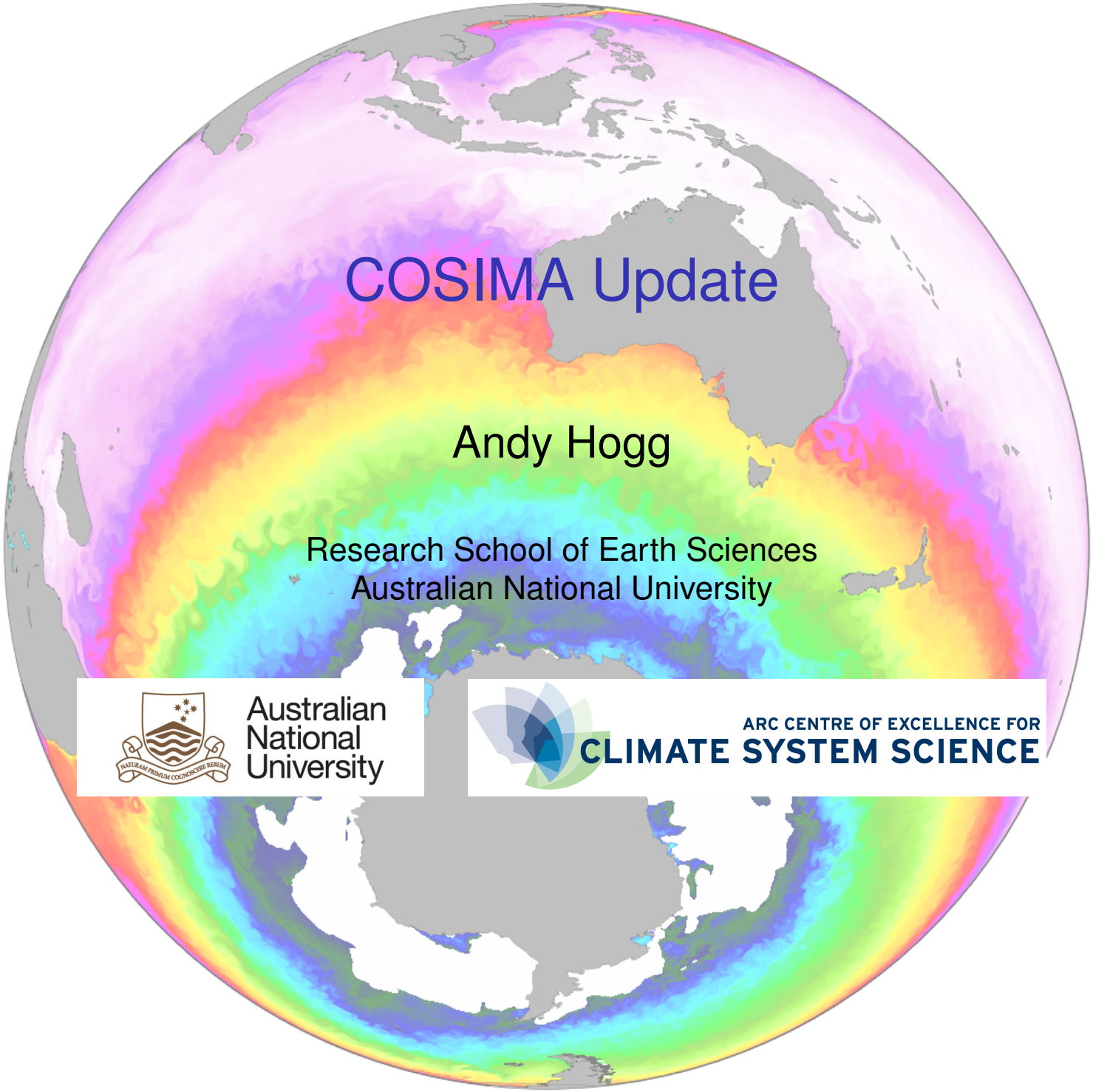


COSIMA Update

Andy Hogg

Research School of Earth Sciences
Australian National University

Australian National University

ARC CENTRE OF EXCELLENCE FOR CLIMATE SYSTEM SCIENCE

COSIMA

COSIMA LP

Community

- MOM-SIS-025
- MOM-SIS-01
- ACCESS-OM2

Questions

COSIMA:

Consortium for Ocean-Sea Ice Modelling in Australia

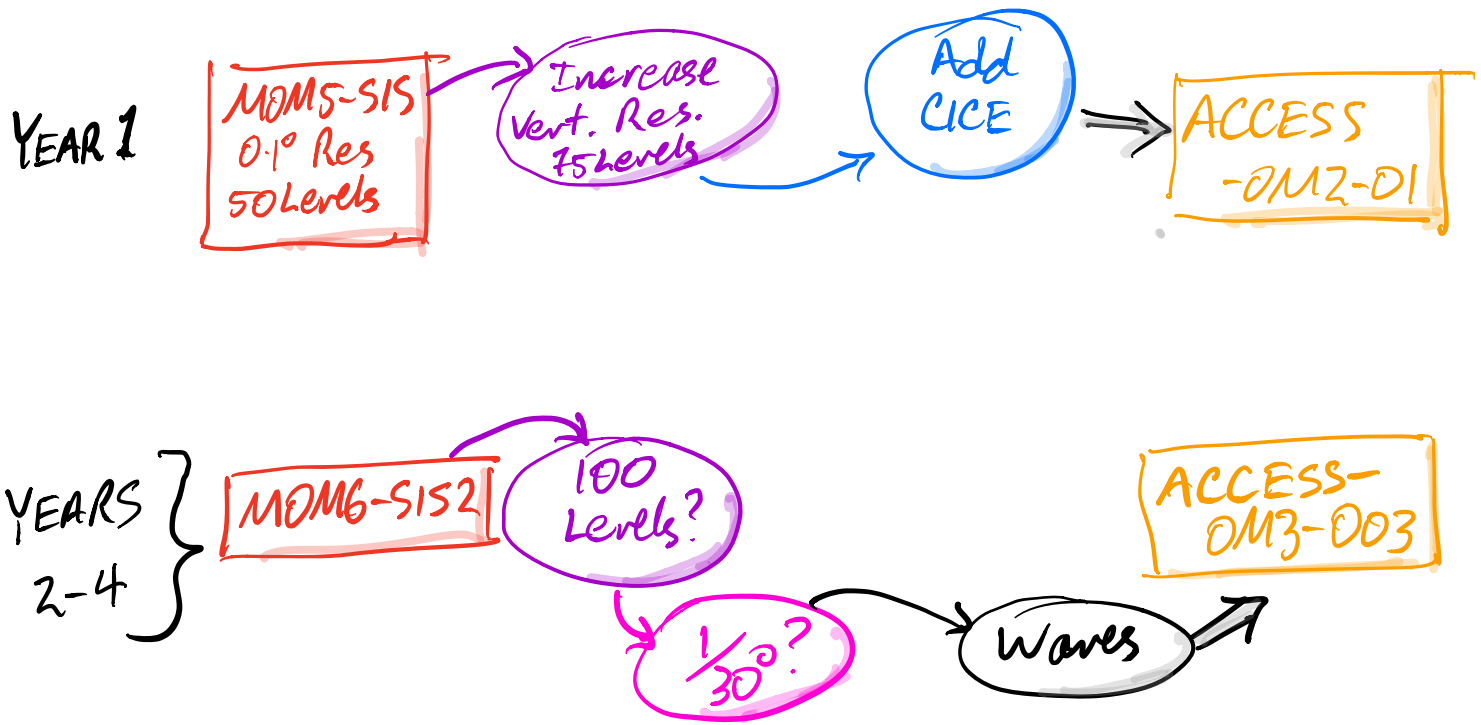
1. A collaborative consortium (COSIMA) within Australia's ocean & sea ice modelling community that integrates capability from different groups.
2. A 4-year, $800k ARC Linkage Project which aims to develop a high-resolution (0.1°) global modelling framework that will be adopted nationwide for:
   - ocean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

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 Update

Andy Hogg

COSIMA

COSIMA LP

Community

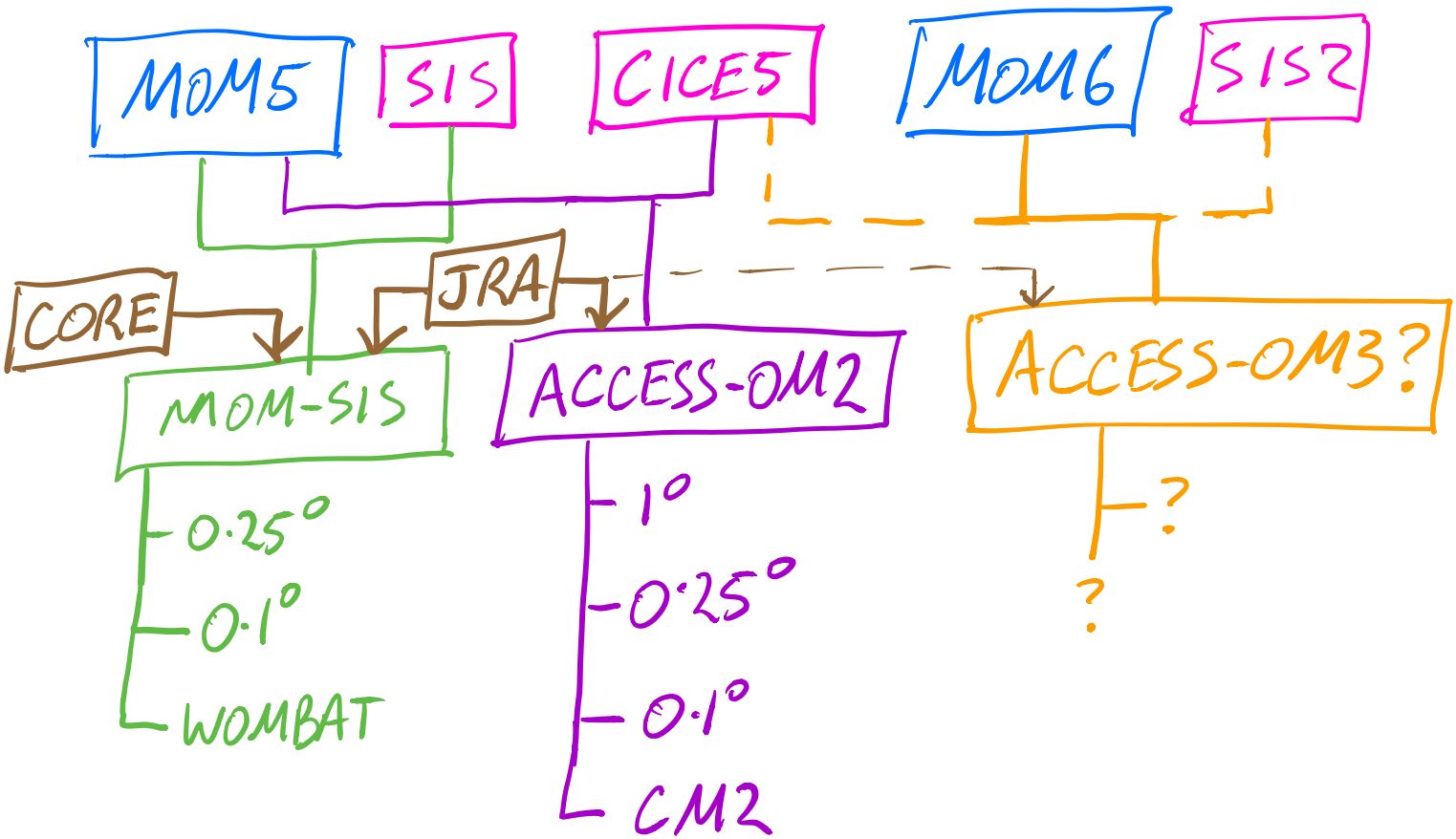
MOM-SIS-025

MOM-SIS-01

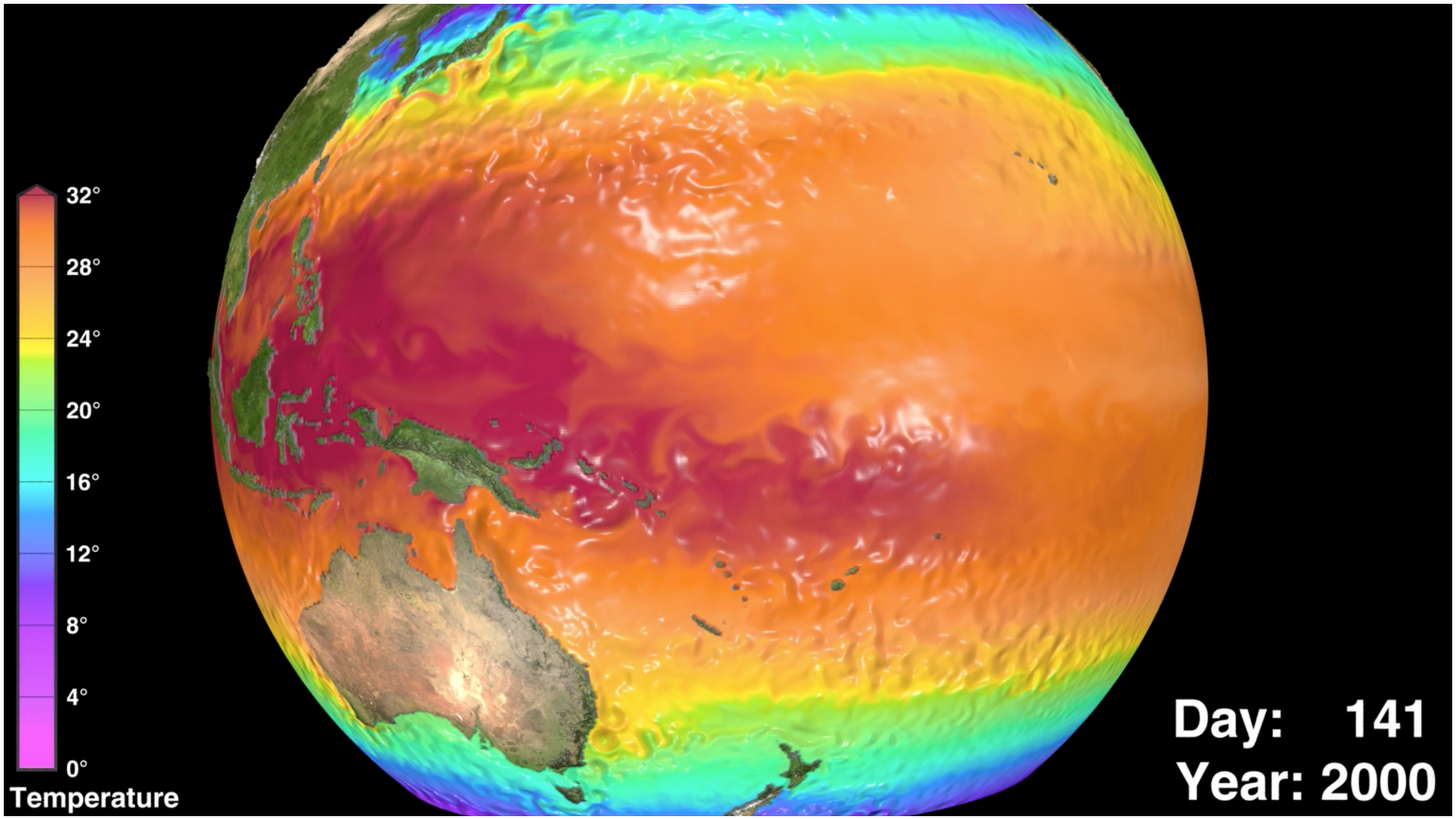
ACCESS-OM2

Questions

COSIMA Community Models

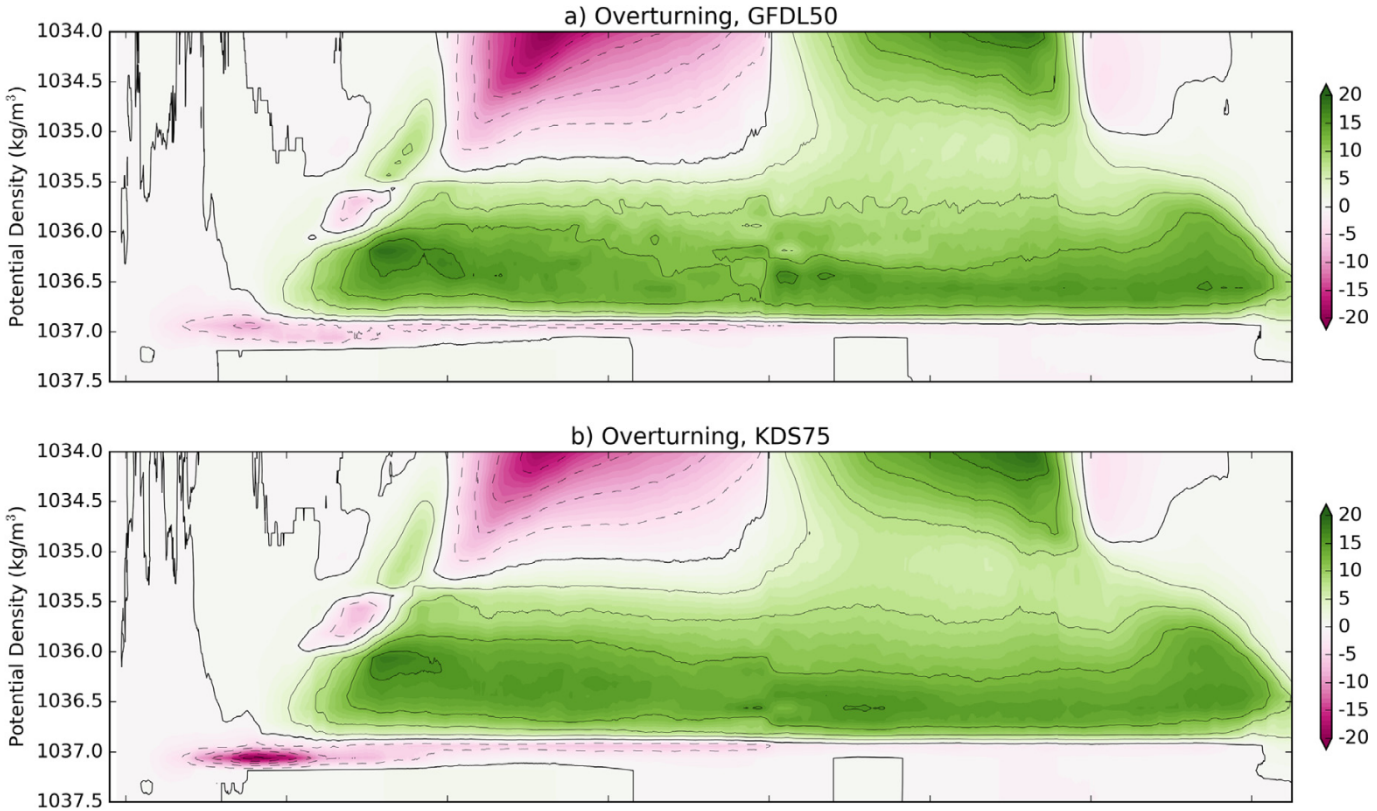


MOM-SIS-025



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

MOM-SIS-01



- 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)

ACCESS-OM2

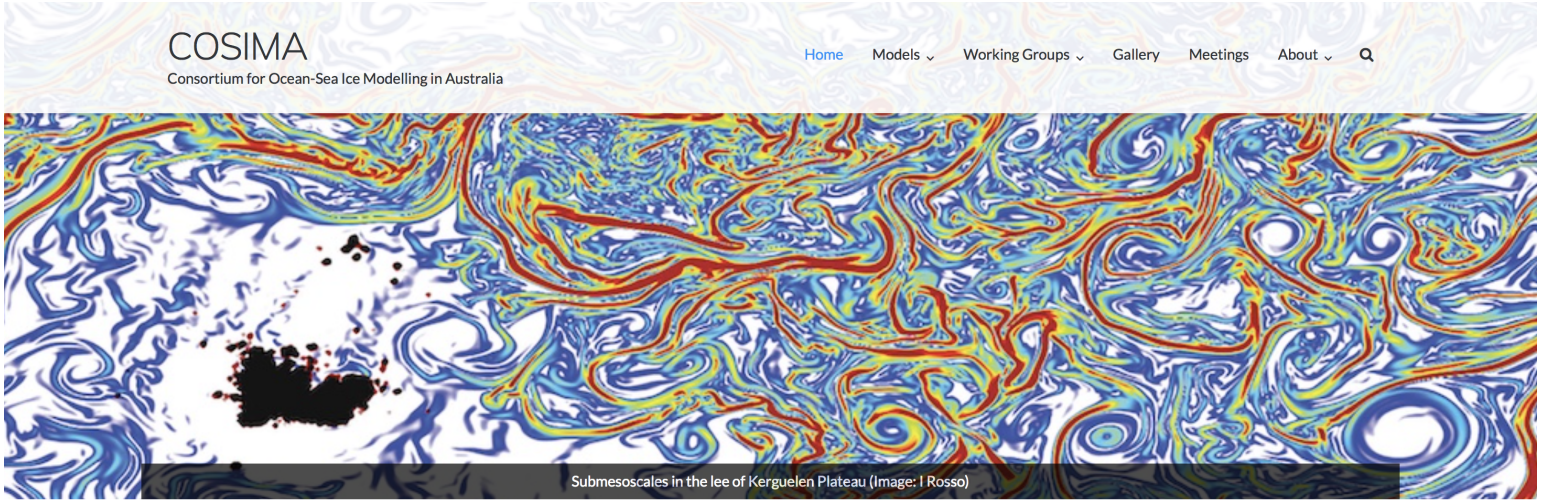
- 1° Currently testing with JRA and NYF Forcing (Fabio Dias)
- 0.25° Planning to use for future simulations (Kial Stewart) and align with ACCESS-CM2-025
- 0.1° Under development, see above.

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

COSIMA Working Groups

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

COSIMA Website



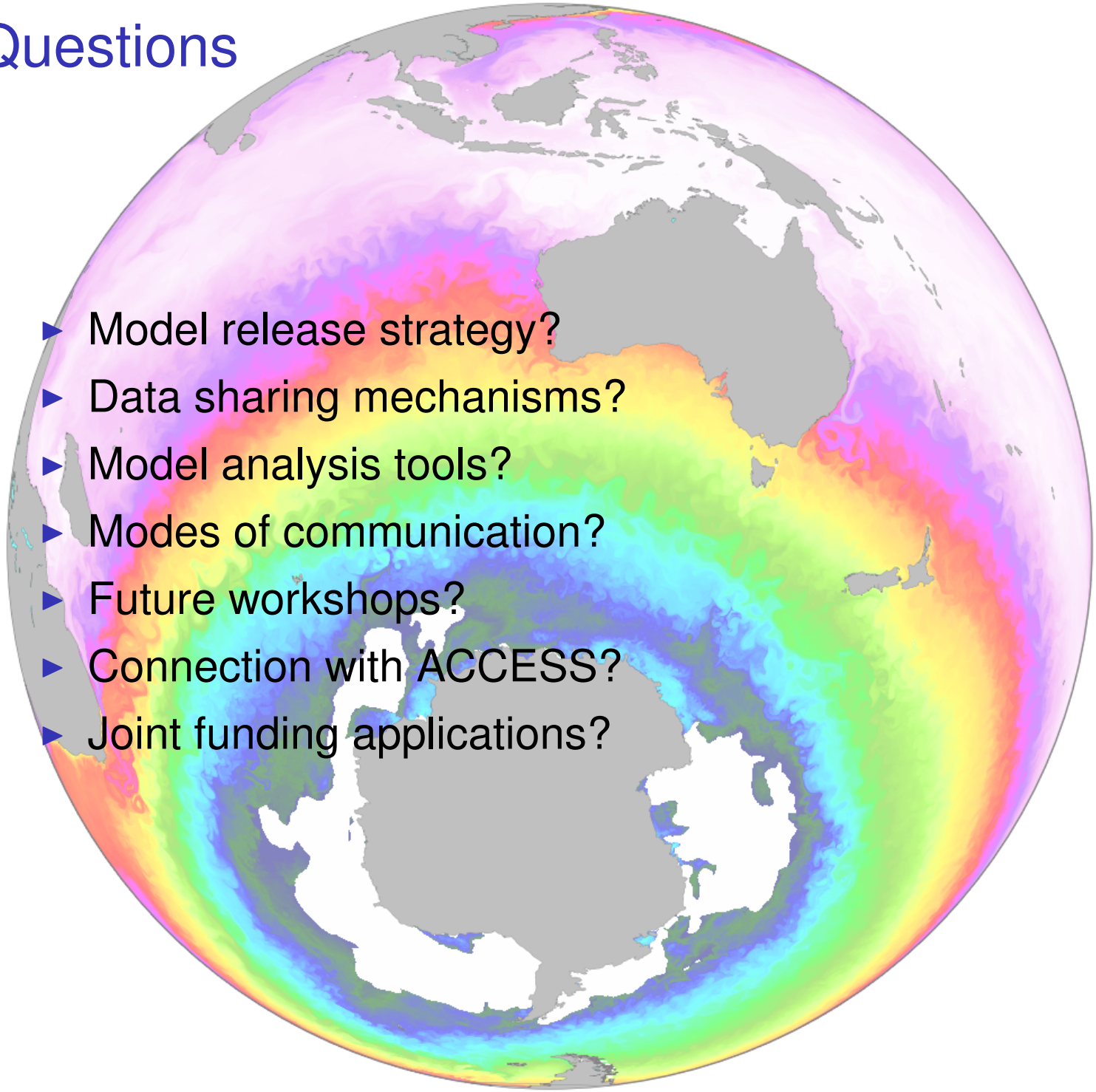
- Blogs?
- Significant papers?
- Model Releases?
- Results?

COSIMA Email List

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



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