

COSIMA Workshop Introduction & Scope

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Australian
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University



ARC CENTRE OF EXCELLENCE FOR

CLIMATE SYSTEM SCIENCE

Consortium for Ocean Modelling in Australia

COSIMA

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1. COMA – 1. Hobart, Feb 2012



2. COMA – 2. Melbourne, Sep 2014

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This Week

Questions

ARC Linkage Project

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A 4-year, \$700k project which aims:

1. To develop a high-resolution global modelling framework that will be adopted nationwide for ocean, sea ice and wave forecasting, ocean reanalysis, process studies and, ultimately, coupled climate simulations.
2. To formalise a collaborative consortium (COSIMA) within Australia's ocean & sea ice modelling community that integrates capability from different groups across the sector.
3. To establish Australia as an international leader in global ocean-sea ice model capability, with a distinctive focus on modelling the Southern Ocean.

Partners (investigators) include ANU (Hogg), BoM (Brassington), UNSW (England, Spence), AAD (Heil), UTas (Nikurashin) & CSIRO (Oke).

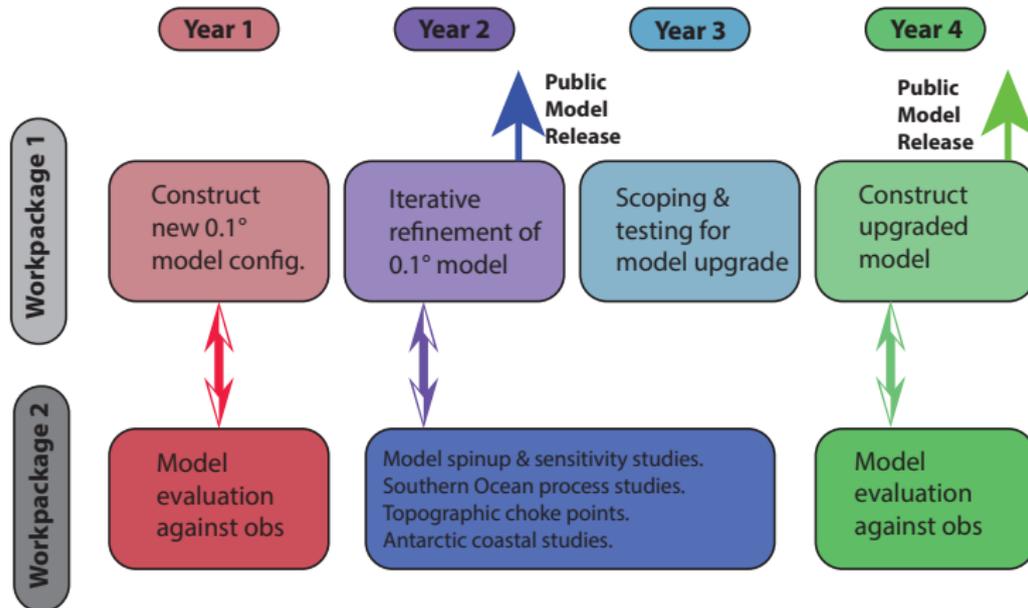
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This Week

Questions

ARC Linkage Project



Year 1-2 Upgrade vertical resolution MOM5 0.1°, refine Southern Ocean resolution, couple with CICE and WWIII ...

Year 3-4 Global MOM6 at higher resolution (0.03°?)

This week: Goals & Scope

Goals:

1. To begin establishing the COSIMA community
2. To exchange scientific ideas and current Australian modelling projects
3. To find avenues for technical and scientific collaboration
4. To establish requirements and benchmarks for our high-resolution global model configurations

Scope:

1. All ocean and sea ice models currently used in Australia
2. Both scientific and technical discussion
3. Emphasise bottlenecks – what is blocking progress?

This week: Program

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This Week

Questions

Thursday

Session 1: Outline of current capacity and plans

Session 2: Ocean science talks

Session 3: Ocean & ice science talks!

Friday

Session 4: Technical developments

Session 5: Sea ice talks

Session 6: Discussion

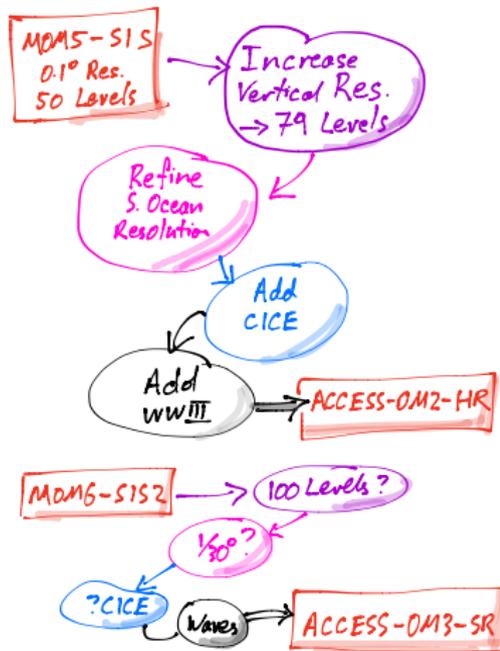
Outstanding Questions

The catch: ARC didn't fully fund the project ...

Scope to revise objectives:

- ▶ Prioritise technical configuration over validation?
- ▶ Value of a MOM5 config?
- ▶ Long-term CICE support?
- ▶ B-grid CICE with C-grid MOM6?
- ▶ At what stage do we start looking at WWIII?

Original Plan

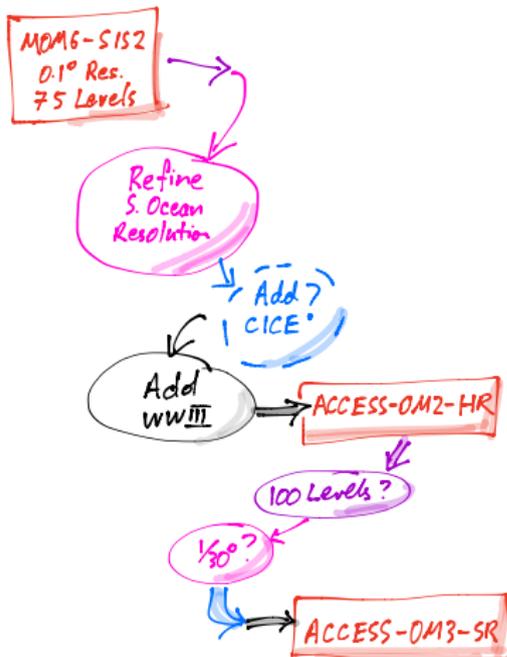


Outstanding Questions

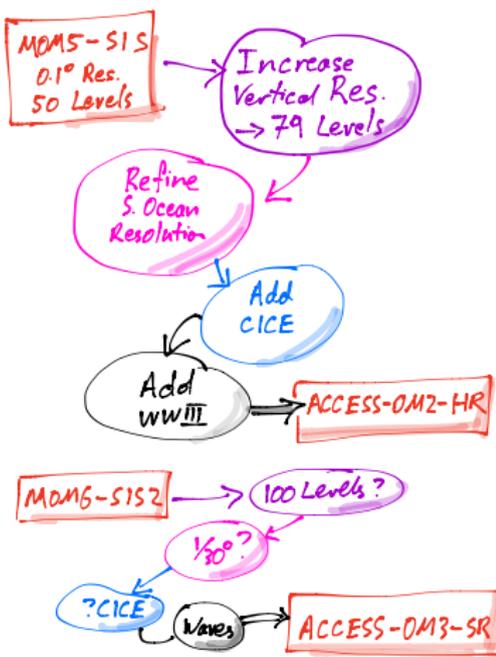
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Alternative Plan



Original Plan



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This Week

Questions