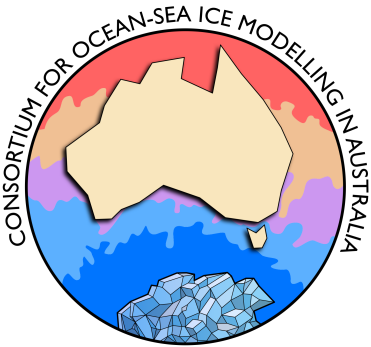
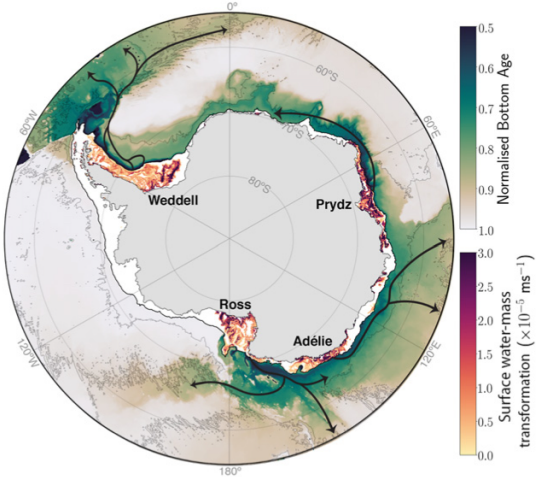
COSIMA Mk2

Andy Hogg & the COSIMA consortium

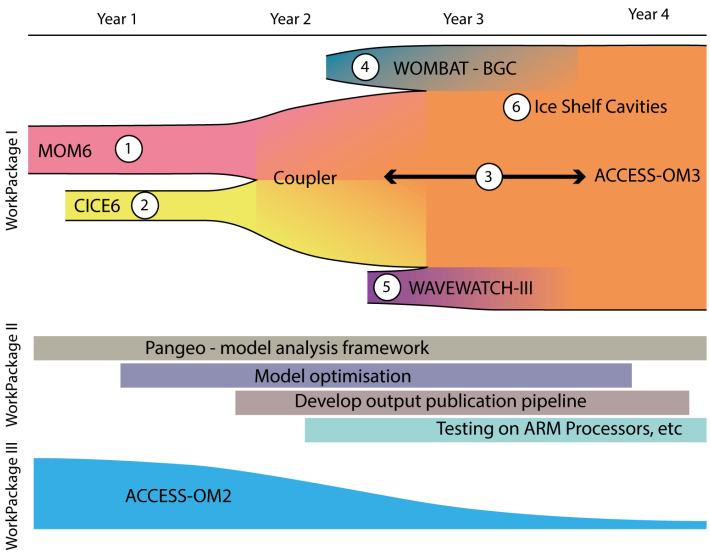


COSIMA: Consortium for Ocean Sea-Ice Modelling in Australia

- A community-based approach to designing model configurations.
- ARC Linkage funding – with BoM, AAD, CSIRO, DoD.
- Last 4 years have culminated in development of ACCESS-OM2 (Kiss et al., 2020).
- Includes 0.1° global configuration
- Representation of Antarctic shelf, including DSW formation, AABW export, etc.

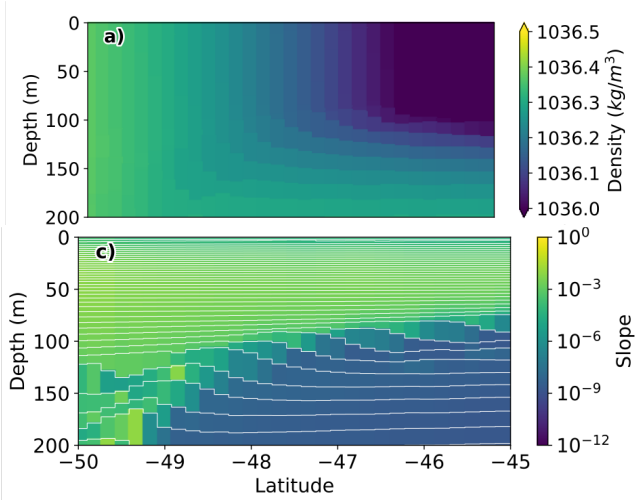


COSIMA Mk2



- COSIMA was recently re-funded for 4 more years.
- Will upgrade to MOM6-CICE6.
- Start with regional, high-resolution configurations.
- Culminate in global ACCESS-OM3.
- Plan to include ice-shelf cavities.
- More support for model analysis.

Advantages of MOM6



- Cleaner numerics
- Flexible vertical coordinates: ALE
- Allows for hybrid terrain-following/ isopycnal/geopotential coords in a single config.
- Both global and coastal applications, including wetting/drying and ice shelves
- Maintain strong collaboration with GFDL
- Minimal change to existing coupled models
- Build on existing experience with MOM6

MOM6 Pan-Antarctic (Angus Gibson)

- First attempt at open boundaries in MOM6
- With SIS2 sea ice (for now)
- Open boundary at 37°S, forced by ACCESS-OM2 daily output.
- Surfacing forcing is JRA55 RYF
- Currently 0.05° resolution, 75 geopotential layers
- ∼2500 cores, 0.5 years/day, 240 kSU/year.