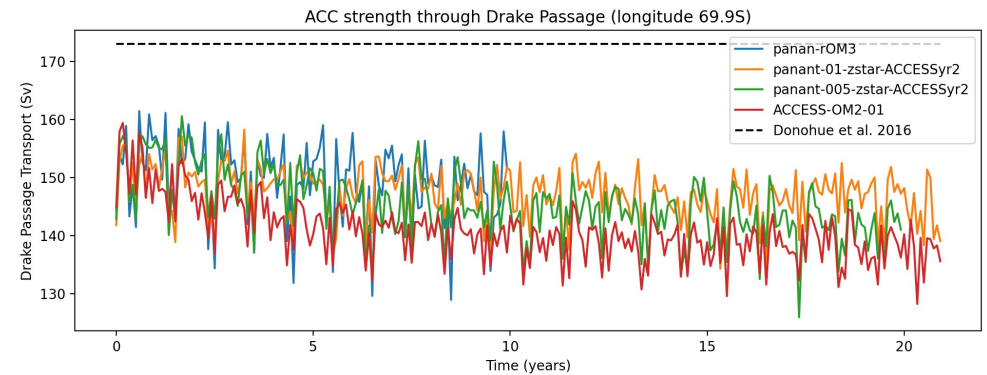
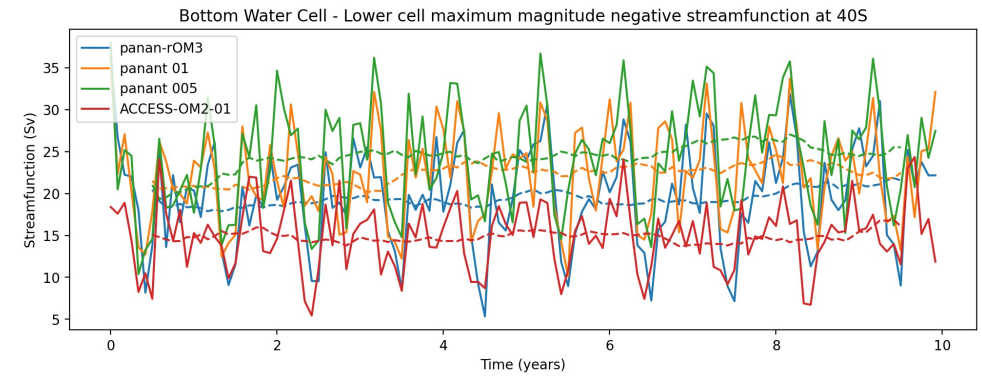
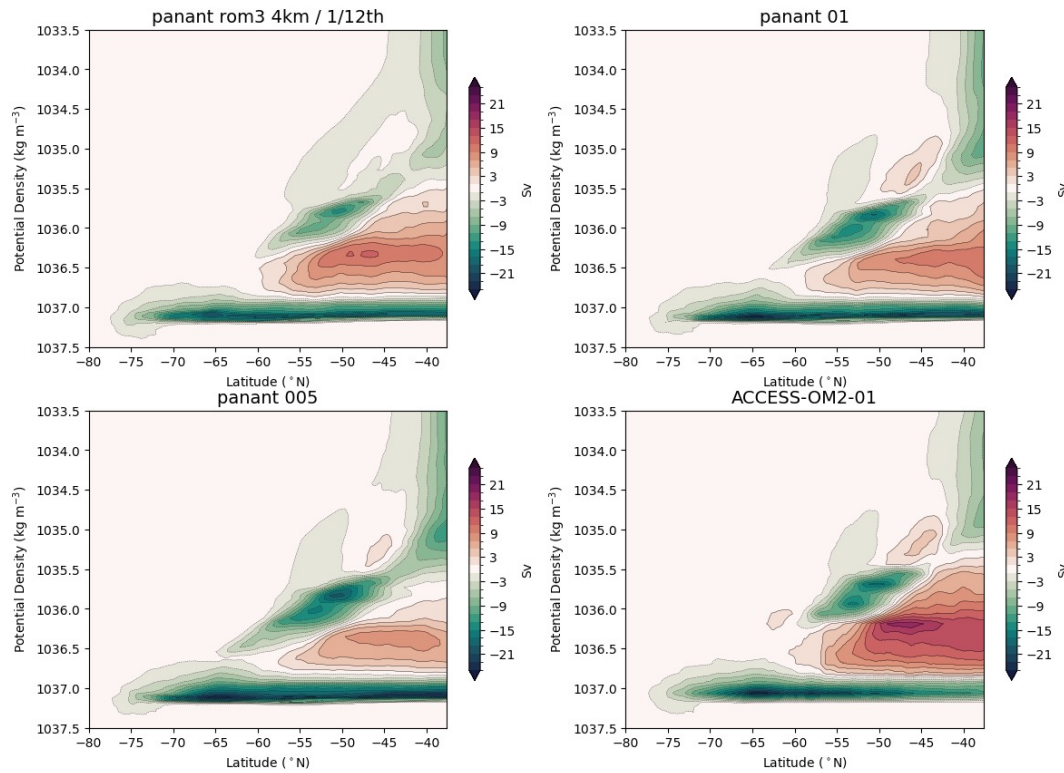


ACCESS-rOM3 (no IS) panan evaluation

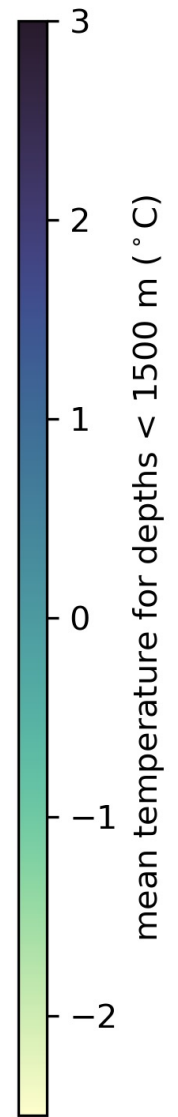
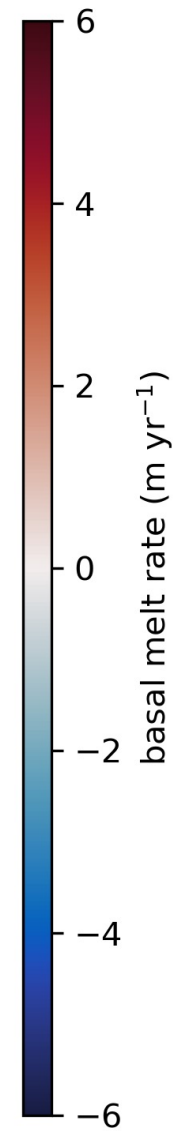
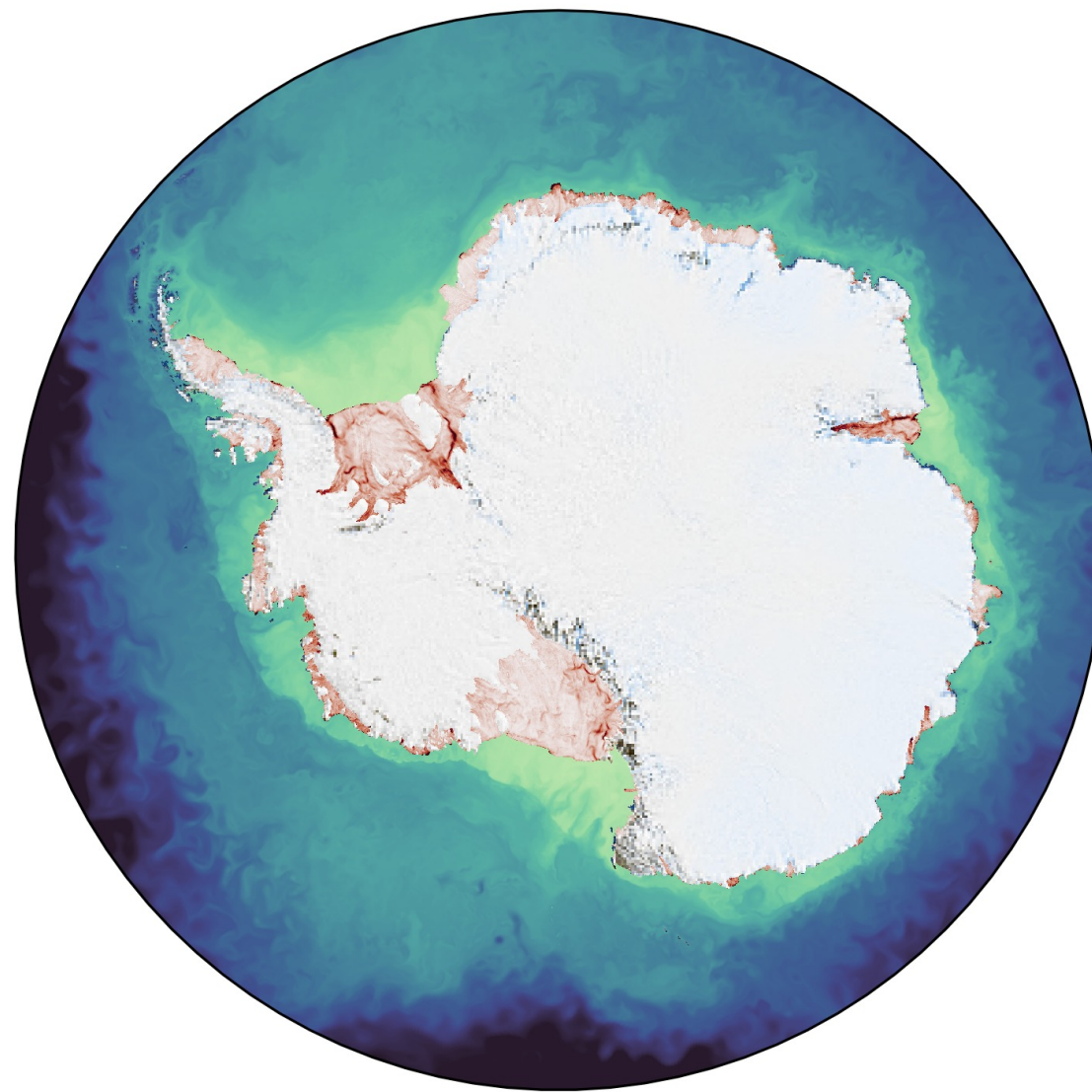


Key parameters for adding ice shelves

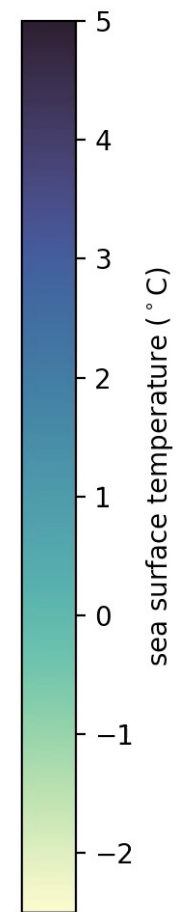
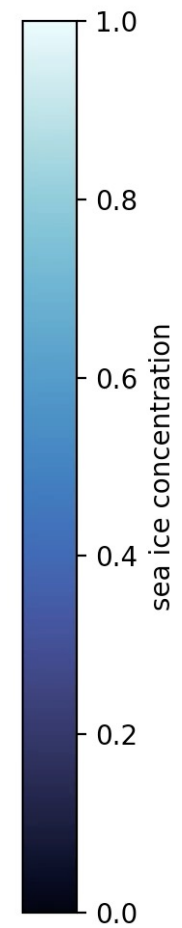
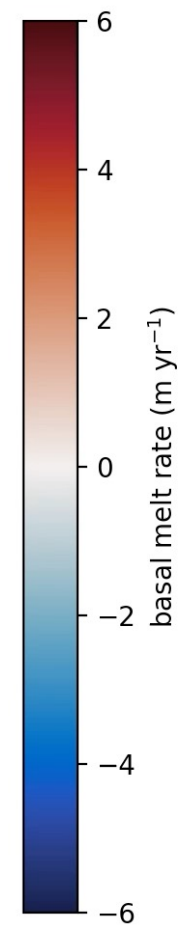
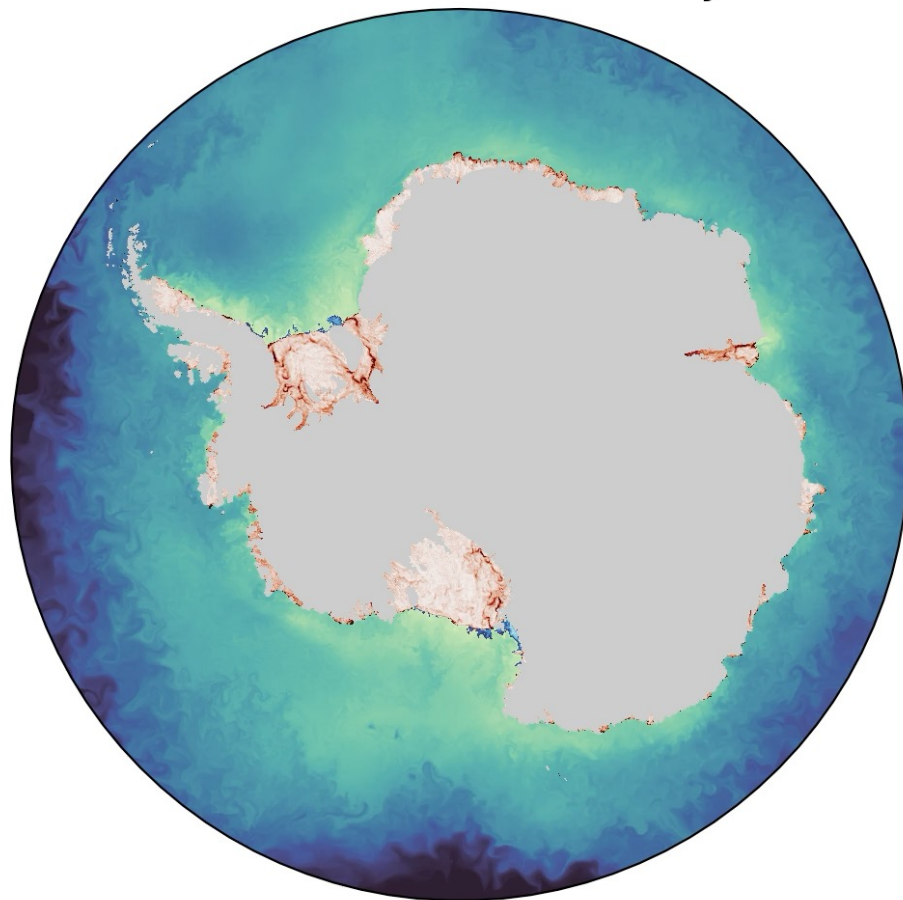
- Small timesteps, especially in initialisation
- Sea ice mask + ice sheet mask = ocean mask (no sea ice under ice sheet)
- FMS coupler ocean_mask = sea ice mask
- HARMONIC_VISC = True
- No grounding line in ALE mode (I chose minimum ocean column ~5m)
- Good initialisation
- Debug mode on or off

MOM6-SIS2 1/12th

Time = 3 months

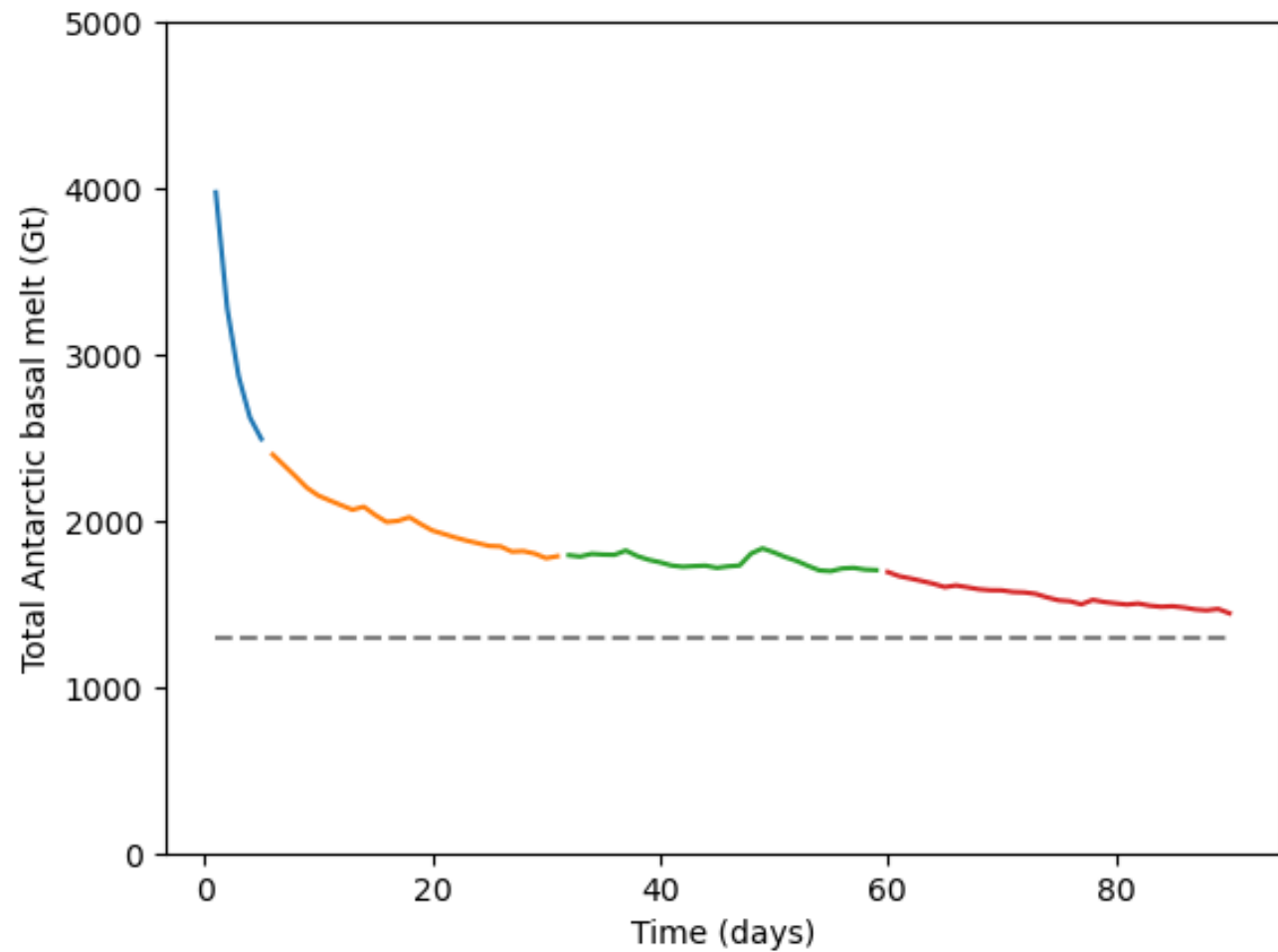


Time = 3 months + 1 days



MOM6-SIS2- 1/12th

- Not too shabby



Next steps

- Port to ACCESS-OM3/CICE/NUOPC
Started this morning
- Runoff off, iceberg flux spread
- Salt restoring, tidal mixing files
- Topo edits?
- Some optimisation to reduce cost, spin up and evaluate
- Tuning?
- Friction velocity due to tides?
- 1/24th degree version?

Tried to document stuff before I forget

How to make a new panan MOM6-SIS2 config with ice shelves

Claire Yung edited this page yesterday · [2 revisions](#)

Steps used to make a MOM6-SIS2 1/12th degree ice shelf panan.

Some notes at the outset:

- It is helpful to save all your input files for a config in one folder, especially because some of the have fixed names that you wouldn't want to get confused with other configs.
- Generally we've tried to add metadata to netcdf files that explain the commands used to make them, often this is automatic e.g. for nco tools

1. Grid

The first step is to generate a supergrid. We used the [ocean_model_grid_generator](#). Something like the following would generate a global grid at 1/12th resolution with a transition from Mercator to fixed latitude at 75S and no shifted South Pole. These can require a lot of memory so a PBS or interactive PBS job is a good idea:

```
python ocean_grid_generator.py -r 12 --no_south_cap --ensure_nj_even --bipolar_lower_lat 65 --mercator
```

Discussion: <https://github.com/claireyung/mom6-panAn-iceshelf-tools/issues/7>

2. Topography

We used the [Charrassin et al. 2025](#) bathymetry and ice products, since GEBCO didn't have the required data (see [this discussion](#)). However, we still need the topography where Charrassin data is not available (it's on the EPSG:3051 polar stereographic grid). So, using the topography generation pipeline is still needed. Something like this [make_OM3_025deg_topo](#) but [WITHOUT the topo edits](#) which are hardcoded for the 0.25deg config. This will generate a GEBCO topography for a global context with NaNs beneath the Antarctic ice sheet.

<https://github.com/claireyung/mom6-panAn-iceshelf-tools/wiki/How-to-make-a-new-panan-MOM6%E2%80%90SIS2-config-with-ice-shelves>