

Notes on group 3

NGGPS: global system. Sea ice candidates: CICE?

NGGPS should be at 3km resolution. Seasonal could be coarser with difference members. Different models for 3–5 day forecast or month to seasonal forecast? HYCOM for short-range, MOM(6?) for longer.

Timeline

2 years to get one system (ice–ocean) to go to operations uncoupled.

Mechanism

score card (metrics), freeze–up and melt days. [Ice extent, volume, velocity, thickness.]

Methodology

Testing methodology: should not break what already works: concern about atm–ocean coupling can take years to understand

Evaluation of ice stand–alone mode with standard forcing, BC and IC

Evaluation of Ice–ocean hindcast. Example of OMIP CORE2: hindcast with recycling CORE2 6 times.

Evaluation should include the different parametrizations inside CICE. Parameter study (tuning knobs): let's make the models 1m thicker! Or different ITD from different reanalysis → Ensemble runs should be on the map. Knobs for forcing, IC and internal physics...

Integrated metrics are not always useful to forecasters... Use case studies (or 'baseline of events') that are to be tested in models. (IC issue!!)

Initial testing without data assimilation. Make sure that DA does not hide issues. Forecast (3–5 days) should beat persistence, which requires good IC.

Community aspects:

User community perspective/feedback on the whole system?

CESM, CFS community as an example of working community.

In the end, not much value in comparing comparable ice models. Choose the model with the best documentation and the best support, in–house expertise.

Question: is the risk low that CICE5 falls in between the cracks? Response: risk is relatively low.

There is enough interest among institutions to create a consortium, a board. ACTION: need to formalize a consortium arrangement between enough institutions. Needs contribute 1-2 people/year only. Funding?