



INTERNATIONAL ICE CHARTING WORKING GROUP (IICWG)

Task Team 2

ICEBERG MODEL MODERNIZATION

Most Recent Update: 18 June 2020

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Team Members:

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Summary of Original Task:

- Advance the implementation of iceberg drift and deterioration modeling by sharing an updated version of the NAIS iceberg model in a version control system.
- Evaluate model using global (vice North Atlantic only) environmental forces.
- Convert Fortran version of model code to Python for R&D purposes.

Desired Outcome:

- Each service has a new tool *to consider* for transition to operations.

Status: Continue with following revisions:

- **Task team met by telecon on 13 February to update status. A subset of the team members from CIS, NRC, NRL, and IIP also met on 01 April to discuss NAIS-specific issues.**
- **Alvaro Scardilli shared results from a NAIS model run on iceberg A68-A, east of the Antarctic Peninsula. Results are inconsistent with observations and will be analyzed to investigate the source for the inconsistency with various team members.**
- **Hai Tran and Dave Hebert shared preliminary results from NAIS model drift using different environmental forcing data with ground truth tracks from 2019 iceberg tagging effort. Group will discuss any lessons learned from these comparisons.**
- **NRC is now 99% complete with Python version of code (for research purposes). Python version is compatible with both CECOM and HYCOM environmental forcing and will allow up to eight ensemble tracks using various combinations of winds and current. Several team members have expressed an interest in getting this version of the code. It will be shared when available via NRC Wiki site.**



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Next Steps (if any):

1. Meet to discuss model comparison results in both hemispheres.
2. Share NAIS 2.0 revision for GOFS data completed by NRL via NRC Wiki site.
3. Share Python version of code via NRC Wiki site.
4. Compare Fortran results from 1 with Python R&D version of code.
 - Include operational performance measurements to running different versions of code i.e., time to run with many icebergs

Estimated Percent Complete: 75%

Interaction with Other Task Teams:

- No direct interaction but the results from the Mariner Survey indicated that ~42% of respondents operating in open waters desire greater than 24-48 hours (up to one week) forecasts. Should this be a consideration within the scope of this work?

What is working well?

- Task teams can focus on several related tasks working towards a common goal vice many disparate 'good ideas'

Are there barriers hindering progress?

- Access to ground truth validation data in all evaluation regions