

INTERNATIONAL ICE CHARTING WORKING GROUP (IICWG)

Task Team 13

Iceberg Model Case Studies

Most Recent Update: 01 May 2021

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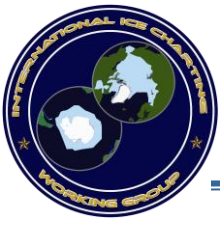
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Task Objectives:

- Document lessons learned through case studies, both in Northern and Southern Hemispheres, to identify situations where the iceberg model did not work well.
- Identify areas where the environmental drivers were not as accurate as they should be.
- Communicate to modelers and others what the model problems are and what the gaps are.
- Investigate model evaluation metrics that could be used to quantify model performance

Status:

- Though slow to start, team has met twice since last status report (1/25).
- Thus far, work has focused on:
 - Identifying suitable “ground truth” iceberg tracks and characterizing their suitability for the basis of further study. Preliminary candidates:
 - North Atlantic: (1) IIP tracks from 2019 tagging campaign; (2) Petroleum Energy R&D (PERD) iceberg sighting database; (3) DMI archived data from 1997 & 2011.
 - Southern Ocean: (1) Satellite imagery detecting prominent icebergs, e.g., A68A (2) USNIC archived data (3) BYU and AWI databases.



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- Determining the best approach to separate iceberg model performance from environmental data inputs – both are integral to the process but Task Team scope demands a focus on abilities to forecast iceberg drift in an operational setting.
- How to incorporate iceberg field created after break-up of large Antarctic icebergs or North Atlantic ice islands?
- Iceberg deterioration is beyond the scope of this Task.
- NAIS members met in early December to identify possible case studies in the North Atlantic that will be considered under the IICWG Task Team.
- CIS evaluated Regional Ice-Ocean Prediction System (RIOPS) environmental forcing for possible North Atlantic cases.

Next Steps:

- A sub-group of this Team will meet in late May to develop/decide on the best approach.
- Full Task Team to meet again in early June.
- Team will agree on suitable cases by early-mid/June.
- IIP/NRL have shared NAIS2.0 model with US Naval Postgraduate School student for Masters thesis work in Southern Ocean. Will consider relevance/value of NPS student work to this Task Team.

Estimated Percent Complete: 10%

Interaction with Other Task Teams:

- This task dovetails very nicely with the SOLOKI task team

What is working well?

Are there barriers hindering progress?