



# ICEBERG STANDING COMMITTEE

## ACTION ITEMS STATUS

Last Updated 26 November 2018

### Iceberg Standing Committee (IBSC)

Co-Chairs: Mike Hicks, Alvaro Scardilli

- IC 17-1** Seek funding source(s) and research opportunities e.g., European Maritime Safety Agency, and research opportunities to develop and evaluate a method/model to track propagation of large icebergs after calving. Applies to both hemispheres.  
Responsible: N. Young, C. Readinger, W. Dierking  
Deadline: IICWG 2018  
Status: CLOSED. A post-doc and a PhD student, funded by the University in Tromsø (UiT) and the Center for Integrated Remote Sensing and Forecasting for Arctic Operations (CIRFA), are working on remote sensing detection of "sea ice, iceberg, and growlers" with a focus on small icebergs (a few pixels in the SAR image). One paper on quad-pol data has already; another, on Sentinel-1 EWS imagery, has just been submitted. With the work accomplished, funding is not presently needed but may be in the future. References to papers will be distributed on request, as available.
- IC 17-7** Evaluate the implementation of the NAIS Iceberg Drift and Deterioration Model in Argentina and Denmark  
Responsible: This IBSC  
Deadline: IICWG 2018  
Status: OPEN. UPDATE; Model is running in Argentina though still some coastline issues to work out. A. Scardilli is confident that the model will be operational for next ice season. DMI has model running with HYCOME currents but still has limited resources to conduct a comprehensive evaluation. NIS has sorted out their coastline but is still working through incorporation of ocean-atmosphere inputs to drive the model. NOTE: IIP and NIC will be working with the US Naval Research Lab to evaluate HYCOM currents for driving the NAIS model. CIS and NRCC will also be involved in establishing ownership and versioning for the NAIS model. This action was taken by the ICEBERG MODELLING Task Team.
- IC 17-9** Share best practices on collecting "ground truth" iceberg data for continued model and remote sensing evaluation e.g., through use of iceberg tagging, vessel sightings etc.  
Responsible: M. Hicks  
Deadline: IICWG 2018  
Status: OPEN. UPDATE: US DHS is supporting an effort to tag multiple icebergs during the 2019 season. A DHS Contractor is working with



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IIP, C-CORE, and other Canadian researchers to develop concept of operations. DMI is working on a small study to evaluate ship observations coincident with Sentinel-1 acquisitions as a source of ground truth. A. Scardilli also shared a link for software developed for Argentine Naval ships to code iceberg observations from vessels (Sistema de Información Glaciológica or SIGLAC). The DMI Study and Argentine's SIGLAC underscore the importance in properly incorporating vessel sightings in ground truth validation.. This action was taken by the ICEBERG MODELLING Task Team

**IC 17-11** Update ICE ASSIST iceberg reporting standards with new SIGRID-3 convention.

Waiting adoption by ETSI.

Responsible: N. Hughes

Deadline: IICWG 2018

Status: CLOSED. UPDATE: N. Hughes recommended shifting this project over to the DICSSC as MET Norway has funding to support a larger effort to further develop the Ice Watch ASSIST shipboard monitoring system and database from U. Alaska Fairbanks. This should include the capability for iceberg observations. Since MET Norway is pursuing this independently, it is closed as an IICWG action,

**IC 18-1** Review, compare, and harmonize iceberg polygon and point classes for iceberg concentration, max length/height, and non-ice S57 attributes in SIGRID-3 and Ice Objectives Catalogue. Include symbology for "Isolated, Few, Many". Agree on proposals and submit to ETSI.

Lead: M. Hicks

POCs: IBSC

Due Date: IICWG XIX

Status: OPEN. The group briefly discussed the idea of collecting all iceberg related fields within SIGRID-3 in one location within the SIGRID-3 reference. All agreed that this would be helpful but we should avoid listing iceberg field descriptions in different locations to facilitate future revisions. Also, it is important for iceberg products to accommodate sea ice visualization. This action was taken by the E-NAVIGATION Task Team.

**IC 18-2** Review, compare, and harmonize new symbols and color coding contained within Sea Ice Nomenclature I and III, Color Code Standard, and S-411 for the areas and boundaries of iceberg shape, size, number, and concentration. Agree on proposals and submit to ETSI.

Lead: K. Serumgard

POCs: IBSC



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**Due Date:** IICWG XIX  
**Status:** OPEN. Action item addresses how to portray areas of icebergs (not points). Consider need and propose symbology for “Unknown but Estimated”. This action was taken by the E-NAVIGATION Task Team.

**IC 18-3** Share results from Glacial Ice Hazards Workshop (Oct 2017) on development of a North Atlantic iceberg limit and iceberg distribution climatology.  
**Lead:** M. Hicks  
**POCs:** K. Qvistgard  
**Due Date:** Update status at IICWG XIX  
**Status:** CLOSED. Significant work at CIS and IIP in developing iceberg distribution and iceberg limit climatologies. Will focus on the 30-year climatological period from 1991-2020 to be consistent with CIS sea ice climatology. DMI also working on updating Greenland climatology with Sentinel-1 data. DMI, CIS, and IIP will continue working on this outside of the IICWG.

**IC 18-4** Develop a prototype product showing the Iceberg Limit for the Atlantic sector of the southern ocean (~Weddell Sea). Eastern extent TBD (METAREA VI, 0 Lon, 20E?).  
**Lead:** A. Scardilli  
**POCs:** C. Readinger, IIP  
**Due Date:** Prototype by July 30th. Written document by IICWG 2018.  
**Status:** OPEN. Subject to analyst time. UPDATE: Though Argentina has been working on configuring a new product, this will not be available for IICWG 2018. A. Scardilli noted that the launch of Argentine’s SAOCOM 1a and 1b L-Band SAR satellites should be a significant source for data for creating this type product. Moved to the PARKING LOT.

**IC 18-5** Investigate the possibility of using “Machine Learning” as a way to exploit Big Data for iceberg detection using SAR imagery.  
**Lead:** M. Hicks  
**POCs:** IBSC, G. Wachira  
**Due Date:** IICWG XIX  
**Status:** CLOSED. IIP has made significant progress on this item by teaming with a group from NASA JPL to build a proto-type machine learning tool. Funding is required for continued development, validation and transition to operations. M. Hicks will present an update at IICWG 2018.



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- IC 18-6** Investigate the possibility of using VHF Data Exchange System (VDES) for sending IIP Iceberg Limit.  
Lead: IIP  
POCs: J. Carson-Jackson  
Due Date: IICWG XIX  
Status: OPEN. Might represent a simple operational demo to move toward getting our ice information out onto ECDIS. No developments on this item. Moved to the PARKING LOT.
- IC 18-7** Review Tabled IAW 5 Recommendations.  
Lead: M. Hicks  
POCs: IBSC  
Due Date: February 2018  
Status: OPEN. M. Hicks circulated Tabled Recommendations for consideration. IBSC will adopt similar approach as DICSSC committee. Moved to the PARKING LOT.