Iceberg Sub-Committee Report

IICWG-18

September 25, 2017

Mr. Michael Hicks
International Ice Patrol
The IICWG Iceberg Subcommittee (IBSC): 10 members, representing 9 national ice services.

- Alvaro Scardilli, Argentina
- Neal Young, Australia
- Darlene Langlois, Canada
- Keld Qvistgaard, Denmark
- Wolfgang Dierking, Germany
- Nick Hughes, Norway
- Vasily Smolyanitsky, Russia
- Chris Readinger, United States
- Kristen Serumgard, United States
- Mike Hicks, United States
Farewell to Gabrielle…

Welcome to Kristen!
Iceberg Subcommittee Focus

1) Iceberg Charting / Distribution / Archiving  
   *(17 of 21 Action Items)*  
   Continued update of key references

2) Iceberg Modeling  
   *(2 of 21 Action Items)*

3) Iceberg Monitoring / Reconnaissance  
   *(1 of 21 Action Items)*
Since last IICWG in Ottawa…

• IBSC members met monthly:
  – 10 by teleconference
  – 3 in-person in conjunction with other meetings
e.g., IIP Annual Meeting, NAIS meeting, Keld’s visit to New London

• Completed or closed 9 Action Items:
Iceberg Subcommittee Activity

- IC 17-2: Discuss the need to develop a general naming convention for greater than 10 NM Arctic icebergs.

- IC 17-4 & 17-5: Finalize input for ETSI based on the recommendations at the 5th Ice Analysts Workshop (May 2016) on icebergs for WMO-558 and all other material.

- IC 17-6: Coordinate agreement and transfer files for NAIS Iceberg Drift and Deterioration Model with Norway.

- IC 17-8: Ensure time is set aside in the agenda for IICWG-XVIII for a meeting of the Iceberg Subcommittee.

COMPLETE
Iceberg Subcommittee Activity

• IC 17-12: Ensure all items required as a follow-on to the ETSI VI meeting in February are complete to include: updates to WMO-558 and new iceberg size tables and terminology. (update from Action Item print-out)

• IC 17-13: Investigate the influence of financial restrictions on amount of sea ice and icebergs MSI in SafetyNET bulletins.

• IC 17-14: Recommend that information on ice edge and icebergs in METAREA/NAVAREA SafetyNet shall be strictly in accordance with WMO-No.558 to enable backward conversion into S-411 or SIGRID-3.
IC 17-10: Complete all action items from updated IAW-5 recommendations.

• IBSC considered recommendations from the 5th Ice Analysts Workshop (IAW) at NIC from May 2016
  
  ✓ 15 IAW recommendations: adopted 9 as Action Items and “tabled” 6 for future consideration.
  ✓ Most IAW actions involved WMO & JCOMM iceberg documentation revisions/updates and harmonization.
  ✓ We made progress on some of these in 2016.
  ✓ Progress continued in 2017!

• Created a table of Key Iceberg Information References
<table>
<thead>
<tr>
<th>Reference Number</th>
<th>Title</th>
<th>Description</th>
<th>Status</th>
</tr>
</thead>
</table>
| WMO-No. 259      | Sea Ice Nomenclature   | Volume I – Terminology and codes (iceberg descriptions in section 10.4)  
Volume II – Illustrated Glossary  
IICWG Iceberg Sub-Committee submitted revision in December 2016 |
| WMO-No. 306      | Manual on Codes        | Volume I of the Manual on Codes contains WMO international codes for meteorological data and other geophysical data relating to meteorology. It is issued in two volumes with separate covers: Volume I.1, containing PART A (Alphanumeric Codes), and Volume I.2, containing PART B (Binary Codes) and PART C (Common Features to Binary and Alphanumeric Codes). | Volume I 1995 Edition  
Volume II updated in 2015                                      |
SEA ICE NOMENCLATURE

Summary and Purpose of Document
This document provides snapshot of the WMO Sea Ice Nomenclature (WMO No.259, volume 1 - Terminology and Codes, Volume II - Illustrated Glossary and III - International System of Sea-Ice Symbols) by March 2014 (5th Session of JCOMM Expert Team on Sea Ice)

WMO-No. 259 - Sea Ice Nomenclature
WMO-No. 259 - Sea Ice Nomenclature

- Relevant AIs: IC 17-17, 17-21

- Agreed & translated definitions for “Isolated”, “Few”, and “Many” icebergs to communicate iceberg risk to vessels.
  - IIP used this terminology to support US Coast Guard Cutter MAPLE.

- Agreed on a need to develop a definition – and symbology - for “Unknown by estimated” iceberg density.
Iceberg Charting / Distribution

Canadian Coast Guard Ship Terry Fox escorting USCGc MAPLE

Sample Iceberg Density Product Produced by IIP for USCGC MAPLE
WMO-No. 558, Manual on Marine Meteorological Services
WMO-No. 558, Manual on Marine Meteorological Services

- Relevant Alrs: IC 17-4, 17-10, 17-12, 17-14

- IBSC focused on “SERVICES FOR THE HIGH SEAS” section e.g., GMDSS/SafetyNet iceberg details

  ✓ Global standards, minimum requirements for iceberg information.
  ✓ Additional details could be provided where operationally feasible for ice service and when needed by users.
  ✓ Procedures for icebergs report outside of iceberg limit.

- Provided recommendations to ETSI for discussion & consideration at ETSI 6 in February, 2017.
WMO-No. 574, Sea-Ice Information Services in the World
WMO-No. 574, Sea-Ice Information Services in the World

- Relevant AIs: DC 16-4

- Input from six different countries PLUS John F. on two part document.

- IBSC focused on iceberg related items in:
  - Part I: General info e.g., nature of sea ice (& icebergs), observation methods
  - Part II: Regional and National Practices – description of national ice services broken down by country
WMO/TD-No. 1214, Sea Ice GeoReferenced Information and Data-3 (SIGRID-3)

JCOMM Expert Team on Sea Ice

SIGRID-3: A VECTOR ARCHIVE FORMAT FOR SEA ICE GEOREFERENCED INFORMATION AND DATA

Version 3.1

Originally Published 2004
Version 1 March 2007
Version 2 March 2010
Version 3 May 2014
Version 3.1 March 2017

JCOMM Technical Report No. 23
WMO/TD-No. 1214, Sea Ice GeoReferenced Information and Data-3 (SIGRID-3)

- Relevant AIs: IC 17-11, 17-14, 17-15, 17-16, 17-17, 17-18, 17-20
- IBSC discussed and provided input to ETSI for SIGRID-3 Rev. 3.1
  - New codes for iceberg size, shape, and concentration
  - Formalized IBSC work to create new Antarctic iceberg size gradations
  - Provided new code based on distance between icebergs
Iceberg Modeling - Action Item IC 17-1

- Evaluate method of tracking propagation of large icebergs to develop model to show where it breaks off to smaller ice pieces that are difficult to detect with SAR imagery.
- Responsible: N. Young, C. Readinger, W. Dierking
- Deadline: IICWG 2017
- Status:
  - OPEN.
• Evaluate the implementation of the NAIS Iceberg Drift and Deterioration Model in Argentina and Denmark.

• Responsible: Iceberg Sub-Committee

• Deadline: 10 Feb 2017

• Status:
  - OPEN.
  - Limited funding to evaluate at DMI.
  - Slow-going for Argentina but expectation is to have model in place for Southern Hemisphere summer.
• Develop a strategy to collect “ground truth” iceberg data for continued model evaluation e.g., through use of iceberg tagging, vessel sightings etc.
• Responsible: M. Hicks
• Deadline: IICWG 2017
• Status:
  – OPEN. IIP and CIS have similar action within NAIS. Mike recommends updating the wording for this AI in DICSSC AIs to reflect sharing of best practices vice 'developing a strategy'.
Focus going forward…

• Clarify and prioritize open action times.

• Review and harmonize iceberg information in these documents in accordance with key references e.g., WMO-259 & 558:
  ✓ SIGRID-3
  ✓ JCOMM/ETSI, Electronic Chart Systems Ice Objects Catalogue (IOC), Version 5.2
  ✓ WMO/TD-No. 1215 , Ice Chart Colour Code Standard
  ✓ Special Publication JCOMM S-411, Ice Information Product Specification