



Iceberg Sub-Committee Report

IICWG-18

September 25, 2017

Mr. Michael Hicks

International Ice Patrol

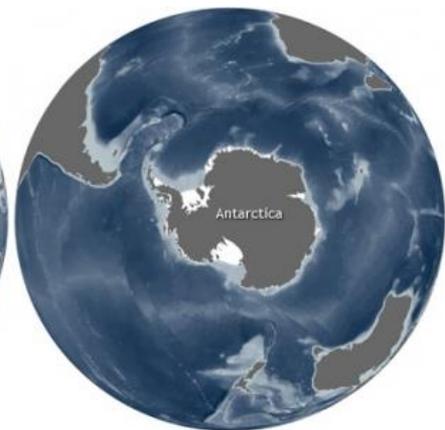
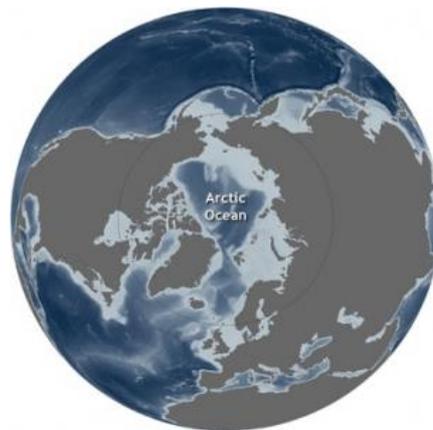


IICWG Iceberg Subcommittee

**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...

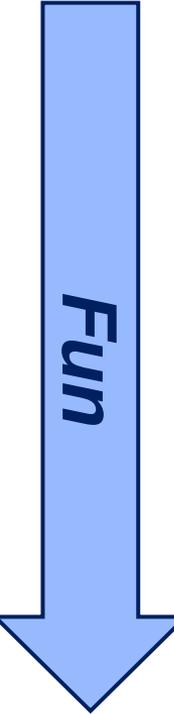


Welcome to Kristen!

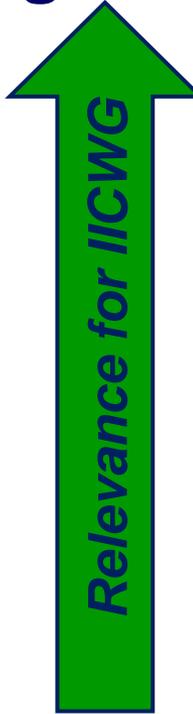


Iceberg Subcommittee Focus

- 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)



Fun



Relevance for IICWG



Iceberg Subcommittee Activity

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.**

COMPLETE



Iceberg Activity

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



Iceberg Charting / Distribution

Reference Number	Title	Description	Status
WMO-No. 259	Sea Ice Nomenclature	<p>Volume I – Terminology and codes (iceberg descriptions in section 10.4)</p> <p>Volume II – Illustrated Glossary</p> <p>Volume III – International System of Sea-Ice Symbols (ice of land origin in section 10.1 and 10.2)</p>	<p>Last revision: 2014</p> <p>IICWG Iceberg Sub-Committee submitted revision in December 2016</p>
WMO-No. 306	Manual on Codes	<p>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).</p>	<p>Volume I 1995 Edition</p> <p>Volume II updated in 2015</p>



Iceberg Charting / Distribution

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



Iceberg Charting / Distribution

WMO-No. 259 - Sea Ice Nomenclature

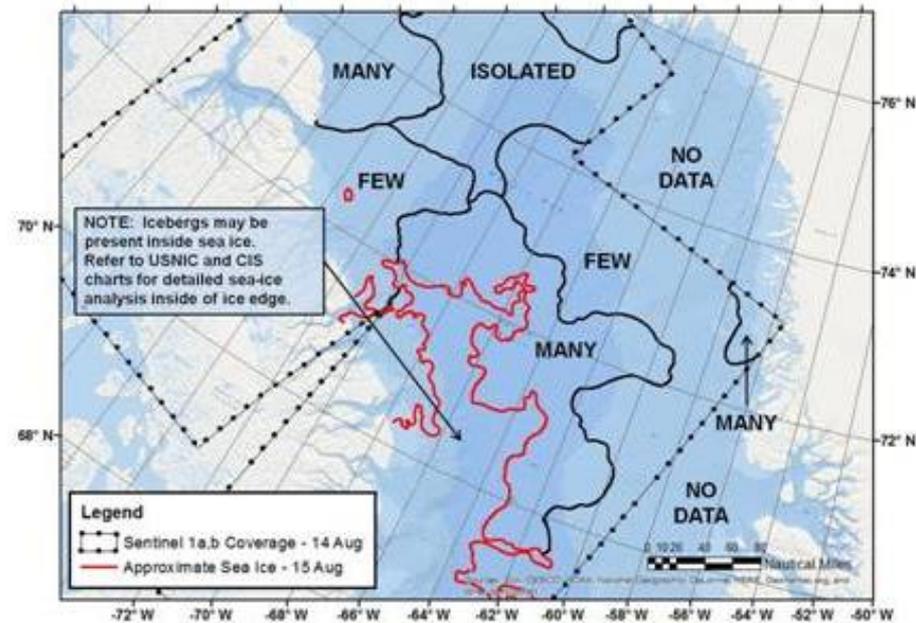
- **Relevant AIs: IC 17-17, 17-21**
- **Agreed & translated definitions for “Isolated”, “Few”, and “Many” icebergs to communicate iceberg risk to vessels.**
 - **IIP used this terminology to support US Coast Guard Cutter MAPLE.**
- **Agreed on a need to develop a definition – and symbology - for “Unknown 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**



Iceberg Charting / Distribution

Manual on
Marine Meteorological Services

Volume I – Global Aspects

2012 edition



World
Meteorological
Organization

WMO-No. 558

Weather • Climate • Water

WMO-No. 558, Manual on Marine Meteorological Services



Iceberg Charting / Distribution

- WMO-No. 558, Manual on Marine Meteorological Services**
- Relevant AIs: 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.**



Iceberg Charting / Distribution

Sea-Ice Information Services
in the World

Edition 2010
(last revision 2010-03-19)

WMO-No. 574



World
Meteorological
Organization
Weather • Climate • Water

***WMO-No. 574, Sea-Ice
Information Services
in the World***



Iceberg Charting / Distribution

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**



Iceberg Charting / Distribution

WORLD METEOROLOGICAL ORGANIZATION

INTERGOVERNMENTAL OCEANOGRAPHIC
COMMISSION (OF UNESCO)

JCOMM Expert Team on Sea Ice

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

Version 3.1

WMO/TD-No. 1214

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)



Iceberg Charting / Distribution

- 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.***

CONTINUE



Iceberg Modeling - Action Item IC 17-7

- 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.***

CONTINUE



Iceberg Monitoring - Action Item IC 17-9

- 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'.***

CONTINUE



Summary

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**



Questions?



Photo by Dennis Flynn

