

# **PRESS RELEASE**

## **Science Helps Ice Services Address Climate Change Impacts**

**Copenhagen, Denmark, September 27, 2019** – The International Ice Charting Working Group (IICWG) convened its 20<sup>th</sup> annual meeting September 23-27 in Copenhagen hosted by the Danish Meteorological Institute (DMI). The theme for the meeting was “Responsive Ice Services: Innovating Science and Service for a Changing Environment”.

Gathering in the historic *Nordatlantens Brygge* on Copenhagen’s waterfront, some 90 experts in fields related to sea ice and icebergs spent the week exploring how scientific innovations can improve ice information for maritime safety in ice infested waters. Advances in satellite remote sensing, data processing and artificial intelligence must be transitioned to the operational information production chains if Ice Services are to meet the growing service needs of the marine communities. While many Internet sites offer sea ice and iceberg information, it is the charts and other products provided by the national Ice Services that are the authoritative sources of information for ice navigators world-wide. This 20<sup>th</sup> annual meeting of the IICWG brought scientists and mariners together with the Ice Services to find ways to make better use of scientific advancements in the labour-intensive task of producing daily ice charts for navigation.



Even scattered sea ice presents a navigational hazard if encountered unexpectedly and without due caution. (Photo courtesy DMI).

The IICWG issued the following statement:

“As noted by the Intergovernmental Panel on Climate Change, the extent of Arctic sea ice is declining in every month of the year, and it is getting thinner. As the impacts of climate change become more evident, information about sea ice and icebergs is becoming available on many Internet sites. While most of this information is credible, much of it is not designed for maritime operations and may not take into consideration requirements important to vessels. Ice navigators are cautioned to ensure that they know the limitations of any ice information source they access. When in doubt, contact your national Ice Service or maritime authority.”

### **Noteworthy in 2019**

On September 18, the Arctic sea ice reached its probable minimum extent. At 4.15 million square kilometres, this would be the second lowest in the satellite record, tied with 2016 and 2007. Antarctica’s annual minimum sea ice extent, reached on March 1, was the seventh lowest on record.

Against the background of globally diminishing sea ice, conditions for navigation vary markedly from region to region and from year to year underscoring the need for accurate, reliable and timely ice information:

- Russia's Northern Sea Route (NSR) was essentially free of ice for several weeks beginning in mid-August;
  - the NSR is active with commercial shipping, spearheaded by tankers carrying oil and LNG from the Kara Sea to markets, mainly in China. Many new tankers with ice class ARC7 are being built for this trade.
- Svalbard ice conditions were more severe than average preventing salvage of the trawler *Northguider* and besetting the passenger vessel *MS Malmo*.
- The northern deep water route of the Northwest Passage remained congested with multi-year ice throughout the summer while Amundsen's more southerly route was passable with only scattered amounts of old ice;
  - commercial shippers are taking a cautious approach to the Northwest Passage. Adventure cruise ships, yachts and community re-supply are the only regular traffic in the Passage.
- Winter 2018/19 brought early ice formation on the Great Lakes and above average ice coverage. The maximum ice coverage was almost twice the climatological normal and was 12th highest since 1972/73.
- Meanwhile, winter in the Baltic Sea saw very low sea ice conditions.
- After a light iceberg season the previous year, 2019 was the 10th most severe since 1900 with 1515 icebergs entering the Transatlantic shipping lane. New for 2019, DMI developed the iceberg limit around Greenland solely from satellites, significant because icebergs from East Greenland were observed much farther south than the previously known climatological limit.
- In the Southern Ocean, Antarctic ice shelves are collapsing and releasing icebergs that are making their way northward into shipping lanes.

### **Governments Prepare for a New Polar Environment**

New icebreakers are being built by governments world-wide to support the growing demands of polar science and shipping:

- Russia will put three new nuclear icebreakers into operation between 2020 and 2022 - *Arktika*, *Ural* and *Sibir* - to support year-round navigation on the NSR.
- Australia (*RSV Nuyina*), Britain (*RRS Sir David Attenborough*) and China (*Xue Long 2*) will all bring new polar icebreakers into operation in 2020.
- *USCGC Polar Star* is to be replaced by the first of three new heavy icebreakers by 2024.
- Chile is constructing a new icebreaker to support Antarctic science starting in 2022.

The IICWG was formed in 1999 to promote cooperation among the world's Ice Services on all matters concerning sea ice and icebergs. The members of the IICWG are the operational Ice Services of Argentina, Canada, Chile, Denmark (Greenland), Finland, Germany, Iceland, Norway, Poland, Russia, Sweden, and the United States, as well as the British Antarctic Survey and the International Ice Patrol.

**For more information, about the IICWG, Sea Ice Services in the World, general ice information or current ice charts, please see the IICWG web site: <http://nsidc.org/noaa/iicwg/>**

Contact: Mr. John Falkingham, IICWG Secretariat, Ottawa, Canada  
Tel: +1 613-355-4552 [John.Falkingham@rogers.com](mailto:John.Falkingham@rogers.com)

