



Statement from the IICWG concerning the proposed CMEMS product "New Arctic Iceberg NRT observation products"

The International Ice Charting Working Group is using the proposed addition of this product to the CMEMS product catalogue to provide the following comments to the Copernicus Programme.

While several Ice Services in the IICWG are also members of the Copernicus Programme and will express their national views as appropriate, this statement is intended to make the Programme aware of the opinions of other Ice Services who are not members. In this regard, the IICWG is particularly representing the views of the International Ice Patrol (IIP), which has authority for iceberg information in the North Atlantic under the UN Convention on Safety of Life at Sea; the Canadian Ice Service, which supports the IIP and is responsible for iceberg information in Canadian waters; the U.S. National Ice Center, which also supports the IIP and provides iceberg information in the Arctic and Antarctic; and, Russia's Arctic and Antarctic Research Institute, which is responsible for iceberg information in the Russian Arctic seas.

Firstly, the IICWG commends the Copernicus Marine Environment Monitoring Service for its commitment to free and open access to data and information for the global ocean. The sea ice products that are available on the CMEMS website are a valuable source of information *for those that understand their sources and limitations*. For climatologists, numerical modellers, and scientists of many disciplines these products are valuable. These groups are likely to read and understand the excellent metadata describing the derivation of the products.

The concern of the IICWG is that, in CMEMS' efforts to promote user services, these products will be accessed more and more by mariners navigating in ice-infested waters. From our long and close relationship with real-world mariners, we understand that, given their time-constraints and frequent communications difficulties, ice navigators will often not take the time to comprehend the metadata and will use the products they find most easily – without appreciating their limitations. If it appears to come from a reputable source, like Copernicus, they will take its validity for granted.

In European waters, this may not be so much of a problem. The Danish Meteorological Institute provides CMEMS products that are validated and issued by the authoritative agencies for its areas of responsibility. However, for other areas of the global ocean, particularly the coast of North America, the current CMEMS sea ice products are often in disagreement with the products issued by the appropriate authorities, namely the Canadian Ice Service and the U.S. National Ice Center.

The introduction of the proposed iceberg observation product has the potential to exacerbate this situation. Icebergs are a primary concern to North Atlantic shipping. With increased awareness of the CMEMS products, vessels transiting the North Atlantic shipping routes, which encroach into the Arctic region, may disregard the IIP products to their peril. Our preliminary understanding of the proposed product is that it will be automated and derived solely from



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satellite observations. Based on extensive experience observing icebergs from satellites, aircraft and ships, including on-going research by the IIP and others, it is clear that the science is far from ready to support a robust product providing a reliable, accurate depiction of iceberg distribution sufficient for marine navigation. The authoritative Ice Services are all extremely careful to ensure that their products do not mislead mariners about the iceberg hazard in any location. The IICWG is concerned that, due to the automated nature of the proposed products, the CMEMS products may not display the same level of caution to mariners.

The IICWG encourages Copernicus to continue in its valued development of marine products. These products can be of considerable benefit to the Ice Services. However, we strongly urge that meaningful consultation is undertaken with the regional authorities for sea ice and iceberg information throughout the global ocean areas where CMEMS is developing products to guard against their inappropriate use. The IICWG stands ready to assist with that consultation wherever we can.

In the interest of global maritime safety ...

We are the co-chairs of the International Ice Charting Working Group.

Thomas J. Cuff
Director, Office of Observations
NOAA National Weather Service
Ofc: +1.301.427.9778
Mob: +1.240.470.5265
thomas.cuff@noaa.gov

Marianne Thyrring
Director
Danish Meteorological Institute
Mobile: +45 2075 6155
MTH@DMI.dk

- c.c. John Falkingham, IICWG Secretariat (john.falkingham@rogers.com)
L CDR Kristen Serumgard, Commanding Officer, International Ice Patrol
John Parker, Director, Marine and Ice Services Directorate, Environment Canada
CDR Heather Quilenderino, USN, Director, National Ice Center
Vasily Smolyanitsky, AARI, Chair, JCOMM Expert Team on Sea Ice
Nick Hughes, Leader, Norwegian Ice Service
Lisa Lind, Head, Oceanographic Warning and Forecasting Service, SMHI
Antti Kangas, Head of Oceanographic Services, FMI
Jürgen Holfort, Leader, German Ice Service, BSH