WORLD METEOROLOGICAL ORGANIZATION

JOINT WMO/IOC TECHNICAL COMMISSION FOR OCEANOGRAPHY AND MARINE METEOROLOGY (JCOMM)
EXPERT TEAM ON SEA ICE – FOURTH SESSION

STEERING GROUP FOR THE PROJECT GLOBAL DIGITAL SEA ICE DATA BANK (GDSIDB) – TWELTH SESSION

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ARCTIC MARINE SHIPPING ASSESSMENT (AMSA)

(Submitted by John Falkingham)

Summary and Purpose of Document

This document contains a brief review of the AMSA.

ACTION PROPOSED

The Expert Team on Sea Ice (ETSI) is invited to take note of the information in this document.

DISCUSSION

1. During 2005-2008, a multi-national team led by the United States, Canada and Finland and under the leadership of Dr. Lawson Brigham of the US Arctic Research Commission, prepared a comprehensive study and evaluation of Arctic marine activity today and in the future. The main focuses of the Arctic Marine Shipping Assessment (AMSA) are marine safety, marine environmental protection, infrastructure needs of ships and the impacts from ships in the Arctic Ocean. The AMSA took into consideration the concerns and ideas from Arctic communities about the future of Arctic marine activity. The AMSA 2009 Report is designed to educate and inform people about the current state of Arctic marine use and future challenges.

2. John Falkingham gathered and synthesized input from the members of the Expert Team on Sea Ice to provide the sections on sea ice that are contained in the AMSA Report. The table of contents of the 190-page report is:

- Executive Summary with Recommendations
- Introduction
- Arctic Marine Geography, Climate and Sea Ice
- History of Arctic Marine Transport
- Governance of Arctic Shipping
- Current Marine Use & the AMSA Shipping Database

- Scenarios, Futures and Regional Futures to 2020
  Regional Futures: Bering Strait Region, Canadian Arctic and Northwest Passage, Northern Sea Route and Adjacent Areas
- Human Dimensions
- Environmental Considerations and Impacts
  Regional Environment Case Studies: Aleutian Islands/Great Circle Route, Barents and Kara Seas, Bering Strait, Canadian Arctic
- Arctic Marine Infrastructure

3. A page of the Arctic Marine Geography, Climate and Sea Ice chapter is devoted to describing, in plain language, the nature of sea ice and icebergs with a view to educating the non-expert (in sea ice) intended audience of the publication.

4. The Arctic Marine Infrastructure chapter contains a section on “Ice Information in the Arctic” that describes, at a necessarily high level, the needs of mariners for ice information and how they are addressed. One of the key findings of this chapter is:

> *“For safe operations, ships navigating in the Arctic need the same suite of meteorological and oceanographic data, products and services as in the other oceans plus a comprehensive suite of data, products and services related to sea ice and icebergs. As the shipping season becomes extended, significant increases in resources will be needed to expand the information services accordingly.”*

5. The AMSA was sponsored by the Protection of the Arctic Marine Environment Working Group on behalf of the Arctic Council. On the occasion of its Sixth Ministerial Meeting in Tromsø, Norway on 29 April 2009, the Arctic Council approved the Arctic Marine Shipping Assessment (AMSA) 2009 Report including “*its recommendations on enhancing Arctic marine safety, protecting Arctic people and environment and building Arctic marine infrastructure and request[ed] Senior Arctic Officials (SAOs) to develop appropriate follow up actions.”*

6. The complete AMSA report is available for free download at www.pame.is.