

PAME II-2014 Agenda Item 4.10(b)
Update of AMSA Arctic Ship Traffic Data

References and Related Documents

- Arctic Marine Shipping Assessment (AMSA) Report (2009)
- The Arctic Ocean Review: Final Report (2013)
- PAME Work Plan (2013-2015)
- PAME I-2014 Records of Decision #2

Background

When issued in 2009, the AMSA Report represented the most authoritative and comprehensive assessment of Arctic ship traffic, traffic composition, and traffic trends in the Arctic ever compiled. Since then, ship traffic has continued to increase and its composition to evolve as natural resource development and economic ties between the Arctic and the global economy have expanded. With the continuing diminishment of Arctic sea ice, greater marine access and longer seasons of navigation and operations are expected. This has significant implications for the conservation and sustainable development of the Arctic as well as for the health and welfare of Arctic peoples.

To carry out its mandate of addressing policy and non-emergency pollution prevention and control measures related to protection of the Arctic marine environment from both land and sea-based activities, PAME has recognized the need to update Arctic ship traffic data contained in the AMSA Report. PAME's 2013-2015 Work Plan identifies such an update as one of its listed activities, noting:

The working group will explore opportunities for updating the Arctic ship traffic data contained in the AMSA report for use in studies, assessments, trend analysis, and the development of recommendations that enhance Arctic marine safety and support protection of Arctic people and the environment¹.

Discussion

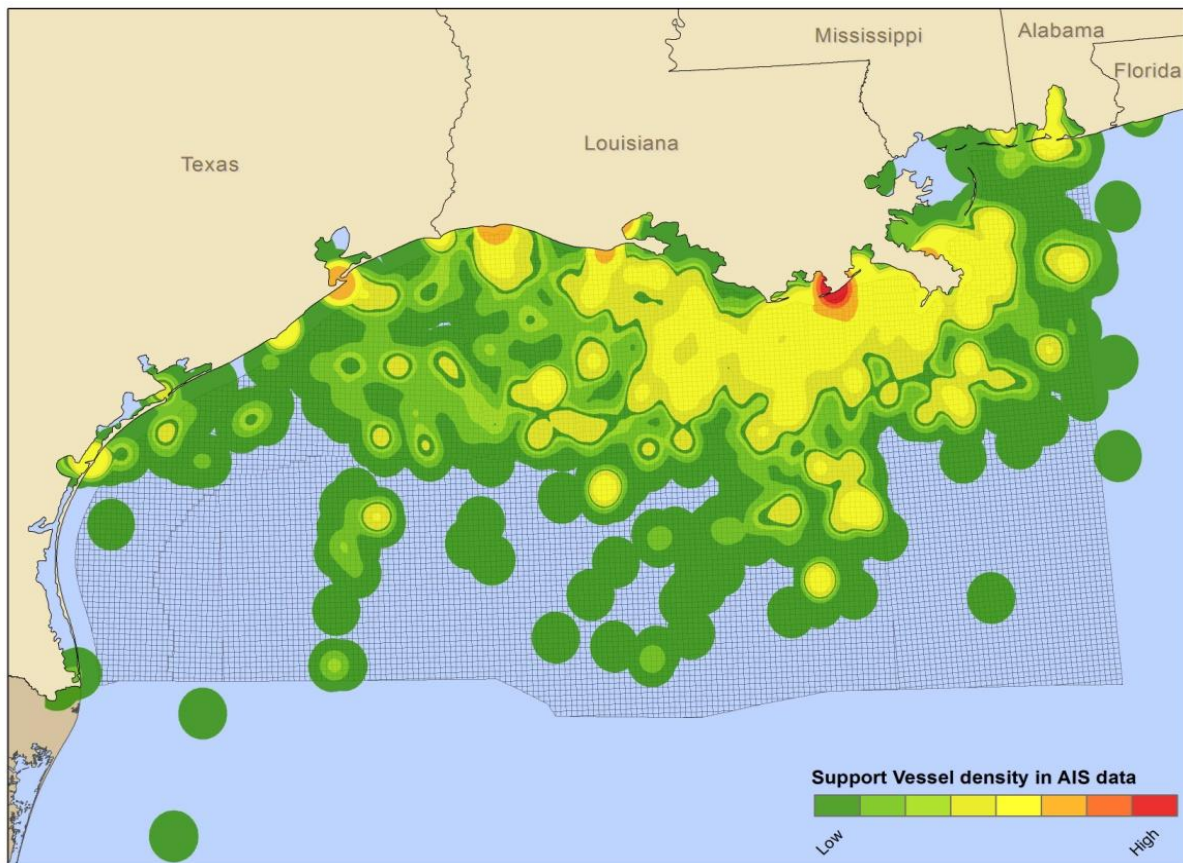
Orbcomm, a U.S.-based company that provides global monitoring and messaging services from its constellation of 29 low earth orbiting communication satellites, has offered to sell PAME a year's worth of historical Arctic satellite AIS data for \$4,000. Orbcomm deems AIS data "historical" when it is more than 72 hours old.

¹ PAME WORK PLAN (2013-2015) at p. 8. This Work Plan is available on the PAME website at http://www.pame.is/images/01_PAME/Work_Plan/2013_2015.pdf.

PortVision, a web-based service that provides visibility and reporting of commercial vessel activities around the world, has offered to process any satellite AIS data we purchase from Orbcomm for \$6,000. PortVision's proposal is to:

- process the 12-month Orbcomm data set of satellite AIS information for the Arctic region defined as north of a line extending from latitude 58°00'.0 N, longitude 042°00'.0 W to latitude 64°37'.0 N, longitude 035°27'.0 W. and
- provide a vessel density/heat map of that information similar to *Map 1*.

Map 1



PortVision anticipates that the data set it receives from Orbcomm would include approximately one million vessel positions. The parameters of the data set would include:

- Position Date Time
- Vessel Name
- IMO Number
- Maritime Mobile Service Identify (MMSI)
- Call Sign
- Vessel Type
- Latitude

Longitude
True Heading
Course Over Ground
Speed Over Ground
Estimated Time of Arrival (ETA)
Destination
AIS Source

An example of how PortVision would deliver this dataset in a comma-separated values (CSV) format is attached as *Appendix I.*

Note that the PortVision's final product would not include a narrative analysis or summary assessment of the ship traffic data similar to what DNV provided in the HFO and AMSA II(D) Reports. However, for a relatively modest cost, PortVision would supply information that PAME could use to undertake an updated traffic assessment and issue a brief summary report.

Questions

This proposal raises several questions, including:

- 1) Is there continued support among PAME member governments to update the Arctic shipping traffic data contained in AMSA and issue a brief report?
 - a. If yes, should the Orbcomm/PortVision proposal as presented be pursued, either as is or modified (*e.g.*, different geographic scope)?
 - b. If yes, how might the proposal be funded?
- 2) Are there more cost-effective options for updating AMSA's shipping traffic data?
- 3) Is the information that PortVision proposes to deliver sufficiently processed? In other words, are PAME member governments willing and able to further process the PortVision information into a brief narrative report (~4-5 pages)?
- 4) Should PAME seek to prepare summary reports on Arctic shipping traffic on a regular and recurring basis – such as every 2-3 years – to monitor and report on the evolution of that traffic?

Recommendation

The USA recommends that PAME shipping expert group discuss the merits of the Orbcomm/PortVision proposal, including the questions identified above, and provide a brief report to plenary for further discussion and decision.