

HYDROGRAPHIC SERVICES REVIEW PANEL

A federal advisory committee, advising the NOAA Administrator

DRAFT FOR REVIEW / DISCUSSION – July 22 2019

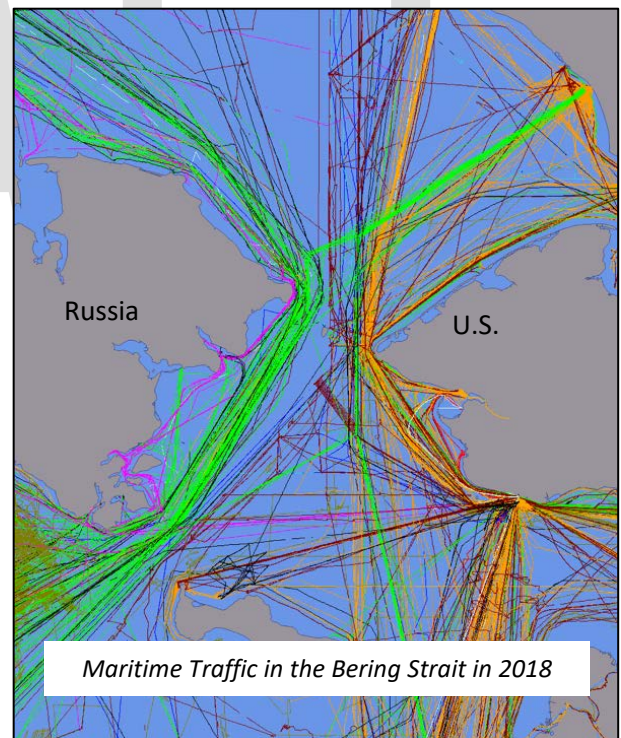
NOAA's National Ocean Service Role in the U.S. Maritime Arctic

ARCTIC OBJECTIVES

The world is recognizing Arctic waters are opening a new maritime frontier. This change represents a significant opportunity to capitalize on the nation's blue economy by providing improved access to raw materials and increased trade with domestic and foreign markets. Arctic waters provide shorter and more fuel-efficient shipping routes. There are benefits to be realized by the opening of this new maritime frontier, but they must be approached cautiously and with international agreement to ensure expanded maritime operations are conducted safely and in an environmentally sound manner. We must prevent harm to the pristine environment and disruption to the rich cultural heritage that have always defined the arctic. International attention has been focused on taking measures to address the unique challenges of operating in Arctic waters through the International Maritime Organization promulgating the Polar Code prescribing a suite of measures to minimize the risks and consequences of maritime operations. NOAA's National Ocean Service plays an important role providing navigation and positioning services that will enable increased maritime activity to be conducted in a safe and environmentally sound manner.

UNIQUE CHALLENGES IN THE ARCTIC

- **Limited infrastructure and communications in the region** complicate the execution of NOAA's traditional missions.
- **The vastness, remoteness, seasonal ice and weather conditions** force shorter survey seasons and present unique mobilization and cost challenges for NOAA and NOAA's contract partners.
- **Oil spill response has limited effectiveness in arctic conditions.** Emphasis must be placed on prevention of marine casualties in order to protect the sensitive and fragile Arctic marine environment.
- **Safety and environmental issues are seasonal and dynamic.** These include but are not limited to the presence of ice, marine mammals, and indigenous subsistence hunters.



DESIRED NAVIGATIONAL SERVICES IN ARCTIC WATERS

- A robust geospatial and oceanographic infrastructure to support nautical charting, accurate positioning services and water levels along the coasts of the Chukchi and Beaufort Seas. This includes addressing gaps in geodetic coverage, tides and currents, hydrographic surveys and shoreline mapping – the foundational data building blocks for providing accurate nautical charts.

DESIRED NAVIGATIONAL SERVICES IN ARCTIC WATERS (Cont'd)

- Installation and operation of sensors to obtain real time information on water levels, currents, ice and weather and development of verified models that collectively provide information that aid safe maritime operations.
- Installation of continuously operating reference stations to support surveying mapping, and modeling.
- Employ emerging electronic technologies including but not limited to Automatic Identification System (AIS) to communicate environmental and safety information to mariners.
- Execute the Alaska Geospatial Council Coastal Strategy to provide nearshore bathymetry and shoreline surveys to mitigate coastal erosion and flooding threatening coastal communities.
- Prioritization of hydrographic and shoreline surveys for higher resolution navigational charts based on historical vessel tracks and planned future development to support Alaska's blue economy.
- Use of electronic navigation (eNav) technologies that mitigate the lack of infrastructure by transmitting virtual aids to navigation to notify mariners of routing schemes and navigational hazards.



RECOMMENDATIONS FOR NOAA ACTION

- Evaluate areas of the Arctic where tidal and geospatial needs require Physical Oceanographic Real Time System (PORTS) sensors and continuously operating reference stations to be installed to provide foundational data for charting as well as additional information to mariners that enhance maritime safety and environmental protection.
- Partner with the U.S. Coast Guard to expand the dissemination of NOAA environmental and safety information to vessels via AIS transmitters and other emerging communications technologies the Coast Guard has available or is developing.
- Develop a dynamic electronic Coast Pilot for Arctic waters to more effectively provide relevant and current information to mariners navigating Arctic waters.
- Prioritize NOAA and NOAA contracted hydrographic and shoreline surveys for the production of accurate, updated navigational charts through review of historical vessel tracking information on vessels transiting Arctic waters obtained from AIS monitoring systems.

In October 2003, Secretary of Commerce Don Evans established the Hydrographic Services Review Panel as directed by the Hydrographic Services Improvement Act of 2002, Public Law 107-372. Panel members, appointed by the NOAA Administrator, include a diverse field of experts.

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