AVALANCHE!
HSRP Arctic Update

Application of NOAA Services to support Alaska’s Blue Economy
## Arctic Maritime Activity

<table>
<thead>
<tr>
<th>Year</th>
<th>Northbound</th>
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<th>Total</th>
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</thead>
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<td>2020</td>
<td>260</td>
<td>290</td>
<td>550</td>
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</table>
Captain Page acknowledged that if something went disastrously wrong with a ship within the 1.5 million square miles of ocean his network covers, “it would be ugly.”

“But we should stop worrying about what we’re going to do when things go wrong,” he said. “We should prevent things from going wrong.”
Expanding NOAA’s Navigational Services in the Arctic

The Arctic is the world’s new maritime frontier. Arctic waters provide shorter and more fuel-efficient shipping routes and present a significant opportunity to grow our nation’s Blue Economy through increased trade and improved access to raw materials. While the benefits of this new maritime frontier are substantial, expanded maritime activity must be approached cautiously and in alignment with our international partners. We must preserve the pristine environment and rich cultural heritage that define the Arctic by requiring maritime operations to be conducted safely and environmentally sound.

NOAA’s National Ocean Service’s (NOS) products and services play a critical role in our nation’s development of this emerging maritime frontier. However, the unique geography, harsh environment, and remoteness of this region call for a new approach to traditional methods to provide NOAA services. The opportunity exists for NOS to leverage new technologies to deliver innovative product and service solutions. The challenges, needs, and proposed solutions are summarized below.

**CHALLENGES IN THE ARCTIC**

- **Limited infrastructure and communications in the region** complicate the execution of NOAA’s traditional missions.
- Remote coastal communities with few resources are challenged to bring in vital commerce through small shallow harbors, face eroding shorelines, and are increasingly susceptible to storm surge.
- The vastness, remoteness, seasonal ice, and weather conditions force shorter survey seasons and present unique mobilization and cost challenges for NOAA and NOS’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.

**CRITICAL NEEDS: NOAA 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.

*September 2019*  
https://nauticalcharts.noaa.gov/hsrp/hsrp.htm

**RECOMMENDATIONS FOR NOAA ACTION**

- Evaluate new technologies for the acquisition of geospatial data as well as the delivery of products and services to remote regions of the Arctic.
- Evaluate areas of the Arctic where tidal and geospatial needs physical Oceanographic Real Time System (PORTS) sensors and Continuously Operating Reference Stations (CORS) 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 Coast Guard, other agencies, and involved parties 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 NOS 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.

**HSRP MEMBERS 2019**

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Larry Atkinson</td>
<td>Cap. Anil Chopra</td>
</tr>
<tr>
<td>Mr. Sean M. Duffy, Sr.</td>
<td>Capt. Ann Kinnar</td>
</tr>
<tr>
<td>Mr. Lindsay Gee</td>
<td>Capt. David F. Maune</td>
</tr>
<tr>
<td>Ms. Kim Hall</td>
<td>Capt. Ed Page</td>
</tr>
<tr>
<td>Mr. Deanne Hargreave</td>
<td>Mr. Edward Kelly</td>
</tr>
<tr>
<td>Ms. Julie Thomas (Vice-Chair)</td>
<td>Mr. Edward J. Saade (Chair)</td>
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Partner with the Coast Guard, other agencies, and involved parties 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.

Evaluate new products and services under development, such as real-time remote sensing of physical oceanographic conditions and continuously operating reference stations (CORS) to provide foundational data for charting as well as additional information to mariners that enhance maritime safety and environmental protection.

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Develop a dynamic electronic "Coast Pilot" for Arctic waters to more effectively provide relevant and current information to mariners navigating Arctic waters.
eNAV
(electronic navigation)

AIS Transmitters (33)
Operations Center Engagement with Polar Star
**RECOMMENDATIONS**

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Subsistence harvesting of Beluga whales occurs at **Point Lay** during the months of June and July and **vessels should contact the Point Lay telecommunications center on VHF-FM channel 68 if transiting in the area during this time.**

(116) **Point Hope** 22 miles NW of Cape Thompson and 102 miles from Cape Krusenstern, is the seaward extremity of a low tongue of land that projects 16 miles W from the general line of the coastal mountains. Subsistence whaling at Point Hope occurs in the spring (April-May) and fall (September-October) as far as 30 miles offshore. **Vessels transiting in the vicinity of Point Hope during these times are requested to contact the Alaska Eskimo Whaling Commission and the Point Hope communications center on VHF-FM channel 68.**

(187) Mariners should be aware that Alaskan Natives engage in subsistence whaling in the Beaufort Sea near **Point Barrow** in the spring from March through June and in the fall from September through November. **Vessel operators are requested to contact the Alaska Eskimo Whaling Commission at 907-852-2392 or 800-478-2392 or aewcdir@barrow.com prior to entering this area for information about the location and avoidance of traditional Native hunting parties.**
RECOMMENDATIONS

- Evaluate new technologies for products and services.
- Evaluate areas of opportunity for deployment of Oceanographic Real Time System (PORTS ®) sensors and Continuously Operating Reference Stations (CORS) to provide foundational data for charting as well as additional information to mariners that enhance maritime safety and environmental protection.
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