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National Report to the 6th Conference of the Arctic Regional Hydrographic Commission (ARHC)

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Overview

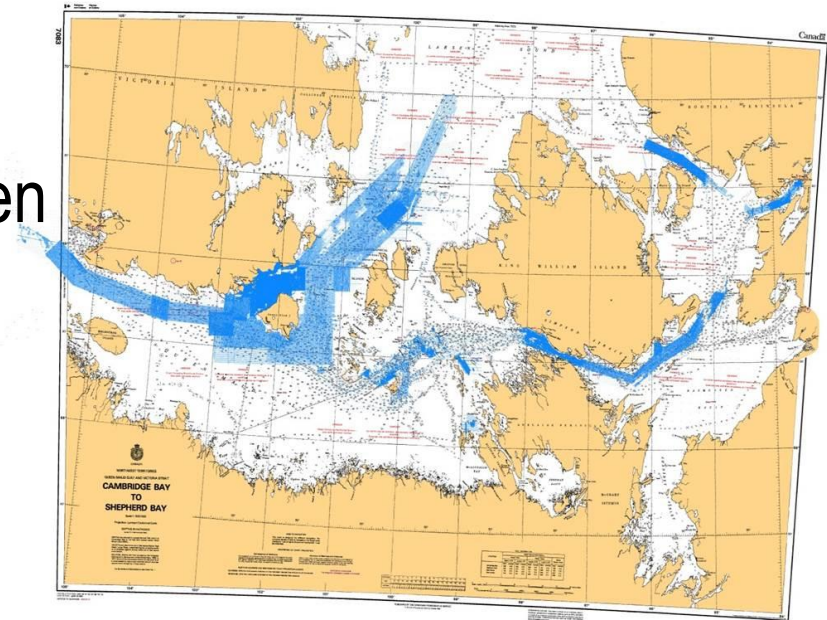
- CHS' Challenges
- CHS' near-term commitments
- Northern Marine Transportation Corridors
- Arctic Challenges and Activities
- Canadian Forces Activities





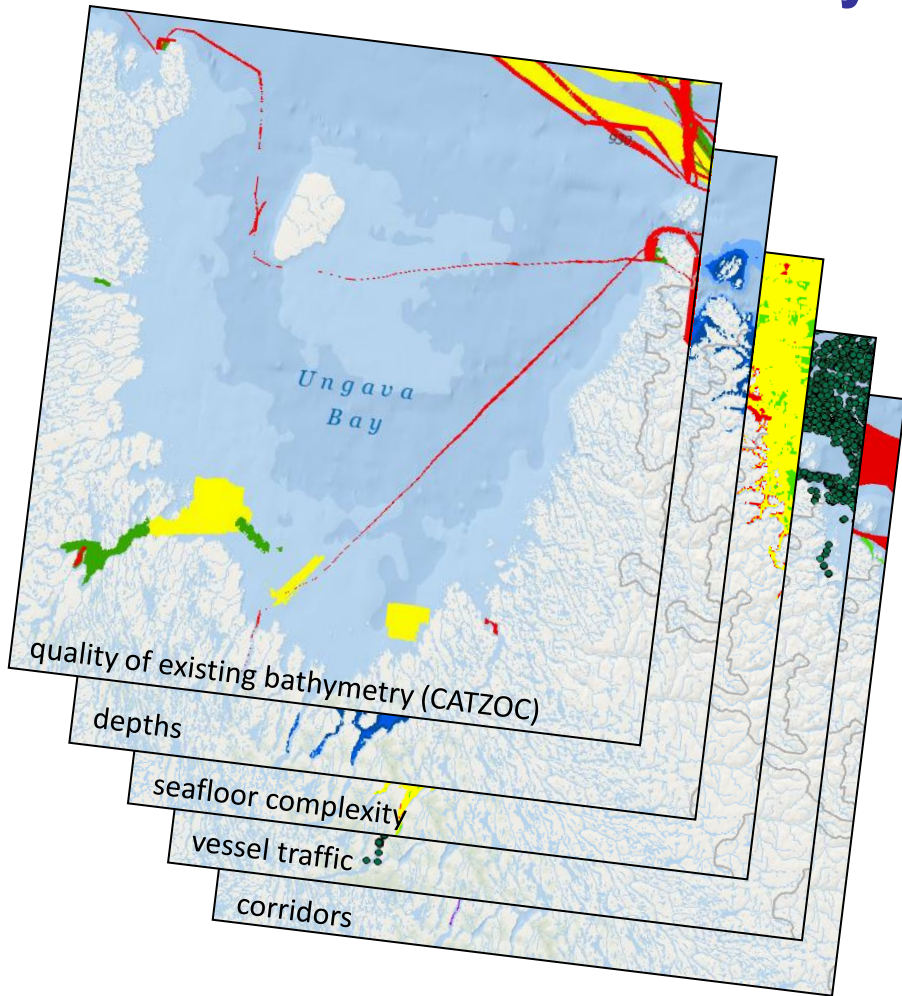
CHS' Present Challenges

- Increasing demand for CHS data, products and services
 - Expanding client-base for non-navigation usage
- Making CHS' data available
- Many of our waters have not been surveyed and/or charted adequately, including vast un-surveyed areas
- Foster opportunities that enable innovation, leveraging, partnering and collaboration

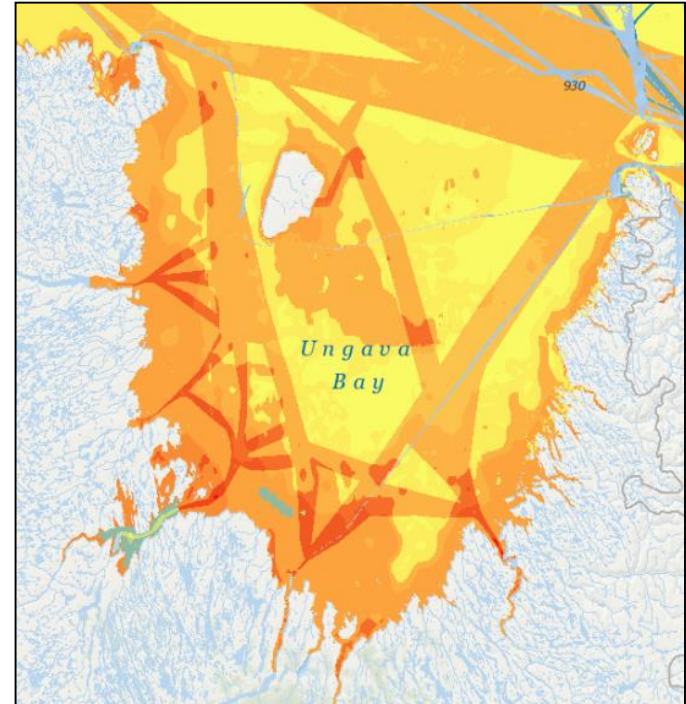




Visualization of Hydrographic Priorities



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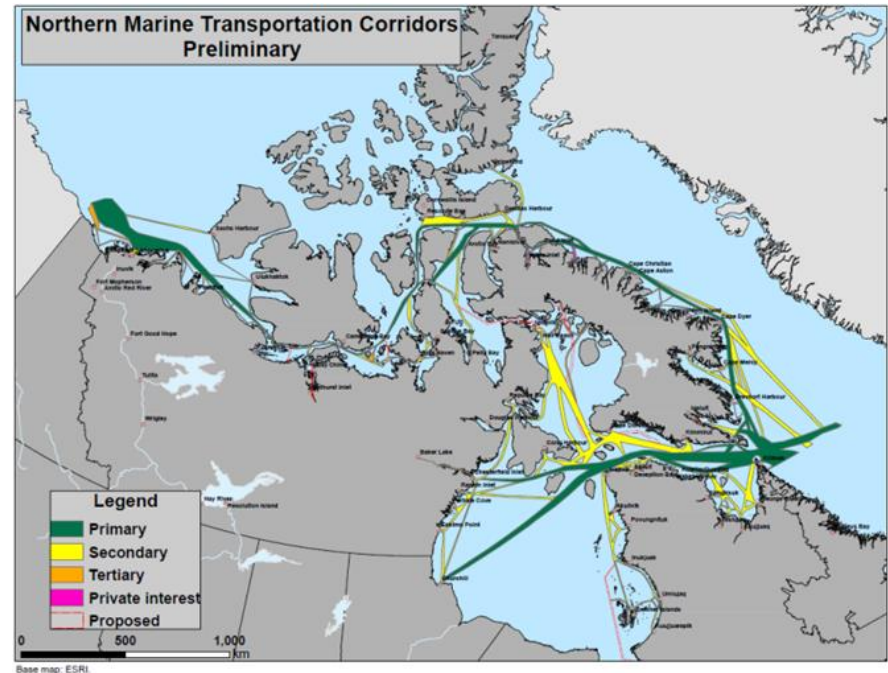


Darker within corridors = higher priority



Northern Marine Transportation Corridors (NMTC)

- A framework for Government of Canada departments and agencies to prioritize and coordinate efforts to make best use of limited resources.
 - For CHS, NMTC are used to identify and prioritize areas to survey and chart if dedicated funding becomes available



- CHS, working with CCG and Transport Canada, used a GIS approach to identify corridors
- Corridors identified use mainly AIS and CHS nautical charts and publications
 - to aid planning for vessels travelling in NORDREG Zone;
 - includes the Mackenzie River



CHS' Near-term Commitments

- Be more **data centric** – improve data management practices & facilitate access to CHS' marine geospatial data
- **Influence and / or lead** international standards development.
- **Increased private sector leveraging** of surveys, printing...
- Create policy on “ **crowd source bathymetry**”
- Establish **innovative pilot projects** to improve services and efficiencies, i.e., satellite-derived bathymetry (SDB) – remote sensing, real time tides, currents and water levels, Autonomous Surface Vehicles (ASVs), etc.
- Increase **liaison/collaboration** with the marine community

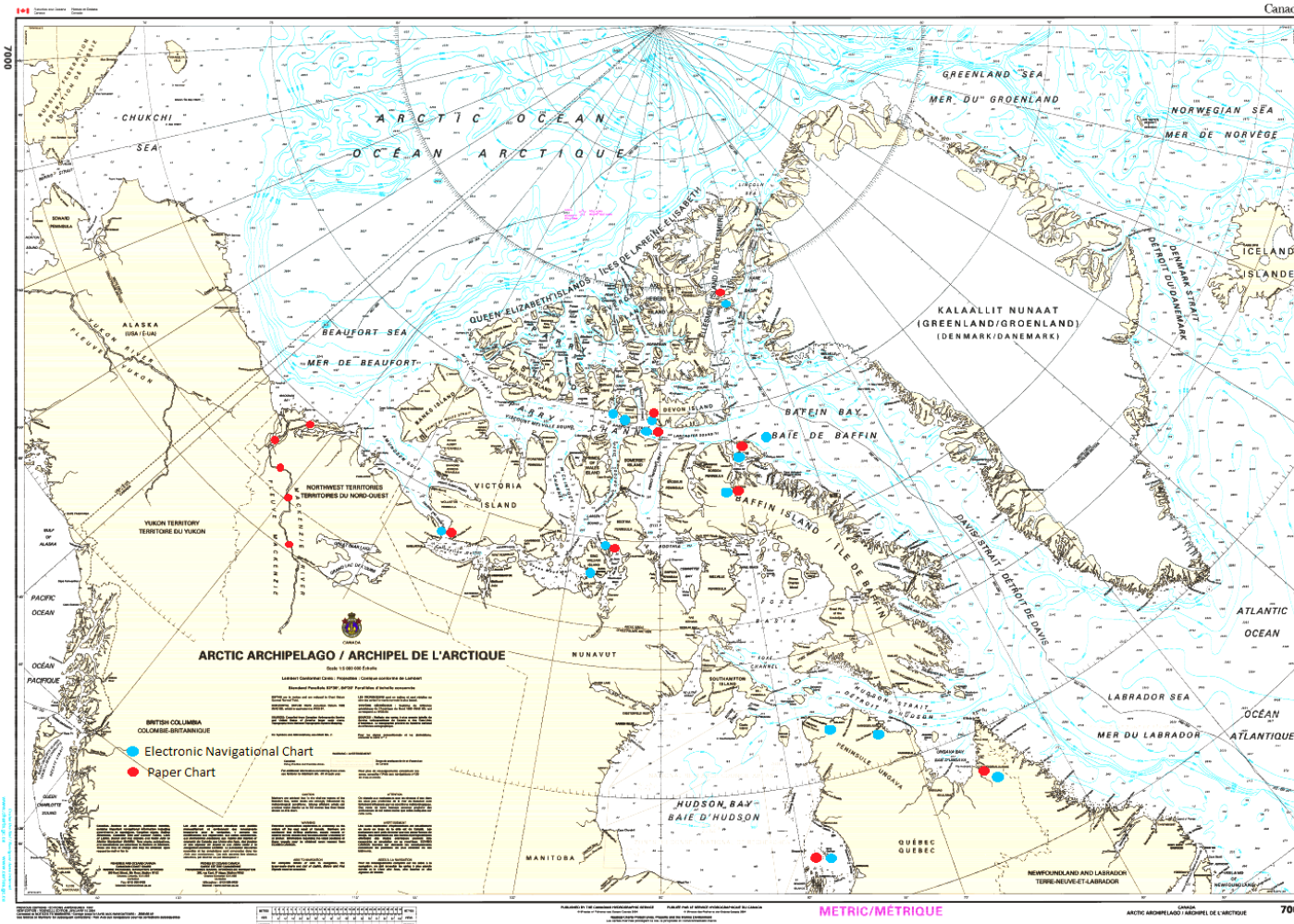


Arctic Challenges

- Areas that were previously un-accessible are opening up
- Infrastructure development relies on modern nautical information and products, which are sparse in most areas.
- October 2014 Commissioner of the Environment and Sustainable Development Audit of Arctic Marine Navigation:
 - Canadian Arctic waters are inadequately surveyed and charted;
 - Capacity to survey and chart the Canadian Arctic waters is limited;
 - Recommended national priority setting and a long-term implementation plan.
- In response:
 - CHS is working with the Canadian Coast Guard and the Royal Canadian Navy to outfit more vessels with modern hydrographic survey equipment;
 - E.g. the installation of multi-beam sonars on five CCG icebreakers to help address Arctic hydrography.
 - Greater multi-departmental and agency collaboration.
 - CHS' NMTC and national prioritization efforts will support these efforts.



Paper Charts and Electronic Navigational Charts – 2015 & 2016



- Electronic Navigational Chart
- Paper Chart

METRIC/METRIQUE



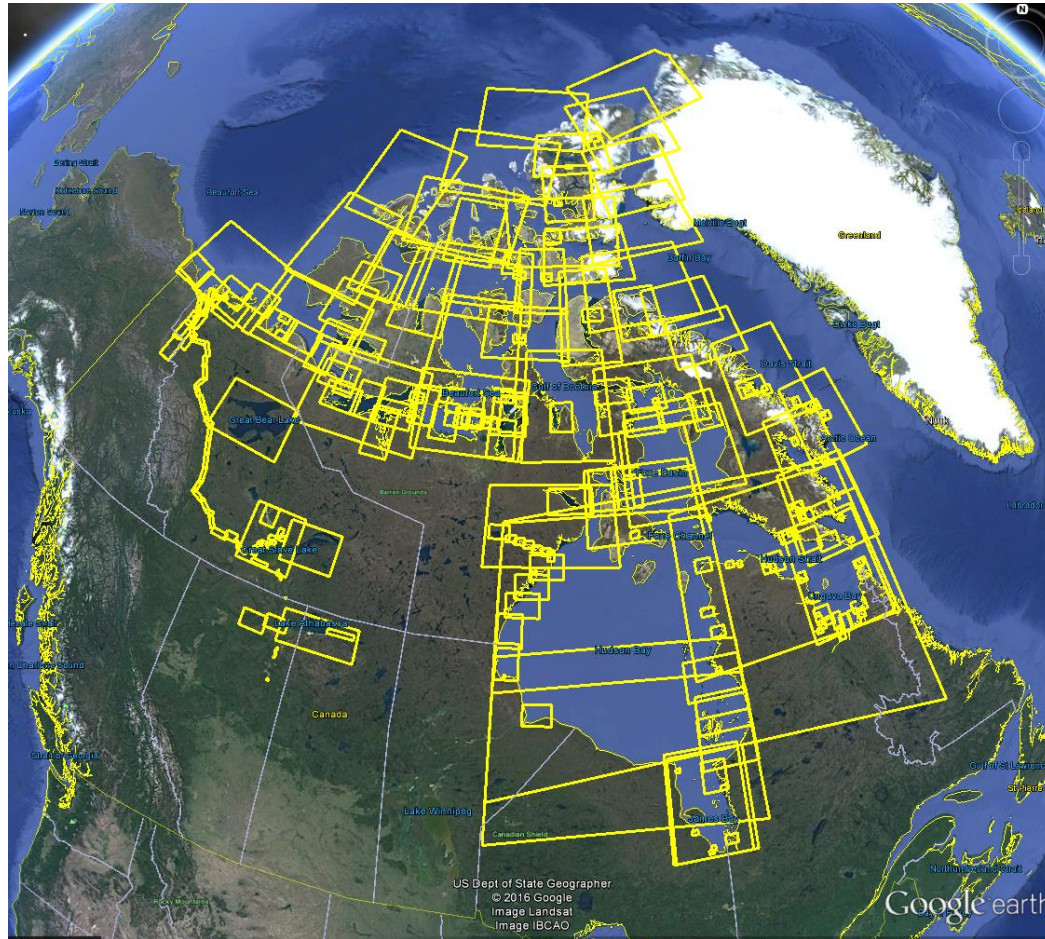
110 Arctic Electronic Navigational Charts



Many large scale ENCs have been created, which cover small geographic areas.



240 Arctic Paper Charts





Tidal Survey Operations 2016





Hydrographic Survey Operations 2016





Thank you!

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