



United States-Canada Hydrographic Commission 45th Meeting

Name: Dr. Geneviève Béchard, Director General - Hydrographer General of Canada

Ottawa, Ontario

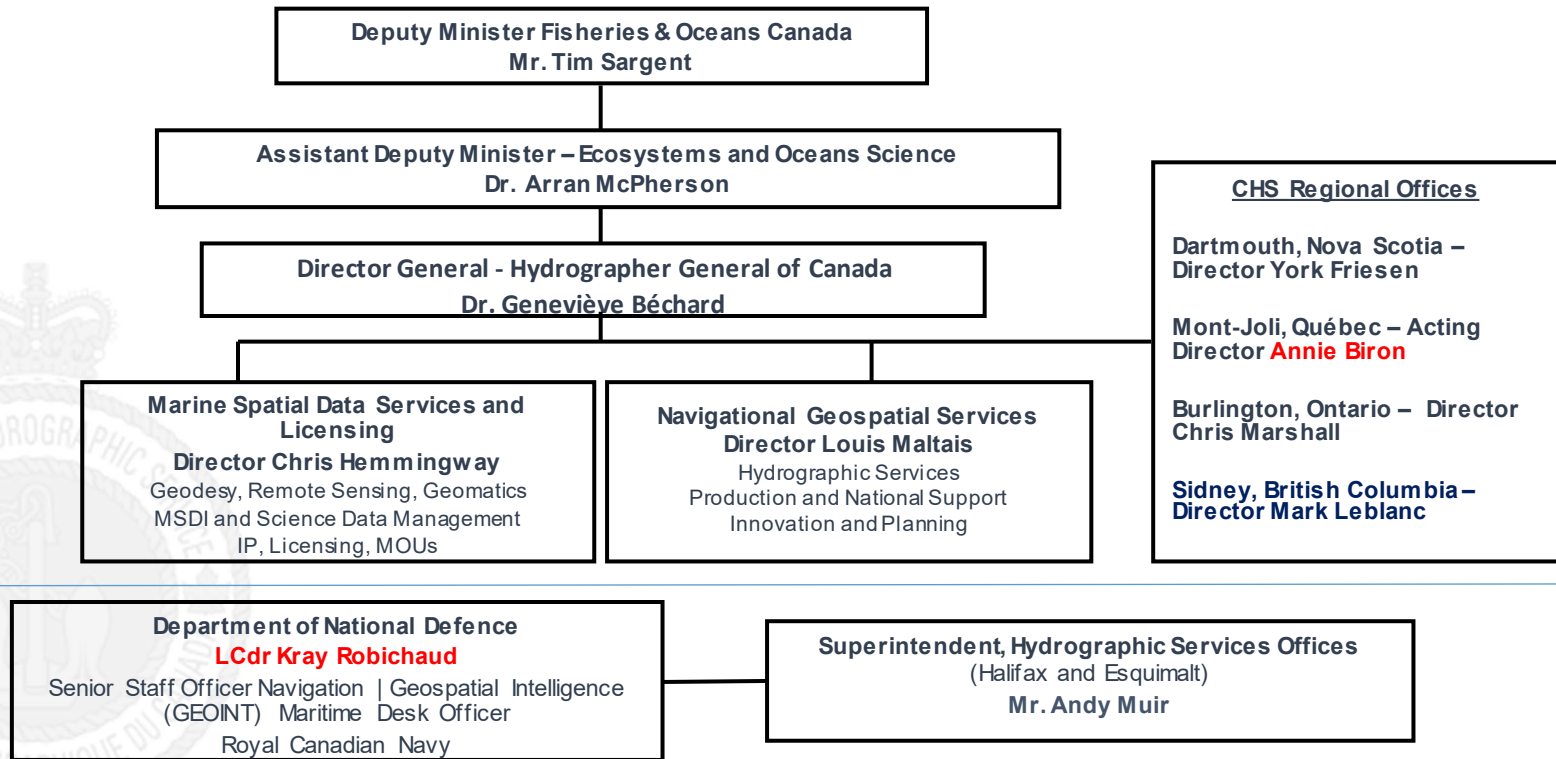
June 9 & 10, 2022

9-10 June 2022 Ottawa CA



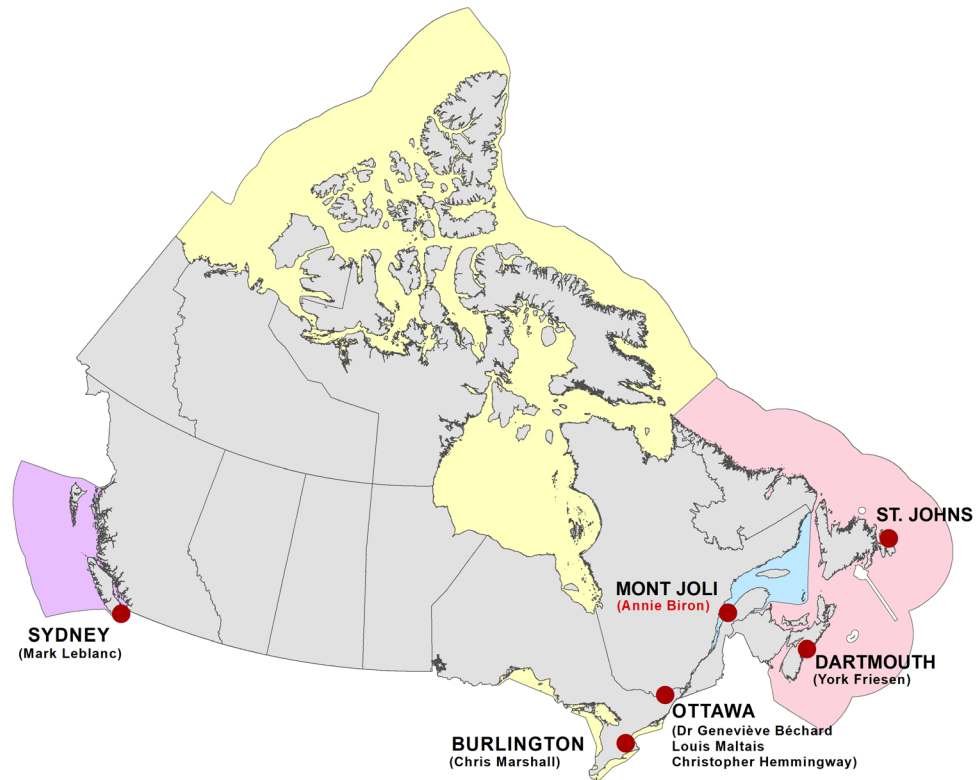


Organizational Updates





CHS Regions & Offices





Highlighted Activities in 2021/22

- CHS hosted an international workshop with over 25 countries on the Hydrographer of the Future (HOTF).
- Expanded S-100 trial to Saint John, NB in cooperation with Atlantic Pilotage Authority.
- Launched new dissemination application and a mobile application to provide live/real time Integrated Water Level System (IWLS) data
 - Enhanced IWLS system by adding air gap data in Ports of Halifax & Vancouver
- Workplace wellness – Conducted a cultural audit of CHS to move toward a more inclusive, diverse & psychologically safe workplace.
- CA continues to support Women in Hydrography activities both nationally and internationally.



Department of National Defence Update

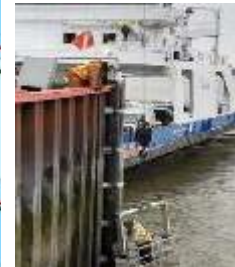
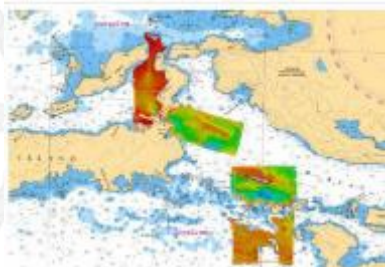
- Hydrographic Services Offices (Halifax & Esquimalt)
 - CFINTCOM/Mapping and Charting Establishment (MCE)
- Distribution of navigation products to Gov't of Canada Fleets
- Support to CAF/RCN Operations and Exercises worldwide
- Production of Additional Military Layers (AML)
 - NATO AML Co-Production Program (NACPP) & FVEYS Co-Production Program
- Production of Submarine ENC (smENC)
 - Primary navigation tool for RCN submarines & FVEYS partners
- Maintenance of DNC Harbour scale in Cdn waters



Ocean Protection Plan – 2017-2022

Main goal of OPP: To accelerate “Modern Hydrography and Charting in Key Areas”

- ❖ 23 High-Priority Ports Surveyed & Charted
- ❖ 85,000km² of Near Shore Surveys
- ❖ Arctic Surveying & Charting
- ❖ Modeling Dynamic Currents & Water Levels
- ❖ 98 Water Level Network Stations Refurbished





Beyond OPP - CHS Arctic Strategy

Within the Low Impact Shipping Corridors (LISC):

- Focus survey assets on LISC (still ~60% to complete)
- Maximize use of trusted source data collection.
- Fill charting gaps – prioritize the LISC with ENC at the appropriate scale with transition to new ENC grid (under development).
- ENCs will provide “Digital Foundation” for future S100 suite of services.

Outside the Low Impact Shipping Corridors:

- Fully leverage remote sensing technologies (target detection and SDB)
- Work with industry, International partners (IHO) on innovative ways to communicate risk and inform planning
- Collaborate with third parties and Arctic communities on data collection (CSB).



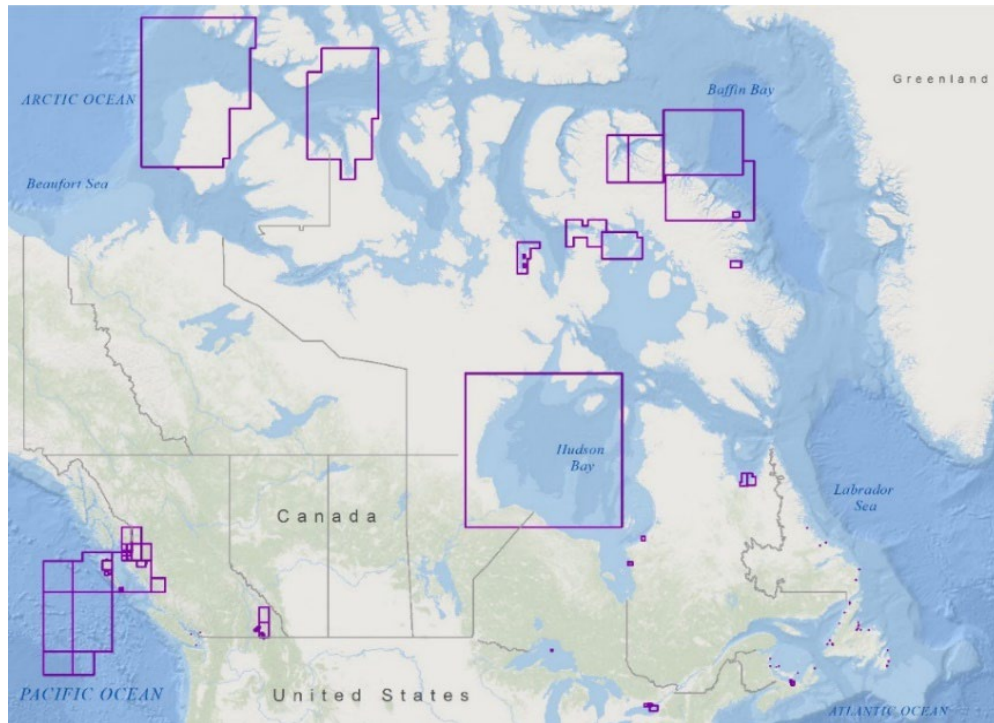
Progress on Surveys

- 31,398 km² of bathy data collected in the Arctic for 2021-22
- Additional 2,250km² coverage via contract including deployed USVs
- New *CHS Operational Plan* app provides access to the CHS's updates from planning to dissemination
- There are currently 69 planned surveys over 2 years



Progress on Production

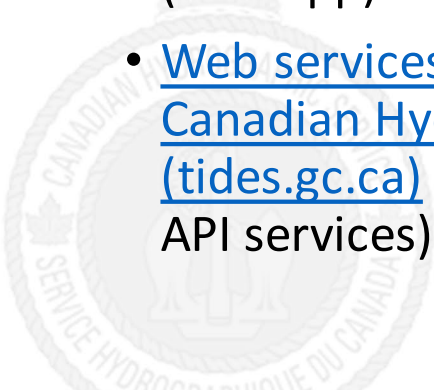
- In 2021/22 the CHS released:
 - 121 new ENC's,
 - 6 new paper charts,
 - 43 patches.
 - 837 navigational warnings
- 43 new editions of paper charts and 39 new editions of ENCs planned for 2022/23
- Developed automatic compilation tools and enhanced contour generation tools in CARIS.
- Working towards implementing an ENC-to-Paper solution and new ENC schema



ENC's produced March 1st 2021 to May 1st 2022

Tides : Launch of Integrated water Level system

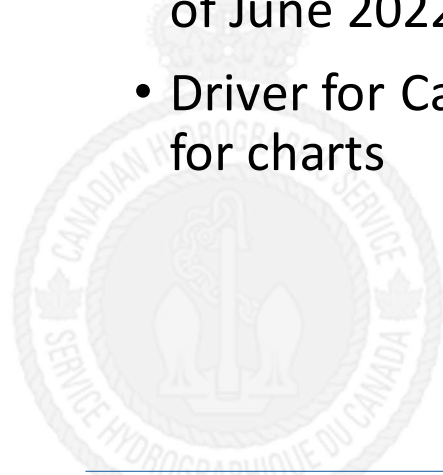
- <https://www.tides.gc.ca/tides/en/stations> (Updated web site)
- [Water Level System Mobile Application \(dfo-mpo.gc.ca\)](https://dfo-mpo.gc.ca) (new app)
- [Web services offered by the Canadian Hydrographic Service \(tides.gc.ca\)](https://tides.gc.ca) (Updated Rest – API services)





Raster withdraw

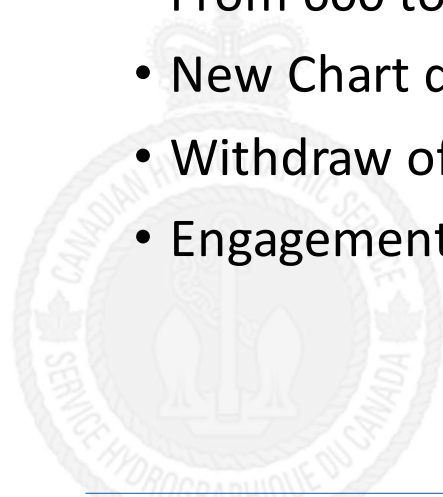
- Approx 1/3 to the total was eliminated in phase 1 (Existing ENC coverage)
- Aiming at cancelling another 1/3 in phase 2, NOTMAR expected end of June 2022 to communicate preliminary chart list to be withdraw.
- Driver for Canadian Coast Guard to embrace ENC has primary source for charts





Print-On-Demand / Charts Dealers

- End of POD pilot project
- Request for standing offer to outsource all chart printing
- From 600 to 250 charts dealers
- New Chart dealer agreement in the works
- Withdraw of the super dealer option.
- Engagement with dealers planned in Fall 2022





Publications

- Digital only
- Always up-to-date
- Sailing Directions recovery plan underway

Canadian Hydrographic Service Publications

Tide and Current Tables



Predicted times and heights of high and low tides, as well as times and speeds of weak and strong currents.

Sailing Directions



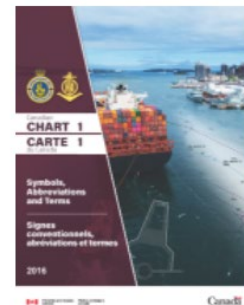
Used for planning and assisting in navigation because they provide information that cannot be shown on a chart.

Paper Chart Catalogues



Explore the geographical extent of paper charts produced by the Canadian Hydrographic Service.

Chart 1

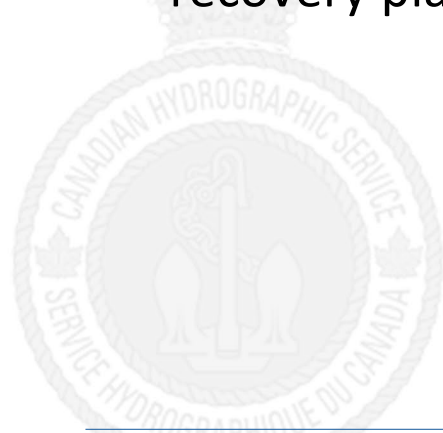


Explanations of the symbols, abbreviations and terms needed to interpret nautical charts.

Atlas of Tidal Currents



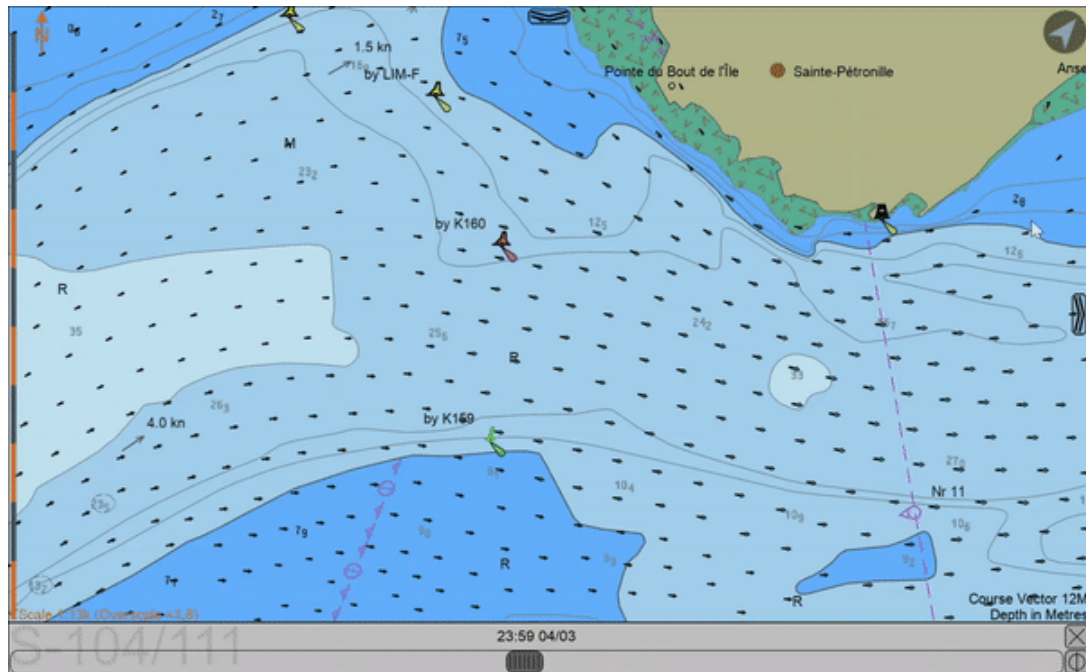
Comprehensive view of the hourly rate and direction of major tidal currents.





S-100

- Active S-102 coverage
- Active S-111 coverage
- S-104 coverage expected in next few months
- SEAIQ, NAVSIM, Trelleborg, Rosepoint, ECPINS -- using testing S-100 Services

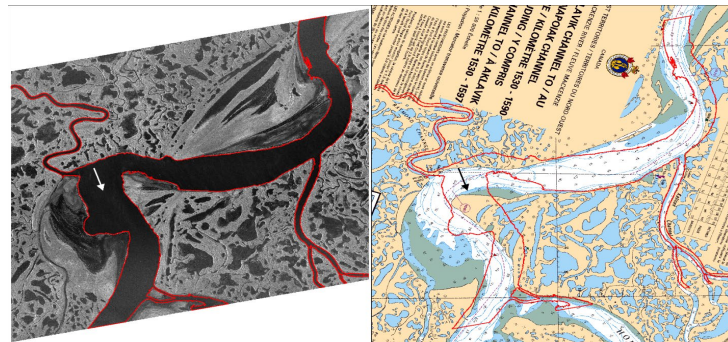




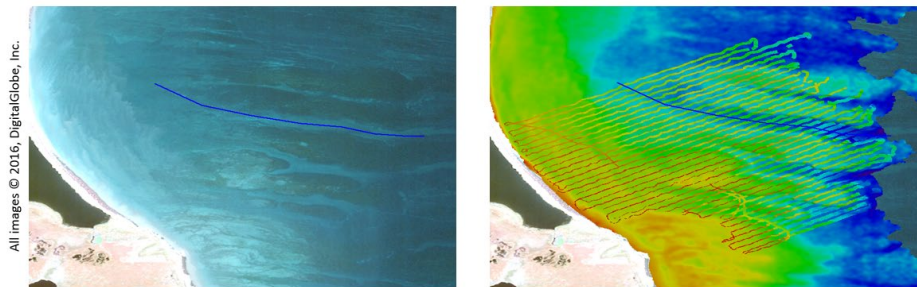
Remote Sensing Centre of Expertise (RSCoE) Service Requests

- The RSCoE filled more than 30 remote sensing service requests to update nautical products.
- The most common requests are related to shoreline extraction and Satellite Derived Bathymetry
- Other requests were for mission planning, evaluation of rate of change and water clarity analysis

Shoreline extraction



SDB



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Transformation

- It is organizational and operational in order to respond to:
 - The requirement to gain efficiencies by leveraging a fully digital and data-centric business ecosystem.
 - Changing demands for hydrographic products and services, including S-100 implementation and from the wider scientific community.
 - The changing nature of interactions and relations with clients, data users, partners, and other agencies and organizations.
- Some of the ongoing transformation tasks:
 - Identify how to modernize, including building a future-ready workforce
 - Complete key transformation enabling and foundation-building projects e.g. digitization
 - Rationalizing existing our portfolio e.g. Rule of 3; gridded portfolios
 - Modernizing our portfolio and add dynamic and digital products
 - Away from raster → Vector, S-100 products (S-102,S-104, S111); Sailing Directions → S-126; PC2.0
 - Modernize our distribution methods – online/machine-machine
 - Online ecommerce sales, Distribution chain, machine to machine delivery



Challenges

- Completing digitization
- COVID continued to impact field operations and effectiveness of committee and working group activities
- Ship time scheduling e.g. loss of CCG Hudson
- Diversity and inclusion
- Aligning Canadian S-100 implementation with the IHO Roadmap
- Transforming while standards are still evolving
- Working domestically and internationally to deliver a seamless end user experience for finding and accessing data and services



Thank you