



Fisheries and Oceans
Canada

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Canada



Canadian Hydrographic Service

9th Meeting of the
Arctic Regional Hydrographic Commission
National Report of
CANADA

Murmansk, Russia
17-19 September 2019

Dr. Geneviève Béchard, Hydrographer General of Canada

Canada 



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Organization Update

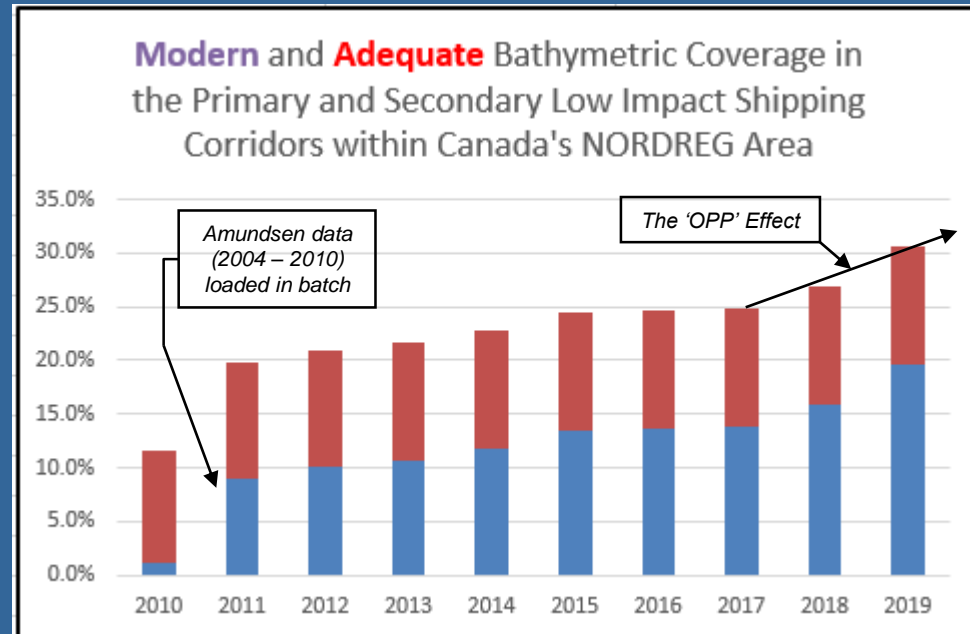
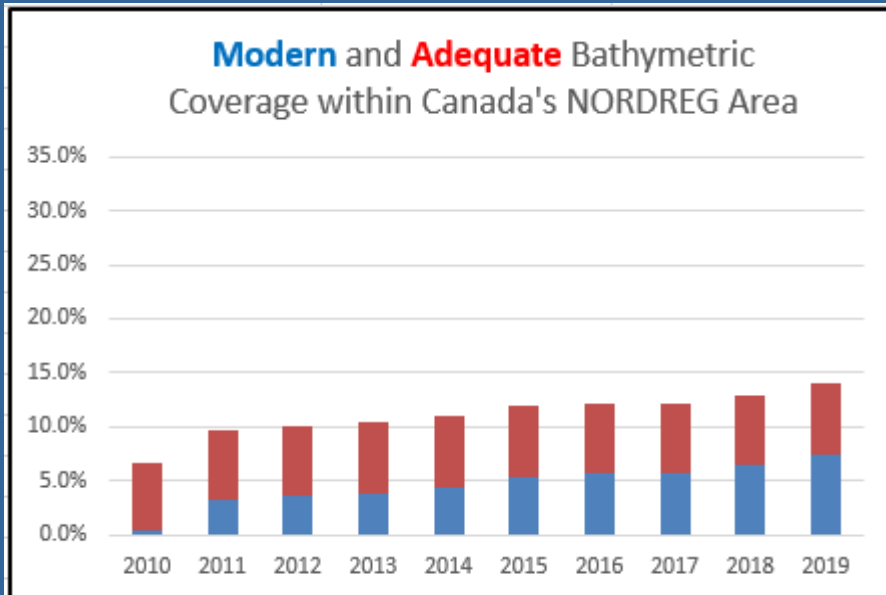
- October 2018 the Minister of Fisheries, Oceans, and the Canadian Coast Guard (CCG) announced the creation of the *DFO and Coast Guard Arctic Region*.
- Mr. Chris Marshall was appointed indeterminate Director of the CHS Central & Arctic Office in December 2018.
- CHS is in year 3 of the 5-year Ocean Protection Plan (OPP) which is providing extra funding (26.6M CAD) for Arctic surveying, ENC production, vertical datum enhancements, and the upgrading of the permanent water level gauge system.
 - With new staff hired under OPP the challenge is to balance the requirements for today's operations with future requirements under a transformed data-centric organization.



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Status of Hydrography in the Canadian Arctic

- Modern = CATZOC A1 and A2; Adequate = CATZOC B
- Modern and Adequate in corridors has increased from 26.97% in 2018 to 30.63% in 2019.





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2019 Surveys in the Arctic

- CHS has planned 7 Arctic surveys for 2019.

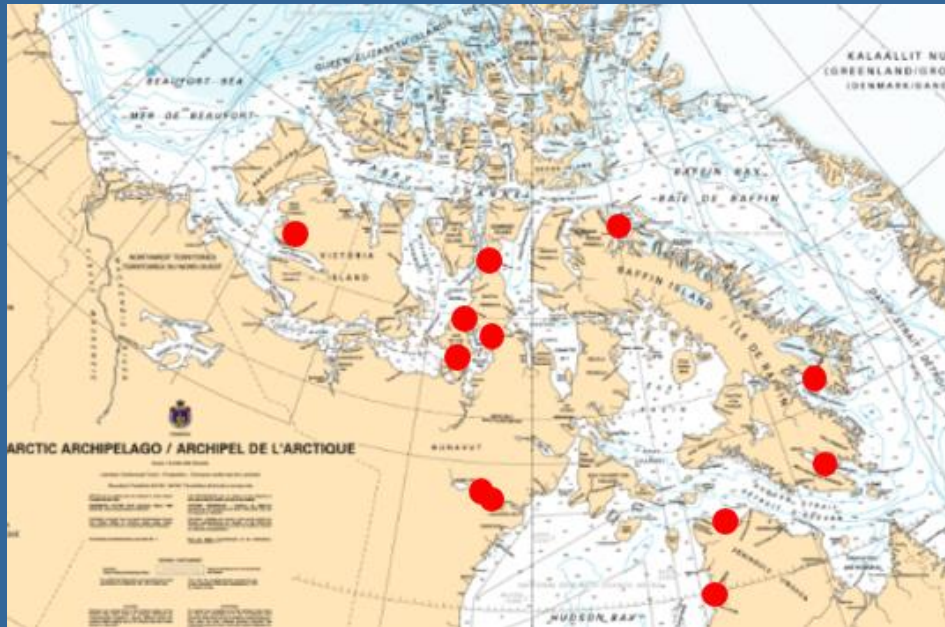




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Status of Charting in the Arctic

- 2018-19 10 ENC's, 6 paper charts, and one patch.
 - 24 NOTMARs published + 18 NAVWARNs issued related to reported depth or uncharted rocks dangers.



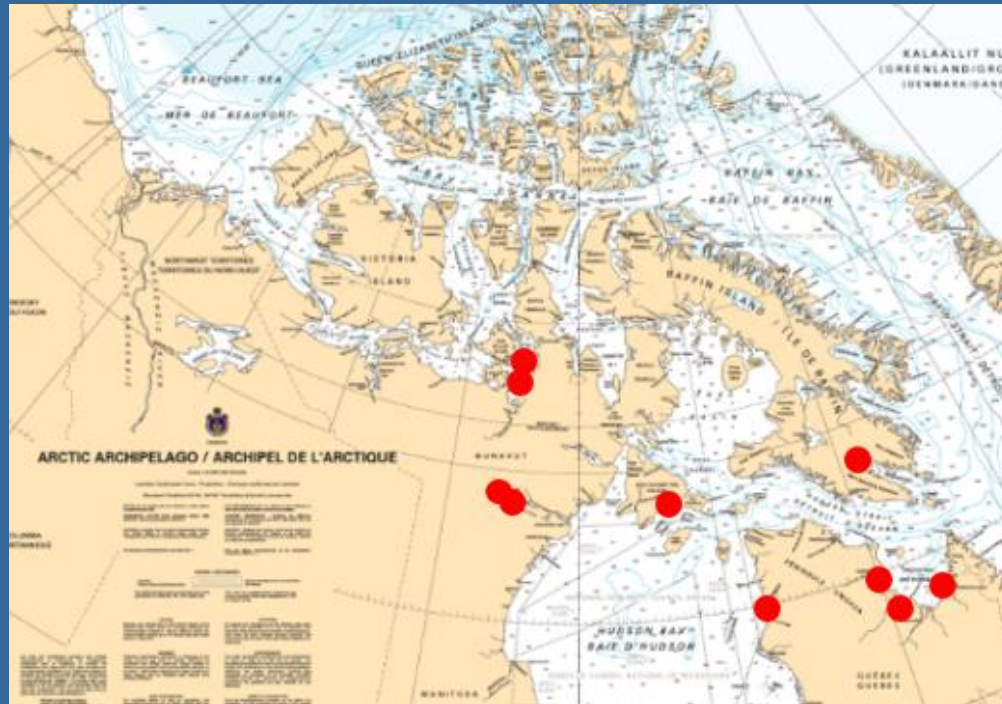
Areas where
products were
released in 2018-19



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Status of Charting in the Arctic

- 2019-2020 11 ENC's and 10 paper charts production planned



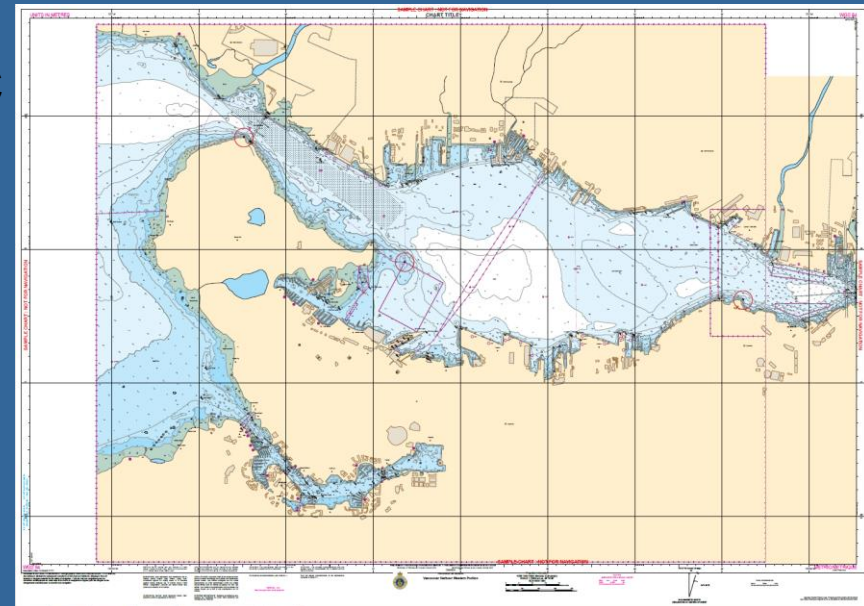
Areas of planned
production in 2019-
20



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Developments (1)

- Paper Chart 2.0
 - CHS is moving forward with a paper-chart-from-ENC solution
 - Goal is 100% automation.
 - Presented at USCHC and HSSC
 - Tests run for several HOs
 - Part of an ENC-first approach
 - All chart products derived from the ENC
 - Printed chart seen as a backup
 - Is it fit for that purpose?
 - Arctic is an excellent area to start

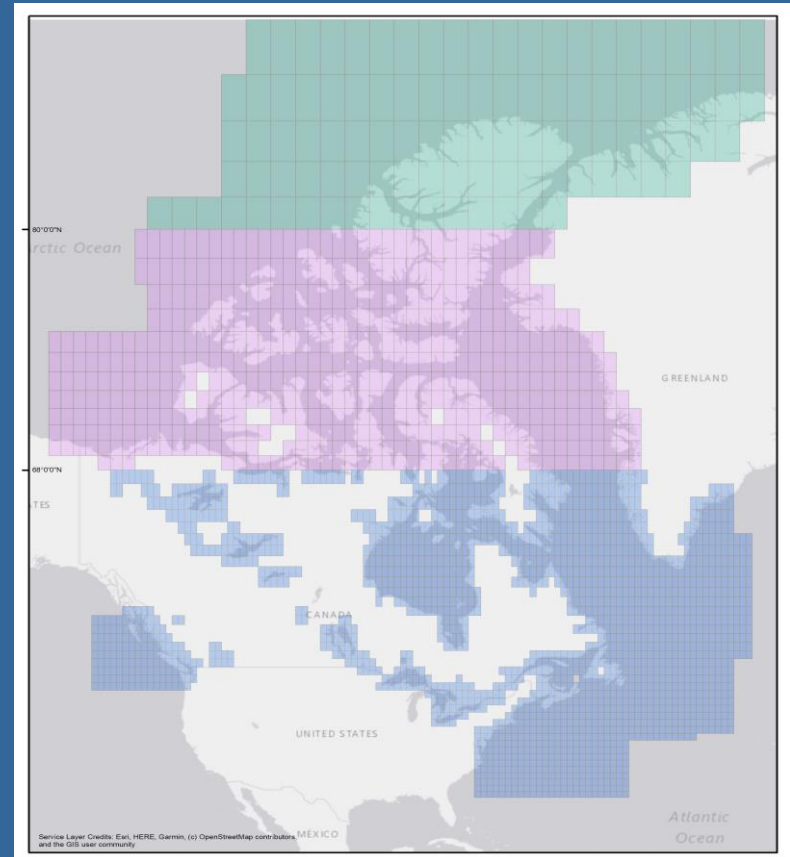




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Developments (2)

- Grid-based ENC schema being considered
 - To be aligned with other S-100 products and services
 - Southern grid for ENCs 4x4 deg, 1x1 deg, and 0.1x0.1 deg
 - In the Northern latitudes there is still some study going on
 - Is it possible to have a pan-Arctic alignment, at least at one level?
 - i.e. a common ENC INT scheme for Region N





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Developments from the Royal Canadian Navy (1)

- ***Harry-DeWolf-class Arctic and Offshore Patrol Vessel***
 - Capability of embarking additional, non-RCN personnel (CHS, RCMP, Border Security, etc.) as mission requires
 - No MBES fitted in final design
 - DND (with CHS assistance) is in the early stages of producing an engineering change to install MBES



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Developments from the Royal Canadian Navy (2)

Ship	Hull No.	Laid down	Launched	Commissioned
<i>Harry DeWolf</i>	AOPV 430	11 Mar 16	15 Sep 18	
<i>Margaret Brooke</i>	AOPV 431	29 May 17		
<i>Max Bernays</i>	AOPV 432	19 Dec 17		
<i>William Hall</i>	AOPV 433			
<i>Frédéric Rolette</i>	AOPV 434			
<i>Robert Hampton Gray</i>	AOPV 435			



HMCS Harry-DeWolf

- Turnover to RCN late 2019
- Sea Trials, Work-ups in early 2020
- Deploy to Canadian Arctic in July 2020 with intent to circumnavigate North America



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Other Points of Interest (1)

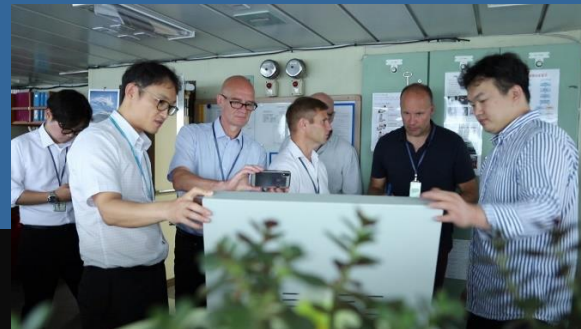
- Limits of the Continental Shelf
 - CA submitted to the Commission 23 May 2019 its Arctic claim
 - Collaborative scientific work that contributes greatly to bathymetric, geologic, and geomorphologic knowledge in the Arctic
- Expedition cruise ship grounding
 - On 23 August 2019, the 47.7m super yacht, *Hanse Explorer*, ran aground in Admiralty Inlet
 - No damage or injuries reported
 - The chart was 1:300 000 with spot soundings taken through the ice
 - Similar situation to the *Akademik Ioffe* last August.
 - CA is interested in discussing further measures to re-enforce the 2017 ARHC communique regarding caution in Arctic waters



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Other Points of Interest (2)

- Bathymetric Data in the Cloud as a Service Project
 - CHS-NHS-TeledyneCARIS-PRIMAR ECC
 - Operationalize the delivery of S-100 data by way of a cloud-based service.
 - Initially the project is focusing on S-102 data
 - Now working with Pilots and their PPU's
- S-100 Sea Trials
 - On the invitation of KHOA, CA, US, UK, GE, IIC participated in the S-100 Sea trials and review 27-29 August
 - Successful with some challenges remaining.





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Closing

- CHS is in the process of transformation
 - Digitization of all source and navigation products, PC 2.0, re-scheming, etc. will increase the rate of data throughput that puts information in the hands of users in a more timely fashion
 - Improves data management, data accessibility, and production efficiencies, that is, facilitates data-centricity
 - CA transformation will be in line with the IHO strategic direction
 - Arctic remains both a challenge and an opportunity



QUESTIONS?