



HGPSC Report USCHC47

31st of May, 2024

Co-chairs: Christie Ence (NOAA) & Mina Foroutan (CHS)



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USCHC46 - HGSPC Action Items

USCHC 46 (2023)					
Ref #	Agenda Item	Action	For	Deadline	Status
46.2	7	Dr. Bechard noted she would like to see an article on the automatic production of paper charts, how it aligns or not with S-4. US and CA consider a joint paper.	All	Nov. 2024	Ongoing – will discuss opportunities for collaboration at USCHC 47
46.4	9	Investigate revisions to the MOU to allow reference to include continental shelf areas			Ongoing
46.12	13	Work collaboratively on a North American analysis (maybe starting in the Lakes, a transboundary area). Maybe for next year's USCHC meeting, present a holistic Canadian US analysis of the Great Lakes.		USCHC 47	Ongoing – to be discussed at USCHC 47
46.15	14	If USCHC will have an interim meeting, review some of the (“best practices”) of the HGPSC.	All	Fall 2023	Close – no interim meeting held. Best practices can be reviewed under the HGPSC item.



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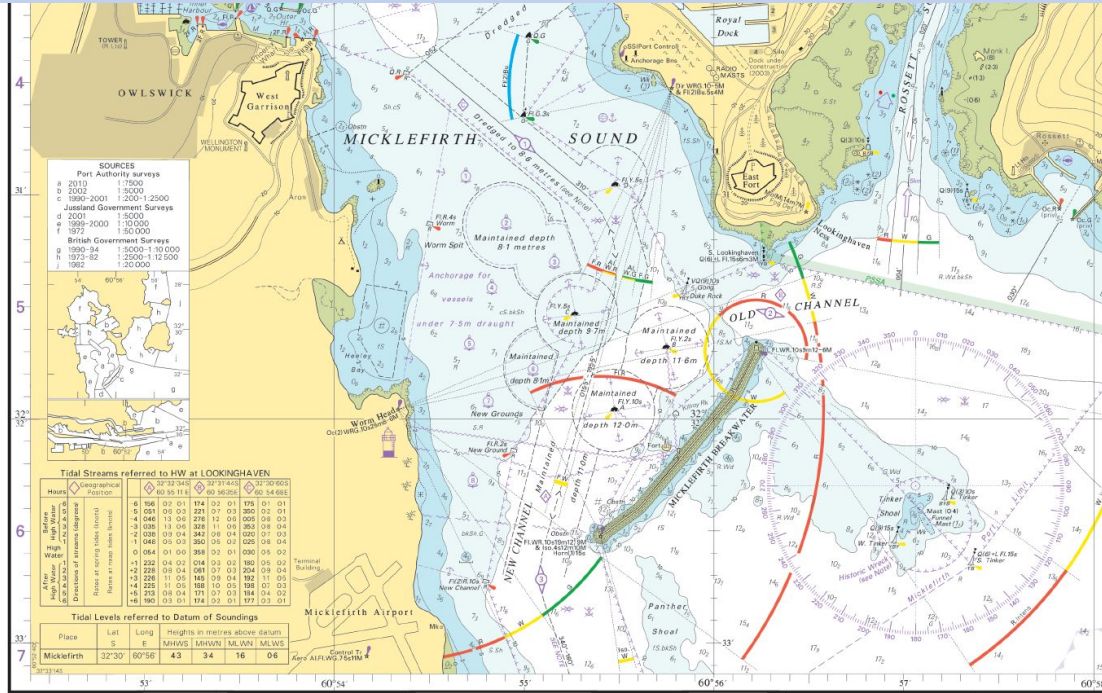
Action Item #46.2

Article on the automatic production of paper charts, how it aligns or not with S-4 (Ongoing)

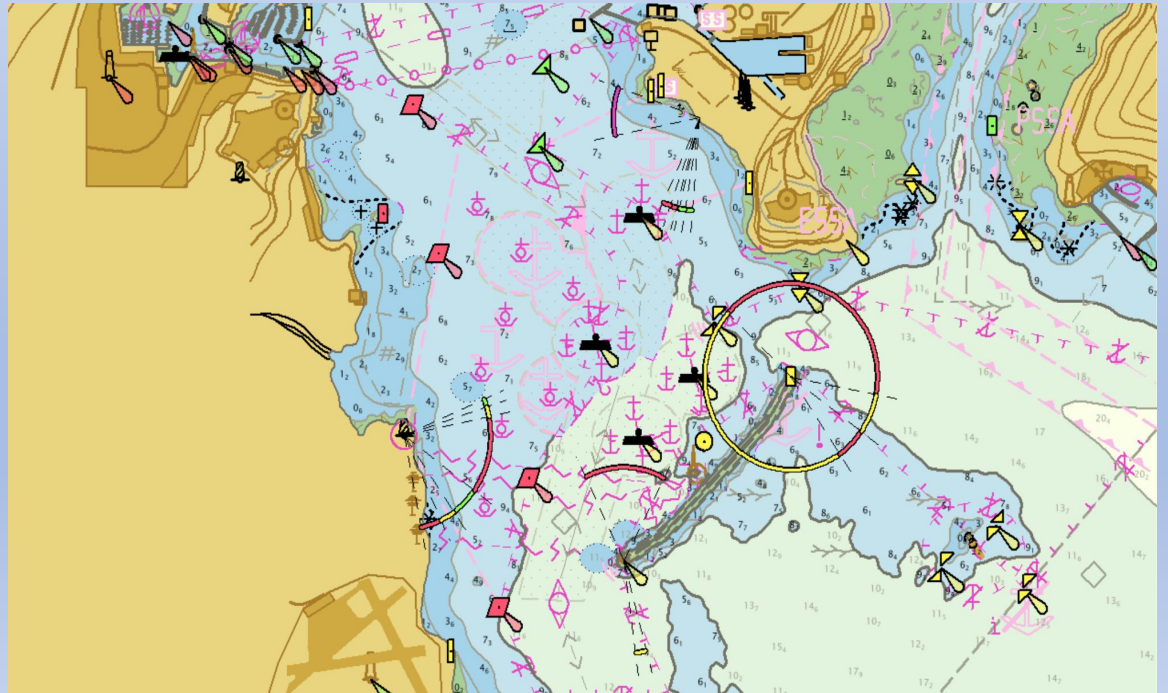
Proposed Method:

Load IHO S-52 Digital Files into each HO's symbology rendering service and compare output of features to INT1/INT2/INT3.

INT3



S-52





International Hydrographic Review Manuscript IHR-23-N07

Ence, C. L. and Colombe, L. (2023). The Hydrographic Geospatial Products and Services Committee (HGPSC) – Using technology to facilitate international collaboration on USA/Canada transboundary charting discussions. *The International Hydrographic Review*, 29(2), pp. 268-271.

<https://doi.org/10.58440/ihr-29-2-n07>



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Action Item #46.12

Work collaboratively on a North American analysis (maybe starting in the Lakes, a transboundary area). Maybe for next year's USCHC meeting, present a holistic Canadian US analysis of the Great Lakes. (Ongoing)

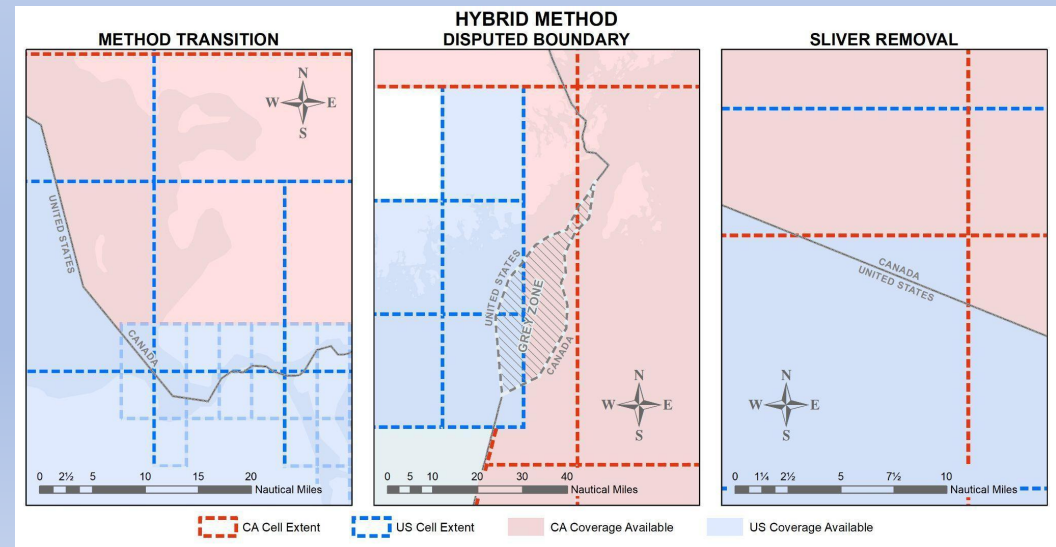
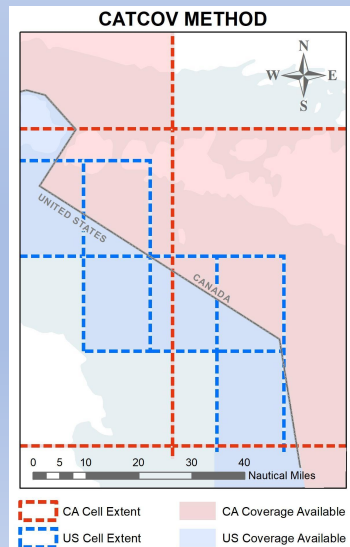
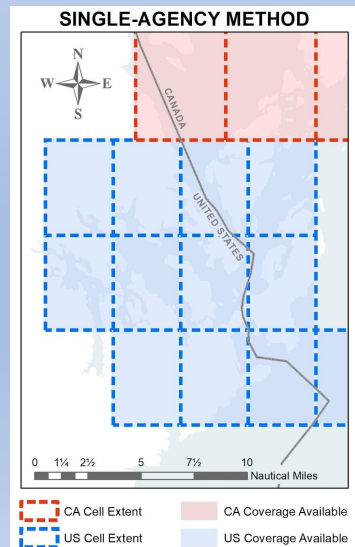
Proposed Methods:

- ❖ Create a points of contact list for each region
- ❖ Encourage regular meetings between regional production branches
- ❖ Coordinate transboundary product maintenance
- ❖ Develop a data sharing process
 - Determine a way to work within our IT security rules
 - Determine a way to work with Canadian data sharing structure

Action Item #46.15

If USCHC will have an interim meeting, review some of the (“best practices”) of the HGPSC (Closed/Completed)

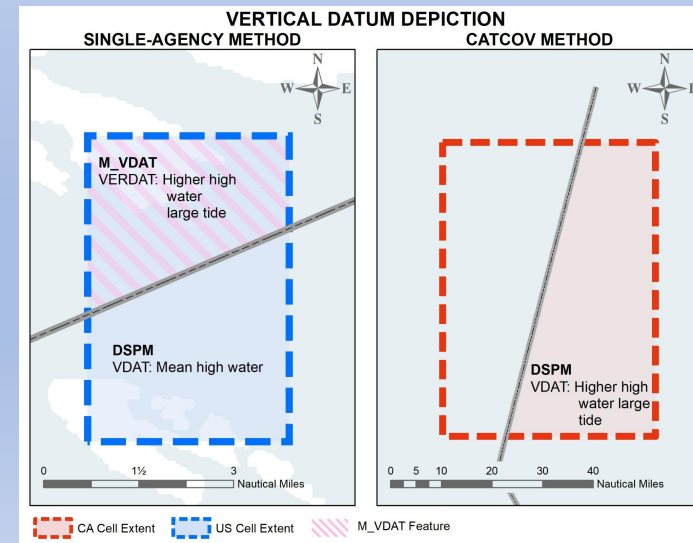
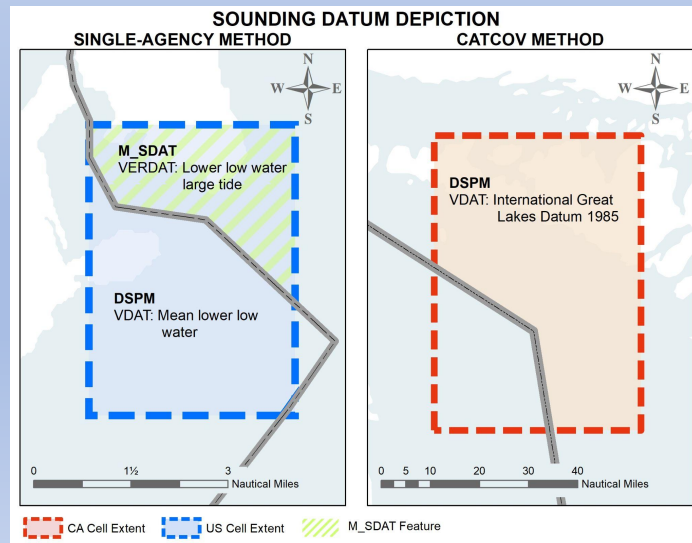
- ❖ Describes ENC cut methods and scenarios for US/CA cells
 - Single-Agency
 - Category of Coverage (CATCOV)
 - Hybrid



Action Item #46.15

If USCHC will have an interim meeting, review some of the (“best practices”) of the HGPSC (Closed/Completed)

- ❖ Captures encoding procedures for datum features
 - Chart (Sounding) Datums
 - Vertical Datums



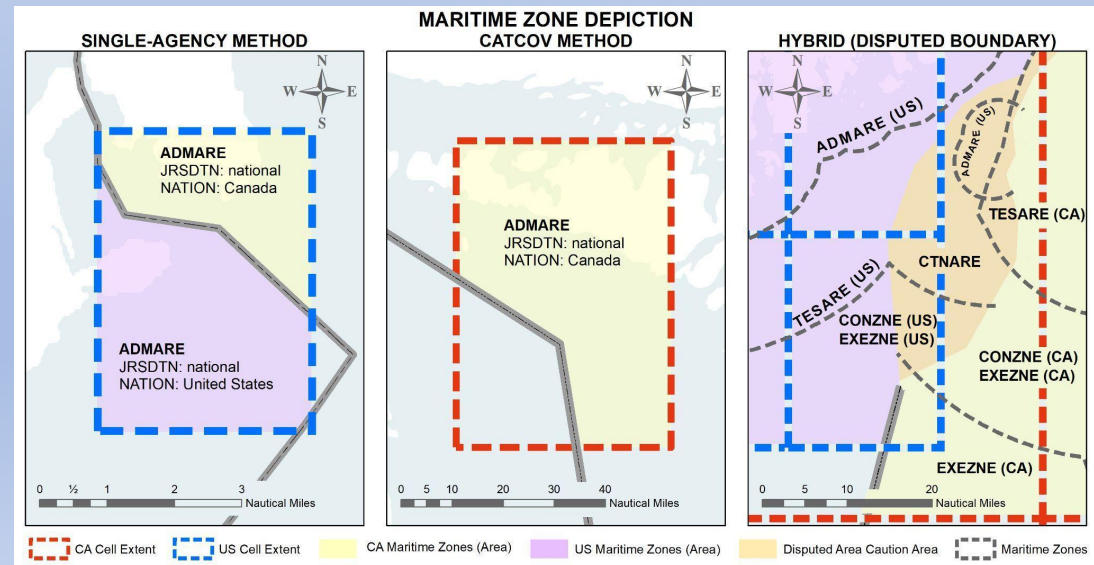
Action Item #46.15

If USCHC will have an interim meeting, review some of the (“best practices”) of the HGPSC (Closed/Completed)

❖ Captures encoding procedures for maritime boundary features

- Administration Areas
- Territorial Sea Areas
- Contiguous Zones
- Exclusive Economic Zones

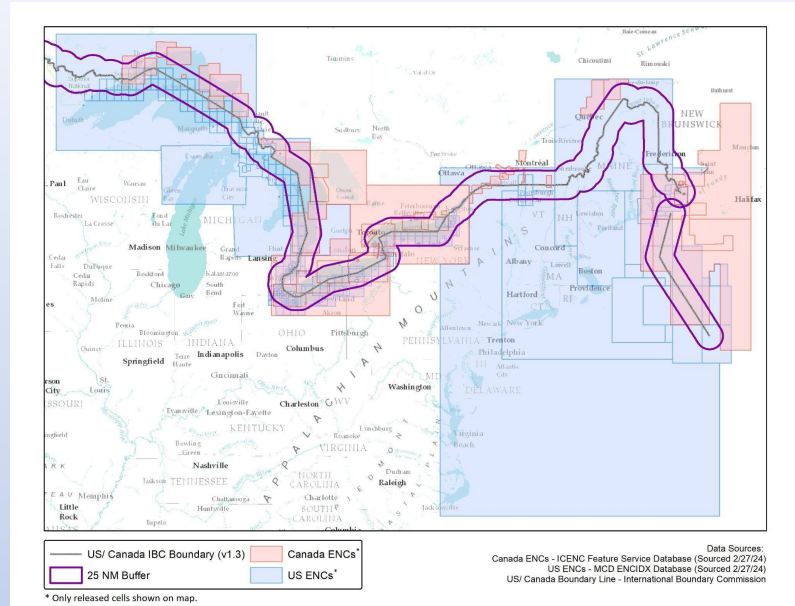
- Extended Continental Shelf?
(Action Item #46.4)





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USCHC Transboundary Web App



Field Attribute	Description	Data Type	Allowed Values
Cell Name	8-character Cell Designation	Free-Form Text	
Scale	Product Compilation Scale	Free-Form Text	
Scale Band	S-57 Usage Band Code	Short Integer	1, 2, 3, 4, 5, 6
National Responsibility	Producing Member State	Coded Domain Text	US, Canada
Schema	Description of Cell Types	Coded Domain Text	Gridded, Non-Gridded
Cell Title	Product Title	Free-Form Text	
Status	Product Status	Coded Domain Text	Proposed, Released
Region	Geographic Region	Coded Domain Text	Atlantic, Inland Lakes, Pacific, Arctic
In Work	Product Completion Status	Coded Domain Text	In Work, <NULL>
Transboundary Method	ENC Cut Method	Coded Domain Text	Single-Agency, CATCOV, Hybrid
Decision	Decision Document URL	Free-Form Text	
Notes	Relevant Decision Information	Free-Form Text	

NEW!
NEW!

United States – Canada Gridded ENC Transboundary Project
Atlantic Coast

Date: 1/31/2024

Purpose: Summarize and record how Canada and the United States of America have agreed to produce gridded ENCs in the transboundary waters of the Atlantic Coast, specifically in the Gulf of Maine/Bay of Fundy.

Background: Both the United States of America and Canada are creating gridded ENC products while also aligning their ENC scales to the International Hydrographic Organization's S-101 Electronic Navigational Chart Product Specification (IHO S-101). Canada is merging coverage down to three usage bands; the U.S. is maintaining six usage bands.

CHS Scale Table			
ENC Usage Band	Navigational Purpose	S-101 Scales	
2	General	1:180,001 - 1:10,000,000	
4	Approach	1:22,001 - 1:180,000	
5	Harbor	1:1,000 - 1:22,000	

U.S. Scale Table			
ENC Usage Band	Navigational Purpose	S-101 Scales	
1	Overview	1:10,000,000 1:3,500,000	
2	General	1:1,500,000 1:700,000 1:350,000	
3	Coastal	1:180,000	
4	Approach	1:90,000 1:45,000	
5	Harbor	1:22,000 1:12,000	
6	Berthing	1:4,000 1:2,000	

Additionally, there is a disputed area centered around Machias Seal Island which was taken into account when determining coverage.

All previously existing non-gridded ENCs in the transboundary waters of the Atlantic coast will be canceled and fully replaced by gridded ENCs.

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<https://noaa.maps.arcgis.com/apps/webappviewer/index.html?id=3d56cca277334bb18d918e4292bd3313>



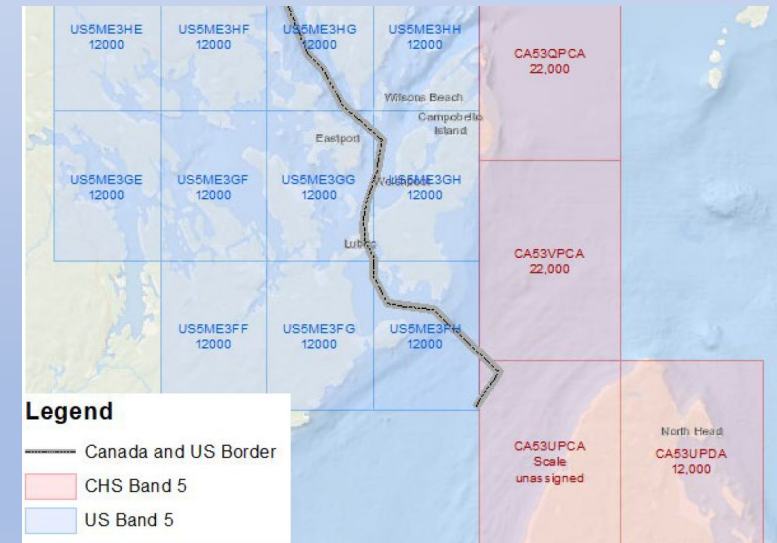
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Regional Collaboration Status Updates Atlantic

- ❖ An agreement on ENC cuts in Bay of Fundy for all scales in both Member States' product lines.



Machias Seal Island



By Albnd - Own work, CC BY-SA 4.0, <https://commons.wikimedia.org/w/index.php?curid=3286678>

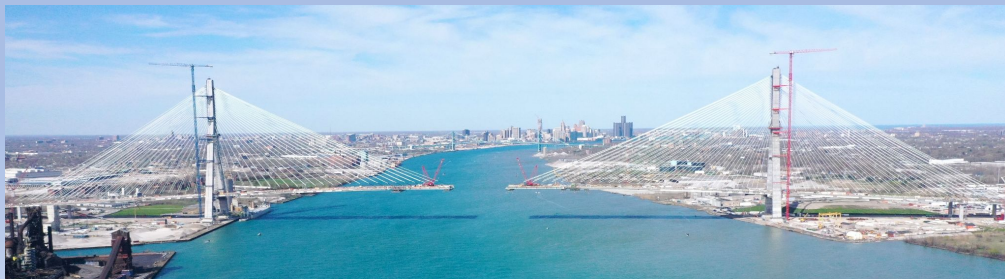


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Regional Collaboration Status Updates Great Lakes



- ❖ Continued monthly meetings
- ❖ Coordinated charting of the Gordie Howe International Bridge
- ❖ Implemented agreements on ENC cuts in:
 - Eastern Lake Ontario
 - Northern Lake Huron
 - Southeastern Lake Superior
 - We are also working on a global document for simplicity
- ❖ Solidified approach for standardizing NtMs in the Great Lakes region



<https://www.gordiehoweinternationalbridge.com/en/gallery>



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Regional Collaboration Status Updates Pacific/Arctic



- ❖ Established monthly meetings with key members from both HOs
 - Pacific and Arctic will alternate meetings every other month
- ❖ Coordinated re-establishment of products in San Juan Islands
 - Based on client demand
- ❖ Drafted agreement on Dixon Entrance ENC cuts
 - Based on best fit for data density and quality
 - Discussed a data sharing agreement
 - What steps do we take to share the highest quality data between HOs?
- ❖ Initialized discussions for Juan de Fuca cuts
 - Draft initial proposal has been circulated to affected parties



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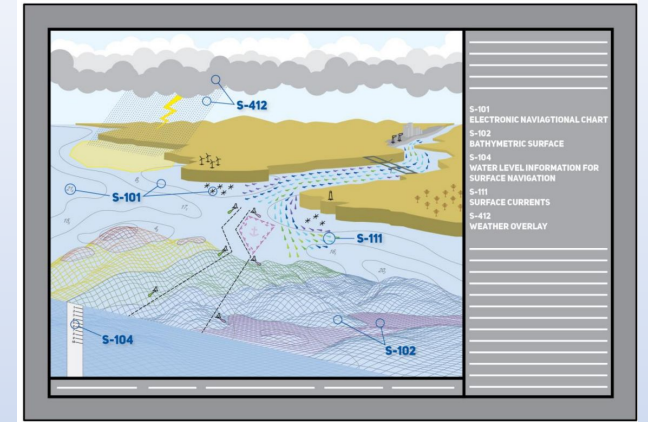
S-100 Workplan - How do we get to 2026?

- ❖ St. Lawrence Seaway is a proposed S-100 testbed for Canada
 - Discussions to explore the possibility of extending the cells used to the southwest to include northeast Lake Ontario so that some US charted waters are included
- ❖ Conversations with S-100 transition coordinators
 - S-100:
 - Sean Legeer (US), Louis Maltais (CA)
 - S-101:
 - LTJG Karl Wagner (US), Gabriel Cavanagh (CA)
 - S-102:
 - Anthony Klemm (US), Andrew Roberts (CA)
 - S-104:
 - *Unknown* (US), Phillip MacAulay (CA)
 - S-111:
 - *Unknown* (US), Phillip MacAulay (CA)



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S-102, S-104, and S-111: How do we address HO data junctions?



Smith, 2nd S-100 Implementation Strategy,
2020

- ❖ Each specification uses a variety of data types
 - Vector data products, such as S-101, can be neatly cut along the boundary
 - Raster data products, such as S-102, cannot be neatly cut along the boundary
- ❖ Complexities involved with Canadian copyright laws which hinder US products with Canadian data being openly distributed
- ❖ Can each specification have different coverage?
 - Can a “no data” encoding be applied in areas outside of an HO’s coverage?
- ❖ How do we communicate datum differences?
 - Does S-102 encode datum on each cell, or is the datum stored as a global attribute?



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Data sharing for automated cartography products (NCC and PC2)

Proposal

- ❖ ENC cells to arrange data sharing agreement:
 - All ENC cells (Bands 1-6) within 25 NM from boundary
- ❖ Technological requirements:
 - Data sharing folder outside HO firewalls
 - Scheduled task to replace 000 files as updates become available
- ❖ Licensing requirements:
 - MOA to share identified cells on a regular schedule (either as necessary, or on a fixed schedule)
- ❖ Proposed Deadline: Q1 FY2025 (October 2024)

