maps chat belong

Thoughts on (S-101) cell schemes

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Topic raised before

A few cases…

Original S-57 cell scheme had:

- Unique and logical/systematic names for each tell
- Fixed cell size (7.5’x7.5’, 15’x15’, 30’x30’, …)
- Fixed scales for each cell size

Was removed from S-57 before edition 1 was released

Caveat: All of the above is based on my (often poor) personal memory as I no longer have the old documents

Original S-57 cell scheme was abandoned

Was it because it was easier to “think in charts”?

Was it because of data coverage?

Was it because ENCs was converted from paper chart?

Was it because of ECDIS manufactures or distributors?

…?

Are the stakeholders ready for this now?

- “Most ENCs has their own cell scheme”
- “Data coverage only in individual cells”
- “In an ideal world an ECDIS should be able to receive one large dataset that provides contiguous, harmonized coverage for its intended voyage.”
- “S-10X products should not be constrained to paper sheet bound limits”
- Mentioned advantages with a cell scheme:
  - “allow cells to be easily identified and addressed for updating purposes”
  - “basis for indexing additional overlays such as bathymetric grids and nautical publications products”

INF1- Considering A Systematic Approach to ENC Schemes

By Laurent Tardif, CHS Director, Products & Services

Selection from presentation

- “alignment with paper chart limits and portfolio is not likely to be sustained or even desirable”
- “E-Nav access to ENCs are likely to follow a different thinking than was tradition paper chart access”
- “A well functioning tool to communicate an ENC scheme (catalogue) has significant benefits to a user rather than relying on a translation of a paper chart catalogue”
- “Implementation of a new product line such as S-102”

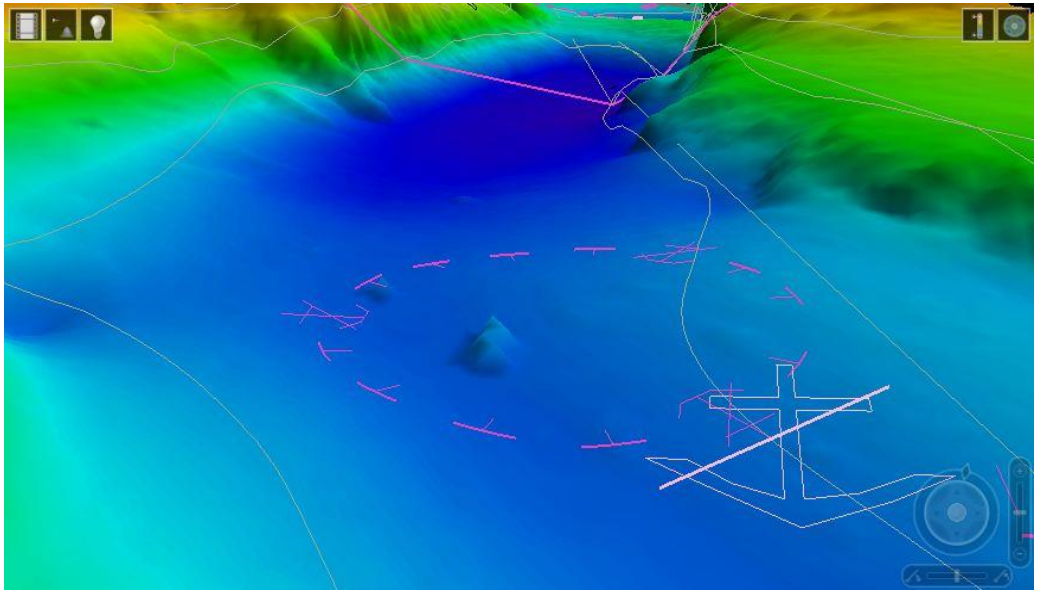
Alignment with other products?

S-102 Bathymetry edition 1.0

Has no resolution requirements

Has no coverage requirements (i.e. no cell scheme)

New S-102 edition *could* include a cell scheme



Can/should a grid cell scheme be adopted for these?

IHO: S-101 to S-199

- IHO S-101 ENC
- IHO S-102 Bathymetric Surface
- IHO S-103 Sub-surface Navigation
- IHO S-111 Surface currents
- IHO S-121 Maritime limits and boundaries
- IHO S-122 Marine Protected Areas
- IHO S-123 Radio Services
- IHO S-124 Navigational warnings
- IHO S-125 Navigational services
- IHO S-126 Physical Environment
- IHO S-127 Traffic Management
- IHO S-1xx Marine Services
- IHO S-1xx Digital Mariner Routeing Guide
- IHO S-1xx Harbour Infrastructure
- IHO S-1xx (Social/Political)

IALA: S-201 to S-299

- IALA S-201 Aid to Navigation Information
- IALA S-20x Inter-VTS Exchange Format
- IALA S-20x Application Specific Messages
- IALA S-20x (Maritime Safety Information)

IOC: S-301 to S-399

Various: S-401 to …

- IEHG S-401 Inland ENC
- JCOMM S

IENC experts are preparing S-401

Gridded cell scheme is not consider needed

IENC products have coverage along the rivers

Each cell is a segment for a certain (km) range of a river

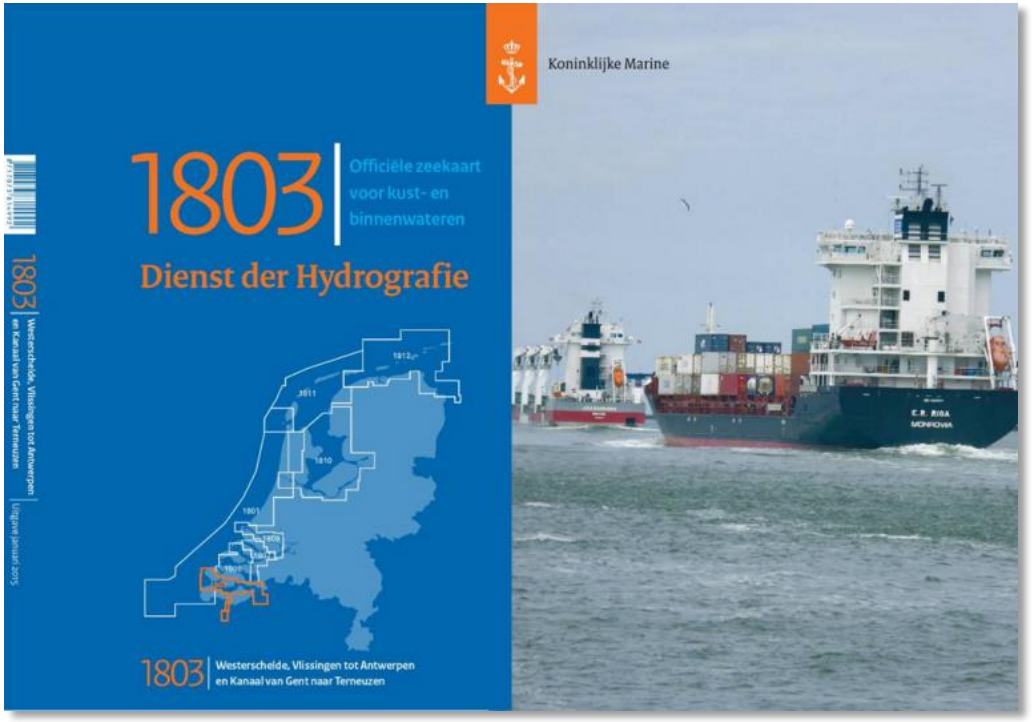
Is a universal S-100 cell scheme necessary?

Will it be possible?

What should the experience of a cell scheme be?

Should there be an “experience” at all?

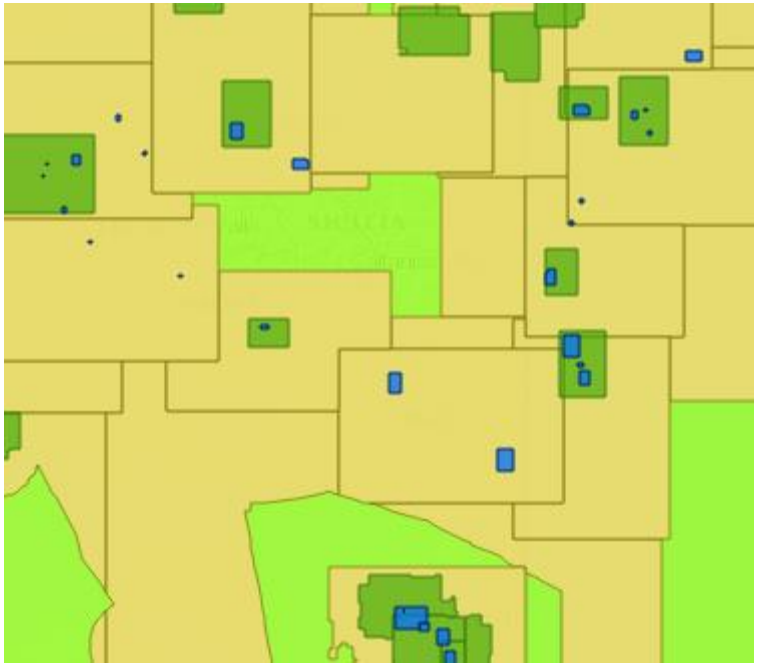
Chart portfolios have for decades been used by HOs



Example from the Dutch HO
These are not INT/IHO charts but they are official charts, but
they utilize the same data and are produced with the same CARIS production software

though (large) portfolios may not suit pay-as-you-go services?

Probably not the ideal end-user experience

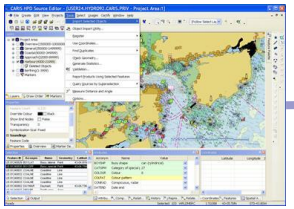


A systematic cell grid seems nicer

Should HOs have to care about ENC cell schemes/sizes/…?

Current production scenario

Cells are created/cut, validated and exported



HPD

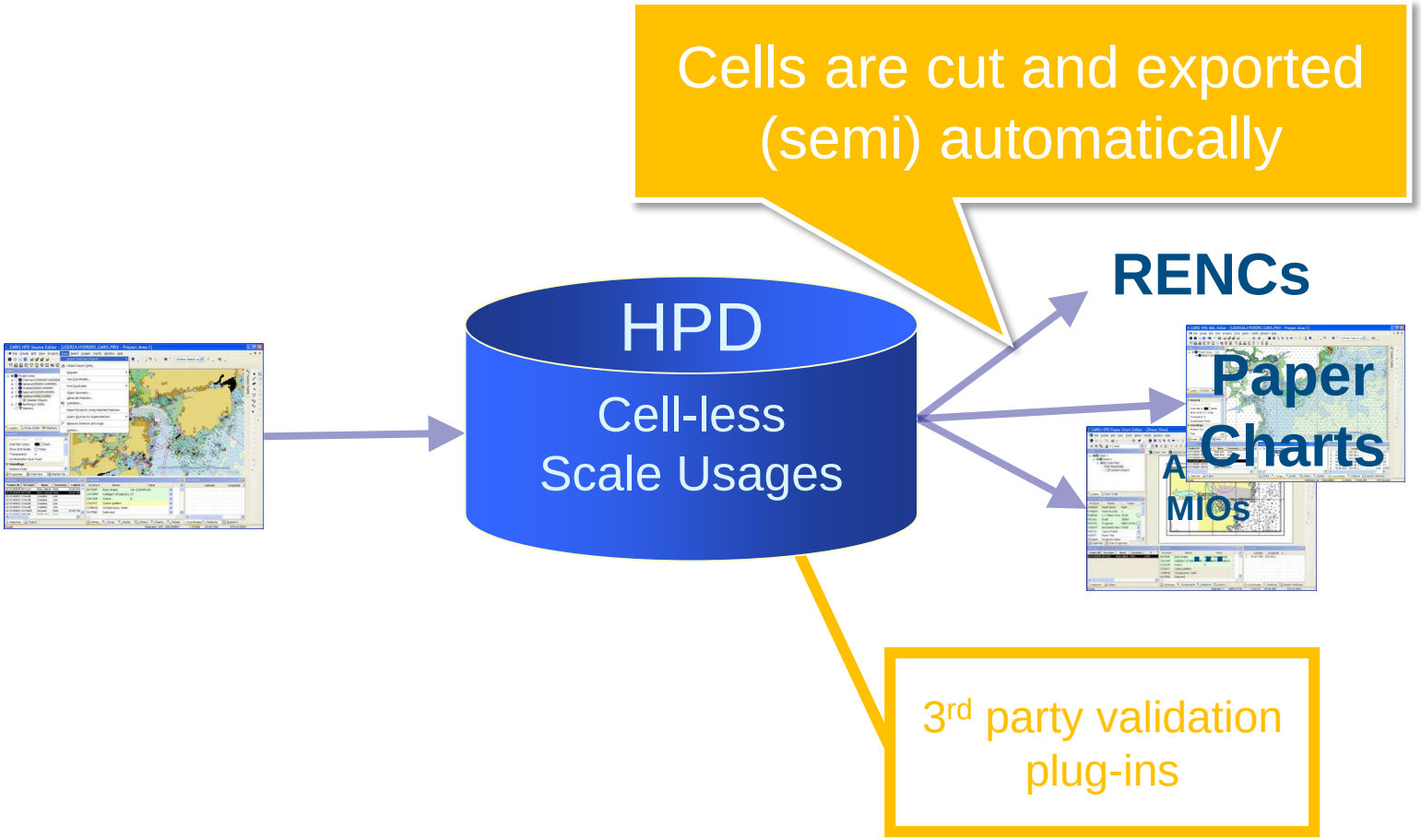
Cell-less Scale Usages

ENCs

Paper Charts

AIOs

Future production scenario?



Do end-users need (systematic) cell schemes?

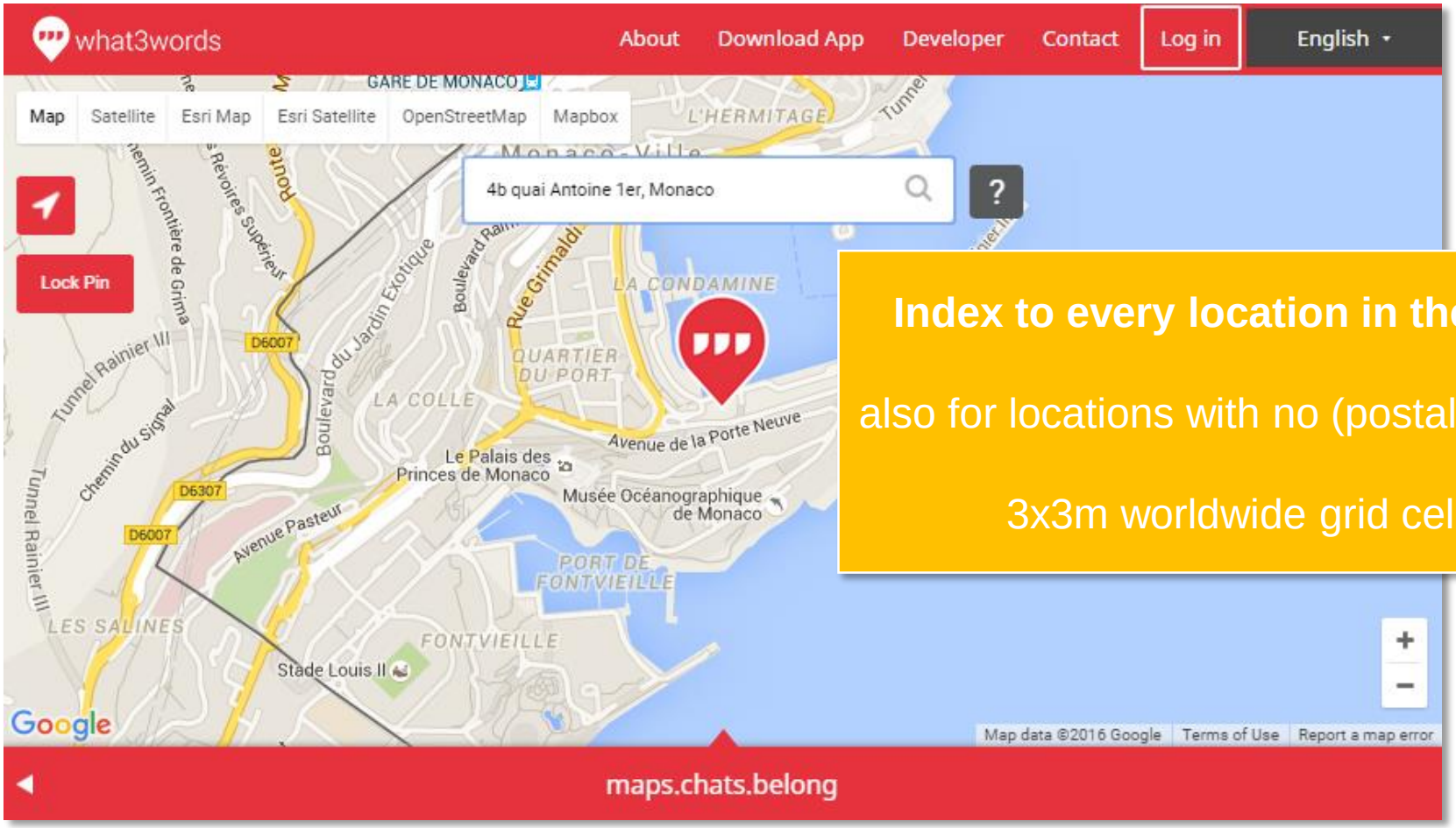
Probably not

Do ECDIS/ECS need (systematic) cell schemes?

Could potentially benefit

(but is that requiring HOs/IHO definition?)

Location Service



Index to every location in the world

also for locations with no (postal) address

3x3m worldwide grid cells

Gridded cells are potential valuable for indexing

Not a necessary a production issue

Will other (S-100) products have a cell scheme?

And if so should it be the same as S-101?

Think about the long term goal(s)

What is the purpose of adopting a cell scheme?

Investigate if the proposed solution will meet needs

Consider IHO/HO products too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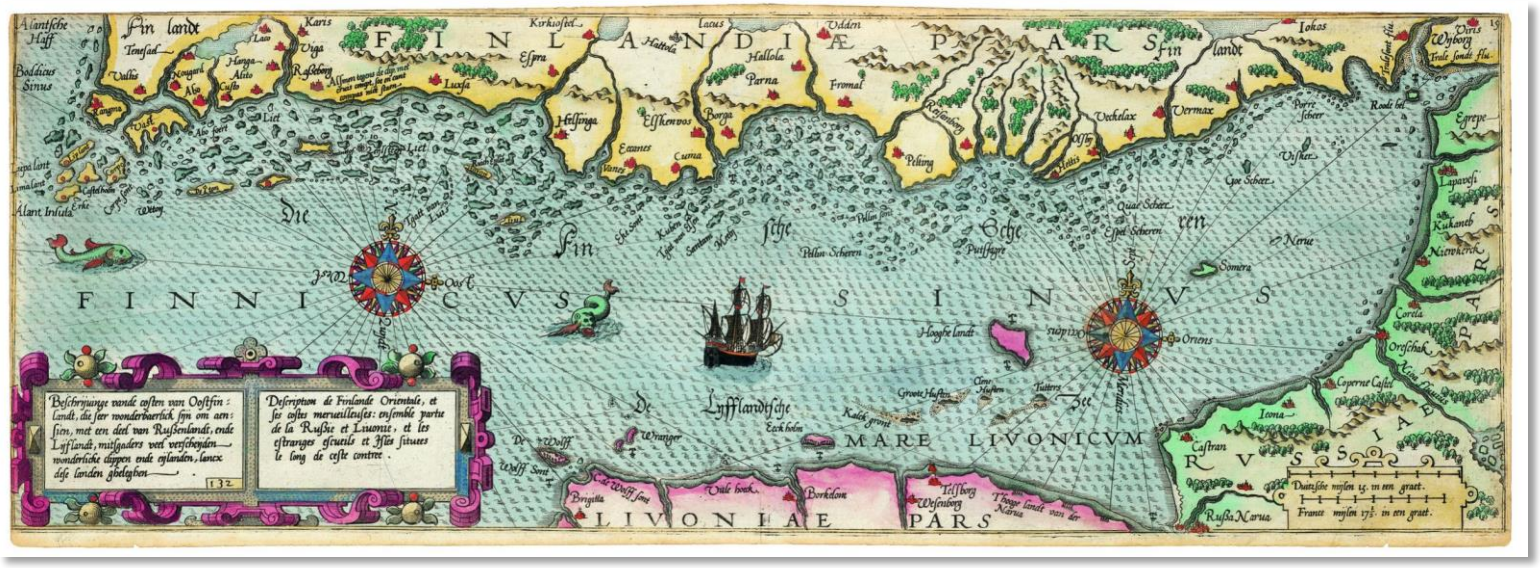
Not (only) related to grid cells schemes but…

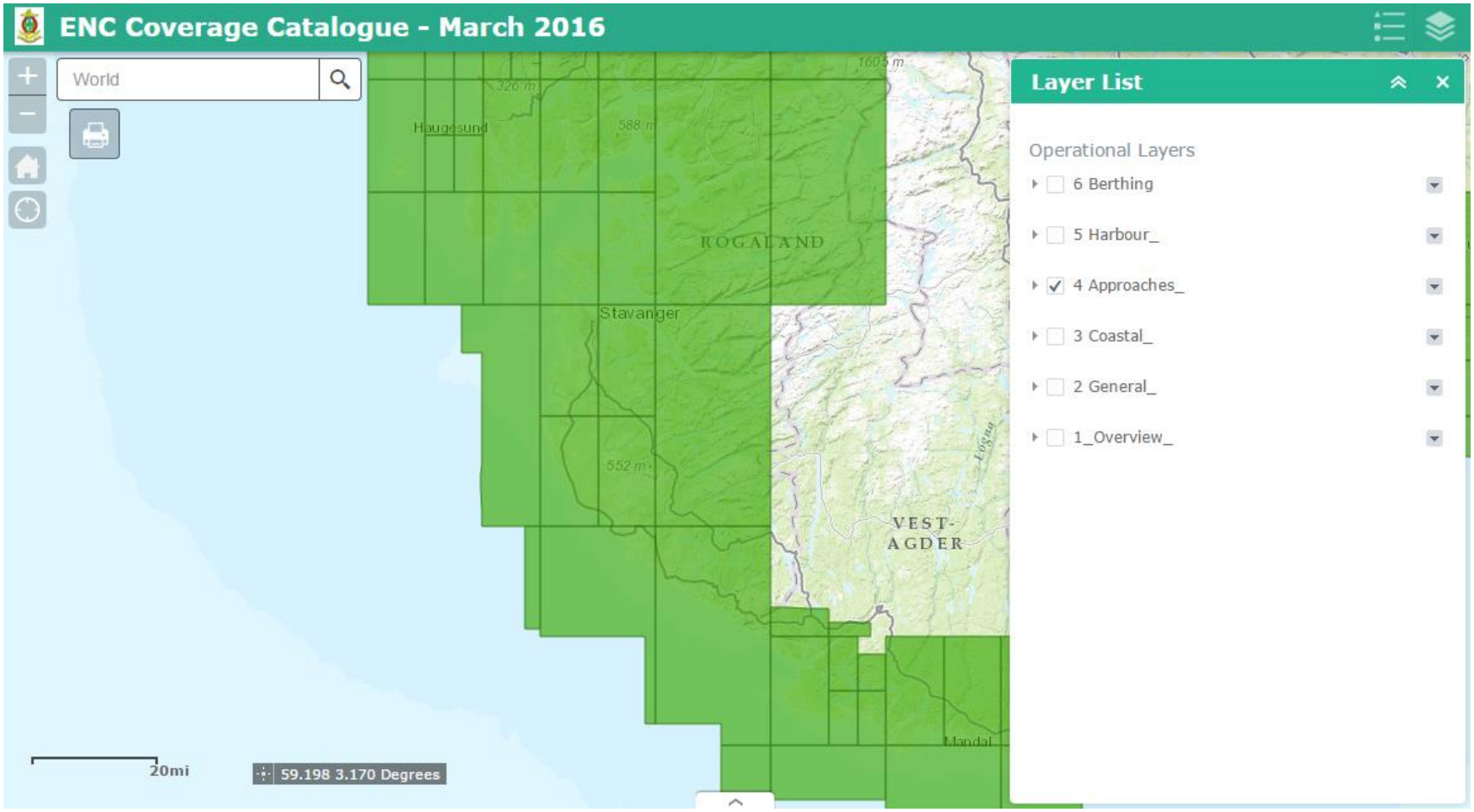
Are we still “thinking paper charts” ?

Paper chart are rectangular due to the paper format

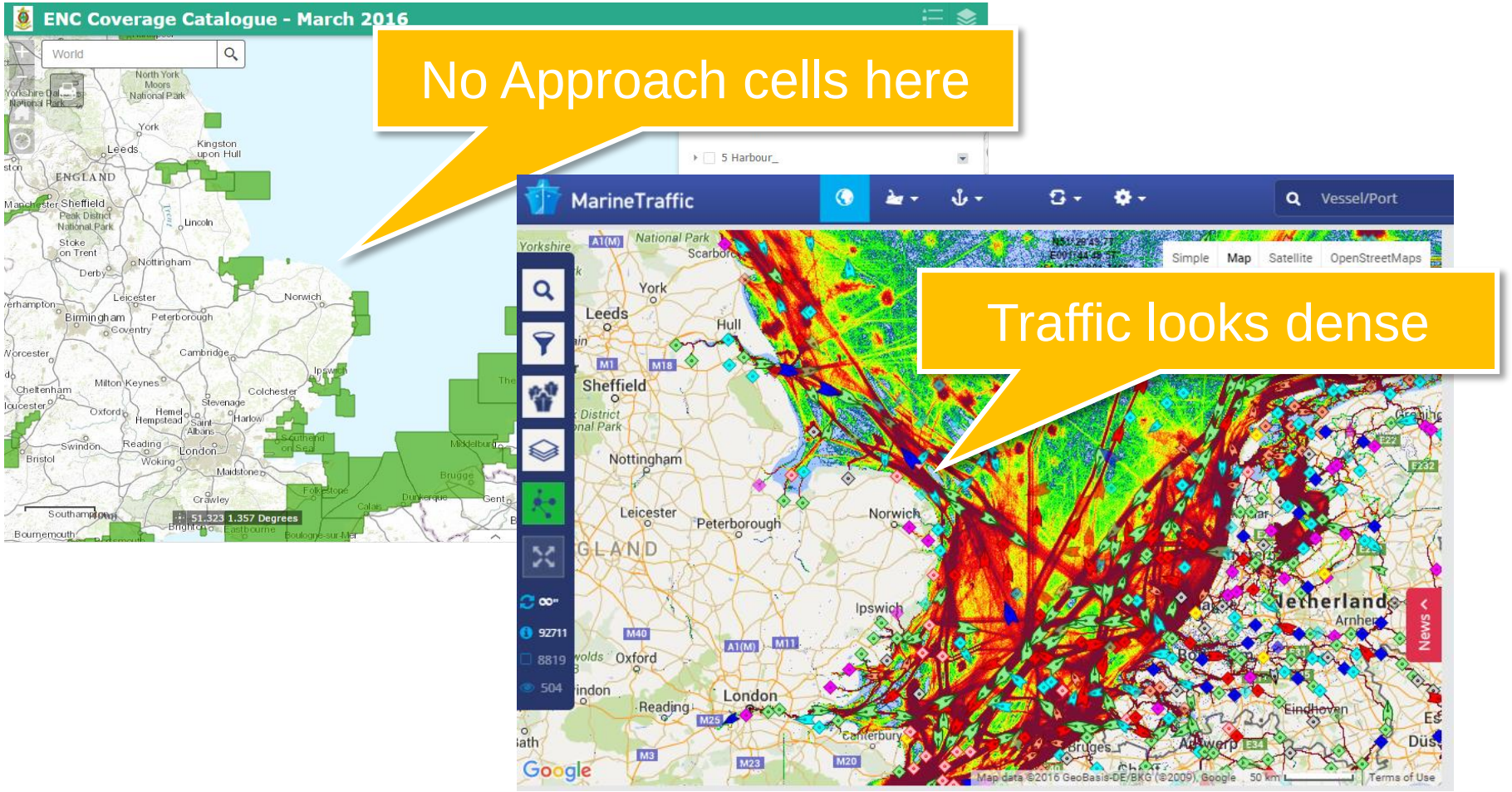


but is that will necessary for ENCs too?

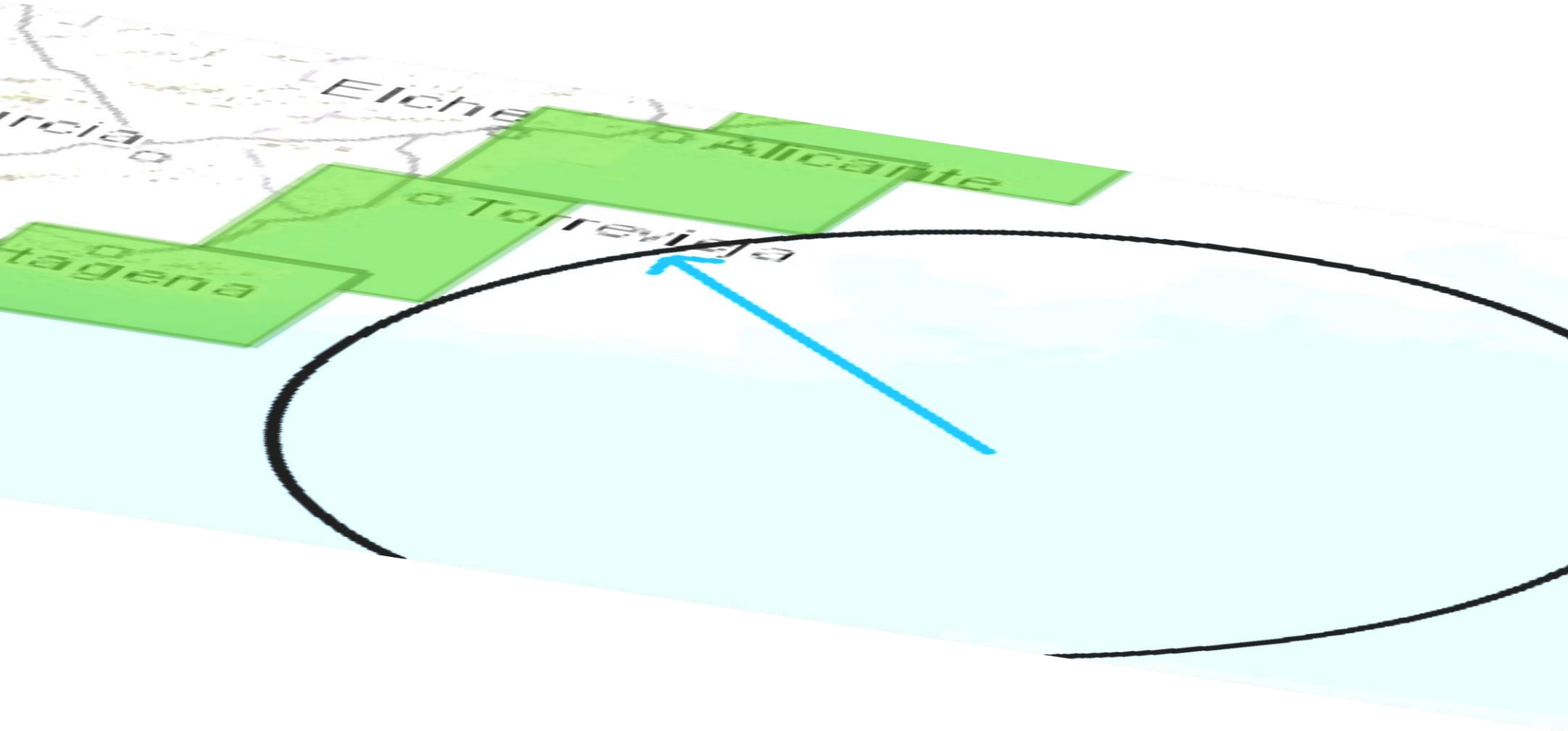
- Is the cell coverage purely determined by file size?



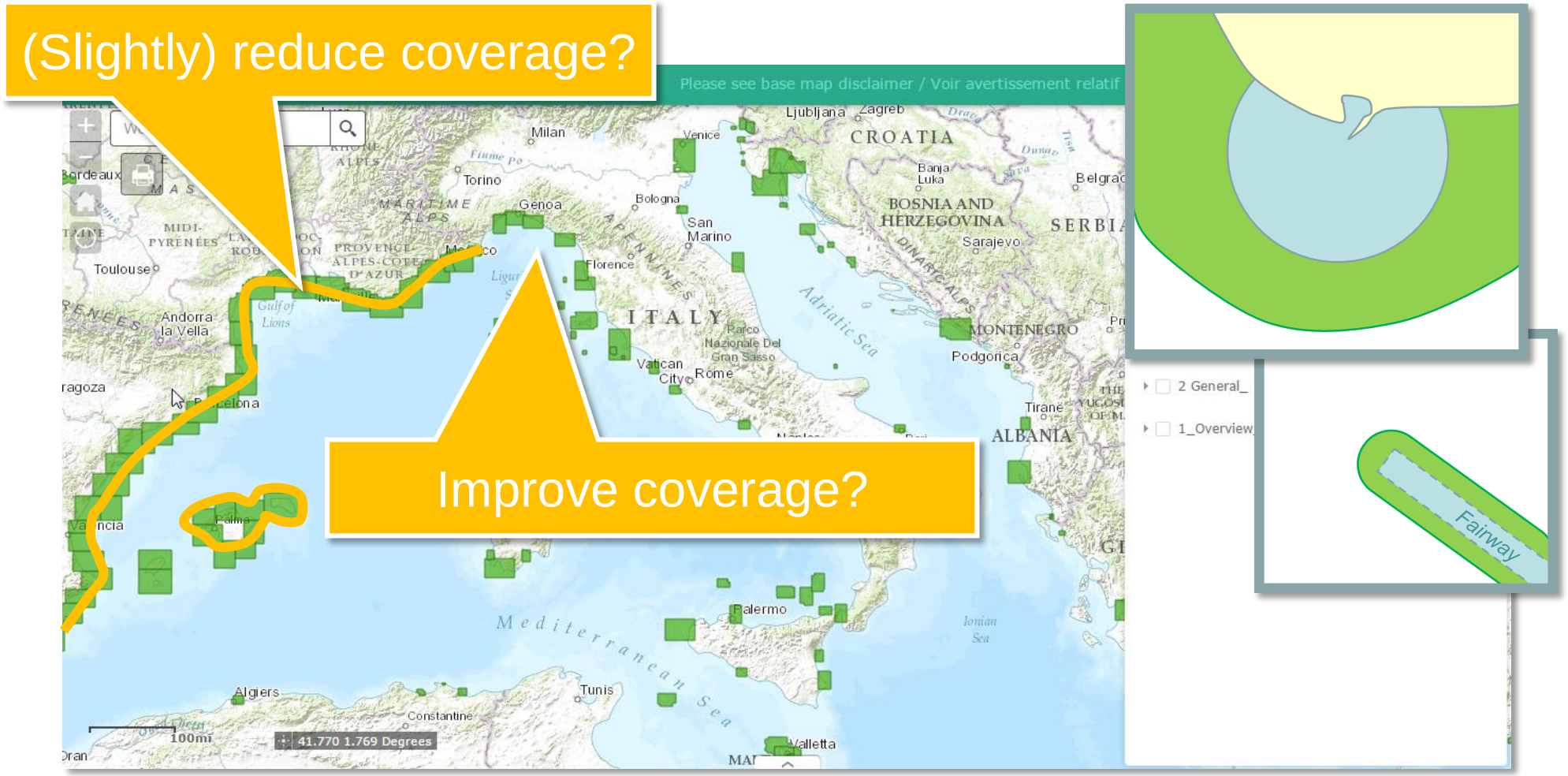
- What is the reasons for the current ENC cell cover?



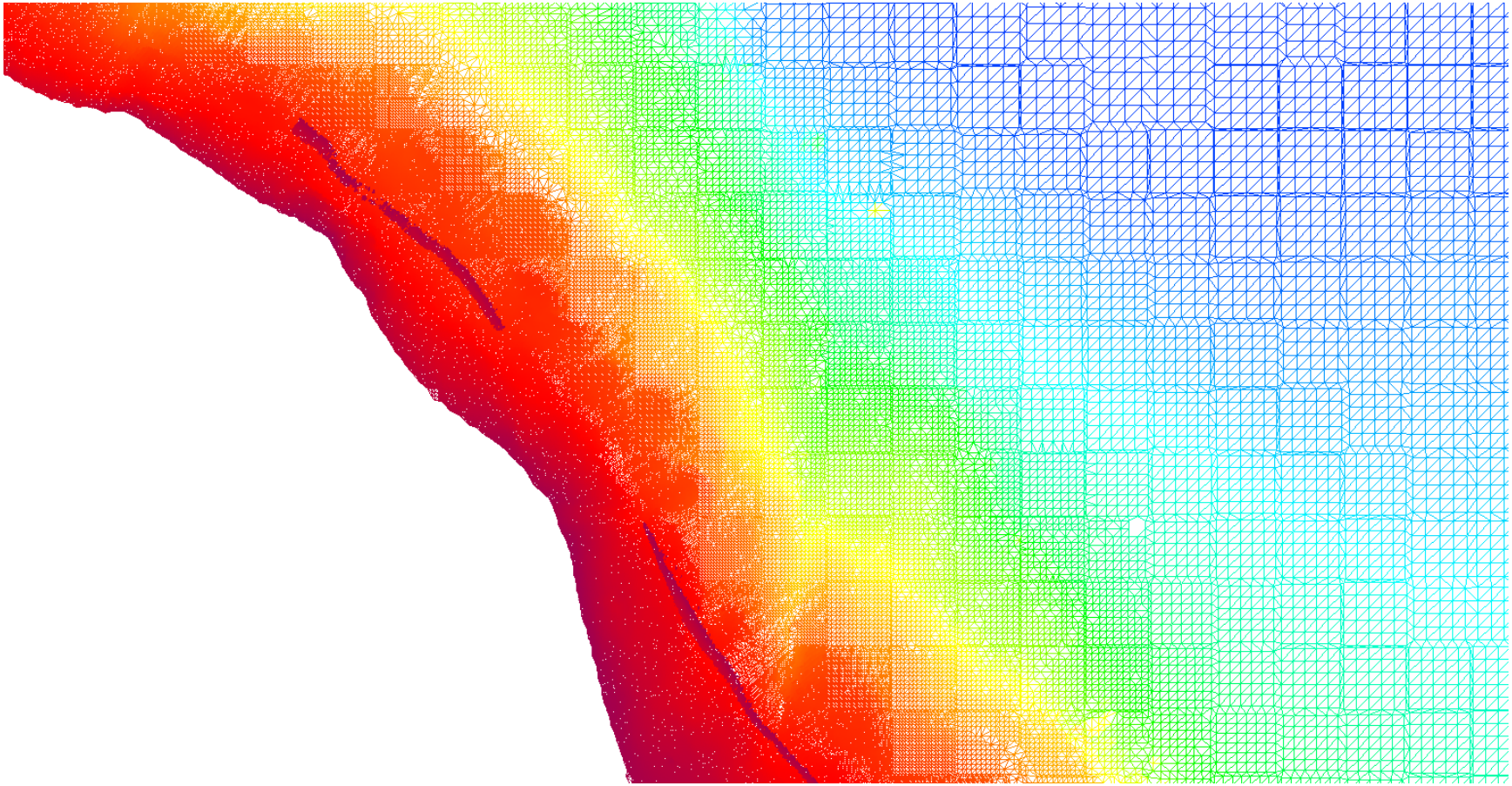
Data used from all angles/bearings



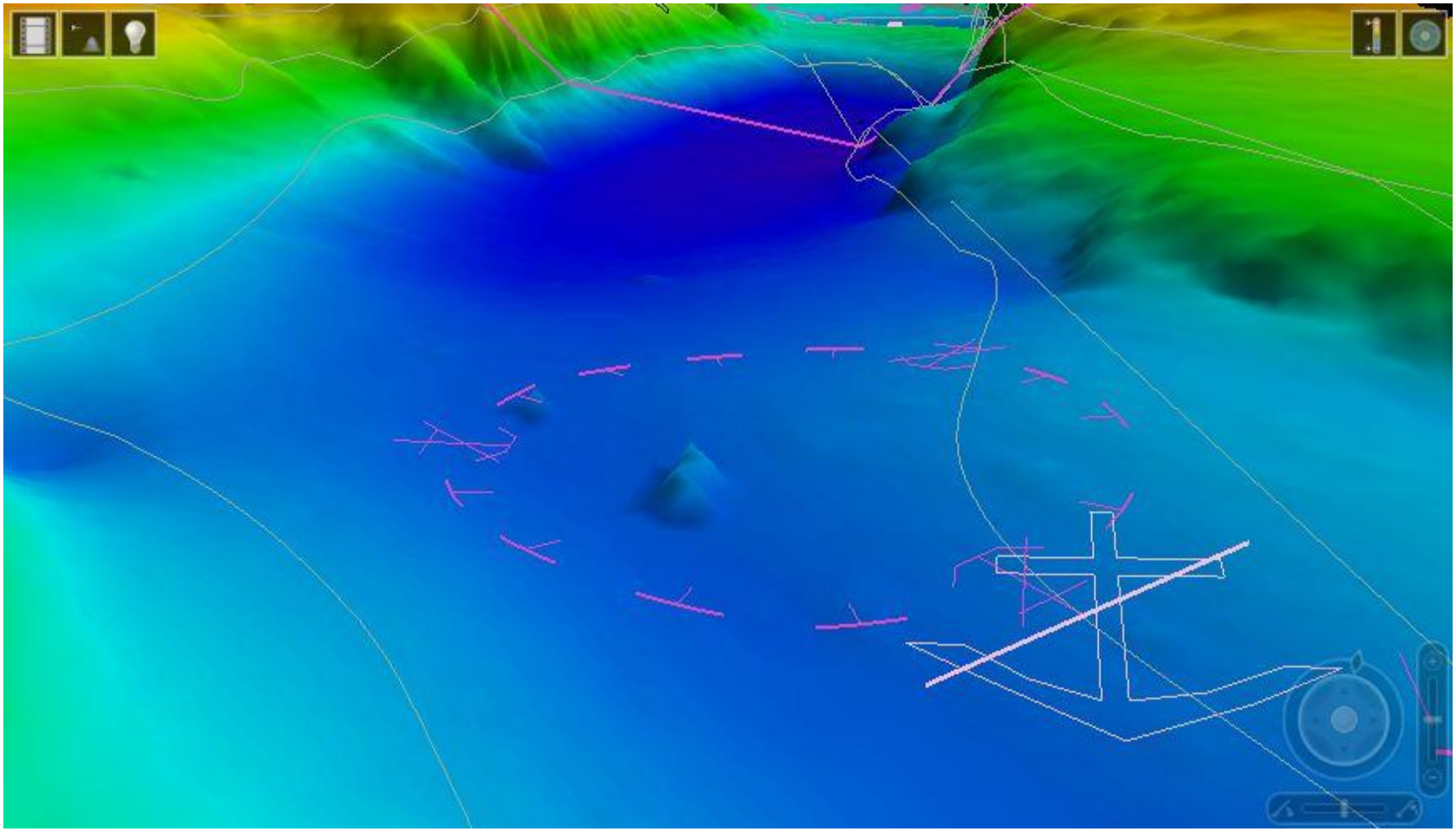
Scale cover based on location?



with variable resolution bathymetric coverages?



Bringing the data together

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CARIS WORLD TOUR 2016

Topic	Description
Trends in the hydrographic industry, and CARIS software vision	Introduction and discussion on trends in the hydrographic industry, and the applicability to CARIS solution; including data centric workflows, future hydrographic products and standards, and autonomous surveys. The direction of CARIS solutions for the coming years will be described in detail.
CARIS Onboard and near real-time processing	Introduction to CARIS Onboard and near real-time processing to reduce the product creation timeline for hydrographic data acquired with survey launches, autonomous underwater vehicles, or unmanned surface vehicles.
Elevation data modelling	Introduction to Variable Resolution surfaces and the benefits of modelling elevation data of varying density in a single seamless surface; includes familiarization with Variable Resolution surfaces, and other elevation modelling improvements.
IHO S-100 and product specifications	Gain familiarity with the IHO S-100 Universal Hydrographic Data Model and related product specifications, which will be used to support modern navigation and other future geospatial applications.
MSDI and data discovery	Explore the importance of interoperability standards and Marine Spatial Data Infrastructure (MSDI) to increase access to information sources; includes discussion on MSDI and standards defined by IHO, OGC and other standards organizations to support sustainable use of the marine environment.
New CARIS technology deployment	A detailed look at CARIS' future product line and associated benefits, such as improved workflows, interoperability and user experience; includes review of the new license deployment model and how existing client investments in CARIS solutions will be retained under the new CARIS architecture.

Topic	Description
Sensor processing	Update on the latest improvements for sonar data processing; including bathymetry processing workflows and tools for integrating post-processed data sources for improved results, and CARIS' new SIPS backscatter processing engine to robustly correct seafloor imagery.
Marine spatial data storage	Learn about the latest techniques to efficiently store and manage extensive elevation data holdings in a database environment, and become familiar with new tools to improve data access, security, and exchange.
Marine spatial data analysis	An in-depth look at CARIS tools to analyze various spatial data sources; includes deformation analysis of vertical/near-vertical structures to monitor changes.
Product composition	Introduction to the Seabed Survey Data Model and SeabedML format to facilitate the exchange of data between oil and gas companies and hydrographic agencies; includes review of capabilities to open and export data in the SeabedML open exchange format.
CARIS HPD and database production	Receive an update on the functionality offered by the latest version of CARIS HPD to realize efficiencies in the production and maintenance of various nautical product types; includes the latest tools for user management, object creation, and quality control.
Nautical publications	Learn how to create nautical publications, such as Notices to Mariners, List of Lights, etc. as part of the HPD database environment to obtain operational efficiencies, and ensure essential information makes it to the mariner in a timely manner.

Participate for 1, 2 or 3 days

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