S-102 PT13 Minutes 1-2 June 2023; 1100-1400 VTC (all times UTC)

Agenda Item	Subject	GitHub Issue	Actions	Responsible for action	Target date
1 June 2023					
Topic A: Incidentals					
A.1	Welcome/ Housekeeping	N/A	N/A	N/A	N/A
Topic 1: S-102 PS (Major Existing Topics)					
1.1	Submission of proposal to GI Registry	13	**Decision**. PT agreed on option: *QualityOfBathymetryCoverage*. The definition will be submitted to the GI Registry.	Chair	ASAP
1.2	Grid cell boundaries and cell areas	29	Further discussion is needed and an investigation of any impact the changes may have on other PS. The GitHub issue (#29) will serve as a holder for the discussion.	Sweden	PT14 (September)
1.3	Disposition of product-specific attributes in exchange catalogue	16	**Decision** to remove the gridding method. Editorial changes in the S-102 PS and creation of a holder in GitHub for the Non-nav spec and add this item here.[1] Investigate impact on the S-100 and S-98 interoperability.[2]	[1]Chair [2](May not apply)	[1] July 2023
1.4	Analysis of *uncertainty* to reduce file size	8	**Decision** to make uncertainty fully optional. The particular changes need to be identified[1]. After review from PT, the proposed changes will be brought to the S-100WG for consideration of impact on the S-98 and interoperability.	[1]Germany	PT14 (September)
Topic 2: S-102 PS (Other Topics)					
2.1	Update exchange catalogue and external MD for S-100 Ed. 5	12	**Completed**. GitHub issue will be closed.	Chair	ASAP
2.2	File Size Resources	28	The GitHub issue will be left open. It is a topic of continued discussion.	N/A	N/A
2.3	depthCorrectionType and verticalUncertaintyType	30	Further discussion is needed. The PT needs to come to a consensus first. Any proposed changes will be brought to S-100WG for consideration of impact on the S-98 and interoperability.	Not assigned.	PT14 (September), may also be later.
2.4	Bounding Longitudes question from SeaIQ	45	The GitHub issue will be left open. It is a topic of continued discussion.	N/A	N/A

2 June 2023					
Topic B: Incidentals					
B.1	Welcome/ Housekeeping	N/A	N/A	N/A	N/A
Topic 3: Task Requiring Assignment					
3.1	CRS-related attributes in root group	15	Review compatibility with the use of EPSG datums between S-100 5.0.0 and S-102 (section 5.2).	Not assigned.	Could be achieved in later test datasets.
3.2	Overall effects of alignment with S-100 Ed. 5	N/A	Check the previous changes to the S-102 PS and the alignment with S-100 Ed. 5.[1] Portrayal Catalogue – Chair will send out a meeting invitation for initiation of the task.[2]	[1]Chair (with support from Raphael Malyankar) [2]Chair	[1]July 2023 [2]June 2023
Topic 4: Discussion About GitHub/Metanorma					
4.1	GitHub Status Check	23	A continuing work to improve the method of working in GitHub. Create a special Label, for process related items.	Chair (with support from Ronald Tse)	N/A
4.2	Reduced size of figures in Word version.	38	Keep the issue open and continue to try and solve it.	Not assigned.	N/A
4.3	Review progress in PS document accessibility	N/A	Continuing work. See item 4.1.	N/A	N/A
Topic 5: Edition Numbers					
5.1	Next PS Edition	N/A	The next edition no. 2.3.0. Draft ready for PT14 in September.[1] The finalized edition ready for the November meeting.[2]	PT	[1]PT14 (September) [2]PT15 (November)
Topic 6: Test Bed Reports					
6.1	Demonstrations	N/A	No demonstrations were presented.	N/A	N/A
Topic 7: Misc., next meeting					
7.1	Plans for Next Meeting	N/A	**Decision**. VTC in early September to review progress and prepare for November meeting.	Chair, Vice Chair and Secretary	21 August - last day of agenda item submission. 5-6 September - PT14 meeting.
7.2	Plans for Next In-Person Meeting	N/A	To be held in conjunction with S-100 WG8 Singapore, 13-17 November 2023.	Chair, Vice Chair and Secretary	July 2023
New Item X.X	Vote for Chair, Vice Chair and Secretary	N/A	**Decision:** Chair Lawrence Haselmaier (USA)	N/A	N/A

			Vice Chair Lynn Patterson (Canada) Secretary Anna Wall (Sweden)		

Agenda Item A1.

Chair (Lawrence Haselmaier) welcomed everyone to PT13 and went through the agenda. The IHO Secretariat (Yong Baek) added two items to the agenda. First, to have a group photo at the end of day one. Second, a vote for Chair, vice Chair and Secretary for the PT is due. Any nominations were to be sent to Yong before end of day two.

Agenda Item 1.1 Submission of proposal to GI Registry, GitHub issue #13.

The PT group decided to go for option *QualityOfBathymetryCoverage*. Responsible for the action to send in to GI Registry is Lawrence, as soon as possible.

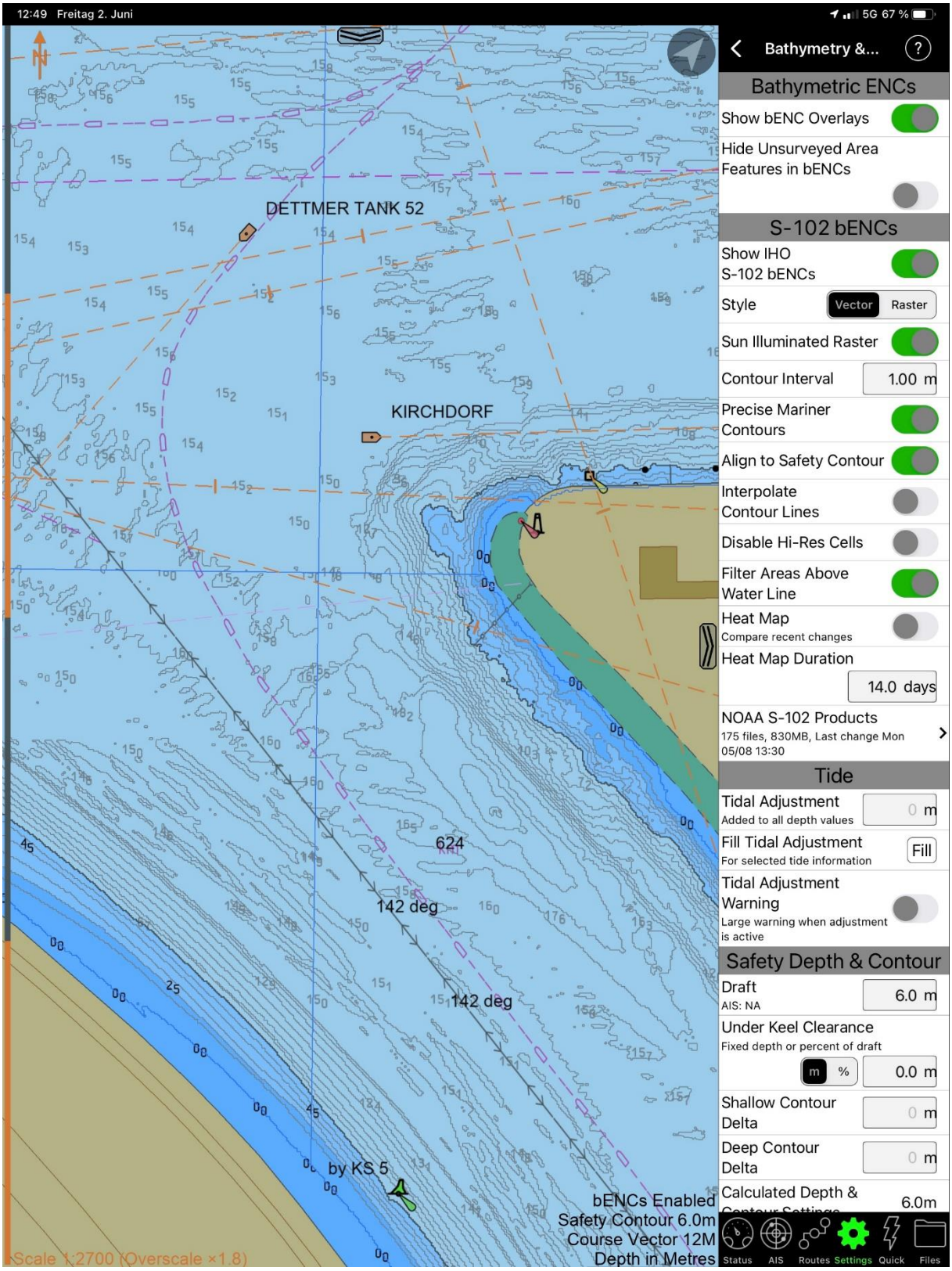
Agenda Item 1.2 Grid cell boundaries and cell areas, GitHub issue #29.

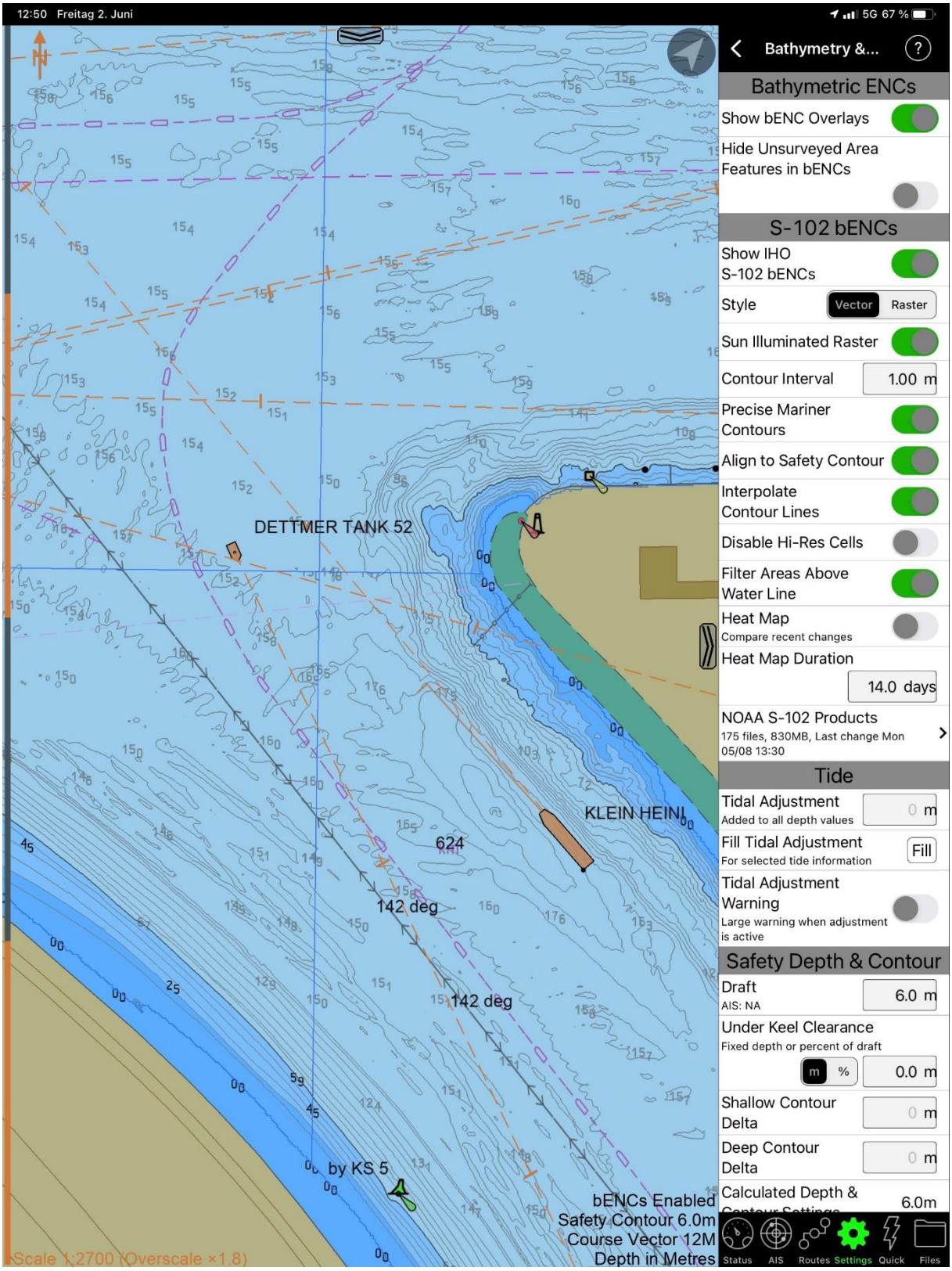
Sweden presented the proposal for the PT and some follow-up questions were raised.

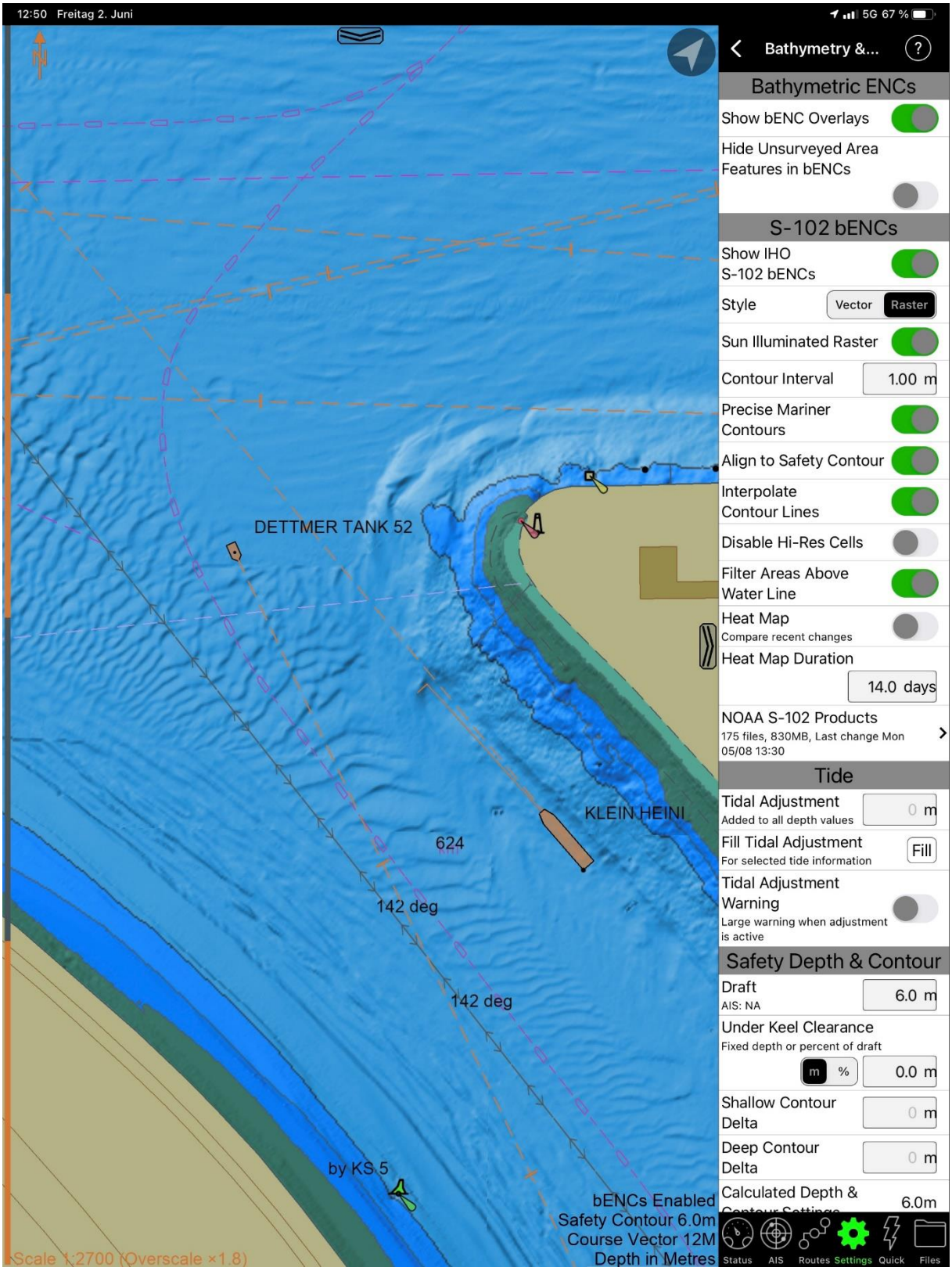
Overall, there was no opposition to the proposal. However, one of the topics discussed was whether this was a matter of semantics, with regards to the grid cell representation. Some members described that they have had a similar discussion in the past, regarding the semantics of the product. It could be seen as a perception of the cell, rather than the technical aspect. In a theoretical sense it would be applicable.

Another concern was brought up where the proposal only seemed to focus on Shoalest value, which could be constricting if others want to use another value. Moreover, this proposal would result in very pixelated safety contours, but the risks for safety issues raised in the proposal was, in one opinion, not big. A counterargument was that a pixilated safety contour is not a problem for the pilots. Similar to this, the S-100WG Chair mentioned during the December meeting in Monaco that the staircase effect would exist but that safety would be the main priority.

As an example, a few screen shots were presented by Germany from SEAiq. They show the safety contour created in the software, which has a stairway effect. (It is possible to disable this and make it more smooth.) The contour lines are interpolated. They are created around the cell area and not through the cells. In one of the screen shots the underlying DTM is visible. An observation was that younger pilots have a preference for them. See images below.


12:49 Freitag 2. Juni
5G 67 %
Bathymetry &...
Bathymetric ENCs
Show bENC Overlays
Hide Unsurveyed Area Features in bENCs
S-102 bENCs
Show IHO S-102 bENCs
Style
Vector
Raster
Sun Illuminated Raster
Contour Interval
1.00 m
Precise Mariner Contours
Align to Safety Contour
Interpolate Contour Lines
Disable Hi-Res Cells
Filter Areas Above Water Line
Heat Map
Compare recent changes
Heat Map Duration
14.0 days
NOAA S-102 Products
175 files, 830MB, Last change Mon 05/08 13:30
Tide
Tidal Adjustment
Added to all depth values
0 m
Fill Tidal Adjustment
For selected tide information
Fill
Tidal Adjustment Warning
Large warning when adjustment is active
Safety Depth & Contour
Draft
AIS: NA
6.0 m
Under Keel Clearance
Fixed depth or percent of draft
m
%
0.0 m
Shallow Contour Delta
0 m
Deep Contour Delta
0 m
Calculated Depth &
6.0m
DETTMER TANK 52
KIRCHDORF
624
142 deg
142 deg
by KS 5
bENCs Enabled
Safety Contour 6.0m
Course Vector 12M
Depth in Metres
Scale 1:2700 (Overscale ×1.8)
Status
AIS
Routes
Settings
Quick
Files


12:50 Freitag 2. Juni
5G 67 %
Bathymetry &...
Bathymetric ENCs
Show bENC Overlays
Hide Unsurveyed Area Features in bENCs
S-102 bENCs
Show IHO S-102 bENCs
Style
Vector
Raster
Sun Illuminated Raster
Contour Interval
1.00 m
Precise Mariner Contours
Align to Safety Contour
Interpolate Contour Lines
Disable Hi-Res Cells
Filter Areas Above Water Line
Heat Map
Compare recent changes
Heat Map Duration
14.0 days
NOAA S-102 Products
175 files, 830MB, Last change Mon 05/08 13:30
Tide
Tidal Adjustment
Added to all depth values
0 m
Fill Tidal Adjustment
For selected tide information
Fill
Tidal Adjustment Warning
Large warning when adjustment is active
Safety Depth & Contour
Draft
AIS: NA
6.0 m
Under Keel Clearance
Fixed depth or percent of draft
m
%
0.0 m
Shallow Contour Delta
0 m
Deep Contour Delta
0 m
Calculated Depth &
6.0m
DETTMER TANK 52
KLEIN HEINI
624
142 deg
142 deg
by KS 5
bENCs Enabled
Safety Contour 6.0m
Course Vector 12M
Depth in Metres
Scale 1:2700 (Overscale ×1.8)
Status
AIS
Routes
Settings
Quick
Files



Discussions were also raised about how the integration will be in ENC. The proposal mentioned that S-98 handles it as areas and creates safety contours with the WLA (Water Level Adjustment). A question was then brought up in connection to creating contours: in a PS, are algorithms included for deriving contours? The answer from the industry was that guidelines are ok to include in a PS but not algorithms. The discussion continued on how to handle point vs. cell and a clarification was pointed

out that in the older version of the PS the definition is different, where it indicated no value between grid cells.

In regards to what the S-100 standard states, there is an attribute (dataOffsetCode) that S-102 is not using. It is defined as “Offset of data point in cell”. S-102 PT should consider to include the DataOffestCode in the PS.

Interpolation was brought up and there were opinions that it is unwanted to have the interpolation on the wrong side. Therefore, it was argued that cells need to be considered as areas and not as points, to be on the safe side. Again, the matter of pixel resolution was raised as well as the unlikely but possible risk of unwanted deviation between the horizontal position depicted and the actual horizontal location. An argument was that the S-102 PS does not dictate the resolution of the cells. For example, with a 1 km x 1 km resolution, it could produce a very unsafe contour. Some MS are also looking into extending the range of grid resolutions. It was mentioned that there might also be legal restrictions in some countries in regard to what resolution is allowed to be published. So, even in shoaler waters the resolution might be coarse enough to be dangerous for navigation (when using grid cell center nodes).

There was an agreement that the meaning of bounding box in relation to grid cells should be clarified. If the bounding box would be used as described in the PS today, the loading time would be faster. It is also used as an identification and does not have to be precise according to the bathymetry coverage. Though, other opinions were to make it the same as the outer boundary of the dataset, as specified in the proposal. This would also prevent loss of half a grid cell, which could be large with a lower resolution.

The summary of the discussion is that the impacts of the proposal are still unclear and further discussion is needed. For the next PT meeting, these uncertainties need to be clarified. The PT agreed to having Sweden as a lead in this work. The GitHub issue (#29) related to this will serve as a holder for the discussions.

Agenda Item 1.3 Disposition of product-specific attributes in exchange catalogue, GitHub issue #16.

A few questions were raised during this agenda item and they were mainly about whether this type of information is necessary for the mariners. A considerable amount of members did not see the need for mariners to know about the gridding method. It was also argued that this information is more valuable to the Producer and OEM, but OEMs can see this info in the metadata.

In conclusion, it was decided to remove this information from the PS for navigation. It may be a different option for the Non-nav PS, but this is not relevant yet. The impacts on the S-100 and S-98 interoperability needs to be investigated, but there was a sense it may not apply. Chair has action to make the editorial changes and remove gridding method and report back to PT latest 2 July 2023. A remark will be added to the comments for GitHub Issue #16 to preserve the topic for discussion for when the Non-nav PS is ultimately created.

Agenda Item 1.4 Analysis of *uncertainty* to reduce file size, GitHub issue #8.

This issue was also subject to some discussion within the PT.

If Uncertainty was made truly optional, the file size would be reduced with approximately 5%. As an example, a default value is used today for Germany’s S-102 products, and this default value means that BSH guarantees the water depth to be no less than what the sounding indicates.

Denmark raised the point that a mandatory way to provide quality for S-102 is needed. One way to provide this would be to have the data quality accessed with a CATZOC attribution, just as in the ENC.

An input to the discussion was the importance of edition numbering. If this change would be made, it would require necessary software updates. This change would be a structural change, which would mean a higher edition level, for example 2.3.0.

The PT voted and the majority was for making Uncertainty truly optional. The particular changes need to be identified and reviewed by the PT. Then, the proposed changes will be brought to the S-100 WG for consideration for impact on the S-98 and interoperability. Germany is responsible for the action and to have the first part done by the next PT meeting in September.

Agenda Item 2.1 Update exchange catalogue and external MD for S-100 Ed.5, GitHub issue #12.

The issue is complete and will be closed in GitHub. Chair is responsible for closing the issue in GitHub as soon as possible.

Agenda Item 2.2 File Size Resources, GitHub issue #28.

The PT decided to leave the GitHub issue open and it is a topic of continued discussion.

Agenda Item 2.3 depthCorrectionType and verticalUncertaintyType, GitHub issue #30.

During this agenda item a question was ask whether this goes in the same direction as the gridding method (item 1.3) and that it does not apply for the navigational PS, but rather for the Non-nav PS. An argument was that if Uncertainty is optional then Uncertainty Type should be mandatory. This was considered an item to be further discussed. It was decided to continue this issue in GitHub and any proposed changes will be brought to the S-100WG for consideration of impact on the S-98 and interoperability. The aim is to have made progress with the issue by the next PT meeting in September, but it may also be later.

For edition 2.2.0 the metadata attribute depthCorrectionType was removed.

Agenda Item 2.4 Bounding Longitudes question from SeaIQ, GitHub issue #45.

During the meeting it was stated that the coordinates for bounding longitudes always are geographical (lat/long), the ones that share the same datum. A clarification in the PS is needed.

It was decided to keep the GitHub issue open. It is a topic of continued discussion.

Agenda Item B1.

Chair (Lawrence Haselmaier) welcomed everyone to day 2 of PT13.

Agenda Item 3.1 CRS-related attributes in root group, GitHub issue #15.

There are a few tests that needs to be made. Specifically encoding samples of the UTM codes in section 5.2 and check if it corresponds with table 8. It was determined that any significant issues would become apparent during the usual course of development and could be straightforwardly resolved at that time. As such, no timeline was specified for this action.

Agenda Item 3.2 Overall effects of alignment with S-100 Ed.5.

The changes from edition 4 to 5 in S-100 needs to be highlighted and an investigation of what effects these changes have on the S-102 PS needs to be done.

Input from PT is that most of it has been executed for version 2.2.0. It does not seem to be much work left, if any. It is a matter of conformity and the task will be executed by the Chair with support from Raphael Malyankar. The work should be completed in July 2023.

A question from the Secretariat was raised about when the Portrayal Catalogue (PC) will be ready for testing. NIWC can help in the development of the PC. The overall impression was that the work should be straightforward. The PC would not contain much, just like the Feature Catalogue (FC). There is a possibility that previously discussed agenda items will have an impact on the PC, especially point vs. cell (item 1.2) but this needs more investigation. An invitation to a meeting will be sent out by the Chair in June. Anyone who is interested can attend the working group.

Another input to the PT was also to consider S-164, which is a work group that needs input from the S-102 PC. At present, the interoperability catalogue is yet to be developed for S-102.

Agenda Item 4.1 GitHub Status Check, GitHub issue #23.

Lawrence showed how we can best use GitHub for our work. What the most useful features are:

- Branches; sources, sections,
- Issues

There is ongoing work to make a redline version available for download. It would be an easy way for everyone to download a redline version in Word, send back changes to the Chair and for him to execute the GitHub work. A basic tutorial is available on the GitHub Wiki page.

Some feedback from the PT group was that using GitHub is a better way of working than by “ping-pong e-mails”. However, a minus is that all versions of the PS are accessible at the development branch. Also feedback to IHO is to only have PDF available as format for downloading, not as Word files. Secretariat agrees. What’s more, size limitations are a significant constraint for the repository, so any such reduction in what must be maintained in the repository would also reduce that constraint.

Further feedback from the PT was that Word generation does not work, specifically generation of reference tables for example. The process is not working as we want yet but it will be a continuing work to improve it and Chair will bring up the issues and recommended improvements to Ronald Tse. A special Label will be created for process related items.

The website https://iho-ohi.github.io/S100Resources/ is the official S-100 resources page for the implementers. S-102 test datasets associated with each version are stored here.

Agenda Item 4.2 Reduced size of figures in Word version, GitHub issue #38.

The issue is not completed yet. Metanorma has made some changes and new tests have been made but the result shows no difference. An input to the PT was to also take into consideration that other WGs and PTs may consider going in the same direction as the S-102 PT does. It would therefore be best to try and solve the issue.

Another idea was brought up regarding alternative text and to make it functional for accessibilities. The Chair agreed that it is a good way of being inclusive and support the alternative text for that reason.

Agenda Item 4.3 Review progress in PS document accessibility.

See issue 4.1. Chair has action to continue discussions with Ronald Tse to try to make the draft development version of the PS much easier to access.

Agenda Item 5.1 Next PS Edition.

A short dialogue took place regarding which should be the next edition for the S-102 PS. A higher level is appropriate, considering the agenda items discussed previously. Edition number 2.3.0 was decided. The draft edition should be ready by PT meeting 14 and the finalized edition ready by PT meeting 15.

Agenda Item 6.1 Demonstrations.

No demonstrations were presented.

Agenda Item 7.1 Plans for Next Meeting.

A VTC in early September will take place. The aim is to go through current actions from this PT and to prepare for the November meeting. The Chair, Vice Chair and Secretary have for action to plan the next meeting.

Agenda Item 7.2 Plans for Next In-Person Meeting.

The next in-person meeting will be held in conjunction with S-100WG8 in Singapore, 13-17 November 2023. Chair, Vice Chair and Secretary will begin drafting an agenda and share it in the next month to help support members' request for travel etc.

A request to receive more information regarding hotels, location, flights etc. was raised. The answer from the IHO Secretariat was that it is an ongoing planning and more information will come soon to the S-100WG8 page.

There was also a question if the November meeting will be in a hybrid format? Or at minimum a live broadcast? The question will be forwarded by the IHO Secretariat to the hosting country.

Vote for leadership of S-102 PT.

There were no new nominations submitted to the IHO Secretariat and the present members will remain as Chair, Vice Chair and Secretary.