

8th NCWG Meeting
Wollongong, Australia
15 - 18 November 2022

Paper for Consideration by NCWG
Additional approximate contour for Imprecise shoal area from Satellite Derived Bathymetry (SDB) data

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Executive Summary:	Additional approximate contour for Imprecise shoal area from Satellite Derived Bathymetry (SDB) data
Related Documents:	S-4 (B-424.7), S-57 Appendix B.1 (UOC 5.8.1.1), NCWG8-6.6.3
Related Projects:	XXX

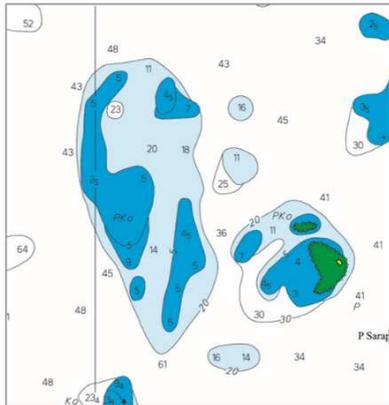
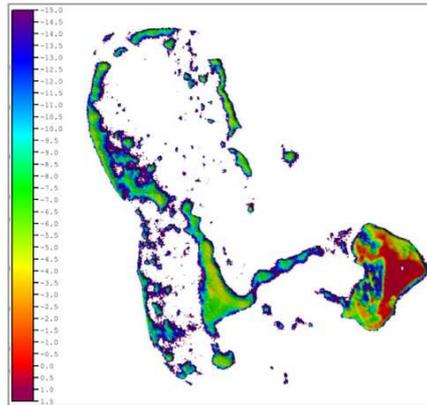
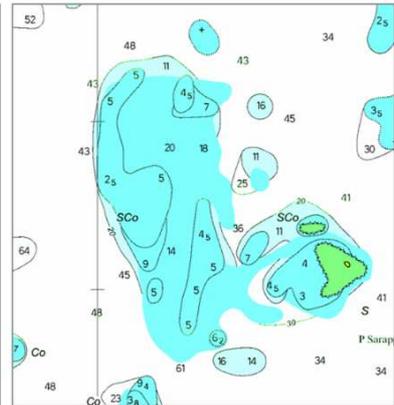
Introduction / Background

The use of Satellite Derived Bathymetry (SDB) in the nautical chart has been widely implemented, especially for archipelagic waters who have many uncharted shoals and corals, or in the area with historic (old) soundings. However, the specific terminology related to SDB has not been included in S-4. It is also stated in the UKHO paper for NCWG8-6.6.3 that in the S-4 has not been specifically mentioned the implementation of SDB in nautical chart.

Even though we are very aware of the limited quality of SDB data that can not substitute echosounder data, this issue must be emphasized in the standard to ease cartographer in nautical chart depiction especially when building topology and informing mariner that contour line is exist.

Analysis / Discussion

There is several difference hydrographic office drawings, may be due to difference SDB data source, such as: the use of imprecise shoal area in the examples S-4 B-424,7, which maybe generated from Landsat satellite imagery, other example that is generated from satellite with higher resolution. As an example, **Fig.3** shows additional Blue-tint without contour which generated from SDB (**Fig.2**). **Fig.3** is an update from **Fig.1**. which has old data.

Fig.1 ID Chart 123 (Scale 1:100K) 8th Edition March 2013Fig.2 SDB Sentinel-2 (13th August 2019) 10m ResolutionFig.3 ID Chart 123 (Scale 1:100K) 9th Edition March 2020

Blue-tint area without contour may confusing. In a small scale chart could be easier to be generalized as needed but in the middle and larger scale would be difficult if we want to preserve old sounding data as well.

As additional, in the UOC 5.8.1.1 *Satellite imagery as source information* did not mention similar terminology which is imprecise shoal area as in S-4 B-424.7

Conclusion

To improve standardisation, approximate depth contour should be added in the imprecise shoal area. Terminology imprecise shoal area is also to be mentioned in the UOC S-101 DCEG in the related part. Additionally, SDB terminology might be further describe in S-4, S-57 and S-101.

Action required of NCWG

The NCWG is invited to:

Discuss this paper and its recommendation.