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Paper for Consideration by TSMAD

Reducing S-57 Data Volume

Submitted by:	UKHO
Executive Summary:	This paper identifies ways that S-57 data volume can be reduced. It provides basic guidelines which can be followed by data producers.
Related Documents:	1. S-57
Related Projects:	1. S-101

Introduction / Background

1. The data volume of S-57 ENC is a factor which can prohibit remote updating and impact on ECDIS load and draw times. One of the benefits of ECDIS should be the ability to update chart holdings (ENCs) at sea for both updates and new editions. This paper sets out guidelines which would assist in reducing ENC data volume.

Analysis/Discussion

2. Due to the file size of images, picture files considerably add to ENC data volumes the following principles would ensure that file sizes are kept to a minimum;

    - Only picture files that are useful to the mariner should be included. Repeating information included in Tidal publications and Sailing Directions should be avoided.
    - Where possible tables should be included as formatted text and not as images.
    - Where images need to be included they should follow the guidelines laid out below;

Guidelines for picture files	
Recommended Resolution	96 DPI
Minimum Size x,y	200,200
Maximum Size x,y	800,800
Bit Depth	8 Bit Indexed Colour
Compression	LZW
Format	Tiff 6.0

3. Coordinate information makes up a significant proportion of ENC data volume. S-57 previously included a 0.3mm limit on vertex density. UKHO notes that modern line following software can generate much greater vertex density if certain settings are used. Producers should use generalization techniques to ensure that vertex density is not greater than 0.3mm.

Conclusion

4. These guidelines would be easily implemented for new data by producers and could be included in a re-opened UOC.

Action Required of TSMAD

- Discuss the guidelines laid out in this paper