

**4th IHO-HSSC Meeting
Taunton, 25-28 September, 2012**

Paper for Consideration by HSSC

Clarifications for “Use of Object Catalogue” (S-57 App. B.1, Annex A), section 2.2.3

Submitted by:	DQWG
Executive Summary:	This paper proposes some clarifications for how CATZOC is populated within ENC's to handle areas of likely mobile seafloor, uncertainties introduced due to digitizing scale and the degradation of CATZOC following some form of extreme event.
Related Documents:	S-57, Appendix B.1, Annex A “Use of the Object Catalogue for ENC” (UOC)

Introduction

1. CATZOC is the most useful element of M_QUAL to the mariner and is the only part of this that is visualized.
2. This paper proposes clarifications to how CATZOC is populated to provide greater conformity between ENC's produced by different nations. Also, the proposals will provide the mariner with more meaningful depictions of how well the chart is expected to agree with reality in areas of likely mobile seafloors and in areas affected by some extreme event. Examples of likely mobile seafloors include some areas covered by the SNDWAV object, and areas with a note about mobile seafloor. Examples of extreme events include a tsunami, hurricane, and grounding ice floes.

Recommendation

3. The DQWG recommends that the publication “Use of the Object Catalogue for ENC” (UOC) is modified to include the proposals in sections 6 and 8 below.

Proposals

Mobile Seafloors

4. Where the seafloor is likely to be mobile the CATZOC should be artificially degraded. It is recommended that a CATZOC value of 4 (Zone of Confidence C) should be applied to indicate that “.... depth anomalies may be expected”. Examples of likely mobile seafloors include some areas covered by the SNDWAV object, and areas with a note about mobile seafloor.
5. Although the latest survey may have achieved a full area search and the obtained accuracies may be better than indicated by a CATZOC of C, the relevance of this is limited, given the mobility of the seafloor and the passage of time between the completion of the survey and the passage of the ship transiting the area. To indicate

that the underlying survey is indeed to a high standard POSACC, QUASOU, SOUACC and TECSOU can be encoded along with SUREND. This allows the mariner to decide on the likelihood of significant changes having occurred since the survey was completed. It is felt more desirable to indicate the potential danger of mobile areas with the visualization provided by CATZOC than to give a potentially false indication of a highly accurate depiction of the seafloor. It should not be left upon the mariner to drill down into non-visual attributes to identify any quality degradation due to seafloor change.

6. It is therefore proposed that the following paragraph be added to section 2.2.3.1 of the UOC: "It is recommended that, for any survey conducted over an area of likely mobile seafloor, i.e. where, due to the moving seafloor, the seafloor can be expected not to agree with the chart based on data as gathered during the survey, the CATZOC of this area is artificially degraded to CATZOC value of 4 (Zone of Confidence C). Examples of likely mobile seafloors include some areas covered by the SNDWAV object, and areas with a note about mobile seafloor."

Extreme Event

7. Where an extreme event has occurred, ENCs may have been updated in part post this event. In such a case, there is concern that the mariner will still gain an unrealistic impression of how well the chart agrees with the actual seafloor if CATZOCs are not altered. Examples of extreme events include a tsunami, hurricane, and grounding ice floes.
8. It is therefore proposed that the following paragraph be added to section 2.2.3.1 of the UOC: "It is recommended that the CATZOC of an area affected by an extreme event is artificially degraded to CATZOC value of 5 (Zone of Confidence D), except for parts that have subsequently been updated, since such events are likely to negate any previous data quality assessment. Examples of extreme events include a tsunami, a hurricane, and grounding ice floes."

Action Required of HSSC

9. HSSC is requested to:
 - Note this paper
 - Endorse the proposals at sections 6 and 8, and task TSMAD with modifying the Use of Object Catalogue to include the associated recommendations.