

## ABSTRACT

ICES CM 2002/Ocean Observation/ The Integration of acoustic and optical Survey Techniques and Marine Biological Data for the Purpose of Seabed Classification Session K

Volumetric evolution of an exploited Sandbank. Perspective of use for the Autonomous Underwater Vehicle (AUV) MAUVE.

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Bathymetric data time series of the Kwintebank, a sandbank located off the Belgian Coast are analyzed on a volumetric evolution perspective. Methodology includes bathymetric survey along given track located perpendicular to the main axe of the sandbank. Data are available for a period starting in 1984. Analysis of the measurement and post-treatment errors is proposed and consolidated permitting to examine the volumetric evolution of the sandbank. The Kwintebank is inside a zone of authorized sand extraction. Partial extraction data are available. Confrontation of such data with volumetric and morphological evolution of the Kwintebank is conducted permitting to show the effect of the exploitation.

As a general comment more data are needed to go further using statistical analysis methods. In that perspective, the Autonomous Underwater Vehicle (AUV) MAUVE will be used to map the sandbank. After a description of the AUV itself, emphasis is put on specific sampling methodology that can be used by the AUV. MAUVE will mimic original methodology but it is also able to follow more exotic strategy including contour following. Moreover, MAUVE is also able to take advantage of adaptive algorithms online.

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