



# **Preliminary investigations into the repeatability of multibeam backscatter for seafloor habitat mapping**

**Xinh Le Sy (1), Iain M. Parnum (1), Alexander N. Gavrilov (1), Michael O'Leary (2), and Paulus Justy W. Siwabessy (1) and (3)**

(1) Centre for Marine Science and Technology, Curtin University, Perth, Western Australia

(2) Department of Environment and Agriculture, Curtin University, Perth, Western Australia

(3) Geoscience Australia, Canberra, Australian Capital Territory

## **ABSTRACT**

Multibeam echo-sounders (MBESs) are one of the most advanced and effective remote sensing systems for marine seafloor habitat mapping, especially for deep and turbid water areas. Despite these advancements in multibeam survey technology, and the key role of multibeam backscatter data in marine habitat mapping and monitoring, there is no standardised way to acquire, process, classify, and interpret acoustic backscatter data for producing marine habitat maps. To have a long-term management strategy for marine habitats, it is important to understand how well multibeam data can be used to monitor marine habitats. However, it is unclear how repeatable or how much change can be detected with such multibeam derived maps. The overall aim of this study is to develop methods for monitoring habitats with MBES, and to determine the level of marine habitat change that can be detected with multibeam data. Initial results examining the repeatability of multibeam backscatter measurements will be presented.