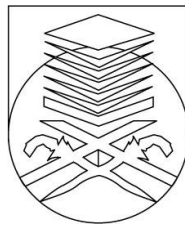


**ASSESSMENT OF SATELLITE DERIVED BATHYMETRIC IN
SHALLOW WATER USING SINGLE BEAM ECHO SOUNDER**

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JULY 2019

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ABSTRACT

Hydrography data become more demands day by day as offshore and management sector need more information of the bathymetric data up-to-date. The information available to plan and prioritize hydrographic surveys in some developing countries is usually based on visual inspections of existing nautical charts but this type of analysis is often quite limited because of the age of many existing charts and the lack of availability of the original source data from which they were compiled (Shachak Pe'Eri, Chukwuma Azuike, 2003). Currently, innovation in the space-borne data acquisition give another option in detail bathymetric data as the satellite imagery had improve it passive sensor accuracy. The aim of this research is to assess Satellite Derived Bathymetric (SDB) from Sentinel 2 satellite image using bathymetric Single Beam Echo Sounder (SBES). The objectives of this study are (1) to determine water depth from blue and green spectral bands of Sentinel images and (2) to assess Satellite Derived Bathymetric (SDB) based on Single Beam Echo Sounder (SBES). In order to retrieve absolute SDB depth, a relative depth is required, which is determined from Sentinel 2 multispectral bands of blue and green bands. The result produce shows a significant value which are coefficient of correlation equal to 0.9398 m and root mean square error equal to 0.634 m. Good understanding from the satellite image to the in-situ data had produced a significant result that help other researcher to understand more on the Satellite Derived Bathymetric in the future. More research can be done on variety of study area as this research is focus on the river water at Sungai Manjung. Future research can use another satellite image such as Pléiades that have higher spatial resolution that can produce more accurate result. The future research must use another satellite image such as Pléiades that have higher spatial resolution that can produce more accurate result.

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