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## SENSITIVITY ANALYSIS IN THE RETRIEVAL OF TURBID COASTAL WATER BATHYMETRY USING WORLDVIEW-2 SATELLITE DATA

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**Abstract.** The recently launched Worldview-2 satellite provides high resolution (2-m multispectral) data in eight spectral bands in the visible to near-infrared region. The additional spectral bands provide an opportunity to test several algorithms for retrieving the water depth, bottom albedo and intrinsic optical properties of coastal sea water. In a previous work (Liew et al., 2011) we reported our attempts in retrieving water depth and bottom albedo using WorldView-2 data for the purpose of coastal habitat mapping. In this paper, we investigate the sensitivity and limitations in using WorldView-2 spectral bands for bathymetry retrieval in turbid coastal waters. For typical coastal waters with a dark seabed, the most sensitive band is the Green Band which is sensitive to water depth up to about 5.3 m. For coastal waters with a bright sandy seabed, the Red and Yellow Bands are the most sensitive, but the maximum sensitive depth is reduced to about 2.4 m.

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