

Satellite Derived Bathymetry: A Semi-Automatic Approach Shahar Levenson¹, John K. Hall², Amotz Agnon¹



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Introduction

- Direct bathymetry measurement is time and resources consuming.
 Satellite Derived Bathymetry (SDB) is a faster, cheaper and safer
 bathymetry generation method
- We introduce a semi-automatic approach for generating large scale near-shore bathymetry, using manual depth picking in areas lacking



measured data

The method is being used to provide SDB for a 100m grid of the bathymetry around the Arabian Peninsula (2°N to 32°N, 32°E to 72°E; 1/54 of the Earth's surface, ~46,000 km of shoreline)

The SDB Algorithm

In water, green wavelength
 attenuates faster than blue
 wavelength

A spectral index for water depth

Blue Green Red Infra-red





The Calibration Process

Calculating the reference
 parameters: Gain (m₁), Offset
 (m₂) and Depth of Extinction





A Semi-Automatic Process





