

New Insight into Bottom Morphology of the Northern Gulf of Eilat/Aqaba Mapped from Multi-beam Data

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ABSTRACT

A high-resolution marine geophysical survey in the northern gulf of Eilat/Aqaba region was conducted during October and November 2006 on board the R/V "Etziona". This survey was carried out by an international research group (Israel, Jordan and USA) funded by MERC. The overall aim of the research is to provide the municipalities of Aqaba and Eilat with a base map of active faults for seismic hazard analyses and earthquake preparedness planning through the collection and interpretation of high-resolution marine geophysical imaging of the seafloor and subsurface strata. The morphology of the northern margin of the Gulf of Eilat/Aqaba is characterized by a shelf-slope structure in the north; steep slopes with almost no shelf in the east and terrace structure with a moderate slope to the west. Processing of the Kongsberg-Simrad EM 1002 multi-beam sonar data, together with slope analyses, reveals very interesting features on the seafloor (e.g. canyons, slumps, reefs, etc.) that indicate recent faulting activity in this area. Once acquired, the high resolution multi-beam data can also be used for a wide range of applications including the update of a new series of nautical charts of the region.

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