

The Israel National Bathymetric Survey Almost Completed

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ABSTRACT

The Israel National Bathymetric Survey (NBS) began in 2000 with the installation of a 96kHz Kongsberg-Simrad EM1002 multibeam sonar on the *R/V Etziona* of the Israel Oceanographic & Limnological Research Ltd. (IOLR). The project is primarily funded privately and is a partnership of the Geological Survey of Israel, the IOLR, and the Survey of Israel. Since 2001 it has focused on the high resolution bathymetric mapping of all the water bodies in and around Israel. These include:

The Israeli Mediterranean Offshore:

To date about 75% of the Israeli Mediterranean offshore has been mapped, from 10-15m depth to depths of about 700 m. Derived grid resolutions are 2-5m on the continental shelf and 10-25m on the continental slope and rise. In 2009 it is planned to mount an ELAC Seabeam 3050 50kHz sonar on the IOLR vessel *R/V Shikmona* to map the deeper waters out to French survey coverage west of Lebanon and north of Egypt.

The Northern Red Sea - Gulf of Elat-Aqaba:

In late 2006 the *R/V Etziona* transited the Suez Canal and surveyed the northern gulf in Israeli and Jordanian waters. This work, including shallow seismic and magnetic surveys, was done in cooperation with Prof. Abdallah Al-Zoubi of Al-Balqa' Applied University in Salt, Jordan. The results have already been published on a double-sided poster.

The Dead Sea - Northern Basin:

Continuing the collaborative work with Jordan, during the winter of 2006-7 an ELAC Seabeam 1155 50kHz multibeam was mounted on the Gonen Marine Services' vessel *R/V Taglit* in the Dead Sea. This pioneering effort produced good results despite a sound speed 20% above the design value for multibeams. But long delays in reaching the detailed bathymetry of the basin have resulted from the analytical hurdles encountered.

The Kinneret - Sea of Galilee:

The shallow freshwater Kinneret was mapped in detail over a period of seven weeks in May-July 2008. The survey was similar to that for the Red Sea, but involved equipping the IOLR's jet boat *R/V Lillian* as a geophysical survey craft. This survey was in cooperation with the Israel Water Authority. A poster with the results will be forthcoming shortly.

Birkhat Ram:

In future a remapping of the shallow crater at Birkhat Ram with a single beam echo-sounder from a small Zodiac will conclude the mapping of Israel's water bodies. A very high frequency (900 kHz) L-3 Klein 3900 side-scan sonar will probably also be used.

CONTACTS

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