Geomorphology of submarine landslides along the Israeli continental slope (SE Mediterranean)

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Date: 2015/12/10

The present work analyses hundreds of recently mapped submarine landslides exposed on the surface of the Levant continental slope, offshore Israel. Mass transport complexes (MTCs) are significant constituents of the post-evaporitic overburden in the Levant Basin. With the bathymetry data and multi-channel seismic reflection data, we analysis the spatial relation of landslides, faults scarps, Messinian evaporates and MTDs. Isopach maps of Messinian evaporates further reveal that fault scarps are mainly found along a slope-parallel belt where underlying salt layer is 150-500 m thick. Analysis of the Israel Slump Complex (ISC) consists of three stacked mass transport deposits (MTDs). The internal configurations indicate different transport distance, mechanics and kinematic history for each MTD within the complex. MTC provides new insight into the nature and formation of the ISC in the offshore area of Israel. We suggest that these landslides are thought to be triggered by over-steepened fault scarps. The observed landslides and faults are younger than c.50000 years and possibly still active.

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