

RECENT FAULTING ALONG THE SHORE-LINE IN CENTRAL ISRAEL

1 MART, Y. 1. Haifa University, Haifa 31905 Israel

Indications of neotectonic activity were encountered along the Mediterranean shore-line of central Israel, off the ancient port of Caesarea, where Herodian breakwaters are presently submerged. Seismic reflection surveys the shallow continental shelf encountered coast-parallel faults that displaced both the late Pleistocene calcarenite and the breakwaters. The faults offset the calcarenite by 1-3 m, downthrowing the seaward flank and leaving their landward flank stable, but in the port, the breakwaters subsided more than 5 m. The subsidence of the breakwaters was triggered by neotectonic displacements and enhanced by solifluction. Furthermore, neotectonic offset in Caesarea occurred only along the hanging wall, while the footwall remained stable, as indicated by the aqueduct that maintained its original gradient and by Roman coastal installations, which maintained their water-level precarious position to the present. Seismic reflection survey was carried out also in the proximal shelf off Atlit, a Crusaders' castle built on a promontory of late Pleistocene calcarenite. The castle is above sealevel, but the promontory itself is truncated by faults, trending N-S and NW-SE, offsetting the upper strata by 1-3 m. Escarpments of the N-S faults are barely covered by sediments, suggesting that they have subsided below sealevel only recently. The escarpments of the NW-SE faults are rarely exposed at the seafloor, suggesting their late Pleistocene age. Submerged at 12 m and undamaged, a Pre-Pottery Neolithic well near a major NW trending fault indicates structural stability of this group of faults during the last 8,000 years.