



Anthropogenic influences on the Preservation of Ancient Tsunami Deposits

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Deposits and damage on the landscape immediately following a tsunami event are subject to a range of post-depositional alterations driven by natural and anthropogenic processes, ultimately ending in extremely differential preservation that complicates efforts to find and interpret ancient and paleotsunami remains. Along the Israeli Mediterranean coastline, offshore tsunami sediment research has offered a reconstruction of multiple events, but the onshore record has proved challenging due to post-event clean-up, coastal development, and natural erosion. Archaeological excavations in the last half century have also removed a large portion of sediments that might have assisted in the effort. Archival photographs, field descriptions, and newly excavated areas were investigated in light of the offshore and historical evidence for tsunamis. Unique deposits from those records and from newly exposed areas present new information that illustrate circumstances in which a deposit is well-preserved and where it is not. A trend is apparent in which areas which are under heavy use at the time of the event are more likely to be renovated, rebuilt, or otherwise changed post-event; leaving less fingerprint behind, while better preservation of the deposit is present in already neglected or less functioning areas. Also, in some cases field evidence that is seemingly contradictory to the presence of a disaster is, in fact, an acute marker of the event. Worldwide, past tsunami deposit field evidence is a valuable database for better informing estimates and models of potential future events; and therefore such improvements in field identification are important.