Recent Advances in the Identification of Onshore and Offshore Tsunami Deposits from the Eastern Mediterranean Coastline of Israel

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The first physical field evidence for any dated tsunami event on the coast of Israel was discovered twenty years ago. Since then, three campaigns of offshore core collections were completed with the aim of testing the validity of that interpretation, further completing the catalogue of known tsunami events, providing constraining data for models, determining associations with potential source tsunami-generating mechanisms, and assessing risk for purposes of emergency planning and coastal management. Those follow-up coring campaigns provided many additional examples of anomalous sedimentary deposits that agreed with tsunami-derived interpretations and failed to fit criteria of other potential causes (e.g. floods, storms); reinforcing the theory that multiple tsunami events impacted that coastline and building a more complete record. The interpretation of these offshore deposits has been improved by ongoing contributions from modern sedimentological studies following the set of recent megatsunamis. Specifically, tsunami sediment characterization from modern tsunami studies has greatly improved the ability to recognize cryptic, anomalous deposits with higher confidence. In addition, a small set of new land-based evidence has been identified, some of which match written historical records, and many that corroborate the offshore sedimentary record. In this presentation, a summary of these finds and the latest, most updated catalogue of events based on physical sedimentary deposits will be presented highlighting knowledge gained regarding variations in the efficacy of various proxies in the tsunami ‘tool box’ with relationship with this particular stretch of coastline.