



Coastal retreat in Chanea, Greece

Vassilios Skanavis (1), Nikos Maravelakis (1), Nikos Kalligeris (1), Costas Papadogiannis (2), George Sartzetakis (1), and Costas Synolakis (2)

(1) Technical University of Crete, Chanea 73100, Greece , (2) University of Southern California, Los Angeles, California 90089, USA

The coastlines of Greece face a substantial erosion problem with some shoreline retreating at rates up to 1m/year. This problem remains largely unrecognized for quantitative measurements of shoreline retreat rates are scarce, while coastal wave measurements for extended period of time are non existent.

We present the first ever coastal wave measurements in shallow waters in Greece. From December 2010, three AWACs - instruments that measure wave heights, directions and three dimensional velocity profiles were deployed in 20-25m water depths in the Bay of Chanea, Crete.

The measurements revealed waves higher than expected from simple forecasting models. The measurements are correlated with storm events and shoreline retreat episodes. We derive estimates of coastline retreat for the Bay of Chanea and suggest remediation measures.