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Extreme events characterization in the Mediterranean Sea

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This study analyzes the characteristics of extreme wave events

in the Mediterranean Sea. A climatology of SWH fields, carried

out by the WAM model, driven by the ERA-40 re-analysis 10 meter

winds for the period 1958-2001, to which a GEV algorithm is applied. Its suitability is verifiedtesting it against two observational datasets: the RON buoys andthe TOPEX-POSEIDON satellite data. The actual values aregenerally understimated, but the annual variability associated iscorrectly reproduced.

Spatial distribution of extreme values, evaluated with the GEV

method, suggests to divide the Med Sea into a series of sub-basin. Balearic, Ionian and Tyrrenian present highest intensity, revealing the effect of both long fetch and strong winds, associated to the storm track crossing the northwestern part of the Med Sea and central Europe.

Different weather regimes producing SWH extremes are analyzed;

strongest events are associated to winter season.

Climatological trends are investigated, giving indication of

large variability, but tendencies are generally inconvincing.