



Ensemble computation of waves and storm surges in the Mediterranean Sea in the next decades (2021-2050).

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Large storm surges and high wave conditions occur regularly in several sub-basins of the Mediterranean Sea and several past studies already analyzed its evolution in the future climate. Waves and surges share the surface wind fields as common forcing with a response which is differently modulated by fetch and water depth. Surges are also produced by sea level pressure gradients. Therefore the future wave and surge regimes and intensity are a consequence of changes in such meteorological forcings and are computed by using them in wave and barotropic ocean circulation models, which describe the evolution of wave spectra and sea level, respectively. This study discusses the results obtained by an ensemble of recent simulations carried out with the results of the CIRCE fp6 project (Climate Change and Impact Research: the Mediterranean Environment), which suggest a future general attenuation of extreme marine storms over most of the basin in the next few decades.