

Evaluating the effectiveness of risk reduction strategies

Understanding natural hazard risk management in Italy

Meteo-Ocean Forcing Database



QUESTIONS

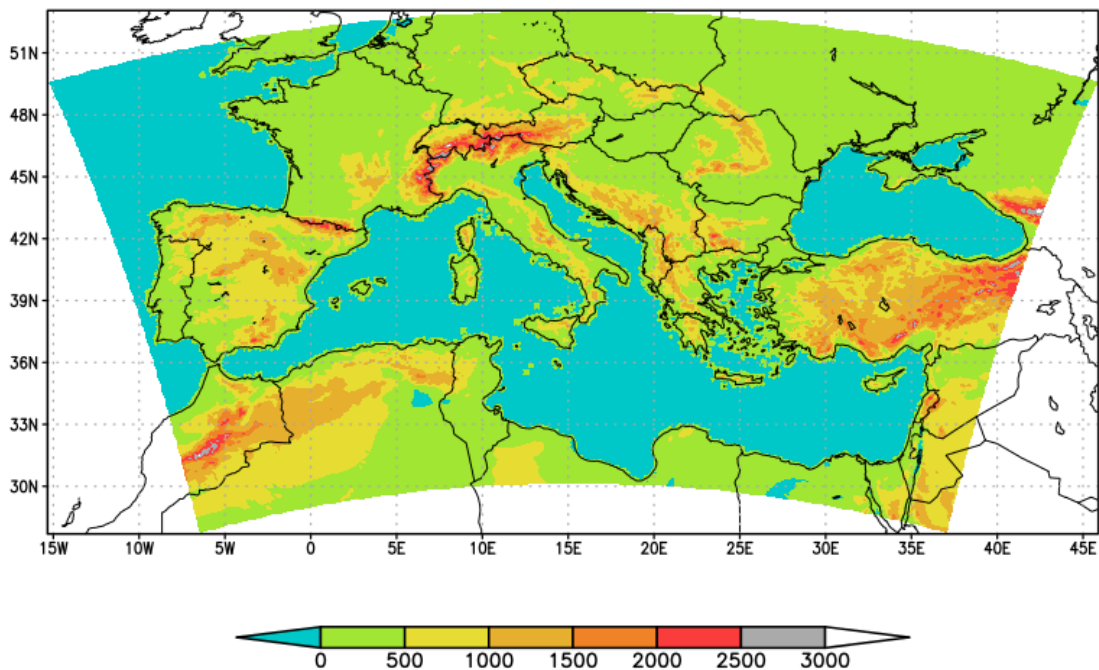
- What is the behavior of mean and extreme wave climate in the Mediterranean Sea?
- How will climate change affect the Mediterranean wave climate?



OBJECTIVE Develop a standardized database of wave parameters, including significant wave height, mean wave period, peak wave period, and wave direction, to be used for the assessment of coastal hazards, risks, and vulnerabilities due to storm surges and the impacts of climate change on coastal areas.



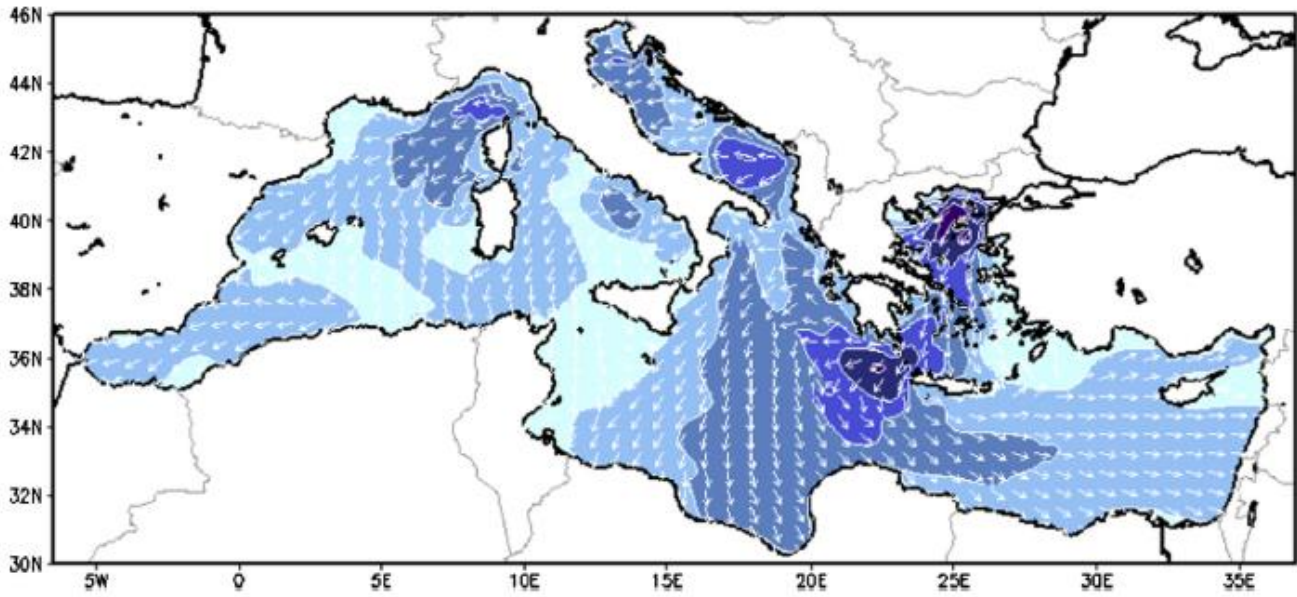
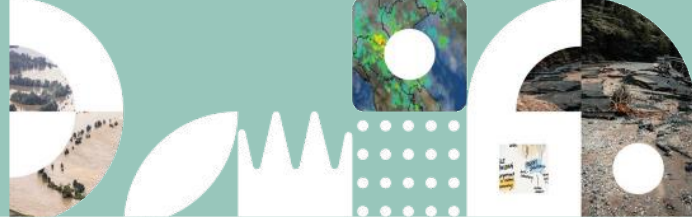
DESCRIPTION The dataset will be developed based on existing data provided by project partners, including hindcast models and projections for the entire Mediterranean basin and the Italian coastal region. Spatial and temporal resolutions will be chosen to capture variability along the coastline and sufficiently represent storm events.



Weather Research and Forecasting (WRF) model.

Hourly hindcast of atmospheric variables 35 vertical levels. Single domain 10 km resolution





Forcing: hourly wind field produced by WRF simulations.
 Single domain 10 km resolution. Hourly wave climate time series (H_s , T_p , T_z , θ_m). 3-hour directional wave spectra (24 direction x 25 freq)

Contacts



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“ Impact-based decision making allows the prioritization of strategies for targeted future investments.”

