

SHORT SCIENTIFIC REPORT

concerning the implementation of the project

Climate change IMpact Evaluation on future WAVE conditions at Regional scale for the Black and Mediterranean seas marine system - CLIMEWAR

in the period January – December 2023

In the second stage of the project implementation carried out in the period above mentioned, the specific objectives of the project were pursued:

- Building the present (historical period) wave climate ensemble for the marine system (continuation from stage 1).
- Building the future wave climate ensemble for the marine system.
- Initiating the development of the WAVE Climate Assessment - WACA platform that will be used for statistical analyzes (continuation in stage 3).

1. Building the present (historical period) wave climate ensemble for the marine system
 - 1.1 Completing the SWAN model simulations for the historical period, considering each RCM
 - 1.2 Completing the hindcast simulations with the SWAN model
 - 1.3 Evaluation of the performance/skill in reproducing the present wave climate in both seas
 - 1.4 Generation of the present wave climate model ensemble
2. Building the future wave climate ensemble for the marine system
 - 2.1 Wave climate simulations for the future period considering each RCM wind field produced under each scenario considered to drive the SWAN model
 - 2.2 Generation of the future wave climate model ensemble for each scenario.
 - 2.3 Analyses of the extreme events
3. Initiating the development of the WAVE Climate Assessment - WACA platform that will be used for statistical analyzes (continuation in stage 3)
4. Updating the web page (bilingual Ro-Eng) of the CLIMEWAR project
5. Dissemination of the results: A. Publications in international journals (5), B. Publications/presentations at international conferences and workshops (12); C. Presentations at national conferences with international participation (2);

The expected results in the project implementation plan for this first stage are:

- Realization of a reanalysis database and historical data with reliable information (high-resolution data) regarding wave parameters in the marine system (Black Sea and Mediterranean Sea) – **result achieved**
- Generation of the present wave climate model ensemble in the marine system - **result achieved**
- Assessment of the wind and wave dynamics in the target areas over the present (historical) period - **result achieved**
- Studies regarding the variability and trends of wave parameters throughout the present period - **result achieved**
- Evaluation of changes regarding extreme events in certain key locations - **result achieved**
- Participation at 6 conferences - **result achieved and even exceeded**
- Updating the web page (Ro-En) for the dissemination of the CLIMEWAR project results (continuous updating) - **result achieved**
- Publication of articles in WoS indexed journals (2 articles) - **result achieved and even exceeded**
- Annual report - **result achieved**

We can conclude that we succeeded to achieve all the objectives proposed for the first stage of the CLIMEWAR project. All the activities included in the plan of achievement were accomplished.

There are therefore all the prerequisites for the CLIMEWAR project to continue in very good conditions and to produce valuable results with great international visibility.