Project

LEVELS OF FLOODS CAUSED BY MARINE DYNAMICS ALONG THE COASTLINE OF THE BALEARIC ISLANDS

Axis: Disciplinary research
Bloc 1.1: Environment
Thematic area: Coastal variability and global change

Summary

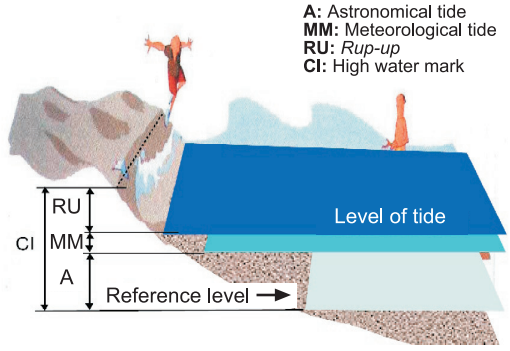
Probabilistic knowledge of the levels of flooding for the beaches along the coastline of the Balearic Islands is of extreme importance for a correct management of the coast. Flooding of beaches due to marine dynamics and meteorological factors is a complex phenomenon, both due to the high number of factors involved and the interaction of said elements.

Current methodologies allow us to gain the average flood level, or high water mark, (defining the beaches functionality) and that caused by extreme conditions (defining how prone it is to flooding in extreme conditions) with a high level of rigour.

Within the framework of this project we aim to answer questions such as how many waves a year surpass the rear edge of a beach, and every how many years is there a flooding of the land behind a certain beach.

Actions

-Create an atlas of flood risks for the Balearic Islands, represented in a system of geographic information. In this atlas there will be the results of average tidal levels, extreme tidal levels, average flood levels and extreme flood levels for the beaches of the Balearic Islands.



Factors affecting high water mark

Images of Cala Sant Vicenç with different sea conditions

Aplications

Research

Since there is no defined limit reached by waves during a storm, but rather levels that have a probability of being surpassed during a certain storm, the objective of this project is to obtain a distribution of flood levels. The results of this research will be of great use to future studies on the impact on the coast of marine dynamics (tides, waves, sea level, etc.).

Administration

A probabilistic knowledge of the flood level on beaches is a determining factor in the management of the coast and determining land and sea under public ownership. The results gained from the analysis of data on sea levels will provide valuable information for future technical reports on the coast of the Balearic Islands for different administrations (both local and regional) with responsibility for coastal management.

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