

VULNERABILITY EVALUATION OF A SECTOR OF GRAN CANARIA COAST AGAINST A POSSIBLE INCREMENT OF SEA LEVEL

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An increase of 0,5°C in average atmosphere temperature was registered during the last century. Supposing current levels of emission of greenhouse gases, such rise could reach 1,5 to 4,5°C in 2030. A consequence is the increment of sea level, to which small islands are vulnerable. To consider a possible marine transgression is fundamental for insular ecosystems management. The Gran Canaria Island has a mountainous West coast, but an alluvial plain dominates its East coast, where urban development is higher. The vulnerability of this segment of the Gran Canaria coast against a marine transgression was evaluated. A digital elevation model (DEM) was created from a topographic chart (1:5000) and used to simulate marine transgressions scenes, based on projections found in literature. Then, probabilities charts was created, where the probability of each DEM cell of being above or below a threshold it was calculated according to Bayesian theory, considering errors in database and decision rule. There are 60% of probability that the sea reaches the benchmark of 1,13m, with an increment of 1,5m \pm 1 in its level and the benchmark of 1,52m, with an increment of 1,9m \pm 1,22. The probabilities chart superimposed to a ground occupation chart reveals that the most vulnerable areas, considering human occupation, are the Burrero Beach and Las Palmas Airport.