



## **Spatial distribution of tsunami height and the extent inundation along the southeastern Iberian coast for the 1755 event**

V. V. Lima (1), J. M. Miranda (1), M. A. Baptista (1, 2), J. Catalão (3), M. Gonzalez (4), P. M. M. Soares (1, 2)

(1) Centro de Geofísica da Universidade de Lisboa – IDL, Lisboa, Portugal, (2) Departamento de Engenharia Civil, Instituto Superior de Engenharia de Lisboa, Portugal, (3) Departamento de Engenharia Geográfica, Geofísica e Energia – FCUL, Portugal, (4) Universidad de Cantabria, Spain (vcvalima@gmail.com / +351 217 500 166)

This study presents a new compilation of the effects along the southeastern Iberian coast of the 1755 Lisbon tsunami. The analysis of the historical data was focused on the evaluation of run-up, run-in, flow depths, damage and casualties. These observations were compiled, particularly the spatial distributions of the inundation extent, the destruction level and the run-up heights. The results, based on available historical information, indicate a large level of heterogeneity, with run up heights extremely high along the southeastern Iberian coast, and show the influence of the coastal geomorphology on the extent of the inundation. Historical data are compared with results from numerical modeling. The tested sources are obtained from the literature. All are supposed to be able to generate an 8.5 earthquake event. The hydrodynamic modeling was performed with an implementation of COMCOT code (Cornell University). The bathymetric model was generated from GEBCO bathymetric contours and includes land elevations from the Global Land 1-km Base Elevation (GLOBE) database. This dataset was complemented with digitised nautical maps. The simulations are discussed in terms of flow depths and inundation area, and the possible flooding of the southeastern Iberian coast is addressed. The review of the historical reports is a contribution to the NEAMTWS – IOC UNESCO database. Preliminary results of inundation calculations constitute an output of project TRANSFER, Tsunami Risk AND Strategies

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