

POSTER PLATFORM SESSIONS ABSTRACTS

FLOOD RISK/GEODYNAMICS

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A FLOOD RISK ASSESSMENT MODEL BASED ON A MULTI-HAZARD APPROACH FOR SEMIARID ISLANDS AND COASTAL TOURISTIC REGIONS

Pablo Máyer-Suárez¹; Jaime Díaz-Pacheco^{1*}; Elisabeth Fernández-Cabrera¹; Abel López-Díez²; Luis Francisco Hernández-Calvento¹; Amalia Yanes-Luque¹; Emma Pérez-Chacón-Espino¹; Pedro Dorta-Antequera²; Francisco José Macías-González¹; Miguel Ángel Socorro-Domínguez¹; Pablo Fernández-Móniz²

¹Universidad de Las Palmas de Gran Canaria, Spain

²Universidad de La Laguna, Spain

*E-mail: jaime.diaz@ulpgc.es

In arid and semi-arid climates, such as those of the Mediterranean, islands and coastal areas that are highly oriented towards tourism can be affected by a series of natural hazards, notably those of a hydro-meteorological nature. In these areas, in which long periods of drought can be interrupted by moments of intense, highly concentrated rain, irregular rainfall increases the level of vulnerability as regards the context of risk. Furthermore, several climate change scenarios suggest a permanent rise in sea levels or changes in the frequency and intensity of rainfall.

This paper puts forward the possibility of improving disaster risk management and the resilience of these regions. This is done by developing a methodology with a suitable level of detail, which is able to combine several sub-models within a comprehensive risk assessment model. The objective of the first sub-model is to identify the normal pattern of marine storms and the conditions surrounding them in order to determine their daily and hourly occurrence. The second sub-model will assess the probability of flooding during a given timeframe, for which the relief and vegetation cover of the different areas being studied will also be analysed. The third sub-model will simulate a particular climate change scenario based on the permanent rise in sea levels. Finally, the last sub-model will allow vulnerability and exposure to be evaluated. This is primarily based on a detailed observation of land

use and is focused on analysing the possible consequences of a series of socio-economic factors. This will be achieved by analysing the damage caused in the recent past by disasters associated with this type of hazard.

The regions chosen as case studies are areas heavily geared towards tourism, and are located along the coasts of the Canary Islands.

Keywords: flash flood risk; multi-hazard risk assessment; hazard; climate change; coastal touristic regions