

**27773****FLOOD RISK MAPS AND URBAN DESIGN IN TOURIST AREAS: A CASE STUDY OF THE PUERTO RICO-AMADORES RESIDENTIAL AREA (GRAN CANARIA, CANARY ISLANDS, SPAIN)**Francisco José Macías-González<sup>1\*</sup>; Emma Pérez-Chacón-Espino<sup>1</sup>; Pablo Máyer-Suárez<sup>1</sup><sup>1</sup>Universidad de Las Palmas de Gran Canaria, Spain\*E-mail: [francisco.macias@ulpgc.es](mailto:francisco.macias@ulpgc.es)

There are many tourist residential areas on the coast of the Canary Islands which have, owing to their location in the mouth of a valley, suffered from frequent flooding over the past decades. This study aims to understand whether this is the result of increased rainfall intensity or whether it is linked to the design of these residential areas, particularly with regard to infrastructure organisation and maintenance. The objective is, therefore, to compare river flood risk maps, created by the government, with the layout of the areas genuinely affected, in order to draw up a new risk map. This study focuses on the tourist residential area of Puerto Rico-Amadores, located on the island of Gran Canaria.

The methodology employed links the study of rainfall between 1947 and the present day with a historical and spatial analysis of the causes, characteristics and consequences of flooding. This is combined with information regarding the characteristics of the valleys' water conduits, the drainage system and the water treatment system. This information was obtained by studying development projects and questioning local experts. All the aforementioned data was used as input in a GIS to enable a spatial analysis and the creation of a flood risk map. These results are compared with the maps drawn up by different governments and show that the issue of flooding in the area being studied is primarily the result of urban design problems and the inadequate maintenance of infrastructures. These issues should be included on future flood risk maps, which should not be limited to evaluating the existing risk to open spaces, as is the case of some current documents. Instead, these maps should also show the risk to those areas in which buildings have been constructed, particularly regarding underground sections.

That is because these areas often bear the brunt of damage to property and touristic facilities.

**Keywords:** flood risk maps; touristic areas; Canary Islands; risk assessment