

ANALYSIS OF THE EFFECTS OF CLIMATE CHANGE ON HYDRAULIC INFRASTRUCTURE TO PREVENT FLOODING IN THE PAPALOAPAN RIVER BASIN

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ABSTRACT

The Papaloapan Basin, located in southern Mexico, has been severely damaged and affected in the social, economic and environmental area due to extreme hidrometeorological events that have occurred in recent years. For this reason, the project consisted of calculate the volumes of runoff generated by the basin through a multidimensional and systematic hydrological model, which evaluated the existing hydraulic structures within the basin, including the dams "El Temascal" and "Cerro de Oro ", which they are vulnerable to the effects of the hidrometeorological events. This project has a strong social impact because the basin is indispensable for the economic development of the country. The result was that the actual runoff volumes are higher than the design ones and concluded that the hydraulic infrastructure mentioned lacks of proper operation if there were unexpected weather changes and floods that affect the population and cause major economical losses.

PALAVRA-CHAVE: Basin, Floods, Climate change, Hydraulic infrastructure, Model