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Geomorphic and Hydrographic characteristics in the San José del Cabo Basin, Baja California Sur, Mexico, as a risk factor for floods

Aspectos Geomorfológicos e Hidrográficos de la Cuenca San José del Cabo, Baja California Sur, México, como Factor de Riesgo a Inundaciones

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Abstract

The San José del Cabo drainage basin located in the southern tip of the State of Baja California Sur is threatened mainly by the high incidence of hurricanes. In addition to the meteorological phenomena, the geomorphological and hydrographical aspects of the basin represent a risk factor that increases flood vulnerability. In this study, widely recognized conventional geological techniques were used to identify three geomorphological units: mountain ranges, flood plains, and coastal strips, which are segmented by a dense network of intermittent dendritic drainage systems, integrating a sixth order exorheic basin. The San José del Cabo basin is funnel-shaped representing a risk factor due to its huge catchment area and reduced outlet. These characteristics along with intrinsic aspects of the basin cause heavy rains to flood the bottom plain where the San José estuary and human settlements are located showing a higher natural vulnerability to flooding.

Key words: Hurricane, Run-off, Water flow, Vulnerability, Pristine.

Resumen

La cuenca de San José del Cabo, se localiza en la porción meridional del estado de Baja California Sur, en cuya región la principal amenaza es la alta incidencia de huracanes. Adicional a los fenómenos meteorológicos, los aspectos geomorfológicos e hidrográficos de la cuenca, destacan como factor

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