

## **Economic costs estimation of natural disasters in Mexico. Impact of Hurricane Alex in Nuevo LeÃ³n, 2010**

Topic: Disaster Analysis

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Mexico is a country highly affected by floods, due to climatological, geographic and demographic factors. It is estimated that the frequency and intensity of these phenomena will intensify in the coming decades, derived from climate change. The high costs associated to flooding events would represent an obstacle to economic development.

Adaptation and risk management measures are largely based on costs damage evaluation, so it must be comprehensive. This paper estimates the costs caused by Hurricane Alex in Nuevo Leon, Mexico, in 2010, the most devastating in the last 50 years. A methodology that considers indirect costs in all economic sectors of the affected region was applied by the first time in a Mexican case. Indirect costs are defined as the impact on production due to material damage. The methodology incorporates the fundamentals of Input Product modelling, allowing for sectoral and regional analysis.

The results show that each monetary unit of material damages caused additional 0.30 monetary units of damages to production in the rest of the regional economy. This type of analysis provides information that allows the evaluation of risks and damages caused by flooding events and other hydrometeorological disasters, and the dynamics of costs distribution along the industrial sectors.