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SATELLITE TECHNOLOGY TO REDUCE FINANCIAL LOSSES CAUSED BY THE CLIMATE CHANGE EFFECTS IN MEXICO

Abstract

Currently climate change is one of the main phenomena that has become increasingly relevant in the last century, due to the negative consequences that derive from it; with it being particularly intense in vulnerable countries like Mexico, where the immense variety of ecosystems, the lack of resilience in communities and inefficient public policies in the country, have resulted in the increase of vulnerable populations, which generates costs and economic losses to national or international financial institutions that invest economic capital in Mexico.

Costs caused by natural disasters for financial institutions from 2010 to 2015 were of 23.63 billion pesos (National Atlas of Risk, 2018). That is why measurement and prospecting tools for risk scenarios are required for financial institutions, to make better decisions about their investments.

Fortunately, we can use information generated through Earth observation systems that can help improve decision making by analyzing prospective risk scenarios to predict future changes in climate behavior, that may even lead to natural disasters; avoiding or diminishing economic losses for financial firms and investors through comprehensive risk management.

Mexico has demonstrated leadership in the subject and is currently working on building a resilient climate finance economy, however, it still faces several challenges, which will be analyzed in this paper in order to establish concrete proposals aimed at important actors and institutions dedicated to the generation of databases, proactive management and disclosure of information about environmental risks at the regional, national and global levels.

In March 2015, the Mexican government became the first developing country presenting the Nationally Determined Contributions to the United Nations Framework Convention on Climate Change (UNFCCC). To achieve this goal, it is essential to make use of ground observation tools such as satellite images or Remote Sensing Systems, which, in addition to monitoring the progress of climate change mitigation and adaptation measures, also promote profitable and low-cost economic risk and green financial planning.