

Climate Change across Mexican Regions: Integrating Direct, Indirect, and Dynamic Effects in Simulation

Topic: Climate Change Topics

Author: Cinthia Quevedo

Co-Authors: Noé Arán Fuentes, Alejandro Brugués

In the framework of the set of projects called "State Programs of Action for Climate Change in Mexico" (PEAC) sponsored by the Ministry of Natural Resources and Environment (SEMARNAT), a series of industry studies have been developed to each one of the Mexican States on the impacts of climate change (a rise in temperature, rainfall and sea level). Among industry studies in these programs include the impacts on water resources; in biodiversity, energy, agriculture and cattle, urban settlements, physical infrastructure, tourism, health and economy. However, all these programs do not consider the indirect and dynamic effects that will arise from of the direct sectoral effects. The purpose of this document is to show how the direct effects of climate change can be integrated in a Simulation Input-Output Model (using Stella/Ithink) to analyze the indirect and dynamic effects, and thus reach to get more insight about the real impact that this phenomenon could have on regional economies in the country. The general results show that the dynamic and indirect impacts are between two and four times higher than the direct effects, which shows the importance of developing tools that allow its estimate and inclusion in studies on the impacts of climate change on the Mexican regions.