Researchers develop Mexico's first comprehensive greenhouse gas budget

January 8 2024, by Rachel Fritts

Credit: Andre from Pexels

Mexico's greenhouse gas emissions are the second highest among Latin

American countries, trailing only Brazil according to the World Bank. But until now, no one had leveraged the full spectrum of available scientific data to make an estimate of sources (such as fossil fuel burning and agriculture) and sinks (such as healthy forests and soils) of carbon dioxide, methane, and nitrous oxide. Calculating the country's greenhouse gas budget could help policymakers develop effective emissions reduction strategies.

Guillermo Murray-Tortarolo and colleagues have calculated Mexico's first comprehensive greenhouse gas budget based on estimates from multiple data sources of greenhouse gas fluxes in the country between 2000 and 2019. The work is published in the *Journal of Geophysical Research: Biogeosciences*.

The team used data from the Regional Carbon Cycle Assessment and Processes Phase 2, official national budgets, and several other scientific reports and studies in their analysis. They found that different sources of data broadly told the same story about anthropogenic greenhouse gas emissions from sources including fossil fuel burning and agriculture.

However, there were discrepancies when it came to natural emissions sources such as wetlands and natural sinks such as forests and soils. In particular, the researchers found that studies may be overestimating the role that land ecosystems play in removing carbon from the atmosphere.

The analysis comes at a particularly important time for Mexico, which recently reported an increase in greenhouse gas emissions after more than a decade of reductions. The researchers note that limited data exist about areas such as the role of aquatic systems and methane consumption by soil. They believe their findings can help guide future scientific research and enable lawmakers to target the greatest sources of emissions.

More information: Guillermo Murray-Tortarolo et al, A Greenhouse Gas Budget for Mexico During 2000–2019, *Journal of Geophysical Research: Biogeosciences* (2024). DOI: 10.1029/2023JG007667

This story is republished courtesy of Eos, hosted by the American Geophysical Union. Read the original story here.

Provided by Eos

Citation: Researchers develop Mexico's first comprehensive greenhouse gas budget (2024, January 8) retrieved 28 April 2024 from https://phys.org/news/2024-01-mexico-comprehensive-greenhouse-gas.html

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.