**Atmospheric CO2 Inversion Intercomparison Project (TransCom 3), NSF/NOAA, April 23, 1999 – June 30, 2003.**

NASA Terrestrial Ecology / Carbon Cycle and Ecosystems

12/1/2010 – 11/30/2013

Atmospheric chemical tracer transport models (CTMs) can be used to calculate surface fluxes of trace species from spatial distributions of concentration, by a set of methods collectively known as “inversion.” This technique has been applied to the study of sources and sinks of CO2, and the results have important implications for policy responses. Different CTM groups have produced conflicting results using the same observational data. We will conduct a three-year series of experiments in which leading chemical tracer transport models from around the world are used to calculate the global carbon budget of the atmosphere. The objectives of the proposed research are (1) to quantify the uncertainty in the O2 budget that arises from differences in simulated transport; (2) to diagnose the mechanisms that produce these differences; and (3) to recommend and prioritize improvements to the models and observing network to reduce this source of uncertainty in the future.

Image

Full Proposal

Annual Report 2012

Publications

Students