# Scientists Link Greenhouse Gases to Insects and Trees

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Insect control and tree planting could greatly affect Earth's greenhouse gases, according to NASA scientists. Greenhouse gasses are in Earth's atmosphere and warm the planet.
The scientists presented their findings today during the fall meeting of the American Geophysical Union in San Francisco. Their research showed how human control of insects, tree planting and other factors could affect Earth's greenhouse gases.

"Planting trees on marginal agricultural lands could sequester carbon and offset at least one-fifth of the annual fossil fuel emission of carbon in the United States," said Christopher Potter, a scientist at NASA's Ames Research Center, Moffett Field, Calif. "Scientists also have found outbreaks of plant-eating insects may be linked with periodic droughts and heat waves in North America, which can trigger large seasonal losses of carbon dioxide back to the atmosphere." Potter added.

The scientists report a Moderate Resolution Imaging Spectroradiometer (MODIS) satellite-driven computer model that predicts forest re-growth conservatively projects, 0.3 billion metric tons of carbon could be stored annually in trees growing on relatively low-production crop or rangeland areas in the United States.

A second study involved large-scale disturbances to greenhouse gases detected using global satellite data. "A historical picture is emerging of periodic droughts and heat waves, possibly coupled with herbivorous insect outbreaks, as among the most important causes of ecosystem

disturbances in North America," Potter said.

The findings about tree planting and insect control were the subjects of two peer-reviewed technical papers Potter co-authored. Other co-authors of the paper related to tree planting included Matthew Fladeland, also from Ames; Steven Klooster, Vanessa Genovese and Marc Kramer, from California State University, Monterey Bay, Calif.

Potter's co-authors for the second study were Pang-Ning Tan, Michigan State University, East Lansing; Vipin Kumar, University of Minnesota, Minneapolis; and Klooster.

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