



Climate Change and Acid Rain: Good for Forests?

New research suggests that moderate increases in temperature and nitrogen from atmospheric pollution may actually improve forest productivity. Researchers have been monitoring the temperature, moisture and nitrogen deposited by acid rain at four forest sites in the northern US since 1987. They have found that the trees grow faster at higher temperatures and store more carbon with increasing concentrations of nitrogen, providing there is sufficient moisture.

“It may well be that increasing temperature and nitrogen deposition are good things, up to a point,” said a scientist.



Could climate change actually be good for some forests?

The rise in temperature is extending the growing season, say the scientists. So far, they have measured an increase in the growing season of trees by as much as 10-11 days. “Our growing season isn’t that long in the first place,” he pointed out, “so 10 or 11 days is significant.”

A longer growing season could benefit the timber industry, enabling them to harvest more wood. The research, which started out as an acid rain study in 1987, is ongoing and includes measurements of tree growth and the build-up of organic matter in the soil at four sites in Michigan.

Researchers want to discover if the increased annual growth of the forests is offset by an increase in tree mortality. They hope to examine whether woody debris on the forest floor will decompose more slowly as nitrogen levels are increased, further increasing the ecosystem’s ability to store carbon.

They call the new research “a window into the future,” and an opportunity to see if there is a ‘tipping point’ beyond which increased nitrogen harms rather than helps our hardwood forests.

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