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Study Finds a Tree Growth Spurt

By LESLIE KAUFMAN

Forests in the eastern United States appear to be growing faster in response to rising levels of carbon dioxide in the atmosphere, a new study has found.

The study centered on trees in mixed hardwood stands on the western edge of the Chesapeake Bay in Maryland that are representative of much of the those on the Eastern Seaboard.

All are growing two to four times as fast as normal, according to a study published in Tuesday's issue of The Proceedings of the National Academy of Sciences.

After controlling for other variables, scientists concluded that the change resulted largely from the increase in carbon dioxide, a major factor in climate change.

Trees are now known to play a vital role in countering global warming because they absorb and store carbon dioxide, the leading heat-trapping gas.

Geoffrey G. Parker, a co-author of the paper and an ecologist with the Smithsonian Environmental Research Center in Edgewater, Md., said his research indicated that the local forests were adapting to the rise in carbon dioxide by absorbing more.

"My guess is that they are already sopping up some of the extra carbon," he said.

But Dr. Parker said it was unclear whether the trend could be sustained. "We don't think this can persist for too long because other limiting factors will come into play, like water availability and soil nutrients," he said.

Since 1987, Dr. Parker has been studying 55 stands of trees along the bay's western edge. Recent censuses have shown that compared with the earlier years, the trees are packing on weight at an additional two tons per acre annually. The scientists track the speed of growth through tree diameter.

Although many variables can affect tree growth, Dr. Parker said he had ruled out all causes for the sustained nature of the recent growth except for warmer temperatures, a longer growing season and the rising level of carbon dioxide in the atmosphere.

Carbon dioxide levels around the research center have increased 12 percent in the last 22 years.

Dr. Parker said that because the trees in his study are representative of those common to much of the Eastern Seaboard, he is eager to know whether other scientists in other areas are recording similar results.