

Ripple Effect # 69

A Glaciologist's View on Global Warming

There's lots of talk of global warming these days. But it seems far away - in the Arctic, for instance – and not until the next century, we hope.

The spike in prices for farm commodities, with corn and beans leading the way, make us wonder, though, if something isn't going on. Farm magazines talk routinely about putting commodities to work as alternative fuels, explaining that biodiesel "is better for the environment than petroleum-based diesel fuel."

"Better for the environment" in this case means fewer hydrocarbons or carbon dioxide emitted into the atmosphere. Carbon dioxide is the primary "greenhouse" gas in our atmosphere, meaning that its presence or absence directly influences how much of the sun's heat stays in the atmosphere.

So is global warming a reality? Answering this question may seem tricky, for we all know the truism, "you have to see it to believe it," and we can't see carbon dioxide.

Lonnie Thompson is a world-renowned glaciologist from Ohio State University who has received many honors, including the National Medal of Science, the highest honor the US can bestow upon an American scientist. He spoke in Fargo, North Dakota, and would say that he has indeed seen it. His extensive work collecting research samples has had him on glaciers all over the world. Over time, he has watched the ice melt, even tropical glaciers, where the variability in temperatures, according to Thompson, is normally very small. For Thompson, the melting of these tropical glaciers is not only an unmistakable sign of the global nature of the problem; the melting ice is taking with it thousands of years of scientific records that could help us identify, track and address the very problem we are facing today.

What else are scientists seeing about our world's climate? Some of Thompson's points included:

- The 20th century was the warmest century in the last 2000 years; in some places of the earth, of the last 5000 years.
- 2005 was the warmest year on record; 2006 was the 5th warmest.
- Effects of warming are already being felt both in Europe, where, in 2003, 35,000 people died from heat-related causes in a single year, and the United States, where the decrease in snow and ice accumulation is impacting water supply, particularly in the Southwest.

- Only about 50% of the carbon dioxide we currently emit is sequestered by current vegetation and water resources, and we cannot be sure of when these “sources” of sequestration themselves become “sinks” of carbon dioxide.
- It can take decades to eliminate the carbon dioxide in our atmosphere that is being produced today.
- Although some abrupt, natural climate changes have occurred in the past, records stored in ice from the last 420,000 - 650,000 years show no analogues to today’s spiraling rate of carbon dioxide in the atmosphere.

Thompson’s concluding remarks focused on the northern Great Plains, where we still find carbon dioxide released into the atmosphere from burning millions of tons of lignite coal each year. But we also find crops that can provide energy. “If you can grow your fuel,” Thompson encouraged us, “you’re taking carbon dioxide out of the atmosphere.”

Until the next Ripple Effect,

The Red River Basin Commission (RRBC)

The RRBC is a grassroots organization that is a chartered not-for-profit corporation under the provisions of Manitoba, North Dakota, Minnesota, and South Dakota law. Our offices in Moorhead, MN and Winnipeg, MB can be reached at 218-291-0422 and 204-982-7254, or you can check out our website at www.redriverbasincommission.org.