

Global warming already is affecting your life...and costing you money.

Why You Can't Ignore the Changing Climate

By Eugene Linden

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As we learned last year in New Orleans, weather can be a weapon of mass destruction. With the 2006 hurricane season now upon us, scientists say the climate is changing in ways that could produce many more superhurricanes, as well as extreme floods, droughts and heat waves that could threaten our way of life.

Still, it's easy to ignore the signs of global warming because we've always had crazy weather. Unfortunately, many of the predicted changes have begun, and they already affect our health and pocketbooks. We ignore them at our peril. Here's what we know:

Look Outside: The Weather Already Is Changing

Every year since 1997 has been in the Top 10 list of hottest years, and 2005 set a record. The Earth has warmed about 1.4°F since the late 19th century, and the warming has accelerated during the past four decades.

That increase sounds small, but it has been sufficient to make weather records fall by the thousands. Studies by Kerry Emmanuel at MIT and others have documented that hurricanes are getting more intense. Extreme storms like the one that flooded New England with more than 10 inches of rain in May are becoming more frequent too. Birds are migrating earlier. Trees are blooming, and flowers and crops are popping up unseasonably early across the country.

The warming has produced clear winners: pests. Mosquitoes love the warmer weather and are celebrating by bringing infectious diseases to new places. A recent Duke University study found that increased carbon dioxide in the atmosphere has led to out-of-control growth of poison ivy, as well as increased levels of allergy-producing pollen. Beetle populations have exploded in evergreen trees. Why should we care about beetles? It was beetles that killed the trees in Southern California, which provided the dry fuel for the wildfires that destroyed hundreds of homes in 2003.

Higher temperatures also are causing glaciers to melt fast. Mount Kilimanjaro, for instance, has been topped with ice for at least 11,700 years. Within the next 15 years, however, its summit might be ice-free, according to Lonnie Thompson, a glaciologist at Ohio State University. The fastest warming is taking place in the far north, where glaciers are receding and permafrost is proving to be not so permanent. You may think this isn't relevant to those of us farther south, but snow and ice play a big role in balancing Earth's climate by reflecting sunlight back into space. Melting snow and ice could push climates everywhere past a tipping point: As the Earth warms, melting snow and ice expose dark surfaces such as land and oceans, and the switch from heat-reflecting to heat-absorbing surfaces could turbocharge further warming.

We're Making It Worse

"I'm changing the climate! Ask me how" reads a bumper sticker that activists have been plastering on SUVs. Their point is that gas-guzzlers contribute to climate change. In a more sober way, the great majority of scientists are saying the same thing: Burning gas or oil in engines and furnaces has pushed carbon dioxide levels in the atmosphere far above where they've been for hundreds of thousands of years, and the debate has ended over whether these emissions are making the planet hotter. The Intergovernmental Panel on Climate Change, a group of more than 1,500 scientists from 60 countries, asserts that some portion of the recent warming is the result of human activities.

Last year, the world's leading scientific journal, *Science*, looked back at all the scientifically credible articles published between 1993 and 2003 that dealt with modern climate change. Not one took issue with the consensus that humans are contributing to the changes we are seeing.

A Darkening Financial Forecast

Changing weather already costs you money. Of course, many Americans have felt the impact of hurricanes and floods, but even those not directly affected by extreme weather are paying a steep price:

- On May 13, the front page of the *Sarasota Herald-Tribune* trumpeted the news that State Farm Insurance, Florida's largest property insurer, was seeking to raise rates by more than 70% for houses and 95% for mobile homes. That would jump average insurance costs from about \$1,733 to \$3,101. But even if you live on Cape Cod—more than 1,000 miles from the Gulf Coast—insurers are raising rates and pulling out of some markets as they try to adjust to a new world in which the past behavior of hurricanes is no longer a reliable guide to the future.
- Southern California—where water availability is largely determined by snowfall in faraway mountains—already must scramble for water. Scarcities will become a severe problem if the snowpack continues to shrink and melt earlier because of warming temperatures, leaving residents parched during the summer months. An extended water crisis will likely hurt house prices, setting off a chain reaction of job losses, foreclosures and bank failures.
- Drought in the West already affects hydroelectric power production. Power shortages could reach the Pacific Northwest if the region's river flows dropped below the levels needed to cool even coal- and gas-fired power plants.
- For America's workers, climate change will feel like an enormous tax, stripping savings and imposing costs ranging from disrupted jobs to a rash of health threats.

Climate Has Destroyed Past Civilizations

From the Fertile Crescent to the Yucatan peninsula, past civilizations made the fatal mistake of assuming that good weather would continue. An abrupt shift to drought in Mesopotamia 4,200 years ago probably spelled the doom of the Akkadian culture, which united city-states into the first known empire. Others see the fingerprints of climate in the collapse of the Mayans around 900 A.D., the disappearance of the Anasazi from the American Southwest a few centuries later and the end of Norse expansion into the New World in the 14th century. A recurrent pattern of

history has been for civilizations to take root and flourish while the weather is good, only to fall when the weather suddenly changes.

But don't our technology and markets make us different? Absolutely, but 6 billion people still rely on crops grown in fertile areas like the American Midwest—areas vulnerable to drought in a warming world.

Past civilizations had no way to know that climates could change. We do. But if we are to avert disaster, we have to act on our knowledge, and we haven't done that yet.

What We Can Do

We have been warming the globe, and now we must stop. It won't be easy. Massive reductions of carbon emissions will be needed even to stabilize carbon dioxide levels. Here are some ways to start:

*** Buy a fuel-efficient car; take mass transit; and, when you can, bicycle or walk to work.**

Transportation contributes about 40% of climate-changing emissions. Apart from saving money, using less gas decreases our reliance on unstable Middle Eastern suppliers.

*** Buy products from companies that are trying to reduce their own impact on the climate.**

Companies can do this either through programs that reduce carbon emissions or by enabling consumers to cut down their own emissions (which now average 20 tons annually per person). If consumers demand climate-friendly products and practices, companies will deliver.

*** Take a look at other ways in which you waste energy at home or at work.**

Turn down the air conditioner and heater, and install insulation and ultra-efficient light bulbs. All will save you money too. For instance, if you buy an energy-efficient air conditioner, you also qualify for a \$300 tax credit.

*** Demand that the government make climate change a priority.**

Ask federal, state and local governments to buy climate-friendly vehicles and products. This would help commercialize new technologies and provide an enormous boost to alternative energy. We can't expect China, India and other growing countries to act until our own government recognizes the threat, and that will not happen until ordinary citizens demand change.

*** Encourage your Representative and Senators to enact a carbon tax.**

Nobody wants higher taxes, but imposing a tax on carbon would guide everybody to the least-harmful products for the climate. If we conserve energy without such a tax, it will simply lower gas prices—then once again encourage waste and pour more carbon into the atmosphere.

Eugene Linden's reporting on the environment has taken him from the Arctic to the Antarctic. His most recent book is "The Winds of Change: Climate, Weather, and the Destruction of Civilizations" (Simon & Schuster).