

June 16, 2009

Government Study Warns of Climate Change Effects

By [JOHN M. BRODER](#)

WASHINGTON — The impact of a changing climate is already being felt across the United States, like shifting migration patterns of butterflies in the West and heavier downpours in the Midwest and East, according to a government study to be released on Tuesday.

Even if the nation takes significant steps to slow emissions of heat-trapping gases, the impact of [global warming](#) is expected to become more severe in coming years, the report says, affecting farms and forests, coastlines and floodplains, water and energy supplies, transportation and human health.

The study was prepared by the [United States Global Change Research Program](#), a joint scientific venture of 13 federal agencies and the [White House](#). Under a 1990 law, the group is required to report every 10 years on natural and human-caused effects on the environment. The current study, which began in the [George W. Bush administration](#), builds on the findings of the 2000 one.

The study, overseen by the [White House Office of Science and Technology Policy](#), will be posted at www.globalchange.gov/usimpacts.

Some of the effects being seen today and cited in the report are familiar, like more powerful tropical storms and erosion of ocean coastlines caused by melting Arctic ice. The study also cites an increase in drought in the Southwest and more intense heat waves in the Northeast as a result of growing concentrations of carbon dioxide and other climate-altering gases in the atmosphere.

Reduced mountain snowpack means earlier melt-offs and reduced stream volumes across the West and Northwest, affecting residential and agricultural water supplies, habitats for spawning fish and reduced [hydroelectric](#) power generation, the study found.

But the speed and severity of these effects in the future are expressed with less certainty in the report and will depend to some extent on how quickly the United States and other nations move to reduce emissions.

“What we would want to have people take away is that climate change is happening now, and it’s actually beginning to affect our lives,” said [Thomas R. Karl](#), director of the [National Climatic Data Center](#) at the [National Oceanic and Atmospheric Administration](#) and a principal author of the report. “It’s not just happening in the Arctic regions, but it’s beginning to show up in our own backyards.”

Dr. Karl said that unless the country acted soon to reduce emissions and to adapt to inevitable effects of a changing climate, the costs would be severe.

“Our destiny is really in our hands,” he said. “The size of those impacts is significantly smaller with appropriate controls.”

Dr. Karl said the section of the 188-page report dealing with human-health effects generated the most discussion and uncertainty among the agencies. The study said rising average temperatures would cause more heat-related illnesses and deaths, along with some reduction in deaths from extreme cold.

The study also showed that higher temperatures combined with air pollution would cause a higher incidence of [asthma](#) and other respiratory ailments.

Michael C. MacCracken, a leader of the 2000 study and a principal outside reviewer of the current one, said in an e-mail message that the new report was a useful overview of the state of current climate science in the United States, but “there is not much that is new.”

[Copyright 2009 The New York Times Company](#)

[Privacy Policy](#) | [Terms of Service](#) | [Search](#) | [Corrections](#) | [RSS](#) | [First Look](#) | [Help](#) | [Contact Us](#) | [Work for Us](#) | [Site Map](#)