Climate change is already having an impact across the US

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Extreme weather, drought, heavy rainfall and increasing temperatures are a fact of life in many parts of the U.S. as a result of human-induced climate change, researchers report today in a new assessment. These and other changes will continue and likely increase in intensity into the future, the scientists found.

Researchers representing 13 U.S. government science agencies, major universities and research institutes produced the study, "Global Climate Change Impacts in the United States." Commissioned in 2007, it is the most comprehensive report to date on national climate change, offering the latest information on rising temperatures, heavy downpours, extreme weather, sea level changes and other results of climate change in the U.S.

The 190-page report is a product of the interagency U.S. Global Change Research Program, led by the National Oceanic and Atmospheric Administration. It is written in accessible language, intended to better inform members of the public and policymakers about the social, environmental and economic costs of climate change. It focuses on effects by region and details how the nation's transportation, agriculture, health, water and energy sectors will be affected in the future.

In a press conference today, University of Illinois Harry E. Preble Professor of Atmospheric Sciences Don Wuebbles, a contributor to the assessment, outlined the current and predicted effects of climate change in the Midwest U.S.

"We well recognize that the earth's climate varies naturally and has been warmer and cooler in the past," Wuebbles said. "But we also know that the climate changes we are experiencing today are largely the result of human activities."

Average temperatures have risen in the Midwest in recent decades, Wuebbles said, especially in winter. The growing season has been extended by one week. Heavy downpours are now twice as frequent as they were a century ago, he said, and the Midwest has experienced two, record-breaking floods in the past 15 years.

These trends are expected to continue into the future, Wuebbles said. Average annual temperatures are expected to increase by about two degrees Fahrenheit over the next few decades, and by as much as seven to 10 degrees by the end of the century, he said, with more warming projected for summer than winter.

Precipitation is expected to increase in the winter and spring, while summer precipitation will likely decline.

"More of the precipitation is likely to occur during heavier events," Wuebbles said.

As temperatures and humidity increases, heat waves, reduced air quality and insect-borne diseases are more likely to occur. Pollen production and the growth of fungi will also be stimulated, he said.

Heavy downpours can overload drainage systems and water treatment facilities, increasing the risk of waterborne diseases, he said.

The Great Lakes, which contain 20 percent of the planet's fresh surface water, will also be affected by the changing climate, Wuebbles said. Depending on the extent of climate change, average water levels in the

Great Lakes could drop by as much as two feet in this century, he said. This would affect beaches, coastal ecosystems, fish populations, dredging requirements and shipping.

Some of the effects of the changing climate are inevitable and will require human and animal populations to adapt, Wuebbles said. Other effects can be mitigated by limiting future emissions of carbon dioxide and other greenhouse gases that contribute to climate change, he said.

Source: University of Illinois at Urbana-Champaign (news : web)