

Studies fault warming in much of 2013 wild weather (Update 2)

September 29 2014, by Seth Borenstein



In this Sept. 29, 2013 file photo, an Indian rickshaw puller sits atop the passenger seat to protect himself during heavy downpour in Allahabad, India. Scientists looking at 16 cases of wild weather around the world last year see the fingerprints of man-made global warming on more than half of them. Researchers found that climate change increased the odds of nine extremes: Heat waves in Australia, Europe, China, Japan and Korea, intense rain in parts of the United States and India, and severe droughts in California and New Zealand. (AP Photo/ Rajesh Kumar Singh, File)

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Scientists couldn't find a global warming link to an early South Dakota blizzard, freak storms in Germany and the Pyrenees, heavy rain in Colorado, southern and central Europe, and a cold British spring.

Organized by the U.S. National Oceanic and Atmospheric Administration, researchers on Monday published 22 studies on 2013 climate extremes in a special edition of the *Bulletin of the American Meteorological Society*.

"It's not ever a single factor that is responsible for the extremes that we see," said NOAA National Climatic Data Center director Tom Karl said. "Natural variability is always part of any extreme climate event."

For years, scientists said they could not attribute single weather events—like a drought, heat wave or storm—to man-made global warming. But with better computer models and new research, in some cases scientists can see how the odds of events increase—or not—because of climate change. Other researchers question the usefulness and accuracy of focusing on single extreme events.



In this Aug. 20, 2014 file photo, a woman takes a walk under the scorching sun in Tokyo. Scientists looking at 16 cases of wild weather around the world last year see the fingerprints of man-made global warming on more than half of them. Researchers found that climate change increased the odds of nine extremes: Heat waves in Australia, Europe, China, Japan and Korea, intense rain in parts of the United States and India, and severe droughts in California and New Zealand. (AP Photo/Eugene Hoshiko, File)

The editors of the 108-page compilation of studies wrote that people and animals tend to be more affected by extreme weather than changes in averages, so they pay attention to it. The public often connects extreme events to climate change, sometimes wrongly, so scientific analysis like this "can help inform the public's understanding of our changing environment."

The report seeks to find how much and how man-made warming has influenced the weather, said NOAA research meteorologist Martin

Hoerling, an editor of the report.

The influence on Australia's hottest year in more than a century is glaring, the report's editors said.

"It's almost impossible" to explain Australia's hot 2013 without climate change, said Peter Stott of Britain's meteorology office, another report editor.

The most complicated issue is the California drought, the only extreme that has continued into this year.

Three teams studied that state's record drought in different ways. Two teams couldn't find a link to global warming and water and air temperatures, but the third from Stanford University looked at high pressure patterns in the air and found a connection.

A high pressure system parks over the northern Pacific during California's winters, which is normally when it gets rain. Higher atmospheric pressure usually means less storms and rain. The pressure was so strong last year that study lead author Daniel Swain called it "a ridiculously resilient ridge."

The Stanford team ran computer models with and without man-made warming from the burning of coal, oil and gas. The warming from greenhouse gases showed that the rain-blocking ridge of high pressure was more than three times more likely with man-made factors than without, Swain said.

"The report as a whole is a reflection that more and more future climate extremes around the globe will be attributed to human-caused climate change," said University of Arizona climate scientist Jonathan Overpeck, who wasn't part of the research.

In two extreme events—the British cold spring and the September northern Colorado rains—the report found global warming actually decreased their likelihoods and yet they happened.

More information: Report: bit.ly/1vqVXvO

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