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Global Temperature Report: March 2012

U.S. hits record highs in March, Iowa is 'warmest' place on Earth

Global climate trend since Nov. 16, 1978: +0.13 C per decade

March temperatures (preliminary)

Global composite temp.: +0.11 C (about 0.20 degrees Fahrenheit) above 30-year average for March.

Northern Hemisphere: +0.13 C (about 0.23 degrees Fahrenheit) above 30-year average for March.

Southern Hemisphere: +0.09 C (about 0.16 degrees Fahrenheit) above 30-year average for March.

Tropics: -0.11 C (about 0.20 degrees Fahrenheit) below 30-

year average for March.

February temperatures (revised):

Global Composite: -0.11 C below 30-year average

Northern Hemisphere: -0.01 C below 30-year average

Southern Hemisphere: -0.21 C below 30-year average

Tropics: -0.28 C below 30-year average

(All temperature anomalies are based on a 30-year average (1981-2010) for the month reported.)

Notes on data released April 3, 2012:

Compared to seasonal norms, March 2012 was the warmest month on record in the 48 contiguous U.S. states, according to Dr. John Christy, a professor of atmospheric science and director of the Earth System Science Center at The University of Alabama in Huntsville. Temperatures over the U.S. averaged 2.82 C (almost 5.1° Fahrenheit) warmer than normal in March.

The previous U.S. record warm anomaly in the 33-year satellite temperature record was in November 1999, when temperatures over the U.S. averaged 2.22 C (about 4° F) warmer than the seasonal norm for November. The next warmest March was in 2007, when temperatures over the U.S. were 2.0 C (about 3.2° F) warmer than normal.

While the long-term climate trend over the U.S. has seen warming at the rate of about 0.21 C (almost 0.38° F) per decade during the past one third of a century, March's temperature anomaly is just that: an anomaly, Christy said.

“We see hot and cold spots over the globe every month, and this was just our turn. A one-time anomaly like this is related to weather rather than climate. Weather systems aligned in March in a way that changed normal circulation patterns and brought more warm air than usual to the continental U.S.”

In fact, the warmest spot on the globe in March (compared to seasonal norms) was northeastern Iowa, where temperatures for the month averaged 6.20 C (about 11.2° F) warmer than normal.

By comparison, the winter (DJF) of 2011-2012 averaged 0.94 C (about 1.7° F) warmer than seasonal norms for the continental U.S.

In recent years March has not typically seen temperature extremes over the U.S. The March 2011 temperature for the “lower 48” was at the seasonal norm.

The coolest spot on Earth in March 2012 was northwestern Alaska, where temperatures averaged 3.89 C (7.0° F) colder than normal.

Archived color maps of local temperature anomalies are available on-line at:

<http://nsstc.uah.edu/climate/>

The processed temperature data is available on-line at:

vortex.nsstc.uah.edu/data/msu/t2lt/uahncdc.lt

As part of an ongoing joint project between UAHuntsville, NOAA and NASA, John Christy, a professor of atmospheric science and director of the Earth System Science Center (ESSC) at The University of Alabama in Huntsville, and Dr. Roy Spencer, an ESSC principal scientist, use data gathered

by advanced microwave sounding units on NOAA and NASA satellites to get accurate temperature readings for almost all regions of the Earth. This includes remote desert, ocean and rain forest areas where reliable climate data are not otherwise available.

The satellite-based instruments measure the temperature of the atmosphere from the surface up to an altitude of about eight kilometers above sea level. Once the monthly temperature data is collected and processed, it is placed in a "public" computer file for immediate access by atmospheric scientists in the U.S. and abroad.

Neither Christy nor Spencer receives any research support or funding from oil, coal or industrial companies or organizations, or from any private or special interest groups. All of their climate research funding comes from federal and state grants or contracts.