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Global Temperature Report: February 2013

Rapid warming followed by equally rapid cooling

Global climate trend since Nov. 16, 1978: +0.14 C per decade

February temperatures (preliminary)

Global composite temp.: +0.18 C (about 0.32 degrees Fahrenheit) above 30-year average for February.

Northern Hemisphere: +0.37 C (about 0.67 degrees Fahrenheit) above 30-year average for February.

Southern Hemisphere: -0.02 C (about 0.04 degrees Fahrenheit) below 30-year average for February.

Tropics: +0.17 C (about 0.31 degrees Fahrenheit) above 30-year average for February.

January temperatures (revised):

Global Composite: +0.50 C above 30-year average

Northern Hemisphere: +0.56 C above 30-year average

Southern Hemisphere: +0.45 C above 30-year average

Tropics: +0.37 C above 30-year average

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

Notes on data released March 5, 2013:

Global average temperature anomalies that jumped almost three tenths of a degree Celsius from December 2012 to January 2013, fell by more than three tenths through February, 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. The cooling was especially pronounced in the Southern hemisphere, where temperatures dropped from 0.45 C (0.81 degrees F) warmer than seasonal norms in January to 0.02 C (about 0.036 F) cooler than seasonal norms in February.

"On monthly time scales, apparently that goes up can come down," Christy said.

Compared to seasonal norms, over the past month the coldest area on the globe was along the eastern border of Mongolia, where the average temperature in February was as much as 4.55 C (about 8.2 degrees Fahrenheit) cooler than seasonal norms. Compared to seasonal norms, the "warmest" area on the globe in February was off the southeastern coast of Iceland. Temperatures there averaged 3.55 C (about 6.4 degrees Fahrenheit) warmer than seasonal norms for February.

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.

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