

July 1, 2014

Vol. 24, No. 3

For Additional Information:

Dr. John Christy, (256) 961-7763

john.christy@nsstc.uah.edu

Dr. Roy Spencer, (256) 961-7960

roy.spencer@nsstc.uah.edu

Global Temperature Report: June 2014

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

June temperatures (preliminary)

Global composite temp.: +0.30 C (about 0.54 degrees Fahrenheit) above 30-year average for June.

Northern Hemisphere: +0.32 C (about 0.58 degrees Fahrenheit) above 30-year average for June.

Southern Hemisphere: +0.29 C (about 0.52 degrees Fahrenheit) above 30-year average for June.

Tropics: +0.51 C (about 0.92 degrees Fahrenheit) above 30-year average for June.

May temperatures (revised):

Global Composite: +0.33 C above 30-year average

Northern Hemisphere: +0.33 C above 30-year average

Southern Hemisphere: +0.33 C above 30-year average

Tropics: +0.18 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 July 1, 2014:

June 2014 might have been the fourth warmest June in the 36-year satellite record, but recent changes in the tropical Pacific might indicate the globe isn't going to set any temperature records in upcoming months, 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 global average temperature for June was 0.30 C (about 0.54 degrees Fahrenheit) warmer than seasonal norms for the month, warm enough to tie June 2013 for fourth warmest. (The warmest June was in 1998, during the "El Niño of the century." Global average temperatures in June 1998 were 0.51 C [about 0.92 degrees F] warmer than normal.)

Early indications that an El Niño Pacific Ocean warming event might be forming faded in June, although the atmosphere typically takes a couple of months to catch up to what is going on in the oceans. In June, the tropical Pacific Ocean did not continue to warm. This doesn't mean a strong El Niño isn't possible, so we shall wait and see.

In general, atmospheric temperatures do not immediately reflect that ocean cooling: The tropical atmosphere saw its second warmest June on record at 0.51 C (about 0.92 F)

warmer than normal, as it was still feeling the extra ocean heat from two months ago. In the tropics, the only June warmer was in 1998, at 0.53 C warmer than normal.

Compared to seasonal norms, the coldest place in Earth's atmosphere in June was over the Ross Ice Shelf, where Antarctic winter temperatures were as much as 5.37 C (about 9.67 degrees Fahrenheit) colder than seasonal norms. Compared to seasonal norms, the warmest departure from average in June was southeast of the southern tip of South America, in the Atlantic Ocean northeast of South Georgia and the South Sandwich Islands. Temperatures there were as much as 2.85 C (about 5.13 degrees Fahrenheit) warmer than seasonal norms.

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

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

As part of an ongoing joint project between UAHuntsville, NOAA and NASA, Christy 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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