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Global Temperature Report: October 2012

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

October temperatures (preliminary)

Global composite temp.: +0.33 C (about 0.59 degrees Fahrenheit) above 30-year average for October.

Northern Hemisphere: +0.30 C (about 0.54 degrees Fahrenheit) above 30-year average for October.

Southern Hemisphere: +0.36 C (about 0.65 degrees Fahrenheit) above 30-year average for October.

Tropics: +0.11 C (about 0.20 degrees Fahrenheit) above 30-year average for October.

September temperatures (revised):

Global Composite: +0.34 C above 30-year average

Northern Hemisphere: +0.35 C above 30-year average

Southern Hemisphere: +0.33 C above 30-year average

Tropics: +0.15 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 Nov. 6, 2012:

The pause in the anticipated El Niño Pacific Ocean warming event — seen in the sea surface temperatures in the Pacific during the past two months — is now appearing in the tropical upper air, 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 absent El Niño shows up in the relative temperatures of the world's parts: While October 2012 was the second warmest October in the satellite record for the Southern Hemisphere and fourth warmest for the north, the tropics were scarcely warmer than normal for the month — only the 13th “warmest” October in the 34-year satellite record.

Compared to seasonal norms, the coldest area on the globe in October was south central Saskatchewan to the east of Saskatoon, which was 2.28 C (about 4.1 Fahrenheit) cooler than normal for the month. The warmest area was in the central Bering Sea, where temperatures averaged 3.95 C (about 7.1 degrees Fahrenheit) warmer than seasonal norms for October.

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.