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Global Temperature Report: September 2014

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

September temperatures (preliminary)

Global composite temp.: +0.29 C (about 0.52 degrees Fahrenheit) above 30-year average for September.

Northern Hemisphere: +0.19 C (about 0.34 degrees Fahrenheit) above 30-year average for September.

Southern Hemisphere: +0.40 C (about 0.72 degrees Fahrenheit) above 30-year average for September.

Tropics: +0.18 C (about 0.32 degrees Fahrenheit) above 30-year average for September.

August temperatures (revised):

Global Composite: +0.20 C above 30-year average

Northern Hemisphere: +0.24 C above 30-year average

Southern Hemisphere: +0.15 C above 30-year average

Tropics: +0.06 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 Oct. 6, 2014:

There was some warming in the tropics in September as an El Niño Pacific Ocean warming event apparently tries to get its act together, 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.

During the 1997-1998 El Niño, the September 1997 tropical temperature anomaly was +0.34 C (about 0.61 degrees F) warmer than seasonal norms, while in the 2009-2010 El Niño the September 2009 anomaly was +0.56 C, or about 1.01 F warmer than seasonal norms. That could indicate that this El Niño — if it fully develops — might be somewhat modest.

Compared to seasonal norms, the coldest place in Earth's atmosphere in September was in northern Canada of the northern coast of Prince Charles Island, where temperatures were as much as 2.73 C (about 4.91 degrees Fahrenheit) colder than seasonal norms. Compared to seasonal norms, the warmest departure from average in September was in the western Antarctic, along the eastern edge of the Ross Ice Shelf. Temperatures there were as much as 5.35 C (about 9.63 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.