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For Additional Information:

Dr. John Christy, (256) 961-7763

[john.christy@nsstc.uah.edu](mailto:john.christy@nsstc.uah.edu)

Dr. Roy Spencer, (256) 961-7960

[roy.spencer@nsstc.uah.edu](mailto:roy.spencer@nsstc.uah.edu)

## **Global Temperature Report: November 2013**

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

November temperatures (preliminary)

Global composite temp.: +0.19 C (about 0.34 degrees Fahrenheit) above 30-year average for November.

Northern Hemisphere: +0.16 C (about 0.29 degrees Fahrenheit) above 30-year average for November.

Southern Hemisphere: +0.23 C (about 0.41 degrees Fahrenheit) above 30-year average for November.

Tropics: +0.02 C (about 0.04 degrees Fahrenheit) above 30-year average for November.

October temperatures (revised):

Global Composite: +0.29 C above 30-year average

Northern Hemisphere: +0.33 C above 30-year average

Southern Hemisphere: +0.25 C above 30-year average

Tropics: +0.03 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 Dec. 4, 2013:**

Compared to seasonal norms, in November the warmest area on the globe was in eastern Antarctica, where the average temperature for the month was 5.32 C (almost 9.6 degrees F) warmer than seasonal norms, 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 coolest area was in northwestern Greenland, where temperatures in the troposphere were 4.16 C (almost 7.5 degrees F) cooler 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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