Dec. 3, 2015

Vol. 25, No. 8

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: November 2015

El Niño continues to push temperatures

Global climate trend since Nov. 16, 1978: +0.11 C per decade

November temperatures (preliminary)

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

Northern Hemisphere: +0.43 C (about 0.77 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: +0.53 C (about 0.95 degrees Fahrenheit) above 30-year average for October.

October temperatures (revised):

Global Composite: +0.43 C above 30-year average

Northern Hemisphere: +0.64 C above 30-year average

Southern Hemisphere: +0.21 C above 30-year average

Tropics: +0.53 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. 3, 2015:

As expected, the El Niño Pacific Ocean warming event continued to push temperatures to record highs in November, although the monthly anomaly in the Northern Hemisphere dropped from October to November, said Dr. John Christy, director of the Earth System Science Center at The University of Alabama in Huntsville. "The Northern Hemisphere cooled a bit in November, leading to a small drop in global temperatures. The tropical Pacific Ocean is still very warm, with much above normal quantities of heat that likely will be transferred to the atmosphere in the coming months."

In comparing the 1997-1998 El Niño to the current event, Christy noted that while the tropics were cooler in November 1997 than they are now (+0.34 to +0.53 C), "the tropics warmed to +1.28 C by February 1998 during that big El Niño." While this doesn't mean the current El Niño will necessarily follow the same warming pattern over the next

four months, it is a point from history to remember, Christy said.

Despite the cooling in the Northern Hemisphere, globally November 2015 was the warmest November in the 37-year satellite temperature dataset, with a temperature that was 0.05 C warmer than November 2009. It was also the warmest November in both the Northern Hemisphere and the tropics.

Compared to seasonal norms, the warmest average temperature anomaly on Earth in November was over the northeastern edge of Russia's Kamchatka Peninsula. November temperatures there averaged 4.10 C (about 7.38 degrees F) warmer than seasonal norms. Compared to seasonal norms, the coolest average temperature on Earth in November was also in Russia, north of the Kara Sea, where the average November 2015 temperature was 3.84 C (about 6.91 degrees F) cooler than normal.

The complete version 6 beta lower troposphere dataset is available here:

http://vortex.nsstc.uah.edu/data/msu/v6.0beta/tlt/uahncdc_lt_6.0beta4.txt

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 are collected and processed, they are 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.