Vol. 18, No. 7

For more information:
Dr. John Christy, (256) 961-7763
Dr. Roy Spencer, (256) 961-7960
Phillip Gentry, (256) 824-6420

For immediate release

Global Temperature Report, November 2008 (Plus 30-year report)

Earth has warmed 0.4 C in 30 years

HUNTSVILLE, Ala. (Dec. 10, 2008) -- Half of the globe has warmed at least one half of one degree Fahrenheit (0.3 C) in the past 30 years, while half of that -- a full quarter of the globe -- warmed at least one full degree Fahrenheit (0.6 C), according to Dr. John Christy, a professor of atmospheric science and director of the Earth System Science Center (ESSC) at The University of Alabama in Huntsville.

Globally, Earth's atmosphere warmed an average of about 0.4 C (or about 0.72 degrees Fahrenheit) in 30 years, according to data collected by sensors aboard NOAA and NASA satellites. More than 80 percent of the globe warmed by some amount.

A map of Earth's climate changes since December 1, 1978, (when satellite sensors started tracking the climate) doesn't show a uniform global warming. It looks more like a thermometer: Hot at the top, cold at the bottom and varying degrees of warm in the middle.

This is a pattern of warming not forecast by any of the major global climate models.

The area of fastest warming is clustered around the Northern Atlantic and Arctic oceans, stretching from Arctic Canada across

Greenland to
Scandinavia. The greatest warming has been on opposite ends of Greenland,
where temperatures have jumped as much as 2.5 C (about 4.6 degrees F) in
30 years.

During the same time, however, much of the Antarctic has cooled, with
parts of the continent cooling as much as Greenland has warmed. But areas
of cooling were isolated: Only four percent of the globe cooled by at
least half of one degree Fahrenheit.

"If you look at the 30-year graph of month-to-month temperature anomalies,
the most obvious feature is the series of warmer than normal months that
followed the major El Nino Pacific Ocean warming event of 1997-1998," said
Christy. "Right now we are coming out of one La Nina Pacific Ocean cooling
event and we might be heading into another. It should be interesting over
the next several years to see whether the post La Nina climate 're-sets'
to the cooler seasonal norms we saw before 1997 or the warmer levels seen
since then."

Virtually all of the warming found in the satellite temperature record has
taken place since the onset of the 1997-1998 El Nino. Earth's average
temperature showed no detectable warming from December 1978 until the 1997
El Nino.

Color maps of local temperature anomalies may soon be available on-line
at: http://climate.uah.edu/

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 The University of Alabama in

Huntsville, NOAA and NASA, Christy and Dr. Roy Spencer, a principal research scientist in the ESSC, use data gathered by 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 for which 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 Spencer nor Christy 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 state and federal grants or contracts.

November Temperature Report

Global trend since Nov. 16, 1978: +0.13 C per decade

November temperatures (preliminary):

Global composite temp.: +0.25 C (about 0.31 degrees Fahrenheit) above 20-year average for November.

Northern Hemisphere: +0.34 C (about 0.47 degrees Fahrenheit) above 20-year average for November.

Southern Hemisphere: +0.17 C (about 0.13 degrees Fahrenheit) above 20-year average for November.

October temperatures (revised):

Global Composite: +0.17 C above 20-year average

Northern Hemisphere: +0.26 C above 20-year average

Southern Hemisphere: +0.07 C above 20-year average

(All temperature variations are based on a 20-year average (1979-1998) for the month reported.)

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(EDITORS: High- and low-resolution graphics, including 30-year global and North America trend maps, the November global anomaly map and the 30-year graph of month-to-month temperature anomalies, are available on request by return e-mail to Phillip Gentry at gentryp@uah.edu)