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Global Temperature Report: October 2010

The 'coolest' month in 2010
ties second warmest October

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

October temperatures (preliminary)

Global composite temp.: +0.42 C (about 0.76 degrees Fahrenheit) above 20-year average for October.

Northern Hemisphere: +0.37 C (about 0.67 degrees Fahrenheit) above 20-year average for October.

Southern Hemisphere: +0.47 C (about 0.85 degrees Fahrenheit) above 20-year average for October.

Tropics: +0.15 C (about 0.27 degrees Fahrenheit) above 20-year average for October.

September temperatures (revised):

Global Composite: +0.60 C above 20-year average

Northern Hemisphere: +0.56 C above 20-year average

Southern Hemisphere: +0.65 C above 20-year average

Tropics: +0.29 C above 20-year average

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

Notes on data released Nov. 2, 2010:

How warm has 2010 been? So warm that although October was the coolest month so far this year year (compared to seasonal norms), it tied October 2006 as the second warmest October in the 32-year satellite climate record, according to Dr. John Christy, professor of atmospheric science and director of the Earth System Science Center at The University of Alabama in Huntsville.

Warmest Octobers*

Year	Globe	NH	SH	Trpcs
2005	0.47	0.48	0.45	0.15
2006	0.42	0.38	0.47	0.33
2010	0.42	0.37	0.47	0.15
1998	0.41	0.51	0.31	0.34
2003	0.41	0.55	0.27	0.3
2004	0.36	0.33	0.38	0.19
2009	0.36	0.33	0.39	0.39
2001	0.3	0.25	0.36	0.21
2007	0.26	0.31	0.22	-0.11
2002	0.25	0.0	0.49	0.2

*Compared to seasonal norms.

2010 remains the second hottest year in the record, with average daily temperatures through October that were only 0.03 C -- a difference that is not statistically significant -- cooler than the record set in 1998 during an El Nino Pacific Ocean warming event.

Color maps of local temperature anomalies may soon be 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, Christy and Dr. Roy Spencer, a principal research scientist in the ESSC, 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.

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