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Global Temperature Report: August 2011

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

August temperatures (preliminary)

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

Northern Hemisphere: +0.32 C (about 0.58 degrees Fahrenheit) above 30-year average for August.

Southern Hemisphere: +0.33 C (about 0.59 degrees Fahrenheit) above 30-year average for August.

Tropics: +0.15 C (about 0.27 degrees Fahrenheit) above 30-year average for August.

July temperatures (revised):

Global Composite: +0.37 C above 30-year average

Northern Hemisphere: +0.34 C above 30-year average

Southern Hemisphere: +0.40 C above 30-year average

Tropics: +0.20 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 Sept. 6, 2011:

Averaged globally, August 2011 was the third warmest August in the past 34 years, 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 Southern Hemisphere saw its second warmest August in that time, while it was the fourth warmest August in the Northern Hemisphere.

August maps show a large area of warm over most of the contiguous 48 U.S. States, plus Mexico and the Caribbean. Slightly warmer than normal temperatures also covered most of Europe and large portions of North Asia in August. The high temperatures over Texas, surrounding states and Northern Mexico show up even stronger when looked at as a three-month seasonal anomaly. (Please note that the three-month anomaly map uses 0.25 C contours.) It was a warm season in both the Arctic and the Antarctic, with winter temperatures in the Antarctic averaging as much as 3.0 C (5.4 degrees F) warmer than seasonal norms.

Warmest Augusts, Global
Temperature Anomalies
(degrees Celsius)

1998	0.45
2010	0.44
2011	**0.33**
2001	0.25
1995	0.21
2006	0.19
2002	0.17
2007	0.17
2009	0.17
1991	0.14
2005	0.13
2003	0.11
1988	0.09
1980	0.05
1996	0.05

1997 0.02
1983 -0.01
1981 -0.02
1987 -0.04
1990 -0.05

Southern Hemisphere
August Temp Anomalies
Warmer Than Norms

1998 0.44
2011 0.33
2010 0.29
2002 0.29
1996 0.28
2006 0.23
2009 0.20
1995 0.18
1980 0.18
2007 0.17
1991 0.17
2001 0.14
2005 0.09
1987 0.03
2003 0.01

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.

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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