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Global Temperature Report: August 2012

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

August temperatures (preliminary)

Global composite temp.: +0.34 C (about 0.61 degrees Fahrenheit) above 30-year average for August.

Northern Hemisphere: +0.38 C (about 0.68 degrees Fahrenheit) above 30-year average for August.

Southern Hemisphere: +0.31 C (about 0.56 degrees Fahrenheit) above 30-year average for August.

Tropics: +0.26 C (about 0.47 degrees Fahrenheit) above 30-year average for August.

July temperatures (revised):

Global Composite: +0.28 C above 30-year average

Northern Hemisphere: +0.45 C above 30-year average

Southern Hemisphere: +0.11 C above 30-year average

Tropics: +0.33 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. 5, 2012:

Compared to global seasonal norms, August 2012 was the third hottest August in the 34-year satellite temperature record, 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 last three Augusts have been three of the four warmest in the past 34 years, trailing only August 1998 — which was during a major El Nino Pacific Ocean warming event.

An El Nino warming event is still evident in the global temperature maps, stretching out across the tropical and southern Pacific Ocean from the west coast of South America, with temperatures in the tropics warming slightly from July through August.

The coldest and hottest spots on the globe (compared to seasonal norms) weren't all that far apart in August: The "warmest" area was in the southwestern Atlantic Ocean off the coast of Argentina, where temperatures were as much as 3.43 C (6.17 degrees Fahrenheit) warmer than season norms. The Antarctic winter continues to run colder than normal. Compared to seasonal norms, the "coldest" spot on the globe in August was near the South Pole, with average temperatures as much as 3.38 C (6.08 F) colder than normal

for the month.

Global August Temperature Anomalies

1.	1998	0.46
2.	2010	0.44
3.	**2012**	**0.34**
4.	2011	0.33
5.	2001	0.25
6.	1995	0.21
7.	2006	0.19
8.	2002	0.17
8.	2007	0.17
8.	2009	0.17
11.	1991	0.14
12.	2005	0.13
13.	2003	0.11
14.	1988	0.09
15.	1980	0.05
15.	1996	0.05
17.	1997	0.02
18.	1983	-0.01
19.	1981	-0.02
20.	1987	-0.04
21.	1990	-0.05
22.	2004	-0.06
22.	2008	-0.06
24.	1999	-0.12
24.	2000	-0.12
26.	1989	-0.13
26.	1994	-0.13
28.	1979	-0.24
29.	1993	-0.25
30.	1982	-0.26
31.	1985	-0.27
32.	1984	-0.28

33. 1986 -0.30
34. 1992 -0.47

Archived color maps of local temperature anomalies are 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, John Christy, a professor of atmospheric science and director of the Earth System Science Center (ESSC) at The University of Alabama in Huntsville, 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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