

Sep 6, 2018

Vol. 28, No. 5

For Additional Information:

Dr. John Christy, (256) 961-7763  
christy@nsstc.uah.edu

Dr. Roy Spencer, (256) 961-7960  
spencer@nsstc.uah.edu

## **Global Temperature Report: August 2018**

Global climate trend since Dec. 1 1978: +0.13 C per decade

### **August Temperatures (preliminary)**

Global composite temp.: +0.19 C (+0.34 °F) above seasonal average

Northern Hemisphere.: +0.21 C (+0.38°F) above seasonal average

Southern Hemisphere.: +0.16 C (+0.29 °F) above seasonal average

Tropics.: +0.12 C (+0.22 °F) above seasonal average

### **July Temperatures (final)**

Global composite temp.: +0.32 C (+0.58 °F) above seasonal average

Northern Hemisphere.: +0.42 C (+0.76°F) above seasonal average

Southern Hemisphere.: +0.21 C (+0.38 °F) above seasonal average

Tropics.: +0.29 C (+0.52 °F) above seasonal average

### **Notes on data released September 6, 2018**

The seasonally-adjusted global average temperature fell slightly to +0.19 °C (+0.34 °F) as nearly all regions of the globe cooled relative to their July readings. For the first 8 months of the 2018 calendar year, the atmosphere is averaging a departure from average of +0.23 °C (+0.41 °F) which is cooler than observed since 2014 when the annual average was +0.18 °C (+0.32 °F).

The coolest seasonally adjusted temperature was found in the far southeastern Pacific Ocean at -3.42 °C (-6.16 °F) below average. The warmest spot was near Dome Fuji in East Antarctica at +3.91 °C (+7.04 °F). The tropics as a whole show virtually no noticeable departures from average. Especially warm areas occurred in the Gulf of Alaska, Canadian Maritime Provinces, Eastern Europe, northern China, far South Atlantic and East Antarctica. Cooler than average regions covered Arctic Canada, Iceland, Sea of Okhotsk and parts of the far southern oceans.

While the outlook for a developing warm El Niño is still “favorable” according to NOAA (3 Sep 2018), the Pacific sea surface temperatures are giving mixed signals, being very warm north of the equator, but cooler than average south of the equator. The deeper ocean heat content down to 300 m is above average in the Pacific so provides evidence still pointing toward warmer (El Niño) conditions in the coming months. If this occurred it would be followed by warmer atmospheric temperatures a few months later. We will monitor developments of this unusual situation.

As part of an ongoing joint project between UAH, 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. They are assisted by Dr. W. Daniel Braswell and Robert Junod in the generation of these products.

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.

The complete version 6 lower troposphere dataset is available here:

[http://www.nsstc.uah.edu/data/msu/v6.0/tlt/uahncdc\\_lt\\_6.0.txt](http://www.nsstc.uah.edu/data/msu/v6.0/tlt/uahncdc_lt_6.0.txt)

Archived color maps of local temperature anomalies are available on-line at:

<http://nsstc.uah.edu/climate/>

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.