

Last Year Among Hottest On Record, Say Scientists



The Northern Hemisphere and the Arctic are warming faster than the rest of the planet, threatening the habitat of animals such as this ribbon seal. (Reuters)

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Data collected from around the globe indicate that 2007 ranks as the second-warmest year on record, according to a new analysis from climatologists at NASA's Goddard Institute for Space Studies.

A second team of scientists, at the [National Oceanic and Atmospheric Administration](#), has come up with slightly different results using the same raw data -- suggesting that last year was the fifth-warmest on record -- but the groups reached the same conclusion on where Earth's climate has been headed for the past quarter-century. Taking into account the new data, they said, seven of the eight warmest years on record have occurred since 2001.

Gavin Schmidt, a climate scientist at Goddard, said researchers are not as focused on "any individual year but the long-term trends."

"We've got a sustained warming of the planet, which is unequivocal, and the best we can work out is that it's because we've been increasing the greenhouse gas emissions, primarily," Schmidt said in a telephone interview yesterday. "That means it's going to continue. The long-term trends are up, and they're up in the same way our models have been predicting for the last 20 years."

According to the [NASA](#) analysis, the global average land-ocean temperature last year was 58.2 degrees Fahrenheit, slightly more than 1 degree above the average temperature between 1951 and 1980, which scientists use as a baseline. While a 1-degree rise may not seem like much, it represents a major shift in a world where average temperatures over broad regions rarely vary more than a couple hundredths of a degree.

The 2007 average was the same as for 1998, which was the hottest year on record until 2005 hit a global average of 58.3 degrees Fahrenheit.

The NASA scientists based their findings, encompassing all of 2007, on readings from thousands of weather stations around the world. NOAA's National Climatic Data Center researchers used the same readings but did not include December in their preliminary assessment, which will be finalized next week. The groups also analyzed the data a bit differently to compensate for phenomena such as the urban heat island effect and gaps in data.

NOAA issued a news release in mid-December saying that the global average for 2007 "is expected to be near 58.0 F." The same release said last year's preliminary annual average temperature for the contiguous 48 states "will likely be near 54.3 degrees F," which would make 2007 the eighth-warmest year since the United States started recording the data in 1895.

Asked about the agency's findings, NOAA spokesman Scott Smullen said, "Most of the observed increase in global average temperatures in the last 50 years is very likely due to increased human-induced greenhouse gas concentrations, but we cannot yet discern warming trends in the last 10 years with the same resolution."

Rafe Pomerance, president of the advocacy group Clean Air-Cool Planet, said he expects "the new data will continue to heighten concern around the world. The need for intervention to turn down emissions is more apparent than ever."

Pomerance said he is particularly alarmed by NASA's findings on temperatures in the Northern Hemisphere and the Arctic, which have warmed faster than other parts of the globe. Schmidt and his colleagues concluded that 2007 is the warmest year on record for the Northern Hemisphere, with a 1.9-degree-Fahrenheit rise over the 1951-80 average, a difference he called "quite significant."

In the Arctic, the NASA scientists found, last year's average was 4.1 degrees higher than the 1951-80 baseline. "The climate signal is just very powerful," Pomerance said.

While Schmidt likened focusing on any one year's temperature readings to "digesting polls in the [New Hampshire](#) [presidential] primary," the numbers carry weight in the public policy arena because officials in the United States and abroad have become increasingly focused on what degree of global temperature rise is dangerous.

The world is about 1.44 degrees Fahrenheit warmer than it was in preindustrial periods, and many scientists warn that the globe cannot afford to get 3.6 degrees Fahrenheit warmer than it was in preindustrial times. Current climate models indicate that Earth will warm by about three-quarters of a degree over the next two decades because of greenhouse gases already emitted into the atmosphere.