

## Was 2019 a Hot Year, or Was There Just Lots of Hot Talk?

By Steven Milloy January 24, 2020

Two federal agencies reported last week that 2019 was the second warmest year since recordkeeping began in 1880. Much of the media converted "warmest" into "hottest." What are we to make of this?

First, it is no surprise that 2019 was one of the warmest years since the late-19th century. It's no surprise for three reasons.

First, as the United Nations Intergovernmental Panel on Climate Change pointed out in 1990, Earth has been in a general warming trend since at least the mid-17th century, i.e., the coldest part of a period in the Middle Ages known as the Little Ice Age.

Second, humans have increased atmospheric carbon dioxide (CO2) levels by almost 50% compared to pre-industrial times. Although CO2 is a trace gas in the atmosphere measured at about 0.041% of the atmosphere, there is no question that it has a warming effect.

Third, humans have dramatically changed the face of the planet since pre-industrial times. The six billion people we have added to the global population since 1850, have built roads and cities and otherwise changed the landscape in ways that have a warming effect. The roads and cities part of this is called the urban heat island effect.

Despite claims to the contrary, the reality is no one really knows how much each of these factors contributes to the observed warming.

As a result of all of these factors, average global temperature – an invented metric that has no actual physical meaning and is controversial in its determination – is about 1.1C or so higher than preindustrial times.

The National Oceanographic and Atmospheric Administration (NOAA) and the National Aeronautical and Space Administration (NASA) reported last week that 2019 was about 0.95C warmer than the 20th century average. They also report that 2019 was only the 34th warmest year in US temperature record.

The agencies estimated the average global temperature to be about 58.7F – hardly "hot" by any stretch of the imagination.

What does the future hold?

Absent any large natural cooling event, the average global temperature is likely to keep increasing slowly. We are only adding to our urban heat islands and manmade emissions continue to grow, especially as Asia and Africa. Absent some heretofore unimagined technology, we will depend on the burning of fossil fuels for the coming decades. Wind and solar may make some marginal gains against fossil fuels -- because of subsidies, mandates and anti-fossil fuel regulations – but they are not functional substitutes for fossil fuels by any stretch of the imagination.

Predictions in population growth, which have been pretty good in the past, are that about another 4 billion people or so will be joining the planet by 2100. They will all need food, places to live and work, and transportation.

Is any of this a reason to panic?

So far warming has been good for Earth and humanity. NASA satellite photos and data show that the Earth is greener (i.e., carrying more life) than ever before. Higher atmospheric CO2 and swarming to date has been great for agriculture – i.e., how we feed ourselves.

But what about extreme weather, melting ice caps, rising sea level and out-of-control wildfires like those now ravaging Australia that the media bombards us with. Is warming bringing on a climatic apocalypse?

First, the Earth's average temperature is constantly cooling or warming. It is a big enough thing that it is hard to make it go in a different direction. As between warming and cooling, warming is better for a strict that and facility are the primary that place a lightly from the 1940s through the late-1970s, people feared a coming ice age. During the Little Ice Age period, cold weather-caused famines ravaged Europe.

Next, the Earth has always been subject to extreme weather. Just because you're experiencing it or reading about it in the media for the first time doesn't mean it hasn't happened before. It likely has.

Bush fires are a regular occurrence in Australia. The 1939 bush fire season, for example, was as bad if not worse than the present one. Many places that are reported as suffering sea level rise are really just the subject of natural or manmade subsidence and erosion. Miami Beach, for example, was built on a manmade sandbar 100 years ago. The ocean is slowly reclaiming it.

The planet, atmosphere and civilization are complex systems that mutually affect each other in ways that are difficult to determine. In terms of climate there are no simple answers. We don't even really know whether there are any problems much less is there reason to panic.

The only thing we know for sure is that there are more people living a higher standard of living than ever before thanks to our fossil fuel use. That's what we know. The rest is pure speculation.

Steve Milloy publishes JunkScience.com, served on the Trump EPA transition team and is the author of "Scare Pollution: Why and How to Fix the EPA (Bench Press, 2016)."

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