



Search icons: magnifying glass, grid, Twitter, Facebook, YouTube, RSS. Button: SUPPORT OUR WORK

CLIMATE CENTRAL

Researching and reporting the science and impacts of climate change

WHO WE ARE

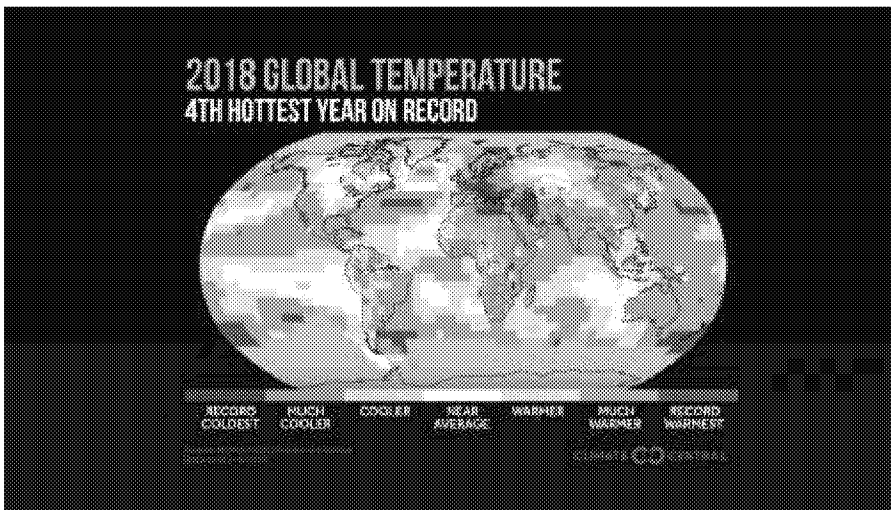
An independent organization of leading scientists and journalists researching and reporting the facts about our changing climate and its impact on our planet.

WHAT WE DO

Climate Central educates and promotes scientific research on climate change and informs the public of key findings. Our scientific journal and our award-winning reports on climate and energy are read by thousands.

ABOUT OUR EXPERTISE

Members of the Climate Central staff are based and among the most respected experts in climate science. Staff members are affiliated with leading research centers in weather, climate, and energy.



Download high resolution version

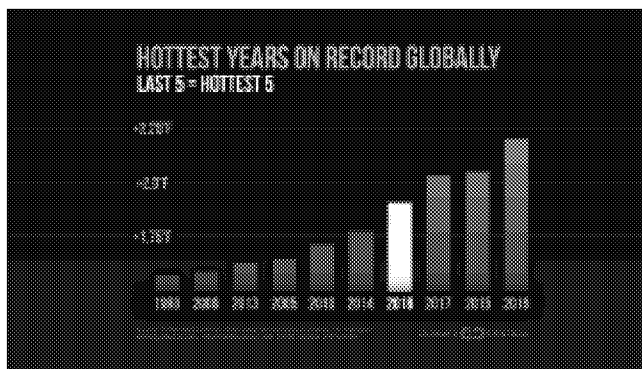
2018 Global Temp Review: Land & Ocean



Published: February 16th, 2019

By Climate Central

At long last, the government is open and the year-end climate reports from NOAA and NASA are out. As expected, 2018 was the fourth-hottest year on record globally, and another near-record year for U.S. weather and climate disasters. All of the years on record that were hotter or more disaster-filled came in the past decade.



To bring context to the global goal of limiting warming to 2°C, we compare the global temperatures to an earlier, pre-industrial 1880-1910 baseline. 2018's global temperatures were 1.90°F (1.06°C) above that baseline — more than halfway there. This made 2018 the second-warmest year on record without an El Niño event, behind only 2017. (El Niño can enhance warming, but it *can't explain all of it*.) Only 2016 and 2015 were warmer years, and 2014 rounds out the top five. With the five warmest years on record happening during the past five years — and the 20 warmest occurring over the past 22 — a consistent warming trend couldn't be clearer. Meanwhile, monthly averaged atmospheric CO₂ concentrations have risen to 411 ppm at MAUNA LOA OBSERVATORY, thanks in part to an estimated 2.7 percent increase in global CO₂ emissions from fossil fuels.

While the U.S. had its 14th-warmest year in 2018, unusual heat in Europe and the Arctic propelled the globe to higher numbers. The oceans also had their warmest year on record — a trend that intensifies sea level rise, coral bleaching, and tropical cyclones such as hurricanes.

Hurricanes hit the U.S. especially hard, leading 2018's near-record list of 14 billion-dollar weather and climate disasters. Hurricanes Michael and Florence combined for at least \$49 billion in damages — over half of the total from the year's included events (cost estimates will be updated over time). In addition, the Western wildfire season was the most expensive ever, with total damages of at least \$2.4 billion. Even the sheer number of billion-dollar events is telling — only 2011, 2016, and 2017 have had more. Unless we rapidly reduce our climate-warming emissions, these costly climate disasters will only get worse.



