

Science

Weather and climate disasters exacted a record-breaking toll on U.S. in 2017

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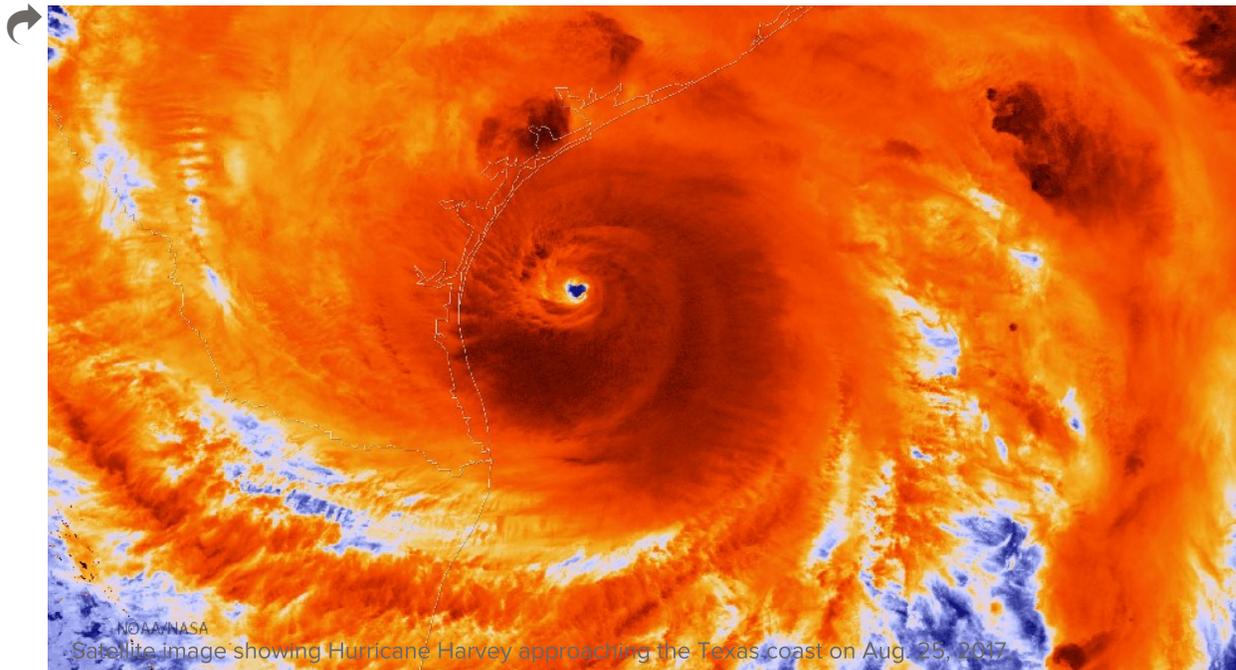


IMAGE: NOAA/NASA

BY ANDREW FREEDMAN

22 HOURS AGO

A disastrous hurricane season combined with wildfires and other extreme weather events inflicted a record-setting toll on the U.S. in 2017, with [16 billion-dollar weather and climate events](#) costing a total of \$306 billion in damage. These events caused 362 direct deaths.

These figures come from a new report from the National Oceanic and Atmospheric Administration (NOAA), released on Monday morning.

SEE ALSO: [Disastrous 2017 Atlantic hurricane season ends, with hard-hit areas still reeling](#)

The previous costliest year for the U.S. was 2005, when losses totaled \$215 billion, largely due to the three major hurricane strikes of Hurricanes Katrina, Rita, and Wilma.

The number of billion-dollar events tied 2011 for the most such disasters in a single year. The Western wildfire season alone, which scorched California in particular, cost at least \$18 billion, NOAA said, tripling the previous record annual wildfire toll.

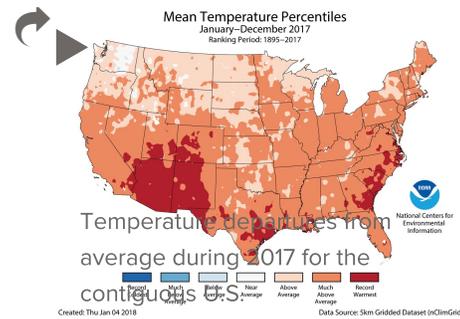


IMAGE: NOAA/NCEI

Hurricane Harvey, which caused the most extreme rainstorm ever observed in the U.S., had total costs of \$125 billion, just behind Hurricane Katrina in the 38-year period of record for billion-dollar disasters. Insurance companies are still tallying the damage for some of these events, so these costs may yet rise further.

Hurricanes Maria and Irma had total costs of \$90 billion and \$50 billion, respectively, and Hurricane Maria, which demolished Puerto Rico's power grid, ranks as the third-costliest weather and climate disaster on record for the nation.



The spike in costs for 2017 isn't directly tied to global warming, but numerous recent studies have found that extreme heat, wildfire, and rainfall events are becoming more likely and more severe due to climate change. This could, in turn, make such disasters more expensive, depending on how vulnerable the impacted areas.

In deluging Houston with up to 60 inches of rain in just a few days time, Hurricane Harvey, for example, hit one of the most flood-prone metro areas in the U.S., where rampant urban development did not take into account the threat of heavy rainfall.

The NOAA cites both increased vulnerability to disasters, in part due to a growing population and more infrastructure in harms' way, as well as climate change for causing an increase in the number of billion-dollar disasters since 1980.

"Climate change is also playing an increasing role in the [increasing frequency](#) of some types of extreme weather that lead to billion-dollar disasters," wrote Adam B. Smith of NOAA in a [blog post](#). "Most notably the rise in vulnerability to drought, lengthening wildfire seasons and the potential for extremely heavy rainfall and inland flooding events are most acutely related to the influence of climate change."

There is some uncertainty associated with the billion-dollar event estimates, given that NOAA is drawing from about a dozen databases, from private insurance company figures to public data from the federal government. The costs do not include ancillary costs of these events, such as health care, including mental health care that may be needed for storm survivors for years after an event.

Furthermore, the death toll from Hurricane Maria is still being tabulated, as are the costs, so these figures are likely to be updated in the future.

"They really are a low point to the true costs that are probably harder to calculate," Smith said during a press conference from the American Meteorological Society annual meeting in Austin, Texas.



IMAGE: DAVID MCNEW/GETTY IMAGES

Third-warmest year for the U.S.

The NOAA report also found that 2017 was the third-warmest year on record for the lower 48 states, with an average annual temperature that was 2.6 degrees Fahrenheit above the 20th Century average. This was slightly cooler than 2012 and 2016, but it marks the 21st straight warmer-than-average year for the country.

In other words, if you were born in the U.S. in 1997 and remained here since, you've never experienced a cooler-than-average year in the U.S. In fact, the globe has not experienced a cooler-than-average month since December of 1984.

Strikingly, the five warmest years on record for the contiguous U.S. have all occurred since 2006, NOAA found.

This year, every state across the lower 48 and Alaska had an above-average annual temperature, and five states — Arizona, Georgia, New Mexico, North Carolina, and South Carolina — had their warmest year on record. This is the third-straight year in which every state across the lower 48 states has had an above-average annual temperature, said Jake Crouch, a climate scientist at NOAA's National Centers for Environmental Information in Asheville, North Carolina.

Thirty-two additional states, including Alaska, had a top-10 warmest year.