

3rd consecutive hottest year on record

By Seth Borenstein, AP

WASHINGTON – Earth sizzled to a third-straight record hot year in 2016, government scientists said Wednesday. They mostly blame man-made global warming with help from a natural El Nino, which has since disappeared.

Measuring global temperatures in slightly different ways, NASA and the National Oceanic and Atmospheric Administration announced that last year passed 2015 as the hottest year on record.

NOAA calculated that the average 2016 global temperature was 58.69 degrees – beating the previous year by 0.07 degrees.

NASA's figures, which include more of the Arctic, are higher at 0.22 degrees warmer than 2015. The Arctic "was enormously warm, like totally off the charts compared to everything else," said Gavin Schmidt, director of NASA's Goddard Institute of Space Studies in New York, where the space agency monitors global temperatures.

Records go back to 1880. This is the fifth time in a dozen years that the globe has set a new annual heat record. Records have been set in 2016, 2015, 2014, 2010 and 2005.

The World Meteorological Organization and other international weather monitoring groups agreed that 2016 was a record, with the international weather agency chief Petteri Taalas saying "temperatures only tell part of the story" of extreme warming.

"This is clearly a record," NASA's Schmidt said in an interview. "We are now no longer only looking at something that only scientists can see, but is apparent to people in our

daily lives.”

Schmidt said his calculations show most of the record heat was from heat-trapping gases from the burning of oil, coal and gas. Only about 12 percent was due to El Nino, which is a periodic warming of parts of the Pacific that change weather globally, he said.

“Of course this is climate change, it’s overwhelmingly climate change,” said Corinne Le Quere, director of England’s Tyndall Centre for Climate Change Research, who wasn’t part of the NOAA or NASA teams. “Warming (is) nearly everywhere. The Arctic sea ice is collapsing. Spikes in fires from the heat. Heavy rainfall from more water vapor in the air.”

According to NOAA, 2016 was 1.69 degrees warmer than the 20th Century average. The first eight months of 2016 all broke heat records. NASA has last year at 1.78 degrees warmer than their mid-20th Century average and about 2 degrees warmer than the start of the industrial age in the late 19th Century.

The effects are more than just records, but actually hurt people and the environment, said Oklahoma University meteorology professor Jason Furtado. They’re “harmful on several levels, including human welfare, ecology, economics, and even geopolitics,” he said.