July in US was hottest ever in history books (Update)

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(AP) — U.S. scientists say July was the hottest month ever recorded in the Lower 48 states, breaking a record set during the Dust Bowl of the 1930s. They say climate change is a factor.

And even less a surprise: The U.S. this year keeps setting records for weather extremes, based on the precise calculations that include drought, heavy rainfall, unusual temperatures, and storms.

The average temperature last month was 77.6 degrees (25 Celsius). That breaks the old record from July 1936 by 0.2 degree, according to the National Oceanic and Atmospheric Administration. Records go back to 1895.

"It's a pretty significant increase over the last record," said climate scientist Jake Crouch of NOAA's National Climatic Data Center In the past, skeptics of global warming have pointed to the Dust Bowl to argue that recent heat is not unprecedented. But Crouch said this shows that the current year "is out and beyond those Dust Bowl years. We're rivaling and beating them consistently from month to month."

Three of the nation's five hottest months on record have been recent Julys: This year, 2011 and 2006. Julys in 1936 and 1934 round out the top five.

Last month also was 3.3 degrees (1.7 Celsius) warmer than the 20th century average for July.

Thirty-two states had months that were among their 10 warmest Julys, but only one, Virginia, had the hottest July on record. Crouch said that's a bit unusual, but that it shows the breadth of the heat and associated drought.

For example in 2011, the heat seemed to be centered mostly in Oklahoma and Texas. But this summer "the epicenters of the heat kind of migrated around. It kind of got everybody in the action this month," Crouch said.

The first seven months of 2012 were the warmest on record for the nation. And August 2011 through July this year was the warmest 12-month period on record, just beating out the July 2011-June 2012 time period.

But it's not just the heat that's noteworthy. NOAA has a measurement called the U.S. Climate Extreme Index which dates to 1900 and follows several indicators of unusually high and low temperatures, severe drought, downpours, and tropical storms and hurricanes. NOAA calculates the index as a percentage, which mostly reflects how much of the nation experience extremes. In July, the index was 37 percent, a record that beat the old mark for July last year. The average is 20 percent.

For the first seven months of the year, the extreme index was 46 percent, beating the old record from 1934. This year's extreme index was heavily driven by high temperatures both day and night, which is unusual, Crouch said.

"This would not have happened in the absence of human-caused climate change," said Pennsylvania State University climate scientist Michael Mann.

Crouch and Kevin Trenberth, climate analysis chief of the National Center for Atmospheric Research, said what's happening is a double whammy of weather and climate change. They point to long-term higher night temperatures from global warming and the short-term effect of localized heat and drought that spike daytime temperatures.

Drought is a major player because in the summer "if it is wet, it tends to be cool, while if it is dry, it tends to be hot," Trenberth said.

So the record in July isn't such a big deal, Trenberth said. "But the fact that the first seven months of the year are the hottest on record is much more impressive from a climate standpoint, and highlights the fact that there is more than just natural variability playing a role: Global warming from human activities has reared its head in a way that can only be a major warning for the future."

Here are some more numbers unlikely to provide cold comfort. The coolest July on record was in 1915. The coldest month in U.S. history was January 1979 with an average temperature of 22.6 degrees (-5 Celsius).