Will warming records keep tumbling?

January 20 2016

A picture taken on July 26, 2015, near Boretto, shows the dry river bed of the Po during a drought in Italy

US scientists on Wednesday confirmed that 2015 was the hottest year in the hottest decade on record, and by the widest margin yet. Will the records keep tumbling?

We asked the experts:

Q: Will warming continue apace?

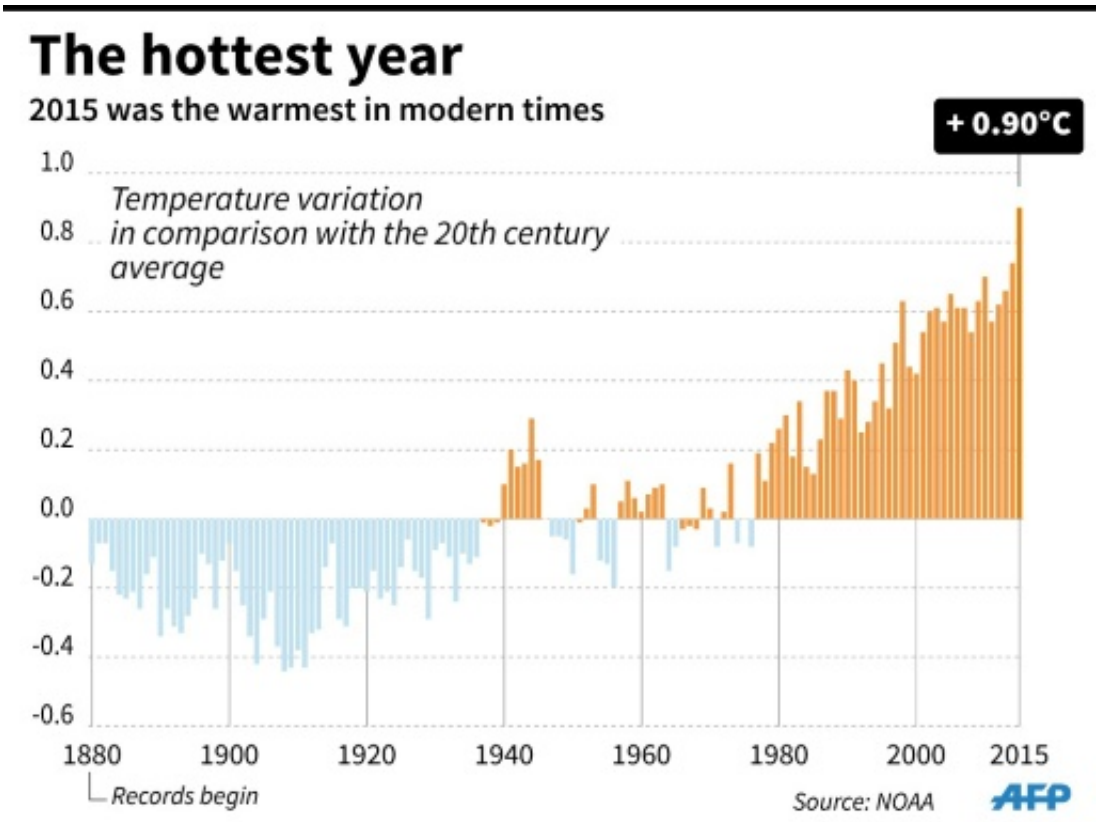
A: "2016 will likely also be very hot, as El Nino (a seasonal weather phenomenon which brings very warm temperatures to parts of the world) will persist in the first part of the year."

"Temperatures fluctuate from one year to another, from one decade to the next. We do not expect that every year will be hotter than the last. But the climate overall is warming and will continue warming for several decades, whatever we do. And it will stay warmer for centuries. If we limit greenhouse gases to the maximum extent possible, and quickly, there will be some warming, but if we continue on current trends, warming will be much more severe."

- Climatologist Valerie Masson-Delmotte, a member of the UN's Intergovernmental Panel on Climate Change (IPCC)

Q: Would temperatures drop if we stopped emissions?

A: "Even if we stop emissions right away, the climate will continue reacting to the imbalance already in the atmosphere. CO2 (carbon dioxide—the most abundant greenhouse gas) remains in the atmosphere for a long time—between 10 percent and 30 percent of emissions today will stay there for at least 1,000 years."



Change in the world's surface temperature since 1880

"In addition, when we disrupt the climate, we unlock aggravating phenomena such as sea ice melt, and the loss of its mirror effect (reflecting the Sun's heat back into space). The majority of the additional heat generated, more than 90 percent, is stored not in the atmosphere but in the oceans. Ocean currents can bring that heat from the depths to the surface, adding to overall atmospheric warming."

- Masson-Delmotte

Q: What if we fail to limit warming to safe levels?

A: "In that case it requires so called 'negative emissions' to curb down

the temperature again. That means in order to get the temperature back down again, emissions have to go to zero and carbon has to be extracted from the atmosphere (through planting trees, or some new technology). In a nutshell: we are not lost, but the challenges get stronger by the minute."

- Anders Levermann, Potsdam Institute for Climate Impact Research.

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