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Climate change triggered Syrian conflict: Study

Drawing one of the strongest links yet between global warming and human conflict, researchers said on Monday that a recent extreme drought in Syria between 2006 and 2009 was most likely due to climate change, and that the drought was a factor in the violent uprising that began there in 2011.

The drought was the worst in the country in modern times, and in a study published on Monday in "Proceedings of the National Academy of Sciences", the scientists laid the blame for it on a century long trend toward warmer and drier conditions in the eastern Mediterranean, rather than on natural climate variability. The researchers said this trend matched computer simulations of how the region responds to increases in greenhouse-gas emissions, and appeared to be due to two factors: a weakening of winds that bring moisture-laden air from the Mediterranean and hotter temperatures that cause more evaporation.

Colin P Kelley, the lead author of the study, said he and his colleagues found that while Syria and the rest of the region known as the Fertile Crescent were normally subject to periodic dry periods, "a drought this severe was two to three times more likely" because of the increasing aridity in the region.

Kelley, who did the research while at Lamont-Doherty Earth Observatory and is now at the University of California at Santa Barbara, said there was no apparent natural cause for the warming and drying trend, which developed over the last 100 years, when humans' effect on climate has been greatest.

Martin P Hoerling, a meteorologist at the National Oceanic and Atmospheric Administration whose earlier work showed a link between climate change and aridity in the Eastern Mediterranean, said the researchers' study was "quite compelling."

"The paper makes a strong case for the first link in their causal chain," Hoerling said in an email, "namely the human interference with the climate so as to increase drought likelihood in Syria."

Some social scientists, policymakers and others have previously suggested that the drought played a role in the Syrian unrest, and the researchers addressed this as well, saying the drought "had a catalytic effect."

They cited studies that showed that the extreme dryness, combined with other factors, including misguided agricultural and water-use policies of the Syrian government, caused crop failures that led to the migration of as many as 1.5 million people from rural to urban areas. This in turn added to social stresses that eventually resulted in the uprising against President Bashar al-Assad in March 2011. [...] The researchers said that there were many factors that contributed to the chaos, including the influx of 1.5 million refugees from Iraq, and that it was impossible to quantify the effect of any one event like a drought.

Francesco Femia, founder and director of the Center for Climate and Security, a research group in Washington that has long argued that the Syrian drought had a climate-change component, said the new study "builds on previous work looking at the impact of drought on agricultural and pastoral livelihoods."

"There's no question that the drought had a role to play in the mass displacement of people," he said.

The link between climate change and conflict has been debated for years. A working group of the Intergovernmental Panel on Climate Change wrote in 2014 that there was "justifiable common concern" that climate change increased the risk of armed conflict in certain circumstances, but said it was unclear how strong the effect was.

The United States military has described climate change as a "threat multiplier" that may lead to greater instability in parts of the world. Earlier studies trying to show a link between climate change and conflict have been rebutted by some scientists, and it is not clear how far this new study will go toward settling the issue.

Thomas Bernauer, a professor of political science at the Swiss Federal Institute of Technology in Zurich who has been critical of some earlier studies, said he was skeptical about this one as well.

"The evidence for the claim that this drought contributed to the outbreak of civil war in Syria is very speculative and not backed up by robust scientific evidence," he wrote in an email.

Mark A Cane, an author of the study and a scientist at Lamont-Doherty, which is part of Columbia University, defended the work. "I think there's a really good case here," he said. "But I think we've tried to explain that the connection from an extraordinary climate event to conflict is complex and certainly involves other factors."