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## [Wind, Rain, and Fire: Will Extreme Weather Events Affect How Teachers Cover Climate Change?](#) [4]



Every teacher knows that students take more interest in lessons that relate to things they care about. Well, it's safe to say that, right now, students in Florida, Texas, Puerto Rico, and the US Virgin Islands, care deeply about hurricanes. And students in California care profoundly about wildfires. That means that teachers—as they carry out their vital and

underappreciated work giving students a sense of normalcy—have an opportunity to turn their students' very real and recent experiences into learning opportunities. At NCSE, we're hoping to gather anecdotal evidence that teachers are using recent events as a bridge to exploring how scientists evaluate the contributions of climate change to extreme weather and weather-related events. We hope to discover that teachers are finding ways to enhance how they cover climate change in their classrooms—once they can finally get back into them.

The October wildfires in California were fueled—literally—by increased plant growth that resulted from an unusually wet spring and summer. The images are tough to look at: entire towns destroyed under blazing red skies. And before wildfires got our attention, there were the hurricanes. Individually, Harvey, Irma, and Maria are three of the largest and most destructive storms on record. Each had unprecedented features: Harvey strengthened very quickly and produced record rainfall; Irma maintained its ferocity even after crossing land, and produced a swath of destruction spanning the Florida peninsula; and Maria—the third strongest Atlantic storm to ever make landfall—also developed quickly and maintained its strength as it passed over islands. In a span of just thirty days, these three storms produced a record season. As revealed in a [recent \*Washington Post\* article](#) [5], Brenden Moses, a researcher at the National Hurricane Center, found that of all Category 5 landfalls on record in the Atlantic since 1851, one-quarter have occurred this season. What is most striking about these storms is how unlikely it was that they would occur together in the same year. While no individual storm can be attributed to climate change, climate change has without doubt increased the odds of severe weather.

According to recent polling, most people accept this fact. In a [2005 \*Post-ABC\* poll](#) [6], taken a month after Hurricane Katrina ravaged the Gulf Coast and devastated New Orleans, 39 percent of Americans said they thought climate change helped to fuel the intensity of hurricanes. Today, 55 percent believe that. While the trend is encouraging, it's worth noting that nearly half of the respondents do not accept the intensifying role of climate change. And despite the damage their states suffered, of the 134 residents of Texas and Florida included in the same poll, just under half say that the severity of the recent hurricanes was typical, and only forty-four percent say that their intensity was made worse by Earth's changing climate.

Do teachers share these attitudes? We doubt it. The NCSE/Penn State [survey](#) [7], which included a much larger sample size than the *Post-ABC* poll, found that science teachers are more likely than the general public to accept scientific consensus on climate change. So we would expect that teachers in Houston, Florida, California, and Puerto Rico will see the value of addressing the role of climate change in extreme events like wildfires and hurricanes.



I have no doubt that there are excellent teachers in Houston, Florida, California, Puerto Rico, and the USVI who will seize the opportunity—and we plan to help them do so. Just this week, *The New York Times* [reported](#) [8] that at Hernández y Gaetan, a public

elementary school in San Juan—among the just nine percent of public schools that have reopened more than a month after Maria’s landfall—fifth-grade students shared their hurricane experiences as “part of a larger strategy to incorporate the hurricane into lesson plans, both to help students cope and to help teach subjects like climate change, geography, plant life and the ocean.” How remarkable that even in the darkest days—literally (most of the island is without electricity) and figuratively—teachers are forging ahead and doing what they always do—pulling learning opportunities from unexpected places.

We know there are untold stories like this one, that there are teachers along the Gulf Coast, in the Caribbean, and in California who are rededicating themselves to teaching the science of climate change so their their students, and by extension their communities, can feel empowered in making sense of the recent past and in confronting the future. But we also know that many teachers will fear being accused of using the catastrophes as leverage to further a societal agenda. The task at hand is not easy.

If you are (or know) a teacher recently affected by storms or fires, please share your stories with us, so that we can all learn from them. We’ll stay in touch through the coming year and beyond, helping where we can, sharing stories with you here, and through other outlets. We’ll also use your stories to help us develop new strategies and lesson plans for teachers across the country.

Science teachers can provide no easy balm or quick fix for the devastation brought by fire and storms to so many Americans this year. But they can give their students the opportunity to ask questions about what is happening in their communities, and to learn how to address those questions as scientists do. In so doing, they will be improving their students’ understanding not just of the science of climate change, but also of how it has already affected so many in very real, very tangible ways.

*Photo credits:*

[Aftermath](#) [9]: Puerto Rican residents walk in flooded streets in Condado, San Juan, Puerto Rico, Sept. 22, 2017, following Hurricane Maria. Puerto Rico National Guard photo by Sgt. Jose Ahiram Diaz-Ramos  
[Wildfire Burn](#) [10]: A fire burns out of control along a ridge during the California wildfires in Rough and Ready, Calif., Oct. 12, 2017. California National Guard photo

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[5] [https://www.washingtonpost.com/news/capital-weather-gang/wp/2017/09/22/category-5-hurricanes-have-hit-6-land-areas-dead-on-in-2017-more-than-ever-before/?utm\\_term=.4293cbf3667c](https://www.washingtonpost.com/news/capital-weather-gang/wp/2017/09/22/category-5-hurricanes-have-hit-6-land-areas-dead-on-in-2017-more-than-ever-before/?utm_term=.4293cbf3667c)

[6] [https://www.washingtonpost.com/news/energy-environment/wp/2017/09/28/majority-of-americans-now-say-climate-change-makes-hurricanes-more-intense/?utm\\_term=.47f7ab13b929](https://www.washingtonpost.com/news/energy-environment/wp/2017/09/28/majority-of-americans-now-say-climate-change-makes-hurricanes-more-intense/?utm_term=.47f7ab13b929)

[7] <https://ncse.com/library-resource/mixed-messages-how-climate-change-is-taught-americas-public>

[8] <https://www.nytimes.com/2017/10/24/us/puerto-rico-schools.html>

[9] <https://www.defense.gov/Photos/Photo-Gallery/igphoto/2001818116/>

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