



The “Science Guy” Weighs in on the Increasing Frequency of Fires and Storms

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Bill Nye, the Science Guy of public radio fame, weighed in during a recent interview on CNN on what is causing the increasing frequency of severe storms and fires in the US and around the world. Nye is well known for his ability to make complicated science issues intelligible to everyone.

During his [interview](#), Nye pointed out that it wasn't rocket science to read the graphs documenting that 16 of the hottest years on record occurred in the last 17 years. He also pointed out that the increasing frequency of severe storms during the last decade in the US and elsewhere is exactly what climate scientists have long been predicting would happen as the climate warms.

Just two weeks ago, huge storms knocked out power to states from Illinois to the Atlantic coast causing the death of more than two dozen people. This storm-caused power outage happened at the same time temperatures soared into the high 90s for residents of these states who now had no air conditioning to provide relief. At the same time these storms and power outages were leaving people sweltering, the Waldo Canyon and other [fires](#) were raging uncontrolled in Colorado, where a record number of homes were destroyed (420 and counting from 7 different fires). There were even more areas burned in Montana (more than 300,000 acres). The root causes of these severe storms and fires are all correlated with the warming of our climate caused by increased concentrations of greenhouse gases caused by the burning of fossil fuels by humans. Past forest management practices also play a role in the severe fires.

We can't see the increased amount of carbon dioxide in the atmosphere, but it is well documented. One of the best documented records is from Mauna Loa in Hawaii where CO₂ concentration has shot up 25% since 1960. As the CO₂ in the atmosphere increases, it causes the well-known greenhouse effect that traps the sun's heat in the Earth's atmosphere. As the atmosphere gets warmer, the number of record-setting extreme weather events increases, just as scientists have been predicting for the last 20 years.

During the 20th Century, there were about the same number of record-setting heat events as record-setting cold events. However, during the first decade of this century, record setting heat events outnumbered record cold events by 2:1. So far this year, the ratio is 10:1 and through June of this year is the hottest ever recorded for the US. During the first week in July, more than [75% of the continental US was in drought conditions](#) according to the US Department of Agriculture. The drought conditions were most extreme in, and near, central Colorado where the wild fires were raging. However, the drought conditions occurred almost everywhere and the only states without drought conditions were Vermont and Maine. Just today, the US Department of

Agriculture declared the largest ever [federal disaster area caused by drought](#) in the US involving more than 1,000 counties in 26 states. About a third of all the counties are part of this disaster area declaration, which, so far at least, doesn't include Montana.

In Wyoming, shortage of hay caused by drought is right now causing ranchers to sell off their cattle early this summer. You might be able to stock up on food to avoid inevitable higher food costs later this year, but food shortages caused by the warming climate will become a pattern that nobody in the world will be able to avoid.

Climate scientists have always been leery to attribute any specific extreme weather event to climate change. What they can say with scientific certainty, however, is that the [probability of extreme events](#) has [dramatically increased](#). A heat wave in Texas, for example, is now 20 times more likely to occur than it was 50 years ago. Last year England had the warmest year on record since 1659 and scientists have calculated that the likelihood of such extremes there now is 60 times higher than it was in 1960.

Probabilities like this are something we intuitively understand. We understand that if we use tobacco, the probability we will get cancer increases, so many of us have quit smoking. We understand that if we drink and drive, the probability we will have an accident increases, so most of us are careful not to mix alcohol and driving.

Humans are capable of responding to crises. President George W. Bush recognized the international AIDS crisis and convinced Congress to take action to address the growing threat of that epidemic. His action contributed significantly to the progress that has been made subsequently. AIDS moved from an issue too many people didn't want to think about, to being an issue where actions resulted in improvements. The same can and must happen for global warming. Global warming is similar to the AIDS crisis in the sense that it is a growing threat facing the whole planet that requires human intervention and changes in human behavior to address. It is dissimilar, however, in that there is no indication of a political willingness in either US political party or globally to address the problem at the scale required.

In this vacuum of political leadership, the people will need to educate not only the politicians, but also their friends, neighbors and relatives that action is essential. We must all follow the model of Bill Nye, the Science Guy, if our children and grandchildren are going to inherit a planet where they can live a quality life without the shortages of food and water, and without the extreme climatic events that we are increasingly experiencing. We all need to become like Bill Nye, the Science Guy, and spread the word that inaction in the face of what we see happening now can no longer be tolerated.

This is Sterling Miller of the National Wildlife Federation in Missoula. Thanks for listening.