

A climate scientist and a meteorologist call for linking climate change and extreme weather

Stephanie Paige Ogburn, Environment and Energy Publishing, 6-7-13

In the past few years, the world has seen, as Rutgers climate scientist Jennifer Francis put it, "a smorgasbord of wacky weather."

Droughts in England, floods in England. Nor'easter after nor'easter in the U.S. Northeast. Snow extending down to the warm south coast of the Mediterranean. Swimsuit weather in March across the United States last year. Extreme flooding in Europe in past years and this week.

"What the heck is going on?" asked Francis at a presentation yesterday, part of an event sponsored by the Climate Desk consortium and the World Wildlife Fund featuring her and the Weather Channel meteorologist Stu Ostro.

Is human-caused climate change playing a role? Francis' answer: a firm yes. "More and more of us [climate scientists] are willing to stand up and say, 'Yes, indeed, there is a connection between climate change and extreme weather,'" Francis said.

To prove her point, Francis flipped through slide after slide, showing how a rapidly warming Arctic is causing the jet stream, which affects much of North America's weather, to wiggle and writhe in new ways, causing extreme weather to stay in place longer.

The key to this, she said, is the difference between the rates of warming in the temperate latitudes and the Arctic. Normally, the difference in temperature between the Arctic and the lower latitudes is big enough that the winds that push the jet stream generally keep it moving along.

But now that the temperature difference is less, the jet stream gets into a new pattern with deeper waves, which transport weather much more slowly. "This is what we call Arctic amplification," Francis said. The effect is strongest in the fall and winter, but also happens during the spring and summer months.

After explaining amplification, Francis took the audience through event after event, from record snowfalls in Alaska to the extremely warm March of last year, showing that during those events, the jet stream was deeply kinked and stuck in a slower pattern.

Skeptical meteorologist has a conversion

She stopped short of linking any one event to climate change but did show that the jet stream has gotten wavier in recent years as the Arctic has warmed.

Stu Ostro, the Weather Channel meteorologist, shared his own story of a conversion from climate change skeptic to climate change "convinced," as he put it, after years of watching the weather get more and more extreme.

"I started noticing that something ain't right with the weather," he said, in a lively presentation.

Ostro urged the scientific community to "rethink the concept that you can't connect individual weather events to global warming."

In complement to Francis, Ostro also discussed the warming of the Arctic and the loss of sea ice there, which has resulted in significantly more solar radiation staying in the Earth's atmosphere rather than being reflected back by the ice.

Showing a graph of the loss of sea ice volume, he called it "the Arctic death spiral."

Both Ostro and Francis took some solace in the fact that the recent rash of extreme weather events, while destructive and devastating, may also be tipping the scales of public opinion.

"This extreme weather that has been affecting a lot of people personally," noted Francis. "I think the good news is this anti-science bunker is really starting to crumble."