

Atmosfear: Communicating the Effects of Climate Change on Extreme Weather

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“On the one hand, as scientists we are ethically bound to the scientific method, in effect promising to tell the truth, the whole truth, and nothing but—which means that we must include all doubts, the caveats, the ifs, ands and buts. On the other hand, we are not just scientists but human beings as well. And like most people we’d like to see the world a better place, which in this context translates into our working to reduce the risk of potentially disastrous climate change. To do that we need to get some broad based support, to capture the public’s imagination. That, of course, means getting loads of media coverage. **So we have to offer up scary scenarios, make simplified, dramatic statements, and make little mention of any doubts we might have.** This ‘double ethical bind’ we frequently find ourselves in cannot be solved by any formula. Each of us has to decide what the right balance is between being effective and being honest. I hope that means being both.”

– Stephen Schneider to *Discover* magazine, 1989

Climate change is the greatest threat to humanity and we all agree that anthropogenic changes are the principal reason.

The science of climate change is not our immediate focus.

Look at ways in which science communication has been counterproductive or problematic for climate change policy

The Schneider quote when put into the context of today is inappropriate.

Mitigation policy is independent of extreme weather events and promotes skeptic viewpoint.

Individual weather events in the context of large climate changes will pale in comparison (i.e., atmospheric fear is not scary enough).

All events have a signature of CO₂?

Attribution: Why an emphasis on extreme events? Why not average weather?

Because they have impact.

SCIENTIFIC METHOD —

Climate change brewing more extreme weather, shifting breaking points

Simulation, observations show how extreme precipitation is affected by climate.

XAQ RZETELNY - 12/13/2016, 2:24 PM

2016: The year of weird weather

WEATHER Tuesday 20 December 2016 - 3:55pm

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Man-made climate change had role in some of 2015's extreme weather

The annual report found climate change was a factor in more than 24 weather events

The Associated Press Posted: Dec 16, 2016 3:25 PM ET | Last Updated: Dec 16, 2016 3:25 PM ET

Recent Extreme Weather: Is Climate Change To Blame?

Last Edited: Dec 22, 2016 4:17 PM GMT

By Nick Pittman, Chief Forecaster [CONNECT](#)



Regions +

Extreme Weather

Why extreme weather is the new normal



By **Judson Jones** and **Jennifer Gray**, CNN

Updated 2238 GMT (0638 HKT) November 28, 2016



"climate change" "more extreme weather"

Scholar

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Articles

Natural disasters and climate change

M Helmer, [D Hilhorst](#) - Disasters, 2006 - Wiley Online Library

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... Recently, however, it has become more evident that **climate change** will not express itself primarily through slow shifts in average conditions over a long period. ... **More extreme weather** events are due to increased energy within the climate system. ...

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Any time

Climate change and emerging infectious diseases

Since 2017

PR Epstein - [Microbes and infection](#), 2001 - Elsevier

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... concern, as ice core records indicate that increased variability may be associated with rapid **climate change** events and changes in the ocean thermohaline circulation (Paul Meyewski, UNH, personal communication). Together, warming and **more extreme weather** have begun ...

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Increased flood risk linked to global warming

Q Schiermeier - [Nature](#), 2011 - dosen.narotama.ac.id

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... as some poorer countries would expect, you'd like to have an objective scientific basis for it." The insurance industry has long worried about increased losses resulting from **more extreme weather** (see 'Fatal floods'), but conclusively pinning the blame on **climate change** will take ...

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“Climate change will produce
more extreme weather.”

“new normal”

“weirding of the weather”

Why this narrative is not an effective communication tool

1. Ambiguous interpretation
2. Ambiguous meaning
3. Misdirects efforts to mitigate disasters
4. Interannual variability swamps trend
5. Oversimplifies and underestimates impact of climate change

1. Ambiguous interpretation

Increase in frequency? Intensity? Severity of impacts?

Not all the globe will experience more extreme weather.

Not all types of severe weather will increase.

2. Ambiguous meaning

What does it mean for “climate change” to cause “extreme weather”?

3. Misdirects efforts to mitigate disasters

Evidence for disasters increasing are primarily due to external factors related to infrastructure exposure, vulnerability, etc.

Weather disasters are an act of God and cannot be controlled (Bostrom and Lashof 2007; Dilling and Moser 2007).

No difference between pork projects to rebuild in a floodplain and Obama's Climate Change Resilience Fund.

4. Large interannual variability and measurement gaps swamp climate change signal.

Even so, projected changes under a warmer climate will be small.

5. Oversimplifies and underestimates impact of climate change.



lung cancer

ulcers

Conclusion

The soundbite “Climate change produces more extreme weather” is not helpful or an accurate reflection of the science.

We need a better approach to communicate climate change.