

# Q&A

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## WITH MICHAEL MANN PH.D.

### **What was your reaction to learning that you had been selected as the 2019 Tyler Prize Laureate?**

I'm delighted to win the Tyler Prize, because of the legacy of this prize. All of the great contributors to our modern understanding of environmental science, it's a who's who, a list of previous laureates of this prize, and to be part of that group, to me, is the achievement of a lifetime.

I was delighted to learn not only that I'd won the prize, but that I was able to share it with a true hero of mine, Warren Washington. He has been at the very forefront of advancing our understanding of the climate system and the construction of elaborate computer models, to model Earth's climate system. Warren was there at the leading edge of that effort.

### **You've become one of the 'go to' scientists for media reporting on climate change. How did that happen?**

There's a (forecasting) model that's known as the Random Walk. It's sort of like a drunken person who just sort of randomly moves in different directions. You can use that as a physical model for the way certain random systems behave, and I liken the random walk to our erratic paths in life, and our erratic career paths. I followed this random walk that led me from theoretical physics, to climate science – ultimately to the very center of the larger public conversation about human caused climate change.

So a typical scientist – what motivates us is solving problems, developing methods for answering basic questions about the way the world works – that's what motivated me to become a scientist. I envisioned spending my life in a lab, at a computer, crunching numbers, doing calculations, trying to find answers to interesting questions, and solving problems.



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Our work ultimately took us down a path, where I ended up publishing a study that sought to reconstruct how temperatures had changed over the last thousand years, and it resulted in this curve known as the Hockey Stick, which shows the abrupt warming of the past century. So that graph became an icon in the climate change debate, and I suddenly found myself at the center of the contentious societal debate over human caused climate change, which put me in a completely different world from the world that you're used to as a scientist. The rules of engagement in science are good faith questioning of real skepticism, challenging your colleagues to prove their point with data and logic.

That's very different from the rules of engagement when it comes to our political discourse. There are those looking to discredit our science, to discredit the Hockey Stick because it was this iconic symbol indicating the seriousness of climate change. They would turn to other approaches, trying to vilify me, trying to discredit me personally, as a way of discrediting the underlying scientific evidence. You're not used to that as a scientist. Nothing in your scientific training prepares you for that sort of combat, and so it's a trial by fire. Ultimately, I've actually come to embrace this role, because it's put me in a position to inform this – perhaps the most important societal conversation we've ever had – this conversation about what we're going to do to confront what is arguably the most serious challenge we've ever faced, human caused climate change.

I didn't sign up for this, this isn't how I expected to be spending my time and devoting my life to this effort, but I feel privileged to have found myself in a position to do that.

### **That leads us to 'Climategate'. How did you feel at this time?**

I can tell you, I was terrified. I was a early career scientist, a untenured assistant professor. I didn't have job security at that point, and people clearly were trying to discredit me before I even had an opportunity to get tenure.

I felt personally violated, and I couldn't believe that our detractors had stooped to literally criminal behavior, that they have so lost the legitimate debate about the science that they're now turning to criminal acts, stealing emails, misrepresenting us, by taking our words out of context, that they had sunk to that level. It was a new low, and so it was a mixture, for me, of feeling violated, of being angry, and being disgusted by what the sort of climate change denial lobby had been reduced to here.

What this was, was one of the most organized and well-funded campaigns against science, in our history, and it was used to thwart efforts by the global community, to confront the climate change challenge, by fossil fuel interests, who don't want to see us move away from our addiction to fossil fuels, to clean energy.

Just recently there was an announcement from Saudi Arabia, Russia, and the Trump administration, that they are refusing to adopt the recent 2018 IPCC Report, at COP24 in Poland. That is the coalition, that is the axis of evil, that George Bush talked about axis of evil, there is an axis of evil, and we're part of it now.



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## How have people reacted negatively towards your research?

I have been hauled before the Senate and the House of Representatives, put in the hot seat, and attacked by fossil fuel funded politicians, looking to discredit me and my work. I've received substances in the mail, white powder that had to be investigated by the FBI, to make sure that I and my colleagues hadn't been exposed to anthrax. I've had numerous death threats, I've had threats against my family, I've had demands for me to be fired from my job. I have been vilified on the pages of leading, right-leaning newspapers. I've been called names, I've had a video that was caricaturing me, and implying that I was engaged in scientific misconduct. I had to deal with the fact that I couldn't entirely shield my friends and my family from all of these attacks that are aimed at undermining my science by discrediting me personally.

People even hacked our website, Realclimate.org, and were attempting to construct a Real Climate article that was going to present the stolen emails, so they tried literally to use our website as the means of promoting and distributing these emails, just as a way of really adding insult to injury.

## How are you communicating climate change to the public now?

It's an unfortunate sort of consequence of the war on science, that scientists like myself and colleagues of mine, who are engaged in efforts to communicate the science to the public, are going to find themselves subject, not just to legitimate scientific criticism, which is a good thing in science, but politically motivated attacks, and legal maneuvers aimed at intimidating them, and at, again, sort of driving us into submission.

The hope is that we will just withdraw from the public sphere, and I realized early on that the best way to fight back against those sorts of attacks is to do the opposite. If they're coming at me, if they're trying so hard to get me to shut up, there must be something important about what I'm saying, and I'm going to try even harder to say it, and find more ways of getting it out there.

I've had the luxury of being able to talk about climate change with leading public figures and celebrities, like Hillary and Bill Clinton, Al Gore, Bill Nye and Leonardo DiCaprio. I helped make and participated in his documentary, *Before the Flood*. Leo has been vilified too, because of his efforts to communicate climate change to the public, and he has such an amazing platform. In fact, when he talked about climate change during his Academy Award acceptance speech, that was the most Googled moment ever for climate change and global warming.

It's been delightful for me to be able to help such folks who care about this issue and want to communicate it to the public. They have a platform, they have a level of access that's well beyond what I have, so while I have opportunities because of the work that I've done to help inform the public discourse over climate change, probably my greatest opportunity comes in my ability to help others who have even larger platforms, public figures, to the extent that I can help them hone their messaging. That way, I have an even larger ability to inform the public discourse.

## Why do you think it is so important to continue to communicate science, especially climate science, even when it means being publicly attacked?

I decided I had to get out there and communicate, because the stakes are too great. What we're literally talking about is the greatest challenge we face as a civilization, and I can't allow personal attacks against me to cow me into submission.

It angers me that somebody would somehow be so misled into thinking that scientists like myself are engaged in some conspiracy to impose a new world order. There are organizations out there, that are funded by fossil fuel interests, that literally try to portray us as villains. It's the organizations at the top who know better, who are intentionally engaged in this campaign of vilification in the hope that it will allow them to intimidate and basically cow into submission, scientists like myself, who have been trying to communicate the reality and threat of climate change to the public.