Communicating the climate crisis: the scientists contending with disinformation and climate anxiety

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Mark McCarthy has been a climate scientist for 25 years. At the Met Office, the national weather and climate service of the United Kingdom of Great Britain and Northern Ireland, he and his team look at historical observational climate records and climate model projections and use this information to understand how human activity is influencing climate change.

In 2022, a week-long heatwave hit the United Kingdom during which temperatures exceeded 40 °C for the first time in recorded history, something climate scientists had thought a distant prospect.

At first, the anticipation and monitoring of the heat event was exciting, says Mark. However, as the heat persisted, he struggled. “I was the person who was monitoring and recording in detail aspects of this environmental issue, that we’re all contending with, but feeling quite powerless about being able to do anything beyond that,” he says. “I was just hit by the fact that here we are. We have reached this 40 °C event. It has happened. It hit me quite hard on an emotional level.”

His colleague, Katrina McNeill, realized that Mark was not alone in his feelings.

“Some of the climate scientists here have worked in this field for 30–40 years, their whole lives. Not only do they have the expertise, the experience; they have enormous enthusiasm and drive to actually make this science relevant. So, for some of them to express that they felt overwhelmed, it was a wake-up call,” says Katrina.

She organized a series of workshops to bring together staff to discuss the emotional impact of working on climate change. Mark says they have helped him to develop greater resilience and a better support network.

“It was a powerful experience to be able to talk openly about those more emotional responses. They’re perfectly natural, because we’re human, but we don’t acknowledge that so much within the profession,” he says. “I have got better at being able to recognize when I’m impacted and some of the triggers and to look after my own well-being in the long term.”

Coping with disinformation, denialism and threats

The work of climate scientists and climate communicators is critical to health security. Early-warning systems and climate services – and the public’s ability to understand and implement these – protect communities and economies.

In 2024, key climate change indicators again reached record levels, generating feelings of gloom and alarm about climate projections, particularly among younger people. Those whose job it is to record and monitor climate change were also emotionally affected by the stark realities of our warming world. So, what impact does disinformation, abuse and climate denialism have on them? And in the face of misinformation, shared widely via online platforms, how do climate scientists communicate the increasing health risks that accompany unprecedented rises in temperature?

“My main reaction to high levels of climate disinformation is frustration,” says Mark. “The creating or sharing of a piece of mis- or disinformation might take seconds, but

refuting it takes a lot more effort. Particularly because the science behind climate research is not simple. Sometimes there aren't simple answers, and maybe that's where some of the disinformation power sits. It purports to offer simple answers to complex problems."

For Katrina, a sense of efficacy, involvement and support helps to reduce feelings of helplessness. She translates complex climate science for government colleagues, so they can create policies that mitigate the worst impacts.

"I tend to look at climate denialism from a compassionate angle – why are people stepping away from it, why are they looking for other options? It's because the other options are much easier to cope with. If people choose to believe that climate change isn't caused by humans, then there's nothing they can do about it. They can just carry on their normal lives and whatever happens will happen. It's a much easier coping mechanism."

In a previous role on the Met Office's weather desk, Katrina experienced verbal attacks. "We would get some really abusive phone calls. You'd get threatened that they knew where you were and were going to follow you home. I got escorted back to my car a few times because it would shake me up, especially if they called during a night shift."

She says that online disinformation motivates her to communicate climate change even more clearly.

"Making sure people get accurate information on how our climate is changing is important at all levels. At a policy level, governments are making huge decisions that can affect all of us, but if you're an individual member of the public, there are things you can do that can make a considerable difference, and if you're not aware of something, you can't do anything about it."

Communicating the threats of extreme weather

Helen Roberts describes herself as a socio-meteorologist, whose career has revolved around communicating the weather to the general public and to policy-makers. She joined the Met Office 22 years ago, working in weather forecasting with a stint as a weather presenter.

"Historically, and even now to some extent, there's an assumption among many people working on climate science that it's enough to do the science, create the data. The rest will just happen. And of course, we know that that just couldn't be further from the truth," she says.

"We need to be thinking all the time about the what. What does that data mean? What do we do with it? Who is it useful for? What decisions are being made as a result of that science?"

With the strong belief that physical and social scientists need to work hand in hand to communicate in more meaningful ways, Helen has been helping to adapt the Met Office's weather warning service. They've added advice statements informed by behavioural insights and psychology to weather warnings, so that people can better understand the risks and protect themselves from the potential health impacts of extreme weather.

As climate communicators, Helen's team is working to help people recognize fake news, and to debunk it where it does occur through targeted social media posts.

"Unfortunately, splashy headlines that discredit or undermine the risks of extreme weather are still a real problem," says Helen, citing the 2022 heatwave. "We were trying to warn that this really is dangerous, unprecedented heat, with the potential for widespread health impacts and deaths, and the tabloid headlines were, 'Oh, Big Brother. Nanny State. Why can't we just enjoy our summer and have a nice BBQ with our friends?'"

In 35 countries of the WHO European Region, more than 61 000 people died in 2022 and 47 000 in 2023 due to heat. Although everybody is at risk, those affected are mainly older and vulnerable people with pre-existing conditions who need clear, consistent information to be able to manage high temperatures.