When the Storm Online Is Worse Than the One Outside

Meteorologists and climate scientists are increasingly having to combat misinformation cycles on social media.

By Shawn Hubler
Reporting from Sacramento

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Last week, as Californians braced for heavy weather, forecasters found themselves engulfed in a sudden online storm.

“WARNING: Meteorologists are currently debating whether California is about to get hit by something that they’ve been dreading for a long time,” an emergency preparedness enthusiast named Danielle Langlois cautioned on X. “They’re not certain (yet), but it is entirely possible that what is brewing in the Pacific right now heralds the beginning of the dreaded #ARkStorm.”

Ms. Langlois is not a climate scientist or a weather expert. She claims no special knowledge of the “ARkStorm,” a rare atmospheric onslaught modeled by scientists at the United States Geological Survey that would engulf major cities in water. She said later that she is an actor with fewer than 5,000 social media followers, a Californian’s healthy respect for natural disasters and an apartment in the Sherman Oaks neighborhood of Los Angeles.

No matter. Over the next several days, her post went viral while the National Weather Service, the California Governor’s Office of Emergency Services and leading climate scientists rushed to quash the gathering fear that a biblical storm was about to swallow California.

“There is absolutely no indication of an extremely severe or catastrophic statewide flood event as has been rumored,” Daniel Swain, a climate scientist at the University of California, Los Angeles, and an expert on ARkStorms, stressed in a Friday briefing on YouTube. Four days later, ARkStorm questions still peppered his live feed. When he shared his forecast for this week, a commenter exclaimed, “What the ARK?!?!”

Oakland Public Works employees handed out sandbags to local residents before an atmospheric river storm arrived on Wednesday. Jim Wilson/The New York Times

As misinformation permeates social media and online platforms, exasperated scientists and emergency officials say they are fighting an increasingly uphill battle to protect the weather report. Natural disaster hoaxes that landed like bad jokes during the Trump administration are now seasonal hazards. Scientific evidence competes online with conspiracy theories and lifelike photos generated by artificial intelligence.

Last summer, as wildfires devastated parts of Maui, social media posts racked up millions of views by falsely blaming the disaster on a "directed energy weapon." Viral videos purporting to document Hurricane Idalia in Florida turned out upon closer inspection to actually depict a tornado in Kansas and a typhoon in Taiwan.

A photo of Dodger Stadium seemingly marooned by floodwater as Tropical Storm Hilary ripped through Southern California was, in fact, an optical illusion. A joke tweet purporting to show the 405 Freeway underwater and infested with sharks was shared by Senator Ted Cruz of Texas as an actual photo.

"The online environment in 2024 is a mess," said Brian Ferguson, a spokesman for the California Governor's Office of Emergency Services.

In recent years, amateur weather trackers' posts have quickly spread through social media. Some have responsibly shared the latest information from experts, but others have found that extreme language can result in more shares and likes.

Brian Garcia, the warning coordination meteorologist for the National Weather Service's San Francisco Bay Area office, said he and his colleagues had become more aggressive in combating misinformation.

“People want to increase their following on social media, and one of the best ways is to go catastrophic and alarm people,” Mr. Garcia said. “But just because the hype train is leaving the station doesn’t mean we to need to all get on it.”

The American Meteorological Society, at its annual conference this week in Baltimore, hosted a panel on climate misinformation that addressed the rise of false reports that can “proliferate via social media algorithms.”

Paul Higgins, associate executive director of the society, said his organization had worked to educate members on how to respond to erroneous posts and viral disinformation and had created a new digital badge members could earn to help members of the public differentiate them from hobbyists, aspiring influencers, trolls and other online players.

Pacific Ocean waves pounding a home in Bolinas, Calif., on Wednesday. Carlos Barria/Reuters

“We’re trying to get good information into people’s hands,” Mr. Higgins said. “But it seems there are always new sources of misinformation. And Whac-a-Mole is inefficient. There’s always going to be another mole to whack.”

Dr. Swain, 34, a meteorologist and climate researcher, estimated that 70 percent of his time is now spent explaining extreme weather to members of the public and news outlets. The work has made him a minor celebrity, but also a threat magnet with enough hate mail to fill a 52-page file with the most noteworthy dispatches he has received.

“I open unsolicited mail outside, put it that way,” he said, explaining that he knows people in climate science who have received envelopes containing white powder. “They say climate scientists are in the pocket of ‘Big Green.’ I don’t know who that would be. Al Gore? Is Al Gore paying people?”

Other critics, he said, accuse climate scientists of underselling the situation and being beholden to oil interests. “There’s this notion, ironically, that there’s some gravy train for scientists,” he said.

In fact, he said, he earns less than $100,000 per year at U.C.L.A.'s Institute of the Environment and Sustainability, where he is evaluated on his academic research and publication, not his public communication. His online "office hours," during which he explains current extreme weather to journalists, colleagues and members of the public, are mostly unpaid.

The ARkStorm scenario was first modeled in 2010, and the term stands for "atmospheric river 1,000-year storm," referring to an event initially considered so unlikely that the U.S. Geological Survey viewed it as a one-in-1,000-year event. Dr. Swain and a colleague, Xingying Huang, now believe that climate change has increased the odds of a California megaflood so dramatically that most Californians can now expect to experience one.

Ms. Langlois said her ARkStorm post had been inspired by a meteorology enthusiast — a "risk manager/broker by day, weather junkie by night," according to his bio — who, earlier in the day, had described this week's forecast using the term.

"I'm just a layperson, one of hundreds of millions in this country, watching scary, extreme weather become the new normal," she explained in an email. "I shared information that I thought people needed in a way that I hoped would help people grasp the seriousness of this potential threat."

The post, which generated 2.1 million views, was greeted with a Category 5 barrage of alarm, gratitude and outrage. "This is an interesting way to get attention," one respondent wrote. By the next morning, Mr. Garcia's team at the National Weather Service had replied with a post reminding the public to "avoid clickbait," stick to credible weather sources and "show some care before the share."

In an extensive series of posts, Dr. Swain told her that it was "easy to get caught up in the hype of viral social media posts" but "counterproductive" to cry wolf with "extreme claims" that might confuse and alarm the public.

This week, as Gov. Gavin Newsom mobilized emergency teams for what his office said would be "significant rain, high winds, deep snow as well as potential flash flooding and power outages," Ms. Langlois was unbowed.

Because of her post, she said, thousands of Californians were more aware of the possibility of extreme floods, and perhaps better prepared now.

"Let's be real here: I'm not the problem — the information vacuum is the problem," she said. "I'm just a well-meaning chick on Twitter."

Shawn Hubler is based in Sacramento and covers California news, policy trends and personalities. She has been a journalist for more than four decades. More about Shawn Hubler