



<https://www.nationalgeographic.com/science/2020/04/what-happens-when-natural-disasters-strike-during-coronavirus-pandemic.html>

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SCIENCE CORONAVIRUS COVERAGE

# What happens when natural disasters strike during a pandemic?

“Disasters don’t stop for a virus.” And national response teams are already feeling the strain.

BY MAYA WEI-HAAS

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Early in the morning of March 22, Ranko Glumac jolted from bed as the world around him shook. The room filled with the mechanical roar of a fallen hair drier. As Glumac lurched to the appliance to quiet the noise, he spotted a dark crack slicing through his bedroom wall, and he realized his home city of Zagreb, Croatia, had just been hit by an earthquake.

He and his family rushed outside into the frosty spring air, and across the city others did the same. But another risk lurked in the throng of people: the novel coronavirus, which had already started ramping up in the region.

The quake in Croatia was one of the earliest wake-up calls for people around the world that natural hazards still loom large during the COVID-19 pandemic, including floods, fires, tornadoes, hurricanes, and even volcanic eruptions.

The risk is particularly acute in the United States, which now leads the global case count with roughly 640,000 confirmed ill. Models suggest that the country’s outbreak may soon be nearing its peak, overburdening health care systems, budgets, and supply chains. Already this week, tornadoes tore through the southeastern United States, killing at least 34 people and leaving more than half a million without electricity.

“Disasters don’t stop for a virus,” says Craig Fugate, former administrator of the Federal Emergency Management Agency (FEMA).

Still, experts stress that people living in disaster-prone regions are not helpless. Personal preparation is more important than ever—from fine-tuning disaster kits to cleaning out gutters and yards of anything that might act as tinder.

“We can always shape a better future,” says disaster researcher Mika McKinnon.

## A forecast of disaster

As spring sets in, many parts of the country face possible natural hazards. A recent NOAA forecast warns that 1.2 million people

throughout the Midwest face risks of major flooding this spring. An early analysis from Colorado State University also suggests that Atlantic hurricanes, which generally form between June 1 and November 30, are more likely than average to make landfall this year.

Devastation from extreme weather events has spiked sharply in recent years as climate change drives growth in the intensity and frequency of storms. Greenhouse gas emissions also contribute to extended droughts and more frequent and erratic wildfires along much of the U.S. West Coast.

“We’ve had basically no snowpack down in the low country here in our area, so we know we’re going to have a bad fire season,” says Carlene Anders, mayor of Pateros, Washington, and executive director of the Disaster Leadership Team.

In the United States, the response to disasters is a local endeavor at its core. Volunteers, first responders, and small nonprofits form the vanguard in any calamity. Next are regional and state response teams. The federal government only steps in if the catastrophe crosses borders or overloads local capacity to respond. But people at every level of the response system are facing fallout from the pandemic.

“There’s really nothing about how we respond to a disaster that is not in some way impacted by COVID-19,” says Samantha Montano, an assistant professor in the University of Nebraska Omaha’s emergency management and disaster science program.

## Tornadoes in Tennessee

The state of Tennessee serves as a potent example of the steep challenges communities face. The night of March 2, before the virus became widespread in the state, a series of twisters killed at least 25 people and injured hundreds more. The next morning, the community response was swift and sweeping.

“We had literally a mile of cars that were either people coming to volunteer or people coming to drop stuff off,” says Tina Doniger, the executive director for the Community Resource Center (CRC) of Tennessee, a Nashville-based nonprofit that collects and distributes goods during emergencies. Other volunteers fanned out to clean up debris and cut up fallen trees.

But the situation would soon change. On March 23, as the COVID-19 case count climbed, Nashville’s Metro Public Health Department directed residents to stay home unless engaged in essential activities, and efforts to rebuild ground to a halt.

At the CRC, volunteer crews, which usually number in the hundreds, dwindled to 10, per official recommendations. Businesses shut their doors, many fundraising events were cancelled, and financial donations for emergency response slowed or were put on hold, says Amy Fair, vice president of donor services for the Community Foundation of Middle Tennessee.

In some ways, Nashville is uniquely prepared. Crews started storing supplies before COVID-19 descended on their region and shoppers drained stores of necessities like toilet paper, gloves, and cleaning products. “We’re going to be the only ones ready if a storm were to hit,” Doniger said last Thursday.

Three days later, tornadoes struck the neighboring city of Chattanooga, and CRC was ready to help with emergency supplies. “Our volunteers are packing boxes as we write this message,” the organization posted to Facebook on Monday.

## Social distancing during disasters

As the situation in Tennessee shows, one of the fundamental challenges is that effective disaster response requires close contact—the opposite of social distancing.

“Everybody physically comes together, physically converges on a community,” Montano says. Teams search for victims in the wreckage of buildings, distribution centers organize lines of volunteers, and survivors gather in tightly packed shelters. But the novel

coronavirus adds extra risk to these life-saving activities.

Under normal circumstances, more than half of the nation's hospital beds are already filled. But feverish and coughing patients are now pouring in, even as doctors and nurses increasingly fall ill with COVID-19 themselves. First responders are also enduring illness among their ranks. As of this writing, nearly 10,600 firefighters and emergency medical service responders have reported exposure to COVID-19 in the United States alone—almost 5,000 of whom are in quarantine.

Meanwhile, response groups are struggling to train the latest batches of emergency volunteers.

Trained volunteers make up 70 percent of the U.S. firefighting force, and learning the ropes often requires in-person physical repetition. Yet training sessions for volunteer firefighters in Patreos, Washington, have shifted online, which limits the precinct's ability to prepare novices to battle blazes, Anders says.

Agencies are also struggling with dwindling funds under COVID-19, as emergency management is frequently understaffed and underfunded even without a pandemic. Erica Arteseros, captain in the San Francisco fire department, says she's working to shift her volunteer training program for emergency response online, but she lacks the resources to address the issue. "I'm a staff of one and our budget is not growing," she says.

These challenges will only amplify as the scale of the potential disaster increases. Major catastrophes usually draw in teams and supplies from afar to augment local response. But the pandemic has been consuming resources, and travel restrictions hamstringing movement. "That means when your local capacity is overwhelmed, you can't reach out for more help," McKinnon says.

## Rewriting the playbook

The most effective way to reduce risk is for individuals to take on a greater role, McKinnon says. Reporting potential dangers, such as overflowing riverbanks or tendrils of smoke in the distance, can buy crucial minutes for evacuation and response teams. Emergency kits are also vital for anyone living in disaster-prone regions, and they contain many of the same supplies that people bought to hunker down during the pandemic.

At the same time, emergency response groups are coming up with creative ways to mitigate disaster.

Some agencies are staying nimble to fill in potential gaps in disaster response. Evacuteer, a program dedicated to helping New Orleans residents evacuate during a hurricane, has shifted operations to raise money for shelf-stable food and supplies, since most agencies responsible for this facet of hurricane response are working to feed people who lost jobs due to the virus.

Groups are also working to build community bonds, a major part of local resilience. San Francisco fire captain Arteseros and her team are encouraging community members to stay connected through the social media hub Nextdoor, particularly with at-risk individuals. "Having a neighbor that will check in on someone that is elderly when official channels are overwhelmed is priceless," she says.

The Red Cross is redesigning shelters to prevent the spread of disease, says Trevor Rikken, senior vice president of disaster cycle services.

Shelters are often a collection of cots in an open space, like a gymnasium or community center—a setup where viruses can easily spread. So, the Red Cross is implementing new strategies, such as placing beds farther apart and checking people for symptoms before they enter and throughout their stay. Wherever possible, hotels will be used to keep people separated. Yet shelters still face challenges as health care workers are concerned about asymptomatic carriers of COVID-19.

“That’s one thing we know we have to get right,” Rikken says. “The last thing we want to have happen is have someone not evacuate because they’re questioning where to go and whether shelters would be safe.”

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