

Ham radio operators are saving Puerto Rico one transmission at a time



By **Paul P. Murphy** and Michelle Krupa, CNN

🕒 Updated 4:18 PM ET, Wed September 27, 2017



Story highlights

- In Maria's wake, shortwave radio has been key to communicating in Puerto Rico
 - Fifty amateur ham radio operators are headed there to support recovery operations
- (CNN)The phone call from the Red Cross came in late Friday night, just as the full scale of Hurricane Maria's calamity began taking shape.

"We need 50 of your best radio operators to go down to Puerto Rico."

In the days after the worst storm in three generations hit the American island -- and for many more to come -- public electrical, land-line and cellular communication systems showed few signs of life. And radio networks used routinely by police officers, power company workers and other first responder still were down.

Yet, a key mode of communication -- one not reliant on infrastructure vulnerable to strong winds and flooding -- still crackled: the "ham" radio.

Answering the phone that night in Connecticut was the emergency manager for the American Radio Relay League, the group's CEO said. For more than a century, this group has served as a hub for amateurs licensed to operate the dependable, if archaic, medium known as ham radio and eager to pitch in when disaster strikes.

When the Red Cross made its latest appeal for heroes, these were the people it had in mind.

Jumping to respond to disaster

Already gearing up on his own that night to go to work, turning knobs and flipping switches, was Oscar Resto.

As one of dozens of ham -- shorthand for "amateur" -- operators across Puerto Rico, Resto had been authorized by the Federal Communications Commission to use radios, computers, satellites or the Internet to assist and support public safety during emergencies.

Often untethered from wires and cables, operators share information by voice, Morse code and other methods on a wide range of frequencies above the AM broadcast band. Such communications were critical during rescue operations after the 9/11 attacks and Hurricane Katrina.



Oscar Resto works with another volunteer to pass along information at the Red Cross headquarters in San Juan, Puerto Rico.

For three days after Maria hit, Resto sawed through the downed trees that separated his home from the road, he told CNN. Then he packed his car with radio gear, left his family and made the 25-mile journey to a makeshift Red Cross headquarters, where generators and batteries could power his equipment.

"I have the responsibility to establish the required emergency communications that the American Red Cross needed for understanding the needs of the citizens impacted by the hurricane," said Resto, a section manager for the American Radio Relay League, which boasts 160,000 members.

Survivors needed food, water, shelter and fuel to power generators after Maria knocked out the entire electrical grid. They also needed to communicate, to share critical information about diabetics nearing the end of their insulin reserves, babies threatened by dehydration, families rationing crackers.

Transmitting radio signals to other ham operators in the Caribbean, Resto and his shortwave brethren traded National Hurricane Center reports on Maria's position. He also contacted a ham operator in Florida, and asked "just to tell my daughter, Astrid, that we were fine," he recalled.

Before long, Resto and his compatriots realized their messages were the only ones getting off the island.

In an instant, their mission expanded: Anyone with the requisite skills and equipment was conscripted.

Shoulder to shoulder with first responders

Two ham volunteers, Raul Gonzalez and Jose Santiago, set up a radio control hub run by generator power in Monacillo, near San Juan, and other centers quickly followed suit. There, ham operators work shoulder to shoulder with public safety and utility officials to transmit information to other ham operators working with teams in the field.

A full week after Maria battered their homes, Resto and two dozen other Puerto Rican ham operators were still running radio operations for the police and the local power company, whose own wireless communications systems rely in part on computers and power sources knocked out by the storm.

For instance, ham operators riding with police use radios tuned to the special broadcast frequencies to transmit calls to other ham operators hunkered down at the command centers with officers, who in turn respond with orders.

A power company generator low on fuel? A ham operator from Resto's team deployed with the power company calls his counterpart at the command center and coordinates a fuel delivery.



Raul Gonzalez and Jose Santiago work to maintain the communication infrastructure they set up between ham radio operators in the Monacillo Control Center.

For his part, Resto learned Tuesday via a ham radio at the command center that an unsanitary hospital in western Puerto Rico was transferring patients to another hospital. It was just one of countless threads of information squawked across the operational frequencies in a massive effort to deliver relief and supplies.

"I am very proud of them," Resto said of his crew of amateurs. "They are the real heroes."

More help on the way

Less than 48 hours after the American Radio Relay League's emergency manager fielded the Red Cross' call, 350 ham operators had offered to help, said Tom Gallagher, the group's CEO.

Fifty of them prepared this week to embark upon a three-week deployment to Puerto Rico. They include retired executives and public safety officers, and hail from places from Washington to Texas to New Hampshire, he said.

"It's an incredibly personal sacrifice from individuals who are dedicated to serving communities," Gallagher said. "They have the skills and the motivation and the sense of responsibility."



Volunteers will deploy to the island with equipment kits so they can be agile and provide for themselves.

Volunteers will be outfitted with self-sustaining kits provided by radio manufacturers and dealer partners so they can be agile and won't burden those they're trying to help, he said. Southwest Airlines was due to transport the equipment for free Wednesday from the group's New York headquarters to Atlanta, where volunteers planned to convene Thursday to board a chartered JetBlue flight for San Juan, Gallagher said.

There, they plan to connect with the Red Cross and likely spread out across Puerto Rico to continue the life-saving work of radio operators already well underway, Gallagher said. "It's the first time they've asked us to do this on this scale," he said. "This is why we're here."