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The Doughnut and the Doughnut Hole (Discussion Part I)

Made from leavened fried dough the doughnut has earned its spot in history as a delicious food with a unique shape. It’s a circular food concoction with a hole in the middle. If you look carefully enough, you can get doughnut holes from the store, supposedly the material removed from the center of the doughnut. While I like doughnuts as a food item, it’s the shape and the analogy that can be drawn from it that lends itself to understanding the needs in an emergency situation. The USGS described the analogy between the lowly doughnut and what happens after an earthquake.

“The Donut Hole, as seismologists call it, is far more serious than its name suggests. David Wald, a seismologist at USGS, explained that while there are many mechanical seismic sensors around the U.S. and the world, earthquake recovery requires the prompt response of human beings. Seismic sensors can’t be everywhere. But, by definition, people are always in the zones of damage that most concern emergency responders and, Wald says, “humans are remarkably good at detecting shakes and identifying damage,” he said. The issue is getting the observations of those people into the hands of the seismologists and emergency responders. Wald heads the USGS’s [“Did You Feel It?” program](https://earthquake.usgs.gov/data/dyfi/). People who feel an earthquake are encouraged to go to the USGS website and fill out questions. They are asked to identify location, time, the level of movement, and the kind of damage—picture frames knocked over? Drywall cracked? These individual reports, aggregated, provide a remarkably detailed and scientifically-significant set of data. Most crucially, people are able to report damage in a way that seismic sensors can’t. ‘The most important thing is the damage,’ Wald said. ‘Especially the damage at the center.’

This is the core problem that the WINLINK/USGS collaboration addresses. ‘We get a lot of reports from the periphery of an earthquake,’ he said. ‘But we get very few from the center, where the most damage is.' Thus: the donut hole. People right near the center of an earthquake often lose electric power, cell service, and are in a state of panic. The last thing they’re thinking about is the need to send a report to the USGS.

WINLINK is the primary tool used to send written information through high frequency radio for the Amateur radio community as well as for government agencies worldwide. For decades, it has allowed Hams and emergency response officials to communicate over short or long distances when the internet, cell towers, and other forms of contact are disabled. It works all over the world, all of the time, and requires no infrastructure other than that provided by Amateur radio operators themselves. As a result, many emergency planners see WINLINK as a crucial backup when all else has failed. The USGS partnership brought a new capability to WINLINK, one that is likely to make it even more in-demand.”

While the USGS focused on earthquakes, the operations of amateurs using WINLINK as a primary tool seems to apply to many emergencies where utility disruption leaves communities without a means to communicate to the world outside of the doughnut hole. Think about the recent fire in Hawaii where the town of Lahaina was destroyed. The island of Maui still had its infrastructure intact. The people at the center of the fire storm needed a way to contact the rest of the state because the normal commercial infrastructure in Lahaina was gone. In this case, Lahaina was in the doughnut hole while the rest of Maui and the world was the doughnut. Research into other disasters revealed the same thing.

The USGS article talking about the doughnut hole focused on getting data to the agency about the earthquakes from people in the doughnut hole. There was no acknowledgment of the civilian populace that had no communications. Also, consider that for the most part, the first responders have robust communications systems which allows them to communicate with each other efficiently. Finally, and this is mentioned in the article, speed to establish a communications path in an emergency and exchange information is essential. From an amateur radio operator’s point of view, especially from one who is contemplating responding to an emergency, there is little time to think about what to pack up and mobilize to a particular area when an incident occurs. That said, any mobilization to an emergency area must be tempered with safety considerations and ensuring the first responders immediately on the scene of an emergency and in charge of the event have an understanding of your purpose and presence and give permission for you to enter the area.

Given the discussion above, I believe we can treat all disasters like the USGS does with earthquakes to consider what our actions in a disaster could be. There seem to be two scenarios. One is that we reside in the doughnut hole and must take appropriate action to establish community communications. The second is that we will need to mobilize into the doughnut hole if we are to provide service. It is worth repeating that all this is tempered with the requirement to ensure we have permission from the Incident Commander who has charge of the incident.

I submit that based on the above discussion we have a goal and can create a roadmap of what we can do for incidents where communications are needed and how we should prepare for that eventuality. Our goal seems simple enough. **Provide as soon as possible communications services to those who do not have a means to communicate because of the emergency**. By all means, assist first responders if they request our help. Then provide the comm services to people who have been cut off from their “doughnut” and wish to communicate.

I’ll take up the roadmap in Discussion Part II.