

Public Service

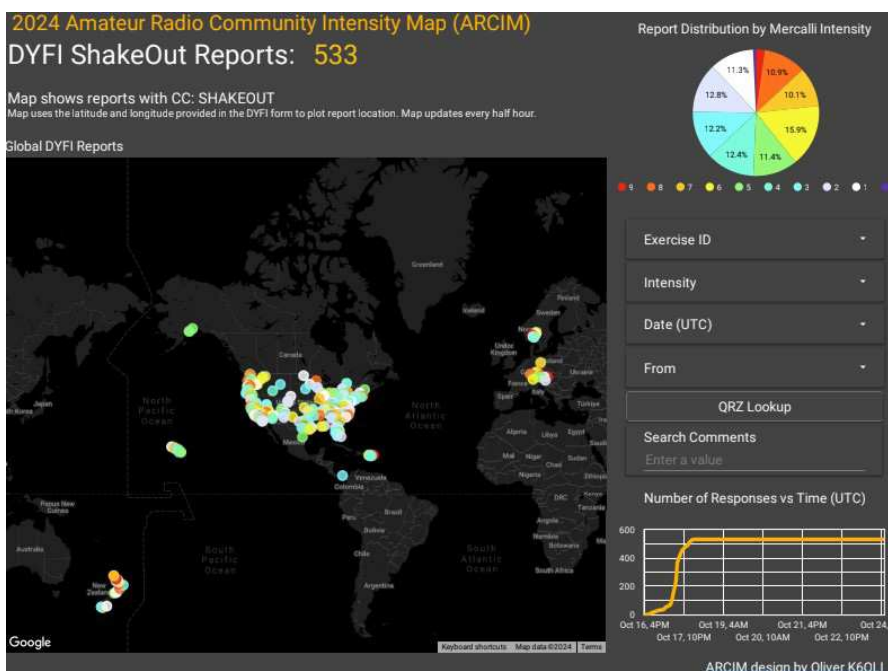
The 2024 Great ShakeOut ARCIM: A Map for Hams, by Hams

The 2024 Great ShakeOut — a popular worldwide annual earthquake drill (www.shakeout.org) — was held on October 17, 2024, at 10:17 AM local time. Millions of people around the world participated in the drill to practice earthquake safety. The ShakeOut Amateur Radio Community Intensity Map (ARCIM) project — a collaboration of Amateur Radio Emergency Service® (ARES®) LAX Northeast, Ventura County Auxiliary Communications Service (ACS)/ARES, San Diego ARES, the ARRL San Joaquin Valley Section, and the Institute of Electrical and Electronics Engineers (IEEE) MOVE Radio Club, W4MOV — offered the whole community of radio operators the chance to submit Winlink “Did you feel it?” (DYFI) reports as part of their ShakeOut drill experience. Radio amateurs who copied “SHAKEOUT” in their DYFI message were able to view their report and location on the ARCIM (www.laxnortheast.org/dashboards/shakeout), which was updated hourly for the drill.

Oliver Dully, K6OLI, initiated and coordinated the Winlink DYFI project, an amateur radio community collaboration with the United States Geological Survey

(USGS) that allows hams to submit ground truths to USGS during real events, contributing to earthquake intensity assessments and event response products. During his 2 years as Forms Manager for the Winlink Development Team, Dully coordinated the creation and management of Winlink forms. He worked closely with amateur radio and agency stakeholders to build mission-centric forms. In 2023, he began exploring dashboards for mapping and displaying amateur radio-generated data. Now, he builds and maintains dashboards for VARA FM Chat, Winlink mappable data, and the regional DYFI reports submitted by amateur radio operators.

I had fun filing my report and viewing it along with my location on the ARCIM during the 2024 ShakeOut. It worked great for me, and Dully said it was a smashing success. “Participation was higher and more international than we anticipated,” he said, reporting that as of October 18, there were 533 reports from the US, New Zealand, Puerto Rico, Norway, Germany, Canada, Austria, Switzerland, Philippines, Mexico, US Virgin Islands, Singapore, and Panama.



Amateur Radio Community Intensity Map dashboard.

“While the ARCIM’s original concept had focused on ‘earthquake country’ — i.e., the earthquake-prone states of California, Nevada, Oregon, Washington, and Hawaii — we quickly realized that it was scalable,” he reported. “We were incredibly pleased by the many operators throughout the United States who opted in for ShakeOut. We also appreciated the efforts the EmComm Training Organization went through to clarify the parallel exercises and encourage people to participate in both.”

The ARCIM project also fostered international goodwill, as groups from New Zealand, Germany, Austria, Norway, and other countries around the world worked together with their US counterparts to spread the word about ShakeOut, train operators in sending

DYFI reports that cc'd "SHAKEOUT," and have fun with fostering emergency preparedness. "While the Amateur Radio Community Intensity Map project for ShakeOut started as a collaboration of the aforementioned groups, we provided the ARCIM for the whole amateur radio community and all were welcome to participate," Dully said. "The ARCIM — a map for hams by hams — embodies the spirit of amateur radio collaboration in the truest sense of the word."

Preliminary Mandatory Testing

Dully stressed the importance of the thorough testing of the ARCIM in the weeks leading up to the Great ShakeOut drill. ARES LAX Northeast operators, as well as San Diego ARES and Hawaii ARES operators, provided bulk testing showing that large amounts of data can be handled by the setup and proved the scalability of the system. Winlink Treff, a German amateur radio group affiliated with Deutscher Amateur Radio Club (DARC), helped with international testing and was joined by hams from New Zealand.

Patrick Langer, OE1LHP, and the World-Link Communications Austria group amplified the SHAKEOUT messaging and provided German translations of much of the documentation and exercise instructions. "All of that allowed us to work out the kinks any new system invariably encounters," Dully said. "We have also received very positive feedback regarding the ARCIM from Dr. David Wald, seismologist at the USGS in Golden, Colorado, and Executive Director of the Earthquake Country Alliance Mark Benthien," he added. "The Earthquake Country Alliance spread the word, as did ARRL's *The ARES Letter*."

The ARCIM report for the 2024 Great ShakeOut is available at https://drive.google.com/file/d/1q2s_dwaFpeCE4ElegUMrhz90uon9nC0B/view, and live results can be viewed at the project website (www.laxnortheast.org/dashboards/shakeout).

Station and Earthquake Safety Tips

Participation in the Great ShakeOut drill can help prepare hams for operating during a real earthquake, and this preparation includes figuring out the best way to set up their station. I've experimented with numerous station-component layouts throughout the course of



Rick Palm, K1CE, can quickly and easily move his station components to the floor in case of an earthquake.

5 decades as an amateur radio operator. My favored scheme has been to mount the components (transceiver, tuner, etc.) on steel shelves that are placed on steel miniature scaffolding. The shelves, with the mounted components, can easily be removed from the scaffolding and placed in the back of my car for deployments. They can also easily be placed on the floor of my shack in a matter of seconds for the security of the gear and operator during an earthquake.

When it comes to earthquake safety, it's important to follow the widely accepted protocol: drop, cover, hold on. Wherever you are, drop down to your hands and knees, and hold onto something sturdy. If you're using a wheelchair or walker with a seat, make sure the wheels are locked, and remain seated until the shaking stops. Cover your head and neck with your arms. If a sturdy table or desk is nearby, crawl underneath it for shelter. If no shelter is nearby, crawl next to an interior wall (away from windows). Crawl only if you can reach a better covering without going through an area with more debris. Stay on your knees or bent over to protect vital organs. If you are under a table or desk, hold on with one hand and be ready to move with the desk if it moves. If seated and unable to drop to the floor, bend forward, cover your head with your arms, and hold onto your neck with both hands.

All photos provided by the author.