

CASCADIA: Communication to the wider world may be limited to ham radio

Continued from 1A

Meanwhile, tens of thousands of buildings west of the Cascades will collapse, followed by a massive tsunami that would further destroy coastal cities in Oregon and Washington. FEMA's 2013 Cascadia Subduction Zone response plan, used this summer for an intergovernmental "Cascadia Rising" drill in the Northwest, estimated 5,200 deaths and 15,500 injuries in Oregon and 9,400 deaths and 12,000 injuries in Washington. But that's using a hypothetical Feb. 6 morning earthquake with an epicenter 95 miles west of Eugene. Any number of variables, such as peak tourist season at the coast, could push casualties as high as 25,000.

Umatilla County Emergency Manager Tom Roberts said if predictions about Cascadia come true, two things will be essential for Eastern Oregonians: Don't panic, and be prepared.

"The big thing to take away and remember is that no one knows what's going to happen until it happens," he said. "With that in mind we are asking people to prepare for the worst and hope for the best."

Power

On day one of Cascadia, the most immediate impact Eastern Oregon residents need to be prepared for is a loss of electricity. As the Cascadia Rising scenario document described it, when electrical infrastructure on the western side of the state is destroyed, power will be rerouted to other segments of the network, which is likely to overload the system and trigger protective relays to shut down.

"The loss of load capacity from each switch may cause cascading blackouts extending much further than the impacted area," the document notes. "Within minutes of the initial shaking, vast regions of Washington and Oregon may experience a complete blackout."

Umatilla County's emergency operations center, located inside the justice building in Pendleton, has a backup generator, as do hospitals and other crucial facilities in the county.

The problem, Roberts said, will be keeping those generators supplied with fuel if power is out locally for days or weeks. Oregon has no refineries of its own, and gets its fuel from Washington, which would also be impacted by the quake. More than 90 percent of Oregon's liquid fuel reserves are located along

Making sure you're prepared

If a Cascadia subduction zone earthquake hits the Pacific Northwest, individual preparation will be key. Emergency preparedness experts at FEMA and the Red Cross recommend keeping a portable 72-hour emergency kit ready, then working to build up at least a 14-day emergency supply of food and water.

If that seems overwhelming, Umatilla County emergency manager Tom Roberts suggested that families focus on one step at a time. They can pledge to buy an extra case of bottled water next time it's on sale, for example, or plan to write out a list of family members' contact information this weekend. More information about emergency preparedness can be found at ready.gov.

Basic Preparations

Put together a 72-hour emergency kit using:

1. One gallon of water per person per day for drinking and hygiene
2. Non-perishable food for three days (include manual can opener if needed)
3. A battery-operated radio/NOAA weather radio
4. Flashlight
5. Extra batteries for flashlight and radio
6. First aid kit/ needed medications
7. Personal hygiene items (soap, toothbrush, contact solution, tampons, etc.)
8. Multitool and/or pliers to turn off utilities
9. A portable/solar cell phone charger
10. Laminated list of emergency

contacts and family emergency plan

11. Map of the area
12. Copies of insurance, birth certificates and other important documents
13. Extra cash
14. If needed, supplies for infants or pets

Intermediate preparations

Further items helpful to keep on hand in case of an emergency:

1. Two week supply of nonperishable food
2. Two week supply of water
3. Plain bleach to purify water (16 drops per gallon)
4. Mess kit or paper goods
7. Blankets or sleeping bags
8. Towels
9. Matches in a waterproof container
10. Work gloves and dust mask
11. Plastic sheeting and duct tape
12. Camp stove and extra propane (do not use indoors)

Advanced preparation

1. Become a licensed ham radio operator
2. Become a Red Cross volunteer
3. Take first aid/CPR classes
4. If you're a health professional, get pre-credentialed with the State Emergency Register of Volunteers
5. Seismically safeguard your home, including bolting it to its foundation and securing your hot water heater to the wall
5. Create a plan with neighbors, church members and/or co-workers to make sure everyone is taken care of.

a six-mile stretch of the Willamette River in Portland that is vulnerable to liquefaction during an earthquake. Long story short: Natural gas and fuel for running generators or vehicles will likely be in very short supply for weeks and transporting it will likely be difficult.

Roberts said the county could possibly stretch its fuel supplies farther using diesel from nearby farms, but there are not currently any such agreements in place.

Nick Bejarano, director of communications for Good Shepherd Health Care System, said the Hermiston hospital has enough fuel to run its generators for 96 hours, and hospitals would be one of the top priorities for any fuel coming in after those four days.

Communications

Joe Franell, CEO of Eastern Oregon Telecom and chair of the governor's Oregon Broadband Advisory Council, said he "doesn't expect there will be any internet connectivity" in Oregon and parts of Washington in the weeks following Cascadia. The Pittock building in Portland, which serves as the internet hub for the region, is not "seismically stable." Cell phone towers will also likely be disrupted, and since even today's landline systems

include internet components, "now even the old copper phone lines probably will not work," Franell said.

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A short list of licensed amateur ham radio operators are spread throughout Umatilla County and Morrow County. If Cascadia hit, the county would rely on them to work in shifts at the emergency operations center in Pendleton, sending and receiving messages from the military as well as state and federal agencies. In addition to audio communications between radio operators, the system also has the ability to send emails to regular email accounts via the radio even if the internet is knocked out.

"It gives the decision-makers who need to know the information they need ... to decide where resources will do the most good," Roberts said, calling ham radio "probably the most resilient" form of long-distance communication. Alan Plan, ARES/RACES coordinator in Umatilla County, said if ham radio operators in places like Ukiah and Heppner have access to power they can operate out of their homes and report to Pendleton the conditions in their community.

"The beauty of ham radio

is the infrastructure is set up by the hams themselves, separate, and so is able to exist off the grid," he said.

If something happened to the equipment ARES/RACES has set up in the emergency operations center in Pendleton, the Oregon Department of Transportation has also stored a van in Pendleton which could function as a mobile communications center.

Supplies

State and county officials are working diligently to prepare Eastern Oregon for the possibility of a Cascadia event, but Roberts said the more that individuals, families and businesses prepare, the less of a drain they will be on resources more urgently needed on the west side of the state.

Cascadia forum

Eastern Oregon Forum will present "Cascadia Aftermath" on Tuesday at 7 p.m. at Blue Mountain Community College in Pendleton, room ST-200 in the Science and Technology building. Speakers will be BMCC faculty member Phillip Schmitz, Eastern Oregon Telecom CEO Joseph Franell and Umatilla County Emergency Manager Thomas Roberts. For more information call 541-966-3177.

The state's Cascadia Subduction Zone Response Plan states that "significant aid from state and federal governments to local governments may not be available for at least 72 hours."

FEMA and the Red Cross recommend citizens build 72-hour kits complete with food and water for three days (see sidebar) to get through that time, since it's likely that grocery stores will not be open if the power is out.

For individuals with medical conditions, stockpiling emergency supplies can be especially important.

Kristy Beachamp, a public health emergency preparedness liaison with Oregon Health Authority, said people should do what they can to put aside extra prescription medications in case an emergency shuts down pharmacies.

They can try filling their prescription a couple of days early each month and putting the extra pills aside in a secure location, she said, or asking for samples from the doctor, although it is important to be aware of expiration dates.

"It can be really tricky to get a month's supply," she said.

Umatilla County Sheriff Terry Rowan said people can help law enforcement by not panicking and remembering that help from the outside will eventually come, and that they can start helping each other "at the grassroots level."

"I think the key is preparedness," he said. "If today you prepare, you don't have to be so afraid of the event that you stop living your life."

Contact Jade McDowell at jmcdowell@eastoregonian.com or 541-564-4536.

Stay tuned for the next installment in the series, **Cascadia Day Seven, on Tuesday.**

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