CREATING A CULTURE OF PREPAREDNESS

No Power? No Problem

Tips To Help You Thrive In The Face Of Disaster

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Scientists predict there is a 37 percent chance that a major earthquake will hit the Pacific Coast off Oregon sometime within the next 50 years. When that happens, residents need to be prepared for a loss of power and other challenges.

The earthquake is expected to come from a 600-mile fault called the Cascadia Subduction Zone, which sits from 70 to 100 miles off the Pacific Coast and runs from Northern California to British Columbia.

The last major earthquake from this fault occurred in January 1700. It had a magnitude of 9.0 and caused the coastline to drop several feet. It also produced a 100-foot tsunami that devastated the Oregon Coast and was felt as far away as Japan.

Scientists say the fault is building up pressure again and has the potential to produce another 9.0 magnitude earthquake and tsunami. Experts say there will be four to seven minutes of ground shaking, with the intensity decreasing as the movement continues inland.

When an earthquake of that magnitude strikes, it will have a tremendous impact on the state of Oregon and its neighbors. Although the damage will cause a wide variety of problems — affecting our transportation, communication and commerce — this publication focuses on how residents can cope with one aspect — the loss of power to their homes. Hundreds of thousands of homes and businesses are likely to lose power after a large-magnitude earthquake, but there are many simple steps residents can take to address the resulting challenges.

Inside:

Keeping warm

In all but extreme cold weather, conserving heat may be enough to keep warm. Here are some actions you can take:

- Close off unused rooms to reduce the space that must be kept warm.
- Place blankets or cardboard on windows, or close blinds or drapes to keep warm air inside and reduce cold drafts.

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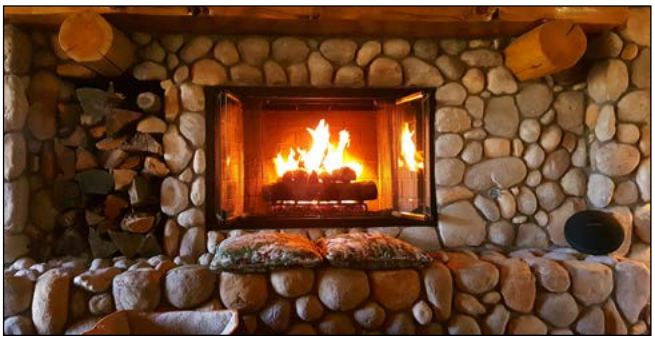
- Stuff towels or small blankets into windowsills, doorjambs and other areas where cold air leaks in.
- Place rugs, heavy blankets or cardboard on the floor to add another layer of insulation.
- Layer your clothing.
- Wear a hat. We lose precious body heat through our heads.
- Keep warm blankets and sleeping bags available.
- On sunny days, let the sunshine in for solar heat.

Heat options

Most alternative heat sources will result in having an open flame. Take extreme caution to prevent a fire. Remember to keep all flammable materials at least 3 feet from flames, and keep a fire extinguisher close by. Ventilation also is important to prevent buildup of carbon monoxide and smoke. Install a smoke detector and carbon monoxide detector with a battery or battery backup. Regardless of the alternative heat source, keep children and pets at a safe distance.



Fireplaces may not be capable of heating an entire home, so consider closing off rooms that aren't being used so living areas will be warmer.

Wood burning

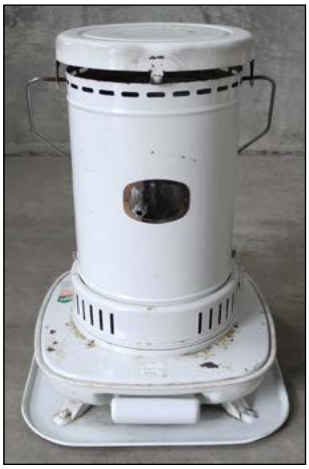
Wood-burning heat sources include woodstoves, fireplaces and pellet stoves. Things to consider:

- Pellet stoves require electricity to run the auger and fan.
- Regular maintenance of the chimney is needed if you plan to use your fireplace or stove.
- Use seasoned firewood only. Green wood produces creosote, a flammable byproduct that is the source of many chimney fires.
- Use commercial fire starters or appropriate home-made versions made of natural products. Do not use liquid fuels like gasoline, kerosene or diesel to start a fire.

Space heaters

Only use space heaters manufactured for indoor use.

- Kerosene, oil and propane space heaters require fresh air to prevent carbon monoxide buildup. Use only the fuel the heater was designed for. Follow the manufacturer's guidance.
- Electric space heaters could be used if you have an electricity source, such as a generator. Follow safety guidelines for generators.



Follow the manufacturer's guidance for safe operation of all space heaters.

- For all space heaters, choose a size needed for your space, make sure it is stable, keep all flammable materials away, do not place in a high traffic area and never leave them on when unattended or while you are sleeping.

Keeping cool

If the disaster strikes during the summer, keeping cool without air conditioning may be a challenge. It may be necessary to seek relief in a local cooling station or shelter, if available.

Ways to keep cool

- Keep shades, curtains and drapes closed on the south and west sides of the house. Consider adding insulating panels or reflective aluminum foil.
- When it's cooler outside than inside (usually at night) open windows to cool the house down.
- Have a battery or solar-powered fan to move the air. If ice is available, put some in front of the fan. Once the ice has melted, repurpose the water so it isn't wasted.
- Wear a commercial neck cooler or a wet bandana tied around your neck; it uses evaporation to help keep the body cool.
- Apply a cool, wet towel or covered ice pack on "pulse points" such as your neck, wrists, ankles, top of feet, backs of knees, inner thigh and crooks of elbows for no longer than 20 minutes at a time.
- Remember, it may be cooler outside in the shade.

Cooking indoors

When looking at alternative cooking methods, fuel consumption and safety need to be considered.

If you have a **gas range**, check your manual for information on usage during power outages. You may be able to manually ignite the pilot light. Check your gas lines for leaks before lighting the stove.

If there is a **wood-burning stove**, consider cooking on top of the stove. Unless it is designed as a wood cook stove, baking inside the box is not suggested. However, depending on the design and surface area of your stove, a metal box oven designed for camp stoves may be used for baking. Due to the high and varying temperatures, successful cooking with a woodstove requires practice.

Using the **fireplace** is another option. Heavy pans, like cast iron, work well for cooking in a fireplace. Also, food can be wrapped in tinfoil, placed on skewers or set on a grill placed in the fireplace.

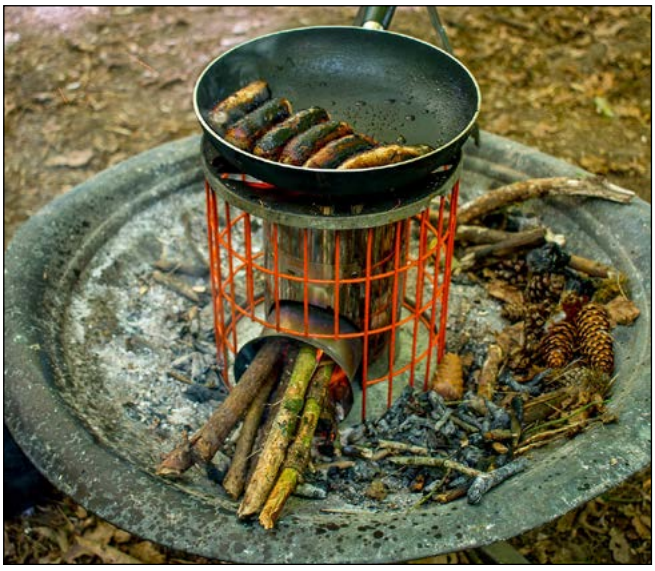
Do not use the fireplace or woodstove for cooking if it has not been regularly cleaned and maintained. To do so risks causing a fire or carbon monoxide poisoning or both.

Most **portable alternative cooking stoves** cannot be safely used indoors. However, those using **butane fuel** can be used **with proper ventilation**. Follow the manufacturer's directions.

In a power outage, you may still be able to use your gas range. Check your owners manual first, however, to ensure it's safe.

Cooking outdoors

Cooking equipment made for outdoor use cannot be used indoors or in attached garages due to the risk of asphyxiation from carbon monoxide poisoning.



Most camp stoves are for outside use only.

Outdoor barbecues, gas grills and firepits

- Charcoal briquettes can be stored indefinitely if they stay dry.
- Propane stores indefinitely but the tank must be recertified. Store the tanks out of the sun and away from the house.
- Keep outdoor cooking equipment away from the side of the house due to fire risk.
- Firepits can be used like an open fire for Dutch oven cooking.

Camp stoves

- A variety of camp stoves use a variety of fuel types, most of which are outdoor use only.
- Biomass or debris stoves use scraps of flammable items, such as twigs, pinecones and wood to produce heat. Always think **safety first** to prevent unintended fires and use these stoves on nonflammable surfaces, such as concrete or rocks. Keep the fire small and contained and keep a fire extinguisher nearby at all times. An internet search will result in a variety of suppliers, producers and styles for these small, efficient stoves.

Solar

Solar ovens capture the sun's rays to cook and are most efficient on clear, sunny days between 10 a.m. and 4 p.m. They can reach temperatures of more than 400°F, and are portable, safe and easy to use.

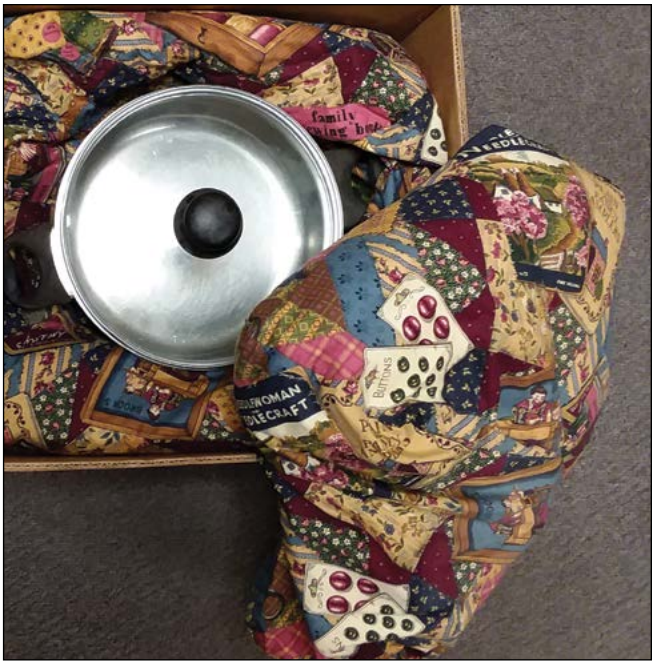
Conserving fuel

Fuel resources may be limited. Consider alternative ways of cooking requiring less fuel.

- A high-quality stainless steel thermos can be used as a cooking vessel. Preheat the thermos with boiling water. Remove the water then quickly add the food (wheat, quinoa, oats, dehydrated soups or foods) and the appropriate amount of boiling water. Tighten the lid and let the thermos set for the time required to cook the food.
- Insulated cooking uses the heat of the food being cooked to complete the cooking process. Foods are heated to the boiling point then quickly insulated inside a container, such as a cooler surrounded by thick layers of nonconducting material, such as batting, newspapers or straw. Take care to keep the food above 140°F during cooking. Due to their ability to hold heat, cast iron Dutch ovens work well for this technique.

Don't cook at all

- Use ready-to-eat foods such as cereal, boxed foods and canned foods that do not require cooking. Be sure to have a manual can opener on hand.
- Dried foods, such as nuts, fruits, jerky and vegetables, are excellent consumed in their dried state. However, your water intake must increase if eating dehydrated foods

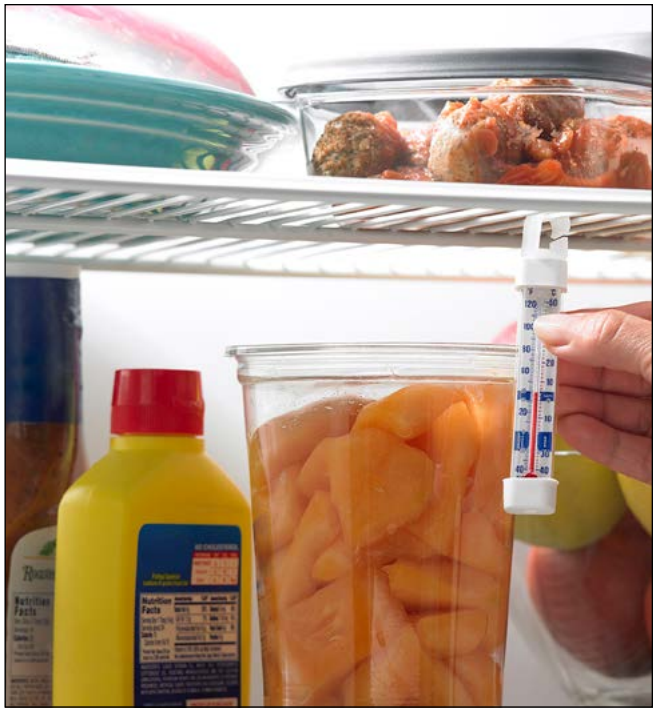


Insulated cooking uses the heat of the food being cooked to complete the cooking process. Foods are heated to the boiling point then quickly insulated inside a container.

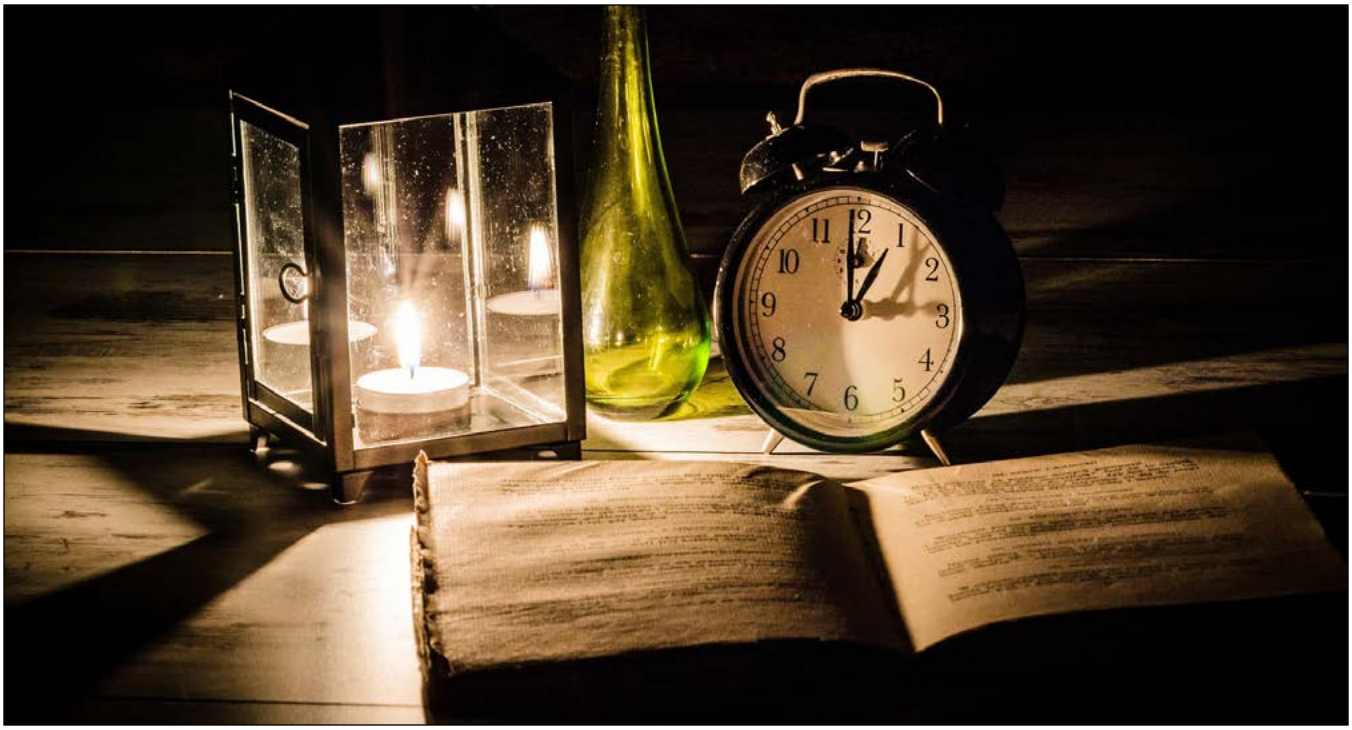
Keeping food safe

- Use refrigerator foods first. Try to maintain the safe temperature of below 40°F as long as possible by keeping the door closed as much as possible.
- Do not open the freezer door the first day or more than once per day and make it quick. Use quick-thawing food first, such as seafood and ground meat, before solid cuts of meat. If there are still ice crystals in the food, it is safe to use.
- Once the temperature has increased to 40°F, the food will only be safe to eat for two hours.
- Order of consuming food when the power is out:
  - ❏ Refrigerator foods.
  - ❏ Freezer food (quick-thawing foods first).
  - ❏ Canned, ready-to-eat and dried food.
- Make it a habit to fill empty space in the freezer with containers of water. The freezer operates more efficiently and stays cooler longer, and there will be additional potable water.

For additional information, see *Food Storage for Emergencies* (SP50-833) (and *Water Storage for Emergencies* (SP 50-835) at the OSU Extension Service Home Food Safety and Preservation Program website.



Try to maintain a safe temperature in your refrigerator by keeping the door closed as much as possible. An appliance thermometer will help you monitor the temperature.



When the power is out and the lights and TV don't work, candles, books and wind-up or battery-operated clocks become important.

Food preparation

Food and water must be safe, but so must the dishes and utensils that touch them.

- To save water, scrape off food remnants before washing.
- Scrub all surfaces, dishes, pots, pans and utensils with warm, soapy water.
- Food particles and dirt can harbor germs, so be sure to remove all food and dirt from kitchen surfaces and cookware.
- Use warm, running water to rinse away food particles, dirt and soapy residue.
- After washing and rinsing, sanitize with a chlorine bleach solution to kill germs. Follow the manufacturer's label for more information.

Lighting

Candlelight

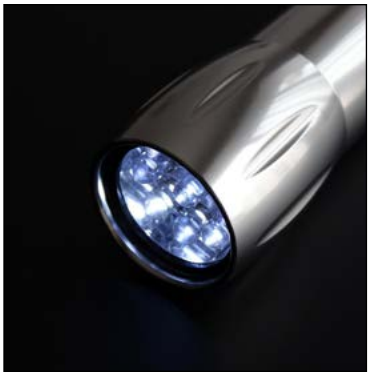
The use of open flames such as emergency candles, decorative candles and oil lamps to create light is popular and inexpensive. However, special care must be taken to prevent fires.

Many people prefer to use oil lamps rather than emergency candles. Oil lamps are inexpensive and should always be used with the chimney and placed on a solid, sturdy surface. The higher it's placed, the wider the light is dispersed.

Use caution when using any lighting device with an open flame. Place candles in sturdy, properly operating holders where they will not be dropped or tipped over. Educate children on the danger of open flames and keep them at a safe distance. Candles and lanterns should never be left unattended.

Alternative lighting

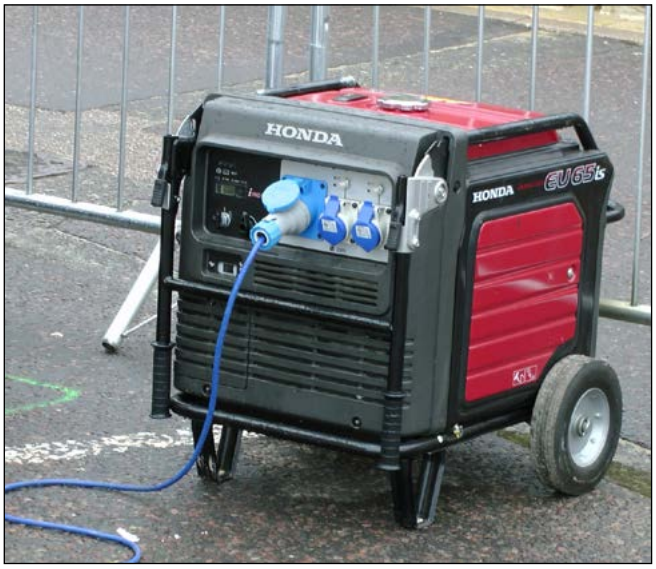
Flashlights: Look for LED lights. Purchase extra batteries. Consider purchasing crank models that don't require batteries. Have at least one flashlight or headlamp per person.



Have at least one flashlight or headlamp for each person.

Purchased **solar-powered lights** and even landscape lights are useful. While landscape light will not generate as much light, they can be used inside where low light is needed, such as illuminating the way to the bathroom or kitchen. Remember to put them outside during the day to recharge.

Glow sticks add low levels of light. Placing the stick in a clear container of water will refract the light, expanding its reach.



Generators should be kept dry and operated on dry surfaces.

Generators

A common alternative power supply in emergencies is a gas-powered generator. If not used correctly, generators can be hazardous. Generator safety tips:

- To prevent carbon monoxide poisoning, never use a generator inside the house, in an attached garage, or near the home's doors, windows or vents. Carbon monoxide can't be seen or smelled and can lead to incapacitation and death. If you start to feel sick, dizzy, nauseous or weak or develop a headache or muscle aches while using a generator, get to fresh air right away. DO NOT DELAY. Seek medical help immediately.
- To avoid electrocution, generators must be kept dry and be operated on dry surfaces. Do not touch the generator with wet hands. Do not expose it to rain or place it on a wet surface.
- Overloading the generator can result in fire. Know the capacity of the generator and the amps required by the electrical appliances to be run with the generator. Plug appliances directly into the generator or use a heavy-duty outdoor extension cord that is rated (in watts or amps) at least equal to the sum of the connected load. Be sure the cord has no damage and that the plug has three prongs, including a grounding pin.
- Never plug the generator into a wall outlet in a house or other circuit. This could electrocute utility workers who might be servicing the electrical system.
- To prevent fires, turn off and let the generator cool before refueling. A fuel spill on hot generator parts could start a fire. Keep a fire extinguisher nearby and do not remove or tamper with the safety devices. Keep generator fuel out of your home and away from fuel-burning appliances.
- Keep children away from the generator and the fuel containers.

Important: All homes should be equipped with carbon monoxide and smoke/fire detectors.

If anyone in the area where a generator is being used develops a headache, lethargy, weakness, nausea or muscle aches, get medical help immediately.

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