

Volcanic Eruptions Preparedness

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Preparing for a Volcanic Eruption

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Volcanic Eruptions

Volcanoes are eruptions from the earth's interior which can cause violent explosions of gases and rock. Eruptions can cause lava flows, mudslides, avalanches, falling ash and floods. Active volcanoes in the U.S. are found mainly in Hawaii, Alaska and the Pacific Northwest. Fresh volcanic ash, made of pulverized rock, can be harsh, acid, gritty, glassy and smelly. While not immediately dangerous to most adults, the combination of acidic gas and ash which may be present within miles of the eruption can cause lung damage to small infants, very old people or those suffering from severe respiratory illnesses.

Preparing for a Volcanic Eruption

1. Follow the information located in the General Family Preparedness section of the Handbook.
2. Be familiar with terms associated with a volcanic eruption.

Volcanic ash usually is erupted into the air above the volcano and then is carried downward along with volcanic gases. Pieces of ash may range from dust sized particles to pieces of rock. Ash can overload roofs, corrode metals, cause fabrics to decompose, clog machinery, block drains and water intakes and injure or kill vegetation.

Lava flows are streams of molten rock from a vent or from a lava fountain.

Volcanic gases associated with active volcanoes are water vapor, carbon dioxide, hydrogen sulfide, hydrogen, helium, carbon monoxide and hydrochloric acid. People with respiratory problems and heart disease are especially susceptible to volcanic gases. Gases rarely reach populated areas in lethal concentrations, although sulfur dioxide can react with the atmosphere downwind and fall as acid rain.

Pyroclastic flows and surges are mixtures of hot rock fragments that sweep away from their source at hurricane velocity. Because of their high speed and temperature, pyroclastic flows and surges kill or destroy virtually everything in their path.

Volcanic landslides are not always associated with eruptions; heavy rainfall or a large earthquake can trigger landslides on steep volcanic slopes.

2. Check with your local emergency management agency to locate hazard maps of your area. Areas that could be endangered by volcanic ash, pyroclastic flows, lava flows and mudflows are identified in these maps.

During a Volcanic Eruption

1. Do not visit the volcano site; you could be killed by a sudden explosion.
2. If ash is being expelled, avoid areas downwind from the volcano. A building offers good shelter from volcanic ash but not from lava flows and rock debris.
3. Be aware of flying rocks and mudflows. The danger from a mudflow increases as you approach a stream channel and decreases as you move away and toward higher ground.

Mudflows can move faster than you can walk or run.

Look upstream before crossing a bridge, and do not cross if the mudflow is approaching.

4. If ash is falling, stay indoors until the ash has settled.
5. During an ashfall, close doors, windows and all ventilation in the house.
6. Remove ash from flat or low pitched roofs and rain gutters to prevent thick accumulation.
7. Avoid driving in heavy dust conditions unless absolutely required. If you must drive in dense dust, keep speed down to 35 mph or slower.

Driving in Heavy Ash Areas

1. Avoid driving in heavy dust conditions unless absolutely required. The more dense the dust, the more urgent the requirement should be for driving.
2. When required to drive in dense dust, keep the speed down to 35 mph or lower.

Do not follow too close to cars in front of you.

Use headlights on low beam.
3. Change oil often. In very dense dust, change at 50- to 100-mile intervals.

In light dust conditions, change oil at 500- to 1000-mile intervals.

Lubricate all chassis components at each oil change.
4. Clean air filter by back flushing filter paper with compressed air (30 psi).

CAUTION! Blow element from inside (clean side) to outside (dirty side). DO NOT strike filter against anything.

If you are unsure, have a qualified mechanic perform the air filter service.
5. Cover passenger compartment vent inlet (located at base of windshield and usually under hood) with thick, loosely woven, felt-type material to filter air into vehicle. With vent filter in place, keep heater blower on high. The blower will slightly pressurize the inside of the vehicle and keep dust from entering through body gaps or holes.

If a vent filter is not installed, keep air conditioner and heater blowers off.
6. Have a service garage clean wheel brake assemblies every 50 to 100 miles for very severe road condition, or every 200 to 500 miles for heavy dust conditions.
7. Have a service garage clean alternator winding with compressed air after heavy dust accumulation or every 500 to 1,000 miles of severe dust exposure.
8. Wash the engine compartment with a garden hose or steam cleaner. Be sure to seal off air intakes and electrical components before cleaning.
9. Commercial truck filters can be installed to increase the filtering capacity of the air cleaner. However, this is expensive and should be attempted only by trained garage mechanics or experienced personnel. This would be beneficial for vehicles operating continuously in extreme dust conditions.

Information in this document was compiled by the Texas Agricultural Extension Service and Hazard Reduction and Recovery Center