

Fact Sheet

Volcanoes

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A volcano is a vent through which molten rock escapes to the earth's surface. When pressure from gases within the molten rock becomes too great, an eruption occurs. Eruptions can be quiet or explosive. There may be lava flows, flattened landscapes, poisonous gases, flying rock and ash, or landslides and mudflows. Because of their intense heat, lava flows are great fire hazards. Lava flows destroy everything in their path, but most move slowly enough that people can move out of the way.

Fresh volcanic ash, made of pulverized rock, can be abrasive, acidic, gritty, gassy, and odorous. While not immediately dangerous to most adults, the acidic gas and ash can cause lung damage to small infants, to older adults, and to those suffering from severe respiratory illnesses. Volcanic ash also can damage machinery, including engines and electrical equipment. Ash accumulations mixed with water become heavy and can collapse roofs.

Know Your Risk and What to Do

- Contact your local emergency management office to learn about community emergency plans and what you should include in yours.
- Get additional information from the U.S. Geological Survey (www.usgs.gov), American Red Cross (www.redcross.org) and Federal Emergency Management Agency (www.fema.gov).
- Inquire about emergency plans and procedures at your child's school, at your workplace, and at any nursing home, assisted living or day care center where a member of your family is receives care.
- Make a family disaster plan that includes out-of-town contacts and locations to reunite if you become separated. Be sure everyone knows home, work and cell phone numbers, and how to call 9-1-1.
- Assemble a 3-day disaster supplies kit with food, water, medical supplies, battery-powered radio and NOAA Weather Radio All Hazards, batteries, flashlights, and other items.
- For more information about assembling a disaster supplies kit, visit www.fema.gov/areyouready/.
- Put important documents such as birth and marriage certificates, social security cards, passports, wills, deeds, financial and insurance records in a fire- and water-safe location or safe deposit box.

Before a Volcanic Eruption

- Add a pair of goggles and disposable breathing mask for each member of the family to your disaster supplies kit, and put in a spare air filter for each vehicle.
- Stay away from active volcano sites.
- Make evacuation plans; plan a main route out, and have a backup route in mind.
- Be prepared for the hazards that can accompany volcanoes: mudflows and flash floods; landslides and rockfalls; earthquakes; ashfall and acid rain; and tsunamis.

During a Volcanic Eruption

- Evacuate immediately from the volcano area to avoid flying debris, hot gases, lateral blast, and lava or debris flow. Follow the evacuation order issued by authorities.
- Be aware of mudflows. The danger from a mudflow increases near stream channels and with prolonged heavy rains. Mudflows can move faster than you can walk or run. Look upstream before crossing a bridge, and do not cross the bridge if mudflow is approaching.
- Avoid river valleys and low-lying areas.
- Avoid areas downwind and river valleys downstream of the volcano.

If caught indoors and you are not in the path of a lava or debris flow:

- Close all windows, doors, and dampers.
- Put all machinery inside a garage or barn.
- Bring animals and livestock into barns and sheds if possible, other enclosed shelters otherwise.

During a Volcanic Eruption (Continued)

If trapped outdoors:

- Seek shelter indoors.
- If caught in a rockfall, roll into a ball to protect your head.
- If caught near a stream, be alert for mudflows. Move up slope, especially if you hear the roar of a mudflow.

Protection from falling ash:

- Wear long-sleeved shirts and long pants. Use goggles, and wear eyeglasses instead of contact lenses.
- Use a dust mask or hold a damp cloth over your face to help with breathing.
- Stay away from areas downwind from the volcano to avoid volcanic ash.
- Stay indoors until the ash has settled unless there is a danger of the roof collapsing.
- Close doors, windows, and all ventilation in the house (chimney vents, furnaces, air conditioners, fans, and other vents).
- Clear heavy ash from flat or low-pitched roofs and rain gutters.
- Avoid running car or truck engines. Driving can stir up volcanic ash that can clog engines, damage moving parts, and stall vehicles.
- Avoid driving in heavy ash fall unless absolutely required. If you have to drive, keep speed down to 35 MPH or slower. If you have to change the engine's air filter, pull into covered space.

After a Volcanic Eruption

- Keep windows, doors and dampers closed until ashfall ends.
- If possible, stay away from volcanic ashfall areas.

When outside:

- Cover your mouth and nose. Volcanic ash can irritate your respiratory system.
- Wear goggles to protect your eyes.
- Keep skin covered to avoid irritation from contact with ash.
- Clear roofs of ashfall. Ashfall is very heavy and can cause buildings to collapse. Exercise great caution when working on a roof.
- Avoid driving on roads with heavy ashfall. Driving will stir up more ash that can clog engines and stall vehicles.
- If you have a respiratory ailment, avoid contact with any amount of ash. Stay indoors until local health officials advise it is safe to go outside.

The Recovery Process

- For direct assistance to individuals and families for immediate needs contact the American Red Cross or other local voluntary agencies.
- Check newspapers, television, or radio news for information on disaster assistance available.
- For more information visit the U.S. Geological Survey Volcano Hazards Program website at volcanoes.usgs.gov, with volcano activity updates, feature stories, information about volcano hazards, and resources.
- For information on helping children deal with disaster, visit www.fema.gov or get a copy of FEMA 478 **Helping Children Cope with Disaster**. To obtain other fact sheets and publications call the FEMA Distribution Center at 1-800-480-2520.

Dangerous Volcano Myth!	The Facts:
Volcanoes take months or years in erupting after the first signs of activity.	Volcanoes can actually erupt within one week after the first signs of activity. The first steam eruption at Mount St. Helens on March 27, 1980, was preceded by only 7 days of intense earthquake activity. The climactic eruption, on May 18, followed seven weeks later. An eruption of Redoubt Volcano in Alaska on December 13, 1989, was preceded by only 24 hours of intense earthquake activity. But other volcanoes have been restless for months or years before an eruption occurred, and sometimes a period of unrest doesn't produce an eruption at all.