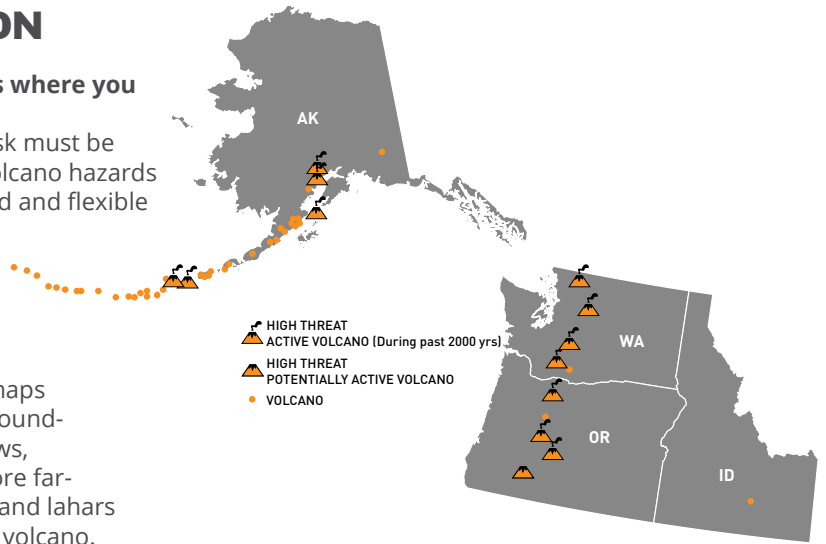


Are you prepared for a VOLCANIC ERUPTION?

BEFORE AN ERUPTION

Learn about volcano hazard zones where you live or visit

- > Authorities and populations at risk must be knowledgeable about regional volcano hazards so that they can be both prepared and flexible in their response.
- > Location-specific volcano hazards information can be found on a volcano-by volcano basis. The USGS has published several volcano-specific hazard maps that illustrate the potential for ground-based volcanic impacts—lava flows, hot rocks, volcanic gases, and more far-reaching hazards such as ashfall and lahars that flow in valleys that drain the volcano.



Familiarize yourself with evacuation routes

Typical hazard zones during an eruption include:

- > Areas immediately around the erupting volcano's vent.
- > Areas downwind of the vent if the eruption produces ash.

- > Areas downslope of the vent if the eruption produces lava flows.
- > The stream and river valleys that drain the volcano if the volcano is covered in snow and ice.

Depending up the type of volcano, downslope communities may need to prepare for lava flows or lahars. Downwind communities may need to prepare for tephra and ash fall.

Make a plan and ensure everyone in your family knows what to do in case of an emergency

- > Identify responsibilities for each member of your household and plan to work together as a team.
- > Choose places to meet and an out-of-area emergency contact person.
- > Plan what to do if you have to evacuate, decide where you would go and what route you would take to get there. You may choose to go to a hotel/motel, stay with friends or relatives in a safe location or go to an evacuation shelter if necessary.
- > In the event of imminent danger, it is important to find a safe place and stay there.

Build and maintain a disaster supplies kit

Ensure the following non-standard items are in your kit to live safely and more comfortably around active volcanoes:

- > A recommended paint or respiratory mask and goggles for working outside in volcanic ash.
- > For people with respiratory difficulties, medication and oxygen required to live in dusty conditions.
- > Spare contact lenses, cleaning solution, glasses.
- > Plastic and tape to seal ash out of your house during extreme ash fall.



FEMA



Institute for Hazard Mitigation Planning and Research



URBAN DESIGN & PLANNING



VOLCANIC ASH FALL

Are you prepared for a **VOLCANIC ERUPTION?**

DURING AN ERUPTION

- > Follow recommendations from officials
- > Pay close attention to emergency plans, follow instructions for closures and evacuations
- > Keep informed about eruption progress with USGS volcano notifications.

If you are ON a volcano during an eruption

- > Move AWAY from hazard zones as fast as possible.
- > You may be exposed to falling ash and volcanic rocks, lava flows, lahars, volcanic gases, and fast-moving torrents of hot rock and gas (pyroclastic flows).
- > Your route to safety might be cut off. If you are on a snow and ice covered volcano, stay off valley floors and out of low-lying areas – lahars (volcanic mudflows) may occur.
- > Pay attention to closure signs; they could save your life.

If you are NEAR or DOWNWIND from a volcano during an eruption

You may be at risk from lava flows.

- > First, follow evacuation advice from officials. Listen carefully to official reports via emergency broadcasts.

- > Stay off fresh lava flows – burning vegetation releases methane gas, which can accumulate in covered areas and be released as an explosion.

You may be at risk from lahars.

- > Stay out of valleys and low lying areas that lead away from the mountain.
- > If officials warn of an approaching lahar, seek high ground off the valley floor as quickly as possible, such as moving up a hillside. Then, seek shelter.
- > Evacuate if necessary.

You may be at risk for volcanic ashfall.

- > Seek shelter and minimize your exposure to ash.
- > Do not drive unless absolutely necessary; ash can damage the engine, filters, and exterior of your vehicle, and driving on ash-slickened roads with reduced visibility can be hazardous. Reduce driving speed.
- > Keep outside air from getting inside. Close and seal (e.g. with duct tape) non-essential doors, windows, vents and other gaps. Place damp towels at the bottom of external doors. Minimize use of HVAC or heating and cooling systems that draw in outside air.

AFTER THE ERUPTION

Impacts from volcanic events can last for months to years after the eruption ends.

Actions to take after an eruptive event are dependent upon whether the eruption is continuing, the level of impact, and type of eruption.

The most important thing to do is to watch and listen for updates from local authorities; they will determine when to lift or revise evacuation orders and organize relief response.

Ashfall

- > Don't rush into the clean-up operation without making a plan; read resources for proper ash removal and disposal techniques.
- > Avoid cleanup until ash has stopped falling, and use a 'top down' and 'up-wind' method to prevent recontamination of cleaned areas.
- > Minimize driving to avoid damage to vehicles.
- > Have clean-up resources on hand, such as dust masks, plastic sheeting, and duct tape.

- > For more detailed information about volcanic ash, visit https://volcanoes.usgs.gov/volcanic_ash/

Lava flows

- > Lava flows typically move slowly enough for local officials to have issued evacuation notices.
- > Roads may be blocked by lava, so it's important to find multiple routes to an inundated area once the all-clear has been issued.
- > Pay attention to instructions from local officials.

Lahars

- > Until a lahar deposit solidifies, the thick slurry may not support a significant amount of weight.
- > Do not attempt to cross a lahar by car or by foot. As they travel downstream, lahars can pick up hazardous materials. Use personal protective equipment and tools to clean up debris.
- > Be aware that lahar sediments will be remobilized by rain and normal river drainage for years after a volcanic event, which may result in destructive flooding.