

Volcano

Visitor's Map & Guide

1980



2005

Review

to Mount St. Helens

National Volcanic Monument

Now Erupting: a VOLCANO near you!



Steam and ash eruption on October 1, 2004.

In late September 2004, after 18 years of relative quiet, hundreds of earthquakes signaled Mount St. Helens' reawakening. Activity increased, producing the first steam eruption on October 1st. Thousands of people flocked to the volcano hoping to witness geologic history. Over the next ten days larger steam explosions showered the crater and flanks with ash, and a portion of the crater glacier began to swell, as magma moved under the crater's ice and snow.

By October 11th, the first small fin of new lava broke the surface. The thick, pasty lava formed a lava dome, a common feature of Cascade Volcanoes. The new dome grew at a steady pace, about a dump truck load every second through December. By February of 2005, the pace of the lava extrusion had slowed, but the new dome was already over 1450 feet high and 1600 feet long.

The history of Mount St. Helens provides insight into future activity. The volcano has long

been the most active in the Cascades, erupting every 100 to 150 years over the past 2,000 years, often explosively. The current eruption may continue for months or even years, quietly rebuilding the volcano, or it could stop as abruptly as it began. Whatever the future holds, this eruption reminds us of Earth's dynamic nature!



New lava dome "Whale Back" February, 2005.

Welcome to Exciting times at Mount St. Helens!

Just this past September Mount St. Helens rumbled awake and back into the limelight. Even as this eruption continues we prepare to commemorate 25 years since the catastrophic 1980 eruption. Join us as we remember the events that led up to the May 18th eruption and celebrate 25 years of discovery.

This year we reflect on the astounding natural recovery of plants and animals and wonder at the new lava dome growing in the volcano's crater. We look ahead to further scientific investigations that will help us better understand our world and how it responds to natural catastrophe. For this important work to continue we need your help. We ask that you please respect the rules and regulations that help protect this living laboratory for future generations.

With this in mind, we would like to personally invite you to experience our state-of-the-art Visitor Centers and awe inspiring viewpoints. Attend a live ranger program to better understand discoveries made here. Hike our trails and explore this dramatic volcanic landscape or simply reflect quietly on the power and resiliency of nature. Have a safe and enjoyable visit.



*Cliff Ligons, Monument Manager
Maggie Dowd, Deputy Monument Manager*



USDA ■ Forest Service ■ Gifford Pinchot National Forest
www.fs.fed.us/gpnf/mshnvm



1980 Eruption: The Earth's Power Unleashed



Pre-1980 Mount St. Helens and Spirit Lake.

In March of 1980, Mount St. Helens awoke with swarms of tiny earthquakes, followed by steam explosions from a small crater near the summit. As magma moved into the volcano, swelling increased, causing the north slope of the volcano to bulge and become unstable.

On May 18th, 1980, a magnitude 5.1 earthquake triggered the collapse of the

summit and north flank of Mount St. Helens, forming the largest landslide in recorded history. The landslide exposed gas rich magma inside the volcano, releasing a hot, stone-filled blast northward. In less than four minutes the blast flattened 230 square miles of forest. A plume of volcanic ash and pumice billowed 15 miles into the sky.

Ash rained down across Eastern Washington. Hot rock from the eruption melted snow and ice on the volcano, creating mudflows that scoured surrounding river valleys. By the following day, the most energetic part of the eruption had ended. During the following months and years

Mount St. Helens erupted several times and formed a lava dome in the crater.

Since the eruption, ice and snow have accumulated in the horseshoe-shaped crater, forming a new glacier. Rock fall from the crater walls raise dust clouds above the crater rim. Mudflows exit the crater during rain storms. Occasional earthquakes remind us that Mount St. Helens is truly an active volcano.



Post-1980 Mount St. Helens and Spirit Lake.

Nature Rebounds: 25 Years of Lessons Learned



No trace of old-growth forest remains in the valley north of the volcano, 1981.



Wind blown seeds recolonize the valley with willow and fir trees, 2004.

The last quarter of a century has been a period of profound change at Mount St. Helens. In a matter of minutes the May 18, 1980 eruption completely transformed more than 230 square miles of forest surrounding the volcano. Over the last 25 years, we have witnessed the opening chapter in a sequence of ecosystem recovery that will stretch well into the next century. Mount St. Helens offers us an opportunity to experience nature's unbridled power and the wonder of its continuing cycle of cataclysm and renewal.



Trees over 10 miles north of the volcano were toppled by the 300-mile per hour blast, 1981.

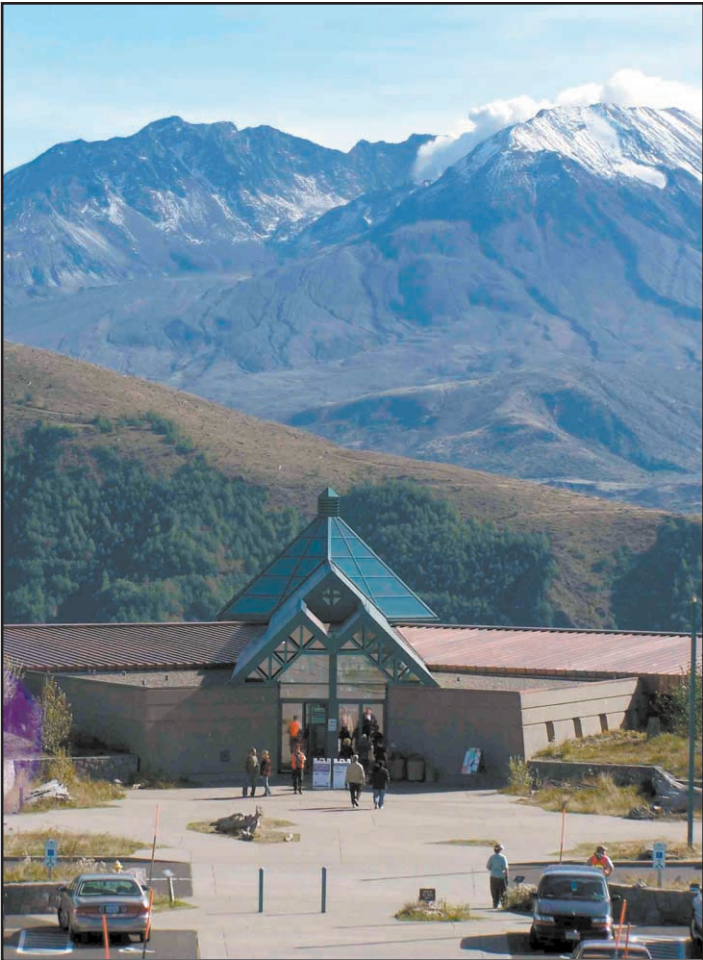


Decomposers help convert the fallen trees into soil nurturing a young forest of willow, alder and fir, 2004.



Johnston Ridge Observatory

Learn to read the effects of the 1980 eruption on the land at this Visitor Center located only 5 1/2 miles from the crater. Discover that the eruption of Mount St. Helens was more than just a single event. See first hand how scientists continue to monitor this active volcano. The center includes: exhibits with a geological focus, a 16-minute theatre program, ranger-led programs, a bookstore, and food service. Open daily 10 am to 6 pm May through October. A Monument Pass is required and available here. No pets are allowed at viewpoints or on trails.



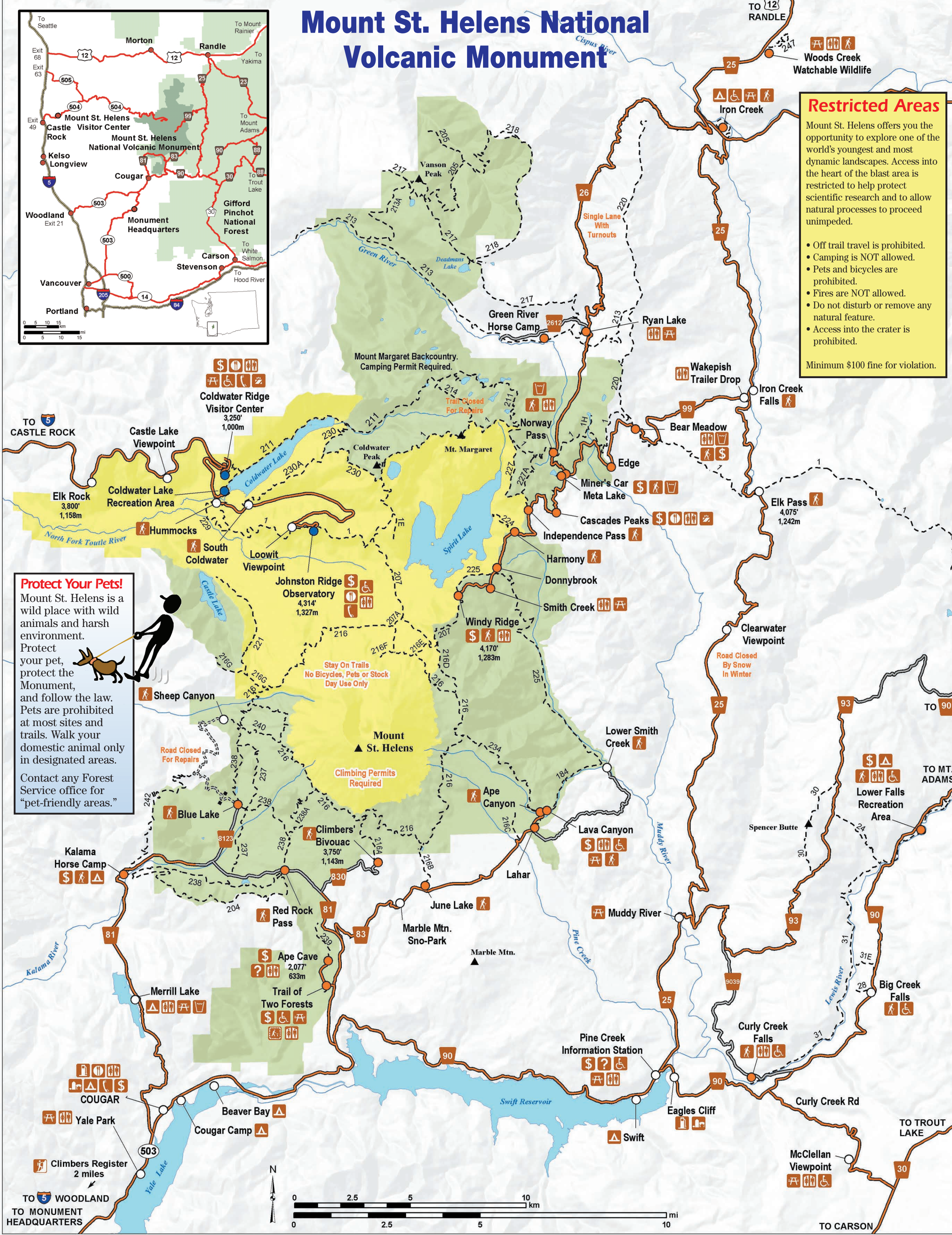
Coldwater Ridge Visitor Center

Discover the plants and animals that are returning and thriving at Mount St. Helens and uncover the secrets of their survival. The Center includes: interactive exhibits with an ecological focus, ranger-led programs, bookstore, gift shop, and restaurant. Open daily 10 am to 6 pm May through October. Winter schedule is reduced. Check our website or call ahead before visiting November thru May. A Monument Pass is required and available here. No pets are allowed at viewpoints or on trails.



Mount St. Helens Visitor Center

Learn the human history of the area before, during and after the 1980 eruption of Mount St. Helens. The Center includes: exhibits with a human history focus, a walk-through volcano model, two theater programs, ranger-led programs, one-mile boardwalk wetlands nature trail, and a book store. Pets must be leashed at all times. Open daily; summer 9 am to 6 pm, spring and fall 9 am to 5 pm, winter 9 am to 4 pm. A Monument Pass is required and available here.



Restricted Area

Mount St. Helens National Volcanic Monument

Locked Gate

Monument Pass Required

Recreation Day Pass Required

Paved Roads

Gravel Roads

Trails

Information

Passes Sold

Barrier Free

Campground

Trail Access

Telephone

Picnic Area

Interpretive Trail

Restrooms

Water

Food

Fuel

Gift Shop

General Store

Campgrounds Location/Agency	Location	# Of Sites	Use Fee	# Picnic Sites								
Cresap Bay - PacifiCorp	Hwy 503	73	\$	20	X	X	X	X	X	X	X	X
Cougar - PacifiCorp	Hwy 503	60	\$	12	X	X	X	X	X	X		X
Beaver Bay - PacifiCorp	Hwy 503	78	\$	5	X	X	X	X	X	X	X	X
Swift - PacifiCorp	FR 90	93	\$	6		X	X	X		X	X	X
Lower Falls - USFS	FR 90	42	\$	4	X			X			X	X
Lewis River Horse Camp - USFS	FR93 @ FR90	8	\$		X			X			X	
Kalama Horse Camp - USFS	FR 81	28	\$	2	X			X			X	
Merrill Lake - WA DNR	FR 81	8	\$	6		X	X	X		X		X
Iron Creek - USFS*	FR 25	98	\$	12	X		X	X			X	X
Sequest State Park - WA State	Hwy 504	90	\$	65	X			X	X		X	X

*Reservations Accepted, Call 1-877-444-6777

Driving Times In Hours:	Ape Cave	Coldwater Ridge VC	Johnston Ridge Obs.	Lava Canyon	Mount St. Helens VC	Pine Creek Info Station	Randle	Windy Ridge
Carson	1:30	3:45	4:00	1:45	2:45	1:00	2:15	2:15
Castle Rock	1:30	1:15	1:30	1:45	0:15	1:45	3:00	3:00
Johnston Ridge Observatory	2:45	0:15	---	3:00	1:15	3:00	2:45	4:00
Lava Canyon	0:15	2:45	3:00	---	1:45	0:45	2:00	2:00
Mt. Rainier N.P. (Paradise)	2:45	3:30	3:45	2:45	2:30	2:15	1:00	2:15
Mount St. Helens VC	1:30	1:00	1:15	1:45	---	1:45	1:30	2:45
Portland	1:30	2:15	2:30	1:45	1:15	1:45	2:30	3:00
Randle	1:45	2:30	2:45	2:00	1:30	1:15	---	1:15
Seattle	3:30	3:00	3:15	3:45	2:00	3:45	2:30	3:45
Windy Ridge	1:45	3:45	4:00	2:00	2:45	1:15	1:15	---
Woodland	1:00	1:45	2:00	1:15	0:45	1:15	2:30	2:30

VOLCANIC ACTIVITY

Since the onset of new eruptive activity at Mount St. Helens some areas, roads and trails have been closed to public access. A new lava dome continues to grow within the crater. The eruption is punctuated by steam, gas and ash emissions. To protect you from potential volcanic hazards, some areas and facilities may remain closed. For current closures consult our website.



Windy Ridge and Spirit Lake Viewpoints

Witness the effects of the hot, stone-filled, lateral blast as you travel from a living green forest, past standing dead trees, and into the blown down forest. Discover Spirit Lake's immense floating log mat, part of the forest that surrounded the lake prior to the 1980 eruption. Open seasonally. Opportunities include: a gift shop and restaurant at Cascade Peaks, ranger-led programs and hiking trails. A Recreation Day Pass is required and available at various sites along Forest Road 99 including Meta Lake, Cascade Peaks, and Windy Ridge.



Lava Canyon and Lahar

On May 18th, 1980, slurries of wet concrete-like mud scoured away a forest, exposing ancient lava flows. Today, enjoy the thrill of a rushing river with impressive water falls. Walking terrain varies and may be slippery. Use extra caution and stay on trails! Nearby Lahar Viewpoint offers a striking view of the volcano and the power of the 1980 mudflows. A Recreation Day Pass is required and available here.



Ape Cave

Explore a 2,000 year old lava tube. Allow one hour to hike the lower section of the cave and two and a half hours for the more difficult upper portion. Expect wet, uneven terrain and a year round temperature of 42 degrees F. Bring warm clothing, sturdy shoes, and at least two light sources for each person. Pets and food are not allowed in the cave. From late June to Labor Day visit Ape's Headquarters with a small book store, lantern rentals and 45 minute, ranger-led tours. A Recreation Day Pass is required and available here.

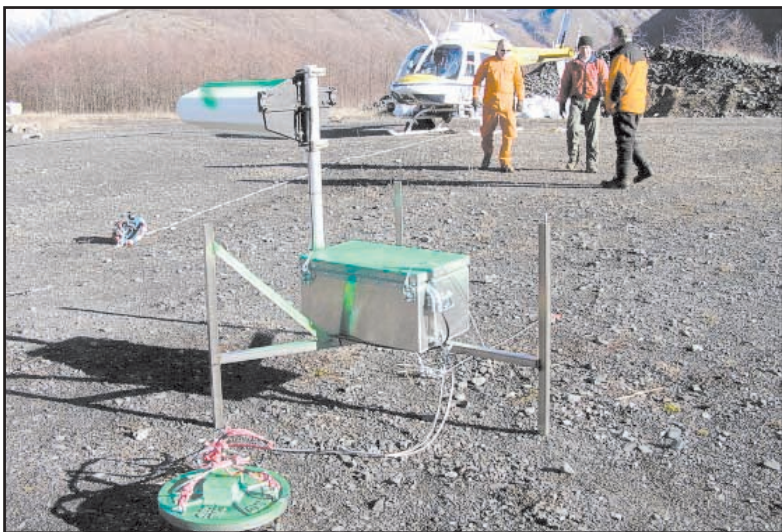
ASHFALL!

Volcanic ash is rock that has been pulverized to dust by volcanic activity. Volcanic ash may become airborne during a steam or gas emission, explosion or even by rock fall or wind. It may travel many miles. It is not toxic, but may trouble infants, the elderly and people with breathing difficulties.

- If you encounter ashfall:
- Remain calm.
 - Seek shelter inside a building or vehicle.
 - Cover your nose and mouth with a moist cloth or towel.
 - Wait until ash settles before resuming activity or travel.
 - Drive slowly as ash will reduce visibility and traction.

“Spiders” Help Keep Scientists & Communities Safe

Mount St. Helens is the most closely monitored volcano in North America. Since the 1980 eruption, a network of seismometers has monitored earthquakes at the volcano. Global positioning satellites (GPS) can detect



“Spider” is ready for helicopter deployment to the crater.

shrinking and swelling of the landscape around Mount St. Helens. Flow monitors on streams leaving the crater provide early warning of mudflows. Prior to the development of these remote monitoring techniques, geologists had to make direct measurements often using simple tools, such as a measuring tape and level. This slow and often dangerous process limited data collection.

When Mount St. Helens began erupting in September, 2004, geologists rushed to install a new generation of volcano monitors. “Spiders” are combination seismometer, GPS and radio transmitter; some also contain a gas monitor or camera. This new technology is



“Spider” rides atop new dome called the “Whale Back”

portable and can be placed in dangerous, remote locations for weeks without servicing. New technology allows geologists to monitor Mount St. Helens and respond to volcanic eruptions worldwide more quickly and safely than ever before.



The Mount Margaret Backcountry

may be partially snow covered until mid-summer. Eight camps can accommodate tent campers at four lakes and four ridge top locations, some with crater views. Camping permits are required. Maximum group size for camping is four people. Pets, pack stock and fires are prohibited.

Permits can be obtained at Monument Headquarters, Coldwater Ridge Visitor Center and Cowlitz Valley Ranger Station. For additional information call or visit our website.

If you are an adventurous hiker, you may want to explore the pinnacle studded ridges, turquoise lakes, and flowered slopes of the Mount Margaret Backcountry. Trails there have narrow, steep tread and gain over 2,000 feet in elevation. Some trails

Northwest Interpretive Association

(NWIA) is a non-profit organization that supports educational programs and visitor



services for the Forest Service and other public land management agencies. Proceeds from sales are used to

fund Monument interpretive programs, new exhibits, displays and more. To order books, videos, posters and other materials from NWIA pick up an order form at any visitor center, visit their website or contact:

*Northwest Interpretive Association
3029 Spirit Lake Highway
Castle Rock, WA 98611*



Mountain Climbing

Mount St. Helens is currently closed to climbing due to volcanic activity. A new lava dome continues to erupt onto the crater floor along with intermittent steam, gas and ash emissions. Geologists believe that this eruption could produce explosions that cause hazardous conditions on the crater rim and on the upper flanks of the volcano.

School Groups



Teachers: online registration for field trips is easy and required! Visit our website for registration information, itineraries, lesson plans, description of our visitor facilities, maps and driving times.

www.fs.fed.us/gpnf/mshnvm/education/teachers-corner

Contact Information

Emergency911

Forest Service Offices

- Coldwater Ridge Visitor Center(360) 274-2114
- Cowlitz Valley Ranger Station(360) 497-1100
- Gifford Pinchot National Forest Headquarters(360) 891-5000
- Johnston Ridge Observatory(360) 274-2140
- Mount Adams Ranger Station(509) 395-3400
- Mount St. Helens Monument Headquarters(360) 449-7800

Other

- Mount St. Helens Visitor Center(360) 274-0962
- Mount St. Helens Concessions(360) 274-2984
- National Recreation Reservations(360) 444-6777
- PacifiCorp(503) 813-6666
- Weyerhaeuser Forest Learning Center(360) 414-3439
- Washington State Parks(360) 902-8844

Web Sites

- Cascades Volcano Observatory USGShttp://vulcan.wr.usgs.gov
- Gifford Pinchot National Forestwww.fs.fed.us/gpnf
- Mount St. Helens National Volcanic Monumentwww.fs.fed.us/gpnf/mshnvm
- Northwest Interpretive Associationwww.nwpubliclands.com
- Washington State Chamber of Commercewww.wcce.org/county/html
- Washington State Parkswww.parks.wa.gov
- Weyerhaeuser Forest Learning Centerwww.weyerhaeuser.com/sthelens



The Volcano Review is produced by the Northwest Interpretive Association in cooperation with the U.S. Forest Service.

MONUMENT
MAP
and
VISITOR'S
GUIDE
inside!



Unfold paper
completely.



Persons of any race, color, national origin, sex, age, religion, or with any disability are welcome to use and enjoy all facilities, programs, and services of the USDA. Discrimination in any form is strictly against agency policy, and should be reported to the USDA, Office of Civil Rights, Washington, DC 20250.

We appreciate your support!

The Monument Pass is a day pass required at the Mount St. Helens Visitor Center, Coldwater Ridge Visitor Center, Coldwater Lake Recreation Area, and Johnston Ridge Observatory. By purchasing a Monument Pass you are helping to support interpretive services and visitor facilities. You have the following options:

- | | |
|----------------|------------------------------|
| \$3 per person | One Visitor Center |
| \$6 per person | More than one Visitor Center |
| FREE | 15 years and under |

The National Forest Recreation Day Pass is a parking pass required at select recreation sites on National Forests in Washington and Oregon. The cost is:

- \$5 per day
- \$30 for an annual pass



Passes are available at Forest Service offices, many retail outlets, by phone (800) 270-7504 and on line at www.naturenw.org. For your convenience, self-service pay stations are located at selected recreation sites.

Golden Eagle, Golden Age, Golden Access Passports and the Washington and Oregon Recreation Pass are honored at Monument Pass sites, and National Forest Recreation Day Pass sites.

Coming soon...the America the Beautiful pass. This pass will cover basic recreation fees at most Federal lands.

For details and updates visit: www.fs.fed.us/r6/feedemo.

Remember, your fees stay here to support the services and facilities you use.