



Gifford Pinchot National Forest

Pacific Northwest Region
500 West 12th Street
Vancouver, Wa 98660



Mount St. Helens
National
Volcanic
Monument

Fact Sheet as of May 18, 1983

BACKGROUND INFORMATION

Location: Fifty miles from Portland, Oregon in the Gifford Pinchot National Forest in the State of Washington.

Height: Summit elevation now approximately 8,300 feet. (Original height before eruption - 9,677 feet.)

Last Eruption: Last eruption from early 1800s until 1857. Dormant for 123 years until March 27, 1980.

Other Active Volcanoes: First volcanic eruption in continental 48 states since Lassen Peak in California last erupted from 1914 to 1917.

ACTIVITY

Eruptions: From March 27 through May 17, 1980, consisted of steam and ash, with some small mudflows. On May 18, a violent eruption began when an earthquake triggered a giant landslide that removed the northern flank of Mount St. Helens. The blast, accompanied by hot gasses, pumice, and ash, devastated more than 150 square miles in a broad sector north of the mountain, with all trees and vegetation laid flat or killed. The highest ash cloud reached at least 70,000 feet and was tracked around the world. Ash fallout was heavy and crippled cities - Yakima, Washington, 85 miles away received 5/8 inch; Spokane, Washington, 255 miles - 1/8 inch; Pullman, Washington/Moscow, Idaho, 260 miles - 1/5 inch; and Ritzville, Washington, 195 miles - 2 inches.

The eruptions of May 25, June 12, and October 16, which were accompanied by some pyroclastic flows, left 1/8 - 1/2 inch of ash on Portland, Oregon, Vancouver, and southwestern Washington.

The first dome of crusty, volcanic lava was observed after the June 12 eruption. This dome was destroyed by the July 22 eruption. A second dome, observed on August 8, was destroyed by the October 16 eruption and a third was observed forming on October 18. A non-explosive event occurred December 27, 1980-January 4, 1981, adding two additional lobes to the October dome. Non-explosive eruptions beginning February 5, April 10, June 18, September 6 and October 30, 1981, added new extrusions to the pre-existing composite dome. The next eruption began March 19, 1982, with moderate explosive activity, accompanied by mudflows, followed by the extrusion of two additional lobes of lava on the dome and further small explosive events. Two subsequent non-explosive events May 14 and August 17 added new lobes to the existing dome. At present, the mountain remains calm with minor steam plumes and low-level seismic activity.

Fatalities: 36

Missing People: 21

Crater: The May 18 eruption left a crater approximately one mile wide and two miles long. An estimated one cubic mile of rock or 12 percent of the mountain was removed during the eruption. Elevation of the mountain was reduced by 1,370 feet from 9,677 to approximately 8,300 feet. Landslides from the crater walls occur periodically.

Earthquakes: From March 20 to May 18, over 2,400 earthquakes of magnitude 2.4 or greater occurred, of which 371 were over 4.0. Strongest to date: 5.1 on May 18. Earthquakes have subsided considerably since May 19, but vary with the degree of eruptive activity.

Floods: Mudflows and flooding caused extensive damage downstream from the area.

Resource: The May 18, 1980 eruption severely damaged 61,200 acres of National Forest land and 89,400 acres owned by the State of Washington, private interests and individuals. National Forest resources damaged or destroyed include: 1.6 billion board feet of timber; 100 miles of streams; 2,300 big game animals; 27 recreation sites; 63 miles of road; 13 bridges; 197 miles of trails; and 15 Forest Service buildings.

Losses: Estimated resource loss on National Forest Lands: \$134,087,000

Potential Hazards: 1. Probable ash and steam eruptions.
2. Rapidly moving flows of mud (melting snow and ice mixed with ash).
3. "Pyroclastic flows." These are masses of fiery gasses and light-weight volcanic particles that skim like an avalanche along and above the ground at speeds of up to 100 miles per hour.
4. Ashfall carried by prevailing winds as a result of a major eruption.
5. Flooding.

CHRONOLOGY OF EVENTS

March 20, 1980 First earthquake of magnitude 4 reported. The number of earthquakes gradually increased during the succeeding week suggesting impending volcanic activity.

March 27 First eruption of steam and ash. Similar explosions continued until about April 22.

May 7 Eruptions of steam and ash resumed and continued until May 14.

May 18 Huge landslides and associated violent explosive eruption, accompanied by mudflows, pyroclastic flows, flooding, and extensive ash deposits.

May 25 Second substantial ash eruption with some pyroclastic flows.

June 12 Third substantial ash eruption accompanied by pyroclastic flows. Lava dome grew in crater from about June 13 to 19.

July 22 Fourth substantial series of ash eruptions accompanied by pyroclastic flows. Lava dome destroyed by eruption.

August 7 Fifth substantial series of ash eruptions accompanied by pyroclastic flows. A new lava dome grew in crater August 8 to 10.

October 16 Sixth substantial series of ash eruptions accompanied by pyroclastic flows. Lava dome destroyed by eruption October 16. A new lava dome grew in crater October 18 and 19.

December 27, 1980 Last ash eruption occurred October 16, 1980. Since that time, there have been several non-explosive (minor ash) eruptions, each adding a portion to the pre-existing composite dome formed during the October eruption.

February 5, 1981

April 10

June 18

September 6

October 30

March 19, 1982 Dome-growth eruptive phase with minor explosive events and small mudflows, adding two new lobes to the pre-existing dome. Continued until April 12, 1982.

May 14 Non-explosive (one minor and one no-ash) eruptive phases, May 14-20

August 17 and August 17-23, added new lobes on the northwest and south-southwest sides of the composite dome.

February 1983 Non-explosive eruption began early February adding new lava lobe on east side of composite dome. March and April dome growth continued without visible lava on surface of dome. May, renewed lava lobe formation on northeast side of dome.

Size of composite dome at time of printing: 715 feet high, base dimensions 2100 feet by 2245 feet.