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Department of the Interior
Geological Survey, National Center
Reston, Virginia 22092



Information Office

Frank Forrester (703) 860-7444

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QUAKE SWARM FOCUSES ATTENTION ON MOUNT HOOD VOLCANO, OREGON

A series of more than 50 earthquakes that started Sunday, July 8, some of which were definitely located under Mount Hood, a Cascades volcano about 50 miles east-southeast of Portland and about 60 miles south-southeast of Mount St. Helens, has spurred a special monitoring effort by scientists of the U.S. Geological Survey.

Scientists from the USGS western region center, Menlo Park, Calif., are placing three portable seismic stations and a teleseismic station at strategic points on the 11,235-foot-high Mount Hood to monitor the earthquake activity and, specifically, to determine if the earthquakes are occurring at the mountain, and if they are, to determine the significance of the earthquake sequence.

USGS scientists noted that the eruption of Mount St. Helens on March 27 was preceded by an unusual number of earthquakes, and that it would be prudent to determine if the seismic activity occurring since July 6 may be directly linked to possible volcanic activity at Mount Hood.

The USGS emphasized that no immediate conclusions should be drawn about the possibilities of an eruption of Mount Hood because of the earthquake activity. Survey scientists added, however, that if the earthquakes are indeed centered beneath the mountain, then it could reflect movement of magma into a conduit of the mountain. At this time, however, such a speculation would be premature.

(more)

The earthquake series began at 6:17 p.m., PDT, July 6, with a magnitude 3.3 (Richter Scale) earthquake which was located near Mount Hood at shallow depth. This first tremor was followed minutes later by other quakes near Mount Hood and by a series of smaller earthquakes 10 miles southeast of Mount St. Helens. Aftershocks from both regions were recorded through the evening of July 6 until midnight at intervals of about 2 to 3 minutes. These subsided until the early morning of July 7, when another 3.0 quake was recorded near Mount Hood. On July 8, at 11:40 a.m. PDT, a 3.2 quake occurred near Mount Hood, preceded and followed by smaller ones until 11:00 a.m. July 9. A 3.7 quake was recorded July 9 at 8:26 p.m. PDT, again occurring southeast of Mount St. Helens. Since that time, only a few small tremors have been recorded at either location.

Following reports of the July 6th 3.3 tremor, which was felt by some local residents, USGS scientists immediately began to examine seismic recordings being made by a network of seismographs in northern Oregon. Because this remote network is used for regional resource assessment investigations as part of the Survey's Geothermal Research Program, the records are normally examined several days after being made. The network is not designed for up-to-the-minute monitoring of either earthquakes or volcanic activity, as now being done at Mount St. Helens. The scientists said, however, that although the existence of the geothermal seismic network was fortuitous, it will provide some of the best information available in determining the significance of the earthquake activity.

Mount Hood, like Mount St. Helens and other volcanoes of the Cascade Mountain range, has had a long history of fitful eruptive activity. The last major eruption of the mountain -- marked by steam and ash ejections and mudflows -- occurred about 2,000 years ago. A minor eruption of Mount Hood occurred in 1865.

Mount Hood, part of the scenic Mount Hood National Forest, has been extensively eroded by glaciers and is topped with small glaciers. The lower slopes of the mountain are densely forested, primarily by conifers. The snowy upper slopes comprise an important winter sports area.

Because of the glaciation of Mount Hood, an eruption would create the potential for mudflows and debris flow-induced flooding, in addition to hazards from ash fallout.

As part of its hazard monitoring program, the USGS has issued a formal hazard watch to state and local officials expressing the heightened concern caused by the earthquake activity in the vicinity of Mount Hood. USGS officials again emphasized that the earthquake activity in itself cannot be interpreted as a definite precursor to an immediate eruption.

Recently, Mount Hood has been discussed as a possible potential source of geothermal energy. Drilling high on the slopes of the mountain at Timberline Lodge ski and recreation resort indicated a good geothermal potential. The summit of the mountain near Crater Rock is marked by small fumaroles that continuously emit steam.

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