

March 25 - 1980

Is Mount St. Helens ready to erupt?



AP Laserphoto

Quakes rattle mountain

Earthquakes around Mount St. Helens in southwest Washington have scientists watching the volcano for a possible eruption, according to University of Washington seismologist Steve Malone. Small tremors have rattled the area since Thursday. Cross-country skiers have been told to stay off the 9,677-foot mountain due to avalanche hazards.

COUGAR, Wash. (AP) — Mount St. Helens, silent for the last 123 years after erupting in four of the past five centuries, may be about to blow again, scientists say after a series of small earthquakes.

Subterranean quiverings during the past five days have made the mountain seem somewhat like a bear growling during hibernation. There's no harm yet, but it's attracting a lot of attention.

Cross-country skiers have been told to avoid the mountain because of avalanche hazards caused by aftershocks. A quake Monday triggered high-elevation snow slides on the north and northwest slopes.

Mount St. Helens, about 50 miles north-northeast of Portland, Ore., rises 9,677 feet to a symmetrical, snow-capped peak often compared in beauty to Fujiyama in Japan. Layers of pumice from eruptions 3,500 and 450 years ago have been found 50 miles to the east.

The last eruption occurred in 1857.

"We know the mountain will erupt again, but we don't know when," said Steve Malone, a University of Washington seismologist in Seattle.

Judy Terreberry, a spokeswoman for the UW Geophysics Program, noted a swarm of small tremors at the mountain since Thursday. Volcanoes around the world "typically display the same type of activity right before they blow," she said.

Since Friday, seismic activity on the mountain increased from what geophysicists call two "events" (or tremors) per hour to 40 per hour by Monday morning. The quakes occurred within three miles of the mountain and at depths of three miles.

"This swarm is the most active form observed on or near a Washington state volcano since the installation of seismic stations in 1972," said Ms. Terreberry.

Whether Mount St. Helens actually will blow is still to be seen. "You won't know for sure until it

does — if it does," said Malone.

The biggest jolt hit Monday afternoon and registered 4.4 on the open-ended Richter scale, a measurement of ground motion as recorded on seismographs. Two others in the 4 range occurred Thursday and Saturday.

A quake of 4 can cause moderate damage, but no damage or injuries were reported in the heavily timbered, lightly populated area of southwest Washington.

A U.S. Geologic Survey team installed temporary monitoring gear on the mountain Friday, said Ken Johnson, district forest ranger. The USGS also took a plane over the summit to look for any changes that might have occurred in the crater, said David Frank, a USGS hydrologist.

Cougar, 12 miles southwest of the summit, has a population of about 150; the St. Helens Ranger Station, 12 miles southeast of the summit, about 45, said Johnson. Earthquakes were not felt in either place.

A 1978 USGS report says an eruption could force the Toutle and Cowlitz rivers to overflow as far away as Kelso, 25 miles west of the summit, while areas 15 miles east of the mountain could be covered with 18 inches of volcanic ash.

The report described the peak as "an especially dangerous volcano" because of the frequency of eruptions.

News accounts of a 1853 eruption refer to clouds of steam and debris visible from Salem, Ore., 100 miles to the south, and explosions accompanying an 1848 eruption were heard by startled residents of Oregon City, Ore., 65 miles away.

Mount St. Helens is not the only potentially active volcano in the Cascade Range. Steam is vented frequently from the range's tallest peak, 14,410-foot Mount Rainier, about 70 miles southeast of Seattle, and 10,778-foot Mount Baker, near the Canadian border.

The last volcanic eruption in the lower 48 states occurred on Mount Lassen in Northern California in 1914.

Volcano warning won't oust oldster

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COUGAR, Wash. (AP) — While little earthquakes that may portend a volcano continue to roll in an almost-endless beat beneath Mount St. Helens, 83-year-old Harry Truman says he won't leave his mountain home of 54 years.

"I don't have any idea whether it will blow," said Truman. "But I don't believe it to the point that I'm going to pack up."

The U.S. Forest Service Tuesday closed the mountain above the tree line and advised residents who live on and near the mountain to leave because of avalanches. Forest Service employees also evacuated.

But Truman, who lives on the mountain just below the timberline, said, "I've felt earthquakes in the past, but nothing lately."

The small but lively tremors have kept seismographs at the University of Washington in Seattle shaking for several days, and the intensity picked up Tuesday afternoon and through the night.

"They're happening so fast that we can't even count them," said Dave Endicott, a University of Washington spokesman.

Scientists have said the quakes may signal a volcanic eruption, which would be the first in the lower 48 states since one in California in 1914.

Most of the quakes Tuesday afternoon were about 3.0 on the Richter scale, with the largest at 4.5, said Endicott. The quakes are in a five-mile radius of the 9,677-foot mountain.

Jim Unterwegner, a Gifford Pinchot National Forest spokesman, said the Forest Service asked "a few" persons to evacuate Monday night because the quakes have been triggering avalanches.

The evacuation request did not include the closest town to the mountain, Cougar, which is 12 miles to the southwest.

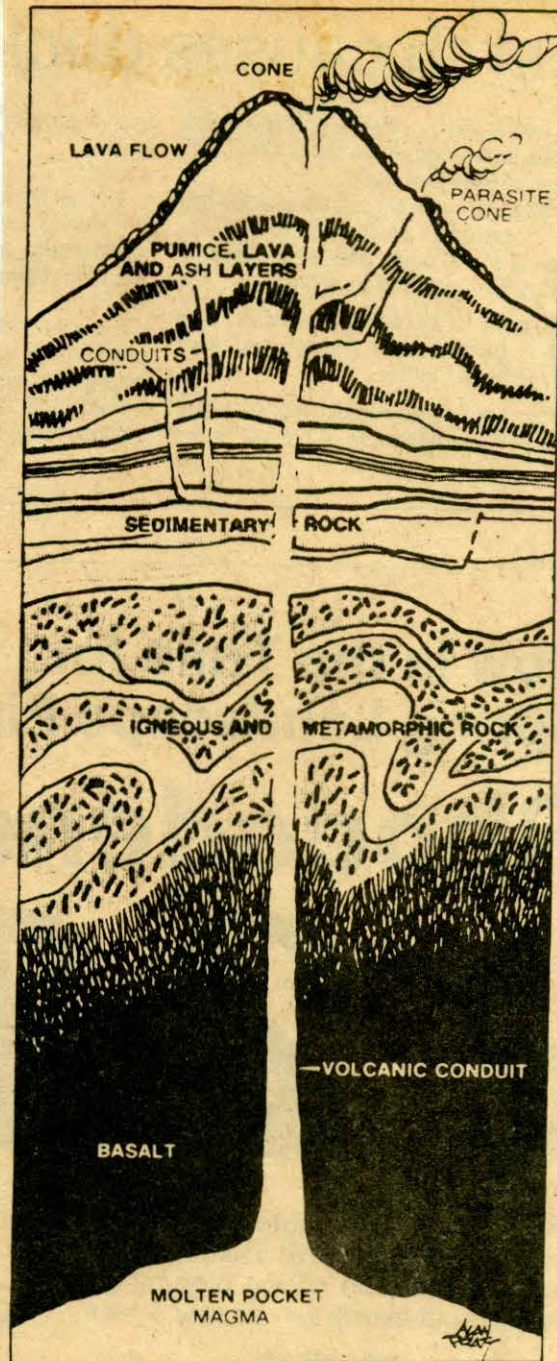
Don Mullineaux of the U.S. Geologic Survey in Denver said residents in the mountain area reported the quakes seemed to be stronger on Tuesday.

"There is no evidence on the surface that this is volcanic," said Mullineaux. "The best guess is that it (an eruption) would not happen without some warning, such as venting."

A U.S. Forest Service plane that flew around the mountain Monday found no evidence of venting or lava flows.

The last eruption occurred in 1857.

A 1978 USGS report described the peak as "an especially dangerous volcano" because of the frequency of eruptions.



AP Laserphoto

Layers make it

A stratovolcano, such as Mount St. Helens, is made up of layers of varying materials. The question is whether the recent disturbances have come from deep within the mountain, probably caused by the ground shift, or from close to the surface.

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Mountain quakes ease

SPIRIT LAKE, Wash. (AP) — Earthquake activity on Mount St. Helens had eased slightly by early today, as scientists prepared to check seismograph stations on the mountain and continued to speculate on the likelihood of volcanic eruptions.

Local officials, with assistance from government geologists, planned for evacuation in case eruptions sent lava or mud flows cascading into mountain valleys and streams. Volcanic ash also could pose a danger to local water supplies.

Rhonda Brooks, coordinator with the Washington Department of Emergency Services, said the quakes were less frequent and intense, but half a dozen temblors still registered between 3.0 and 4.0 on the Richter scale Wednesday afternoon.

The pattern of quake activity is similar to that which often precedes volcanic activity in Japan, said scientists. But they said there is no seismic history for 9,677-foot St. Helens and they only could guess

what the quakes mean.

A geologist at Portland State University, Leonard Palmer, said "eruption is imminent . . . it could appear within days." But he later said the situation was "less threatening" and conceded: "We just don't know what it will do."

The mountain last erupted in 1857.

Donald Mullineaux of the U.S. Geologic Survey said St. Helens "has been through a full range of kinds of volcanic eruptions in the past. We don't see why it couldn't do the same in the future."

He flew from Denver to Vancouver, Wash., about 40 miles southwest of the mountain, to more closely monitor the peak and met with Cowlitz and Skamania county officials to discuss evacuation plans.

"There could be major flooding," he said. "There could be thick pumice and ash falls. There could be hot flows of rock fragments down the side of the mountain."

Four teams of two persons each were to recover information taken at remote sites

on the flanks of Mount St. Helens, said David Johnston of the U.S. Geologic Survey.

University of Washington seismographic machines have been fed by two seismographic taps into the mountain. Information from the remote sites "will refine our present observations," said Johnston.

The main road into the area, Washington 504, was closed Wednesday by the Skamania County Sheriff's Department. Local Forest Service roads were closed. And the Federal Aviation Administration restricted flights near the mountain, at the request of the Forest Service.

There are three hydroelectric dams and reservoirs on the Lewis River, just south of the peak. Leonard Bacon of Pacific Power and Light Co. in Portland, which owns the dams, said water levels were down in the reservoirs of the two dams nearest the mountain, so there would not be a threat of flooding.

Business boom

Curiosity seekers, reporters 'rumble' into mountain area

KID VALLEY, Wash. (AP) — Curiosity seekers and reporters are having more of an impact on the people who live at the foot of petulant Mount St. Helens than the earthquakes that have rumbled underground the past week.

In fact, the subterranean throbbing — which some worry may signal an eruption — is helping business in a tiny Kid Valley restaurant.

Ed and Barbara Brown, who run the four-table cafe, said a tremor Wednesday slammed the door shut and rattled dishes, but a sleeping cat on the porch hardly stirred.

"Shucks," said Mrs. Brown. "I'm not nervous. Heck, why worry about it?"

Besides, she said, "I'd say business has about doubled, counting reporters, sheriff's deputies and the state patrol."

Brown said he's noticed an increase in the number of cars with Oregon license plates driving up the highway, "and it couldn't be anything but curiosity seekers."

They both laughed at the suggestion that Kid Valley might bolster its economy with a sweatshirt, beer-mug and bumper-sticker industry commemorating the underground wobbles.

The crest of the mountain was mantled in thick gray clouds and was visible for only fleeting moments Wednesday. The clouds poured rain on the lowlands and snow on upper reaches of the

mountain.

Skamania County Sheriff's Department deputy George Barker turned back all but reporters at a point about seven miles down the road from the mountain. Authorities put up the roadblock as a precaution against avalanches.

"I can't believe how they can stop you from going to your own property," said Dwight Sutherland. "They are asking for a lawsuit."

Complained Randy Anshutz: "I wouldn't be up there 10 minutes. I wished they'd let me go."

About 100 cabins and summer homes sit in deep spring snow around the Spirit Lake Lodge beneath Mount St. Helens.

Highway 504, a two-lane winding road, is the only access.

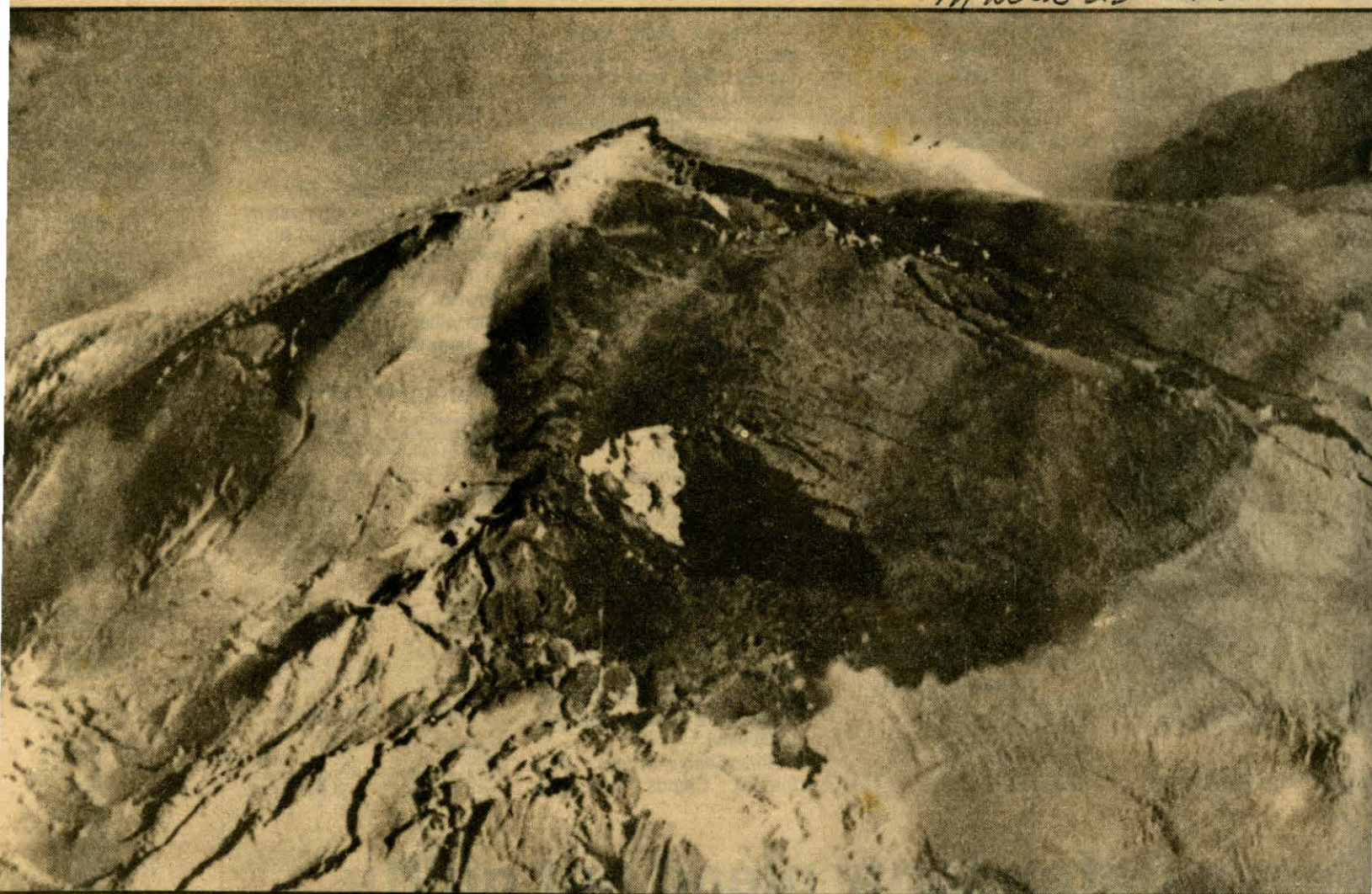
One homeowner, Roy Ford of Kelso, called his insurance man Wednesday and took out an earthquake policy. He doesn't know if it was effective immediately or not.

Everyone isn't convinced earthquakes occurred.

"I haven't felt nothing," said Stanley Lee, 67, who operates the Kid Valley Store next to the restaurant.

"It's just a crock cooked up by the federal forestry service for them environmentalists to delay a big development of the Spirit Lake recreation area. Now I can't guarantee that, but it's my opinion."

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'The volcano could blow at any moment,' David Johnston of U.S. Geologic Survey says Thursday.

Mount shakes

COUGAR, Wash. (AP) — Explosions shook pulsating Mount St. Helens today and a plume of volcanic gas and ash spewed four miles high in the first eruption of the volcano in more than 120 years.

"The mountain is heating up," said Don Swanson, an official of the U.S. Geological Survey, who flew over the volcano and reported mud slides and avalanches oozing down its snow-covered slopes.

All residents were evacuated within 15 miles of the grumbling mountain, about 40 miles northeast of Vancouver, Wash., but officials said there was no immediate threat to human life.

Swanson said numerous explosions shook the mountain between 7:27 a.m. and 8:40 a.m. after the volcano appeared to be calming down following a 2 a.m. outburst.

"It has been kind of pulsating," he said.

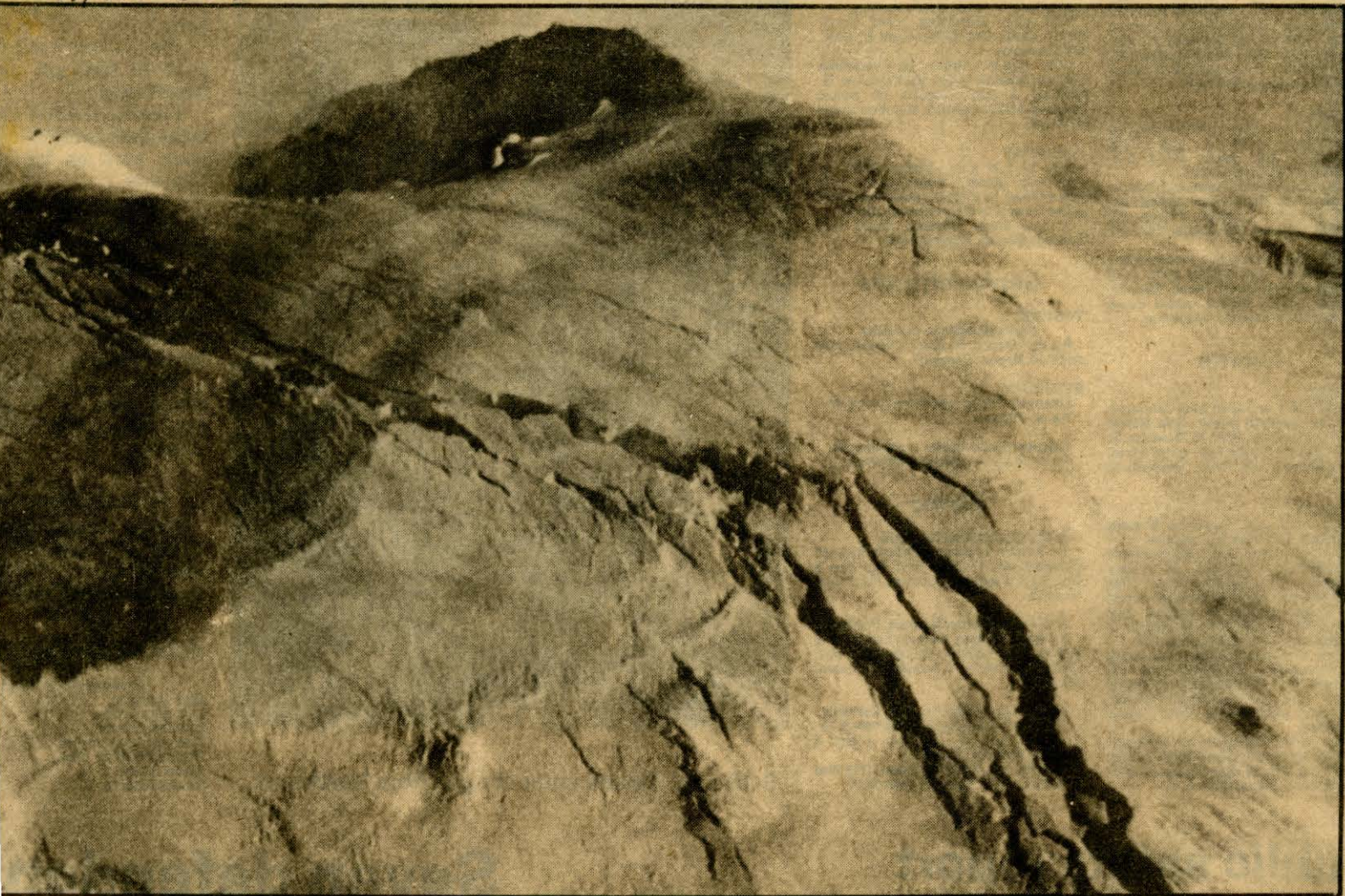
Jim Unterwegner, a spokesman for the U.S. Forest Service, said small avalanches were sighted on the east side of the mountain and mud flows at the 6,400-foot level on the northeast side.

"Things are happening by the hour," he said. Lightning caused by static electricity streaked through the plume which reached 20,000 feet into the sky, more than 3 miles above the summit of the peak.

Officials earlier had expressed concern that a sudden thawing of the snow fields on the mountain would cause devastating mud slides and flooding. According to Nolan Lewis, director of emergency services for Cowlitz County,

River watchers, who keep an eye on the rivers during times of heavy rain and spring melt, have been alerted to

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AP Laserphotos

Mount shakes, spews plume

(AP) — Explosions from Mt. St. Helens today spewed gas and ash, marking the first eruption of the volcano in 120 years.

"Things are happening by the minute," said Don Lewis, a spokesman for the U.S. Geological Survey, as the volcano and its steep slopes oozed with mud and ash.

Evacuated within 15 miles of the mountain, about 40 miles from Vancouver, Wash., but with no immediate threat to life.

Several explosions were heard between 7:27 a.m. and 8:30 a.m. and no ash appeared to the west until 12 a.m. outburst. "It was not incandescent," he said.

Jim Unterwegner, a spokesman for the U.S. Forest Service, said small avalanches were sighted on the east side of the peak and mud flows at the 6,400-foot level on the northeast side.

"Things are happening by the minute." Lightning caused by static electricity streaked through the plume which climbed 20,000 feet into the sky, more than two miles above the summit of the 9,677-foot peak.

Officials earlier had expressed fears that a sudden thawing of the snow and ice fields on the mountain would trigger devastating mud slides and flooding, according to Nolan Lewis, director of emergency services for Cowlitz County.

River watchers, who keep an eye on area rivers during times of heavy rainfall and spring melt, have been alerted to watch for

rising water, Lewis said.

On Thursday night, officials evacuated loggers and the few nearby residents as the volcano twisted in the grip of powerful internal forces and erupted with an explosion heard 45 miles away, belching volcanic ash over acres of pristine snow.

The Cowlitz County Department of Emergency Services and Skamania County Sheriff's Department said they had not determined how many persons had been evacuated from in the sparsely populated area.

With the volcano spewing ash for the first time since 1857, vehicles heading up the mountain were stopped at this hamlet of 150 residents, which lies just outside the 15-mile zone, local fire officials said.

"We have an eruptive plume," said Kurt Austermann, U.S. Forest Service

spokesman. "(It) was not incandescent. The top of the column spread more than five miles across, and ash was falling on the base of the mountain.

"What appeared to be a flowing avalanche of ash was observed moving down the northwest flank of the mountain."

Undulating cracks pushed out from the summit, a new crater heaved and expanded, and scientists who flew over the peak Thursday night said the mountaintop appeared to be swelling on its south side while slumping to the north.

"This is like standing next to a dynamite keg and the fuse is lit, but you don't know how long the fuse is," said volcanologist David Johnston as he stood above the peak's timberline.

"I'm genuinely afraid of it," he said.

(Related stories, pages 6, 19)

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AP Laserphoto

Kim Bentley of Silverton, left, and Paige Reese of Salem, keep their shirts on during the excitement caused by the eruption of Mt. St. Helens. In fact, they created the shirts just for the occasion.

Ash may affect Portland water

PORTLAND (AP) — Volcanic ash from a major eruption of Mount St. Helens could affect Portland's drinking water, but officials are not certain how serious the contamination could be.

Steam and ash spewed from a crater that opened Thursday near the top of the 9,677-foot mountain 40 miles northeast of Portland.

"Volcanoes blowing up isn't one of the things we have been concerned with," Administrator Carl Goebel of the city Water Bureau said.

But Water Bureau officials said chemicals could be put into the water to counteract the increased acid content caused by ash being carried by the wind into the city's Bull Run Reservoir.

Geologists at Portland State University said it is possible that ash could reach the Bull Run water in the Mount Hood area east of Portland.

Clark County and Vancouver water customers in Washington state would not be affected because almost all of their water comes from wells that would not be

contaminated by air pollution.

The Bull Run water, open to the air, serves more than 500,000 water customers in the Portland area.

Many suburban water districts buy their water from Portland.

Warren Westgarth, administrator of research for the Oregon Department of Environmental Quality, said a major eruption could lead to increased sulphur content in Bull Run water, "but it wouldn't be bad."

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FAA restricts St. Helens' airspace

PORTLAND (AP) — Airplanes bearing reporters, photographers and geologists flocked to Mount St. Helens Thursday afternoon following a small eruption at the peak of the 9,677-foot volcano.

Shortly after the eruption was discovered at 1 p.m., clouds formed in the moist Pacific air piled up against the mountain, all but obscuring the

fissure and the ash-darkened snow from aerial view.

The clouds parted about 3 p.m. for a clear view into the depths of the crater. By that time, most of the planes had departed.

The Federal Aviation Administration, at the request of the U.S. Forest Service, restricted the area from all pilots except those who were

there on business and had permission from the Forest Service.

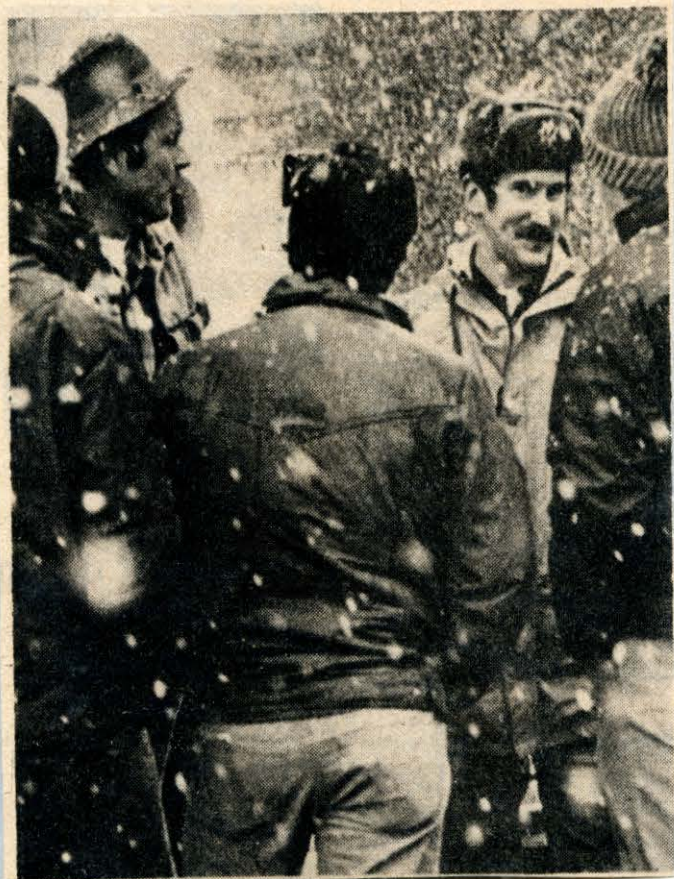
After a period of confusion, the pilots established among themselves a racetrack-type rule where everybody turned counterclockwise around the snow-capped peak that by late afternoon stood bright in the sunshine.



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While spectator takes a look at Mount St. Helens, left, officers tells residents of homes

at Spirit Lake road is closed.



After night of slumber, volcano renews

activity

COUGAR, Wash. (AP) — A fresh plume of volcanic ash and gas erupted from Mount St. Helens today, after activity had subsided during the night. On Friday, rocks and boulders were lobbed hundreds of feet into the air and soot spewed as far as 50 miles.

Observers in a U.S. Geological Survey plane reported that a plume of volcanic ash and gas rose to an altitude of 12,000 feet for about five minutes shortly after daybreak today.

It was the first sign of activity in about seven hours from the craters and fissures near the cloud-shrouded summit.

Glen Izette of Denver, a survey geologist, said a plume was reported by other airborne observers at 11:30 p.m. Friday night but was gone by the time he

went up for another reconnaissance flight an hour later.

"Most of the mountain is really socked in," he said. "The summit has been almost totally obscured."

Asked whether the sudden quiet meant a more substantial outburst could be in the works, Izette said. "Some volcanos are characterized by that . . . a long rest period, followed by a more intense episode."

After 123 years of silence, the 9,677-foot volcano put on a lively show Thursday and Friday without doing any reported damage.

"All day long the old beast has just perked along, like a coffee pot," Tom Sayre, a U.S. Forest Service officer in Vancouver, said Friday.

The mountain belched volcanic ash and steam all day Friday as a plume rose 5,000 feet above the peak and deposited soot far downwind. However, no damage was reported.

Dan Miller of the U.S. Geological Survey's Volcanic Hazard Project said he saw rocks and boulders popping from a crater that had opened Thursday near the summit.

He said the material, most of it apparently about 3 feet in diameter, soared up through a 500-foot cloud cover, then dropped back to within 200 yards of the crater.

Sayre said scientists would continue to monitor the mountain over the weekend while roads remained closed near the peak, located 50 miles north-northeast of Portland, Ore. He said roads had been

clogged with sightseers, and more were expected over the weekend.

James Moore and Don Swanson of the USGS in Menlo Park, Calif., used a helicopter to reach the 5,500-foot level Friday and gather ash samples from the upper slopes of the snow-covered mountain.

"A preliminary report indicates there was no juvenile rock. There was no molten lava or magma coming out," said Sayre. "It shows that just old resident material is being forced out of the cone."

The activity could stop, continue at the same level for days or weeks, or escalate, and geologists feel their data is inadequate to make a prediction, said Sam Frear of the Forest Service.

"Ash is very important," said Swanson, "because they tell us whether there is new molten

material being erupted . . . Mount St. Helens has the potential to be hazardous, but we are seeing nothing now to enable us to predict a (larger) eruption."

The stench of sulfur permeated the air around the peak as moderate earthquakes shook the ground and several fissures cut across the summit. Black ash dusted the summit and was reported east as far as Trout Lake and Glenwood.

A crater 250 feet by 200 feet was formed Thursday when the volcano erupted for the first time since 1857. Frear said the crater grew as the mountain heaved, but bad weather prevented further measurement.

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Railroad's real estate skyrockets

SEATTLE (AP) — Burlington Northern Inc. owns the hottest piece of real estate in Washington — the summit of Mount St. Helens — and company representatives say the land is not for sale.

The railroad owns a square mile of property on the summit which it inherited from Northern Pacific Railroad.

"In the past 25 years, we haven't sold any of our lands. This may be one of the best ones we've held on to," said Kim Forman, railroad spokesman.

"It's an interesting piece of real estate," he added. "I doubt we'd want to put a price tag on it right now. Yet, next week we may wish we would have sold it."

The railroad has owned several parcels of property in the area and traded some land with the Forest Service. A proposed exchange of the summit property for land below the timberline never was completed, Forman said.

"We thought the Forest Service might want to have the summit for recreational purposes," Forman said, as the mountain is a popular climb.

At one time railroads were given millions of acres of land by the government as an inducement to build lines across the continent.

Forman said Burlington Northern has investigated the mountain for possible geothermal development.

"Maybe not so much up on the top, although right now that would seem to be the right spot," Forman said. "The real problem is how to tap it."



AP Laserphoto

Refuses to leave

Harry Truman, 85, sits in his cabin, surrounded by cats, and still refuses to leave his home at the base of the north face of the erupting Mt. St. Helens. Late

Friday afternoon, Harry said he wasn't afraid of the lava, but wished the earthquakes would stop because, he said, he "hates the shaking."

Rumbling volcano causes avalanche 100 miles away — of earthquake data

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SEATTLE (AP) — When Mount St. Helens quakes, seismograph needles jump and computers hum in a basement laboratory at the University of Washington, 100 miles to the north.

Seismologist Norman Rasmussen looked at a slowly turning drum of paper Friday morning and watched a needle swing across it like an erratic pendulum.

"That was a good one," said Rasmussen, measuring the tremor at 3.3 on the Richter scale.

Until last week, such a quake might have caused some excitement in the seismology offices at the campus building with the imposing name, Quaternary Research Geophysics. (Quaternary refers to the current geological era.)

But with the eruption Thursday of the southwest Washington volcano, such tremors have become an everyday occurrence and the campus office has been shaken from its scholarly pace by an avalanche of data.

"We've never had anything like this before," said Rasmussen, a seismologist who has been at the university 18 years, referring to what he called an "earthquake storm."

He said the earthquake activity around the mountain is the strongest since a 6.5 Richter quake rocked Seattle and Tacoma in 1965.

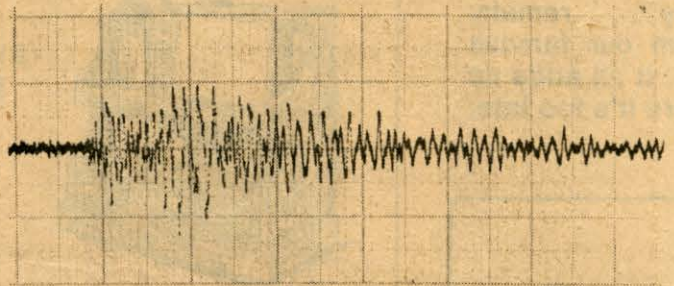
Even though the latest quakes preceded the eruption on St. Helens, scientists say they don't have enough data to be able to use the tremors to accurately forecast volcanic activity.

"It's impossible at this point to see a pattern," Rasmussen said, adding it may take years to analyze all the charts and graphs.

As it happens, a new computer to record avalanche information was installed about a month ago by the U.S. Geological Service. It's getting a vigorous break-in.

A spool of computer tape that usually lasts about 48 hours was getting full after two hours, forcing seismologists to borrow magnetic recording tape from other computers on campus, said Alex Bittenbinder, systems analyst.

The office ordinarily collects information from about 60



AP Laserphoto

Tape from a Seattle seismograph shows a quake.

About 15 to 20 persons in the office have been working almost around the clock living on "pizza and cola" during the earthquake activity, Bittenbinder said.

A half-eaten sandwich rested on a table amid yards of green graph paper covered with black squiggles.

There are 12 seismographs in the vicinity of Mount Saint Helens, including two on the cone. The graphs coming from those two monitors Friday were solid black, showing "saturation," said USGS seismologist Craig Weaver.

Weaver said he and Steve Malone, a university seismologist, had planned to study earthquake activity on St. Helens this summer. "Now we've got all we want," he said.

How will Harry leave

volcano home? 'Feet first'

TOUTLE LAKE, Wash. (AP) — You can tell Harry Truman, 83, means business when he swears he'll leave Mount St. Helens "feet first," though his lofty mountain home has become a volcano.

"I've got a four-week supply of food, and I just renewed my whiskey supply," he told a news conference Sunday on a quick trip down the mountain.

"I won't leave. I don't like these earthquakes, but I trust the mountain. I'm part of the mountain."

He said the incessant quakes are getting on his nerves, but that he believed the worst was over and geologists who said the worst was to come are "lying like horses trot."

Truman has managed a lodge and rented boats on Spirit Lake for 51 years. Indeed, he says: "I am Spirit Lake."

He and his 16 cats have remained on the mountain

Helena or Ashley! Couple picks 'em

LONGVIEW, Wash. (AP) — Overheard over coffee as townspeople talked about the continuing volcanic activity at Mount St. Helens:

"If the mountain really blows, they've decided to name their new baby Helena if it's a girl and Ashley if it's a boy."

despite warnings from authorities — including a fleeing team of scientists from the University of Puget Sound.

"I've walked that mountain for 50 years," he said. "I know her. If it erupts with lava — (it hasn't) — it's not going to get me at Spirit Lake."

"Those geologists might know something about the inside of a mountain, but I know her contours."

Cowlitz County Sheriff Les Nelson took Truman to the news conference after the feisty gent was sought by numerous people at a mountain roadblock. They said they wanted to talk to the old man who has insisted he'll stay home for this eruption.

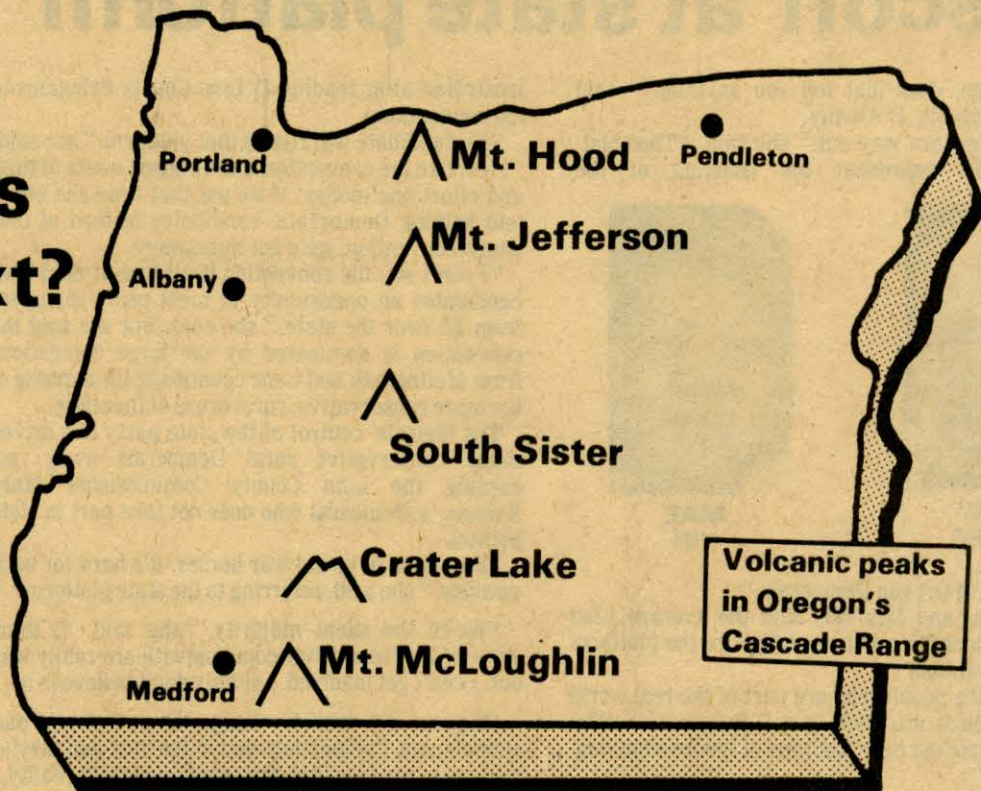
Truman said reports of a "big explosion" on the mountain are a "big lie."

He also said a television crew filming at his lodge left its camera when a big earthquake hit, and complained that too many cameramen were taking side shots of him "showing my big nose and bald head. Take your pictures from the front!"

Truman, who said his ruddy complexion is from "a Schenley flush" rather than the effects of fresh mountain air, invited "everyone" to his lodge this summer.

"Bring your checkbooks and some rotgut. Don't forget the rotgut," he said.

Will our Cascades blow next?



By JOAN KROPP
Democrat-Herald Writer

Does Mount St. Helens' re-awakening mean any changes are likely in the Cascade Range's slumbering volcanic peaks?

Probably not, according to University of Oregon geologist-chemist Gordon Goles. But if any of the others ever blow their tops again, they will likely be much more dangerous than St. Helens.

"Because of volcanoes' time-scale, we have no reason to expect any connection between St. Helens and the other peaks," Goles said. "Except for young ones — like St. Helens, which is erupting every hundred years or so — the typical time-scale is thousands of years between eruptions," he said.

"Each has its own plumbing system.

And although they are related to each other, it's not a simple relationship where if one sneezes, another burps."

Goles said scientists don't have accurate dates for when most of the other Cascade snowpeaks last erupted. "Mount Hood almost certainly erupted in the 17th or 18th century, but we don't know exactly when," Goles said. "There's still fumarolic activity there, so it's clearly dormant and not extinct," he said. Fumaroles are holes that issue gas and vapor.

"The most critical thing for people to understand is that although St. Helens is the most likely to be active, it produces small-scale eruptions not likely to be dangerous," Goles said. "If any of the others erupt, they could be very dangerous."

Goles noted that when Mount Mazama

erupted 6,600 years ago, ash fell a meter deep where Bend is now, almost 100 miles away. (Mazama's collapsed caldera is now filled with Crater Lake.)

"We're talking about events that could destroy property and life on an enormous scale," Goles said. He cited Washington's Mount Rainier and Glacier Peak and Oregon's Mounts Hood, Jefferson and McLoughlin and the South Sister as potentially active.

But scientists will keep an eye on them anyway. Chuck Rosenfeld, an assistant professor of geography at Oregon State University and the photo interpretation officer for the Oregon National Guard, will continue the infrared photography he has been doing of the dormant peaks. The photography can detect changes in what Rosenfeld calls "heat patterns."

(Related stories, pages 12, 13)

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Ground around volcano tilts up

COUGAR, Wash. (AP) — The ground around Mount St. Helens has tilted upward, and scientists say further swelling would be another sign of impending lava eruptions from the volcano.

Meanwhile, the U.S. Geological Survey reported three eruptions of gas and ash and at least one significant earthquake today as slightly acidic volcanic ash continued to drift toward Portland, Ore., 50 miles to the southwest.

Eruptions at 2:30 and 3:50 a.m. sent gas and ash nearly 3,000 feet above the summit of the 9,677-foot peak, and a plume billowed to an elevation of 16,000 feet during a 20-minute outburst that began at 7:30 a.m., said Sylvia Bruchi of the U.S. Forest Service.

Officials also reported an earthquake registering 4.7 on the open-ended Richter scale at 1:47 a.m.

Eruptions Tuesday were the most dramatic from Mount St. Helens since the volcano roared to life Thursday after 123 years of being dormant.

Loggers outside Cougar, 15 miles southwest of the peak, reported heavy ash falling in the area "like snow" Tuesday, but observers said there was little if any ash falling in Portland or nearby Vancouver, Wash., early this morning.

One good indication of whether a lava eruption is likely is a phenomenon known as tilting, which occurs when a mountain swells under the pressure of magma — molten rock — moving beneath the surface.

The ground near Spirit Lake just north of the mountain bulged upward about a half inch Tuesday, while an outcropping of rock at the summit appeared to settle at least 200 feet, said Don Mullineaux, a survey geophysicist.

Tilting around the mountain so far has been "insignificant," Mullineaux said, but if it intensifies, it is a "good sign" that an eruption might be on the way.

A survey statement issued today said: "The volcano seems stable, with no reason to expect a significant change in behavior. We still consider a magmatic eruption possible.

□ **With the airspace restricted, few from the mid-valley get an opportunity to take a look at Mount St. Helens. Page 3**

□ **An editor tries to describe Mount St. Helens in 1853. He had taken a two-week trek to the volcano when it was active. Page 14**

"Before such a large one, we would expect some change in seismicity (earthquake activity) and tilt."

Shrinking at the top of the mountain — near a jagged, 1,500-foot wide crater formed Tuesday when a rock wall separating two craters collapsed — is another indication of "a lot of activity" beneath the mountain, Mullineaux said.

The volcano expert said the National Aeronautics and Space Administration plans to take a series of high-altitude photographs of the mountain over the next several days to detect further swelling and other physical changes.

Mullineaux, who co-authored a 1978 report about the hazards of a Mount St. Helens eruption, repeated his assessment that a full-scale "pyroclastic" explosion — one which would hurl rock and lava from the mountain — was the least likely possibility.

"A series of small eruptions would be more likely than a large, cataclysmic event," he said.

Mullineaux said preliminary results of infrared aerial photographs of the mountain taken Monday night showed "a number of hot spots" scattered around the mountain.

In addition, he said at least two new steam vents had been spotted near the summit.

Volcanic ash, already reported in several towns around the mountain, was sent into the air in its heaviest quan-

tities Tuesday following a series of moderately strong earthquakes beneath the mountain.

The ash, which resembles cement dust, can cause minor irritation to nose and lung tissue and can corrode cloth and metal unless it is washed off, officials say.

One steam and ash plume shot 20,000 feet above sea level. Another followed a mysterious explosion reportedly heard from Centralia, 50 miles to the west, to Goldendale, 70 miles to the east.

Forest Service officials were uncertain whether the blast came from the volcano or was an accidental "April Fools" sonic boom caused by military aircraft flying in the area.

Ash-laden plumes shot to an altitude of 16,000 feet at 12:34 p.m., 11,500 feet at 12:54 p.m. and 16,000 feet at 7:48 p.m., said Lynn Robertson, U.S. Forest Service spokeswoman in Vancouver. The 7:48 eruption lasted 15 minutes.

Observation flights Tuesday night carried instruments to try to identify gases responsible for the blue glow that has been reported in the mountain's volcanic craters. The blue glow is believed to be burning gas from magma within the volcano, said Mullineaux.

Levels of rivers around the volcano have not changed significantly, indicating little increase in runoff from the snow pack, said Nolan Lewis, Cowlitz County emergency-services director.

"Apparently that mountain is not too hot yet," he said.

Meanwhile, plans were in the works to allow residents and workers to retrieve "essential" belongings and equipment left behind in the rapid evacuation which followed eruption of the volcano Thursday.

Forest Service spokesman Jim Unterwegner said any such retrieval would be "strictly controlled" and depend on the level of volcanic activity.

More than 100 residents and 300 loggers were evacuated from around the base of the mountain after it began to smolder.

T-shirt peddlers fast on draw

SEATTLE (AP) — An "official" 1980 Mount St. Helens eruption shirt rumbled into the Seattle market Friday, a day after entrepreneurs in Oregon introduced their version for sale.

The Seattle version is white, with a red line drawing of the mountain and the word "eruption" in broken block letters.

"When it erupted, we decided it's a go," said Steve Mortensen of T-Shirt World, the Seattle company producing the shirt.

National guard on 'standby alert'

OLYMPIA (AP) — More than 300 members of the Washington state National Guard have been placed on "standby alert" in case they are needed to assist evacuation of persons threatened by Mount St. Helens' eruption, a Guard spokesman said.

The guard would provide 50 trucks and three helicopters on "short notice" for the evacuation, said Col. Val McCreary, chief of staff.

Searchers find wreck west of Mount Adams

TROUT LAKE, Wash. (AP) — Wreckage from a single-engine plane that crashed Tuesday with three persons aboard was found today at the 9,000-foot level on the west slope of Mount Adams, officials said.

There was no immediate word on the fate of those aboard.

A spokeswoman for the Washington Aeronautics Commission said the wreckage was located by helicopter crews from the Portland, Ore.-based 304th Air Force Rescue and Recovery Squadron.

She said turbulence made a helicopter landing near the wreckage impossible, so a ground team was put down at a lower elevation and was heading for the crash site.

Earlier, Tracy Wyckoff, a Skamania County sheriff's deputy, said signals from the plane's emergency locator beacon were detected from the 12,307-foot mountain, located 30 miles east of Mount St. Helens.

Search and rescue units from Camas were heading into the area also, Wyckoff said.

The pilot of the Cessna 172 which crashed Tuesday was identified as Mike Martin by his employer, Paul Stevens of Davis Air Service in Kelso. The two passengers were a Portland, Ore., man and a Longview woman whose names were not released.

The plane had left Kelso about 11:15 a.m. bound for Yakima when it crashed, probably about 11:45 a.m., said Newell Lee of the Washington State Aeronautics Board.

The aeronautics board began investigating after the plane failed to arrive on schedule.

Experts hedge on possibility of magma eruption



AP Laserphoto

Volcanic ash particles

Ash particles from Mount St. Helens are enlarged 4000 times by a special scanning microscope at MEI-Charlton Inc., Portland. Mount St. Helens is spewing ash and smoke into the atmosphere, with some particles found as far as 60 miles from the mountain.

SEATTLE (AP) — No one can accurately predict whether Mount St. Helens will have a major eruption of lava, but earthquake activity shows it is possible, say experts at the University of Washington.

"It probably will have an eruption if volcanic activity continues at a high level," said Steve Malone, a seismologist at the university who has been monitoring earthquake activity before and after the first eruption Thursday.

Beyond the "possibles" and "probablys," about the only thing a panel of university scientists could say for sure at a news conference Tuesday was, as Malone said, there has been "a lot of rock breaking going on" underneath the ash-spouting volcano.

"There has been an unusually long sequence of intense quakes," Malone said.

But the roomful of reporters wanted to be able to tell their readers, viewers and listeners what they could expect next from the volcano that exploded to activity after more than 120 dormant years.

Would the magma — the molten rock from deep inside the earth — push its way to the surface?

"Surface eruption is very possible," said Robert Crosson, a seismologist. "To say if it is probable, that is speculation."

Volcanologist Stephen Porter said "We don't know what to expect. There's an equal possibility of things quieting down."

The scientists said they were in the position of reading seismograph information about an event 100 miles away. The information is valuable and unique, but not conclusive as far as making magma forecasts, they said.

The pattern of earthquakes since the first eruption — going from shallower to deeper, moving from a point northwest of the crater to the southwest and slowing down in frequency — may be signs of how the molten rock is moving through the volcanic plumbing, Crosson said.

"It could indicate more magma is migrating toward the surface," he said.

Three quakes of a magnitude of 4.5 or greater

on the Richter scale Monday night and early Tuesday indicated the "potentially larger amount of pressure," he said.

The location of the magma also was a matter of conjecture. Crosson estimated it was 10,000 feet below the summit of the 9,677-foot mountain. "We can't really tell."

No magma has been seen during the ash eruptions. But, said Crosson, "based on past eruptions, magma is going to break through at some point."

The earthquakes, occurring at a rate of three or four an hour, also had the potential of getting more powerful.

Stewart Smith, chairman of the geophysics department at the university, said an earthquake as strong as 6 on the Richter scale is possible from the Mount St. Helens area. Such a quake probably would be felt in Portland, 50 miles to the southwest but would be unlikely to cause damage there, Smith said.

Geophysicist John Booker said there have been 20 eruptions of Mount St. Helens in 3,400 years, three of which were major. The most recent major eruptions, 450 years ago, were indicated on a map with blue clouds extending from southwestern Washington as far as Idaho and British Columbia.

Volcanologist Porter said eruptions from Mount St. Helens were responsible for the foot of grey sand found on Mount Rainier trails.

Even if there were no magma eruption, heavy ash could flow down the mountain in a Pompeii-like wave, Porter said.

"They have occurred in the past," he said. Evidence of such an ash flow has been found on the south side of Mount St. Helens.

Mudflows could also be a disaster he said. Evidence of a pre-historic mudslide from Mount St. Helens has been found near Interstate 5 at the Toutle River — a distance of 40 miles, he said.

Eight-year-old Harry Truman, who refuses to evacuate his Spirit Lake Lodge, lives on a centuries-old mudflow, Porter said.

"Harry Truman is sitting on a mud flow deposit from 2,000 years ago," Porter said. "If he knew his geology, he'd be more concerned."



AP Laserphoto

Plume of steam and volcanic ash bursts from Mount St. Helens.

SATURDAY APRIL 12, 1980

Eruption? Quake? Ho-hum

VANCOUVER, Wash. (AP) — Mount St. Helens is shaking and spitting ash and gas so regularly that University of Washington seismologists admit they're getting bored.

The mountain was rocked by a moderate quake Friday morning and one that registered 4.8 on the Richter scale in the afternoon. Scientists have recorded more than 50 of that approximate magnitude since activity began some three weeks ago.

Dr. Steve Malone, university seismologist, said no one had started a betting pool on when the 9,677-foot volcano in southwestern Washington would erupt, "but everybody's asking for one. There's some grumbling, and it may be necessary for people just to keep their interest up.

"We've been working hard for a long time."

The mountain stood revealed during clear spring weather Friday, and scientists said they spotted two new steam vents.

Ash, steam and giant blocks of ice erupted

from the crater for 45 minutes beginning at 6:12 a.m. Friday, and minor eruptions continued throughout the day, said Don Finley, spokesman for the U.S. Geological Survey.

Despite the new steam holes and intermittent eruptions, geologists still consider the volcano to be in a "steady state," Finley said.

In addition to the quakes of more than 4.0, a slight quake at 12:58 a.m. came at the same time as an "acoustic report" from Longview, 35 miles west of the volcano, said university spokesman Dave Endicott. "The quake wasn't large enough to be felt in Longview, so we are trying to find out if there was an explosion on the mountain at the same time."

No harmonic tremors — quakes generally associated with underground movement of molten rock — were recorded on the mountain Friday, Endicott said.

"Basically, we are settling into a plateau," he said.

'The appearance is sublimely grand. . . impossible to describe'

Editor's Note: The following was written by former Oregonian Editor Thomas J. Dryer, who climbed Mount St. Helens in 1853, during the 15-year period it was last active. The trip reportedly took nearly two weeks.

By THOMAS J. DRYER

PORTLAND, Oregon Territory, Sept. 3, 1853 -- The appearance upon a near approach is sublimely grand and impossible to describe. The blackened piles of lava were thrown into ridges hundreds of feet high in every imaginable shape of primitive formation. The mountain, seeming to lift its head above and struggling to be released from its compressed position, impressed the mind of the beholder with the power of omnipotence and the insignificance of human power when compared with that of Nature's God.

Our party did not find much repose. And as the eastern sky commenced to show the approach of day we left the camp and pursued our way upward.

The higher we ascended, the more difficult our progress. Suffice it to say that by constant and persevering effort, we were enabled to reach the highest pinnacle of the mountain soon after meridian.

The atmosphere produced a singular affect upon all the parties. Each face looked pale and

sallow. And all complained of a strange ringing in the ears. It appeared as if there were hundreds of fine-toned bells ringing in our ears. Blood started from our noses and all of us found respiration difficult. With this exception we all felt well.

The crater has been represented to be on the southwest side of the mountain, which is not the case. We took the bearing from the top with a compass and found it to be on the northeast side.

The smoke was continually issuing from its mouth, giving unmistakable evidence that the fire was not extinguished. There is much more snow on the north side than on the south side. On the latter it is bare in spots while on the former it is hundreds of feet deep.

We examined fissures in the snow several rods across which extended a great length along the side of the mountain and on throwing a stone down, heard it strike a long distance from us.

After spending sufficient time to see what was to be seen and building a pyramid of loose stones on that the highest spot of level earth and ashes, we commenced our descent and reached our camp at four in the afternoon, tired and worn out in body and boots.

We are fully satisfied with our trip and are willing hereafter to devote our time to matters requiring less labor and fraught with more of the comforts of life than we have experienced on this trip to the top of Mount St. Helens.

The smoke was continually issuing from its mouth, giving unmistakable evidence that the fire was not extinguished.

— Thomas J. Dryer

If gin slingers get to close

...some toast!

HONOLULU (AP) — A bottle of gin will be tossed into Mount St. Helens in Washington state as an offering on behalf of Madame Pele, the Hawaiian goddess of the volcano.

The bottle of gin if a gift from Phil Lee, general manager of the Volcano House Hotel which overlooks Kilauea Volcano on Hawaii Island.

The bottle, to be wrapped in ti leaves, will be sent to three former Hawaii Island volcanologists who have been assigned to the Mount St. Helens eruption.

They will turn the bottle and other gifts over to Washington volcanologists at Gifford Pinchot National Park near Mount St. Helens, and will supervise the tossing into the volcano.

According to Hawaiian legend, Madame Pele is fond of gin and ohelo berries, which grow only in the volcano area of Hawaii Island. It is customary to take a sip of the gin before it is tossed into the crater followed by an offering of ohelo berries.

April 3-1980

Geologists: Tremor means lava eruption is likely

plumes continued on a fairly regular basis.

Harmonic tremors apparently indicate magma or molten rock is moving to the surface, said Dave Endicott, University of Washington geophysics department spokesman. Wednesday evening's seismic readings showed very smooth

curves while previous and subsequent quake readings have been erratic, Endicott said.

Wednesday's eruptions sent huge billows of volcanic ash toward Portland, Ore., 50 miles to the southwest, and slight levels of ash were reported in Vancouver, 40 miles from the mountain.

Today, the winds shifted and could push ash from any eruptions west and northwest, said Sylvia Brucci, Forest Service spokeswoman.

The seismic change Wednesday night took place a few hours after a series of violent steam explosions ejected pieces of ice nearly 60 feet across and blasted down a wall between the volcano's two craters, officials said.

The newly combined crater now measures some 1,500 feet across, said Lynn Robertson of the Forest Service.

Four chunks of ash-coated ice each measuring nearly 60 feet across were found at the 7,600-foot level after the smoke cleared, said Ms. Robertson.

Scientists were hoping that U-2 flights over the volcano Wednesday would give them some indication of the location of hot spots, mud slides and ash. The spy plane was dispatched from Moffett Naval Air Station near San Francisco. It flew over the volcano at 65,000 feet with elaborate electronic and photographic equipment.

Geologists were to examine the film late today.

More than 100 residents have been evacuated from around the base of St. Helens.

VANCOUVER, Wash. (AP) — Mount St. Helens spouted steam and ash with renewed energy this morning after a quiet night and geologists reaffirmed their belief that a new type of earthquake activity means a lava eruption is likely.

The new kind of rhythmic seismic activity, or "harmonic tremor," recorded Wednesday night makes the possibility of a magmatic or lava eruption "even more likely (than previously thought)," geophysicist Bob Christiansen of the U.S. Geological Survey told reporters this morning.

"We do know the magma (molten material) is moving," he said. The eruption will not necessarily "be today or tomorrow. It could be a week or a period of weeks or more."

Such an eruption would not have to be a "large high-eruption column," he said. Also, the molten material would not necessarily pour from a large new summit crater in the 9,677-foot peak which stirred to life a week ago after 123 years of silence. Lava flows could originate as low on the mountain as the Goat Rocks area, where other vents were noticed recently.

While cautioning there was no need for panic, the U.S. Geological Survey issued a one-page bulletin today telling the public what to do in case of such an eruption.

Only one major earthquake was noted since the harmonic tremors ceased Wednesday night, said Don Leaver, spokesman for the University of Washington geophysics department. A quake measuring 4.8 on the Richter scale was recorded at 1:30 a.m. to-

day. The Richter scale is a measure of ground motion as recorded on seismographs.

At 6:57 a.m., the mountain belched steam and ash 16,000 feet into the air in a continuous 15-minute eruption. Another large plume of ash shot 14,000 feet into the air at about 8:30 a.m. and new

Listen?

They want mike for the eruptions

A group of amateur radio enthusiasts in Beaverton wants to listen in on volcanic eruptions at Mount St. Helens with a wireless microphone.

Sandy Mikalow, a member of the Tektronix Amateur Radio Club, said he wants to drop a small transmitter onto the rim of the crater — if he can get approval from the U.S. Forest Service and find somebody to fly him close enough to the crater.

Mikalow plans to put a small battery-operated walkie-talkie into a stainless-steel container fitted with a collapsible umbrella-like parachute. The bottom of the container would

have a foot-long steel spike which would stick into the ground. On top would be an antenna. Batteries would last about a week and would supply enough power to transmit the sound of eruptions to the Portland area and perhaps as far as Eugene, he said.

Mikalow said he got approval Wednesday from the Federal Communications Commission to air the eruptions on 49 megahertz, which he said is a citizens-band frequency.

Scientists placed a microphone near the crater rim, but it was tied into a system that converted the signals into squiggles on graph paper.

Milepost 33

Eruption gawkers flock to roadblock

KID VALLEY, Wash. (AP) — Gathering in cheerful, laughing groups, they wait, cameras and adjectives ready, for Mount St. Helens to erupt again.

They are the folks of Milepost 33, the favorite volcano-watching site on the Spirit Lake highway.

This is where law enforcement agencies have thrown up a roadblock and people flow, by the hundreds, from their cars to seek better vantage points of the volcano which began erupting last Thursday.

Some hearty souls climbed to the top of a nearby bluff. Others pull out lawn chairs and thermos bottles and settle in for a comfortable wait. Others lounge on tree stumps and rocks.

Volcano watching has become a national sport here. Cars spotted Wednesday had license plates from New York, Florida, Kansas, Wisconsin, British Columbia, Texas and other states.

Cars, campers and pickup trucks line the roadway near the milepost.

The vehicles occasionally were bumper-to-bumper on the road which, except for the volcano, would have been an almost empty two-lane highway.

The circus-like atmosphere includes a mobile home fast-food joint, called the Hula Hut, which advertises Hawaiian barbecued food — and hot dogs.

Nearly everyone has a camera, many with expensive lenses and tripods. All eyes, of course, are on the mountain ten miles away. Many use binoculars to watch.

The peak, which used to look like a nice mound of vanilla ice cream, now has a saddleback. It looks like the top has blown out.

The sightseers say they want two things: to be closer to the mountain and to see some real pyrotechnics.

"Most persons would like to be closer," complains Russell Wiggins of Napavine, Wash.

"If they would take down the barriers, and let people make up their own minds you'd see lots of people climbing all over the mountain. I'd be one. I'd take a chance.

"The authorities should warn people, but shouldn't stop 'em."

A number of people have brought their families.

"It's really neat for the kids," said Mrs. Howard Converse of Sagle, Idaho.

"We just couldn't pass this up."

Rich Wiggins, of Bellingham, Wash., brought daughter Stacey and son Jeff, along with grandpa Russell, for the educational experience. "It's not an everyday experience," he says.

Strangers chat with each other and crack jokes.

Although the mighty mountain just has erupted one of its most dramatic plumes ever, the spectators want more, more, more.

"I'll even do a volcanic explosion dance," said Dick Evans of Longview, Wash. "We want it to blow."

Agrees Freddie Collins, an elderly Seattle woman supporting herself with a cane, "I want to hear it RUMBLE. But, I'm ready to run."

Others in her party nod their heads and assure newcomers to their circle that the mountain "will boil — it's just a matter of time."

Sharon Evans of Longview said the mountain won't be so hard to climb after all the volcanic destruction is over. "We'll just call it Hill St. Helens," she said.

After several hours of waiting Wednesday, some people start to wander back to their cars but those who stay are rewarded with what experienced watchers call "the best eruptions ever."

First, a white cloud of steam billows high above the mountain. Then over the next half-hour, other darker plumes curl up, expanding as the wind nudges them southwesterly.

"Oh, super! Wow," cried one well-dressed woman.

"Howard, get more film out!" shouted another woman.

"Look at that sucker blow!" exults a tall, skinny man, furiously clicking a camera's shutter.

"I just never thought we'd see something like this in our lifetime," a serious man said softly.

Pilot enjoys eagle-eye view

KID VALLEY, Wash. (AP) — When Mount St. Helens starts spitting "coffee-table sized pieces of ice" and spewing steam and volcanic ash, Lon Stickney gets an eagle-eye view.

Stickney is pilot of the helicopter that ferries officials of the U.S. Geological Survey

around, on and over the rumbling mountain.

No one gets closer.

"We come within a couple of feet of the crater," he said Wednesday during a refueling stop at Milepost 33 on the Spirit Lake highway.

"We could touch the mountain."

April 4 - 1980

Largest tremor shakes volcano

VANCOUVER, Wash. (AP) — A 20-minute "harmonic tremor" — the smooth, rhythmic earth movements that scientists say foreshadow a major lava eruption — trembled through Mount St. Helens this morning, a University of Washington spokesman said.

"This is apparently the largest amplitude (harmonic tremor) to date," said Dave Endicott. The tremors cannot be calibrated on the Richter scale, the usual measure of ground motion as recorded on seismographs, because they are formed by continuous ground motion, rather than a single impulse.

Earlier today, three large conventional earthquakes rocked the peak and scientists worried about monitoring the erupting volcano during a weekend of expected rain and snow.

A state of emergency has been declared around the 9,677-foot peak as scientists said harmonic tremors recorded during the past four days indicate a lava eruption is likely.

Aerial observers were hampered by clouds today but reported a small plume of ash and steam erupting from the peak's summit crater at about 6:45 a.m. in a 15-minute blast. The summit crater created when the peak stirred to life March 27, for the first time in 123 years, was reported widening as its sides continued to cave in,

□ Mountain climbers await day they can check out changes on summit of Mount St. Helens. Page 12

□ Four escape serious injury in a plane crash while trying to view volcanic activity. Page 12

Meanwhile, a National Weather Service meteorologist, John Jannuzzi, said in Portland that dust particles suspended in the atmosphere on a clear day could block sunlight and lower air temperatures a few degrees. On a typical Washington overcast day, the dust particles could seed rain clouds, he said. And, a prolonged eruption may result in flooding near and downwind from the volcano because of increased rainfall.

"We do know the magma (molten material) is moving," said geophysicist Bob Christiansen of the U.S. Geological Survey on Thursday. "The harmonic tremor makes it seem likely we will go to a magmatic eruption."

"We've always said that was a likely possibility. It seems even more likely now, although not necessarily today or tomorrow. It could be a week or a period of weeks or more."

Dam operators

prepare for

volcanic eruption

VANCOUVER, Wash. (AP) — Earthquakes have hit a huge reservoir behind hydroelectric dams on the Lewis River, but the dam operators insisted Thursday the volcanic activity from Mount St. Helens won't breach the three dams.

"I can guarantee you we have a conservative, play-it-safe attitude as we respond to this situation," said Leonard Bacon, spokesman for Pacific Power & Light Co., which owns the dams.

The firm is preparing for the possibility of a full-scale eruption of the mountain, complete with mudslides and large volumes of volcanic debris.

Pacific Power has significantly drawn down the

water level in the Swift and Yale reservoirs and the system could accommodate a huge amount of mud and other material, Bacon said.

"There's nothing at all to worry about," he said. "Anything strong enough to wreck the dams would hurt people in downtown Portland. If something creates a serious problem, the damage down below will be so severe they won't even notice what's going on above. It will flatten everything within 20 miles."

Geologists and emergency services coordinators back his statements and say any real flooding probably would come on the Toutle River, to the north, rather than on the Lewis, on the south side of the

Sightseers crash near peak

KELSO, Wash. (AP) — The pilot and three passengers of a light plane escaped serious injury when their craft crashed while trying to make an emergency landing on a logging road just north of Mount St. Helens, officials said.

The pilot of the single-engine Cessna 182 was identified by Cowlitz County sheriff's deputy Dan Bena as Lynn Siewert, 36, of Vancouver, Wash. Passengers were identified as his father, Raymond Siewert, 71, and Anthony Wayne Kankelverg, 25, also of Vancouver; and Eugene Butters, 38, of Camas, Wash.

The men were taken to St. John's Hospital in Longview. The plane was one of dozens in the air Thursday trying to catch a glimpse of the violent volcanic activity on Mount St. Helens, Bena said.

The plane was the second to crash recently in the area. A Cessna 172 crashed Tuesday about 30 miles east of the mountain, killing all three aboard.

Siewert flew out of Pearson Air Park in Vancouver Thursday morning and his plane lost power near the mountain about 11 a.m., Bena said. The pilot attempted to land the plane on a Weyerhaeuser Co. logging road 10 miles north of Mount St. Helens, but the craft missed the road and was destroyed.

Workers aboard a Weyerhaeuser logging operations helicopter in the area rescued the men.

Viewing sites set

OLYMPIA (AP) — The Washington State Patrol has issued a list of four sites which can be safely used by those wishing good views of erupting Mount St. Helens.

The sites are:

- Stan Hedwell Park at the south-bound Interstate 5 exit No. 76.
- Old U.S. 99, Jackson Highway, south of Mary's Corner at Exit 63.
- State Patrol weigh station on I-5 northbound, 15 miles from the Oregon border.
- Department of Transportation stockpile site on Highway 503 south of the hamlet of Amboy.

mountain.

The dams are actually safety valves and can help absorb the shock of mudslides, said Nolan Lewis, Cowlitz County emergency services director.

Earthquake activity apparently has caused damage to the dams, said Bob Christiansen of the U.S. Geological Survey.

Geologists revealed Thursday the center of earthquakes shifted earlier this week from beneath mountain to the Swift Reservoir directly south of volcano itself, but not before rocking the reservoir

Climbers plan treks to new Saint Helens

CORVALLIS (AP) — As soon as the volcanic fires under Mount St. Helens cool, thousands of Pacific Northwest mountain climbers will be eager to get back to the summit and see what changes the current eruption has caused.

But it could be years before such a climb is safe.

Several climbers interviewed since the eruption started last week expressed excitement about the volcanic activity. All said they were eager to climb it again as soon as it is safe to do so.

"It'd be nice to see the new Mount St. Helens," said George Wisner, Corvallis Gazette-Times reporter who tried to get a look at it Friday while doing a story for Saturday's editions.

Dr. Lewis J. Krakauer, a Corvallis internist with much experience at mountaineering, tempered his curiosity with caution. The volcanic activity, Krakauer emphasized, will add additional elements of unpredictability to any future climb of the heavily glaciated mountain.

A future climb, he said, might be "a whole different ball game."

"It's always been a mountain that has been underestimated," he said. "But if volcanic activity ceases and new snows bury the cooling mountain, a climb in the right season - probably early spring - another climb of the mountain might be prudent, he agreed.

"It's always been an interesting climb because of the heavy crevassing," he said. "That's been part of the challenge." But volcanic heat from within is a variable that even the most experienced

glacier climber is not familiar with.

Dean K. Brooks, superintendent of the Oregon State Hospital in Salem, was probably as excited as anybody when news of the eruption came last week. Brooks has climbed St. Helens "10 or 12 times."

"I love it," he says. On Sunday, Brooks and his wife, Ulista, were in a plane that circled Mount St. Helens several times. They saw one huge eruption that sent clouds billowing.

"I could see the cracks and seams. She's all broken up. It would be impossible to get to the summit now without a lot of crevasse work," Brooks said.

Also ready to reascend the mountain is Galen McBee, director of McMinnville's Parks Department, a Eugene native and a long-time climber.

"That was the first climb I ever made in Washington. I was just out of high school," he said. Now, he is promising his 10-year-old son a climb as soon as it's safe.

St. Helens was first climbed in 1853 by four Portland businessmen. Since then it has been climbed by thousands of climbers.

How's Harry? Who knows?

SPIRIT LAKE, Wash. (AP) — "How's Harry?"

Sheriff's officers and emergency services personnel trying to cope with the headaches of Mount St. Helens' continuing eruptions have stopped trying to keep track of Harry Truman, the crotchety, verbose resident of Spirit Lake, located at the base of the 9,677-foot mountain.

However, a Vancouver Columbian newspaper photographer aboard a helicopter that touched down briefly at Spirit Lake Thursday reported the 84-year-old Truman was still at home in the lodge he operates on the lake.

Truman has adamantly refused to budge — except to come down from the hills last week to a "safe" location for a news conference.

"After the conference he told us he was going back into the hills and wasn't coming out again," Nolan Lewis, director of the harried Cowlitz County Emergency Services Department, said Friday.

"I have no word of how he is," Lewis said, "and nobody is going up there at all to find out."

There is no telephone at the Spirit Lake Lodge and the area is beyond the roadblocks that have been set up to keep sightseers off the mountain.

If Truman is willing to put up with the mountain twisting and belching, most officials reasoned they weren't going to be concerned.

April 5-1980

Volcano enters lull; guards take posts

VANCOUVER, Wash. (AP) — Sixty National Guardsmen joined state and local authorities today in mounting roadblocks and patrolling crowds near the Mount St. Helens volcano, where scientists predict a lava eruption despite a temporary lull in activity.

Dismal, rainy weather helped keep crowds manageable around the 9,677-foot peak. But officials were concerned that campers around Yale Lake would be endangered if an eruption occurs.

Authorities said the lake, which is a reservoir on the Lewis River, was recently lowered and that campers moved into the area to get a clear view of the volcano.

If an eruption occurred, it could send mud flows cascading down on the reservoir, trapping the campers, officials said.

Gov. Dixy Lee Ray declared a "state of emergency" around the mountain last week as sightseers clogged some of the area's roads. Officials blocked the two main state highways to the peak.

The lull in the volcano's activity began late Friday and steam spurts barely reached above the crater's rim today, said Lynn Robertson, U.S. Forest Service spokeswoman.

The mountain began erupting March 27 after a week of intense earthquake activity. Periodic blasts Friday sent ash up to an

altitude of 13,500 feet.

The earthquakes that have been occurring regularly during the volcanic activity continued. An earthquake measuring 4.2 on the Richter scale was reported by University of Washington seismologists at 12:50 a.m. today and another about eight hours later measured 4.5.

The mountain's crater has been growing slowly larger as pieces of the 100-foot-thick glacier at the summit fell in and were ejected in desk-sized chunks, said Tom Sayre of the Forest Service.

No lava has been seen in the volcanic activity.

The ominous movements recorded Thursday and Friday were "harmonic tremors," smooth, rhythmic pulses scientists say indicate movement of molten rock beneath the mountain and foreshadow a major lava eruption.

"Every time we turn around, this lady fools us another way," said Steve Malone, University of Washington seismologist. "We don't know what to expect now."

After the tremors lasted 20 and 30 minutes Friday morning, Malone said he thought he had the volcano's next move figured out.

"It seemed like they (the tremors) were picking up in frequency," he said.

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No! The city is not about to be buried!

ST. HELENS— NOT THE MOUNTAIN! (AP) — They're getting the name right and their concern is genuine, but callers from around the country who think the city of St. Helens is about to be buried in lava are geographically confused.

"We've been getting calls from all over the country from our suppliers who are asking us if we're in the target area and how we're surviving the volcano," said Dick Dato, owner of a sporting goods store in the community of 8,100 people along the Columbia River.

But the Mount St. Helens volcano is 38 miles due east of the city.

While confusion in other parts of the country is understandable, the manager of the local chamber of commerce is surprised that many Portland residents don't know the difference.

"We're getting calls coming out of Portland and they're confusing us with the volcano," said Dena Nelson.

"We're having a lot of fun with the thing," Ms. Nelson added. The 'Volcano Watchers Association' formed immediately and chose the Columbia County Courthouse as its favorite viewpoint of the smoldering peak, she said.

High-level diplomacy brings Dinky to earth, frantic and skinnier

YALE, Wash. (AP) — Dinky, the cat who refused to come down out of a towering fir tree after Mount St. Helens started acting up, is down.

The hero is Dwight Carpenter, a forester for the Washington state Department of Natural Resources.

Friday afternoon he scaled the tree with special high-climbing apparatus and spiked boots, and managed, with the persuasive powers of Henry Kissinger, to entice poor Dinky down.

The cat had been up the tree for eight days and previous efforts, including fish and even a girl cat, had failed.

It seems the coal black tomcat shot up the tree just before Mount St. Helens began erupting on March 27.

"At first he was up only 20 or 30 feet," recalled Rebecca Huesties, mother of the relieved owner, 7-year-old Lori. "We borrowed the neighbor's ladder and got up to the first branch. He just went farther up the tree.

"My sister and I tried throwing fish up to him, thinking if we could land some on the lower branches he'd come down. It didn't work.

"My neighbor even put a female cat up in the tree, hoping she'd lure him down. Nothing."

After Carpenter heard of the cat's plight, he came down Friday and climbed 60 or 65 feet, or about half way up the towering tree. The cat was out on the limb about 25 feet and so Carpenter began a waiting game and entreaties straight out of "How to Win Friends and Influence Cats."

"I thought that cat was up the tree looking at the mountain," he said with a chuckle, "but you can't even see the mountain from here.

"Eventually it was just a matter of him deciding to come to me. I did have some catfood in my pouch."

Carpenter put Dinky into a sack and brought him back down, to cheers.

Dinky was "frantic and scared, refusing to calm down, upset and wandering around the house," said Mrs. Huesties.

She said she had feared the pet would die in the tree.

"He was nice and fat when he went up and real skinny now," she said.

He's man to watch mountain,

MONDAY, APRIL 7, 1980

VANCOUVER, Wash. (AP) — Donal Mullineaux is at the apex of the volcano watch over Mount St. Helens, and those who know him say he's the man to match the mountain.

Mullineaux, who grew up in Washington, is the mover and shaker at the Volcano Command Center in the Federal Building here, some 45 miles southwest of the 9,677-foot mountain.

Slight in build, genteel and quiet, Mullineaux grew up in Camas, Wash., and spent many years in Seattle, where he received his doctoral degree from the University of Washington.

Mullineaux, who now is stationed in Denver, has been with the U.S. Geological Survey for 30 years.

He is considered by fellow scientists a leading authority on volcanic mud flows, ash and

those who know Donal say



DONAL MULLINEAUX
Rarely leaves center

Calm means needed sleep at observatory

NEWPORT, Wash. (AP) — Since Mount St. Helens awoke from its century-long nap, scientists at the Newport Geophysical Observatory have missed a lot of sleep.

The observatory, about 20 miles northwest of this Idaho border town on the edge of the Pend Oreille River, normally is a peaceful place where earthquakes around the globe are monitored routinely. It is the only facility of its type in the continental United States, although Hawaii and Alaska have similar observatories.

On an average day, about seven earthquakes are recorded, but more than 95 have been recorded in the past week.

"I hope Mount St. Helens calms down. We need some sleep," said geophysicist Lydon Odell.

"By looking at the history of volcanoes, it is possible that Mount St. Helens could register a quake as high as six, although that is only speculation," Odell said.

The largest registered quake from the mountain so far has been 4.8.

"Anything over four is what I consider a good-sized quake.

"A quake that registers a six is 1,000 times bigger than a four, an eight is 1,000 times bigger than a six and anything above a seven is a major shock. The highest quake on record is 8.9," Odell said.

hazards that erupting mountains could wreak on modern civilization.

Several years ago, along with Dwight "Rocky" Crandell, he wrote a Geological Survey bulletin with the prophetic title, "Future Eruptions of Mount St. Helens Volcano."

But in volcano command, it simply is referred to as "The Bible," for it is the main source for state evacuation and emergency procedures because it details the destruction and path of ash and lava.

Mullineaux was chosen to be commander in chief of the volcano operations because of his steely calm under fire and his incredible expertise, survey officials say.

And most of that fire comes not from the mountain, but from the journalists who have flocked to

the mountain since 1917.

He rarely leaves the nerve center of the command center, even to eat or sleep, preferring to survive on peanut butter, crackers and jelly beans.

However, he does emerge twice a day for press conferences, and observers say it's like "Moses coming down from the mountain."

But instead of commandments, he bears sheaves of paper with figures on how high and how often the volcano has been erupting. He also answers the big question: "When is the mountain going to erupt?"

"We can't predict that until we have more data to assess the situation," he answers in his quiet, cool manner.

His son, Peter, a Colorado solar-energy expert, calls him a "very private person. He must hate all the limelight he's in out there," he said.

Mullineaux is reluctant to talk about himself, but enthusiastic to talk about his work.

"We are ready for this one," he says of the mountain. "We know what it is capable of doing and we don't think that it will take lives even if it is a big one."

Asked if the eruption at Mount St. Helens is the high point of his career, he said with a grin. "Not yet."

But then the veil he has been keeping on his emotions falls aside for a moment as he says quietly:

"I always hoped I would live to see this."

Fake sacrifice makes a scene

LONGVIEW, Wash. (AP) — A sacrifice to the erupting Mount St. Helens volcano never got off the ground, but it made a merry scene at the Kelso Airport.

The Sandbaggers, a maverick group from the Longview Chamber of Commerce, pretended Friday they were ready to drop a plastic female mannequin into the volcano. It was to be a modern-day enactment of the ancient ritual of sacrificing a virgin.

The mannequin, said Tom Manning, chamber director, would have been in keeping "with our plastic, artificial society."

"Also, we could not find any living person to go along with us."

But, the Sandbaggers never intended to fly over the volcano. They had their picture taken next to a plane and held signs:

"Whose fault is this?" "Help stomp out volcanoes!" "Ashes to ashes, dust to dust, if Trojan (nuclear-power plant in Rainier, Ore.) won't get us, the volcano must." And, "If it blows, grab your ash and run."

Scientists eye stars for clue to blue flame

VANCOUVER, Wash. (AP) — A mysterious blue flame continues to flicker at the bottom of the deep crater in erupting Mount St. Helens and, for a clue to its identity, scientists are looking to the stars.

Dave Johnston, a U.S. Geological Survey scientist, discovered the flame when flying over the volcano three days after it first erupted March 27.

"We saw what looked like the moon's reflection on water in the bottom of the crater," Johnston said. "This seemed strange, so we went by one more time and I could see that it was a dim blue flame."

Blue flames at erupting volcanoes usually are associated with actual lava flows. But, a blue flame never has been noted before lava actually starts to flow, Johnston said.

To analyze the gas, Johnston hopes to use an emission spectrometer. The device breaks light into components which may show which chemical elements are burning to make the flame.

Astronomers use the same general technique to identify elements in stars.

But aiming the spectrometer at the flames will be a ticklish job.

Johnston says he may have to mount the device on an aircraft and point it into the crater.

Johnston thinks the glow comes from hydrogen sulfide, a gas formed by the heat and water that burns at 300 to 400 degrees Fahrenheit.

Another possibility is that the gas is free hydrogen. A third possibility is methane gas.



AP Laserphoto

Device gets checkup

A magnetic tape device that measures earthquakes receives a check by Gonsalo Mendez, a U.S. Geological Survey employee, near the west slope of Mount St. Helens. Mendez took a helicopter to the foothills below the erupting volcano.

Volunteers work long hours to help on volcano detail

LONGVIEW, Wash. (AP) — Ham-radio operators, river watchers and other volunteers are working long hours to help government workers on the Mount St. Helens volcano detail.

"They're the real unsung heroes," says Nolan Lewis, Cowlitz County emergency-services director. "We couldn't do without them."

At least 100 ham-radio operators are helping in Clark, Cowlitz and Lewis counties, says Steve Hart, district emergency coordinator.

They provide eyewitness updates to local emergency-services offices, provide radio transmissions for the U.S. Forest Service and keep the state and other ham-radio operators posted on the mountain's behavior.

"For instance, when Mount St. Helens first began to burp, we dispatched the hams to the areas most likely to be affected, along the Toutle River and at the Cougar area," recalled Hart.

Hams relayed information to emergency-services officials and stood by, ready to tell local residents what to do in case evacuation or other precautionary measures became necessary.

In Clark County, scores of ham-radio operators were pressed into service by the state Department of Emergency Services to take information from forest service aircraft reporting stations and pass it along to government officials.

"Yah, it's exciting," said Russ Townsley, in charge of the Vancouver effort. "We don't get volcanoes very often."

"In fact, we were being envied just yesterday by one of our California contacts. They said,

'You've got us beat on our earthquakes. You've got a damn volcano.'"

Former Vancouver Mayor Lloyd Stromgren, who took up ham radio as a retirement hobby, is one of many who are putting in long hours.

"It's a lot of fun and a good service, too," he said.

Hart says the volunteers are saving untold tax dollars.

"You figure if we were on call 24 hours a day and charged \$15 an hour and you had to buy communications gear at \$1,000 a man, that would add up fast," he said.

He said he was glad to see citizens helping citizens, rather than relying on expensive government programs.

"We don't need the government here," he said. "We have the facilities and a great deal of training and skill in emergency procedures."

The Cowlitz County crew participates in field exercises on mock disasters at the nearby Trojan nuclear-power plant.

Ham operators say that in addition to providing their own service, they stand by to back up the sheriff's radio and the Forest Service communications system in case of break downs.

If Mount St. Helens were to have a major eruption with lava, mudflows or flooding, law-enforcement radios could become overloaded and the ham operators would be a last line of defense, Hart said.

Hams also would be expected to answer thousands of inquiries from concerned relatives living outside the area, he said.

Climber claims he peered into vent and found 'intense life experience'

SEATTLE (AP) — A 21-year-old Skykomish, Wash., man says he climbed to the crater of Mount St. Helens and peered into the vent that is the source of tons of ash, steam and rock.

It was "a real intense life experience," said Fred R. Miller. He said volcanic ash was several feet deep near the crater and at one point he could see the ground moving during his hike Thursday.

Richard Hoblitt, a U.S. Geological Survey scientist who was in the area, said he picked up an ash-covered man that day who claimed he'd made the climb.

"I started questioning him and there was no doubt in my mind, based on his answers, that he had been there," Hoblitt said. In addition, helicopter pilots examining the mountain that day reported seeing footprints.

Miller, who has been arrested in two anti-Trident demonstrations, said he did not make the climb to thumb his nose at authorities, but

because he was interested in a novel experience.

He said he hitchhiked from Seattle and began his climb Tuesday night by following the South Fork of the Toutle River. Although he didn't encounter any roadblocks, Miller said he didn't deliberately avoid them either.

Miller said he reached the summit about 1 p.m., saying he smelled fumes only a few times during his visit and the only noises were rocks dropping into the crater.

But he said he was interested, excited and very much aware of the danger. If the mountain had begun to erupt, "I would have taken off downhill right now," he said.

As he was leaving the summit, Miller said the volcano puffed up a huge cloud of ash.

"It was like a dust storm. I couldn't see my feet," he said.

Miller, who described himself as a free-lance writer for Nuclear Times magazine, said he has done a lot of mountain climbing.