



VOLCANIC AND SEISMIC ACTIVITY AT MOUNT ST. HELENS - 1986
U.S. Geological Survey and University of Washington
Vancouver and Seattle, Washington

Formal statements released in 1986

Compiled by Bobbie Myers, 2005

1986

January –

February –

March –

April –

May – *includes Information Statement, Volcano Advisories and dome-building eruption*

June –

July –

August –

September –

October – *includes Extended Outlook Advisory, Volcano Advisories, Updates and dome-building eruption*

November –

December –

JANUARY 1986

VOLCANIC AND SEISMIC ACTIVITY AT MOUNT ST. HELENS

U.S. Geological Survey and University of Washington
Vancouver and Seattle, Washington

Report at 0800, Friday, January 3, 1986

Seismicity, deformation rates, and gas emissions are at background levels.

Report at 0800, Tuesday, January 07, 1986

Seismicity, deformation rates, and gas emissions are at background levels. No. 1146

Report at 0800, Wednesday, January 08, 1986

Seismicity, deformation rates, and gas emissions are at background levels.

Report at 0800, Thursday, January 09, 1986

Seismicity, deformation rates, and gas emissions are at background levels.

Report at 0800, Monday, January 13, 1986

Seismicity, deformation rates, and gas emissions are at background levels.

Report at 1200, Friday, January 17, 1986

Seismicity, deformation rates, and gas emissions are at background levels.

Report at 1100, Tuesday, January 21, 1986

Seismicity, deformation rates, and gas emissions are at background levels.

Report at 1500, Wednesday, January 22, 1986

Seismicity, deformation rates, and gas emissions are at background levels.

Report at 0730, Friday, January 24, 1986

Seismicity, deformation rates, and gas emissions are at background levels.

Report at 1130, Tuesday, January 28, 1986

Seismicity, deformation rates, and gas emissions are at background levels.

Report at 0830, Wednesday, January 29, 1986

Seismicity, deformation rates, and gas emissions are at background levels.

Report at 0930, Friday, January 31, 1986

Seismicity, deformation rates, and gas emissions are at background levels.

FEBRUARY 1986

VOLCANIC AND SEISMIC ACTIVITY AT MOUNT ST. HELENS

U.S. Geological Survey and University of Washington

Vancouver and Seattle, Washington

Report at 0830, Monday, February 03, 1986

Seismicity, deformation rates, and gas emissions are at background levels. No. 1157

Report at 0830, Tuesday, February 04, 1986

Seismicity, deformation rates, and gas emissions are at background levels. No. 1157

Report at 1430, Wednesday, February 05, 1986

Seismicity, deformation rates, and gas emissions are at background levels.

Report at 0830, Friday, February 07, 1986

Seismicity, deformation rates, and gas emissions are at background levels.

Report at 0800, Monday, February 10, 1986

Seismicity, deformation rates, and gas emissions are at background levels.

Report at 0900, Wednesday, February 12, 1986

Seismicity, deformation rates, and gas emissions are at background levels.

Report at 1300, Friday, February 14, 1986

Seismicity, deformation rates, and gas emissions are at background levels.

Report at 1000, Tuesday, February 18, 1986

Seismicity, deformation rates, and gas emissions are at background levels.

Report at 0800, Wednesday, February 19, 1986

Seismicity, deformation rates, and gas emissions are at background levels.

Report at 0730, Friday, February 21, 1986

Seismicity, deformation rates, and gas emissions are at background levels.

Report at 1430, Monday, February 24, 1986

Seismicity, deformation rates, and gas emissions are at background levels

An exceptionally protracted warm rainstorm on Sunday, Feb. 23, dropped up to 4 1/2 inches of rain in the upper Toutle Basin. Peak discharges generated by the runoff included about 30,000 cubic feet per second (cfs) in the downstream reaches of the mainstem Toutle River and about 66,000 cfs in the Cowlitz River at Castle Rock. This Cowlitz River peak resulted from high releases from Mossy Rock Dam combined with the Toutle River flood peak and was the second highest since the mudflow of May 18, 1980.

Report at 1030, Tuesday, February 25, 1986

Seismicity, deformation rates, and gas emissions are at background levels

Streams near Mount St. Helens are on recession from high rainfall runoff which occurred Sunday night. More rain is expected and crews are on standby.

Report at 0830, Thursday, February 27, 1986

Seismicity, deformation rates, and gas emissions are at background levels

MARCH 1986**VOLCANIC AND SEISMIC ACTIVITY AT MOUNT ST. HELENS**

U.S. Geological Survey and University of Washington
Vancouver and Seattle, Washington

Report at 1530, Monday, March 03, 1986

Seismicity, deformation rates, and gas emissions are at background levels

Report at 0730, Tuesday, March 04, 1986

Seismicity, deformation rates, and gas emissions are at background levels

Report at 1530, Monday, March 03, 1986

Seismicity, deformation rates, and gas emissions are at background levels

Report at 0730, Tuesday, March 04, 1986

Seismicity, deformation rates, and gas emissions are at background levels

Report at 0700, Thursday, March 06, 1986

Seismicity, deformation rates, and gas emissions are at background levels

Report at 1000, Friday, March 07, 1986

Seismicity, deformation rates, and gas emissions are at background levels

Report at 0700, Monday, March 10, 1986

Seismicity, deformation rates, and gas emissions are at background levels

Report at 0800, Tuesday, March 11, 1986

Seismicity, deformation rates, and gas emissions are at background levels

Report at 0930, Wednesday, March 12, 1986

Seismicity, deformation rates, and gas emissions are at background levels

Report Thursday, March 13 (or Friday, March 14), 1986 – *missing*

Report at 0930, Monday, March 17, 1986

Seismicity, deformation rates, and gas emissions are at background levels

Report at 0630, Tuesday, March 18, 1986

Seismicity, deformation rates, and gas emissions are at background levels

Report at 0730, Friday, March 21, 1986

Seismicity, deformation rates, and gas emissions are at background levels

Report at 0930, Monday, March 24, 1986

Seismicity, deformation rates, and gas emissions are at background levels

Report at 0700, Tuesday, March 25, 1986

Seismicity, deformation rates, and gas emissions are at background levels

Report at 0700, Wednesday, March 27, 1986

Seismicity, deformation rates, and gas emissions are at background levels

Report at 0800, Friday, March 28, 1986

Seismicity, deformation rates, and gas emissions are at background levels

Report at 0730, Monday, March 31, 1986

Seismicity, deformation rates, and gas emissions are at background levels

APRIL 1986

VOLCANIC AND SEISMIC ACTIVITY AT MOUNT ST. HELENS

U.S. Geological Survey and University of Washington
Vancouver and Seattle, Washington

Report at 0730, Wednesday, April 02, 1986

Seismicity, deformation rates, and gas emissions are at background levels

Report at 0645, Friday, April 04, 1986

Seismicity, deformation rates, and gas emissions are at background levels

Report at 0645, Monday, April 07, 1986

Seismicity, deformation rates, and gas emissions are at background levels

Report at 1145, Tuesday, April 08, 1986

Seismicity, deformation rates, and gas emissions are at background levels

Report at 0830, Wednesday, April 09, 1986

Seismicity, deformation rates, and gas emissions are at background levels

Report at 0830, Thursday, April 10, 1986

Seismicity, deformation rates, and gas emissions are at background levels

Report at 0700, Monday, April 14, 1986

Seismicity, deformation rates, and gas emissions are at background levels

Report at 0800, Tuesday, April 15, 1986

Seismicity, deformation rates, and gas emissions are at background levels

Report at 1300, Thursday, April 17, 1986

At 1715 PST yesterday, April 16, a small gas and ash emission event occurred at Mount St. Helens. The seismic stations in the crater and on the outer flanks of the mountain recorded the four minute event, however the dome seismic station stopped transmitting about one minute into the event. Hydrogen probes on the dome indicated that a small gas emission event was associated with the seismic signal. At 1728 PST a commercial pilot reported a light ash plume to 20,000 feet. Seattle Weather Radar later confirmed a plume, containing some ash, to 25,000 feet.

Since early Tuesday morning several small earthquake series have occurred. Hydrogen monitors on the dome have detected increased hydrogen emissions associated with several of the seismic events, however the 1715 event on Wednesday was the first to have a confirmed ash plume.

The mountain has remained quiet today although several small events were recorded overnight. Weather conditions have prevented geologists from working in the crater today. Crews will be on standby tomorrow as the forecast is for improving conditions after morning fog. Another update will be issued as soon as more information is available.

Report at 1200, Friday, April 18, 1986

Since yesterdays report at 1300 there have been three more gas and ash emission events. The first occurred at 1428 on the 17th and produced a plume to 14,000 feet (according to a local pilot). The second event occurred at about 1 AM today. Minor ashfall from this event was reported SE of the mountain. Both of these events appeared to be slightly smaller (seismically) than the 1716 event on the 16th. The third event occurred at 1116 today and was observed by geologist working in the crater and flying in an airplane around the mountain. The event appeared to be about the same size (seismically) at Yellow Rock as the 1716 event on the 16th. Geologist reported that rock fragments were thrown on and around the dome. The ash plume rose to 14,000 feet and later drifted higher and to the southeast. The event lasted about 5 minutes seismically with the vigorous emission lasting just under 2 minutes.

When crews first reached the crater this morning they reported a light dusting of tephra on the east and southeast flanks of the mountain, some tephra on the crater floor, lots of ejected material (rock fragments) on top of the dome, and lots of new snow in the crater. A pit dug in the snow revealed 4 thin (dispersed) ash layers from previous events.

A new update will be issued on Monday unless there is significant activity over the

weekend.

Report at 1030, Sunday, April 20, 1986

At 1940 Saturday, April 19, the largest gas and ash emission event in the current series occurred. The event lasted over 10 minutes on the crater seismic stations with the signal clipping for close to 3 minutes. Seattle Weather Radar reported a plume height of 16,000 feet ASL. Local observers reported a light grey plume drifting towards the northeast. The event peppered the crater floor near the dome with rock fragment, some of them quite large, and generated 3 small mudflows. The mudflows traveled only a short distance beyond the base of the dome and did not leave the crater.

A second smaller event occurred this morning at 0507. The signal from this event lasted 4 minutes with about 1 minute of clipping. The plume from this event drifted east or southeast.

The deformation crew is working in the crater at this time. This report will not be updated until Monday unless there are significant changes in activity to report.

Report at 1130, Monday, April 21, 1986

There have been no new gas and ash emission events since those reported in Sundays update. Crews worked in the crater yesterday and again briefly today. A gas measurement and photo fixed-wing flight are also scheduled for today.

Report at 0830, Tuesday, April 22, 1986

There have been no new gas and ash emission events since the one at 507 Sunday morning. Gas emission levels (SO_2) are at background. Seismicity is slightly elevated. Most the deformation targets are coated with tephra making measurement impossible, the few targets not coated showed little change. Today's rains should clean targets for future measurements.

Report at 0930, Wednesday, April 23, 1986

At 1727 yesterday afternoon another seismic event was recorded on all the crater and flank stations. The event was not as high in amplitude as previous events, however it last 9 minutes. There were no visual or radar confirmations of a plume. Gas emission levels (SO_2) are at background. Seismicity has returned to background level. Most of the deformations targets are coated with tephra making measurement impossible, the few targets not coated showed little change.

Report at 1530, Thursday, April 24, 1986

Two more gas and ash emissions have occurred since yesterday's report. The first was at 0454 this morning. The event lasted over 10 minutes, with about 20 seconds of clipping and another 2 minutes of high amplitude signal on the crater stations. A slight increase in seismicity continued for 1 hour after the main signal. A plume to 11,000 feet was reported drifting to the east. A second, much smaller, event was observed by crews working in the crater at 0944. The signal from this event lasted only 3 minutes and did not clip. The plume rose to about 8000 feet (rim height) and then drifted northeast.

Gas emission (SO₂) levels, seismicity and deformation rates remain at background levels.

Report at 1300, Friday, April 25, 1986

Several more gas and ash emission signals were recorded yesterday evening and this morning. None of the signals clipped and no plume heights were reported. Gas emission levels, seismicity and deformation rates remain at background levels.

Report at 1200, Monday, April 28, 1986

Several more gas and ash emission signals were recorded during the weekend. No plume heights were reported. Gas emission levels, seismicity and deformation rates remain at background levels.

Report at 1200, Tuesday, April 29, 1986

Several more gas and ash emission signals were recorded during the past 24 hours. No plume heights were reported. Gas emission levels and deformation rates remain at background levels. Seismicity has increased to slightly elevated.

Report at 1500, Wednesday, April 30, 1986

Gas and ash emission signals continue to be recorded on seismographs, during the last 24 hours. No plume heights were reported. Gas emission levels and deformation rates remain at background levels. Seismicity remains at slightly elevated levels.

MAY 1986

VOLCANIC AND SEISMIC ACTIVITY AT MOUNT ST. HELENS

U.S. Geological Survey and University of Washington
Vancouver and Seattle, Washington

Report Thursday, April 1 (or Friday, April 2), 1986 – *missing*

Report at 1700, Sunday, May 04, 1986

Seismicity increased to moderated levels today. At 1423 today, a gas and ash emission occurred. The signal from this event was comparable to the April 19 event. Pilot reports indicated the plume rose to between 20,000 and 30,000 feet.

Tilt rates from two telemetered stations, one on the dome and one at the north base of the dome, have also shown slight increases. Weather conditions at the mountain have prevented deformation crews from working since Tuesday.

Report at 1200, Monday, May 05, 1986

Seismicity remains at moderated levels today. Another gas and ash emission signal was recorded just before 10 AM today. Rain showers with cloud tops to 25,000 feet prevented direct observation of any plume.

Tilt rates from two telemetered stations, one on the dome and one at the north base of the dome, continue to shown slight increases.

Report at 0930, Tuesday, May 06, 1986

Seismicity is continuing to increase, however it is still at moderate levels. Tilt rates from two telemetered stations, one on the dome and one at the north base of the dome, continue to shown increases. Weather conditions are preventing crews from working in the crater.

Report at 1430, Tuesday, May 06, 1986

At 1300 today the following Information Statement was released.

MOUNT ST. HELENS
INFORMATION STATEMENT

MAY 6, 1986
1:00 PM, PDT

More than 50 steam and ash explosions have occurred on the dome at Mount St. Helens during the last 3 weeks. Seismicity has increased from slightly elevated levels at the end of April to moderate levels today. Most monitoring equipment on the dome has been damaged by the explosions and no longer operates. One remaining tiltmeter on the dome shows gradually accelerating tilt. Other deformation measurements have been hampered by inclement weather, inaccessibility of the dome because of the explosions, and loss of many targets. Hazards from explosions are most likely to be restricted to the crater and flanks of Mount St. Helens. However, small mudflows caused by explosions in the crater may flow into the North Fork Toutle River, and areas downwind from the volcano may occasionally be dusted by small amounts of ash such as has occurred recently.

Report at 1115, Wednesday May 07, 1986

Seismicity has increased to high level, tilt trends are continuing, deformation crews have been unable to work in the crater owing to weather conditions.

Report at 1530, Wednesday May 07, 1986

At 1500 this afternoon the following Volcano Advisory was issued.

MOUNT ST. HELENS
VOLCANO ADVISORY

MAY 7, 1986
3 PM, PDT

Seismicity at shallow depths beneath the lava dome of Mount St. Helens has increased to a high level since our previous statement of May 6. Both remaining tiltmeters show accelerating tilt on the north flank of the dome and nearby crater floor. On this basis, we expect a magmatic event, probably of the dome building variety but possibly including a more vigorous explosion, to occur within the next three weeks. Field crews have not been able to get to the crater since April 29, owing to inclement weather. When deformation measurements in the crater are made, we will update this advisory. Hazards are still most likely restricted to the crater and flanks of Mount St. Helens. However, because the snowpack is very thick in the crater, explosions could generate mudflows which would create hazards in the North Fork Toutle River drainage.

Report at 0930, Thursday, May 08, 1986

At 0900 this morning the following Volcano Advisory was issued.

U.S. Geological Survey, Vancouver, Wa
 Univ. of Washington, Geophysics Program, Seattle, Wa

MOUNT ST. HELENS
 VOLCANO ADVISORY UPDATE

MAY 8, 1986
 9 AM, PDT

Seismicity and tilt have increased greatly since the advisory of May 7. We now expect a magmatic event, possibly including explosive activity, within the next week, probably in the next few days. Hazards remain as stated in the previous advisory.

Report at 1530, Friday, May 09, 1986

MOUNT ST. HELENS
 VOLCANO ADVISORY UPDATE

MAY 9, 1986
 2 PM, PDT

Yesterday afternoon seismicity declined, seismic signal character changed, crater-floor tilt essentially stopped, and measured rates of deformation of the north side of the dome decreased. Similar changes in the past have occurred at the time new lobes were extruded on the surface of the dome. Steam obscured the top of the dome yesterday and crews have not been able to get to the crater today, so we have not been able to confirm if a new lobe is present. Hazards remain as in the previous advisory.

Report at 1130, Wednesday, May 14, 1986

Crews have finally been able to get into the crater today. A new lobe has been confirmed at the summit of the lava dome. The crews will spend the day reestablishing deformation stations and making measurements and observations. More information should be available for tomorrows update.

Report at 1500, Wednesday, May 14, 1986

At 1400 PDT today the following Updated Advisory was issued.

U.S. Geological Survey, Vancouver, WA
 Univ. of Washington Geophysics Program, Seattle, WA

MOUNT ST. HELENS
 UPDATE TO THE ADVISORY OF MAY 9, 1986

MAY 14, 1986
 2 PM, PDT

A new lava extrusion (lobe) has been sighted on top of the dome. Seismicity has decreased from

moderate to slightly elevated levels. Small earthquakes and rockfalls indicate continued activity within the dome. As with past dome building eruptions, rockfalls and small explosions are possible; these are unlikely to pose hazards outside the crater.

Report at 1500, Thursday, May 15, 1986

Crews were able to work in the crater again today. Steam continues to obscure much of the new lobe, hampering observations and measurement

At 1400 PDT yesterday the following Updated Advisory was issued.

U.S. Geological Survey, Vancouver, WA
Univ. of Washington Geophysics Program, Seattle, WA

MOUNT ST. HELENS
UPDATE TO THE ADVISORY OF MAY 9, 1986

MAY 14, 1986
2 PM, PDT

A new lava extrusion (lobe) has been sighted on top of the dome. Seismicity has decreased from moderate to slightly elevated levels. Small earthquakes and rockfalls indicate continued activity within the dome. As with past dome building eruptions, rockfalls and small explosions are possible; these are unlikely to pose hazards outside the crater.

Report at 1500, Friday, May 16, 1986

Seismicity continues at a slightly elevated level. Measurements of the dome during the past few days indicate that both intrusion and extrusion have stopped. The new lobe has added about 60 feet to the top of the dome, making the current dome height about 830 feet.

Crews were able to work in the crater again today. No field work is scheduled for the weekend.

Report at 1130, Monday, May 19, 1986

Seismicity continues at a slightly elevated level. Deformation measurements of the dome (late last week) indicate that both intrusion and extrusion have stopped. The new lobe has added about 60 feet to the top of the dome, making the current dome height about 830 feet.

Report at 1100, Tuesday, May 20, 1986

The following Advisory Cancellation was issued this morning.

MOUNT ST. HELENS
VOLCANO ADVISORY CANCELLATION

MAY 20, 1986
11 AM, PDT

Seismicity, deformation, and gas emissions have decreased markedly since extrusion of a new lobe on the dome. Consequently, the earlier advisories are cancelled.

Report at 1300, Wednesday, May 21, 1986

Seismicity has returned to background levels. Deformation, and gas emissions have not been remeasured since issuance of the May 20th advisory cancellation.

Report at 1100, Tuesday, May 27, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 1400, Wednesday May 28, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 0730, Friday May 30, 1986

Seismicity, deformation and gas emissions are at background level. No. 1224

JUNE 1986**VOLCANIC AND SEISMIC ACTIVITY AT MOUNT ST. HELENS**

U.S. Geological Survey and University of Washington
Vancouver and Seattle, Washington

Report at 0930, Monday, June 2, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 1230, Tuesday June 3, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 1030, Monday June 9, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 1130, Tuesday June 10, 1986

Seismicity, deformation and gas emissions are at background level. No. 1229

Report at 0930, Monday, June 16, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 1030, Wednesday, June 18, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 1030, Friday, June 20, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 1230, Wednesday June 25, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 1230, Friday June 27, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 1200, Monday, June 30, 1986

Seismicity, deformation and gas emissions are at background level. No. 1235

JULY 1986**VOLCANIC AND SEISMIC ACTIVITY AT MOUNT ST. HELENS**

U.S. Geological Survey and University of Washington
Vancouver and Seattle, Washington

Report at 0900, Tuesday, July 01, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 1200, Monday, July 07, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 0900, Tuesday, July 08, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 1000, Wednesday, July 09, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 1300, Friday, July 11, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 1100, Monday, July 14, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 0800, Tuesday July 15, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 1400, Friday July 18, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 0900, Monday, July 21, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 0900, Tuesday, July 22, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 1200, Wednesday, July 23, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 0800, Friday, July 25, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 1100, Monday, July 28, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 0645, Tuesday July 29, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 0700, Thursday July 31, 1986

Seismicity, deformation and gas emissions are at background level.

AUGUST 1986**VOLCANIC AND SEISMIC ACTIVITY AT MOUNT ST. HELENS**

U.S. Geological Survey and University of Washington

Vancouver and Seattle, Washington

Report at 0800, Friday, August 1, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 0945, Monday August 11, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 1145, Wednesday, August 13, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 1345, Friday, August 15, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 0930, Monday, August 18, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 0815, Tuesday, August 19, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 0815, Friday, August 22, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 0845, Monday, August 25, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 1045, Tuesday, August 26, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 1445, Friday, August 29, 1986

Seismicity, deformation and gas emissions are at background level.

SEPTEMBER 1986**VOLCANIC AND SEISMIC ACTIVITY AT MOUNT ST. HELENS**

U.S. Geological Survey and University of Washington
Vancouver and Seattle, Washington

Report at 0845, Tuesday, September 2, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 0815, Wednesday, September 3, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 0815, Tuesday, September 9, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 0715, Friday, September 12, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 1600, Monday, September 15, 1986

Seismicity, deformation and gas emissions are at background level.

A vigorous steam emission occurred this morning at 9:39 PDT. The plume rose to about 17,000 feet ASL.

Report at 1000, Tuesday, September 16, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 1200, Thursday, September 18, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 1200, Monday, September 22, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 0800, Tuesday, September 23, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 0940, Thursday, September 25, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 0800, Monday, September 29, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 0900, Tuesday, September 30, 1986

Seismicity, deformation and gas emissions are at background level.

OCTOBER 1986**VOLCANIC AND SEISMIC ACTIVITY AT MOUNT ST. HELENS**

U.S. Geological Survey and University of Washington
 Vancouver and Seattle, Washington

Report at 1100, Wednesday, October 01, 1986

Seismicity has returned to background after a brief excursion into slightly elevated yesterday afternoon. Deformation and gas emission levels were at background when last measured (9/22). Weather conditions should permit deformation measurements today.

Report at 1100, Friday, October 03, 1986

Seismicity and deformation rates remain at background level. Gas levels were at background when last measured (late September).

Report at 0945, Monday, October 06, 1986

Seismicity began increasing late Friday and continued increasing through Sunday evening. Tilt rates at Sweet (on the west side of the dome) also increased during this time period. At 8:05 PM on Sunday a large seismic signal was recorded on the crater and flank stations. Seismicity and tilt dropped to background after this event.

Tourists at the Windy Ridge Viewpoint reported observing a plume around 8 PM and local residents southwest of the mountain reported light dustings of ash several hours later. Field observations this morning suggest that the ash was generated during a large rockfall from the north side of the dome.

Deformation rates and gas emission levels were at background when last measured. Both will be remeasured today.

Report at 1045, Tuesday, October 07, 1986

Seismicity and gas emissions are at background level. Deformation measurements showed a slightly elevated rate between October 1 and October 6. Rates will be remeasured later this week.

Report at 1030, Wednesday, October 08, 1986

Seismicity and gas emissions are at background level. Deformation measurements showed a slightly elevated rate between October 1 and October 6. Rates will be remeasured later this week.

Report at 0930, Tuesday, October 14, 1986

Seismicity increased to slightly elevated. Tilt rates on the dome are also increasing. Crews will be in the field today to measure deformation rates and gas emission level.

Report at 0700, Wednesday, October 15, 1986

Seismicity, tilt and deformation remain at slightly elevated levels.

Report at 0930, Thursday, October 16, 1986

Seismicity has increased to moderate level. Tilt and deformation rates are also increasing. Gas emission levels are at background.

Report at 0700, Friday, October 17, 1986

Yesterday evening the following extended outlook advisory was issued.

MOUNT ST. HELENS
EXTENDED OUTLOOK ADVISORY

OCTOBER 16, 1986
6:00 PM, PDT

Seismicity within the crater and deformation rates on parts of the dome are increasing slowly at Mount St. Helens. These changes are similar to those that preceded earlier episodes of rapid dome growth. If current trends continue, another episode is likely to begin within the next 3 weeks. As in previous episodes of dome growth, small explosions are possible but hazards will likely be confined to the crater.

Report at 1045, Sunday, October 19, 1986

Based on telemetered data and field observations and measurements made yesterday, the

following Volcano Advisory was issued this morning.

MOUNT ST. HELENS
VOLCANO ADVISORY

OCTOBER 19, 1986
10:00 AM,. PDT

Seismicity and deformation rates have continued to increase since the Extended Outlook Advisory of October 16. We now expect an episode of rapid dome growth to begin during the next 2 to 10 days. As in previous episodes, small explosions and ash plumes, with effects mostly confined to the crater, may accompany the dome growth.

Report at 0915, Monday, October 20, 1986

Seismicity increased to high level yesterday afternoon. Deformation rates are continuing to increase. Gas emissions are at background level.

Based on telemetered data and field observations and measurements made Saturday the following Volcano Advisory was issued Sunday morning.

MOUNT ST. HELENS
VOLCANO ADVISORY

OCTOBER 19, 1986
10:00 AM,. PDT

Seismicity and deformation rates have continued to increase since the Extended Outlook Advisory of October 16. We now expect an episode of rapid dome growth to begin during the next 2 to 10 days. As in previous episodes, small explosions and ash plumes, with effects mostly confined to the crater, may accompany the dome growth.

Report at 1930, Monday, October 20, 1986

Based on telemetered data and field observations and measurements made today the following Volcano Advisory Update was issued.

MOUNT ST. HELENS
VOLCANO ADVISORY UPDATE

OCTOBER 20, 1986
7:00 PM,. PDT

Rates of seismicity and deformation of the dome have increased substantially since yesterday's Advisory. Deformation is most intense on the western part of the dome, where many new cracks and rockfalls were observed today. If current trends continue, the expected episode of rapid dome growth will begin within the next 5 days, most likely within the next 3 days. Hazards remain as stated in yesterday's Advisory.

Report at 0800, Tuesday, October 21, 1986

Seismicity has increased to very high level. Deformation rates are also increasing. Gas emissions remain at background.

The following Volcano Advisory Update was issued last night at 7 p.m.

MOUNT ST. HELENS
VOLCANO ADVISORY UPDATE

OCTOBER 20, 1986
7:00 PM, PDT

Rates of seismicity and deformation of the dome have increased substantially since yesterday's Advisory. Deformation is most intense on the western part of the dome, where many new cracks and rockfalls were observed today. If current trends continue, the expected episode of rapid dome growth will begin within the next 5 days, most likely within the next 3 days. Hazards remain as stated in yesterday's Advisory.

Report at 1030, Wednesday, October 22, 1986

Seismicity increased yesterday evening and changed in character early this morning. Seismicity is still at a very high level. Deformation rates measured in the field yesterday were high. Telemetered data from tiltmeters on the dome indicate that tilt rates remain high.

Field crews reached the crater shortly after 8:30 this morning and reported a new lobe. Based on this information the following Volcano Advisory Update was issued at 10:30.

MOUNT ST. HELENS
VOLCANO ADVISORY UPDATE

OCTOBER 22, 1986
10:30 AM, PDT

A new extrusion (lobe) has been sighted high on the west central part of the lava dome. Although the level of seismicity remains high, the new lobe appears stable at this time and collapse due to internal expansion of the dome is unlikely. Hazards remain as previously stated.

Report at 1030, Thursday, October 23, 1986

Seismicity decreased to moderate level yesterday afternoon as earthquake activity decreased and rockfalls increased. Tilt rates on the dome also decreased during the day. The gas emission level increased to high on Tuesday and remained high yesterday.

Crews working in the crater reported a decrease in felt earthquakes and an increase in observed rockfalls from the new lobe. The lobe was actively growing yesterday - extending southward and increasing in height.

First reports from the field this morning indicate that the lobe continued to grow overnight, extending farther north and south. The size and frequency of rockfalls from the new lobe has decreased overnight, suggesting that rates of extrusion have slowed.

The Volcano Advisory Update issued on October 22 remains in effect.

Report at 1200, Friday, October 24, 1986

Seismicity continues at moderate level. The gas emission level decreases yesterday. Crews working in the crater yesterday reported that the lobe had continued to grow overnight, extending farther north and south. The size and frequency of rockfalls from the new lobe had decreased overnight, suggesting that rates of extrusion had slowed.

Poor weather today is hampering field observations and measurements. A second weather system is expected for Saturday through Monday.

The Volcano Advisory Update issued on October 22 remains in effect.

Report at 1000, Monday, October 27, 1986

Seismicity returned to slightly elevated on Saturday and had decreased to background level by this morning. Deformation and gas emission rates have also decreased since the extrusion of the new lobe began (late on Oct. 21 or early on Oct. 22). Based on this information the following Advisory Cancellation was issued.

MOUNT ST. HELENS
VOLCANO ADVISORY CANCELLATION

OCTOBER 27, 1986
10:00 AM, PST

Seismicity, deformation, and gas emissions have decreased markedly since extrusion of a new lobe on the dome last week. Consequently, the earlier advisories are cancelled.

Report at 1300, Wednesday, October 29, 1986

Seismicity is at background. Deformation and gas emission rates have decreased since the extrusion of the new lobe began (late on Oct. 21 or early on Oct. 22). Based on this information the following Advisory Cancellation was issued.

MOUNT ST. HELENS
VOLCANO ADVISORY CANCELLATION

OCTOBER 27, 1986
10:00 a.m. PST

Seismicity, deformation, and gas emissions have decreased markedly since extrusion of a new lobe on the dome last week. Consequently, the earlier advisories are cancelled.

Report at 1300, Friday, October 31, 1986

Seismicity is at background. Deformation and gas emission rates have decreased since the extrusion of the new lobe. Poor weather has prevented crews from working in the field since the morning of the 28th.

NOVEMBER & DECEMBER 1986**VOLCANIC AND SEISMIC ACTIVITY AT MOUNT ST. HELENS**

U.S. Geological Survey and University of Washington
Vancouver and Seattle, Washington

Report at 1000, Monday, November 3, 1986

Seismicity, deformation and gas emissions are at background level.

Reported at 0830, Monday, November 10, 1986

Seismicity, deformation and gas emissions are at background level.

Reported at 1400, Monday, November 17, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 0930, Monday, December 1, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 0700, Tuesday, December 16, 1986

Seismicity, deformation and gas emissions are at background level.

Report at 1400, Friday, December 19, 1986

Seismicity, deformation and gas emissions are at background level.
