THE ERUPTION OF MOUNT ST. HELENS

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Numerous small seismic events on March 20, 1980, indicated the reawakening of Mount St. Helens in southwest Washington State following a 125-year dormancy. A phreatic eruption one week later began a 62-day period of steam and ash venting, and periodic snow and ash avalanches. In early April, a bulge was detected growing about 5 feet per day on the north side of the mountain. By mid-May, the bulge had swollen an estimated 250 feet from the original mountain side. Residents of the valley below were warned of possible debris and mudflows caused by failure of the bulging mountain flank.

At 8:32 a.m. Sunday morning, May 18, 1980, a 5.0-magnitude earthquake caused the bulging north flank of Mount St. Helens to slide into the valley below, uncovering a gas-charged magma chamber. The resulting catastrophic explosion ripped away the remaining north flank and destroyed approximately 125 square miles of conifer forest in a 130° arc north of the mountain. The debris flow that resulted from the failure of the bulging north flank flowed down the North Fork of the Toutle River filling the valley with hundreds of feet of debris. Subsequent mudflows continued down the valley, ultimately emptying into the Columbia River after destroying hundreds of homes and buildings and filling the floodplains of the Toutle and Cowlitz Rivers with thick mud deposits. The mountain continued to erupt throughout the day, sending plumes of ash as high as 62,000 feet into the atmosphere. The eruption spread pyroclastic ash 150 to 200 miles eastward, covering parts of eastern Washington with 2 to 3 inches of ash. The ash continued across the United States and eventually circumnavigated the world.

Continuing seismic activity (including harmonic tremors), steam and gas venting, dome formation, periodic major eruptions, and pyroclastic flows keep residents, officials, and scientists speculating what Mount St. Helens may do in the future. Expectations are that Mount St. Helens may continue erupting for the next two decades.

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