

Augustine Volcano Erupts

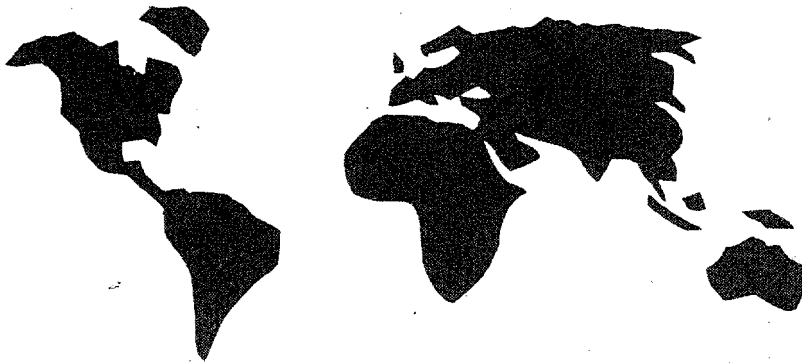


Augustine Volcano, 180 miles southwest of Anchorage in lower Cook Inlet, began a new series of eruptions on January 22, 1976 (see photograph), after being relatively quiescent since 1964. At least six major ash eruptions, which formed mushroom-shaped clouds reaching estimated altitudes of 40,000 feet or more, occurred between January 22 and February 6; nuée ardentes (avalanches of swift flowing, gas-charged lava) and hot mud flows appear to have been associated with one or more of the earliest eruptions. Investigators from the Geophysical Institute of the University of Alaska have recorded temperatures in excess of 300°C in the hot avalanche deposits. Between major ash eruptions, the island

volcano spouted steam clouds to altitudes of 10,000 feet above the 4,300-foot cone.

Ash from the various eruptions fell on much of southcentral Alaska from Lake Iliamna in the west to Sitka in the east, a distance of about 800 miles. Anchorage received light ash falls on January 24 and 25, which resulted in considerable excitement and some anxiety on the part of the local populace. Short-term damage appears to consist chiefly of ash being tracked into buildings and sand-blasted windshields on commercial and military aircraft that flew through ash clouds. Longer term effects may include minor damage to paint finishes, auto engines, and gas turbines.

EARTHQUAKES



JANUARY—MARCH 1976

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The year 1976 started out quite active, seismically. Four major earthquakes occurred in different parts of the world during the first 3 months of the year. Three earthquakes rattled the western rim of the Pacific Ocean from the Kuril Islands to the Kermadec Islands. The fourth major earthquake struck Guatemala, killing thousands of people, injuring many, and leaving thousands homeless. Earthquakes in Kentucky and Arkansas caused little damage but were felt in several States. Arizona experienced a sharp earthquake in the Chico Valley, which caused very little damage. Other States experienced earthquakes, but none caused damage.

CALIFORNIA

On New Years Day at 9:20 AM PST, southern California felt its first sharp earthquake of the year. The magnitude 4.2 quake was felt strongly in Los Angeles, Orange, Riverside, and San Bernardino Counties. Some minor damage was reported in the Walnut Hill area. Maximum intensity VI.

NEW MEXICO

On January 5 at 11:23 PM MST, a moderately strong earthquake struck the northwestern part of the State. The magnitude 5.0 earthquake reportedly caused minor damage at Gallup, Fort Wingate, Thoreau, and surrounding towns. The earthquake was felt strongly in southwestern Colorado and northeastern Arizona. Maximum intensity VI.

ICELAND

A strong earthquake hit the northern coast of Iceland on January 13. The magnitude 6.5 shock left at least 150 persons homeless and caused some minor injuries, but no one was reported killed. The isolated north coast around Kópasker suffered the worst effects of the quake.

SOUTH PACIFIC

The first major earthquakes of the year struck the Kermadec Islands in the southwest Pacific Ocean on January 14. The two earthquakes, less than 1 hour apart, had magnitudes of 7.6 and 7.8, respectively. The earthquakes caused considerable damage on Raoul and many landslides, but no loss of life. A local tsunami was generated. Northern New Zealand reported a tsunami of 75 centimetres.

CALIFORNIA

At 1:43 PM PST on January 14, a magnitude 4.8 earthquake occurred near Kettleman City. The quake was felt in the Kettleman City-Fresno area. No damage was reported.

HAWAII

On January 15 at 12:59 PM HST, a moderate earthquake occurred on the island of Hawaii. The magnitude 4 3/4-5 earthquake was felt sharply throughout the island. The island was jolted by another sharp earthquake on January 29 at 10:20 AM HST. This quake, of magnitude 4.6, was located about 5 kilometres north of Kalapana and was also felt island-wide, but there were no reports of damage from either of the earthquakes. The island has experienced a number of earthquakes since the magnitude 7.2 main shock on

November 29, 1975 (see *Earthquake Information Bulletin*, May-June 1976, vol. 8, no. 3).

ARKANSAS

A minor earthquake centered in the central part of the State occurred on January 16 at 1:43 PM CST. The magnitude 3.2 quake was felt sharply in the areas of Cotter, Mountain Home, Norfolk, and Saleville. Maximum intensity IV.

TEXAS

The southwestern part of the State experienced several minor earthquakes during the month of January, the first on the 18th at 10:04 PM CST, followed by another on the 22nd at 1:22 AM, and a third on the 24th at 10:48 PM. The last was the largest, a magnitude 3.5. The three earthquakes were felt sharply in the Kermit area, but no damage was reported.

KENTUCKY

A sharp earthquake struck the southeastern part of the State on January 19 at 1:21 AM EST. The magnitude 4.0 earthquake was centered in the Barbourville area where some minor damage was reported. Maximum intensity VI. The shock was also felt in southwestern Virginia and northwestern North Carolina.

CALIFORNIA

On January 20 at 5:59 AM PST, a magnitude 4.8 earthquake occurred just off Cape Mendocino. The quake was felt along the coast of Humboldt County. Maximum intensity V.

KURIL ISLANDS

A major earthquake struck in the Kuril Islands on January 21. The

magnitude 7.0 earthquake was located about 1,300 km northeast of Tokyo and was reported felt in some remote areas.

WYOMING

A minor earthquake centered in the southcentral part of the State occurred on January 27 at 3:55 AM MST. The magnitude 3.0 quake awakened many in the Rawlins area; some residents reported minor damage.

ALASKA

A sharp earthquake struck the Kenai Peninsula area on February 4 at 11:36 PM AST. The magnitude 5.3 earthquake was felt strongly at Seward. The quake was also felt at Anchorage, Moose Pass, Palmer, and Whittier. Maximum intensity V. There were no reports of damage.

MICHIGAN

On February 4 at 4:14 PM EST, Michigan experienced its first earthquake of any significance since 1947. The magnitude 3.0 earthquake, centered in Lake Erie, was felt sharply in south Detroit and Leamington, Ontario. There were no reports of damage.

ARIZONA

The Chino Valley area just north of Prescott was struck by a sharp earthquake on February 4 at 5:05 PM MST. The magnitude 5.0 quake was felt over a wide area but caused very little damage. This earthquake was followed by several aftershocks. The larger aftershocks occurred on February 9 at 8:06 PM MST and on February 23 at 7:10 AM; both had magnitudes of about 3.5 and were felt in the Chino Valley area.

GUATEMALA

The most destructive earthquake since 1917 struck Guatemala on Feb-

ruary 4. The magnitude 7.5 quake was centered about 160 km northeast of Guatemala City. The death toll has reached more than 23,000, and thousands have been injured. Damage was extensive. Most adobe type structures in the outlying areas of Guatemala City were completely destroyed, leaving thousands homeless. Transportation was impeded by the many landslides occurring in the area. Food and water supplies were severely reduced. Some of the areas were without electricity and communication for days. The main shock has been followed by thousands of aftershocks, some of the larger ones causing additional loss of life and damage.

HAWAII

On February 20 at 7:51 PM HST, a sharp earthquake occurred in the Alenuihaha Channel between Hawaii and Maui. The magnitude 4.5-5.0 earthquake was felt most strongly at Hona, where objects were knocked off shelves. The quake was also felt on northern Hawaii and Oahu.

CUBA

A strong earthquake struck eastern Cuba on February 19. The magnitude 6.0 quake reportedly killed one and injured eight in the Pilon-Santiago area. The quake was felt strongly throughout the southeastern part of the island.

RHODE ISLAND

A mild earthquake awakened people in Rhode Island and southeastern Massachusetts March 11 at 3:29 AM EST. The magnitude 3.5 earthquake frightened many but did not cause damage.

MASSACHUSETTS

On March 14 at 6:12 PM EST, a small earthquake occurred in the Nan-

tucket Sound area. The magnitude 2.9 quake was felt sharply at Dennis Port, Harwich, West Harwich, and South Chatham. Maximum intensity IV. Other towns in the area also felt the quake mildly.

AFGHANISTAN

A destructive earthquake occurred in northern Afghanistan on March 19 in the Province of Samangan near the Tadzhik SSR border. The magnitude 6.0 quake destroyed 600 mud-brick domed houses and caused many landslides and an undetermined number of deaths in the Khulm area.

ARKANSAS

The northeast corner of the State experienced one of its strongest earthquakes in recent times on March 24 at 6:41 PM CST. The magnitude 5.0 earthquake was centered between Marked Tree and Truman. It caused minor damage in the Memphis, Tenn., area and other surrounding areas. The earthquake was felt over a wide area, including parts of the States of Alabama, Arkansas, Illinois, Mississippi, Missouri, and Tennessee. Maximum intensity VI. This shock was followed by a magnitude 4.0 aftershock at 7:00 PM CST that was also felt sharply in the area.

TEXAS-OKLAHOMA BORDER

A minor earthquake occurred in the Texas-Oklahoma Panhandle on March 20 at 3:27 AM CST. The magnitude 3.0 quake was felt sharply in Boise City, Okla. Maximum intensity V.

TURKEY

A destructive earthquake jolted the northeastern part of Turkey on March 25. The magnitude 5.0-5.5 earthquake killed at least one, injured several, and caused considerable damage in some

of the mountain areas of the Kars Province near the Soviet border. The area to the southwest of this earthquake, near Lice, was struck by a destructive earthquake September 6, 1975. (See *Earthquake Information Bulletin*, January-February 1976, vol. 8, no. 1, and "The Lice, Turkey, Earthquake of September 6, 1975: A Preliminary Engineering Investigation," by Peter I. Yanev, issue of March-April 1976, vol. 8, no. 2.)

• U.S. ACTIVITY*

Alabama	1
Alaska	18
Arizona	5
Arkansas	3
California	7
Colorado	1
Georgia	1
Hawaii **	4
Idaho	1
Kentucky	2
Massachusetts	2
Michigan	1
Missouri	3
Mississippi	1
Montana	4
Nevada	1
New Jersey	2
New Mexico	4
North Carolina	1
Oklahoma	2
Rhode Island	1
Tennessee	3
Utah	2
Texas	4
Virginia	1
Washington	2
Wyoming	1
Total	78

* Felt earthquakes as reported from many sources.

** Exclusive of the aftershock series.

WORLDWIDE EARTHQUAKE FATALITIES

Afghanistan	Unknown
Cuba	1
Guatemala	≈23,000
Turkey	1