

THE VOLCANO LETTER

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KILAUEA REPORT NO. 699

WEEK ENDING JUNE 3, 1925

Issued by the Observatory, U. S. Geological Survey;
R. H. Finch, Temporarily in Charge

Kilauea volcano continues to be in a quiet state, save for avalanches from the walls of Halemaumau, the great pit in the floor of Kilauea.

The depth of the pit has remained unchanged since the slight filling by lava last July. The area of the hole, however, has been slowly increasing by avalanches from the rim. There have been avalanches from all the walls. The maximum recession of the rim amounts to 10-15 feet or more. The greatest movement in the cracks back of the rim has been at the south where the recession of the rim is the least.

The steam that escapes from the floor of the pit seems to be nearly pure now as only rarely can the odor of hydrogen sulphide or other gases be detected.

May 1925 has come and gone without any very unusual signs from the volcano and it will soon be a year since the last small explosion.

Only six earthquakes were recorded during the week. This is the smallest number recorded here in a like period since the latter part of November 1924. None of the earthquakes were strong enough to be felt at Volcano House and two of them were of the avalanche type. Small avalanches occur daily at the pit. Tilting was very slight to the northwest.

EARTHQUAKES AT KATMAI

A review of an article by Dr. Tams on the earthquakes that accompanied the Katmai eruption in Alaska in June 1912 appeared in No. 5 of the VOLCANO LETTER. A rather complete discussion of "Earth Movements Accompanying the Katmai Eruption" is given by Dr. C. N. Fenner in the February-March and April-May numbers of the Journal of Geology. Much has been published about the eruption and the resulting "Valley of Ten Thousand Smokes." Some of the facts about the eruption used by Dr. Fenner were obtained by G. C. Martin on a trip for the National Geographic Society, to the Katmai region in 1913, just after the eruption. The rest of the informa-

tion was obtained on trips by Dr. Fenner in 1919 and 1923, several years after the outbreak.

Field observations near Katmai indicated a lack of violent earthquakes. A deep seated tectonic earthquake (earthquakes resulting from growth of the earth's crust, according to one definition) that was recorded on seismographs all over the world accompanied one of the larger explosions. Many of the earthquakes were felt over 500 miles away. The noise of one explosion was heard at Juneau, 745 miles from Katmai.

Most of the earth movements noted are in a valley between Mount Katmai and Mount Trident with some movement on the mountains themselves. Dr. Fenner is of the opinion that the fracturing of the valley followed by numerous fumaroles, making it a valley of "Ten Thousand Smokes," was due to the intrusion of a sill of hot lava.

Dr. Fenner has handled the information at his disposal in a masterly manner but the exact sequence of earthquakes and explosions must remain unknown. All the discussions of the Katmai eruption point to the need of continuous observations of such events.

Some stress is laid on the distinction between tectonic and volcanic earthquakes. Any definition of tectonic earthquakes will likely include many volcanic shakes as there is no sharp division between the two. "Tectonic" earthquakes in a volcanic region or its immediate vicinity frequently appear to have a much shallower origin than others in a region more remote from a volcano. In volcanic regions hot and somewhat plastic rock must be nearer the surface than in non-volcanic regions. R. H. F.

PUBLICATIONS OF THE NATIONAL RESEARCH COUNCIL OF JAPAN

No student of any science can afford to be without the publications of the National Research Council of Japan. Of these publications those that are of especial interest to students of volcanology and seismology are, Japanese Journal of Astronomy and Geophysics and Japanese Journal of Geology and Geography. These publications made their appearance in 1922. In addition to original articles such as Relations Between Frequency of Earthquakes and Atmospheric Pressure, and the Japanese Earthquake of Sept. 1, 1923, several of the numbers contain abstracts of articles published in other journals such as Seismological Notes of the Imperial Earthquakes Investigation Committee and in journals written in Japanese. R. H. F.