

Deception Island Eruption

On February 21, another volcanic eruption occurred on Deception Island. Although strong, it was not as severe as the one that occurred on December 4, 1967, and created a new islet in Port Foster (Fig. 1). The eruption occurred behind the Chilean station (see map) and was first observed as a cloud rising to 10,000 feet. Accompanying fallout deposited 1–3 in. of pumice and ash on the island. The Chilean and British bases were destroyed, but all personnel were evacuated safely by Chilean helicopters on February 22. The Argentine station, apparently undamaged by the activity, had been evacuated several days prior to the eruption.

USCGC *Edisto* reached the vicinity of Deception Island on February 27, and obtained photographs from a helicopter. By that time, the activity had abated.

On March 2, Dr. Kaye R. Everett of Ohio State University, who had been working on Livingston Island, was transported by *Hero* to the island for a 4-day reconnaissance of the effects of the eruption. His teletype report is paraphrased below:

“There are three centers of activity, the largest of which is located behind the Chilean research station. Heavy fumarole activity on March 1 and 2, and during the morning of the 3rd, decreased on March 4 and 5. There is a rift through the glacier, 200–250 feet deep and in three segments. The British station was heavily damaged by mudflow, and the graveyard and much of the whaling station were destroyed. Kroner Lake, which used to be landlocked, has opened to the sea. The mudflow depth is 4–7 feet, while the scoria cover amounts to 1–2 in. Mudflow in the Whalers Bay area is quite liquid and appears to have been rapid-moving (20–30 mph), the final phase being largely water accompanied by considerable down-cutting.

“The Chilean station was completely destroyed by a combination of ashfall and mudflow scoria 5 in. to several feet deep. Large bombs are located near the vent. Water vapor and hydrogen sulfide gas are present, and elemental sulfur is being deposited from numerous small fumaroles and vents. The ground temperature on the hillside behind the Chilean station fluctuates between 50° and 70°C. Steam is rising generally on the hillside; steam and boiling water issuing at sea level along Pendulum Cove are largely from the glacier and the snow.

“Fumarole activity in the ‘Fumarole Bay’ area up the coast was intense on March 3 until about 1600. There is sulfur deposition along parallel tracks, and steam and boiling water issuing at sea level. The new (1967) island is quiet, but carbon dioxide and/or hydrogen sulfide is bubbling in the lake.

“The Argentine station is unharmed, but a thin coating of ash lies over the station and most of the west coast including the ice cap. The west beach is heavily littered with timber, food cans, fuel drums, and at least one grave marker, most of the materials coming from the Whalers Bay area. Inland up to the ice cap, the ash cover forms a ¼-in. coat that is locally thicker in depressions. The largest mudflow occurred to the north of Penfold Point. It carried large blocks of glacier ice and bedrock blocks weighing several tons to the coast. Similar-size material was involved at the British station. A gas sample was taken above the Chilean station, and numerous photographs were obtained.”

Deception Island was also visited by Dr. Paul L. Williams, U.S. Geological Survey, who travelled with the British Antarctic Survey as a U.S. exchange representative aboard RRS *John Biscoe*. On January 28–29 and March 16–22, he studied and sampled the volcanic-ash cones resulting from the 1967 eruption and examined the site of the latest eruption.

