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## HIBOK-HIBOK VOLCANO, PHILIPPINE ISLANDS, AND ITS ACTIVITY SINCE 1948

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### PART I

#### INTRODUCTION

Hibok-Hibok is one of several active volcanoes in the Philippines. Since the start of its present activity in September, 1948, it has aroused world-wide interest, not only from the scientific but also from the humanitarian point of view, because of the profound effects of the activity on the inhabitants of Camiguin Island where the volcano is located. About 500 persons died and property damage amounting to several hundred thousand pesos was sustained as a result of the most recent eruptive phase of its activity which occurred on December 4 and 6, 1951. The high loss in human lives ranks the Hibok-Hibok disaster as one of the most appalling natural disasters to have visited the Philippines in the last 40 years, since the eruption of Taal volcano on the island of Luzon in 1911.

#### GEOGRAPHY

Hibok-Hibok volcano is on the island of Camiguin. The island is roughly pear shaped, with its longer axis trending northwest-southeast, and lies between  $9^{\circ}05'N$  and  $9^{\circ}16'N$ , and between  $124^{\circ}38'E$  and  $124^{\circ}48'E$  (Fig. 1). Its total area is about 237 square kilometers. Camiguin is barely 10 miles off the north coast of the large island of Mindanao, and politically it is a part of the Province of Oriental Misamis in Mindanao.

At present, access to Camiguin Island is by sea transportation only, as it has no airfield. Small interisland boats call almost daily at Mambajao, which has the best port facilities on the island. However, due to the proximity of the town to Hibok-Hibok volcano, shipping activities are shifting to Binone, a barrio on the east side of Camiguin quite removed from the present dangers arising from the activity of the volcano.

The island is mountainous. Coastal plains are very narrow and in most places absent. However, because of the fertility of the volcanic soil, a large portion of the island is under cultivation. Plantations of coconut and abaca can be seen everywhere, even on the slopes of the volcanoes. The main occupations of the people are farming and fishing.

There is no real dry season in Camiguin in spite of a very pronounced maximum-rainfall period in winter. The average annual rainfall is about 97 inches. From November to April, the prevailing winds are north-easterlies; in May, the easterlies or trade winds; and from June to October, the southwesterlies. Typhoon frequency for the island is less than 7 per cent of the number that affects the Philippines annually.

According to the *Census Atlas of the Philippines* for the year 1948, the population of the island is 69,599, distributed in four municipalities as follows: Mambajao, 25,193; Sagay, 18,061; Catarman, 16,845; and Mahinog, 9,500. A fairly good road runs along the north coast, from the barrio of Naasag northeast-southeastward to Guinsiliban and then northwestward, following the south coast to barrio Bonbon, almost encompassing the island except for about 3 or 4 miles around the base of Mount Vulcan. Extension of the road from Naasag to Bonbon was under construction in 1950. However, because of the activity of Mount Hibok-Hibok, sections of the road from Baylao to Agoho, both barrios of Mambajao, are now covered by volcanic debris brought down by freshets from the slopes of the volcano and, as was the case on December 6, 1951, laid down by an ash flow.

The main topographical features of Camiguin Island are two moderately high volcanic peaks: Mount Mambajao, with an elevation of 5,620 feet, and Mount Catarman, the site of the present activity, with an elevation of 4,370 feet (Fig. 1). There are also numerous smaller peaks, all of volcanic origin. At the northwest

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