

The History of the Earth Engraved in the Ground



From Sugatami Pond to Mount Asahi

The Collision of Tectonic Plates Creates Land and Volcanoes

A long belt of metamorphic rocks runs north and south at the center of Hokkaido. In addition, the geologic profile of the Ishikari/Yubari region in the western part of the island slopes sharply downward to the west. Based on these facts, Hokkaido is thought to have originally been two separate islands, which collided and subsequently merged. The eastern side of the island rests on the edge of the North American plate, and the western side of the island on the edge of Eurasian plate. The Kitami Mountainous District and the Hidaka Mountain Range, stretching

north and south at the central part of the island, emerged from this collision. On the other hand, the Pacific plate created the Chishima Arc, stretching from the Chishima Archipelago through the central region of Hokkaido from east to west, and producing a belt of vigorous volcanic activity. Daisetsuzan is situated at the intersection of these two lines, and it is the highest mountain range in Hokkaido.

Vigorous Volcanic Activity

Except for the Ishikari Mountain Range, most of the mountains in the Daisetsuzan National Park are the result of relatively recent volcanic activity. There are three volcanoes that are still active; Mount Asahi, Mount Tokachi, and Maruyama Volcano in the Higashi Daisetsu area. Mount Tokachi is particularly active. However, the Shikaribetsu Volcano and several others used to be quite active. In the early 21st century, the pyroclastic flow pouring out from the basin-like topography of Tokachi-Mitsumata was identified, proving the topography to be in fact a caldera.

Activity of Mount Tokachi

Mount Tokachi (2,077m) is an active volcano frequently erupting in recent years. From the research on the accumulated materials of pyroclastic flow prevalent around the base, it is known that this mountain has been erupting for a million years. Its recent activity began about 3,000 years ago, but activity only began to be recorded in the 19th century. There

are three records from the 20th century onward; 1926, 1962, and from 1988-89. The eruption in 1962 was large-scale, releasing smoke that reached altitudes up to 12,000m and led to the tragic deaths of 5 sulfur mine workers operating inside the vent at the time. The scale of eruption in 1988 was rather small, and there were no damages at the base.



Arctic Daisetsuzan

The alpine zone of Daisetsuzan under the cold climatic conditions has some similar natural phenomena often seen in the Arctic.

Permafrost is soil and rocks that remain frozen perennially deep underground. On Daisetsuzan, permafrost is distributed at elevations of 2,000m or higher. Also, geological features called palsas, low elevations of peat bogs in stripe patterns caused by freezing, are present at Takanegahara. A ground surface phenomenon called "patterned ground" can also be seen. This is a phenomenon common in sandy lands caused by the repeated freezing and thawing of soil. In this process, soil particles are separated by size, creating geometric patterns; some are mesh-like, while others are linear.

From the vent of Mount Tokachi to Mount Asahi