

Living with Volcanoes

Volcanic activity has shaped the region of Southern Kyushu, creating both dangers and benefits for its people. Volcanic forces heat the area's many hot springs, enrich the soil, and create beautiful crater lakes and gemstone-speckled beaches. On the other hand, the area's residents must deal with occasional ashfall and the ever-present risk of a major eruption.

Ibusuki is located in one of the most volcanically active areas in the world. The island of Kyushu sits on a subduction zone where the Philippine Sea plate is being gradually pushed under the Eurasian plate. The resulting friction, together with heat from the Earth's core, melt the bedrock into magma. Magma is lighter than solid rock, so it rises, creating mountainous bulges in the Earth's crust and, occasionally, bursting through as a volcanic eruption.

Ibusuki sits largely within the Ata Caldera, a basin formed by one such

eruption about 40,000 years ago. Since then, volcanic activity has continued to mold the landscape, pushing up smaller volcanoes that collapsed and formed caldera lakes, including Lake Ikeda. This caldera basin is dotted with a string of active volcanoes, the tallest of which is Mt. Kaimondake (924 m).

Mt. Kaimondake, a basalt stratovolcano capped by an andesite lava dome, was formed about 4,400 years ago. The soil record shows that it has erupted at least 12 times in the past, most recently in 885. Interestingly, each layer of ash laid down by its eruptions has a different hue, including yellow, blue, and purple, depending on the content of the pyroclastic material. When considered together with historical records, the ash strata make it possible to date archaeological sites with extreme accuracy.

The eruptions of Mt. Kaimondake have left their mark on Ibusuki. In addition to altering the landscape, each volcanic event displaced people by

burying settlements or driving their inhabitants away. This ultimately led to

the development of a modern city on the opposite side of the peninsula.

Other effects are more subtle: The sand of Kawashiri Beach, for example, contains the yellow-green crystals of olivine ejected from the volcano some 3,700 years ago.

Mt. Sakurajima, near the city of Kagoshima, is the most active volcano in the area. It regularly emits smoke and belches clouds of ash. Depending on the direction of the wind, this can bring ashfall all the way to Ibusuki, a distance of about 36 kilometers.

For Kagoshima's roughly 1.5 million residents, the double-edged sword of living and working within sight of an active volcano is a fact of life. Despite the dangers, the presence of a thriving urban community so close to Mt. Sakurajima is a testament to the benefits volcanoes can provide.