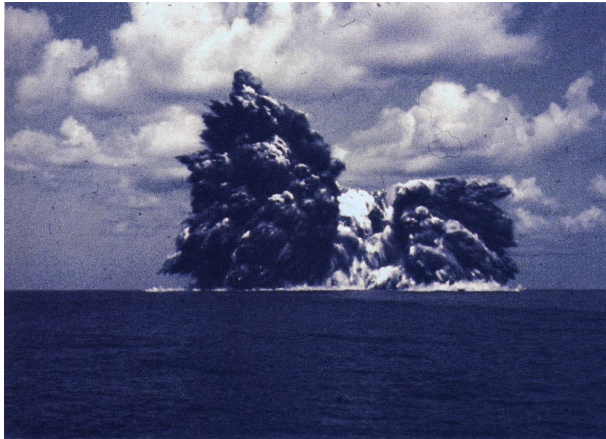
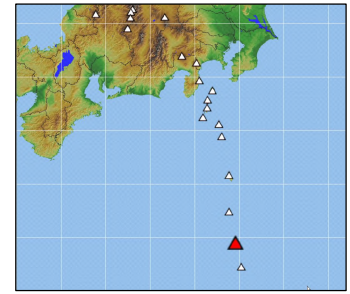


66. Beyonesu (Bayonnaise) Rocks (including Myojinsho)

Latitude: 31°55.1' N, Longitude: 140°01.3' E, Depth: -50 m (Myojinsho) (Shallowest Point)

Latitude: 31°53'17" N, Longitude: 139°55'04" E, Elevation: 11 m (Beyonesu Rocks)
(Elevation Point - measured by JMA)



(Left) Eruption at the Myojinsho on September 23, 1952 by Ossaka (1991)

(Right) Beyonesu Rocks - as seen from overhead on September 4, 2002 - Courtesy of the Maritime Safety Agency

Summary

The Beyonesu Rocks is made up of 3 large trapezoidal rocks and many smaller rocks. It is the western rim of a submarine caldera (8 km in diameter), with its basement rock approximately 1,500 m below sea level, and composed of basalt.

Myojinsho (mainly composed of dacite), which was active from 1952 to 1953, is located approximately 10 km to the east of the Beyonesu Rocks. It is a conical post-caldera cone, with a relative height of approximately 300 m, and a summit crater approximately 600 m in diameter. The SiO₂ content of the basalt - dacite is between 47.6 and 68.8 wt %.

A caldera with a diameter of approximately 8 km is located between Myojinsho and the Beyonesu Rocks. A central cone 372 m deep at its shallowest point is located at its center. The caldera bottom is ring-shaped, with depths of over 1,000 m.

The volcano is named after the French warship the Bayonnaise, which encountered the island while surveying volcanic islands in the south of the Tokyo Bay in 1850 (Kaei 3) (Izu Islands Tokyo Transfer Hundred Year History Editorial Committee, 1981).

Submarine Topographic Map

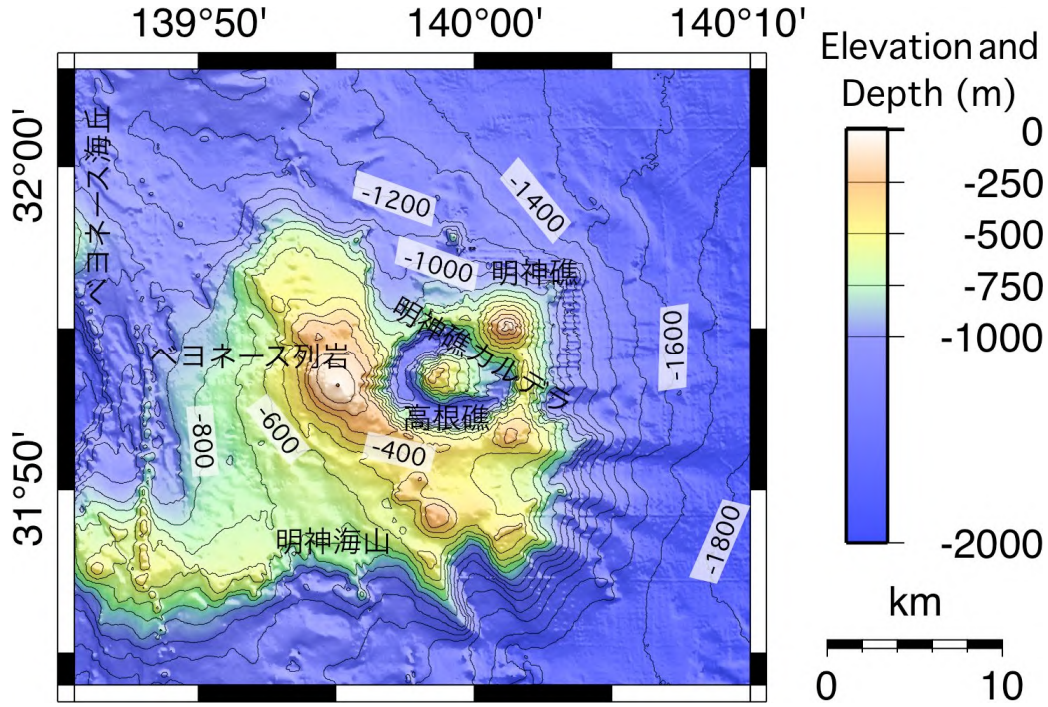


Figure 66-1 Submarine topographic map of Myojinsho (Japan Coast Guard).

Geological Map

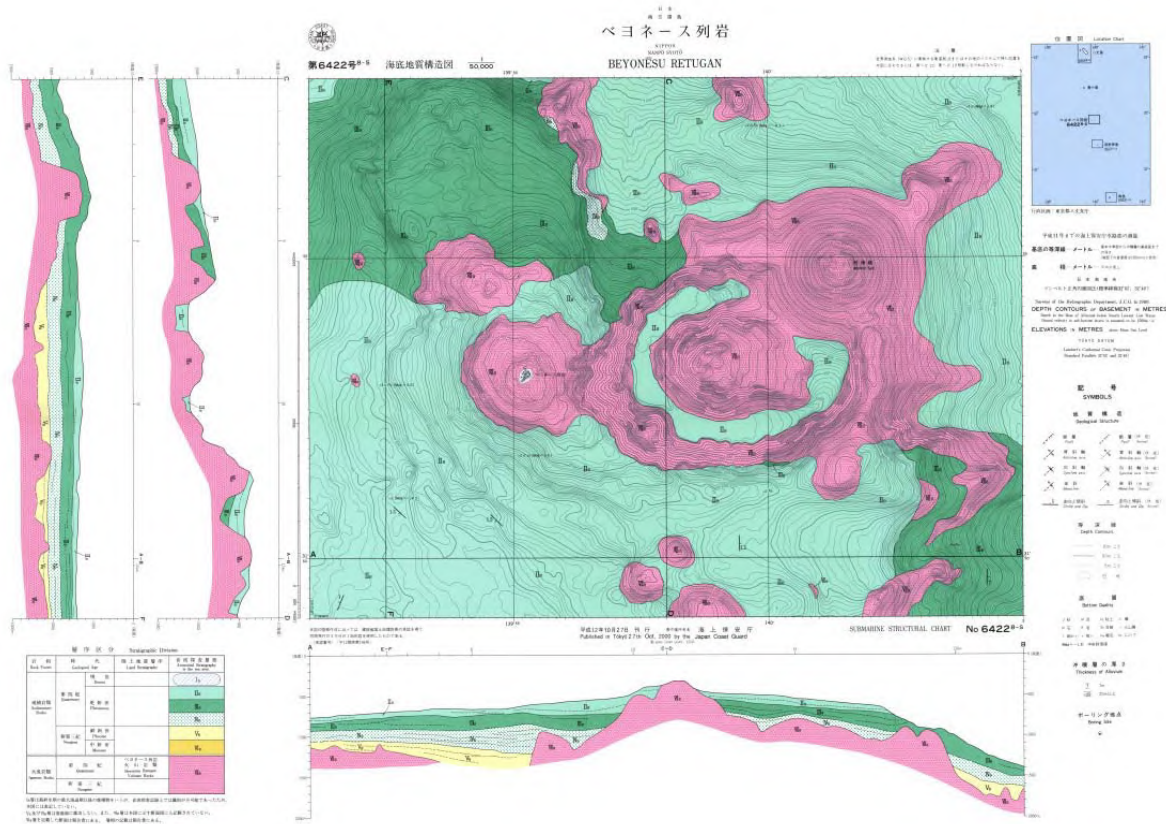


Figure 66-2 Geological map of the Beyonesu Rocks (Maritime Safety Agency, 2000).

Chronology of Eruptions

▪ Historical Activity

Year	Phenomenon	Activity Sequence, Damages, etc.
1869 (Meiji 2)	Eruption	Submarine eruption.
1870 (Meiji 3)	Phreatomagmatic eruption? Magmatic eruption?	A small island appeared. Its details are unknown. The eruption occurred at the Myojinsho.
1871 (Meiji 4)	Eruption	Submarine eruption. The eruption occurred at the Myojinsho.
1896 (Meiji 29)	Phreatomagmatic eruption? Magmatic eruption?	The eruption occurred at the Myojinsho. A small island appeared, producing a violent surge.
1906 (Meiji 39)	Phreatomagmatic eruption or magmatic eruption	Volcanic plume: April 14. Floating pumice. The eruption occurred at the Myojinsho.
1915 (Taisho 4)	Phreatomagmatic eruption or magmatic eruption	Submarine eruption: Rock and volcanic plume emission. The eruption occurred at the Myojinsho. April 14 submarine eruption: July 1 volcanic plume and seawater spout.
	Eruption	June 19. The eruption occurred at the Myojinsho and the Takanesho.
1934 (Showa 9)	(Discolored water)	Submarine eruption: May 20. Sea yellowing, sulfur smell. The eruption occurred at the Myojinsho.
1945 (Showa 20)	Volcanic gas	October to November. Milky white discolored water. The eruption occurred at the Myojinsho.
1946 (Showa 21)	Phreatomagmatic eruption, magmatic eruption	The eruption occurred at the Myojinsho. New island appearance: New island discovered in January. Two hundred meters long and 150 m wide in February. Four new islands on April 4 (approximately 36 m high). One island 100 m high in October. Sunk below sea surface in December.
1952 to 1953 (Showa 27 to 28)	Phreatomagmatic eruption, magmatic eruption, (discolored water)	Air-fall pyroclastic material, pyroclastic surge, lava dome, pyroclastic material gravity flow, (floating pumice on sea surface). The eruption occurred at the Myojinsho. A new island appeared as a result of a large explosion. On September 17 undersea eruption occurred (the reef where the eruption occurred was named the Myojinsho). The new island measured several hundred meters wide, and several dozen meters high. Large explosions in mid- and late September. The new island sank on September 23. On September 24, 31 members of the crew of the No. 5 Kaiyomaru survey vessel, owned by the Maritime Safety Agency Hydrographic Department, which was conducting a study at the time, were killed. The new island reappeared on approximately October 11 (disappearing again on March 11 of the following year). The new island appeared yet again on approximately April 5 (sinking below the sea surface on September 3).
1954 (Showa 29)	Eruption	November 4. The eruption occurred at the Myojinsho.
1955 (Showa 30)	Eruption	June 25. The eruption occurred at the Myojinsho.
1957 (Showa 32)	Volcanic activity?	May 2. The activity occurred near the Beyonesu Rocks. The bodies of deep sea fish floated on the sea surface. They are considered to have been killed by submarine volcanic activity.
1960 (Showa 35)	Phreatomagmatic eruption, (discolored water)	July 21. The eruption occurred at the Myojinsho. 2,000 to 3,000 m volcanic plume, floating pumice.
1970 (Showa 45)	Phreatomagmatic eruption, (discolored water)	January to June. The eruption occurred at the Myojinsho. Volcanic plume, floating pumice.
1971 (Showa 46)	(Discolored water)	March 18 and August 21. The March 18 activity occurred at the Myojinsho. The August 21 activity occurred approximately 7 nautical miles northeast of Myojinsho.
1979 (Showa 54)	(Discolored water)	July 13. The eruption occurred at the Myojinsho.
1980 (Showa 55)	(Discolored water)	November 15, November 18, November 19, November 26, and December 23. The eruption occurred at the Myojinsho.
1982 (Showa 57)	(Discolored water)	August 10. The eruption occurred at the Myojinsho.
1983 (Showa 58)	(Discolored water)	May 12. The eruption occurred at the Myojinsho.

Year	Phenomenon	Activity Sequence, Damages, etc.
1986 (Showa 61)	(Discolored water)	October 24 and 25. The eruption occurred at the Myojinsho.
1987 (Showa 62)	(Discolored water)	October 21 and December 9. The eruption occurred at the Myojinsho.
1988 (Showa 63)	(Discolored water)	March 18 and 19. The eruption occurred at the Myojinsho.

* Volcanic periods, areas of activity, and eruption types taken from the Active Volcano Database of Japan, AIST (Kudou and Hoshizumi, 2006) and the Database of the Maritime and Submarine Volcanoes in Japan (Hydrographic and Oceanographic Department, Japan Coast Guard 2006).

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