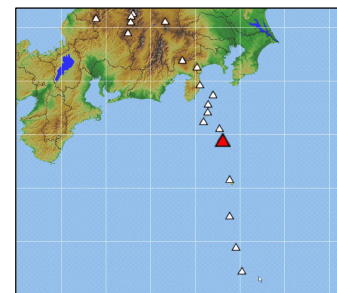


63. Mikurajima

Latitude: 33°52'28" N, Longitude: 139°36'07" E, Elevation: 851 m (Oyama)
(Triangulation Point - Mikurajima)



Overview of Mikurajima taken at the sea from north side on July 13, 2011 by the Japan Meteorological Agency

Summary

Mikurajima is a basalt - andesite stratovolcano located approximately 20 km south of Miyakejima. The portion of the volcano above the sea's surface has a diameter of approximately 5km. Its highest point is Oyama (850.9 m), and it has a volume of approximately 8.2 km³, but including the undersea portion, the volcano is extremely large, with a diameter of approximately 14 km, and a relative height of almost 1,800 m. The island is surrounded by sea cliff that rises as high as 500 m. It contains rivers, and little of the original topography remains. Isshiki (1980) categorized the Mikurajima volcano as two volcano units. One is the main stratovolcano, made mainly of basalt, and the other is a group of andesite lava domes to the southeast (the Tsubunegamori-Yasukajigamori lava dome group). Volcanic activity in the last 10,000 years ago is limited to the formation of the Tsubunegamori-Yasukajigamori lava dome group (and Kurosaki-Takaoyama?). The SiO₂ content is between 48.4 and 64.0 wt %.

Red Relief Image Map

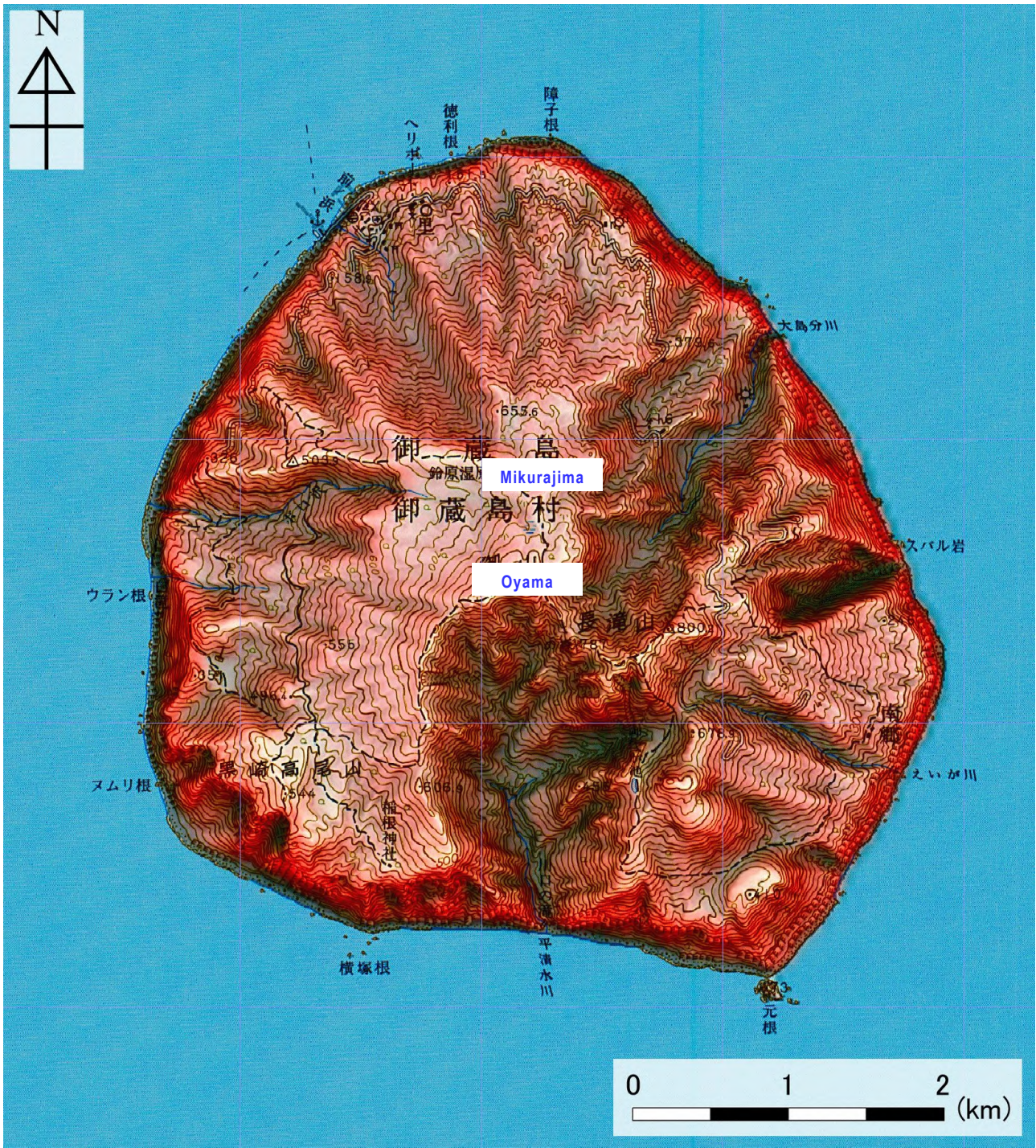


Figure 63-1 Topography of Mikurajima.

1:50,000 scale topographic map (Mikurajima) and digital map 50 m grid (elevation) published by the Geospatial Information Authority of Japan were used.

Submarine Topographic Map

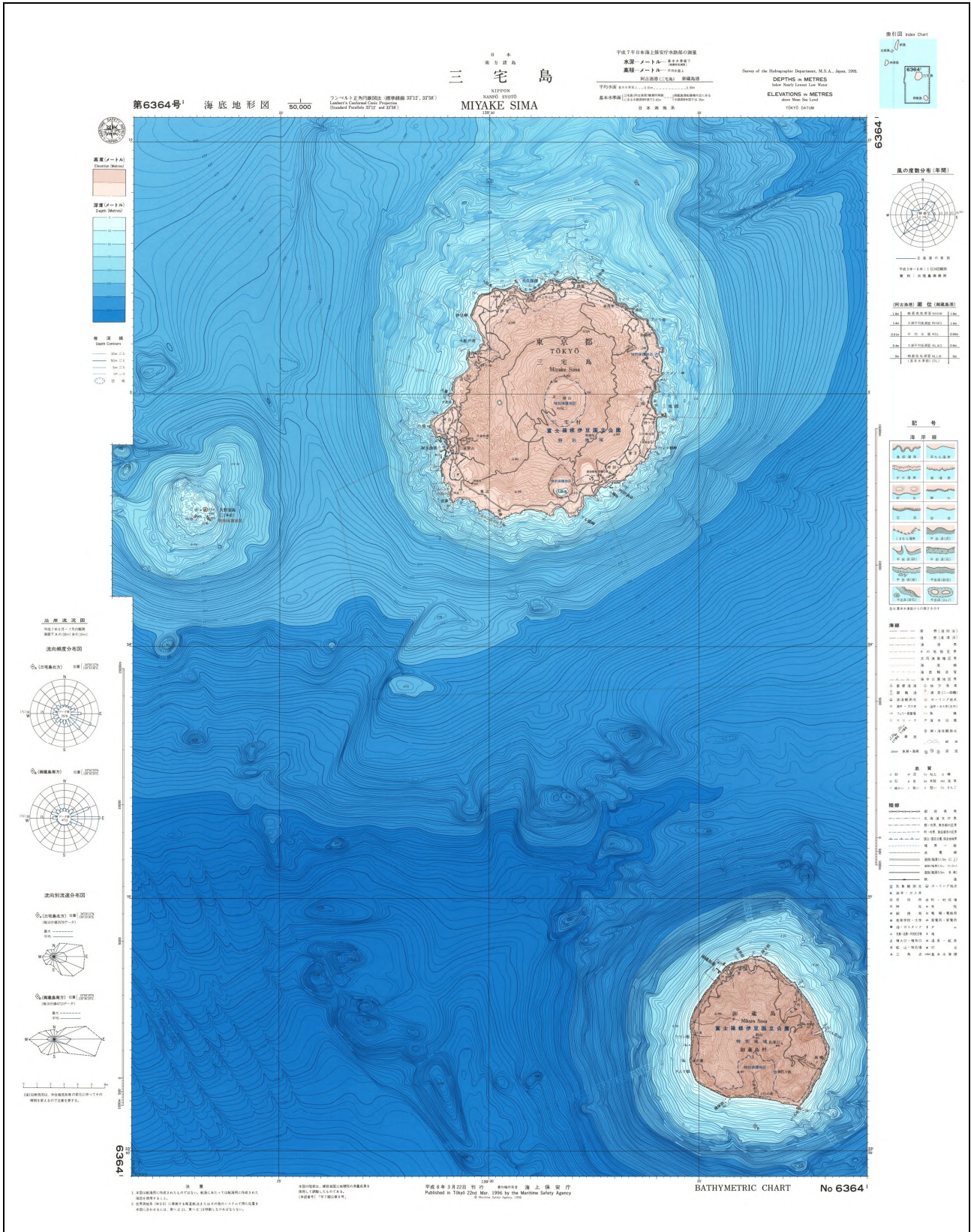


Figure 63-2 Submarine topographic map of Miyakejima and Mikurajima (Maritime Safety Agency, 1996).

Geological Map

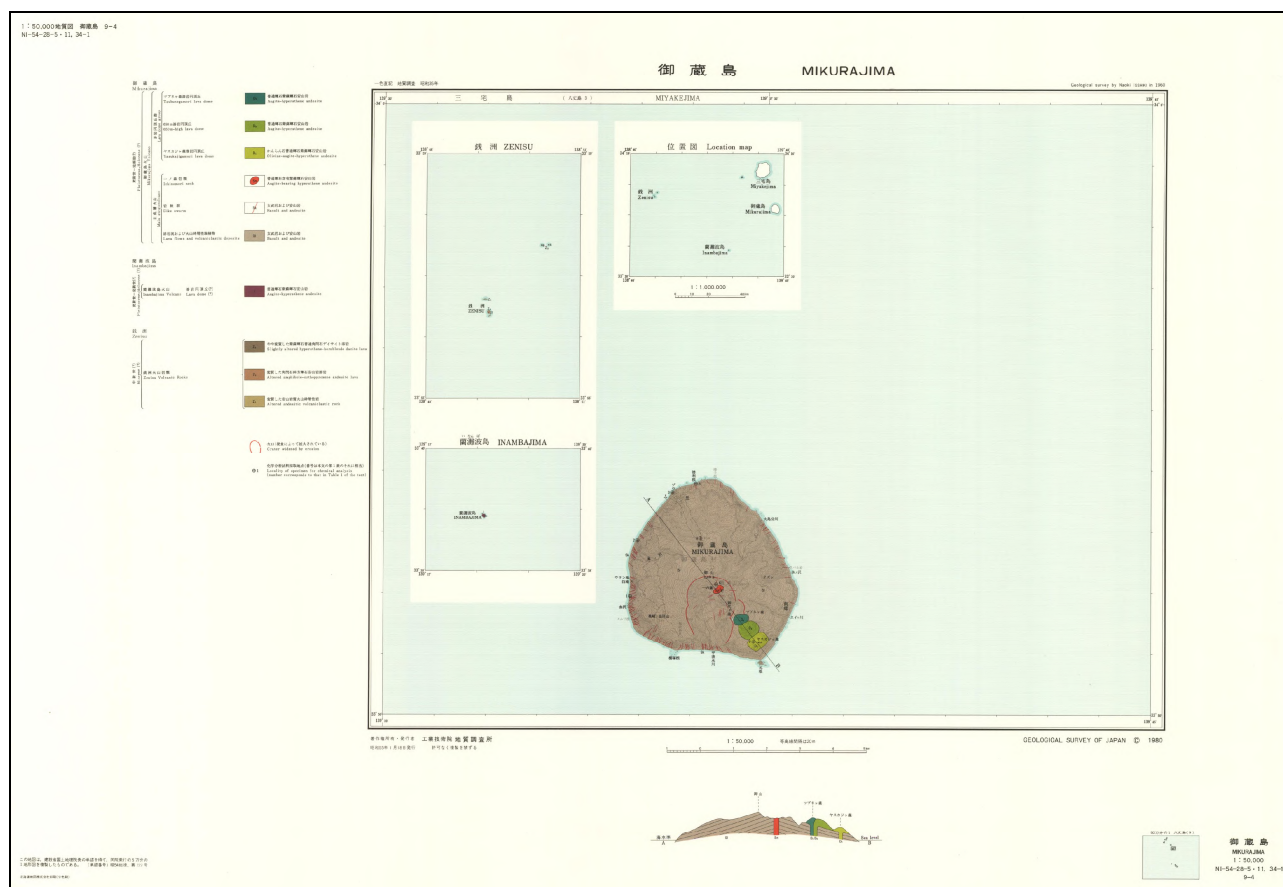


Figure 63-3 Geological map of Mikurajima (Isshiki et al., 1980).

Chronology of Eruptions

▪ Volcanic Activity in the Past 10,000 Years

Tephra, which is thought to have been emitted during the Tsubunegamori-Yasukajigamori lava dome group discharge, was composed of pyroclastic surge and air-fall pumice, and is found in overlying horizon of the Akahoya volcanic ash of 7,300 years ago. Pieces of carbonized wood found in the tephra have been dated to $5,450 \pm 90$ and $5,280 \pm 90$ yBP (Sugihara and Shimada, 1999), which indicates that the lava dome group was already formed 6,300 years ago.

Period	Area of Activity	Eruption Type	Main Phenomena / Volume of Magma
20 ← → 7.33 ka	Near Kurosaki-Takaoyama	Magmatic eruption	Tephra fall.
6.4 ← → 6.2 ka	Yasukajigamori-Tsubunegamori	Magmatic eruption	Pyroclastic surge, tephra fall, lava dome. Magma eruption volume = 0.03 km^3 DRE.

* Volcanic periods, areas of activity, and eruption types taken from the Active Volcano Database of Japan, AIST (Kudo and Hoshizumi, 2006). All years are noted in Western date notation. "ka" within the table indicates "1000 years ago", with the year 2000 set as 0 ka.

A ← → B: Eruption events taking place at some point between year A and year B

▪ Historical Activity

There are no records of volcanic activity.

Recent Volcanic Activity

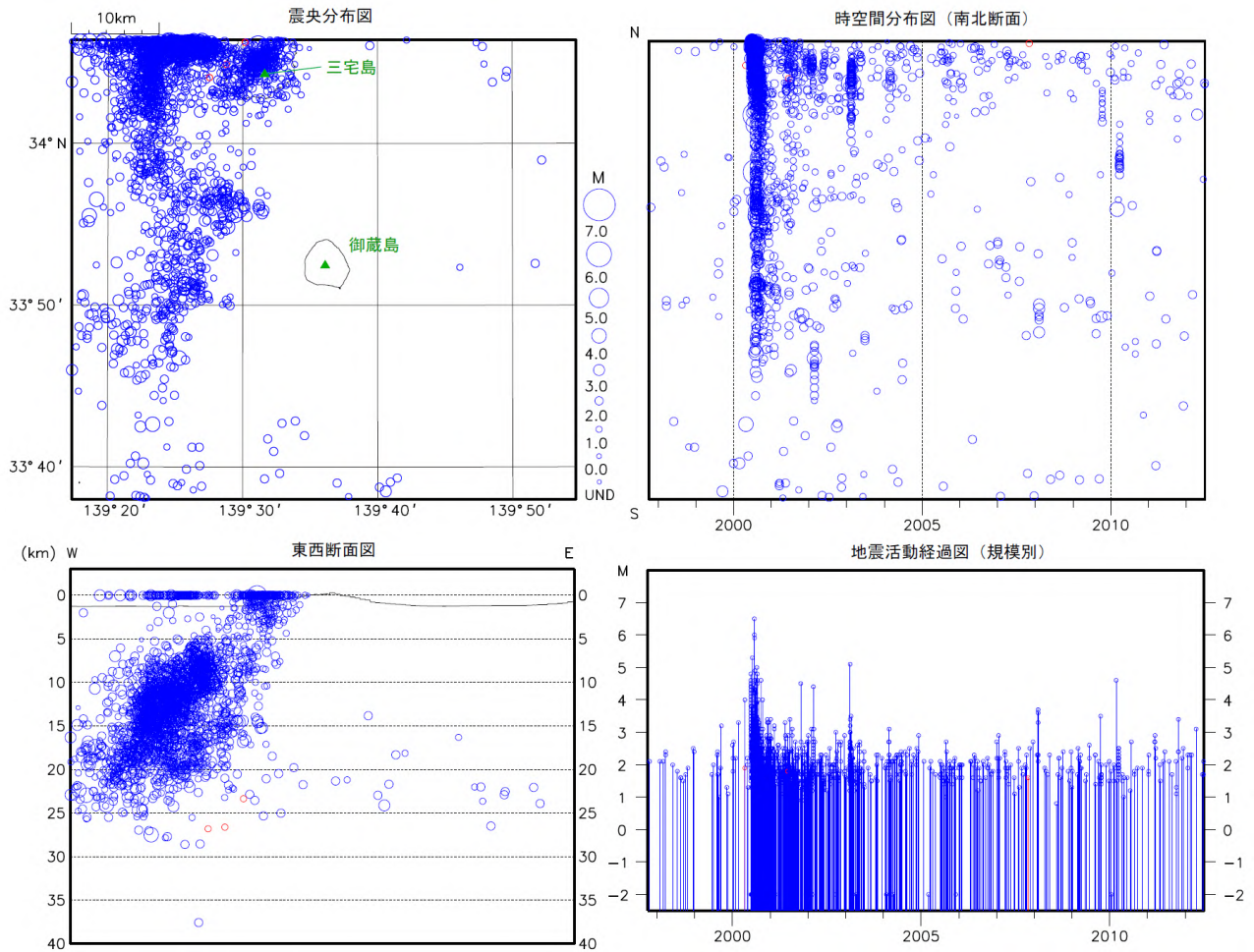


Figure 63-4 Activity of shallow VT earthquakes (blue circles) and deep low-frequency earthquakes (red circles) observed by a regional seismometer network (October 1, 1997, to June 30, 2012). Epicenter distribution (upper left), space-time plot (N-S cross-section) (upper right), E-W cross-section (lower left) and magnitude-time diagram (by scale) (lower right).

Information on Disaster Prevention

① Hazard Map

None

Social Circumstances

① Populations

Island population: 317 (according to Mikurajima statistics as of November 1, 2011)

Volcano foot residential area, etc.: There is only one village, located at the northern rim, only one part of the Sato area.

② National Parks, Quasi-National Parks, Number of Climbers

- Fuji-Hakone-Izu National Park Mikurajima

- Number of sightseers per year: Approximately 10,000 (according to 2010 Tokyo Miyake Branch Office Jurisdiction

Overview)

- Number of mountain-climbers per year: Unknown

③ Facilities

- Port facilities

 - Sanpo Port

- Heliport

Monitoring Network

* Monitoring sites with multiple observation instruments are indicated by small black dots, and other symbols indicate types of monitoring.



1:50,000 scale topographic map (Mikurajima) published by the Geospatial Information Authority of Japan was used.

Legend		
(JMA)	(GSI)	(Tokyo Metropolitan Govt.)
● seismic intensity meter	★ GPS	○ seismometer(SP)

Figure 63-5 Monitoring network.

Bibliography

Isshiki, N. (1980) Geology of the Mikurajima, Inambajima and Zenisu district (in Japanese with English Abstract).

Maritime Safety Agency (1996): Basic Map of the Sea in Coastal Waters, 6364^{1-S}, Maritime Safety Agency (in Japanese).

Sugihara, S., and Shimada, S. (1999): Programme and Abstracts The Volcanological Society of Japan 1999, No. 2, 13 (in Japanese with English Abstract).

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