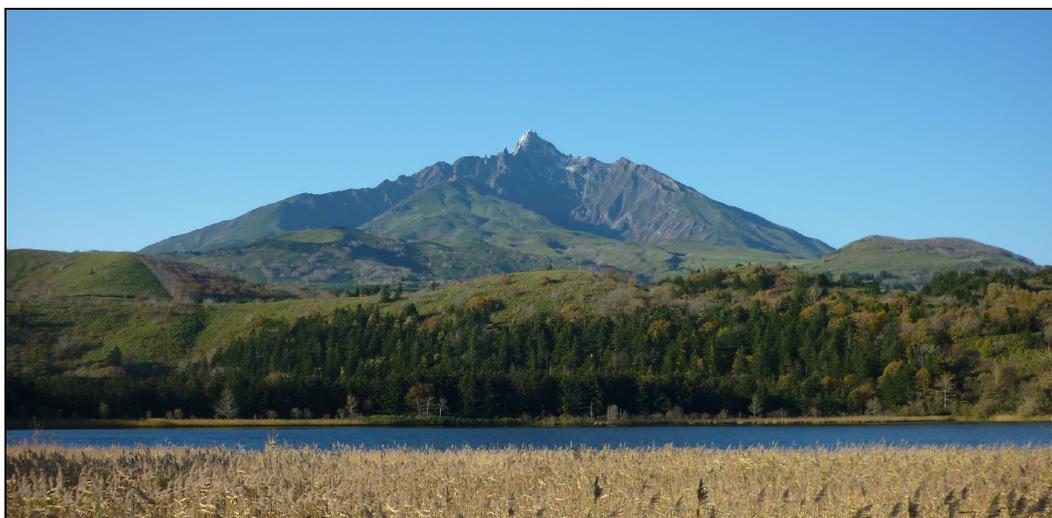


11. Rishirizan

Latitude: 45°10'43" N, Longitude: 141°14'31" E, Elevation: 1,721 m (Rishirizan)
(Elevation Point)



Overview of Rishirizan ,taken from Otadomari Swamp to south-by-southwest on October 19, 2011 by the Japan Meteorological Agency

Summary

Rishirizan is located 30 km west of Wakkanai, in the north of Hokkaido. It makes up the majority of the 18 km x 16 km Rishiri Island, and its ejecta extend 80m below sea level. Rishirizan became active approximately 200,000 years ago, and formed the main volcanic edifice in the years leading up to approximately 40,000 years ago, with ejecta type and ejection rates varying over that span (initial and peak period activity). It then exhibited activity from multiple craters, producing only a small amount of ejecta (approximately 10 % of the total ejecta volume). There was no more principle activity, which caused volcanic tephra fall in the north of Hokkaido, since approximately 8,000 years ago. The SiO₂ content is between 49.1 and 72.8 wt %.

Photo



Maar and Pyroclastic Cone at the south foot of the volcano, taken from east side on August 24, 2007 by the Japan Meteorological Agency

Red Relief Image Map

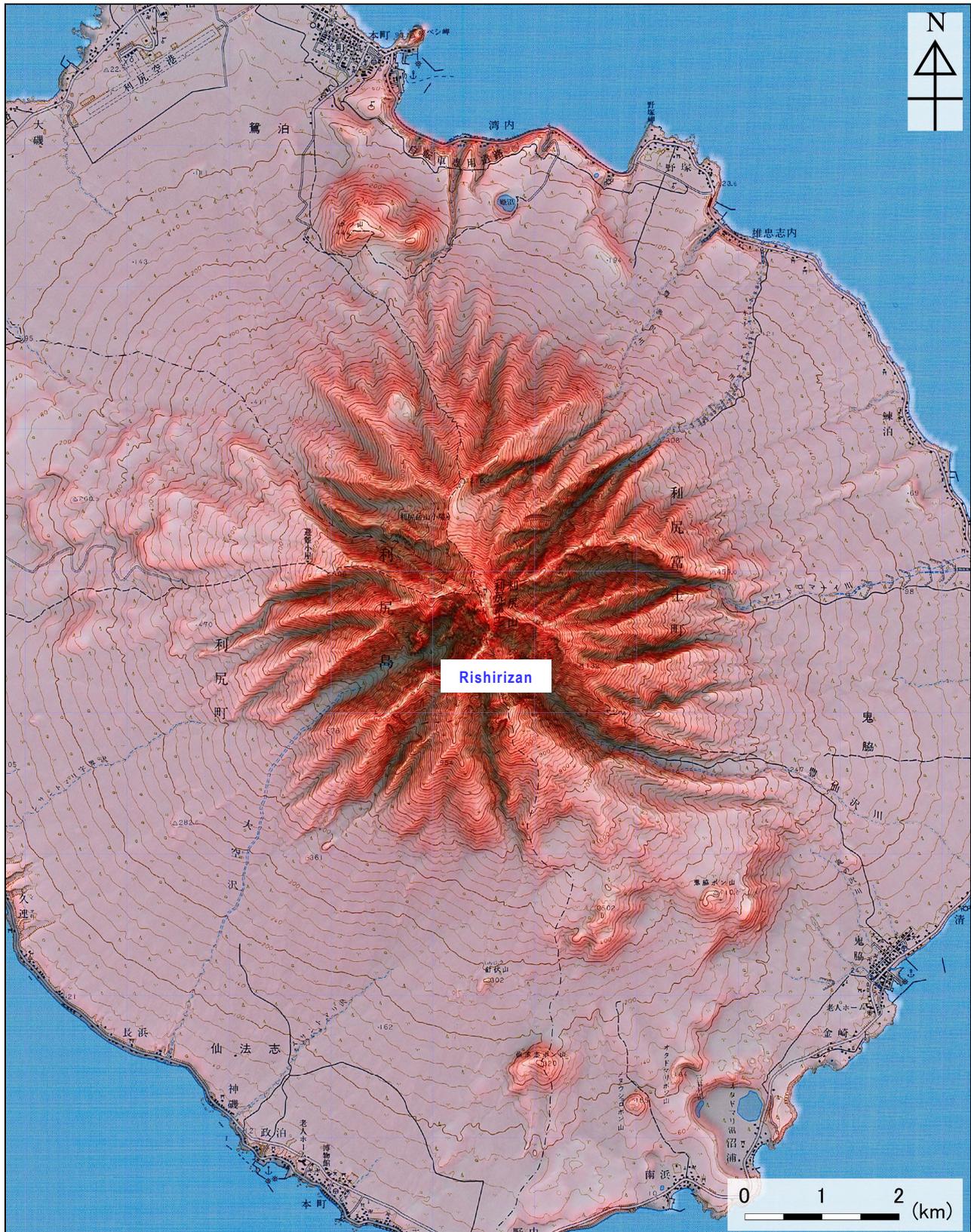


Figure 11-1 Topography of Rishirizan.

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

Chronology of Eruptions

▪ Volcanic Activity in the Past 10,000 Years

The last eruption of Rishirizan formed maars, made up of basalt magma, and a group of small scoria cones, as well as producing a lava flow that reached the south foot of the volcano. The most recent maars were formed several thousand years ago (possibly approximately 4,000 years ago), and, judging from the thickness of the soil, the group of small scoria cones are believed to have been created between 2,000 and 8,000 years ago or earlier. Currently no signs of volcanic activity, including fumarolic activity, are observed (Ishizuka, 1999; Kondo et al., 2012).

Period	Area of Activity	Eruption Type	Main Phenomena / Volume of Magma
7.9←→2ka	South foot ¹	Magmatic eruption	Lava flow and tephra fall. Magma eruption volume = 0.001 km ³ DRE. (lava flow only)
7.9←→2ka	South foot (Mt. Menuushoropon)	Magmatic eruption	Lava flow and tephra fall. Magma eruption volume = 0.003 km ³ DRE. (lava flow only)

* Reference documents have been appended with reference to the catalog of eruptive events during the last 10,000 years in Japan, database of Japanese active volcanoes, and AIST (Kudo and Hoshizumi, 2006) for eruptive period, area of activity and eruption type. All years are noted in calendar years. "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 historical records of volcanic activity.

Major Volcanic Activities

▪ Eruption 8,000 Years Ago

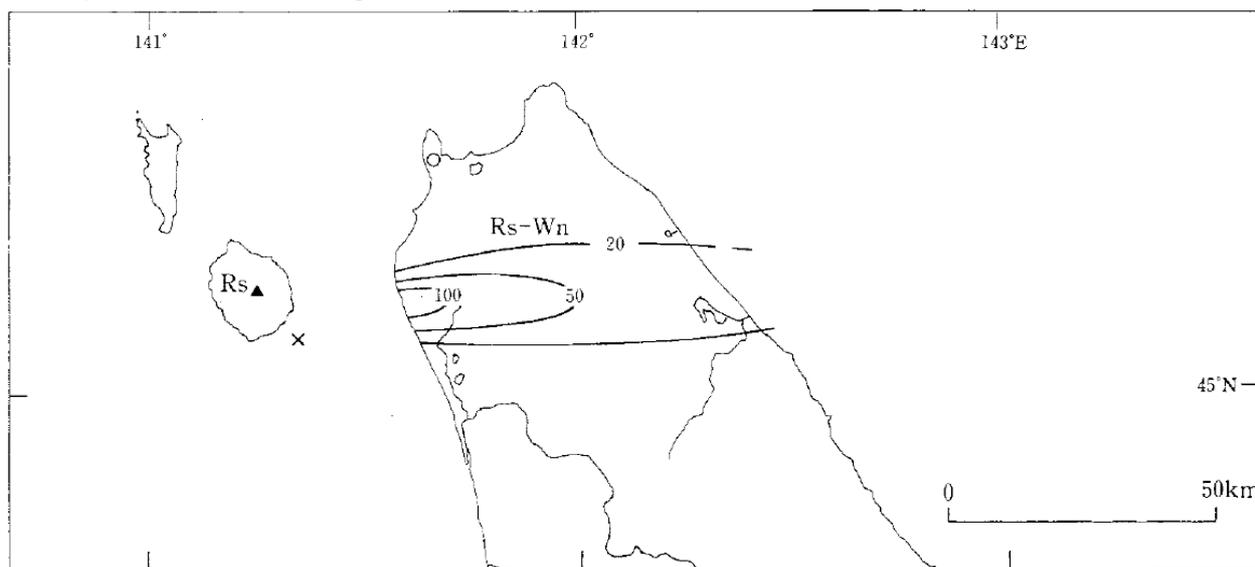


Figure 11-2 Tephra isopach (Machida and Arai, 2003).

Rs-Wn: Rishiri Wankonosawa, Rs: Rishiri, symbol x indicates source hypothesized based on isopach.

Recent Volcanic Activity

▪ Seismic Activity

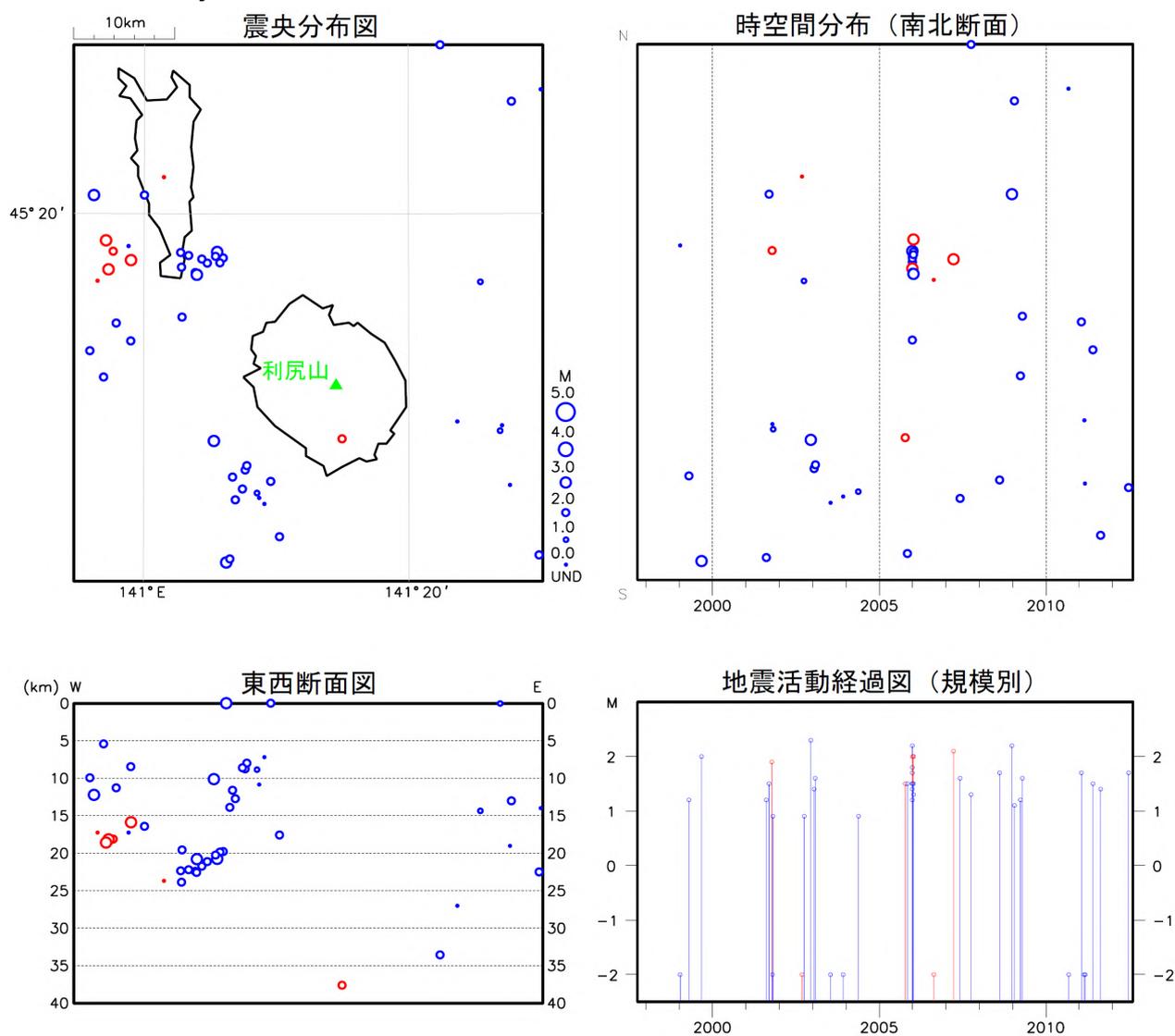


Figure 11-3 Activity of shallow VT earthquakes (blue circles) and deep low-frequency earthquakes (red circles) observed by a regional seismometer network (October 1, 1997, to June 30, 2012). Epicenter distribution (upper left), space-time plot (N-S cross-section) (upper right), E-W cross-section (lower left) and magnitude-time diagram (lower right).

Information on Disaster Prevention

① Hazard Map

None

Social Circumstances

① Populations

- Rishiri Island population: 5,294 (from statistics current as of October 31, 2011)
Rishiri Town population: 2,413 Rishiri Fuji population: 2,881

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

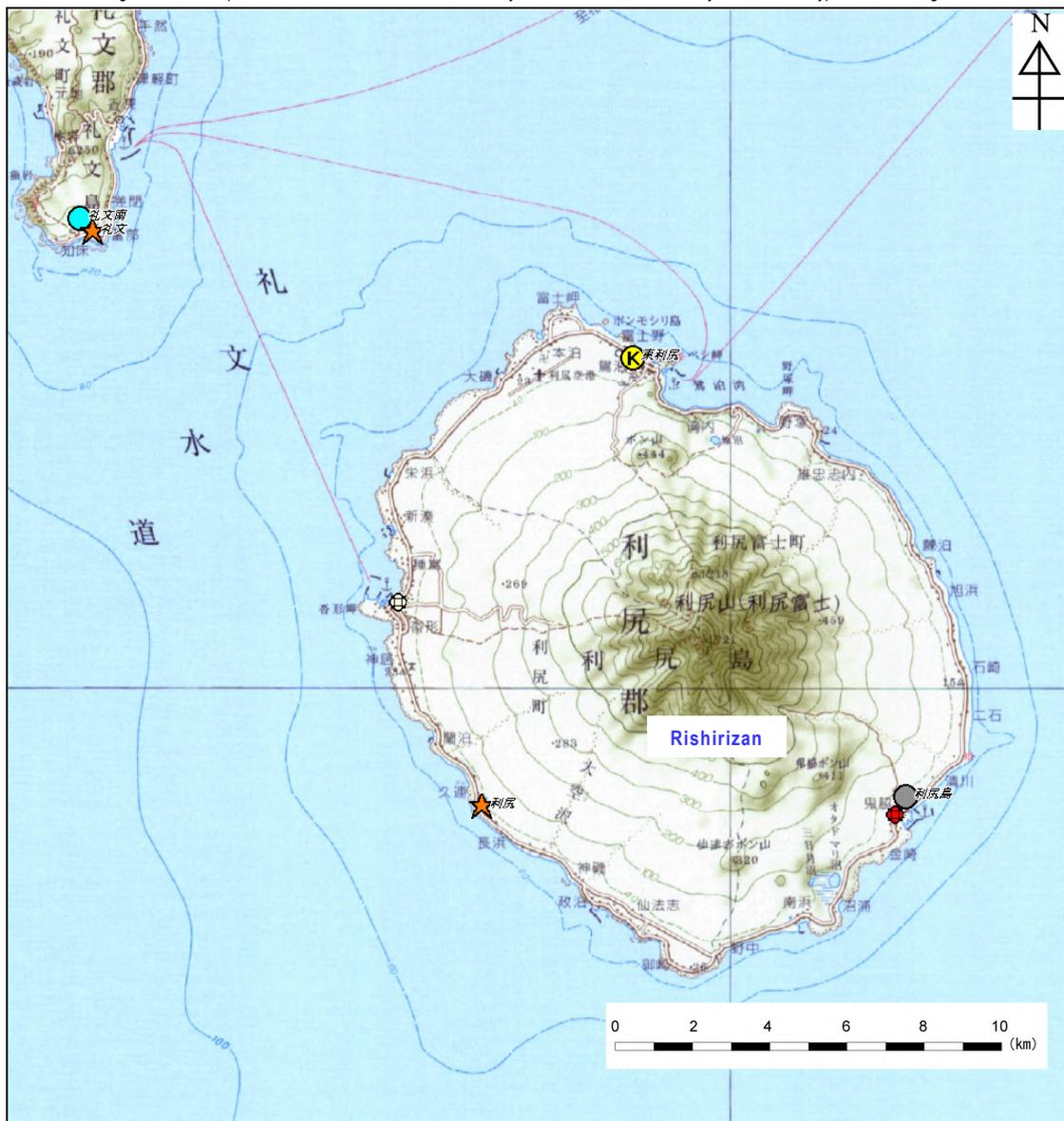
- Rishiri-Rebun-Sarobetsu National Park
Number of sightseers to Rishiri Island per year: Approx. 170,000
(according to 2010 Soya area municipal sightseeing estimate study (Hokkaido Soya General Subprefectural Bureau))
- Rishiri-Rebun-Sarobetsu National Park - Rishirizan
Number of mountain-climbers per year: Approx. 10,000
(According to Wakkanai Ranger office for Nature Conservation (Rishiri Office), 2008)

③ Facilities

None

Monitoring Network

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



1:200,000 scale regional map (Teshio) published by the Geospatial Information Authority of Japan was used.

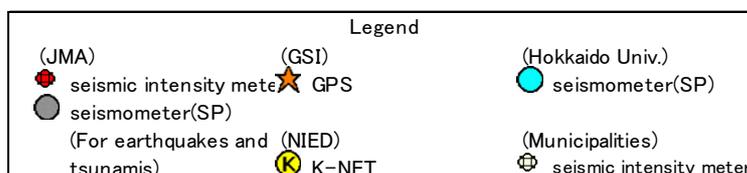


Figure 11-4 Regional monitoring network.

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- Kondo, R., et al. (2012): Programme and Abstracts The Association of Japanese Geographer 2012 Spring Meeting No. 81, 245p (in Japanese with English Abstract).
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