

80. Abu Volcanoes

Latitude: 34°26'58" N, Longitude: 131°24'07" E, Elevation: 112 m (Kasayama)
(Triangulation Point)



Nabeyama, Abu Volcanoes on January 28, 2008 by the Japan Meteorological Agency

Summary

The Abu Volcanoes consist of over 40 volcanic edifices distributed through Hagi, Abu, and Yamaguchi in the northwest of Yamaguchi Prefecture. Activity in the Abu volcanoes is divided into two stages: the early stage, from approximately 2 million to 1.5 million years ago, and the late stage, which began approximately 800,000 years ago. The early stage was characterized by alkaline basalt activity, which formed a lava plateau. During the late stage, an alkali basalt lava plateau, a downriver lava flow, and scoria cones were formed. The calc-alkaline andesite-dacite activity which began approximately 400,000 years ago formed a lava plateau (a lava mesa) (Kakubuchi and Nagao, 1993). The SiO₂ content is between 47.0 and 61.6 wt %.

Photos



Hagi Seaside Island Group on January 28, 2008 by the Japan Meteorological Agency



Kasayama on March 26, 2006 by the Japan Meteorological Agency

Red Relief Image Map



Figure 80-1 Topography of the Abu volcanoes.

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

Distribution of Craters

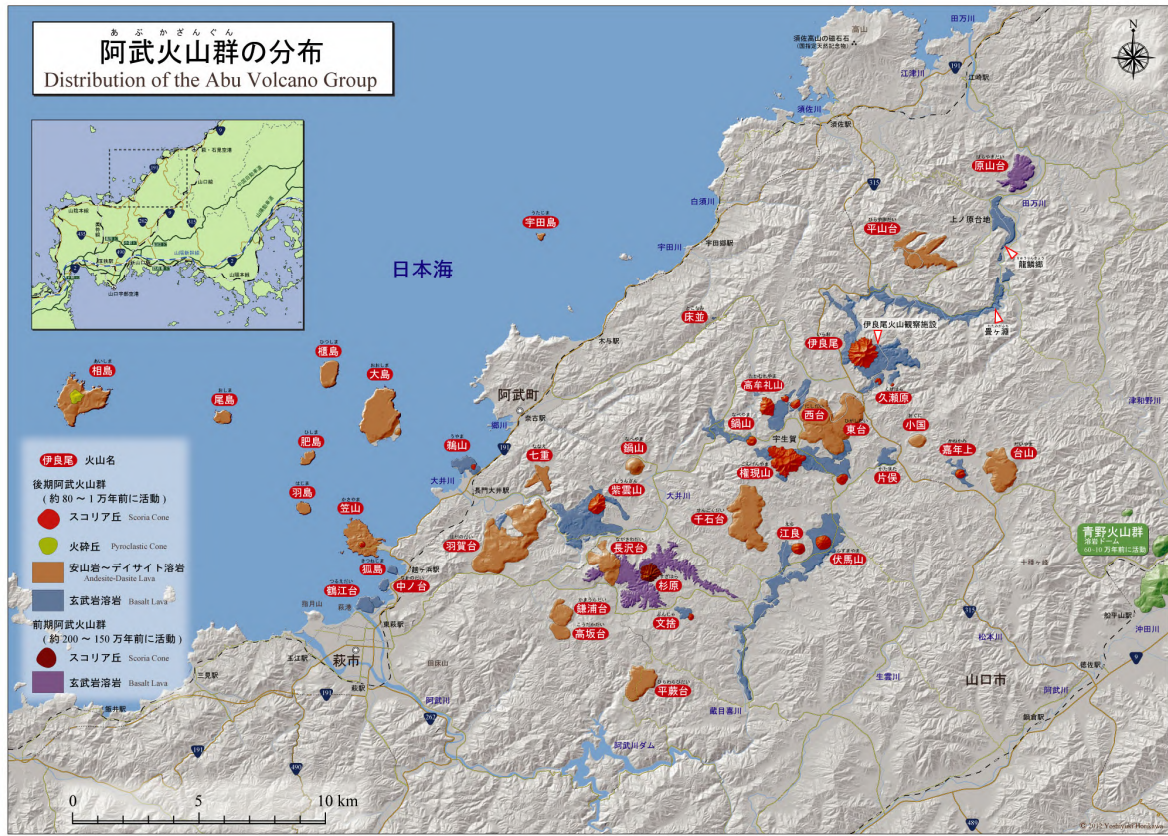


Figure 80-2 Distribution of the Abu volcanoes (Y.Horikawa and T.Nagao (original figure)).

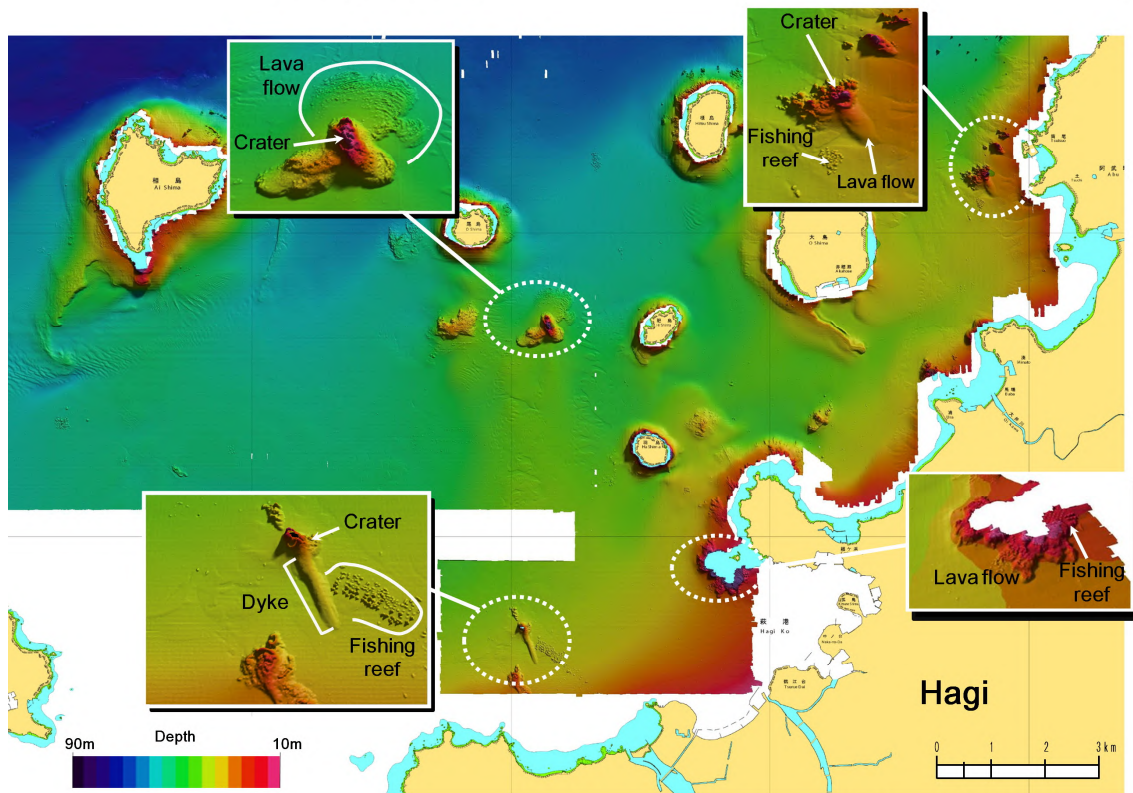


Figure 80-3 Submarine topographic map of the Abu volcanoes (Japan Coast Guard).

Chronology of Eruptions

▪ Volcanic Activity in the Past 10,000 Years

At Kasayama, a basaltic andesite lava plateau was formed approximately 11,000 years ago. In the latest eruption (approximately 8,800 years ago), a strombolian eruption formed a scoria cone (Nagao and Handa, 1985; Nagao et al., 2001).

Period	Area of Activity	Eruption Type	Main Phenomena / Volume of Magma
11.4ka	Kasayama	Magmatic eruption	Lava flow.
8.8ka	Kasayama	Magmatic eruption	Scoria cone formed.

* 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.

▪ Historical Activity

Currently, no fumarolic activity is observed.

Precursory Phenomena

No clear data has been obtained regarding eruption precursor phenomena.

Recent Volcanic Activity

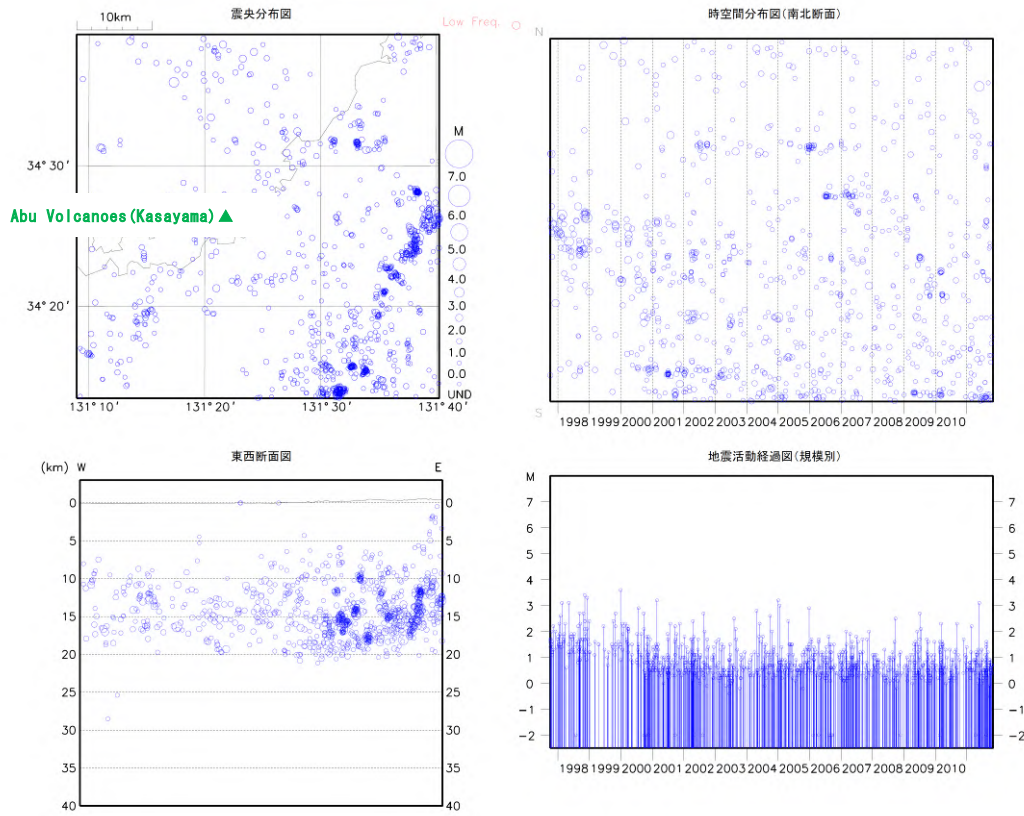


Figure 80-4 Activity of shallow VT earthquakes (blue circles) and deep low-frequency earthquakes (red circles) observed by a regional seismometer network (October 1, 1997, to June 30, 2012). Epicenter distribution (upper left), space-time plot (N-S cross-section) (upper right), E-W cross-section (lower left) and magnitude-time diagram (lower right).

Information on Disaster Prevention

① Hazard Map

None

Social Circumstances

① Populations

(according to population movement statistical survey data as of October 1, 2011, from the Yamaguchi prefecture website)

Yamaguchi City: 196,464

Hagi City: 52,835

Abu Town: 3,673

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

Kita-Nagato Kaigan Quasi-National Park (Hagi City, Abu Town, et al. (Nagato City, Shimonoseki City))

③ Facilities

Hagi Museum (contains exhibitions regarding history of Kasayama)

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 (Yamaguchi) published by the Geospatial Information Authority of Japan was used.

Legend			
(JMA)	(GSI)	(NIED)	(Municipalities)
seismic intensity meter	GPS	Hi-net	seismic intensity meter
		K-NET	
		KiK-net	

Bibliography

Kakubuchi, S., et al. (2000): Japanese Magazine of Mineralogical and Petrological Sciences. **29**, 191-198 (in Japanese with English Abstract).

Nagao, T. and Handa, M. (1985): The annual meeting of the Geological Society of Japan excursion guidebook. 119-136 (in Japanese).

Nagao, T., et al. (2001): Programme and abstracts the Volcanological Society of Japan. 2, 75 (in Japanese).

(Nagao, T.)