

## Observation of volcanic clouds at the Nansei Islands of Japan with automated camera systems and satellite images

# Kisei Kinoshita[1], Chikara Kanagaki[2], Michitaka Tomiyama[3], Andrew Tupper[4], Tomoaki Matsui[5], Hiroshi Yakiwara[6], Naoko Iino[7], Shoichi Machida[8], Hiroyuki Takahara[9], Takahiro Fukuzumi[10]

[1] Fac. Education, Kagoshima Univ., [2] Edu., Kagoshima Univ., [3] Edu., Kagoshima Univ., [4] Darwin, VAAC/Edu., Kagoshima Univ., [5] Dept. Geol., Fac. Educ., Kagoshima Univ., [6] Nansei-toko Obs. for Earthquakes and Volcanoes, Kagoshima Univ, [7] Mech., Kagoshima Univ., [8] Nittetsu Mining Consultants Co.,Ltd, [9] MMAJ, [10] Nakanoshima Astronomical Observatory

<http://www-sci.edu.kagoshima-u.ac.jp/volc/>

### Abstract

Records of volcanic plumes from Io-dake at Satsuma-Iojima Island, to the south of Kyushu, Japan, have been taken with digital and video cameras since July 1998. In addition, an automated monitoring system using a web camera was constructed in February 2003.

Suwanosejima, an active volcano, is located south of Kyushu, Japan, 220km south of Kagoshima. The eruption clouds have been recorded by a live camera from Nakanoshima, 25 km NE of Suwanosejima, since 6 Aug. 2002.

Images of Io-dake were recorded for 310 days in 2001, in which plumes were observed for 229 days. These plumes usually reached a height of 100-650m above the summit. The highest height recorded during this time was 1300m. The seasonal tendency of plume heights in conjunction with upper wind data observed at Kagoshima City was as follows: (i) In summer, the upper winds at 900 hPa were usually weak, and the plume heights became relatively higher. (ii) In winter, the upper winds tend to be strong, and the plume heights were lower than summer. During April to June 2002, the plumes were also seen in satellite images of NOAA/AVHRR.

In the observations of volcanic activity of Suwanosejima since August 2002, eruption clouds with heights reaching 3500m above mean sea level have been observed on many days, and relatively big eruptions have been observed once a month. On 5 December 2002, Suwanosejima ejected plumes all the throughout the day and plumes blown down to the lee of the mountain were observed. The plumes were also seen in satellite images of MODIS and GMS.

Results of the automated camera systems have been published at the following address since February 2003.

<http://arist.edu.kagoshima-u.ac.jp/volc/spot/>