Miyakejima [Alert Level: 2]

Gas-and-steam plumes rose to a height of 100 – 300 m above the crater rim.

According to field survey results on May 17th, the amount of the sulfur dioxide (SO₂) flux was 400 t/d (approx. 700 t/d and 500 t/d on April 9th and 19th, respectively; Fig. 1), indicating that concentrations of volcanic gas remained slightly lower than usual. According to a report from Miyake Village, high concentrations of SO₂ were occasionally recorded in inhabited areas.

There was no geomagnetic change reflecting an inner heat state beneath Miyakejima.

Seismicity has remained at relatively high levels since the eruption. Hypocenters have been located just beneath the summit crater of Miyakejima as before. No tremors have been observed.

According to GPS observation data, ground deformation indicating contraction in shallow parts of the mountain has been continuing since 2000, but is gradually diminishing. Long-term extension of the baseline along the north-south section of Miyakejima has also been observed since 2006, indicating expansion in deeper parts.
Fig. 1 SO$_2$ emission rate at Miyakejima

**Ioto [Near-crater Warning]**

According to deformation observations by Geospatial Information Authority (GSI), rapid uplift shifted to subsidence, and now ground deformation is in an almost static state. After May 4th, seismic activity diminished and no volcanic tremors were observed.

Aerial observation, conducted by the Japan Coast Guard (JCG) on May 16th, revealed that discolored offshore ocean areas to the northeast of the island have still been observed, but become smaller than before.

**Fukutoku-Oka-no-Ba [Near-sea-area Warning]**

According to information from JCG, Japan Maritime Self-Defense Force (JMSDF) and Japan Meteorological Agency (JMA), discolored water has been frequently observed in the waters surrounding Fukutoku-Oka-no-Ba in recent years.

**Kirishimayama (Shinmoedake) [Alert Level: 3]**

No eruption was observed at Shinmoedake in the reporting period (the last explosive eruption occurred on March 1st, 2011, while the last eruption of any kind was on September 7th of the same year). As before, the white-plume height was approximately 50 m on average above the crater rim.

Seismicity has diminished. A total of 82 seismic events occurred in May (and 356 in April). Most hypocenters were located at a depth of 0 – 2 km below sea level around Shinmoedake as before. No volcanic tremors were observed in May (as in April).

Aerial observation was conducted in cooperation with JMSDF on May 18th. They revealed that the diameter of lava accumulated inside the crater remained about 600m and that white plume rose up to 50m mainly from the E and N margin of lava, which was the same as the result of the previous survey on March 13th (Photo 1). Infrared observations revealed no significant change in the temperature distribution of the surface of lava and revealed comparatively high-temperature area at the margin of lava. There was a relatively high-temperature area in a part of the crack in the western slope, but plume was not observed.

According to wide-area deformation observations conducted by GSI, baseline extension caused by magma supply to a deeper magma chamber several kilometers northwest of the crater had gradually slowed since December 2011 and has almost stopped since January 2012. There was no
remarkable change related to volcanic activity according to tiltmeter-based observation and narrow-area GPS measurement conducted around Shinmoedake.

According to a field survey carried out on May 31st, no sulfur-dioxide flux was observed (approx. 100 t/d in April as a whole).

Photo 1. Aerial survey on May 18th. Courtesy of JMSDF.
Fig. 2. Seismicity and plume activity at Shinmoedake from January 2003 to May 2012

※ The notation “†” represents an eruption.
Fig. 3  Tiltmeter observation at Shinmoedake from January 2011 to May 2012
**Sakurajima [Alert Level: 3]**

The activity of eruptions at the Showa crater has remained at high level. During this period, 89 eruptions were observed (127 in April), 64 of which were explosive (107 in April). Ballistic debris reaching areas about 1,300 – 1,800 m from the Showa crater was recorded four times. When explosive eruptions have occurred at 2:54PM on May 23rd and at 4:29AM on May 24th, a little large amount of plume rose to a height of 3,500 m above the crater rim. The plume rose over 3,000m for the first time since April 4th, 2011. Very small pyroclastic flow was observed at 3:42AM on May 21st and flowed down about 300m to east, which occurred for the first time since March 22nd. Volcanic glows were clearly recorded at night with a high-sensitivity camera from May 1st to 3rd.

At the Minamidake summit crater, very small eruptions were occasionally observed. The maximum plume height was 400 m above the crater rim. Weak volcanic glows were recorded at night with a high-sensitivity camera from May 26th to 31st.

Volcanic seismicity has remained at a relatively low level. A total of 711 earthquakes occurred (621 in April). The number of tremors accompanying eruptions amounted to 439 in May (294 in April) with a total duration time of 78 h 27 m (81 h 35 m in April), which was about as long as that in the previous month.

According to field surveys on May 7th and 22nd, the amount of the SO$_2$ flux was 2,200 t/d – 2,800 t/d on average (approx. 1,800 t/d– 2,700 t/d in April), and remained at high levels.

The slight upheaval of the mountain seen from November 2011 onward stopped in February 2012 according to observations with a water-tube tiltmeter installed 2.5 km southeast of the Minamidake summit crater by Ministry of Land, Infrastructure, Transport and Tourism (MLIT). According to the results of continuous GPS measurement, slight extension inside Sakurajima Island has been observed since around September 2011. According to deformation observations by GSI, long-term extension of the baselines that traverse the Aira Caldera (in a closed-off section of Kagoshima Bay) has been observed, indicating expansion of the deeper magma chamber beneath the caldera.

733 g/m$^2$ of volcanic ash has fallen from 9:00AM on May 20th to 9:00AM on 21st at Kagoshima Local Meteorological Observatory (KLMO). The total amount of ashfall in May was 1,658 g/m$^2$(during a total of 13 days), which is the largest since KLMO moved to Higashikoorimoto in February, 1994. Based on observation data provided by Kagoshima Prefecture, the total amount of ashfall was estimated at 660,000 tons in April, which was slightly smaller than 810,000 tons recorded in March 2012.
Satsuma-Iojima [Alert Level: 2]

Plume activity at the Iodake summit crater remained at a relatively high level. A white plume rose to the height of 600 m above the crater rim during this period. Weak volcanic glows were sometimes recorded at night with a high-sensitivity camera.

Seismic activity remained at a low level, with 212 events (126 times in April 2012). No volcanic tremor was observed (1 in April).

No unusual ground deformation was seen in GPS observation data.

Suwanosejima [Alert Level: 2]

Although no explosive eruptions occurred in May (0 in April 2012), very small eruptions occurred on May 25th, 26th and 28th—30th. The maximum plume height was 600 m above the crater rim during this period (approx. 300 m in April 2012). Weak volcanic glows were sometimes recorded in the crater at night by a high-sensitivity camera. According to Toshima Village, ashfall was observed in the settlement in the island (about 4km NNW of Otake) on May 25th and 28th—30th.

Seismic activity remained at a low level, with 11 A-type events (21 in April 2012) and 205 B-type events (85 in April 2012). Volcanic tremors occurred on May 5th and 25th—26th, and the total duration time of tremors in May was 40h 11m, which was more than that in the previous month (9 h 26 m in April).

No remarkable ground deformation was seen in GPS observation data.