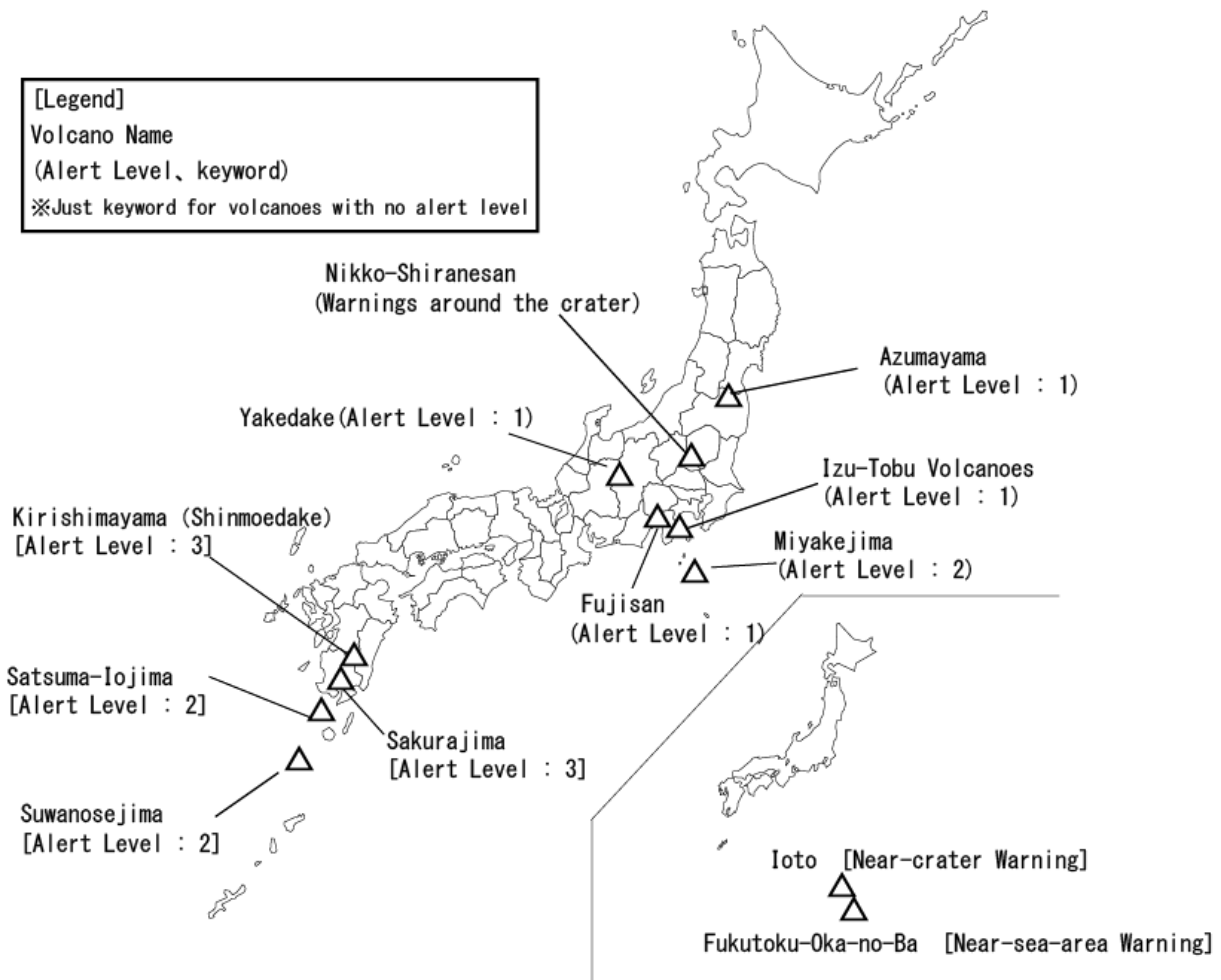


Monthly Volcanic Activity Report (September, 2011)

Japan Meteorological Agency



Azumayama [Alert Level : 1]

Thermal areas maintained high temperature at Oana crater, where bright incandescence emanated from the crater at night.

A field survey on 7th September revealed that high thermal area remained at the lower area of W-6 vent. No significant change of thermal areas was observed around Hachimanyake.

An 11-minute tremor occurred on 4th October at 21:45. No significant change in fume, incandescence, and seismicity was observed. The last volcanic tremor was 1st August 2010. Seismic activity remained at the background level.

Based on a field survey on 7th August, the sulfur-dioxide flux was 100 t/d (cf. 50 t/d; on 6th July).

Nikko-Shiranesan [Warnings around the crater]

After "The 2011 off the Pacific coast of Tohoku Earthquake" on 11th March, increased seismicity at a depth of about 5 kilometers of W and NW foot, and 5-10 kilometers of E and SE foot of Mt. Nikko-Shiranesan was gradually getting lowered. A felt-earthquake with seismic intensity of 1 in JMA scale was observed in Nikko-city, Tochigi Pref, at around NW 5km of the summit in a high seismicity area. No volcanic tremor was observed.

Yakedake[Alert Level : 1]

Just after "The 2011 off the Pacific coast of Tohoku Earthquake" on 11th March, seismicity had become higher in the shallow parts beneath the summit and at NW foot of Mt. Yakedake, however it turned to the background level. No volcanic tremor or low-frequency earthquake was observed

Fujisan[Alert Level : 1]

After the M6.4 earthquake occurred at south of the summit on 15th March at 22:31, many earthquakes following the main shock occurred in the area extended to right below the summit from the main shock. Seismicity has been becoming at a lower level. Number of deep low-frequency earthquakes at a depth of around 15km stayed small. No volcanic tremor or low-frequency earthquake in the shallow parts was observed. No other anomaly data was detected at shallower part.

Izu-tobu volcano group [Alert Level : 1]

Seismicity along both the area from Arai through offshore Shiofuki-zaki in Ito-city became higher from night of 18th August through 23rd August. It turned to a lower level after 24th August. No felt-earthquake was observed in this period. Number of earthquakes temporarily increased at shallower area around Usami in Ito-city in the predawn hours on 22nd September, which wasn't directly related to magma intrusion.

Prior to the seismic activity, the volumetric strainmeter at Higashi-Izu-town showed continuous contraction, and tiltmeter at Ito-city showed an apparent change in the afternoon of 18th September. But the trend slowed down as seismicity had decreased, and no change was observed since 23rd September. GPS measurement did not exhibit remarkable change.

Low-frequency earthquakes and tremors, in association with volcanic activity, were not observed.

Miyakejima [Alert Level : 2]

Gas-and-steam plumes rose to a height of 100-600m above the crater rim.

According to a field survey on 28th September, the sulfur-dioxide flux was 900t/d (cf. 800-1,000 t/d; on 11th and 17th September; Fig.1). According to a report from Miyake village, high SO₂ concentration was sometimes recorded in some inhabited areas.

Seismicity has stayed at a low level. Hypocenters were located just beneath the summit crater of Miyakejima as previously observed.

Banded tremors with every 20 minute had occurred since 23rd September, and had continued with smaller amplitudes on 5th October at 12:00. No other change in observation data was detected.

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

GPS observation showed continuous deflation of the volcano originated from the shallow source since 2000.

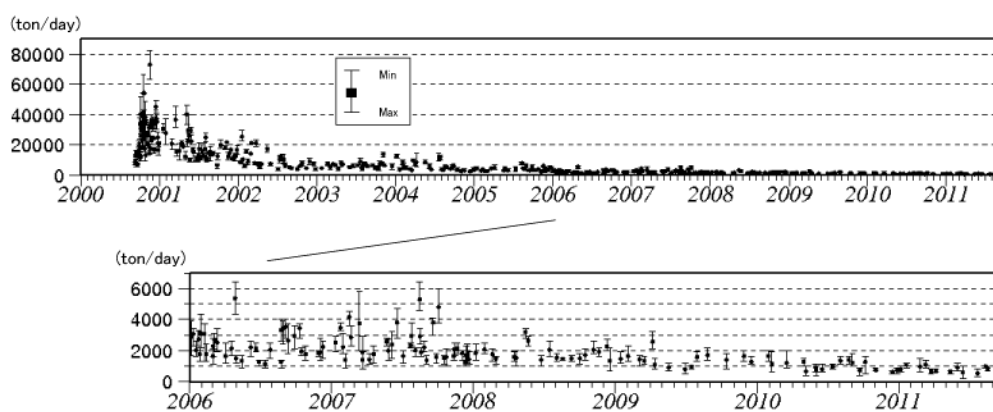


Fig.1 Emission rate of SO₂ at Miyakejima.

Ioto [Near-crater Warning]

Seismicity in shallow parts in Ioto has remained at a high level since February 2011.

According to the GPS observation by GSI (Geospatial Information Authority of Japan), landwide upheaval that was first observed in August 2006 had slowed down since middle November to December 2010, but has been on the increase since late January 2011. The extension of the baseline in NS direction is still continuing and recently southward displacement has been remarkably seen in the south end. The GPS measurement also showed that the rapid southward displacement was observed at the south part of island. Moreover, the displacement at the southeast of Motoyama, located the central part of island, showed local westward displacement from 26th August through 2nd September.

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

According to the information from the JCG (Japan Coast Guard), JMSDF (Japan Maritime Self-Defense Force), and JMA, discolored water has been frequently observed around Fukutoku-Okano-Ba in recent years.

Kirishimayama (Shinmoedake) [Alert Level : 3]

A minor eruption occurred on 31st August at 02:43 at Shinmoedake lasted until 6th September at 13:50. A small-scale eruption was observed from 06:00 to 18:30 of 7th September, and a gray-white plume rose 300m above the crater, and drifted NE. No explosion(*) was observed in the reporting period at Shinmoedake.

No Ballistic or pyroclastic flow was observed in the reporting period. White plume height was less than 200m on average (maximum; 500m) above the crater rim.

Aerial observations were conducted in cooperation with JASDF (Japan Air Self-Defense Force) on 13th and 22nd of September. These surveys indicated that the diameter of lava accumulated inside the crater remained about 600m and that white plume rose up from the margin of lava, as same as the previous survey on May 2011(Photo 1).

The survey on 22nd September showed that center of lava was slightly lower in the crater, compared with the result of the previous survey on 13th May.

Infrared observation showed that the temperature in the center of lava tended to be lower, and that at margin of lava was comparatively higher (Photos 3 and 4).

(*) Explosion at Shinmoedake is defined as the one which accompanies air shock more than 20 Pa with explosive earthquake.

Seismicity stayed at a high level in early September, and rather declined after middle September. Seismic events occurred 1,913 times in September (cf. 3,997 times; in August).

Most hypocenters were still located at a depth of 0-2km in the shallow parts of Shinmoedake.

A moderate-scale of consecutive tremor on 31st August at 02:41 continued till 4th September at 19:20, decreasing its amplitude. Small-scale tremors sometimes occurred. Duration of tremors on September was 125h35m in total (cf. 26h42m; August), which was longer than previous period (Fig 3).

GPS measurements by GSI revealed that magma supply to deeper magma chamber at around several kilometers NW of the crater. Small amount of subsidence in tilt changes were observed just after a small-scale of tremor at 00:35 of 7th September.

A large amount of sulfur-dioxide flux (2,000-2,200t/d) was observed on 1st and 2nd September during the eruption. According to the field survey on 29th September, however, the amount of sulfur-dioxide flux significantly decreased (300t/d).

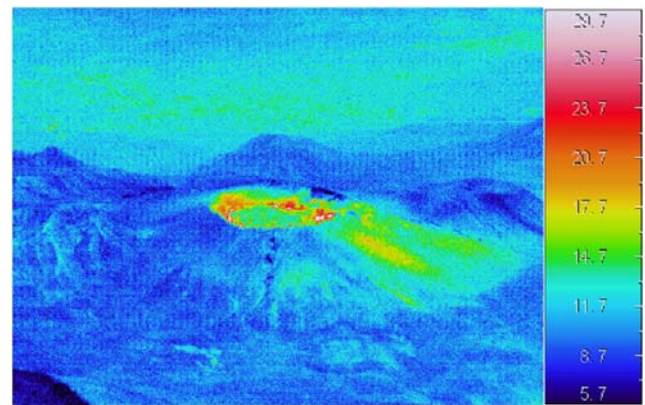
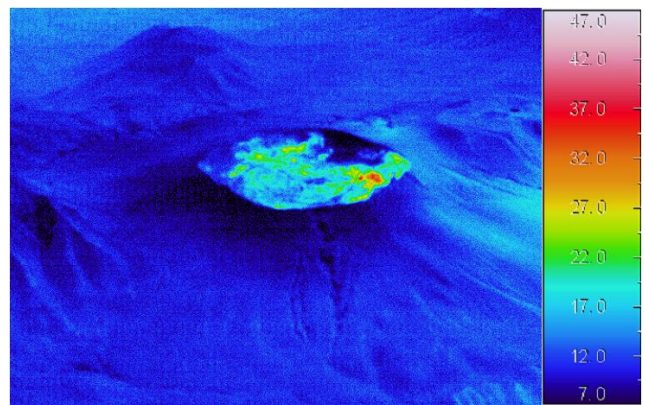
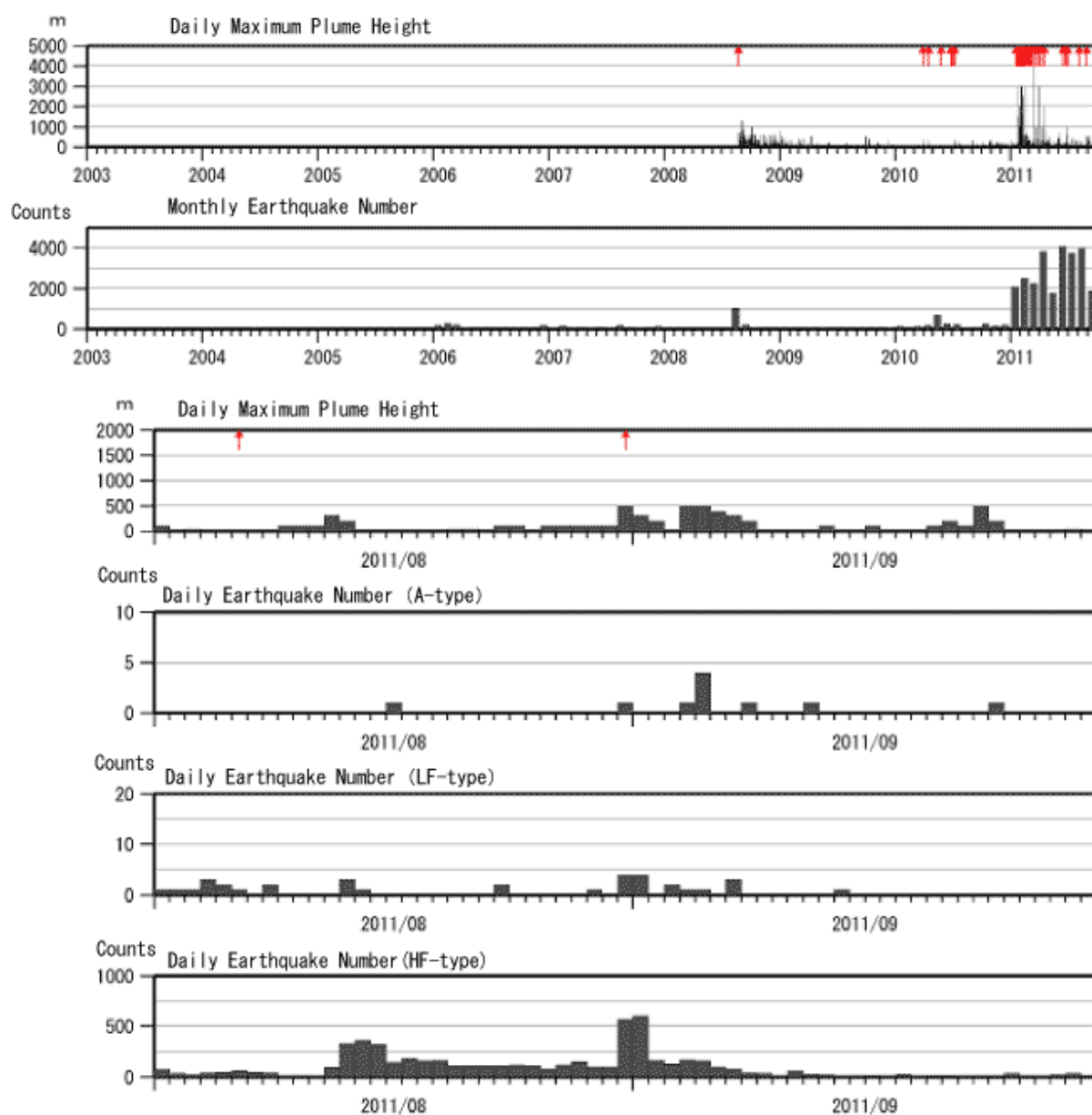


Photo.1 Pictures taken in aerial surveys on 22nd September and 13th May, 2011. Courtesy of JASDF and JGSDF(Japan Ground Self-Defense Force), respectively.



※ The notation "↑" stands for eruptions.

Fig2. Seismicity and plume activity at Shinmoedake from 2003 to September 2011.

Daily Earthquake Number (HF-type)

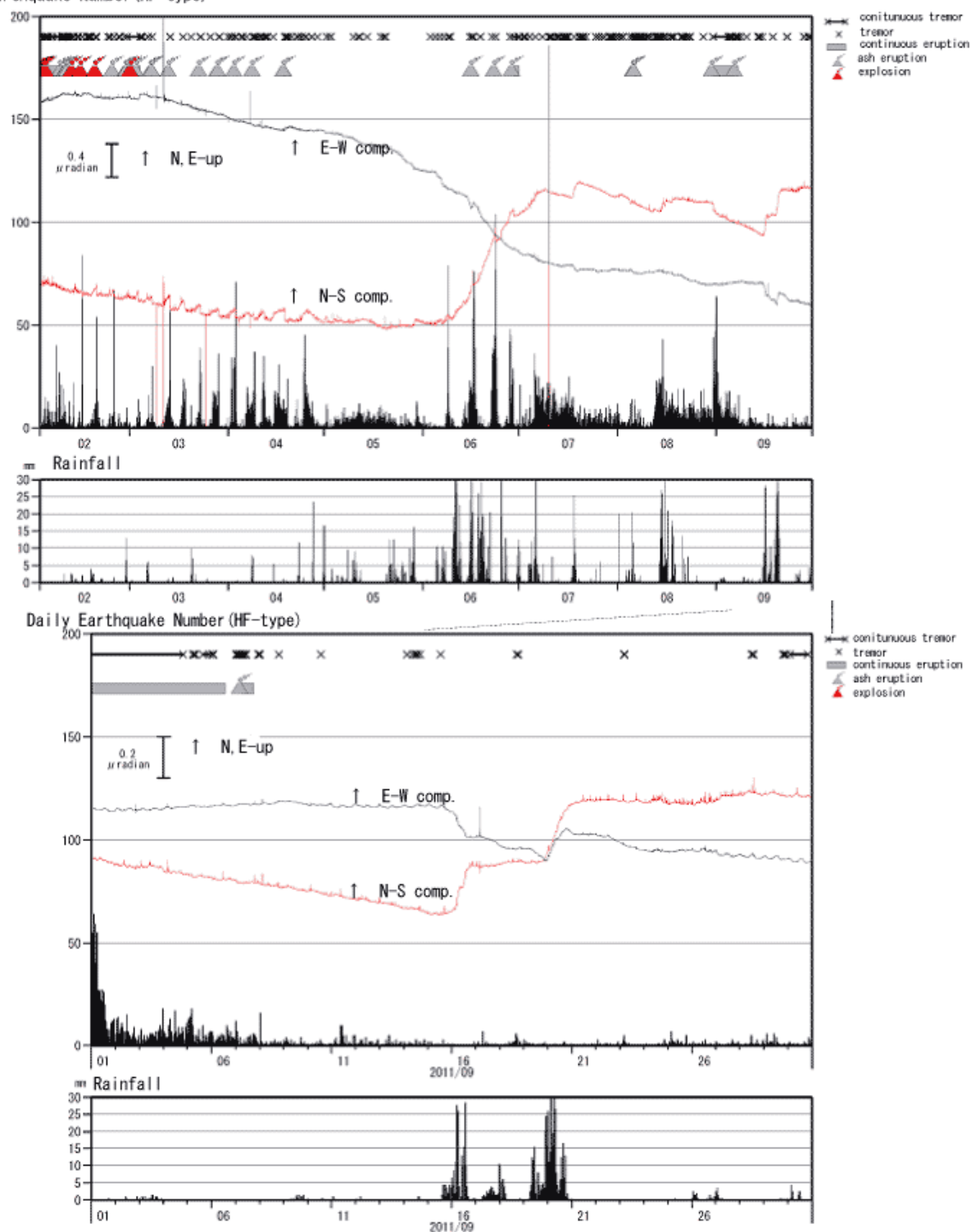


Fig.3 Tilt observation at Shinmoedake from 2003 to September 2011.

Sakurajima[Alert Level : 3]

Number of eruptions including explosive ones at Showa-crater has remained large. In this period, eruptions observed 204 times (cf. 142 in August), 141 cases of which were explosive ones (cf. 86 in August), which is the monthly record after the resume on eruption at Showa-crater in 2006. Ballistics reached areas about 800-1300m away from the Showa-crater. The maximum plume height reached 2,000m above the crater. A small-scale pyroclastic flow flew down to E, as far as 200m from the crater on 1st and 12th September.

Volcanic glows were sometimes observed at night with a high-sensitivity camera.

There was no eruption at Minamidake summit crater.

Volcanic seismicity has remained at a relatively low level (10-45 times). Earthquakes occurred 790 times(cf. 498 times; August).

According to field surveys on 5th, 14th, 27th and 28th September, sulfur-dioxide flux was 600-2,700 t/d on average (cf. 1,800-1,900 t/d in July).

The water-tube tiltmeter by MLIT (Ministry of Land, Infrastructure, Transportation and Tourism; installed at 2.5km SE of Minamidake summit crater) did not exhibit remarkable change (Fig.4). According to GPS measurement, slight contraction inside Sakurajima Island has been observed in this period. Also, according to GPS measurement by GSI, long term extensions of the baselines that traverse the Aira-Caldera (at closed-off section of Kagoshima bay) have been observed although extension rate tended to go down for some baselines.

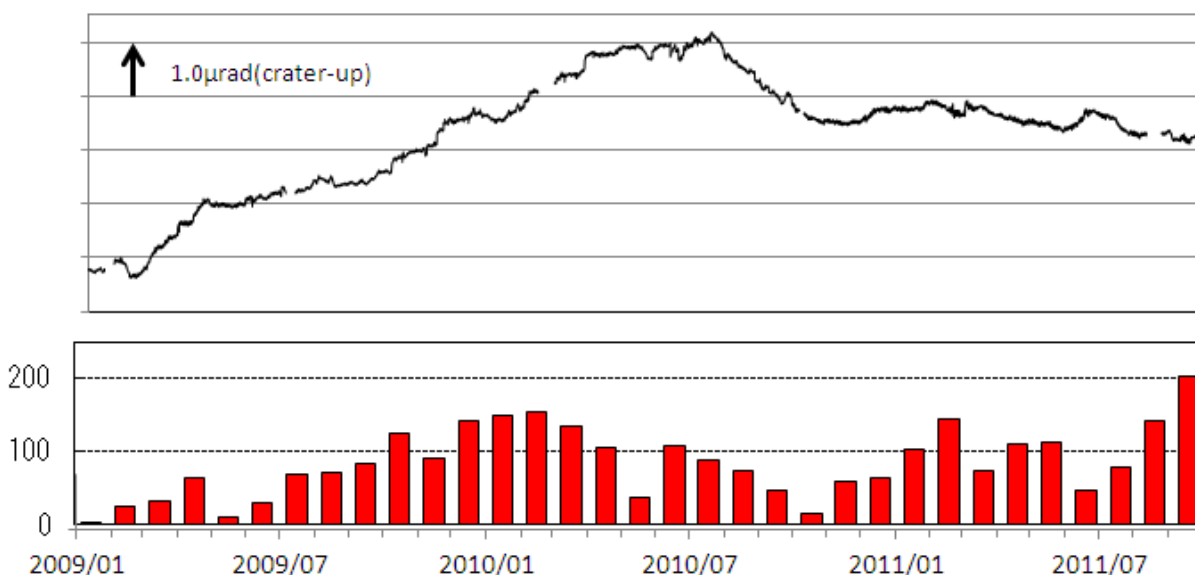


Fig4. Tilt change observed by water-tube tiltmeter at station Arimura from January 2009 to September 2011, eliminated tidal response and eruptions. Upheavals of the summit side correspond to positive tilts. In the bottom figure, red bars denote monthly frequencies of explosions of the Showa-Crater.

Satsuma-Iojima [Alert Level : 2]

Plume activity at Iodake summit crater remained above the background level. White-plume rose mostly to less than 500 meters above the crater rim in this period.

Seismic activity remained at the background level. Seismic events occurred 119 times (cf. 244 times; August 2011). No volcanic tremor occurred (cf. 0; August).

Suwanosejima [Alert Level : 2]

Two explosive eruptions on 9th and 12th September (cf. 0; August) occurred at Otake crater in this period, and small-scale eruptions were observed on 8th, 9th, 11th, and 12th September. Maximum plume height was 300m (cf. 400m; July) above the crater rim in this period.

According to Toshimamura village, ashfall was confirmed at the residential area at Suwanosejima (SSW 4km from the summit crater).

Weak volcanic glows were sometimes observed at the crater in the night with a high-sensitivity camera.

A temporal increase in seismicity was observed from 9th through 14th September, and became at a background level. Tremors intermittently mainly occurred from 9th through 14th September. Duration of tremors on September was 64h00m in total (cf. 15h23m; August), which was longer than previous period.