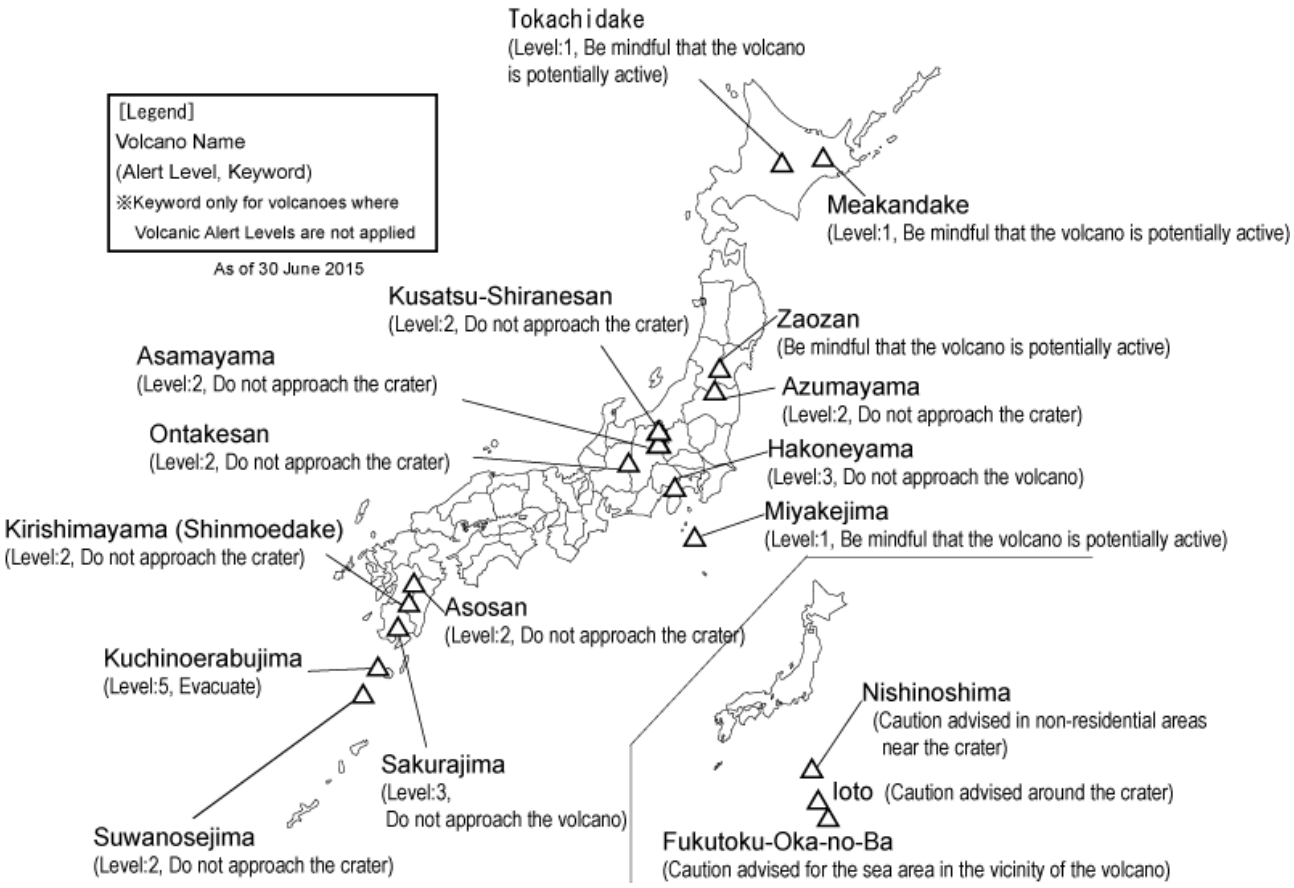
Monthly Volcanic Activity Report (June 2015)

Japan Meteorological Agency



Meakandake (Alert Level: 1)

The number of small volcanic earthquakes in shallow parts under the area around the Ponmachineshiri crater has remained relatively high since April 2015, but volcanic seismicity has gradually declined since June.

Data from continuous observation of geomagnetic total intensity indicate that thermal activity under the area around the Ponmachineshiri 96-1 crater has increased since mid-March 2015.

Tokachidake (Alert Level: 1)

According to a field survey conducted from 15 to 18 June, thermal infrared data revealed an area of geothermal activity on the southern side of the 62-2 crater and at the Furikosawa fumaroles. This indicates a possible gradual increase in thermal activity in part of the area near the crater.

In recent years, expansion of the volcano in shallower parts, the quantity of plumes and the number of seismic events at the Taisho crater have increased, as has the occurrence of volcanic tremors and luminescence. Volcanic activity in the area has exhibited a long-term increasing trend.

Zaozan (Be mindful that the volcano is potentially active) ← Alert level downgrade from 2 to 1 on 16 June

The number of volcanic earthquakes estimated to be occurring under the area near Okama (a crater lake) had increased and volcanic activity had been at high levels since April 2015, but since late May, volcanic seismicity has been at low levels. No volcanic tremor has been recorded after 17 May. According to field surveys and aerial observations so far, no remarkable changes have been seen in or around Okama, in the Umanose Caldera or in the Maruyamasawa geothermal area, which is expected to become a crater after a future eruption.

As the possibility of an eruption is low, JMA issued a Forecast at 09:00 on 16 June and lowered the information

classification from Near-crater Warning (Caution advised around the crater) to Forecast (Be mindful that the volcano is potentially active).

Volcanic seismicity has relatively elevated since 17 June and began to fluctuate at relatively high levels with 21 and 24 seismic events recorded on 27 and 29 June, respectively.

Increase in volcanic seismicity and the number of volcanic tremors has been observed since 2013 and ground deformation indicating a slight expansion of the volcano has been observed since October 2014. Volcanic activity has thus remained at relatively high levels over a long period.

Azumayama (Alert Level: 2)

Volcanic seismicity immediately under an area near the Oana crater began to fluctuate at relatively high levels with 255 seismic events recorded (247 seismic events in May). No volcanic tremors have been recorded.

Fumarolic activity at the Oana crater has remained at relatively high levels.

According to data from a tiltmeter at Joudodaira station, ground deformation with a slow rising trend has remained on the western side (toward the crater) since April 2014.

Continuous GNSS* observation data has shown a slow change in the baseline related to an Issaikyouzan-Minamisanpuku Station (about 500 m north of the Oana crater), since around September 2014 indicating inflation around Issaikyouzan.

* GNSS (Global Navigation Satellite System) is a generic name for satellite positioning systems such as GPS.

Kusatsu-Shiranesan (Alert Level: 2)

Volcanic seismicity beneath Yugama (a crater lake) and its southern area has increased since early March 2014. It has remained at relatively low levels since 20 August of the same year but temporary increases have occasionally been seen since January 2015. A small-amplitude volcanic tremor lasting 2 minutes and 15 seconds occurred at around 19:13 on 28 June. This was the first volcanic tremor since 1 January 2013, when one lasting 2 minutes and 12 seconds was recorded. No remarkable changes in seismic activity or other data were seen before or after the tremor.

Data from ground deformation observation previously showed a trend of inflation around Yugama, but this has declined since around April 2015.

Thermal activity remains ongoing on the northeastern side and the northern wall of the Yugama crater and on the north-to-northeastern slope of the Mizugama crater. According to the Tokyo Institute of Technology, the composition of gas in a fumarolic area to the north and the chemical composition of water in the Yugama crater have also shown changes indicating increased volcanic activity. Geomagnetic total intensity variations, considered indicative of a temperature rise beneath Yugama, were seen in observation data from May 2014 onward but stopped around July.

Asamayama (Alert Level: 2) ← Alert level upgrade from 1 to 2 on 11 June

Imperceptible volcanic seismicity in very shallow parts immediately under the summit has remained at high levels since late April. Amounts of SO_2 emissions have rapidly increased at 1,700 tons a day on 11 June, while they were at 200 tons a day on 1 June and 500 tons a day on 8 June.

In recognition of the increase in volcanic activity and the possibility of a small eruption that would affect areas around the crater, JMA issued a Near-crater Warning at 15:30 on 11 June and raised the Volcanic Alert Level from 1 (Be mindful that the volcano is potentially active) to 2 (Do not approach the crater).

Thereafter, very small eruptions occurred at the summit crater on 16 and 19 June.

After 19 June, no eruption has occurred; however, volcanic activity has remained at high levels with large amount of volcanic gas emissions.

Ontakesan (Alert Level: 2) ← Alert level downgrade from 3 to 2 on 26 June

As volcanic activity has remained at low levels and no eruption has occurred since October 2014, the potential for eruptions on the scale of the one that occurred on 27 September 2014 is considered low.

Accordingly, JMA issued a Near-crater Warning at 17:00 on 26 June, lowered the Volcanic Alert Level from 3 (Do not approach the volcano) to 2 (Do not approach the crater) and reduced the area that generally requires

caution to within 1 km from the crater.

Despite low levels of ongoing plume activity and seismic activity, the potential for a sudden eruption smaller than the one that occurred on 27 September 2014 cannot be eliminated.

Hakoneyama (Alert Level: 3) ← Alert level upgrade from 2 to 3 on 30 June

A volcanic tremor lasting around 5 minutes occurred at 07:32 on 29 June, and fallout over an area up to about 1.2 km from the north to the northeast of Owakudani was observed at around 12:45 on the same day. In a subsequent survey, a new fumarole was discovered in Owakudani. A field survey conducted on 30 June revealed a mound of accumulated volcanic ash around the new fumarole, and volcanic ash fall was observed near Owakudani Station (Hakone Ropeway). In association with a very small eruption that occurred in Owakudani from the night of 29 to the next morning, JMA issued a Near-crater Warning at 12:30 on 30 June and raised the Volcanic Alert Level from 2 (Do not approach the crater) to 3 (Do not approach the volcano).

A small amount of volcanic ash found on a camera at around 05:00 on 1 July may have come from a very small eruption during the night between 30 June and 1 July. Air shocks intermittently observed from 16:00 on 29 June to 1 July may have occurred in association with eruptions.

A field survey conducted by the Hot Springs Research Institute of Kanagawa Prefecture and JMA on 2 July confirmed the continued violent emission of the white plume previously observed at the fumarole, whose diameter had grown to 20 m since the previous survey on 30 June. This fumarole is now classified as a crater due to its form and the fact that an eruption appears to have occurred there. Three new fumaroles were also found around the crater.

Miyakejima (Alert Level: 1) ← Alert level downgrade from 2 to 1 on 5 June

No eruptions have occurred since 22 January 2013. The rate of volcanic gas emission has exhibited a long-term declining trend. The daily total has remained below 500 tons since September 2013. Volcanic seismicity in shallow parts under the summit has generally remained at low levels and the potential for eruptions is considered low.

Based on this, JMA issued a Forecast at 14:00 on 5 June and lowered the Volcanic Alert Level from 2 (Do not approach the crater) to 1 (Be mindful that the volcano is potentially active).

Nishinoshima (Near-crater Warning)

A report from the Japan Coast Guard (JCG) and other institutions shows that lapilli pieces from eruptions and lava flow have continued to accumulate and the area of newly formed land has expanded.

Aerial observations conducted on 7, 12, 14 and 18 June by JCG revealed ongoing active eruptions at the 7th crater.

Lava from the northeastern slope of a pyroclastic cone at the 7th crater flowed southeastward over a fan-like area via the eastern side of the cone. Blueish-white volcanic gas was emitted from the lava outlet.

Very light-yellowish-green discolored water was seen along the coast with a width of 100 – 200 m.

The newly formed land measured around 1,980 m in the east-west direction and 2,090 m in the north-south direction, creating an area of around 2.70 km^2 (2.57 km^2 as of 20 May 2015).

No faults or cracks with the potential to generate tsunamis were seen on the island or on newly formed land.

Eruptions are estimated to continue at the crater on the newly formed land, and submarine eruptions may also occur around the island. A submarine eruption affecting the sea surface may scatter ballistic projectiles or generate a base surge spreading across the surface at a high speed. Related impacts may reach areas as far as around 2 km away.

Ioto (Near-crater Warning)

Volcanic seismicity has remained at relatively low levels. The results of continuous GNSS measurement showed a rising trend from around early December 2014 and the speed of the trend started to increase in around March 2015. No anomalies were observed in other data.

Steam was observed emitting up to 200 m at the highest from 18:18 to 18:22 on 20 June in Idogahama, the northwestern area on the island.

Fukutoku-Oka-no-Ba (Near-sea-area Warning)

According to aerial observations conducted by JCG, the Japan Maritime Self Defense Force (JMSDF) and JMA so far, discoloration and floating objects have frequently been identified in the water surrounding Fukutoku-Oka-no-Ba in recent years. These are considered to stem from volcanic activity. The latest submarine eruption occurred on 3 February 2010.

Asosan (Alert Level: 2)

No eruption was observed at the Nakadake No. 1 crater during this period.

Amplitudes of volcanic tremors fluctuated but generally remained large.

A field survey conducted on 10 June revealed a crater lake in part of the 141st pit. Thermal infrared observation indicated temperatures of up to 80°C in the lake, whose presence had not been observed since 8 July 2014. The lake was also seen thereafter, but on 29 June was found to have disappeared.

Kirishimayama (Shinmoedake) (Alert Level: 2)

Volcanic seismicity immediately under the Shinmoedake crater has remained at low levels.

According to GNSS observation data, ground deformation indicating deeper magma chamber inflation at several kilometers northwest of Shinmoedake has shown an extension since December 2013 but stopped around January 2015.

Sakurajima (Alert Level: 3)

Volcanic activity has remained at high levels with 64 explosive eruptions recorded at the Showa crater.

Five explosive eruptions occurred with ballistic projectiles reaching as far as the fourth station (800 to 1,300 m from the Showa crater).

Very small pyroclastic flow was generated accompanying the explosive eruptions at 11:25, 14:22 and 21:04 on 4 June that reached as far as about 400 m to the east of the Showa crater. The maximum plume height from an explosion at 12:33 on 1 June was 3,300 m above the crater rim.

A small eruption was observed at the Minamidake summit crater on 22 June and gray-white plumes rose as high as 200 m above the crater rim. This was the first very small eruption observed at the crater since 12 May.

Data from strainmeter observation on the island showed an ongoing trend indicating expansion of the volcano since 1 January 2015. Data from tiltmeter observation on the island revealed that the volcano had exhibited a slight rising trend since January 2015 but entered an almost-static state in March. According to continuous GNSS observation data, long-term extension of the baseline across the Aira Caldera (in the inner part of Kagoshima Bay) has been observed since January 2015 following the June 2013 onset of a static state.

Kuchinoerabujima (Alert Level: 5)

Volcanic activity has remained at high levels.

An eruption occurred at 12:17 on 18 June and lapilli pieces and volcanic ash associated with an eruption that occurred at 12:17 on 18 June were observed to the east of the island. Field surveys and inquiry surveys revealed volcanic ash fall in Yakushima Town, Nishinoomote City and Nakatane Town. Very small eruptions also occurred at 16:31 on 18 and at 09:43 on 19 June.

Aerial observation conducted on 20 June by JMA Mobile Observation Team (JMA-MOT) in collaboration with the Kyushu Regional Bureau, Ministry of Land, Infrastructure, Transport and Tourism revealed no traces of new pyroclastic flow around the Shindake crater or on the slopes of the volcano from the 18 June eruption. No remarkable changes were observed in the form of the Shindake crater, although its inside could not be observed due to a plume.

Data from observations conducted on 6, 20, 21 and 29 June by the University of Tokyo's Graduate School of Science, Kyoto University's Disaster Prevention Research Institute and JMA indicated that SO_2 emissions had remained significant at 800 – 1,700 tons a day (3,800 tons a day on 29 May immediately after the eruption).

The potential for eruptions on the same scale of the one that occurred on 29 May remains.

Suwanosejima (Alert Level: 2)

No eruption was observed at the Otake crater in June, but ongoing eruptions have occurred over a long period.