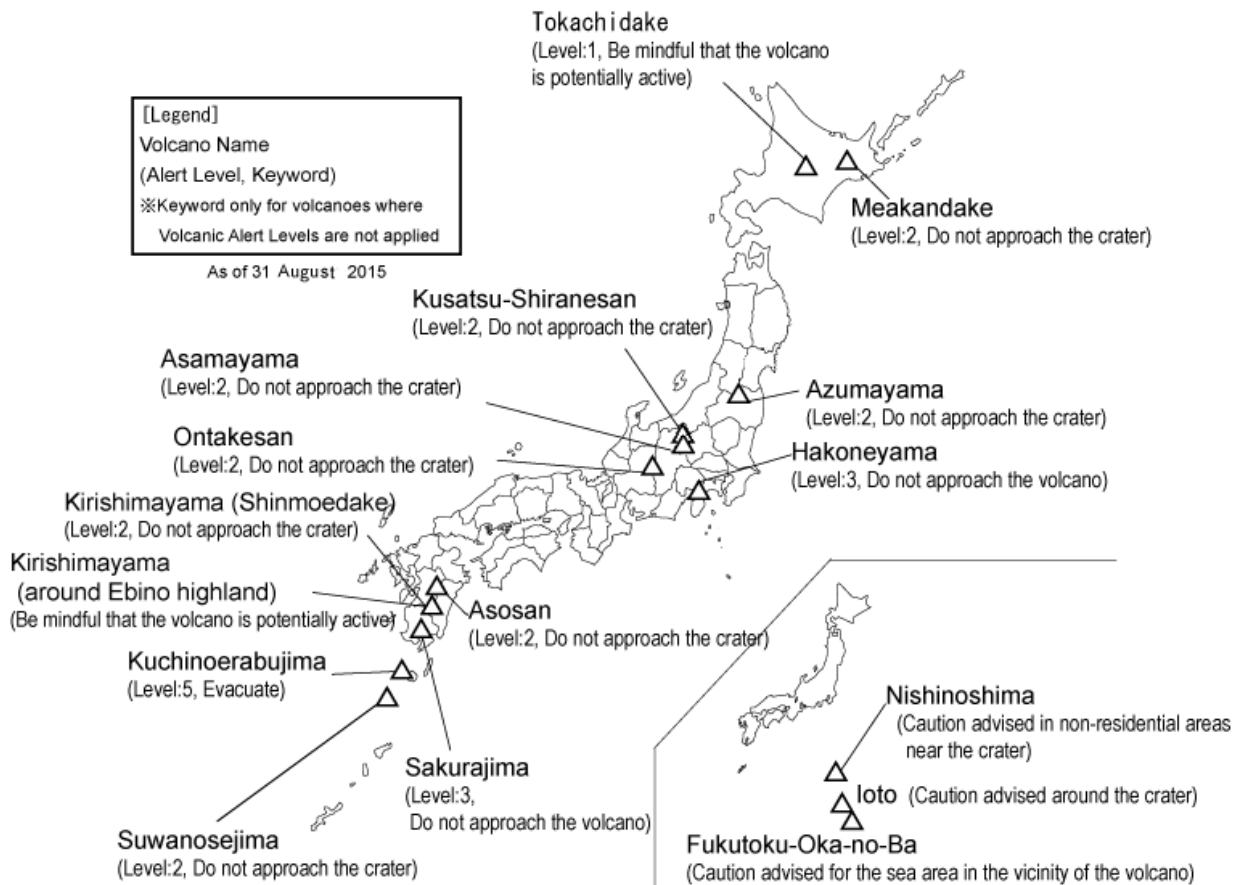


Monthly Volcanic Activity Report (August 2015)

Japan Meteorological Agency



Meakandake (Alert Level: 2)

Volcanic seismicity in shallow parts under the area around the Ponmachineshiri crater began to fluctuate at high levels in mid-April 2015. It began a general and gradual decline in August, although the number of volcanic earthquakes exceeded 100 on one day of the month. Nevertheless, volcanic seismicity remained relatively high as compared to the period before mid-April 2015.

Aerial observation conducted on 25 August in collaboration with the Hokkaido Regional Development Bureau of the Ministry of Land, Infrastructure, Transport and Tourism (MLIT/HRDB) revealed an almost identical extent of geothermal field at the Ponmachineshiri 3rd and 4th craters, where expansion was observed during observations on 27 July and 5 August. No remarkable changes have been seen at other craters.

The volume of plume emissions at the Ponmachineshiri 96-1 crater has been relatively high since around June 2015 based on visual observation as compared to the period since 2010.

Data from continuous observation of geomagnetic total intensity indicated an ongoing trend of increase in thermal activity under the area around the Ponmachineshiri 96-1 crater.

Tokachidake (Alert Level: 1)

According to a field survey conducted on 25 August, a geothermal field was seen at the Furikosawa fumaroles as previously observed during field surveys in June and July. The fumaroles continued to emit fumes with strong acidic odors. A line of fumes was also seen around the Maetokachi summit as previously observed during a July field survey.

Thermal activity in and around the 62-2 crater is considered to be on a continuous rising trend.

Continuous GNSS* observation data has shown ongoing changes indicating the inflation of shallow parts

immediately under the 62-2 crater since 2006. Changes indicating local deformation around Maetokachi Station near the crater have been observed since around May 2015, but the trend has declined since July. This local deformation is also observed in data from ground deformation observation conducted by the Advanced Land Observation Satellite (ALOS-2).

A baseline connecting Bougakudai, Okina Onsen and Yunotaki has exhibited slight expansion since around May. This indicates the possibility of slight inflation in areas deeper than those immediately under the 62-2 crater, which have shown inflation since 2006.

No signs of an immediate eruption have been seen. However, in recent years, expansion of the volcano in shallower parts, 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.

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

Azumayama (Alert Level: 2)

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

Volcanic seismicity immediately under the Oana crater began to fluctuate at relatively low levels with 44 seismic events recorded (154 seismic events in July). No volcanic tremors have been recorded.

According to a field survey conducted on 11 and 12 August, an area of geothermal activity in the Oana crater and weak fumes from some parts of the area were observed. A geothermal field that has been expanding since 2013 remained.

According to data from a tiltmeter at Joudodaira station, ground deformation with a slow rising trend had been seen on the western side (toward the crater) since April 2014 but stopped around July 2015. Continuous GNSS observation data had shown a slow change since around September 2014 indicating the inflation around Issaikyouzan, but it stopped around June 2015. Data from wide-area ground deformation observation by the Geospatial Information Authority of Japan (GSI) revealed a trend indicating that the volcano had been inflating along some parts of the baseline since around December 2014, but the trend stopped around July 2015.

According to the repeated geomagnetic total intensity observations around the Oana crater, geomagnetic total intensity at an observation point in the Oana crater has declined, but increased at an observation point to the north of the crater from October 2014 to August 2015. This indicates increased thermal activity beneath the area around the crater.

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 in January and February 2015. Data from ground deformation observation had shown a trend of inflation around Yugama since around April 2014, 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, composition of gas in a fumarolic area to the north and chemical composition of water in the Yugama crater have also shown the 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 2014.

Asamayama (Alert Level: 2)

No eruption has been recorded since the eruption on 19 June 2015.

Imperceptible volcanic seismicity in very shallow parts immediately under the summit has remained at high levels. Many of the earthquakes were low-frequency BL types. The number of short-period BH-type volcanic earthquakes increased in July but decreased in August. No migration of source locations to shallower parts or other changes have been seen.

Weak volcanic glows visible only at night with a high-sensitivity camera continued at the summit crater and the volume of plume emissions has shown an increasing trend since June.

Amounts of SO₂ emissions have also remained at high levels and volcanic activity has remained relatively at high levels.

According to continuous GNSS observation data, ground deformation indicating contraction of the volcano had been seen since autumn in 2009 but a slight extension has been observed along some parts of the baseline since around May 2015. Data from tiltmeter observation show that there has been a gradual change since around early June, indicating inflation in slightly deeper parts under the western side of the summit. This ongoing trend has slowed since late July. Data from electro-optical distance measurement show that there has been a trend of contraction between the summit and Oiwake since around June, reflecting the possibility of inflation in very shallow parts under the summit.

Ontakesan (Alert Level: 2)

Volcanic seismicity has remained at low levels, but has not yet returned to the levels observed before August 2014. A low-frequency earthquake was recorded on 17 August (two low-frequency earthquakes in July). No remarkable changes indicating increased volcanic activity were seen in observation data on plumes and ground deformation before, during and after the earthquake. No volcanic tremors have been recorded.

The potential for eruptions on the scale of the one that occurred on 27 September 2014 is considered low, as no eruptions have occurred since October 2014.

However, despite low levels of 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)

No eruptions were recorded but volcanic activity has remained at high levels.

Data from a field survey conducted on 6 August indicate the ejection of material considered to be dark-gray soil in the 15-1 crater. The scale of this phenomenon was small, and the ejecta was not scattered outside the crater rim during the observation. Violent emissions of fumes and steam were observed as before at the 15-1 crater, the 15-2, 15-3 and 15-4 fumaroles and the nearby Owakudani hot spring supply facilities. No changes were seen in the size and form of the 15-1 crater. Thermal infrared observation showed a high-temperature area on the eastern side of the 15-1 crater as before. Despite the presence of new fumaroles not observed in previous field surveys, no remarkable changes have been seen in the overall situation at Owakudani (including amounts of fumes and steam) compared with the results of the previous field survey conducted on 21 July.

Volcanic seismicity has declined and remained at relatively low levels since July. A seismic event with a seismic intensity of 1 on the JMA scale was recorded on 17 August in the Yumoto area of Hakone Town. It was the first time to record a seismic event with a seismic intensity of 1 or greater on the JMA scale since 3 July. No low-frequency earthquakes and volcanic tremors have been recorded.

Data from continuous GNSS measurement conducted by GSI show that there has been ground deformation indicating inflation of the volcano along baselines around Hakoneyama since April 2015, but the trend has declined since around late August.

Nishinoshima (Near-crater Warning)

Reports from the Japan Coast Guard (JCG) and other institutions show that accumulation of lapilli pieces due to eruptions and lava flow have continued, and that the area of newly formed land has expanded.

Aerial observations were conducted on 19 and 23 August by JCG. Aerial observation conducted on 19 August revealed the continued emission of blueish-white-to-white volcanic gas at the rim of the 7th crater and a fumarole on the northeastern slope of a pyroclastic cone where white-to-yellow volcanic sublimate was distributed widely. Lava flowed northward and east-northeastward from the northeastern slope of a pyroclastic cone as well as eastward and southward through a lava tube. Some of the lava reached the coast. The newly formed land measured around 1,980 m in the east-west direction and 1,970 m in the north-south direction, creating an area of around 2.71 km². The area of land coverage was the same as that observed in the previous observation (1,980 m in the east-west direction, 2,090 m in the north-south direction and 2.70 km² as of 18 June 2015) in the east-west direction, but that in the north-south direction was 120 m shorter. The land has expanded in the east-southeastern area due to a lava flow, but coastline recession was observed in general. This is considered attributable to erosion by wind-driven waves, and was especially remarkable on the southern side. Aerial observation conducted on 23 August revealed the continued emission of blueish-white-to-white volcanic gas at the rim of the 7th crater and

fumaroles on the western, southeastern and northeastern slope of a pyroclastic cone where white-to-yellow volcanic sublimate was distributed widely.

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)

Very small eruptions were recorded intermittently on 7 August near the coast on the northern side of Kitano-hana Island. 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.

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

Data from aerial observations conducted in collaboration with the Japan Maritime Self Defense Force (JMSDF) indicated discoloration. 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)

A very small eruption occurred at 12:14 on 8 August at the Nakadake No.1 crater and grayish plumes rose as high as 600 m above the crater rim. It was the first time to observe an eruption at Asosan since 21 May 2015. A field survey conducted immediately after an eruption on 8 August revealed slight ash fall on the southern side of the Nakadake No. 1 crater.

Field surveys conducted on the southern and southwestern sides of the crater rim during this period revealed white plumes at the 141st pit in the Nakadake No. 1 crater and a crater lake in part of the 141st pit. Very small blowouts of sediment have been observed in the crater lake. Thermal infrared observation indicated high crater lake temperatures of around 80 – 90°C. A high-temperature fumarole (around 600°C) was seen to the southwest of the 141st pit. The temperature in the area of thermal anomaly on the southern wall of the fumarole was as high as around 300°C.

Amounts of SO₂ emissions have been large at 1,100 – 1,700 tons a day (1,200 – 1,800 tons a day in July).

Amplitudes of volcanic tremors have been generally small except on 26 August when the amplitudes increased temporarily. The number of isolated volcanic tremors has remained generally large. Volcanic earthquakes occasionally occurred.

Kirishimayama (Shinmoedake) (Alert Level: 2)

Volcanic earthquakes occasionally occurred immediately under the Shinmoedake crater.

According to GNSS observation data, a slight extension has been observed along some baselines around Shinmoedake since around May 2015. In addition, 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.

Kirishimayama (around Ebino highland) (Be mindful that the volcano is potentially active)

A volcanic tremor occurred at 01:02 on 2 September that lasted around 3 minutes. Six volcanic earthquakes occurred on 2 September.

According to a field survey conducted on 2 September, no fumes were seen at or around Ioyama.

According to GNSS observation data, a slight extension has been observed along some baselines around Ebino highland since around May 2015.

Sakurajima (Alert Level: 3) ← Alert level upgrade from 3 to 4 on 15 August and downgrade to 3 on 1 September

Volcanic earthquakes occurring immediately under Minamidake were recorded frequently from around 07:00 on 15 August. Data from tiltmeter and strainmeter observation on the island showed rapid ground deformation

indicating the expansion of the volcano. Accordingly, JMA issued a Warning at 10:15 on 15 August and raised the Volcanic Alert Level from 3 (Do not approach the volcano) to 4 (Prepare to evacuate).

Volcanic seismicity immediately under Minamidake began to rapidly decline on 16 August, and has remained around the same level as that observed during a period of ongoing eruption activity from January 2015 onward. No rising trend has been seen in data from tiltmeter and satellite observations since 17 August. These observations suggest that the rise of magma intruding under Minamidake to shallower parts has stopped, and that no new magma has intruded from deeper parts.

Very small eruptions recorded since 19 August are considered to be a continuation of the previous eruption activity.

As volcanic activity has returned to the levels observed before the alert level was upgraded, JMA issued a Near-crater Warning at 16:00 on 1 September and lowered the Volcanic Alert Level from 4 (Prepare to evacuate) to 3 (Do not approach the volcano).

Kuchinoerabujima (Alert Level: 5)

Volcanic activity has remained at high levels.

No eruption has been observed after the very small eruption on 19 June.

Volcanic seismicity remained at high levels from 1 to 3 August and from 6 to 11 August. No volcanic tremor has been recorded.

According to data from observations conducted on 3 and 22 August by the University of Tokyo's Graduate School of Science, Kyoto University's Disaster Prevention Research Institute and JMA, amounts of SO₂ emissions have remained relatively small at 200 – 300 tons a day (500 – 700 tons a day in July).

Suwanosejima (Alert Level: 2)

Small eruptions occasionally occurred at the Otake crater and grayish plumes accompanying the eruption rose as high as 1,200 m above the crater rim (1,300 m in July). No explosive eruption occurred.

Volcanic glows were observed at the Otake crater occasionally at night with a high-sensitivity camera.

According to the Suwanosejima branch of the Toshima Village administration, ash fall was observed in the village (located around 4 km SSW of Otake) on 1, 2 and 9 August.