

Eruptive activities of Kuchierabujima volcano after 2018 ~part 2~

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At the Kuchinoerabu-jima volcano, the eruption since 1980 occurred at the Shindake crater in 2014, and has been repeated in 2015, 2018 and 2019. At the Volcanological Society of Japan in September 2019, we reported eruptive activities from 2018 to 2019 based on the knowledge obtained from the observation data of JMA and several research institutes. After the report, Kuchinoerabu-jima Volcano erupted again on January 11, 2020, and volcanic tremors with a tilt change suggesting volume expansion occurred on February 11. At present, active volcanic activity continues. In this presentation, we will add the characteristics of volcanic activity after October 2019, and report the progress of eruptive activity in 2020 and the characteristics of volcanic activity recorded during the process of eruption.

After the eruption in February 2019, all observation data showed a tendency to decrease activity. However, in the GNSS observation, the distance between the observation points across Shindake changed from shrinking to stagnation around September, and SO₂ emission rates, which had fallen to about 100 ton/day, gradually increased from around October. Although the seismic activity did not clearly increase, the epicenter of the observed volcanic earthquake began to shift slightly southward (near Furudake) from around October. In January 2020, SO₂ emission rates exceeded 1,000 ton/day, and on January 11, an eruption occurred with an eruption column exceeding 3000 m above sea level. On February 3, an eruption with an eruption column over 6000 m above sea level and a pyroclastic flow occurred, and the volcanic activity became more active. After this eruption, almost at the same time as the seismic activity increased, SO₂ emission rates temporarily decreased. This phenomenon often occurred before the medium-scale eruption, but this time Kuchierabu-jima did not erupt. But, volcanic tremors occurred on February 11 with a tilt change suggesting that the shallow part of the crater would expand. At Kuchinoerabu-jima volcano, it is the first time that a change suggesting expansion has been observed with a tiltmeter, so we are now more cautious about changes in volcanic activity.

Keywords: Volcanic activity, eruption