

signals likely to be excited by submarine volcanic activity around Tori-shima in the Izu-Bonin islands arc on 8th October 2023.

Friday, 8 November 2024 09:30 (25 minutes)

Last autumn, small-scale events have occurred near Tori-shima, in the Izu-Bonin Islands arc, located about 600 km south of Tokyo. At least 14 T-phases were observed at seismic stations around Tori-shima between 19:00 and 21:30 UTC on 8th October 2023. These T-phases were estimated to have been caused by the events whose hypocenters were determined by the US Geological Survey to be near Sofu-gan, which is a rock reef and locates near Tori-shima. Since floating pumices were found near the epicenters later, it is thought that some kind of volcanic activity may have occurred under the sea.

After T-phases were observed, infrasonic signals were detected at I30JP. As a result of array analysis, these signals were estimated to have come from the direction of the events. Furthermore, as in the T-phase, infrasound signals were observed at intervals of several minutes, so it is considered that infrasound were excited by the events that was the source of the T-phases. In addition, the estimated arrival time of signals at I30JP based on the ray tracing is consistent with observed data.

Thus, it is considered that infrasonic signals observed at I30JP are likely to be caused by a series of events near Tori-shima.

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