

Three-year seismic observation by hydrophone floats

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An international joint seismic observation project using autonomous float instrument (MERMAID) started from 2018. More than 50 MERMAID instruments were deployed in the south Pacific to study the mantle beneath the South Pacific Superswell, broad seafloor anomalously elevated and concatenated by several volcanic island (hot spot) chain. The MERMAID is an autonomous robotic float equipped with a hydrophone and drifts passively at 1,500–2,000 m depth until an earthquake signal is detected. 9 Japanese MERMAIDs out of them were deployed in the winter and summer of 2019. We will report on the current data set and show that these signals are of sufficient quality for high-resolution tomographic inversion.

Additionally, we launched two MERMAIDs to observe the seismic signals from submarine volcano in the Bonin region in December, 2020. We will discuss the availability of the MERMAID to monitor seafloor volcano activities.

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