

## Distributions of hydrothermal plumes around Suiyo seamount, Izu-Bonin arc

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We conducted a survey of water-column hydrothermal plumes in and around Suiyo seamount, Izu-Bonin arc. This seamount is one of the seamount on the Shichiyo seamount chain that consists the volcanic front at the middle part of the Izu-Bonin arc. In 1991, a number of small sulfide chimneys venting hydrothermal fluid were discovered on the floor of the caldera (ca. 2 km diameter) located on the top part of the western peak of the seamount. It turns out that an active hydrothermal field with high-temperature fluid (maximum 315 C) is distributed within an area of about 300 m by 150 m in a NNW-SSE direction at the depth of ca. 1,370 m through more than subsequent 50 dive surveys by Shinkai 2000 until present. Our present surveys include measurements of light attenuation in water column. We detected strong light attenuation anomalies not only on the water columns within the caldera, but also on those at outsides of the caldera at the depth of ca. 1,100 -1,150 m, the sill depth of the caldera wall. While the magnitudes and distributions of the anomalies show little variation within the caldera, those of the plumes located on the outsides show large temporal variation. The hydrothermal plume emission from inside to outside of the caldera seems to occur episodically in horizontal direction. This research is funded by Ministry of Education, Science & Technology through Special Coordination Fund ARCHAEOAN PARK project.