

Variation of bottom-water temperatures observed at Suiyo-seamount hydrothermal site

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During the NT01-08 cruise using R/V Natsushima and submersible Shinkai 6500, we deployed and recovered various monitoring instruments in the hydrothermal area in the Suiyo Seamount, Izu-Bonin arc region.

Temperature monitoring was carried out using several instruments located in and near the hydrothermal site. All temperature record showed tidally correlated fluctuations. They can be categorized into four patterns: (1) all periodical variations have negative polarities, (2) all periodical variations have positive polarities, (3) some have positive polarities, whereas others have negative polarities, and (4) some have abrupt temperature increase followed by abrupt decrease. All these variations can be explained by the movement of bottom water induced by tidal pressure variations.

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