A long-term observation on a environment of hydrothermal field at the Southern East Pacific Rise

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In order to understand the variability of hydrothermal activity, we developed stationary deep seafloor observatory, called 'Manatee'. Manatee basically consist of a deep sea still camera and strobe, current meter, CTD, nephelometer and 8mm underwater video camera system. The purpose of observation of Manatees are to monitor a temporal variation of environment around hydrothermal active area. The Manatee was deployed at RM23 (17-34'S, 113-15'W) for ten-days period and RM24 (17-25'S, 113-12'W), RM28 (18-26'S, 113-23'W) for one-year period.

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The purpose of observation of Manatees are to monitor a temporal variation of environment around hydrothermal active area. The Manatee was deployed at RM23 for ten days at a biological community within a low-temperature hydrothermal field (17-34'S, 113-15'W). After the 10-days observation, two sets of Manatees were deployed at RM24 of a low-temperature hydrothermal field (17-25'S, 113-12'W) and RM28 of a high-temperature hydrothermal field (18-26'S, 113-23'W). Manatees were recovered on September, 1998 after one year - observation period during the MOAI '98 cruise by R/V Atlantis.

The semi-diurnal change were recorded in currents and temperature data of Manatees at all sites. At the high-temperature hydrothermal venting area at RM28, still camera & strobe system had been leaked. Current data and temperature data and hydrophone data were obtained. Upper current, temperature, pressure and conductivity data are obtained an Aanderaa current meter. At a low-temperature hydrothermal field at RM24, the 8mm underwater video camera system takes change of hydrothermal activity for 9 months. It was recorded for 25 seconds every day. Still pictures were also obtained every 12 hours. These data suggested that there are some high hydrothermal activity during observation period at RM24.