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Abstract

In order to evaluate the impact of sequestration of CO₂ in the ocean to the deep-sea benthic community, in situ experiment using a free fall type of benthic chamber system was carried out in Kumano trough at a depth of 2,000 m. The exposure concentrations of CO₂ averaged 5,000 μatm and 2,000 μatm for the two exposure chambers and an intact chamber as a control has prepared. The number of foraminifera declined in the chamber of 5,000 μatm pCO₂ compared with the control. On the other hand, biomass of each taxa in the chamber of 2,000 μatm pCO₂ was not changed. These results suggest that the threshold concentration of the acute effect of CO₂ for the benthic community is recognized between 2,000 and 5000 μatm.