

# Microbial diversity and the sulfur circulation systems at the deep-sea cold seep environment around Japan.

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Japan is located at a just center of the four huge plates, North American Plate, Eurasia Plate, Philippine Plate, and Pacific Plate, thus there is one of most active earth quakes area in the world because of those plates tectonics. The cold seep activities have been observed around the plate boundary regions at the deep-sea bottoms, through the faults caused by the geological movement. There are many of chemosynthetic biological communities, like Calyptogenia, tube worms, and/or the bacterial mats, particularly identified at the cold seep area. At the cold seep environments, the methanogenic archaea and the sulfate reducing microbial consortium formed by anoxic methane oxidizing archaea and sulfate reducing bacteria are existing there, and consist to the sulfur circulation systems. We have performed to analysis of the microbial diversity at the cold seep environments around Japan, Japan Trench, Sagami Bay, and North-East Japan Sea. The results suggested that a particular microbial community would be identified at the environments. In this report, we would like to present the conclusion of our former studies which involved microbial diversity at the cold seep, and future discussion.