Scope for long-term chemical observation of hydrothermal systems and cold seepage using drilled holes

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It is expected that time-series monitoring of chemical characteristics of pore fluids should give us much information on various dynamic processes at plate boundaries (mid-oceanic ridges and subduction zones). Recent progress of in-situ chemical analysis is worth noting. We have developed an in situ Mn analyzer GAMOS for the purpose of detailed mapping of hydrothermal plumes. In order to apply this technique for pore fluid monitoring using ODP drilled holes, we will pursue possibilities to transfer pore fluids from drilled holes to an in situ analyzer which is properly designed for long term deployment on deep sea bottom.