

Part 3: Study on Assessment Scenarios of Sea-level Change effected on Groundwater Flow System in Coastal Sedimentary rocks area

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It is important to evaluate effects on the groundwater flow system by the natural phenomena in the safety assessment of geological disposal of radioactive waste. Safety assessment is performed by using safety assessment methods, thus it is necessary to establish reasonable scenarios for safety assessment.

In this report, we study change effecting on the groundwater flow system by literature reviews. The scenario of sea level change is expected to have a importance for a safety of disposal facility in coastal area.

This study suggests that the non-current paleo-fresh water at present is possible to move to discharged area at sea floor in the next glacial period by denudation of marine-clay sediments and to become stagnant water again in the next interglacial period by deposition of marine-clay sediments in coastal region. Therefore it is important to predict the scenario considering the denudation and deposition correlated with transgression and regression that could affect the change of groundwater flow velocity, groundwater flow path and groundwater chemical characteristics during the glacial and interglacial period.