

Spatial distribution of radon ($^{222}\text{-Rn}$) and radium ($^{226}\text{-Ra}$, ^{228}Ra) in the coastal seawater of Seto Inland Sea and its con

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Previous studies have revealed that submarine groundwater discharge (SGD) is one of the important pathways for nutrients and the other dissolved materials from terrestrial area to the marine environment. For the evaluation of the effect of SGD, the timescale of nutrient transport in the coastal area derived by SGD such as residence time is important as well as nutrient flux by SGD. Radioactive isotopes of radon ($^{222}\text{-Rn}$) and radium ($^{226}\text{-Rn}$, $^{228}\text{-Ra}$) are one of the useful tracers for the evaluation of SGD and residence time of water mass in the coastal area. The objective of the study is to examine the spatial variation of $^{222}\text{-Rn}$ and $^{226}\text{-Rn}$, $^{228}\text{-Ra}$ in the coastal seawater of the central part of Seto Inland Sea and its controlling factors. The study area is southwestern part of the Hiuchi-Nada with the area of approximately $30\text{ km} \times 13\text{ km}$. Relatively high concentrations of $^{222}\text{-Rn}$, $^{226}\text{-Rn}$ and $^{228}\text{-Ra}$ were detected in the southern part of the study area. These results suggest the effect of SGD from seafloor.

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