

Evaluation of groundwater discharge in a seagrass meadow of coastal area

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Previous studies have pointed that submarine groundwater discharge (SGD) is one of the important pathways for nutrients to the coastal environment. Nevertheless, its effect on coastal ecosystems such as seagrass meadows is not well examined. In the present study, we aimed to evaluate the groundwater discharge in a seagrass meadow of coastal Seto Inland Sea, western Japan.

In summer periods, the types of eelgrass and green algae covered from the coastline to about 100 m offshore in the study area. Distributions of salinity and radon (²²²Rn) in seawater and pore water suggest that SGD occurs near the coastline with spatial and temporal variations. The coverage of seagrass meadow tends to increase in the area characterized by lower salinity and higher concentrations of radon and nutrients in the pore water. It suggests the possibility of that SGD effects on the seagrass meadow in the study area.

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