

AHW018-P10

会場:コンベンションホール

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地下水指標となるトレーサーを用いた大河川流域における地下水流出推定と栄養塩動態の把握

Estimation of groundwater discharge to the river, using ^{222}Rn tracer and nutrient

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In this research, we aimed to estimate spatial variations in groundwater discharge and nutrient supply to the river from headwater to river mouth in the watershed of 860 km², using ^{222}Rn tracer and nutrient. The study area is located on the Asida River watershed flowing into Seto Inland Sea. In the watershed, there are three alluvial planes with the average altitude of 300m, 30 m, and 10m from the upstream to downstream, respectively. We collected samples of river at the interval of about 1km and groundwater at the 50 wells, respectively. Groundwater discharge at three alluvial planes is confirmed, based on ^{222}Rn and nutrient. The ^{222}Rn tracer is useful to determine groundwater discharge in the upstream area rather than in the downstream, because the ^{222}Rn of groundwater in the upstream was higher than that in downstream. On the other hand, phosphorus in groundwater is higher in the downstream than in upstream. The redox potential was lower and phosphorus was more soluble in groundwater of downstream. Consequently, phosphorus in river was higher in downstream. In addition, N/P ratio decrease from upstream to downstream.

キーワード:ラドン (^{222}Rn), 溶存無機リン, ケイ素, 地下水流出

Keywords: ^{222}Rn , Dissolved Inorganic Phosphorus, Silicon, groundwater discharge