

Seasonal variation of current field and distribution of nutrient in Bisan-Seto, Seto Inland Sea.

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The nutrient load from the land influences the nutrient concentration in enclosed coastal sea. On the other hand, even if the fishery damage that the nutrient state relates is caused, it is difficult to solve such problems, because extent where the nutrient load from the land influences the sea area water quality is not revealed yet. Then, in Bisan-Seto (central area of the Seto Inland Sea), a research project is started to clarify the behavior of the nutrient from the source (land) to coastal sea consistently. In this project, we are trying to specify the region where the possibility that the fishery damage occurs is high. And, by recycling underground water, we are aiming at technological development to decrease the nutrient concentration of the underground water at the farmland that is the nutrient source. This time, characteristics of nutrient distribution and seasonal variation of current field in Bisan-Seto are explained.

In order to clarify the characteristic nutrient distribution and seasonal variation of current field in Bisan-Seto, we analyze the water quality data observed by Kagawa Prefecture and Okayama Prefecture. And using these data, numerical model experiments are carried out to calculate water flow field. As a result, the following fact was clarified.

- 1)The stratification doesn't develop enough even in summer, because tidal current is strong.
- 2)The nutrient concentration is usually low, except near the shore.
- 3)The nutrient concentration reaches the maximum value in autumn, though the cause cannot be clarified.
- 4)Because the stratification doesn't develop in summer, the seasonal variation of residual current is not found except around river mouth.