

Coastal ocean processes responsible for radionuclide dispersion: A case study for Seto Inland Sea and Enshu-nada

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Results from four different numerical models of radiocesium dispersion are compared in terms of key physical processes responsible for the dispersion. Two regions are selected as typical oceanic conditions of coastal region around Japan. One is the Seto Inland Sea, which can be considered as a semi-closed basin connecting to the open ocean through several passages, and the other is Enshu-nada, where open ocean influences may directly affect coastal region. Results indicate that, in addition to tidal residual currents, local wind forcing and isolated cold water in the deeper layer affect surface flow pattern and radiocesium dispersion in the Seto Inland Sea. On the other hand, intrusion of Kuroshio and a narrow eastward flow along the coast play important role in dispersion processes in the Enshu-nada area.

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