

Analysis about the condition of sea water intrusion to Yodo River estuary by the fluid model

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Red tide of *Alexandrium tamarense* occurred in Yodo River estuary in recent years. *A. tamarense* is marine phytoplankton and causes shellfish poisoning. Sea water intrusion to Yodo River is one of the reasons of marine phytoplankton survive. We investigated the distribution of the sea water intrusion by in-situ observation, then reproduced it by the fluid model. Fluid structure of Yodo River estuary consists by the runoff of fresh water, the estuary circulation, the tidal current and the wind driven circulation. These had contributed at almost same rate to sea water ascension.

Keywords: Yodo River, sea water intrusion, Red tide, shellfish poison, fluid model