

Numerical simulation of the winter red tide of *Eucampia zodiacus* in the Harima-Nada

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A coastal region is closely linked human society, and it is very influenced by anthropogenic effects.

Especially, oligotrophic waters became a problem last few decade in Harima-Nada.

The oligotrophic waters in Harima-Nada is considered that related to changes of species composition of phytoplankton.

Here, the bloom of *Eucampia zodiacus* and distribution of DIN in Harima-Nada were calculated by used of the numerical simulation model.

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