

Storm Surges in the Western Part of the Seto Inland Sea Caused by the Typhoon 9119

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The 19th typhoon of 1991 caused remarkable storm surges of more than 3 meters with great inundations to the coasts in the western part of the Seto Inland Sea. We assumed the wind in the typhoon area by the model of Miyazaki's and made numerical simulations for several cases with changing drag coefficient, and we obtained the best fit result for the case of $C_d=3.5 \times 10^{-3}$.

We also found out that after passing over the typhoon, proper oscillations trapped in Seto Inland Sea were left for more than ten hours by which some coastal towns suffered from the sea water inundation. We analytically obtained the proper oscillations by solving an eight-value problem, and identified the observed modes to the theoretically obtained modes. It was clarified that induced oscillation modes were such ones that no water exchange was accompanied between the inland sea and the open ocean.

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