

EGU2020-15049

<https://doi.org/10.5194/egusphere-egu2020-15049>

EGU General Assembly 2020

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## Verification of the Storm surge Forecasting System for the Korean Coastal Area

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In recent years, coastal disasters have been frequently caused by typhoons and storm surges accompanied by high waves due to global warming and the changing marine environment. In addition, the development of coastal areas in Korea has also led to suffering great damage to society every year.

To cope with this issue, we have developed a new storm-surge prediction system based on the NEMO model for improving the predictability both the tide and the surge. This new regional tide-surge prediction system (RTSM) is constructed with a two-dimensional barotropic sigma coordinates and has a 1/12 degrees horizontal resolution. To find optimal coefficients of this model, several sensitivity experiments were conducted and verified with tide gauge measurements from the KHOA (Korea Hydrographic and Oceanographic Agency). Finally, we selected a bathymetry from SRTM (Shuttle Radar Topography Mission), Charnock coefficient as a constant value of 0.275 and the reference pressure for the inverse barometric effect as the domain mean. As the result of comparing surge-height predictions with the currently operating model (OPER-RTSM), the new system (RTSM) showed roughly 30% higher in forecast accuracy than the previous OPER-RTSM.

**How to cite:** La, N., An, B. W., Kang, K., Oh, S. M., and Kim, Y.: Verification of the Storm surge Forecasting System for the Korean Coastal Area, EGU General Assembly 2020, Online, 4–8 May 2020, EGU2020-15049, <https://doi.org/10.5194/egusphere-egu2020-15049>, 2020