

An Advancement of the Korean Typhoon Pre-disaster Prevention Model for Improving the Prediction Accuracy of 3-second Gust and the Damage Cost During the Typhoon Period

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Recently, the frequency and intensity of typhoons affecting the Korean Peninsula has increased, causing enormous damage. Typhoon pre-disaster prevention model is that calculates the maximum instantaneous wind speed of 3-second GUST and the amount of damage that can occur when a typhoon is attacked, and it is the most important to improve the accuracy of 3-second GUST and damage. Therefore, in this work, we conduct a study on improving the prediction accuracy of typhoon pre-disaster prevention model through application of high-resolution data in time and space and analyzing Weather Research and Forecasting (WRF) sensitivity. By replacing inputs from Regional Data Assimilation Prediction System (RDAPS) to WRF and producing high-resolution data onto both time and space, and by analyzing the sensitivity of WRF's high-resolution sea surface temperature data, data assimilation, weather input data, and soil data. In addition, the grid system, which calculated the amount of damage to the existing RDAPS (30 km/12 km), was classified into the WRF (3 km) grid system and improving and supplementing the model to calculate more specific and accurate damage. Through this study, it is believed that the accuracy of typhoon pre-disaster prevention model will be evaluated, and the damage caused by typhoons will be reduced efficiently in the future.

This work was supported by the National Research Foundation of Korea (NRF) grant funded by the Korea government (MSIT) (No. 2020R1F1A1068738)

Keywords: Typhoon, 3-second GUST, Damage cost