

A Study on Typhoon Protection Systems : Typhoone Case Studies

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For approximately 110 years, from 1904 (when meteorological observation began in Korea) to 2016, the top five highest wind speeds and the greatest property damage caused by typhoons were all attributable to typhoons that occurred after 2000. This record indicates the strength of typhoons affecting the Korean peninsula has increased as time has progressed. Among the many typhoons to hit the peninsula, Typhoons Rusa, Maemi, and Bolaven caused the most considerable damage in Korea. Many previous studies have examined the severe rainstorms caused by these typhoons. This study uses RAM to asses typhoons Rusa, Maemi, and Bolaven to build an applicable system for typhoon protection to minimize future damage. The highest wind speeds, corresponding to the “very strong” classification by the Korea Meteorological Administration, were observed approximately 1% of the time in typhoon Rusa and Maemi, but as much as 25% of the time in Bolaven, reaching as high as 24.6%. While passing through the Yeongnam district, Maemi showed higher wind speed along the coast of the district and the East Coast, while Bolaven showed higher wind speed as it went northward along the West Coast. As such, the distribution of highest wind speeds varied depending on the strength and route of the typhoons. Awareness and usage of such information as baseline data to build a typhoon protection system will be highly effective to minimize future damage by typhoons.

This research was supported by Basic Science Research Program through the National Research Foundation of Korea(NRF) funded by the Ministry of Education(2017R1D1A3B03036152)

Keywords: Typhoon, Damage, RAM