Maximum Wind Speed Radius Formula That Can Be Used for Typhoons Affecting the Korean Peninsula –Evaluation of the Pilot Study-

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Radius of Maximum Wind speed (RMW) of a typhoon refers to an area where stronger wind speeds occur and is very important and useful information in terms of disaster prevention. Therefore, it is very important to forecast a reasonable and accurate RMW. Regional Specialized Meteorological Center (RSMC) provides long and short radius for 15 m/s and 25 m/s, while the Joint Typhoon Warning Center (JTWC) provides wind radius for 35, 50, 60, and 100 kts. Korea Meteorological Administration (KMA) provides a strong wind radius of more than 15 m/s and a storm radius of more than 25 m/s as information for typhoons since May 15, 2020. This study analyzed the strong wind radius provided by KMA, JTWC, and RSMC, and then applied the empirical formulas to calculate the maximum 3-second GUST around the Korean Peninsula during the typhoon period. As a result of the analysis, the maximum wind speed radius empirical formula suitable for the Korean Peninsula was adopted among the several formulas. If disaster prevention activities are carried out based on this, it is believed that damage from typhoons will be reduced more efficiently.

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