Comparison of Weighted, Selective, and Simple Mean Multi-model Consensus Methods for Typhoon Track Forecast

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We constructed three different consensus methods (weighted, selective, and simple mean multi-model consensus methods) and evaluated their performance to investigate their strength and weakness for typhoon track forecast. Data used for this study is 21 numerical models’ output and KMA (Korea Meteorological Administration) analyzed typhoon tracks in 2011-2013. We produced track forecasts for typhoons in 2013 using three methods. First, the weighted method was applied based on the regression coefficients from numerical model output in past 2 years. Second, errors of models’ 6-h prediction are calculated, and lower error models are selected for consensus in selective technique. Third one calculates simple mean prediction of the models which showed low forecast errors and high degree of independence between them in last typhoon season, instead of applying weighted and selective method. We will compare these consensus results and present which method is more useful in the cases of landfall typhoons.

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