

The Development of the Ensemble Based Typhoon Track Forecast Technique

Ling-Feng Hsiao¹, *CHIN-CHENG TSAI¹, Jia-Chyi Liou¹, Ming-En Hsieh¹, Der-Song Chen², Delia Yen-Chu Chen¹, Chou-Chun Chiang¹, Yu-Chun Chen¹, Tien-Chiang Yeh²

1. Taiwan Typhoon and Flood Research Institute, Taipei, Taiwan, 2. Central Weather Bureau, Taipei, Taiwan

The purpose of this study is effective in improving the ensemble technique for typhoon track forecasts using multi-model ensembles. The models from global (ECMWF, NCEP) and regional ensembles (CWB EPS, TTFRI EPS) were applied to develop the ensemble based technique. A selective ensemble technique is based on the 12-h typhoon track distance from the CWB (Taiwan's Central Weather Bureau) best-track for 2014-2015. The results show that the superior performance of ensemble based technique to all ensemble means by reducing 12.1%, 6%, 4.1% track errors of 24-, 48- and 72-h forecast, respectively. We also applied this technique for tropical cyclones forecast over the Western North Pacific Ocean in 2016. The detailed analyses on ensemble technique and individual ensemble models will be presented in the conference.