

The improvement of typhoon initialization in CWB WRF

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Abstract

There are two key components of typhoon simulation: a fine numerical model and a proper typhoon bogus scheme. The paper represents the skill of explicit forecasts of typhoon initialization using the Advanced Research WRF Model. In recent years, a typhoon relocation technique was successfully implemented in Global Forecast System (GFS) at NCEP and Nonhydrostatic Forecast System (NFS) at CWB. The typhoon relocation technique is based on the method of Kuhihara et al. (1995) with separating the vortex from the guess field. In order to improve the problem of false spinup of the vortex resulting from model inconsistency of the dynamics and physics, the model's vortex instead of the synthetic vortex bogused in the observed position. With the typhoon relocation method, large corrections to the first guess due to the position error be avoided and the analyzed typhoon circulation is much reasonable without twisted centers even with incremental update cycles. In this study, the typhoon relocation scheme is implanted to investigate the influence upon the forecast cases of typhoon warning of CWB in 2007. Figure 1 shows the simulated tracks of the effect on the typhoon relocation scheme of typhoon Korsa. The results will be detailed describe in the conference.

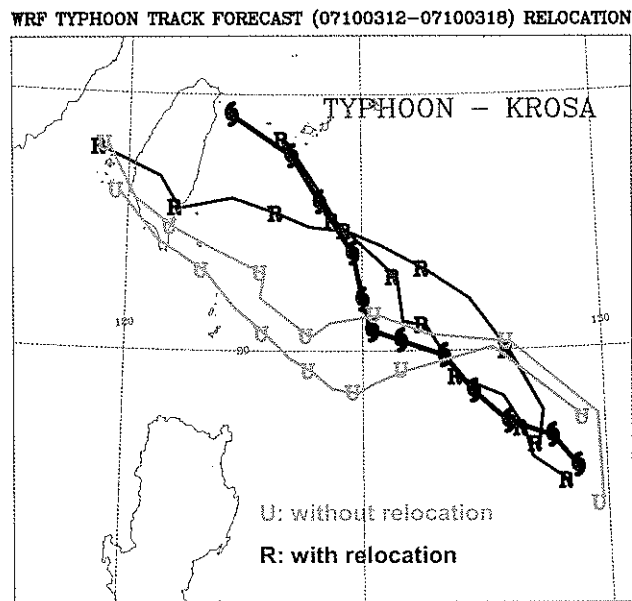


Figure 1. The WRF simulated tracks with (R) and without (U) typhoon relocation scheme of Typhoon Krosa. The observed track was shown with typhoon symbols.

