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The Impact of Improved Initial Fields on the Simulation of Typhoons Approaching to the Korean Peninsula

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The East Asia including the Korean Peninsula is one of the regions with having frequent influence of typhoon, leading to severe damages in life and property. Thus, the accuracy improvement of typhoon prediction has been an important tasks in Korea as well as in Other East Asian countries. Recently, the successful installation and operation of KLAPS (Korea Local Analysis and Prediction System) with a capability of high resolution analysis and prediction in Korea, provides an opportunity to make an experiment on initial field impact on the simulation of mesoscale severe weather systems. In this study, the KLAPS-based typhoon bogussing method is developed by applying the NCAR-AFWA method, which is introduced by Davis and Low-Nam (2001) and then its impact on the simulation of typhoons approaching to the Korean Peninsula is examines by using QuikSCAT data. An example showing the improved effect of initial surface pressure and wind field associated with typhoon through this developed bogussing method is given in Fig. 1.

Keywords: Typhoon, KLAPS, bogussing, NCAR-AFWA, QuikSCAT

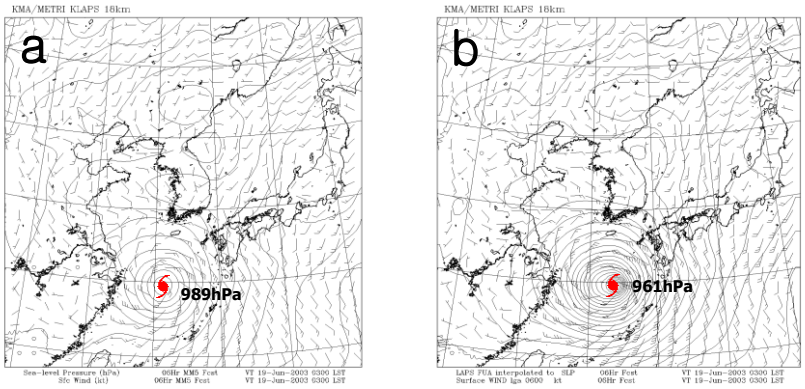

Figure 1. Horizontal fields of sea level pressure and surface wind at 1800 UTC June 19, 2003 before (a) and after (b) the application of the KLAPS-based typhoon bogussing method.

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