

Simulation of Typhoon Nari (2001) Using the Variational Bogus Data Assimilation Scheme

by

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Abstract

In this report, some preliminary results on simulation of Typhoon Nari (2001) will be presented. The Bogus Data Assimilation (BDA) scheme proposed by Zou and Xiao (2000) was applied to generate the initial structure of the Nari. The PSU/NCAR MM5 version 3 was used for both the data assimilation and simulation.

The 72-hour simulation for initial time on September 15, 2001, 18 UTC, revealed a multi-center breakdown as typhoon approaching Taiwan. The main center follows more like the JTWC best track, rather than the CWB, in the first 30 hours of simulation. On the other hand, one of the weaker centers, which shortly weakened to become a pressure trough, took the CWB course closely during the whole simulation. Some snap-shots of simulated sea-level pressure field qualitatively resembled the surface analyses shown by Hsieh and Wang (2001), and satellite visible imageries very well.

In addition, it is interesting to note that the simulation started on September 10, 2001, 00 UTC, displays a circling track similar to the true one.