A Sensitivity Study of Intensive Observational Data in the Analysis and Prediction of Wind and Thermodynamic Fields ahead of Typhoon

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Observation network over ocean is not enough for the understanding and prediction of meso-scale weather systems including typhoon and heavy rainfall. Without intensive observation of such weather systems, we are not able to improve its prediction and understanding on the structure and formation mechanisms. The intensive field-based experiment, called as KEOP(Korea Enhanced Observing Period)-2001 was performed by Meteorological Research Institute, Korea Meteorological Administration for producing intensive observation data over the southwest ocean off Jeju island from 23 September through 6 October 2001.

Prior to application studies of these observational data, the Korea Local Analysis and Prediction System (KLAPS) at METRI was adopted to integrate both of operational and experimental observation data so as to produce more comprehensive data set of the atmosphere. The assimilated data were employed to examine the model's sensitivity to the prediction of wind and thermodynamic fields ahead of Typhoon, LEKIMA using WRF (Weather Research and Forecasting). In this paper, the result of analysis and model study with intensive observational data from KEOP-2001 will be presented.

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