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Introduction of KMA Multi-Model Ensemble Prediction System

The global and ensemble models of ECMWF, UM(Unified Model), and KIM (Korean Integrated Model) were used to generate a multi-model ensemble prediction system. KIM is KMA's new generation model which is based on the cubed sphere grid system and has 12km horizontal resolution and 91 vertical levels.
The weights which were given inversely proportional to the error of each model were used to calculate the ensemble weighted mean field.
The ensemble weighted mean field showed better performance than any other member model. As increasing the ensemble member model, it was found that the accuracy of the ensemble mean was more improved.
The performance improvement effect of the multi-model ensemble was more significant in temperature, wind, and humidity fields than in 500 hPa height and mean sea level pressure.
The bias of the multi-model ensemble was close to the intermediate value between the maximum bias and the minimum bias of member models and was smallest when the deviations of the member models were evenly distributed without being biased in one direction.

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