

## 水平解像度 100m の NHM を用いた 30 秒サイクルデータ同化実験 30-second-update ensemble Kalman filter experiments using JMA-NHM at a 100-m resolution

国井 勝<sup>1\*</sup>; ルイズ フアン<sup>2</sup>; リエン グオユエン<sup>3</sup>; 牛尾 知雄<sup>4</sup>; 佐藤 晋介<sup>5</sup>; 別所 康太郎<sup>6</sup>; 瀬古 弘<sup>1</sup>; 三好 建正<sup>3</sup>

KUNII, Masaru<sup>1\*</sup>; RUIZ, Juan<sup>2</sup>; LIEN, Guo-yuan<sup>3</sup>; USHIO, Tomoo<sup>4</sup>; SATOH, Shinsuke<sup>5</sup>; BESSHO, Kotaro<sup>6</sup>; SEKO, Hiromu<sup>1</sup>; MIYOSHI, Takemasa<sup>3</sup>

<sup>1</sup> 気象研究所, <sup>2</sup> ブエノスアイレス大学, <sup>3</sup> 理化学研究所計算科学研究機構, <sup>4</sup> 大阪大学, <sup>5</sup> 情報通信研究機構, <sup>6</sup> 気象衛星センター

<sup>1</sup>Meteorological Research Institute, <sup>2</sup>University of Buenos Aires, <sup>3</sup>RIKEN Advanced Institute for Computational Science, <sup>4</sup>Osaka University, <sup>5</sup>National Institute of Information and Communications Technology, <sup>6</sup>Meteorological Satellite Center

Local severe rainstorms may cause serious damage such as flooding and landslide, but its precise simulation is difficult mainly due to limited spatial and temporal resolutions of numerical weather prediction (NWP). To tackle this challenge, a 100-m-resolution NWP system is designed, so that the forecasts are updated every 30 seconds by assimilating observational data from the phased array weather radars (PAWR) at Osaka and Kobe. In addition, the next-generation geostationary satellite Himawari-8 will have a 30-second scanning mode for a limited domain, and using the Himawari-8 data is within the scope. An observation operator and quality control algorithm are developed for PAWR, and data assimilation experiments using the Local Ensemble Transform Kalman Filter (LETKF) are performed for the local heavy rainfall case that caused a disaster in Kyoto on 13 July 2013. In this presentation, a brief introduction to the experiments and the results will be presented.

Keywords: data assimilation, ensemble Kalman filter, phased array weather radar