High-resolution global atmospheric data assimilation experiments with an ensemble Kalman filter

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Data **A**ssimilation **T**eam

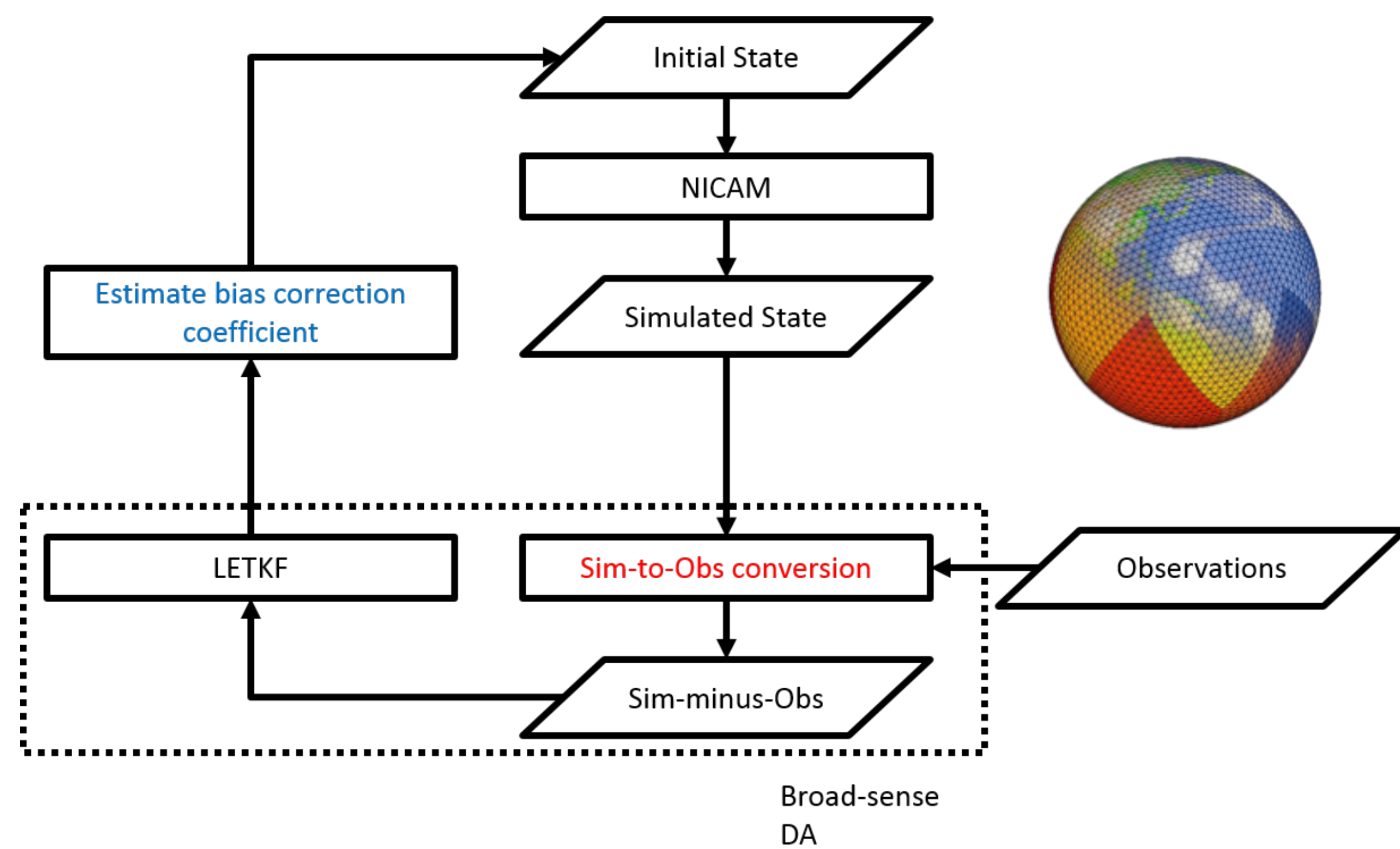京 K computer
Computer simulations create the future

1. Introduction

Terasaki et al. (2015) applied the LETKF to the nonhydrostatic icosahedral atmospheric model NICAM and assimilated real conventional observations.
Here we additionally assimilate the AMSU-A radiance and GSMaP data.

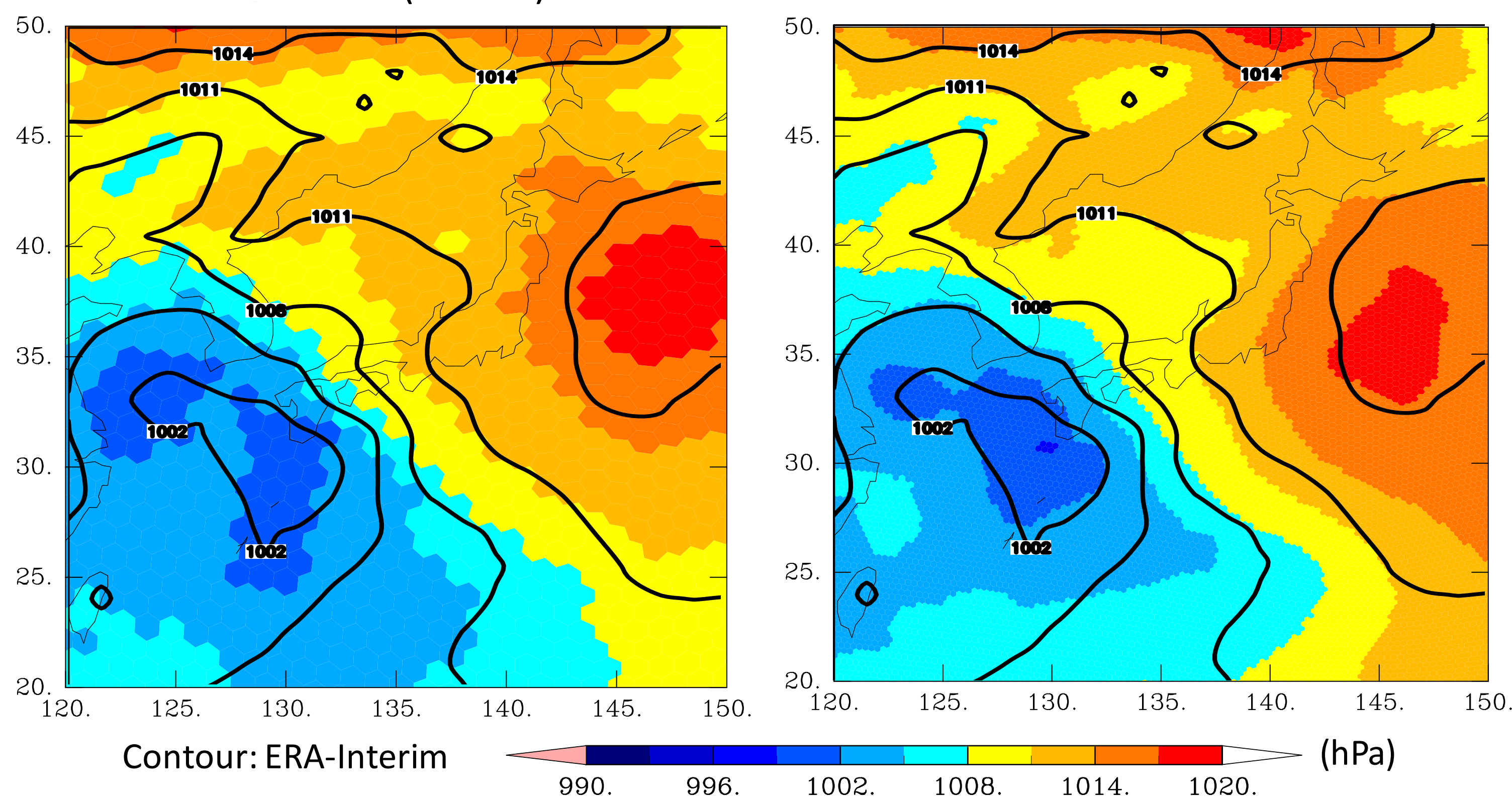### Flow-chart of NICAM-LETKF

2. List of the Experiments

	Resolution	PREPBUFR	AMSU-A	GSMaP	Period	Ensemble Size
①	GL8 (28km)	×	×	×	2014/06	
②	GL6 (112km)	×	×	×	2014/06~	
③	GL6 (112km)	×	×		2014/06, 07	100
④	GL6 (112km)	×		×	2014/06, 07	
⑤	GL6 (112km)	×			2014/06, 07	

3. Results
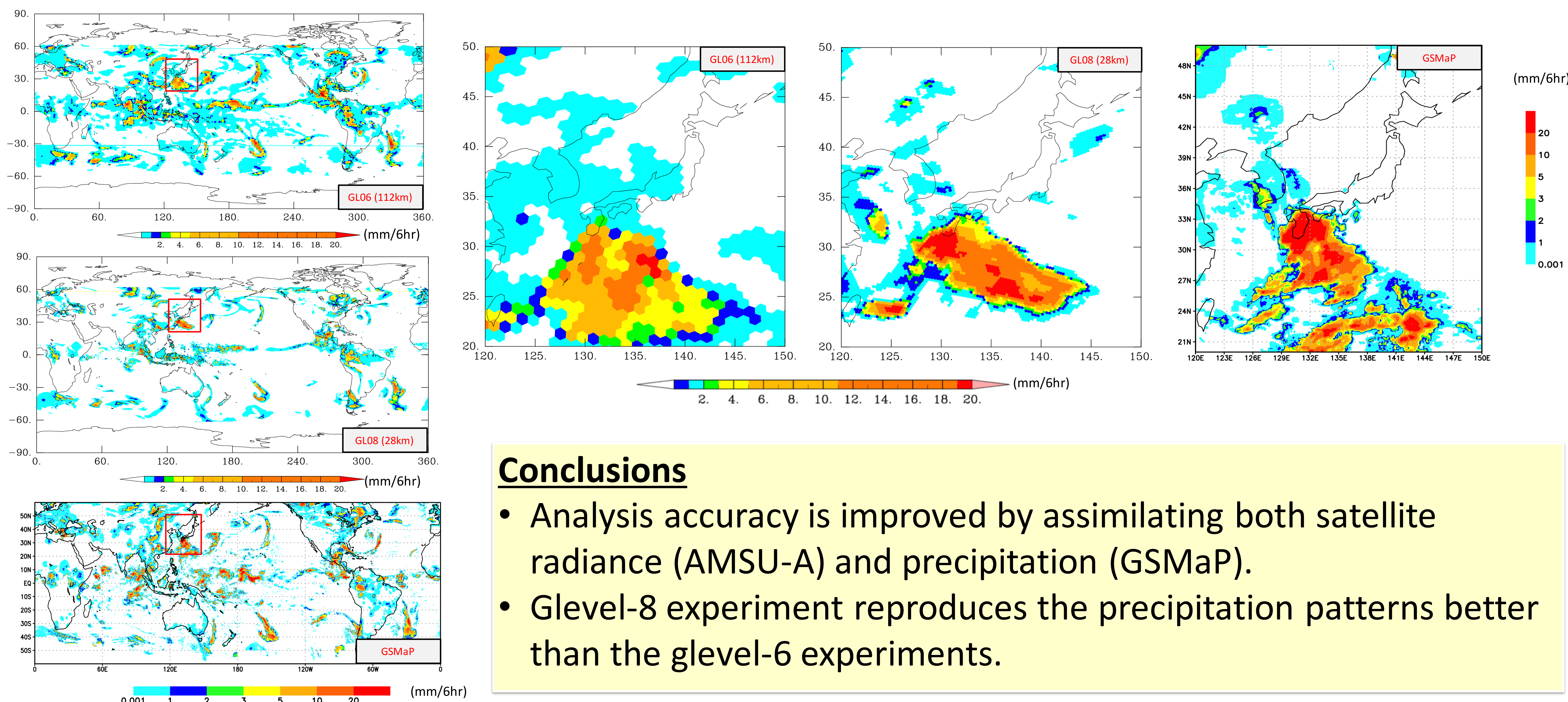
Sea Level Pressure Analysis

Contour: ERA-Interim

Global RMSD in air temperature compared to ERA-Interim
Difference from the experiment assimilating only PREPBUFR
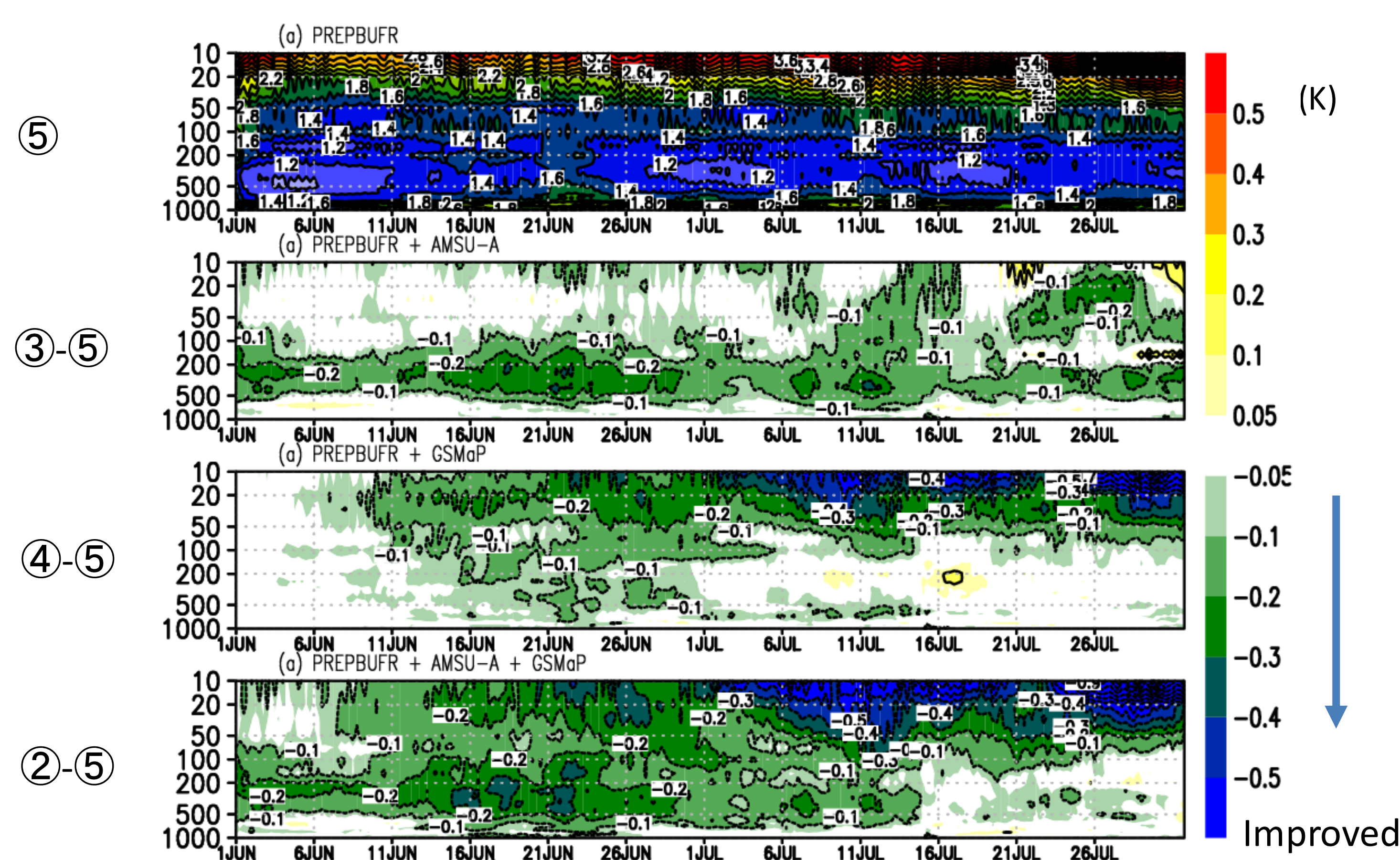
Precipitation Analysis

Conclusions

- Analysis accuracy is improved by assimilating both satellite radiance (AMSU-A) and precipitation (GSMaP).
- Glevel-8 experiment reproduces the precipitation patterns better than the glevel-6 experiments.

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