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Title: The New JMA's One-month Ensemble Prediction System and its Performance

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Abstract:

The Japan Meteorological Agency (JMA) plans to update its One-month Ensemble Prediction System (One-month EPS) in March 2014. Major changes include as follows: 1) increasing horizontal resolution of atmospheric general circulation model (AGCM) from TL159 (110km) to TL319 (55km); 2) using "Merged satellite and in situ data Global Daily Sea Surface Temperatures (MGDSST; Kurihara et al., 2006)" and its sea ice concentration data with higher resolution (0.25 x 0.25 degrees) than the current SST and ice data (COBE-SST; 1.0 x 1.0 degrees; Ishii et al., 2005) to calculate prescribed boundary condition; 3) applying initial anomalies of sea ice distribution to calculate prescribed boundary condition of sea ice. Performance of the new EPS is evaluated using hindcast (re-forecast) experiments conducted using the same EPS for the 30-year period from 1981 to 2010. Atmospheric and land initial conditions for the experiments are provided from the Japanese 55-year Reanalysis (JRA-55; Ebita et al., 2011) which is the new advanced reanalysis data produced by JMA. Preliminary results from the experiments indicate improved reproducibility of the model climate and a significant improvement for the forecast skills, especially in the extra-tropics. And we expect the new EPS improve predictability of atmospheric phenomena. More detailed information about the new JMA's One-month EPS and its performance will be presented.

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