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Utilization of AMSR-E Data for Numerical Weather Pre
Meteorological Agency

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Abstract
Observation data by Advanced Microwave Scanning Radiometer f
board the U.S. earth observation satellite Aqua are used for Numer
(NWP) models of Japan Meteorological Agency, namely MesoSca
Global Spectral Model (GSM). The AMSR-E data have been assir
Analysis (MA) since November 2004 and in the Global-Analysis (0
This paper overviews some technical issues related the assimilation

MA and GA, respectively. For MA, 1) an efficient retrieval algorith
and rain rate, 2) a bias correction between the observations by simil
between the observation and the model, 3) a four dimensional varia
4) data thinning and smoothing scheme and 5) appropriate setting o
key issues for successful assimilation of the AMSR-E data in opera
Observation System Experiment (OSE) shows the AMSR-E precip
rate data improve the forecast in a heavy rain event. On the other h
Var scheme, 2) a direct assimilation of AMSR-E radiance based on
transfer scheme named RTTOV-7, and 3) a Variational Bias Corre
issues. A pre-operational OSE shows the improvement of typhoon-
precipitation distribution over the Indian Ocean. The accuracy of ty
has been improving recently by the improvement of the NWP mode
analysis system as well as the introduction of new observation data i
imager data. The observation network of the microwave radiometer
Precipitation Measurement (GPM) mission will be constructed in th
promising data are provided by ground-based Global Positioning S
precipitable-water data for MA and GPS occultation temperature a
GA.

Keywords: [Numerical Weather Prediction](), [Microwave Imager](), [A]()
[Assimilation]()

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