Geophysical Research Abstracts, Vol. 9, 04200, 2007
SRef-ID: 1607-7962/gra/EGU2007-A-04200


# Long-term verification of bias-adjusted radar precipitation estimates

I. Holleman and **A. Overeem**
KNMI, P.O. Box 201, NL-3730AE De Bilt, The Netherlands (holleman@knmi.nl)

Quantitative use of weather radar precipitation estimates is not straightforward due to a variety of gross errors affecting the observations. For C-band radars at mid-latitudes, the most important ones are: non-uniform Vertical Profile of Reflectivity (VPR), variability of the Drop Size Distribution (DSD), and attenuation due to strong precipitation. A mean-field bias adjustment algorithm can be used to reduce the gross errors in radar-based precipitation estimates. When physical correction methods, e.g. for VPR or attenuation, suited for operational implementation become available they will reduce the need for bias adjustment. Mean field bias adjustment of radar-based quantitative precipitation estimates is widely used.

Here we present a straightforward method for bias adjustment of accumulated precipitation composites. The method is used operationally at KNMI for an hourly-updated QPE product. In addition an extensive spatial and temporal verification of the bias-adjusted composites over a six year period (2000-2005) using (in)dependent gauge data is presented. It is found that the adjustment scheme effectively removes the mean-field bias from the raw accumulations and that it substantially reduces the daily standard deviation. The adjustment method cannot correct for a range-dependent bias and it is recommended to use a (simple) VPR adjustment procedure for that.