

Interactive comment on “Processing and quality control with FY-3C/GNOS data used in numerical weather prediction applications” by Mi Liao et al.

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We have attached departure statistics plots for the tropics and south polar region (lat < -65). Fig 1 and 2 are for tropical bias and standard deviation, respectively. Figure 3 and 4 are the bias and standard deviation for the south pole. The plots are for the period July 6- Aug 2, 2018, in order to be consistent with Figures 13-14. It is worth noting that these statistics have been derived from the operational ECMWF processing, and both the GRAS and GNOS have been subjected to the same quality control criteria. Essentially, departures greater than ~ 10 times the assumed observation error are removed, and the same error model is used for GNOS and GRAS.

The purpose of these plots is to show that the departure statistics for GNOS and Metop-

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A GRAS are similar. In general, the GRAS standard deviations are larger than GNOS in the troposphere. Further, it is known from operational monitoring that departure statistics for GRAS setting are larger than GRAS rising. The hypothesis for this GRAS result is that setting occultations penetrate more deeply in moist atmospheres. The results in south polar region shown here suggest that it may not be the full story, and this warrants further investigations. However, the primary focus of this paper is the quality of GNOS data with the new processing, and we believe we have shown that it is comparable to GRAS.

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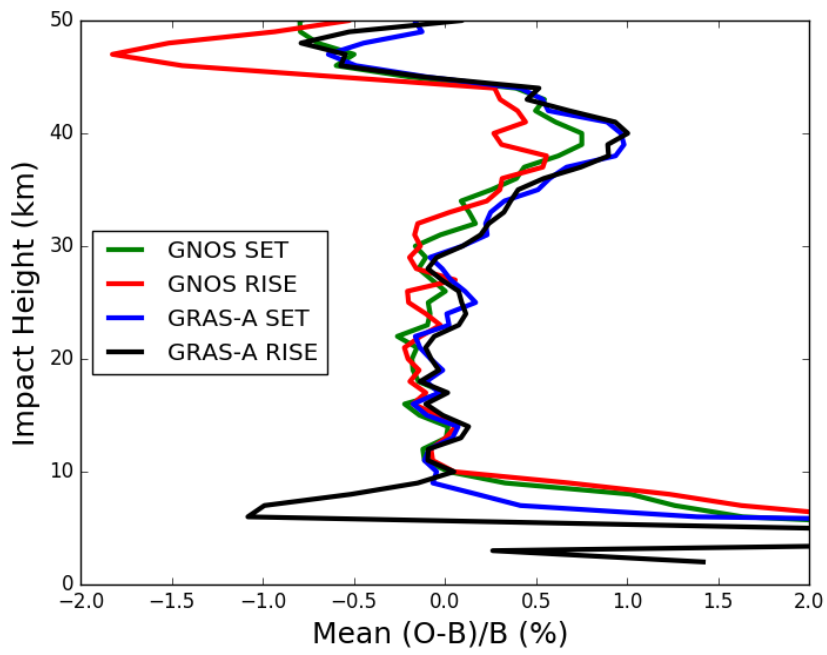


Fig. 1. Bias in tropics

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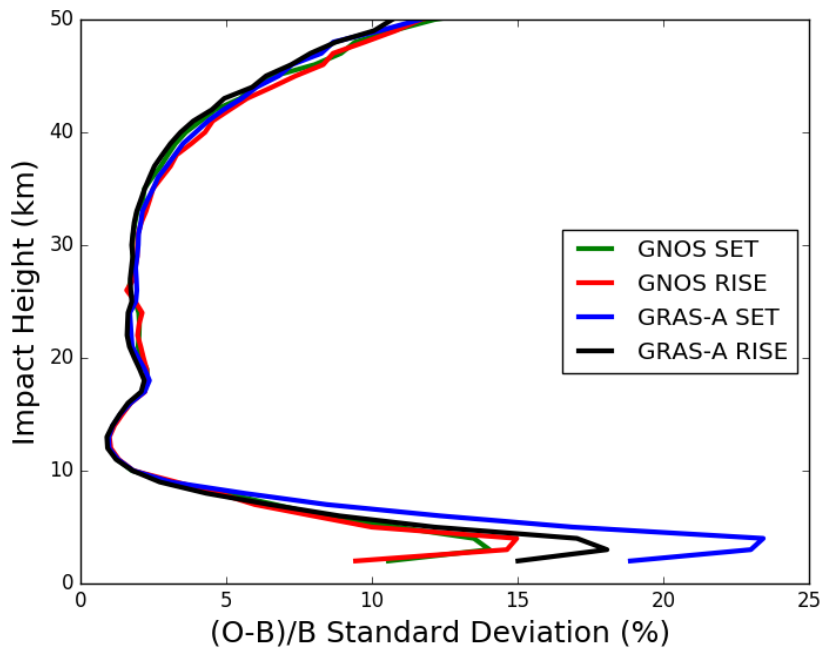


Fig. 2. Standard deviation in tropics

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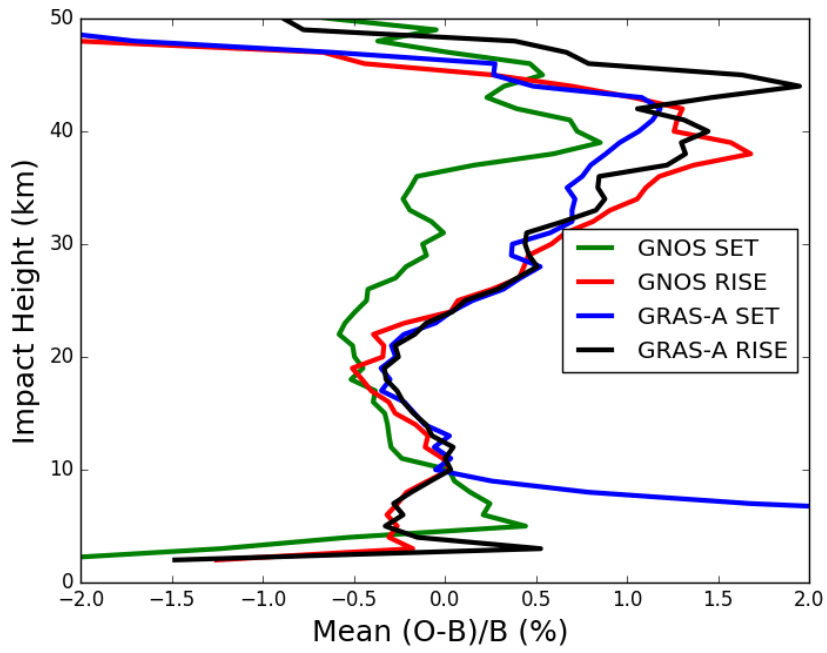


Fig. 3. Bias S.Pole

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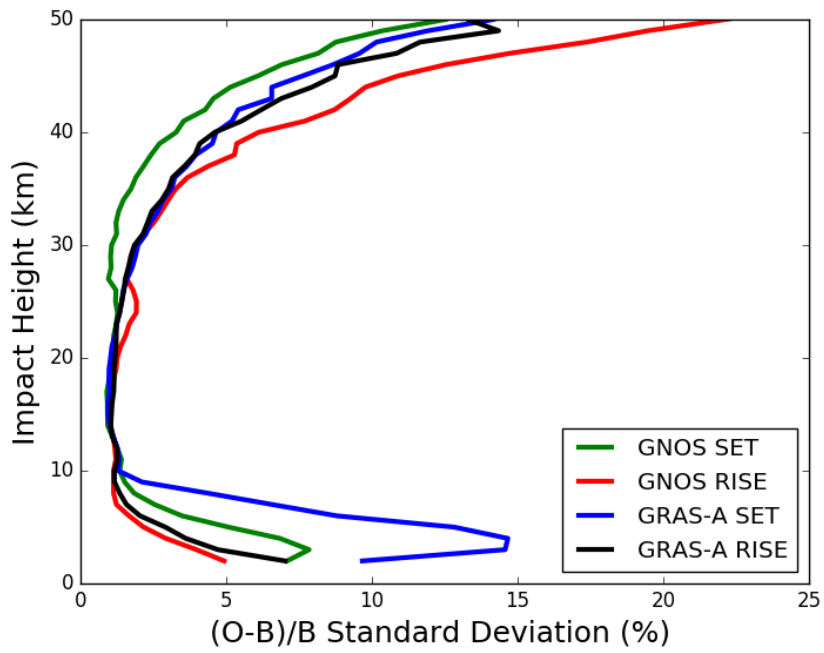


Fig. 4. Standard deviation S. Pole

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