

Interactive comment on “Data assimilation of CALIPSO aerosol observations” by T. T. Sekiyama et al.

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Following the opinion of the Editor, we quantitatively evaluated improvement of the analysis presented in Fig. 5. We calculated "threat score" and "hit score (= percentage correct)" of the results in Fig. 5a and 5b, respectively. The data assimilation makes the scores remarkably improved as shown in Table 1 and 2.

Threat score = $AO/(AO+ANO+NAO)$, commonly used in NWP

Hit score = $(AO+NANO)/Total$, i.e., coincidence of observation and analysis

Table 1. The number of weather stations in Fig. 5a and 5b.

Dust events at each station, Reference result (Fig. 5a), Assimilation result (Fig. 5b)

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Analyzed and Observed (AO) 16 14
Not Analyzed and Not observed (NANO) 9 28
Analyzed but Not observed (ANO) 22 3
Not analyzed but Observed (NAO) 0 2
Total 47 47

Table 2. Analysis scores of reference and assimilation results.
Score, Reference result (Fig. 5a), Assimilation result (Fig. 5b)

Threat score 0.42 0.74

Hit score 0.53 0.89

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