

Interactive comment on “Diurnal evolution of cloud base heights in convective cloud fields from MSG/SEVIRI data” by R. Meerkötter and L. Bugliaro

Anonymous Referee #1

Received and published: 8 January 2009

Meerkötter and Bugliaro adapt and apply a previously published method for the remote sensing of the base heights of liquid broken convective clouds from spaceborne radiometer retrievals to MSG/SEVIRI data. The main novelty of the study is the adaptation and application of the existing method to a new sensor, and the evaluation of the results to a few case studies.

Since the geostationary data offers good temporal resolution, the study may be nevertheless of importance to establish a large-scale continuous dataset of the diurnal evolution of cloud base heights for convective liquid water clouds.

[Full Screen / Esc](#)

[Printer-friendly Version](#)

[Interactive Discussion](#)

[Discussion Paper](#)



The manuscript is well written.

The main concern is that the sensitivity of the results to some parameter choices in the retrieval scheme should be explored. The follow-up studies evaluating the method in other situations (p18954 I11) should be a prerequisite to using the data.

Remarks

p18938 I20: The macroscopical structures are no doubt more important than the microphysical properties.

p18939 I9: Several of the cited studies do not quite address the cloud base issue (however, the cloud geometrical thickness).

p18939 I29: Which ones would you have in mind? p18943 I7: By how much would this 3 K temperature mismatch vary if you varied the temperature profile and the assumed cloud top in the radiative transfer computation (or, how is the estimate on p18952 computed?)?

p18945 I9: The COT range seems quite unmotivated. How would the results change if this range was altered? In particular, which results for the cloud base height would be obtained for the AVHRR COT range of $5 \leq \text{COT} \leq 7$?

p18947 I19: satellite

p18948 I13: How different is CTH_max from the average CTH?

p18950 I11: an LCL

p18950 I14: dependent

p18952 I16: advantage for the method

p18952 I27: CTH and CBH estimate, respectively.

Interactive comment on Atmos. Chem. Phys. Discuss., 8, 18937, 2008.

[Full Screen / Esc](#)[Printer-friendly Version](#)[Interactive Discussion](#)[Discussion Paper](#)