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Atmospheric Chemistry and Physics Discussions

Interactive comment on "A model study on the influence of overshooting convection on TTL water vapour" *by* M. E. E. Hassim and T. P. Lane

Anonymous Referee #2

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Review comments on " A model study on the influence of overshooting convection on TTL water vapour" by Hassim and Lane

This paper presents a WRF cloud model study on how overshooting convection can influence the humidity condition in TTL. The paper is well written and the numerical experiments are well thought out. I recommend the paper to be accepted for publication in ACP. The following are a few suggestions of minor revision.

P. 7, Sec. 2.2: Please indicate the latitude and longitude of Darwin and Mount Bundy so that readers don't have to check a map.

P.8, near the end: since the same wind profile is used for both simulations, it may be appropriate to emphasize that wind shear would not influence the conclusions presented

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here.

P.9, Sec. 2.3, also P. 10, Line 213: It's probably useful to explain a bit more explicitly why IHGT and IQV serve the purpose of tracers since not many readers are familiar with this method. What are the conserved quantities (e.g., theta or theta-e or others) utilized to define the tracer?

P. 11, Line 251-252: I agree that RHi difference is large, but the SUBSAT seems to produce larger cooling than SUPERSAT also. Do you think the cooling corroborates with the increase in water vapor mixing ratio? Can you provide a rough estimate of each?

Interactive comment on Atmos. Chem. Phys. Discuss., 10, 16969, 2010.