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Hydrology and Earth System Sciences
Discussions

Interactive comment on "Experimental evidence of condensation-driven airflow" *by* P. Bunyard et al.

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I just want to give a brief response to the authors. I find the arguments rather hand wavy, and this is insufficient to address the major concerns I described in my review.

To fully address these, you need to make these calculations thoroughly and extensively to be convincing (and remember that correlation does not imply causation). In particular, you need to consider the substantial removal of heat from the system by the cooling coils. As far as I can tell, you provide no numbers on this rate, but it must be certainly substantial, because you cool air down to condensation. I have no doubt that when you consider this rate, you will find that heating and cooling plays a much more important role in generating motion than vapor pressure changes.

Apart from this, even if the flow was generated by the pressure drop during condensation, your experiment would only disprove the BP hypothesis, as the BP hypothesis

argues for this drop to cause an updraft (see point 2 in my review).

I am sorry to be so negative, but I really see no hope for your experiment to disprove the established concepts of atmospheric convection. The only way out is to show that the BP hypothesis is flawed.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 12, 10921, 2015.