

Atmos. Chem. Phys. Discuss., author comment AC4  
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## **Additional reply on RC1**

Wojciech W. Grabowski and Hugh Morrison

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Author comment on "Supersaturation, buoyancy, and deep convection dynamics" by  
Wojciech W. Grabowski and Hugh Morrison, Atmos. Chem. Phys. Discuss.,  
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We started to revise the manuscript in response to Rev 1 comments. Comment 15 (after our renumbering, see previously uploaded responses) says:

"Your conclusions mostly focus on invigoration (mentioned 7x), whereas they should also describe briefly your analysis results, that is the impact of supersaturation, water loading, and entrainment on the buoyancy."

Our response to that comment as uploaded says:

"We will revise the conclusion section following this suggestion."

However, after re-reading the conclusion section we strongly disagree with this comment. The word "invigoration" is mentioned 7 times in the opening paragraph of the conclusion section. This paragraph - lines 580-595 - is important as it provides the context for the entire manuscript, and we cannot remove or shorten it. The paragraph in question is a short part of the 90-line long conclusion section. Thus, we do not think the reviewer's comment is justified because subsequent paragraphs discuss various aspects of the results and do not mention invigoration.

In summary, we are changing our response to the comment: we feel the discussion in the opening paragraph is justified and we do not plan to modify it.