

Dear Dr. Merbold,

We thank you for your effort in handling this submission. Please find below our point-by-point replies (normal font) to your comments (bold italics), and in this re-submission also a marked-up manuscript version showing the changes that we have made as a consequence.

Sincerely,

Andrew S. Kowalski

Replies to editor

your letter "Water vapour dynamics as a key determinant of atmospheric composition and transport mechanisms" has been seen by two reviewers of which both think the study can be a valuable contribution to our understanding and shortcomings in biosphere-atmosphere exchange measurements. I share this overall opinion.

We thank the editor for this positive assessment.

At the same time and that's less about the wording "air is water vapour" - which somehow got the attention of both reviewers similarly - I suggest some revisions to the current manuscript. I acknowledge the responses you have given concerning the critical points raised by the reviewers. Still the simple argument - we only focus on the physics here and will touch on the plant physiology later is too short. After all, the journal's name and focus is on biogeosciences and not atmospheric chemistry and physics.

We have made the recommended additions (see below for details).

Still, I am confident that your letter will have a good position in biogeosciences with two additional adjustments (besides the suggestions made by the reviewers):

1) you already cite the relevant literature on where the proposed decoupling occurs - thus please include this, and

We have expanded upon this with a mini-review of the literature. To try to maintain a readable text, we re-ordered the paragraph following Fig. 4 and broke it into two paragraphs, now found between lines 176-195 (line numbers without track changes).

2) you already provide a good link to the real world examples in Figure 1 in the response to D. Yakir. Including this will only make your letter stronger and won't stop you from publishing an additional in-depth data driven paper at a later stage. Thus, I am willing to accept this letter following the individual points raised and look forward to receiving the revised manuscript.

We have now added both a new paragraph (now at lines 196-201) and the requested figure.