We would like to thank the editor for his help and positive evaluation of our work. Please, find below the list of all his concerns addressed one by one.

– Abstract: 'Vertical cross sections of the moisture (content?) suggest'.

"content" is going to be added to the final version of the manuscript.

– Low-level jet (LLJ) for 'Low-Level Jet (LLJ)'

"Low-level jet (LLJ) is going to be replaced by "*Low-Level Jet (LLJ)".*

– Remove the added 'have' at 'Guan and Waliser (2015) have developed a global detection method'. Specially if this follows as 'More recently, Eiras-Barca et al. (2016) proposed' (in past tense).

The "have" located in P2L18 is going to be removed in the final version of the manuscript.

– 'Into the mid latitudes' for 'into mid latitudes'.

"Into the mid latitudes" located at P2L21 is going to be replaced by *"into mid latitudes".*

– There are over 20 acronyms in the article. Please revise if you could be a bit more benevolent to the readers; especially to those that do not have a meteorology background. Perhaps acronyms such as TME (used three times), SLP (used only once and undefined), or TCS (only used in two captions) could be spelled out.

Following the advice of the editor, we are going to keep the acronyms listed below:

- IWV
- IVT
- WCB
- WRF
- LLJ
- AR

The rest of the acronyms in the current manuscript are going to be spelled out in the final version of the manuscript.

– Correct 'Avelino, A. and Dall?erba, S.'.

"Avelino , A. and Dall?erba, S" is going to be replaced by "*Avelino , A. and Dall'erba, S" in the final version of the manuscript.*

– Revise grammar at '...with the uncertainty in the "real word" is due to the WRF model error'.

In this paragraph there are a couple of words that were wrongly typed in, so that the sentences didn't make sense. One is that caught by the editor, where "with" should read "while", and there is another at the beginning, in the sentence "The strategy consists in replicating the prognostic equations for the

different moisture species IN equations for moisture tracers.", which should be "The strategy consists in replicating the prognostic equations for the different moisture species WITH equations for moisture tracers.", Both typos are going to be corrected.

– 'WRF Single-Moment 6-Class Mycrophysics Scheme (WSMC6) microphysics scheme'. The second 'microphysics scheme' is not needed. The first use of 'microphysics' has a typo.

'WRF Single-Moment 6-Class Mycrophysics Scheme (WSMC6) microphysics scheme' will be replaced by '*WRF Single-Moment 6-Class mycrophysics scheme (WSMC6)'.*

– Section 2.3 should have a more specific title than 'Methods', since the tracer tool is also a method. Maybe 'WRF simulation settings', or similar.

Section 2.3 is going to read as '*WRF simulations setup'* in the final version of the manuscript.

– 'good quality statuin' (?)

"good quality statuin" is a typo which is going to be replaced by "*good quality stations"* in the final version of the manuscript.

– 'despite the fact that precipitation is known to be the most difficult parameter'. Precipitation is not a parameter. Also add 'arguably' somewhere; now the statement feels awkwardly categorical.

The full sentence is going to read *'However, despite the fact that precipitation is arguably the most difficult variable to simulate in a numerical model (...)"*

– 'The reason for the latter is shown in Figure 1' for 'The reason is shown in Figure 1'.

"latter" is going to be removed from the final version of the manuscript.

– '90% of the precipitable water in some points', change 'points' for 'areas' or similar.

The complete sentence is going to be reworded as follows:

"(...) accounts for about 80%-90% of the precipitable water and locally exceeding this contribution."

– Correct 'montainous'.

"montainous" is going to be replaced by *"mountainous".*

– 'Figure 7.b shows 24h-accumulated percentage of precipitation'. Add 'the' before '24'.

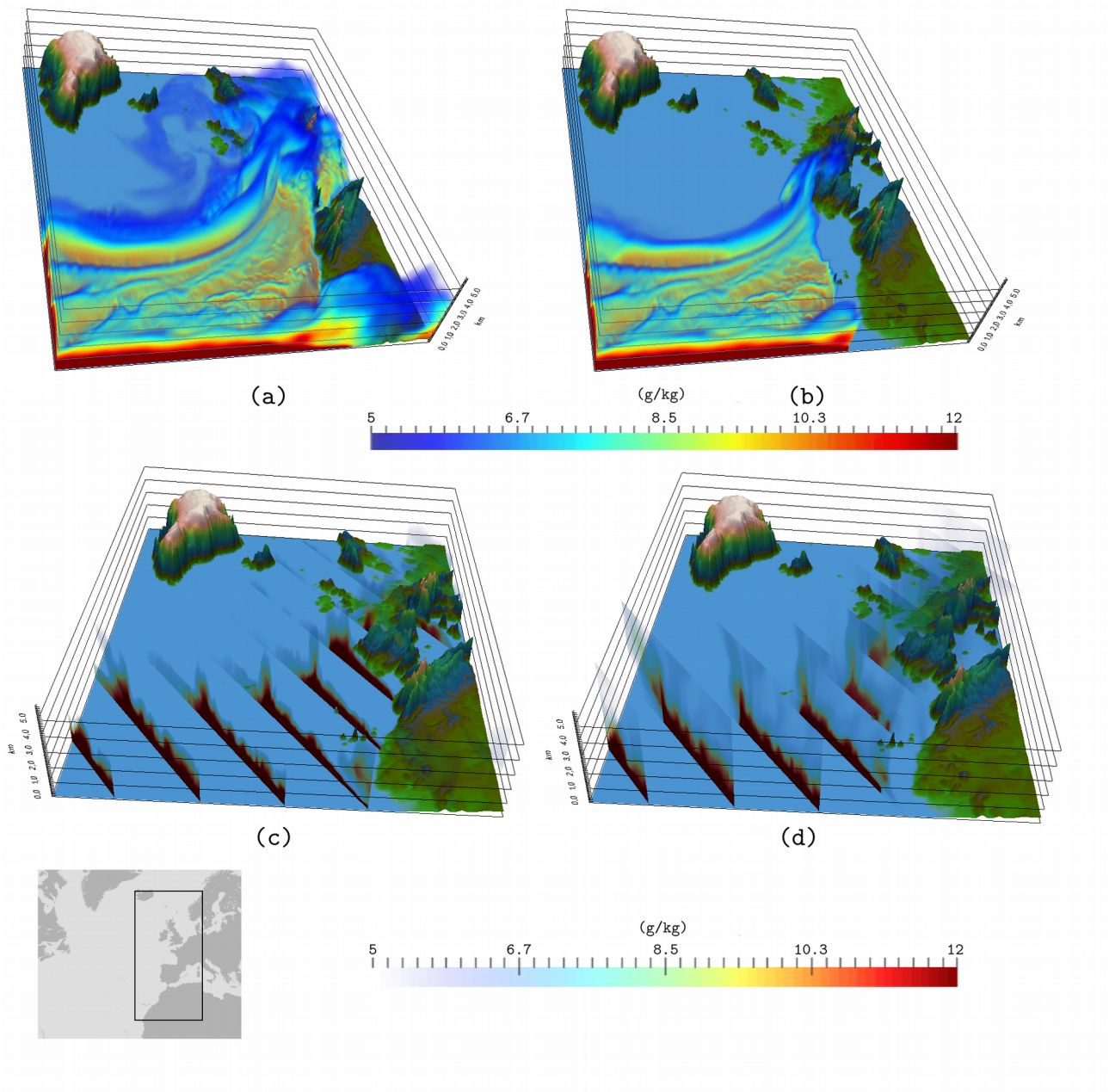
"the" is going to be added before "24".

– Missing space at 'per day(Buishand...'.

The cited space is going to be added.

– The colors in Figure 5 and 6 are still not reflected in the colormap. Please fix.

We are now going to add a colorbar for subfigures a and b (which was the same colorbar used in subfigures c and d but without attenuantion). Please, note that level height in terrain can be referenced by vertical axis in km.



– Correct 'water stored vapor'.

"water stored vapor" is going to be replaced by *"stored water vapor"* in the final version of the manuscript.

– 'a larger amount of cases' for 'more cases'.

'a larger amount of cases' is going to be replaced by *"more cases"* in the final version of the manuscript.

– Correct the sentences that are repeated in the last paragraph of the Conclusion.

Repeated sentences in the last paragraph of the conclusions are going to be rewritten, and the entire paragraph is going to read as follows:

"Finally, our findings suggest that the maximum of tropical moisture does not necessarily coincide with the LLJ of either extratropical cyclone analyzed . Instead, this maximum is located in near surface

levels at lower latitudes to gradually ascend in northern latitudes, but still remaining below 2 km, mostly within the boundary layer, in contrast with findings in other studies (Dacre et al., 2014). The maximum of tropical moisture may be situated below and toward the back, or ahead the LLJ, which is located along the cold front. Both events are clear examples of ARs from the point of view of vertically integrated variables, such as IWV and IVT used in most detection algorithms; however the vertical distribution of moisture of tropical origin reflects the complex processes leading to precipitation. The new 3D tracer tool will allow us to delve into these processes and explore the role of Tropical Moisture Exports in the initiation and intensification of AR events."

Finally, I still feel that the text in Results and Discussion is rather succinct (less than 1000 words). This means the core of the paper will span less than one page (excluding figures) in the final manuscript (one page is around 1200 words). While this is not an important issue, it does not seem to scale with the number of figures and the amount of information they contain.

Our intent with this paper is to make a concise contribution on the origin of moisture in two AR events, underscoring the importance of the tropical source, which is often not fully acknowledged. This is perhaps because of the lack of tools for moisture tracking as precise as the eulerian water vapor tracers.. We think that the article highlights both points about the power of the tracer tool and the importance of tropical moisture in ARs nicely, as it is, We agree with the editor in the fact that there is still much to be done interpreting and discussing results, but in this paper, since it is about two cases only, we prefer to keep the message short, and leave general conclusions for a study with a larger number of events and higher resolutions. We are already starting to address this issue, so in further articles we are going to be able to provide more technical and specific discussions.

Kind Regards,
Jorge Eiras-Barca.