Referee 1.

Response to specific comments

1. Paper Arias, P.A., J.A., Martínez, & S.C. Vieira, 2015: Moisture sources to the 2010-2012 anomalous wet season in northern South America. Climate Dynamics, 45(9-10), 2861- 2884 was carefully read and the correspondent cite was incorporated with additional comments on the relationship between the cited paper and the present study.

2. The authors were previously advised to used Sv units as it is the unit used for transport in this context, however we included a brief description on the Sv to SI units conversion to clarify for a broader audience.

3. A new panel showing the annual cycle of the computed OLR indices was included in figure 3 as 3.f and the correspondent figure referencing was included in the discussion.

4. The location of the parks is now included.

5. The interpretation was re-written to better explain the results. We used a regular Mann-Kendall test and also a modified Mann-Kendall test for autocorrelated data. This is now clarified in the methods section.

6. There was an error in the caption and is now corrected.

Response to technical comments

The discussion version of the manuscript was already proofread, anyway after minor modifications were incorporated following the suggestions of the reviewers, the document was sent for proofreading. Format of the references was corrected.

Referee 2.

Thank you for your time and contributions. Trends computation period is now indicated as well as a very brief explanation on the climate change and natural variability differences.

Regarding the specific comments:
1- There was a typo, we meant "stratiform" and not "stratified". "Highly active stratiform precipitation" means that the region is under a strong influence of large cloud systems that account for a fraction of the observed precipitation.
2- Citation of the suggested work by Moron et al. (2016) is included and a short discussion of the relevance of their work to the analysis proposed can be found.
3- In the methods section we explain how the CJ was computed.
4- Typo corrected.
5- We now use the Mapire river mouth as suggested.
6- We provide a extended explanation of the brief comment on climate change – climate variability differences mentioned in the methods section.
7- Indeed, we explain now this better to avoid confusion as one of the main results we want to highlight is that the effect of interannual variability on the moisture supply is more significant

that the trends detected and therefore a focus on interannual variability would be great information input for planning and decision making processes.

8- Works from Mapes et al. (2003) and Munoz et al (2016) are now incorporated in the discussion and cited.

9- Figure caption modified.

Referee 3.

Thank you for your time. Results were computed for "target regions" defined as a) the polygons following the continental boundaries for each country and b) the polygons following the regional boundaries. Analysis of the results included to check consistency between the integration of the countries results and the results for the complete region. Results were almost the same, variation was about 0.17% which is attributed to the computational handling of the data integration (sum). Internal variations were evaluated using noise-signal detection analysis, the results indicated there were no statistically significant internal variations. Typos were corrected.