

Overall quality is poor. The organization and write up are very poor. There are many expression errors. The authors include a few equations but are unable to clearly explain them. There are some vague details of the methodology in the figure legends, which is strange. They should have used the methodology section to clearly state and explain (the meaning and purpose) them. The two different aspects, namely, the underestimation of precipitation by the models and the effect of SST on the variability of precipitation, are mixed up in a poorly written manuscript. Therefore, discussion is very tiring to read, much more tiring to understand the authors' point of view, if there is any.

Individual scientific questions: What is the basis for choosing the areas B1 to B4 for your study? The models (almost all) underestimate the precipitation and the convergence of moisture, although the seasonality is maintained. Why did you not calculate the annual precipitation (by summing the monthly precipitations) and compare them with the annual (observed) precipitation? This comparison is more effective than calculating biases. The calculation of vertically integrated moisture transport and convergence with the monthly means of u , v and q is not recommended. These diagnostics have to be calculated on daily basis in order to obtain, by summation, the monthly means (or monthly totals) as is done in Satyamurty et al. (2013). Another question is how trustworthy are the evapotranspiration estimates? What was the methodology to obtain these estimates? (I guess they are obtained by subtracting the moisture convergence from the precipitation. If so, why don't you make such an estimation from your calculations?) You use the phrase moisture recycling for discussing the role of moisture convergence in the hydrological cycle, if I understood well. Moisture recycling is, in my opinion, the (percentage) role of evapotranspiration in the convective activity and subsequent rain, locally or regionally. The inability of the models to produce enough moisture convergence over the Amazon Basin, and as a consequence underestimate monthly precipitation, is related to the model physics and dynamics, not to the variability of SST. The modelers want to get clues as to what part or detail of the model dynamics is deficient. This is not addressed at all, nor even speculated, in the manuscript. There are some conceptual errors in the manuscript. For example, in the Abstract I find "The moisture balance is always positive, which indicates that Amazonia is a source of moisture to the atmosphere." I can't agree with this statement. Actually, Amazon Basin is a sink for atmospheric moisture. The definition of source and sink is simple: If precipitation exceeds evapotranspiration over a region, this region is a sink region for the atmospheric moisture. Moisture is transported by the winds to a sink region where it converges. (A large part of the moisture transported into the Amazon Basin precipitates over the basin, and the remaining is transported out to Southeast and South Regions of Brazil. This southward transport is mostly accomplished by the low level jet east of the Andes. Thus, the "Amazon moisture" is considered a source for the rains in Southeast and South Regions of Brazil and to Paraguay and northern Argentina.) You say at some places that similar results were obtained by other authors. That being the case, what additional information your discussions brings out?

Technical corrections: There are so many and it is difficult to list all of them. I give, as examples, a few corrections below.

- (1) P672 L4: Rewrite "... important to understand the reasons for this drawback."
- (2) P672 L8: "these processes". Which processes?
- (3) P672 L13: use "vertical velocity" instead of "pressure velocity". Anyway you are multiplying omega by (-1).
- (4) P672 L23-24: I don't agree with your affirmation that Amazon Basin is a source region to atmospheric moisture. See the "Individual scientific questions" part above.
- (5) P673 L8: What is land productivity?
- (6) P674 L6-12: Should be rewritten. Not clear.
- (7) P674 L9-10: In which part of the globe rainfall is not important?
- (8) P674 L26: The words "combining" and "combined" do not sound well. Replace the word "combined" by "and".
- (9) P675 L9: Interchange u and v.
- (10) P676 L7: Drop the adverb "very".
- (11) P677 L7, 10: Better to replace the word "flow" by "flux". Drop the second "in".
- (12) P678 L1: "... , lat1(lat0) represents the latitude"
- (13) P678 L9: Denote bias by a symbol, not by %. The units are %, but it should have a symbol.
- (14) P678 L19-21: You have already said that all models captured the seasonality to a lesser or greater extent. So, drop the sentence.
- (15) P679 L12-13: The reason for the underestimation of rainfall or precipitation by the models is that they underestimate the moisture convergence over the Amazon Basin. Say it.
- (16) P679 L14-18: The whole sentence is badly written and very confusing.
- (17) P679 L28: There is no a priori "relationship" between model precipitation and observed precipitation. Simply put "In general, the CMIP5 models are unable to simulate the observed precipitation satisfactorily in the Amazon." Drop the words "in the present climate".
- (18) P680 L2: "... GPCP for the dry (JJA, gray bar) and rainy (DJF, white bar) seasons in the period"
- (19) P688 L4: What is overestimation of ITCZ? It should be "overestimation of moisture convergence and therefore precipitation in the ITCZ".
- (20) In the Conclusions section the first paragraph is a repetition. Drop it entirely.
- (21) P688 L28: "precipitation producing mechanisms", not systems.