

Interactive comment on “Response of CO₂ and H₂O fluxes of a mountainous tropical rain forest in equatorial Indonesia to El Niño events” by A. Olchev et al.

Anonymous Referee #1

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In this manuscript Olchev et al. analyse the response of fluxes to El Niño events of a single flux tower site located in mountainous tropical rainforest in Indonesia. This is an interesting and well written paper. However, my major concern is that this manuscript is quite limited in scope, due to the fact that the El Niño response is only studied on a single site. In my opinion the paper would benefit from adding additional sites from the same region (Indonesia, South-East Asia, or North Australia) to study if the observed El Niño effects on surface fluxes can be generalized. Such findings would be of high value for modelling work. Nevertheless, even with only one site included, this is a well-presented study for a region that is relatively data-poor. I have no major comments on the methodology. However, I was confused by the way the two steps in the analysis are

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presented on page 4413. The first step is described as a correlation analysis between “NEE, GPP, ... and SST-anomalies”. But are you correlating flux (e.g. NEE)-anomalies with SST-anomalies or monthly absolute flux values (e.g. NEE) with SST anomalies in this first step? The second step is presented as a “more accurate analysis” where absolute deviations of monthly fluxes from the average are calculated. In fact, these ‘absolute deviations’ are flux-anomalies according to me. In addition, I suggest describing in more detail what is meant by a ‘more accurate analysis’. (Is this really the good wording?).

Specific comments: 1. ‘Rainforest’ or ‘rain forest’, be consistent. 2. Page 4409: you refer to the paper of Malhi et al 1999 without mentioning the region where this study was conducted. It is important here to specify if these results were found in the Amazon or Asian region. 3. At several places in the text the word “annual” is used to describe intra-annual variability or seasonal variability. I suggest using the word ‘intra-annual’ or ‘seasonal’ instead. 4. Fig 3 and 4 contain an overlapping panel on GPP, I suggest combining these two figures. (maybe even with fig 5).

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