

Interactive comment on “Influence of ENSO and tropical Atlantic climate variability on flood characteristics in the Amazon basin” by Jamie Towner et al.

Anonymous Referee #1

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Page 2, line 6, what atmospheric anomalies? Page 3, line 6, please explain what is this. Page 3, line 20, predictability of onset of the rainy season? or the quality of the rainy season? Page 3, line 26, positive and negative phases of the equatorial Pacific do not coincide with positive or negative phases in the Atlantic. What about the AMO, PNA and the Indian Ocean?. do they affect the rainy season in Amazonia Page 4, line 3, How to separate Pacific and Atlantic influences? Page 4, line 10, what land changes, deforestation?, dams? Page 5, line 19, See the paper by Jimenez-Munoz J et al 2019, Int J Climatology, where they describe year and wet years in Amazonia with ENSO (CPEP) and with changes in tropical Atlantic. Page 6, line 26 define EOF Page 5, line 29, why is this? Page 7, line 6, Remember that the Amazon basin extends both sides

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of the Equator and the seasonality of rainfall varies across the basin. Page 8, line 14, depend on seasonality of rainfall in northern and southern Amazonia Page 8, line 31, which studies? Page 9, line 1, add Marengo et al 2018-Frontiers; Jimenez-Munoz et al 2019-IJOC Page 11, line 30, negative ENSO years? Page 12, line 6, climate phases?. phases of what? Page 12, line 12, Any influence of land use and land use changes in rainfall variability? Page 12, line 25, phases of what? Page 13, line 15, A simple regression can explain how much of the flood peak variance is explained by the ENSO or the tropical North Atlantic. Other factors at regional scale can also affect this relationship. This could be applied to some stations in the Peruvian Amazon Page 13, line 33, Yes, local factors, including topography can explain this behavior. Page 14, line 9, what mechanisms? Page 14, line 20, what is the physical mechanism of this connection?, what changes in low and upper level circulation are detected in NE Amazon during La Nina? Page 15, line 16, How does this affect the accuracy of measurements? Page 16, line 28, Positive ENSO years? Page 17, line 12, How much of the variability of Amazon rivers is attributed to ENSO? Figures are fine.

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