

Interactive comment on “Impact of two different types of El Niño events on runoff over the conterminous United States” by T. Tang et al.

Anonymous Referee #1

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Review Comments on Hydrol. Earth Syst. Sci. Discuss., 12, 8977–9002, 2015 entitled “interactive comment on “Impact of two different types of El Niño events on runoff over the conterminous United States” by T. Tang et al.

The manuscript attempts to address the role of different flavors of El Niño (CP/EP) on the surface runoff across the conterminous US using observation and CMIP5 data. In principle, the analysis and explanation of specific issue addressed in the manuscript is useful. The evidences provided in this manuscript are convincing. The manuscript has solid points to get published in HESSD; however the manuscript needs some clarification which needs careful evaluation with the available results. In view of the above points, I recommend this paper for publication in HESSD after minor revision.

Major comments: 1) There is sufficient evidence of diversity in types of El Niño events
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and its relative role in precipitation pattern over US. This should be highlighted in introduction section which will help multidisciplinary readers to get a clear impact of different types of El Niño over conterminous US. 2) Most of the arguments and findings are just reporting the facts, authors should try to argue the dynamical reasons rather than reporting the same. The dynamical mechanism should be introduced as a separate section to give a concrete idea towards the same. Which will certainly strengthen the manuscripts. 3) In addition to the mentioned features, distinct differences in the enhancement of temperature pattern in warming era may contribute towards the water balance. This requires more explanation since it is a very interesting result. 4) Authors are not yet explicitly addressed, why runoff anomalies are distinctly different in different regions. There should be other reasons such as orography, land use land cover change etc in addition to the proposed discussion. This should be verified and include in the discussion through supporting literature evidence. 5) Even though authors mentioned the runoff anomaly in the future based on RCP4.5, the discussion is completely missing in this direction. The spatial pattern of runoff in the future will be an interesting point which can easily be included in the discussion with supporting evidence.

Minor comments; 1) Abbreviations should be expanded at the first appearance. 2) The selected CP and EP El Niño year should be mentioned in the text for better readability.

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