Hydrol. Earth Syst. Sci. Discuss.,
https://doi.org/10.5194/hess-2019-217-RC1, 2019

Hydrology and Earth System Sciences
Discussions

Interactive comment on "Identification of Hotspots of Rainfall Variation Sensitive to Indian Ocean Dipole Mode through Intentional Statistical Simulations" *by* Jong-Suk Kim et al.

Anonymous Referee #1

Received and published: 1 July 2019

This study analyzed changes in the magnitude and frequency of precipitation during the dry and wet seasons over the Indochina Peninsula, taking into account both the dipole mode in the tropical Indian Ocean and SST warming in the Pacific Ocean. Although the topic seems interesting, this study needs substantial improvement in the presentation and physical mechanisms underlying the association between IOD and/or ENSO and precipitation in the Indochina Peninsula. Overall, this study does not meet the standard of this journal and I am reluctant to recommend this study for publication in HESS. Below are some specific comments. Major comments: 1. When the authors discuss the association between IOD/ENSO on during the dry and wet seasons over the Indochina Peninsula, there is no interpretation for this association. For example, how

Printer-friendly version

Discussion paper

could the IOD, along with ENSO impact precipitation during different seasons, through what mechanisms? How do IOD and ENSO influence moisture transport and convergence in this region? This is very basic understanding of such association. However, I couldn't find any related analysis along this line. 2. The impacts of different types of ENSO on precipitation in the Indochina Peninsula during different seasons and phases of ENSO have been reported extensively in climate science. From this perspective, it is not a novel angle to examine this question. More in-depth analyses are required to advance our understanding. 3. The title of this manuscript only includes "IOD", but this study focuses on IOD and ENSO. This is really confusing.

Minor comments: Line 56: the impacts of these new ... Lines 56-60: The authors may rewrite this sentence to clarify what they intend to express. Lines 65-68: Which water than normal? Is it ocean surface or subsurface water? Commonly, it is described as sea surface temperature anomaly, rather than water warmer than normal. Lines 78-80: The hiatus of global warming is tied to the considerable transport of heat from the Pacific Ocean into the Indian Ocean via the Indonesian Throughflow (Lee et al. 2015), while Kosaka and Xie (2013) found that the La Nino-like sea surface temperature change was responsible for the hiatus. Please carefully cite references. Lines 81 and 84: Zhang et al. (2018) was cited here, but not included in the reference list. Figures 6, 7, 9 and 10: There is no color bar for these figures. This is unacceptable because a color figure without a color bar means nothing.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., https://doi.org/10.5194/hess-2019-217, 2019.

Printer-friendly version

Discussion paper