

Interactive comment on “Assessment of heavy rainfall-induced disaster potential based on an ensemble simulation of Typhoon Talas (2011) with controlled track and intensity” by Y. Oku et al.

Anonymous Referee #2

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This is an interesting article. The application of tropical cyclone (TC) relocation used to find out the highest risk for a target region should be very practical. However, there are some issues need to be addressed.

1. The reason that the experiment of changing TC intensity is to do with global warming (L. 16-17, P. 4396) is quite weak. In L. 18-19, P. 4406, the idea of water vapor remains unchanged against the major effect of global warming on precipitation. If it is necessary to connect to global warming, sentences have to be carefully written. The citation of SREX in L. 4-6, P. 4395 only mentions rainfall intensity may increase, not the TC intensity which usually refers to winds. It is necessary to cite some references to

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support global warming and TC strengthening are related.

2. How does TC intensity change when TC is relocated? In addition to the effect of changing location, the TC relocation may also lead to the change in TC intensity and then affecting rainfall amount.

3. How does TC translation speed change when TC is relocated? As mentioned in L. 23, P. 4399 and Line10-12, P4400, compare to observation, the difference in TC translation speed can by factor of 1.2, 1.4, 1.7 in different runs, resulting in less precipitation. Based on the given number in manuscript, it can be expected the variation in translation speed can be significant in different relocation runs. Daily rain max & SWI may depend on translation speed more than hourly rain max does.

It will be good if you can separate the contributions of changing TC location, changing TC intensity, and changing translation speed.

4. L. 1-3, P. 4407, it shows R of daily max depend on TC intensity but R of hourly max doesn't. You may want to use several sentences to explain this difference.

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