We sincerely thank Referee #2 for his/her careful review and valuable advice. Based on the comments and suggestions, we have made extensive revisions to the original manuscript. A point-by-point response is presented in Supplements.

1. The storyline of introduction can be improved for enhancing the readability. The significance of this work could be increased by discussing the results in a wider sense.

Thanks for your comments, we revised the introduction, and added discussion section to support our findings.

2. L35-38: a relatively long sentence.

We rewrite this long sentence. "As such, the joint probability theory has been incorporated into the analysis of compound flood risk to take the advantage of the Sklar's Theorem (M. Sklar, 1959). According to Sklar's Theorem, any multivariate joint cumulative distribution function can be expressed in terms of univariate marginal distribution functions and a copula which describes the structure of dependency between the variables (Bevacqua et al., 2019)."

3. L43: what does GDP stand for?

The "GDP" means the Gross domestic product, which is a measurement of total value-added produced with a region. We now spell it out in the manuscript: "the local Gross Domestic Product (GDP) in Shanghai".

4. L46-47: could the authors please provide a rough estimate of the damage due to each Typhoon in US dollars? (I saw such numbers in Section 2.1)

Thanks for your comments. We provided rough estimation of the economic damage caused by each of these typhoon events. This sentence is changed to "Although the construction of flood control measures in the past 50 years (especially after the typhoon Winnie in 1997) has effectively reduced the risk of storm surge and rainstorm floods, Typhoon Matsa in 2005 (US $2.23 billion damage), Typhoon Fitow in 2013 (US $10.4 billion damage), and Typhoon Lekima in 2019 (US $2.55 billion damage) also brought significant damage to Shanghai (Du et al., 2020)".

5. L48-49: Please double check the grammar of the sentence.

Thanks for your comments. To improve the readability of this paper, we changed this sentence to "However, owing to the unavailability of water level records, there is little research that has been able to estimate the dependency between peak water level and accumulated rainfall during historical TCs.".

6. L106: greater -> higher

Thanks for noting this. We changed "greater" to "higher".

7. L125: costly -> severe

Thanks for noting this. We changed "costly" to "severe".

8. L230: I would expect one or two sentences for describing the results of Figure 5.

Thanks for your comments. We added the following description at the end of this paragraph: "Figure 5 shows the difference between peak water level and accumulated rainfall with RSLR and without RSLR. This indicates that different copula families can return different dependence structures. In Figure 5, both peak water level and accumulated rainfall are presented in probability space. Gaussian and Clayton copula families are used to explain the bivariate dependence between peak water level and accumulated rainfall in this study. The red and blue isolines are fitted Gaussian copulas and Clayton copulas, respectively. Neither is among the commonly used copulas in the hydrological literature. This highlights the importance of the choice of the copula, and quantifies the difference in results based on copula choice."

9. L239: What do the authors refer to with the traditional approach?

Thanks for your comments. The "traditional approach" means the univariate statistics, which characterizes one variable only. We now directly call it univariate analysis approach. The revised sentence reads as follows: "The univariate analysis approach is to assume independence between rainfall and sea level, then the independence assumption would generally lead to lower design values compared to scenarios from the copula-based method."

10. L254: account -> accounts

Thanks for noting this. It has been corrected.