

Interactive comment on “Simulation of storm surge inundation under different typhoon intensity scenarios: Case study of Pingyang County, China” by Xianwu Shi et al.

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The paper is overall poorly written with no scientific findings. The methods do not appear to be novel and are not sufficiently well described. It looks like a hasty paperwork without proper content in both language and techniques. No robust theory, validation, bathymetry, or topography was shown. The way of deploying local grids and river/land boundaries is probably incorrect leading to odd simulation results. Quantitative analysis is quite missing. The manuscript fails to situate the current study and results in the context of the wider literature. The presented work is not scientifically adequate for the level of an EGU journal. Response: Thanks very much for your comments.

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We really greatly appreciate your kind help in the reviewing the manuscript. We substantially revised the paper based on your comments. (1) The author team has been carefully checked the manuscript again, and some minor errors was modified in the revised manuscript. The revised manuscript has been reorganized according to two short comments and two reference report. At the same time, we asked one language professional and Editage to improve the language issues of the revised manuscript. (2) This paper presents a method to analyze typhoon-induced storm surge under different typhoon intensities from the perspective of typhoon parameters, astronomical tide and upstream flood runoff. The proposed method was composed by four parts: model configuration, model validation, parameters setting and inundation simulation. Based on the historical observational data, the key parameters (e.g., typhoon track, radius of maximum wind speed, astronomical tide, and upstream flood runoff) could be set to drive the storm surge numerical model. The obtained results could serve as a basis for developing a methodology aimed at storm surge disaster risk assessment in coastal areas. The proposed method could be easily adopted in various coastal areas and serves as an effective tool for the decision making in storm surge disaster risk reduction practices. (3) In the revised manuscript, the methods would be reorganized as a single section to be presented, and a technical framework will be proposed for simulation of storm surge inundation under different typhoon intensity scenarios as shown in Fig 1 with a detailed description. (4) Fig 1 and Fig 2 were redrawn according to your advice, and the bathymetry and topography was added in the Figures. Detailed information could be found in the Response to Referent Report 1. (5) The quantitative analysis could be found in the Section of Calculation results, and more detailed information would be presented in the revised manuscript. Again, it will be our great honor to receive more helpful comments to improve the manuscript.

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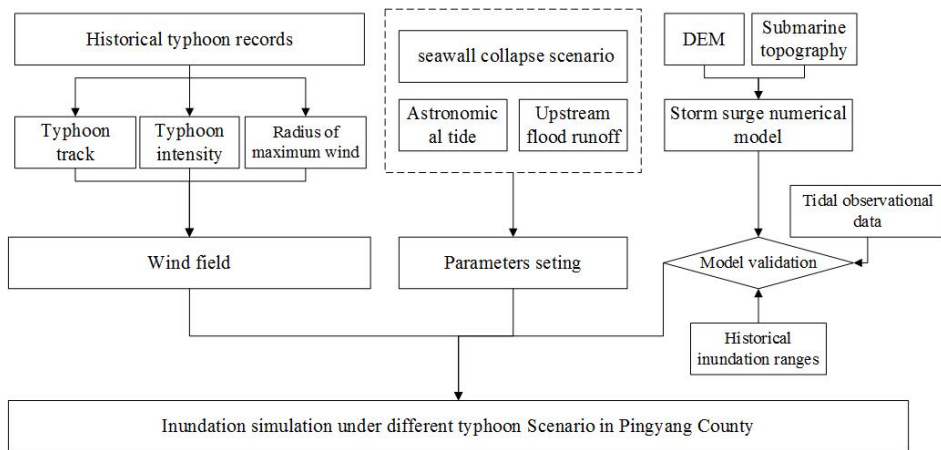


Fig. 1. Framework of inundation simulation under different typhoon scenario in Pingyang County