Response to Referee

Thank for insightful and constructive comments from Anonymous Referee. We have reviewed the comments and provided our responses herein. We truly believe that the changes suggested by Referee will enhance the quality of the manuscript. A point-by-point response is presented below.

R1:   What kind of bathymetric topography data used in this study?

A1:   Thank you for your comments. The main topography data for the study is from ASTER_DEM, which is the basic data for land use change simulation and flood inundation simulation. The ASTER_DEM data have good quality on land, and bathymetric topographic data weren't selected in the study. In addition, we describe the topographic data in detail in section 2.2 (Line 107-110).

R2:   In the section of Model validity, the author should illustrate the capability the LISFLOOD-FP flood inundation model. I suggest the author propose the validation plot between the observed and simulated value of storm surge and water level for tide stations used in this study.

A2:   Thanks for your comments. Through discussions with the project team and incorporating your suggestions, the validation relationship between the simulated and observed values of storm surge and water levels at the tidal station was plotted using the observed records from the Huangpu Park tidal station for comparison (with reference to the observed data from Yin (Yin et al, 2013)), and the results show a reasonable match between the simulated data and recorded data (Fig 1). The effectiveness of the Lisflood-FP model in this study area we have explained in section 3.3. In addition, we compare the two-dimensional flood inundation extent with the flood disaster records and the literature records, and show that the inundation results are in better agreement with the actual situation.

Thank you again for your comments, and we have added the corresponding

explanations in the manuscript (Line 191-196).
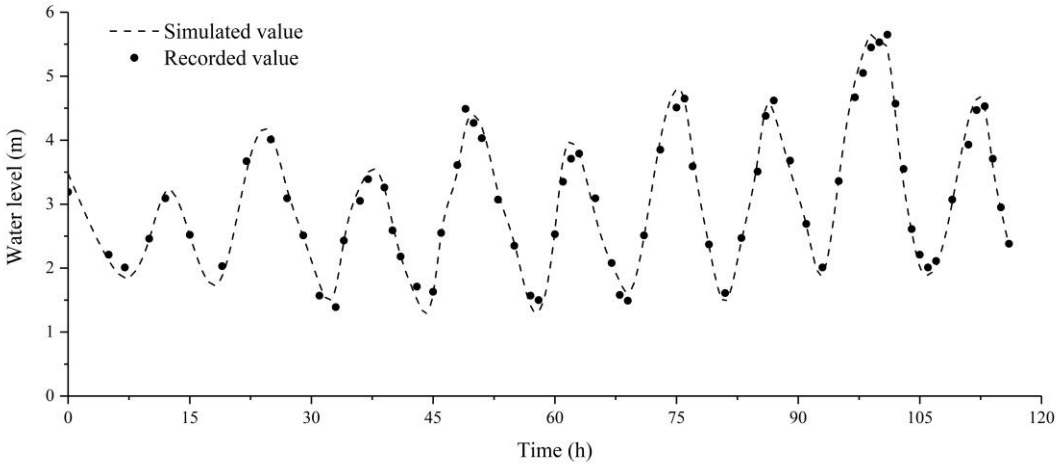
Fig 1. Comparison between the recorded and simulated values at the Huangpu Park tidal station.

R3:   A map of man-made flood defenses in Shanghai could be added in the Section of 2.2.

A3:   Thanks for your suggestions. Due to the need to show the study area map of Shanghai, we have shown a map of man-made flood defenses together with the study area in Fig. 1 of the manuscript. In addition, we have added the description of this data to section 2.2 (Line 122-124).