Referee comment on "Assessment of Flood Susceptibility Using Support Vector Machine in the Belt and Road Region" by Jun Liu et al., Nat. Hazards Earth Syst. Sci. Discuss., https://doi.org/10.5194/nhess-2021-80-RC2, 2021

The paper uses SVM to train geographic factors against DFO flood points and then predict flood susceptibility across the vast Belt and Road Region at a rough resolution of 0.1*0.1. Such a methodology is simple and is potentially applicable to other regions. However, several questions are still unclear and should be taken into account before a reasonable judgement of the model.

First, is it reasonable to use a single model to train the data and predict the flood susceptibility, as the study area is spatially vast and including very different geographic regions from the Tibet Plateau to the European Plain and from the Siberia to the deserts of central Asia?

Second, is the data quality of the DFO dataset acceptable? I see the authors mentioned that in the 4.4 section; however, the data quality was not thoroughly evaluated and discussed.

Third, how were the non-flooded areas/points selected from the DFO dataset? And what do the flooded points and non-flooded points represent? This question determine how we should understand the flood susceptibility.

Fourth, what are the key findings that are novel and instructive from the paper? The Abstract and Conclusion are very general.