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Comment on nhess-2022-36

Anonymous Referee #1

Referee comment on "A multi-strategy-mode waterlogging-prediction framework for urban flood depth" by Zongjia Zhang et al., Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2022-36-RC1>, 2022

This paper investigates applications of classic machine learning regression methods on prediction of urban waterlogging depth. This topic is worth studying and the whole study is well presented. There are several points needing special cares from the authors before I could recommend this paper for publication.

First, the authors are suggested to clarify the aim and scope of the whole study in the introduction, which should also be supported by the literature review. The literature review in its current form is lengthy and listed a wide range of methods that previous studies adopted for waterlogging prediction, and thus it is suggested to be reshaped to be more focused.

Upon clarifying the scope of the study, the authors are suggested to find a focus (a narrow-down) when presenting the whole study, which applies to the presentation of methodology, experiment results and respective discussions. The current version introduces everything in detail, which might somewhat distract the readers from core findings of this work. For example, if this paper is aimed at solving generalization problem by proposing a novel modeling framework, then the introduction of the traditional methods and their results should be considerably shortened.

Some minor points:

A flowchart is necessary for the case study as well, as there have been many details regarding data extraction, preprocessing and comparison between methods, etc. in the case study.

Figure 13 to 15, if not individually discussed in detail, are suggested to be moved to appendix.

There still remain grammatical errors throughout the manuscript. A thorough proofreading is needed.