

# ***Interactive comment on “Identifying urban areas prone to flash floods using GIS – preliminary results” by Marzena Wicht and Katarzyna Osinska-Skotak***

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RC = Reviewer comment AR = Authors reply

RC: General comments: This paper aims to create an easy-to-use methodology for identifying the urban areas that are particularly vulnerable to pluvial floods. Such an attempt is of significance to both scientific understanding of and practical management of pluvial flooding. However, the current version of this paper is not convincing in terms of scientific significance, scientific quality, and presentation quality, although the authors indeed developed a sound proposal and may achieve the accomplishment in the near future. A reject decision is therefore suggested and simultaneously authors are encouraged to continue improving this work.

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AR: On behalf of all of the authors, I'd like to thank the reviewer for the time spent on analysis of the manuscript

RC: 1. The methodology and results were not calibrated and validated. As authors mentioned, calibration and validation are expensive and difficult; however, they are still indispensable for a convincing research. If it is difficult to obtain the in-situ measurements, hydrological/hydraulic model results, and aerial photograph, household survey based on questionnaire may be an alternative tool to calibrate and validate the study.

AC: As mentioned in the manuscript, for the time being, the validation could not be conducted due to insufficient data. We stressed however, that those are merely preliminary results and the validation process based on 1D/2D hydrological model is planned for further research.

RC: I do not think the spatial variation in precipitation is a big problem for a study area of 327 ha. In contrast, a short-interval precipitation (one hour or less) should be applied for identifying urban flooding areas.

AC: Thank you for the suggestion. The data, which we were able to acquire prior to the study were simply daily summaries of precipitation from rain gauges (hourly steps, also rain gauges, measured automatically, not verified and not stored in the central database of Polish Meteorological Institute are not available free of charge). We recently got a confirmation that radar data (1 hour step) might be available for scientific purposes and we are currently inquiring to obtain it.

RC: 4. I suggest a clarified and well-structured presentation in future revision. For example, the Result section contained too many points that should be in Discussion section. It is nice to see 10 figures in a paper; however most of these figure only depicted very general information.

AC: We appreciate reviewer's suggestions – in the revised version of the manuscript we will focus on presenting strong points of the methodology and we will divide the

manuscript better. We also will decrease number of pictures to those essential ones.

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