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Hydrology and Earth System Sciences
Discussions

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

Anonymous Referee #3

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The paper aims at presenting a simplified methodology to identify urban areas prone to urban flooding due to intense precipitation.

In my opinion, this paper does not present novel approaches in the fields of GIS or pluvial flood modelling. As the authors present in the paper, the GIS methodologies used are well known and available at most of GIS software and the methodology presented lacks some of the advanced hydraulic analysis essential to fully understand the hydraulic behaviour of urban drainage systems.

Throughout the paper the authors identify some limitations of the presented study, e.g. the quality of the data sets is not adequate (e.g. too coarse) (lines 1-4 of Page 9) and the sewer network and the dynamics of urban drainage systems (especially

during flooding events) is not considered (Line 16 in Page 16). The authors seem aware of these limitations as they point various possibilities for further investigations. They should include these further investigations in the paper and, for example, use them as benchmark to assess the accuracy of the results obtained using the presented "simplified" methodology.

The methodology requires the use of a value of precipitation (in this case 39 mm/m2 - Page, line 28). Maybe the authors can relate this to a precipitation return period? of course the methodology does not consider the precipitation duration, but perhaps the concept of return period could be considered in the methodology!? 39 mm/m2 shall cause no relevant flooding issues if it happens during the time period of one month (see Tab 2 in page 8).

The structure of the paper must be revised, e.g. Section 1.2. seems too long; is all this information relevant to fully understand the paper?

Figure 4 caption is not related to the presented figure and is the same as Figure 6. Also, the quality (e.g. resolution and size) of the figures may be improved.

The level of English shall be improved: minor typos and major grammar deficiencies make the paper difficult to read.

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