



EGUsphere, referee comment RC2
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Comment on egusphere-2022-615

Anonymous Referee #2

Referee comment on "All models are wrong, but are they useful? Assessing reliability across multiple sites to build trust in urban drainage modelling" by Agnethe Nedergaard Pedersen et al., EGU sphere, <https://doi.org/10.5194/egusphere-2022-615-RC2>, 2022

The manuscript "All models are wrong, but are they useful? Assessing reliability across multiple sites to build trust in urban drainage modelling" by Pedersen et al. introduces a well devised and clear described framework to assess reliability of urban drainage models. The manuscript is on a high level, and I think it will be of interest to the readers. However, there are some weaknesses that should be addressed. One point is the link to existing uncertainty assessment frameworks, be it in urban drainage or other fields. Throughout the paper the link to uncertainty is observable but is never clearly made. There is a need to elaborate on this, also including more literature on the topic, and define the links and boundaries of this study. A second point is the statement of the missing studies on spatial variability of rain events. I would encourage a more through look into that also in the view of radar data. Some of the figures could also need a bit of work to clarify them to the reader (see also detailed comments). Finally based on the a bit provocative title, I would have expected more suggestion for possible ways forward and an applicability discussion of the framework in the conclusion rather than a mere summary of the results.

Detailed comments:

Line 50 – 51: There is more to say about quantifying uncertainties than GLUE.

Line 59 – 64: The assumption of only future low-cost level meters may be not the full picture, when also low-cost flow meters may occur (e.g. image based).

Line 91 – 91: Spatial variability of rain events and their impact on urban drainage models has been investigated several times.

Figure 2: I think the figure could be improved. Now it is a bit unsure why the cross sections are needed.

Figure 4: Location of uncertainties are defined in several papers. Why did you use the one shown here?

Table 3: What is the reasoning to put these exact boundaries between "green", "yellow" and "red"? Can that be changed depending on the objective or subjective factors?

Figure 7: Legend is quite small when printed.

Figure 10 and 11: More tables than figures I would say.

Figure 12: Coloring of the figure is very light.

Figure 13: The figure needs more explanation in the text. As it is at present, it is quite confusing.