

This manuscript proposes the Pluvial Flood Index (PFI) as a tool to assess and communicate pluvial flood hazard based on hydrological–hydrodynamic simulations. The approach consists of (i) defining pluvial flood hazard areas (PFHA) using thresholds of water depth, flow velocity, and specific discharge, and (ii) aggregating these hazard areas using a moving circular buffer to derive a dimensionless index (PFI), which is then classified into hazard levels. The manuscript addresses an important topic, as pluvial flooding remains challenging to assess and communicate, particularly at larger spatial scales and in the context of real-time warning. The idea of simplifying complex model outputs into a communicable index has clear practical relevance. This manuscript has already undergone one round of review, with one reviewer generally supportive and another raising substantial conceptual concerns. In my view, the manuscript has improved in clarity and better explains the intended purpose of the PFI as a large-scale, communication-oriented indicator. However, some conceptual issues remain partially resolved, particularly regarding (i) the novelty and scientific contribution of the PFI, (ii) the physical interpretation of the index, and (iii) the justification of key methodological choices (spatial aggregation and thresholds). Therefore, I recommend minor revision.

One issue raised by both previous reviewers concerns the novelty of the PFI. The authors acknowledge that the PFI can be interpreted as a post-processing step applied to standard hydrological and hydraulic model outputs. While they argue that the combination of hazard thresholds (PFHA) and spatial aggregation constitutes a contribution, the manuscript still does not clearly establish what is fundamentally new from a scientific perspective. At present, the PFI appears to be a threshold-based classification of model outputs, and a spatial smoothing (aggregation) of binary hazard fields. This does not invalidate the usefulness of the approach, but it raises the question of whether the contribution is primarily methodological or rather operational/communicative. Therefore, the authors should more explicitly position the PFI as either a practical/operational tool, or a scientifically novel index, and adjust claims accordingly. Overstating the conceptual novelty should be avoided.

Reviewer #2 raised an important concern that the PFI may be interpreted as a physically meaningful indicator of hazard, while in reality it largely reflects spatial smoothing of hazard patterns. The authors now clarify that the PFI is intended for regional-scale assessment and communication, not for local physical interpretation. This clarification is helpful. However, the manuscript still risks implying that the PFI represents a physically grounded hazard metric. In particular, the use of a moving circular buffer means that areas may receive elevated PFI values due to nearby hazards, even if local conditions are not hazardous. This raises the possibility of misinterpretation, especially by non-expert users. The authors could either clearly and consistently state that the PFI is a derived, scale-dependent indicator, not a direct physical measure of hazard or explicitly discuss the implications of spatial smoothing. Please consider adding a short subsection discussing limitations and interpretation guidelines for users.

The choice of a moving circular buffer ( $\sim 2 \text{ km}^2$ ) remains insufficiently justified. The authors indicate that this choice is based on experience and stakeholder discussions, but this remains largely qualitative. Given that the PFI is highly sensitive to the choice of buffer size, and weighting scheme, this is a critical methodological component. The thresholds used to define PFHA (depth, velocity, specific discharge) and the classification thresholds for PFI remain only partially justified. While the authors state that thresholds are based on safety considerations and experience, the workflow for defining them is still not transparent. Given that these thresholds directly determine the resulting hazard maps, this is a key issue. It is necessary to discuss uncertainty and transferability of the thresholds to other regions.

