

Dear authors,

Thank you for your efforts. I have included my suggestions below.

Best

For Abstract

The ARI formulation is not described explicitly. Please briefly include the core mathematical idea (example: accumulation of WRI-weighted events).

Please soften the language “valuable resource” and “precise analyses” to “potentially useful for” like phrases.

Introduction

The review is descriptive but not critical enough. For example, explicitly compare methodological paradigms (indicator-based vs statistical vs hybrid). Clarify why existing indices fail quantitatively.

The paper implies a gap but does not state a clear research question. Add a statement like “This study addresses whether a grid-based accumulation framework improves global multi-hazard risk differentiation.

Data acquisition

Over 50 deaths, this threshold introduces selection bias toward high-mortality events.

It ignores economic loss from disasters and slow-onset hazards.

Please provide a sensitivity analysis or a justification for why 50? What happens at 10 or 100?

You dismiss other indicators too strongly. Please acknowledge limitations, like “This study prioritizes mortality but does not capture economic or indirect impacts.”

You exclude some subtypes because there are no major events. This may distort hazard representativeness. Please clarify whether exclusion is methodological or data-driven, and the potential bias introduced.

Mathematical clarity

Equation (3) is poorly formatted and unclear, and variables are not clearly defined. Please rewrite the equation cleanly and define all variables explicitly.

Remote Sensing Dataset

The dataset feels somewhat detached from the risk model. Please explicitly link: how ARI guides dataset selection and potential ML applications.

Image filtering criteria are vague, for instance, “removing damaged or irrelevant images.”

Please define quality criteria and a preprocessing pipeline.

Also, please discuss geographic imbalance, not only focus on Asia.

For Conclusion

There is an overgeneralization. Claims about “bias in traditional methods” are not rigorously proven. Please tone down or support with a quantitative comparison.

For the limitation, please add data bias (EM-DAT), mortality threshold bias, spatial simplification, and ARI assumptions.

Your future work is too generic. Please add concrete directions, dynamic ARI, integration with climate projections, and machine learning applications.

Regards.