

Call for Papers for a Special Issue of *Risk Analysis*

Risk Communication, Uncertainty, and Decision-Making in Flood Risk Management

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Floods are among the most consequential natural hazards globally, producing substantial risks to life, public health, infrastructure, economic systems, and ecosystems. Advances in hydrologic modelling, probabilistic forecasting, and engineering design have improved the technical characterisation of flood hazards. However, the effectiveness of flood risk management depends not only on hazard estimation but also on how uncertainty, possible future scenarios, and potential consequences are communicated and incorporated into decisions by individuals, organisations, and institutions.

This Special Issue focuses on risk communication as an integral component of risk analysis and decision-making under uncertainty in flood risk management. We seek contributions that advance theoretical, methodological, or empirical understanding of how communication structures influence risk perception, interpretation of uncertainty, behavioural responses, and risk-informed decisions.

Submissions should advance risk analysis as a discipline by incorporating explicit uncertainty characterisation, decision-analytic framing, behavioural modelling, or systematic evaluation of how alternative communication strategies affect decisions and outcomes. Qualitative studies with strong analytical and theoretical contributions are welcome; however, descriptive case studies without analytical insight, or policy discussions lacking formal treatment of risk or uncertainty, are unlikely to be suitable.

Flood risk management presents a paradigmatic setting for decision-making under uncertainty, where probabilistic forecasts, incomplete knowledge, behavioural responses, and institutional constraints interact. By integrating uncertainty characterisation, communication design, and decision analysis, this Special Issue seeks to advance the science and practice of risk-informed flood management in the context of climate change, socio-economic development, and evolving governance systems.

Scope and Topics of Interest

Topics include, but are not limited to:

1. Uncertainty Characterization and Communication

- Probabilistic flood hazard modelling, uncertainty propagation and use within decision making.
- Communication of aleatory and epistemic uncertainty
- Interpretation of probabilistic forecasts and ensemble predictions
- Sensitivity and robustness analysis of communicated risk metrics

2. Decision-Analytic Frameworks

- Risk-informed decision thresholds for early warning systems
- Trade-off analysis (false alarms, missed events, evacuation timing)
- Value-of-information and value-of-communication analysis
- Adaptive and robust decision-making under deep uncertainty
- Integration of communication strategies within formal decision models

3. Behavioural and Institutional Dimensions

- Behavioural responses to flood risk information
- Cognitive biases in interpreting probabilities and maps
- Trust, credibility, and institutional design for effective communication
- Incentive-compatible and strategic communication under asymmetric information
- Experimental and quasi-experimental evaluations of communication formats

4. Risk Mapping and Visualization

- Evaluation of flood risk maps and visualisation tools
- Comparative analysis of communication formats
- Assessment of how visualisation choices affect decision quality

5. Climate Change and Long-Term Adaptation

- Communication of evolving flood risk under climate change
- Long-horizon uncertainty and scenario analysis
- Governance frameworks for adaptive flood risk management and resilience

6. Comparative and Applied Studies

- Empirical evaluations of flood risk communication failures and successes
- Comparative analyses across jurisdictions
- Lessons learned with transferable analytical insight

Analytical Expectations

Submissions should demonstrate one or more of the following:

- Explicit modelling of uncertainty and its propagation into decisions
- Sensitivity or robustness analysis
- Formal decision-analytic framing (e.g., thresholds, trade-offs, optimisation)
- Empirical or experimental evaluation of communication effectiveness
- Clear demonstration of how alternative communication strategies change decisions or outcomes
- Transferable methodological contributions beyond a single case

Purely descriptive flood surveys, deterministic risk calculations, or narrative discussions without analytical advancement are unlikely to meet the standards of *Risk Analysis*.

All submissions will be evaluated for their contribution to advancing risk analysis theory, methods, or practice.

Paper Submission

Submitted articles must not have been previously published or currently submitted for review or publication elsewhere. As an author, you are responsible for understanding and adhering to the submission guidelines at [Risk Analysis](#).

Please read the guidelines before submitting your manuscript and go to the Risk Analysis submission portal at: <https://wiley.atyponrex.com/journal/RISA>

Please note in your cover letter that your submission is intended for this special issue and select the Special Issue name in your submission steps. Each paper will go through the standard double-blind review process used for regular submissions to *Risk Analysis*. Accepted papers will be published online promptly.

Important Dates

Deadline for Manuscript Submission: January 31, 2027

First Reviews Expected: April 30, 2027

Special Issue Finalized: Autumn 2027