

# Harnessing AI for Flood Risk Management

The ASFPM Foundation has released ***Harnessing AI for Flood Risk Management: Integrating People, Data, and Action***—a summary report from the 7th Assembly of the Gilbert F. White National Flood Policy Forum – Floodplain Management in the Era of Big Data & Artificial Intelligence, held in Washington, DC in 2025. This report captures insights from nearly **90 floodplain management, policy, and AI experts** who came together to explore how artificial intelligence

can responsibly support flood risk management—while preserving transparency, technically defensible analysis, and professional judgment. The report captures discussions on emerging AI applications for hazard and risk identification, mitigation, regulatory processes, and risk communication, while also addressing governance, ethical considerations, and the need for standards and policy safeguards.

Through a series of presentations, panel discussions, and breakout sessions, the Forum had three outcomes:

## Forum Outcomes



### Awareness

Build awareness and understanding of impacts and implications for all facets of floodplain management



### Safeguards

Identify and explore areas in need of standards, best practice, or other policy safeguards



### Opportunities

Explore and envision as-yet-untapped opportunities to harness the power of AI within floodplain management

By the concluding plenary, participants coalesced around three key takeaways:

## Forum Key Takeaways on AI:

### It's About Data

The effectiveness of AI depends fundamentally on the quality and quantity of data used to train its models. Data serves as the foundation for AI's pattern recognition, prediction, and decision-making capabilities.

### AI as a Tool—Humans Remain Essential

While AI can dramatically enhance decision-making and productivity, it is ultimately a tool designed to augment, not replace, human expertise and judgment. Human insight, creativity, and ethical reasoning are irreplaceable in guiding AI's application.

### Potential with Guardrails

AI's transformative potential is vast, but harnessing its benefits requires the implementation of robust guardrails. Responsible development and oversight ensure that AI operates safely, ethically, and in alignment with organizational and societal values.

To create actionable steps based on the three key takeaways that crosscut all facets of floodplain management, the ASFPM Foundation in partnership with the ASFPM AI subcommittee determined eleven unique recommendations for subsequent review

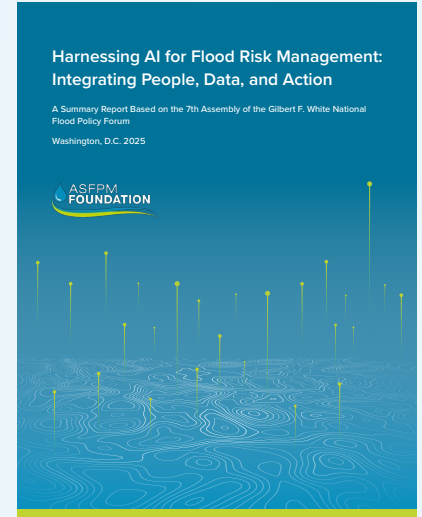
and implementation. The ASFPM Foundation will continue working with ASFPM and external partners to advance these recommendations and support the careful, constructive use of big data and AI across floodplain management.

## Summary of Recommendations\*

- 1** Organize a series of webinars and discussion forums on AI and floodplain management
- 2** Compile and publish AI use cases
- 3** Establish AI governance and policy framework for AI usage
- 4** Review AI accreditation process and professional standards
- 5** Institutionalize professional oversight for public safety
- 6** Promote data quality and transparency and accountability of AI development and deployment
- 7** Upskill the existing workforce and incentivize knowledge exchange
- 8** Foster collaboration and co-development
- 9** Collaborate on providing best practices and technical support
- 10** Conduct an AI pilot project focusing on communication applications
- 11** Explore the regulatory sandbox concept

## Forum Outcome

- Awareness
- Awareness Safeguards Opportunities
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The full report and related forum materials are available on the ASFPF Foundation website:

[www.asfpf.com/events/gilbert-f-white-forum.php](http://www.asfpf.com/events/gilbert-f-white-forum.php)



\* An explanation of each recommendation and a crosswalk with each outcome, facet, and audience is provided at the end of this report.

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