

Why Waiting Is Deadly in a Tsunami

AI simulations reveal the life-or-death cost of delay in evacuations.

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THE DATA

Time to evacuate safely

The model, developed by Gubler and Carvajal, uses real-time seismic and coastal topography data to simulate evacuation dynamics across high-risk zones. It reveals that in densely populated coastal regions, every second counts — with survival dropping sharply beyond the first minute. This is not theoretical; the model is being tested in Indonesia, where tsunami drills are already being optimized based on these findings.



Source: Nature · Published November 04, 2026
https://www.nature.com/articles/d41586-026-03539-5

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AI Models Real-World Panic

By integrating behavioral dynamics with geospatial data, the model captures the true complexity of disaster response. This enables emergency planners to design more effective public alerts and signage that account for cognitive delays — a critical step in reducing fatalities during actual events.



02

AI as a Crisis Decision Engine

This represents a shift from reactive disaster management to predictive, human-in-the-loop resilience — a paradigm that could redefine safety standards for high-risk infrastructure globally.

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