

ISLAND SECURITY POLICY INSTITUTE

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COMMENTARY

When the Ocean Comes Inland

Tsunami Preparedness Policy for Pacific Island and Hawaii Coastal Communities — What the Warning Systems Miss

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On March 11, 2011, the Pacific Tsunami Warning Center in Ewa Beach, Hawaii detected the magnitude 9.0 Tohoku earthquake off Japan's coast and began issuing warnings across the Pacific basin.¹ The warning system worked. The evacuation orders were largely effective. And yet, post-event analysis documented near-misses in low-lying Pacific Island communities where the combination of warning-to-inundation time, evacuation route capacity, and community warning receipt created windows of risk that the warning system's technical success obscured.

Tsunami preparedness for Pacific Island and Hawaii coastal communities is not primarily a technical problem — the Pacific Tsunami Warning Center represents world-class early warning capability. It is a community preparedness and policy problem: how warning translates to evacuation behavior in the specific geographic, social, and infrastructure conditions of individual island communities.

The Translation Problem

Pacific Island and Hawaii coastal communities include significant populations whose primary language is not English — Chuukese, Marshallese, Pohnpeian, Ilocano, and other Pacific Island language communities where English-language warning alerts may not achieve effective receipt within the evacuation window available for local tsunami events.² Evacuation route capacity analysis for Pacific Island and Hawaii coastal communities is frequently performed for average conditions and rarely for the post-seismic degraded conditions in which tsunamis actually require evacuation.

ISPI Recommendations

1. Fund multilingual tsunami warning dissemination capability for Pacific Island and Hawaii coastal communities with significant non-English-speaking populations — community-level warning networks in Pacific Islander community languages within the evacuation window.
2. Commission evacuation route capacity analysis for Pacific Island and Hawaii coastal communities that accounts for post-seismic road degradation, not just normal traffic flow assumptions.
3. Develop community-based tsunami preparedness programs for Pacific Island diaspora communities in Hawaii bridging the gap between technical warning system capability and community-level preparedness behavior.

NOTES AND REFERENCES

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