THE TRADITIONAL ECOLOGICAL KNOWLEDGE AND MITIGATION NEXUS: THE PAMUNKEY INDIAN RESERVATION

SUMMARY

Sea level rise has reduced land area and altered the way the Pamunkey Indian Tribe interacts with the shoreline. Existing mitigation projects require carefully considered expansion to limit further damage.

This participatory mapping exercise assessed the influence of sea level rise maps on traditional ecological knowledge holder priorities and solutions for flood management. Input was spatially referenced and entered into a matrix to identify resilience building benchmarks.

KEY FINDINGS

- Maps of sea level rise highlight the urgency of protecting housing and heritage sites along the shoreline.
- Traditional ecological knowledge suggests that relocation is appropriate to adapt to sea level rise. However, structural solutions implemented with respect for traditional livelihoods (i.e., fishing, hunting, and clay digging) are less extreme, interim alternatives to maintaining access to the reservation and protecting known and unknown artifacts.
- Mitigation decision making and implementation requires impact assessments, tribal council support, federal assistance, and community capacity building.

POLICY IMPLICATIONS

- The impacts of sea level rise have accelerated, and traditional ecological knowledge is relevant to establish multi-generational parameters for mitigation and adaptation for associated flooding.
- Land rights, infrastructure, cultural assets, and human-water relationships should be considered in risk assessments on reservations and surrounding jurisdictions.
- Local priority assets are clear to mitigation stakeholders when georeferenced and integrated into interactive visualization tools.
STAKEHOLDERS

Stakeholders who may find this work interesting include coastal tribes, federal agencies, emergency management organizations, and mitigation planners.

Flood Protection Priorities Web Map Used for Participatory Mapping