A HAZARD RESILIENT FUTURE FOR NAVAL STATION NEWPORT

A MILITARY INSTALLATION RESILIENCE REVIEW FOR SHORT-TERM PREPAREDNESS AND LONG-TERM PLANNING

PROJECT OVERVIEW

This Military Installation Resilience Review (MIRR), funded by the U.S. Department of Defense Office of Local Defense Community Cooperation, will enhance military readiness and defense capabilities of Naval Station (NAVSTA) Newport and support the economic development of the Aquidneck Island community. State-of-the-art hydrodynamic storm models will illuminate threats, impacts, and consequences of storm events and sea level rise affecting NAVSTA Newport and its inter-dependencies within three host municipalities. The approach developed through this innovative 18-month project will be transferrable to other U.S. military installations. This effort aligns with recent directives from the U.S. Department of Defense that prioritizes national security in the face of climate change and with the National Defense Strategy.

This project will create a roadmap for resilience enhancements for NAVSTA Newport in coordination with the island communities, which have addressed related concerns within comprehensive, hazard mitigation, and resilience plans specific to each municipality. This project functions as a partnership between NAVSTA Newport—including tenants Naval War College (NWC) and Naval Undersea Warfare Center (NUWC)—the City of Newport, the University of Rhode Island, and the Naval Postgraduate School (NPS). The Steering and Technical Committees provide direction and expertise to the research team and include representatives from all three neighboring municipalities, as well as key island and state leaders.

SCENARIO AND MODEL DRIVEN APPROACH

Storm modeling programs help people visualize and understand the impacts of major weather events and sea level rise. These models simulate past and potential weather events to evaluate impacts and consequences of future events. They also account for the effects of sea level rise on storms, and the ramifications of sea level rise itself. These models integrate expert-identified concerns regarding risks for assets and supporting infrastructure systems (e.g., transportation), as well as cascading consequences.

Flood risk of a 1% annual chance (100-year) flood affecting NAVSTA Newport (STORMTOOLS)

STAKEHOLDER INVOLVEMENT AND END USE

Naval War College located on Coasters Harbor Island

Committee members representing NAVSTA Newport and key tenants—NUWC and NWC—DoD, state agencies, and the surrounding three municipalities work collaboratively with the project team. These representatives also identify critical facilities and parameters of storm models in order to ensure that results are relevant and meet their planning needs. The end products of this MIRR will facilitate collaborative resilience strategies among these key stakeholder groups and enhance emergency preparedness for NAVSTA Newport within its coastal community.

PROJECT OUTCOMES

Final MIRR Report	Report with vulnerabilities and a roadmap for resilience enhancements
Interactive Mapping and Dashboard Platform	Allows users to explore, filter, and display storm hazards and resulting consequences
Storm Model Simulations and Outputs	Hurricane and Nor'easter coastal storm simulations that incorporate projected sea level rise scenarios
Consequence Thresholds Database	Datapoints georeferenced and associated with a specific hazard threshold
Visualizations	Set of high-resolution 3D visualizations of storm impacts on study area
Sustainability Plan for Hazards Impact Mapping Tool	For use in emergency response and/or long-term planning exercises such as island development and evacuation plans

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