



Supply and Logistics: Preparing for and Responding to Climate-Driven Surprise

AT A GLANCE

WHAT IS IT?

The DoD requires supply and logistics systems that ensure warfighting capabilities and missions remain resilient to climate change.

WHY DOES IT MATTER?

DoD relies on the movement of and access to key resources including water, energy, transportation, communications, food, weapons, and human resources – the same resources necessary for a functioning civilian society. The continued operation of critical military and civilian infrastructure in the presence of climate-driven failures is vital to mission assurance and national security.

WHAT IS NPS' ROLE?

NPS is leading the analysis, planning, and resourcing to prepare for and bounce back from climate-driven surprise events. NPS Research and executive training supports the continued operation of supply and logistics networks even when natural disasters impact operations. NPS is also at the forefront for thinking through climate adaptation supply chains such as low carbon technology.

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Naval Station Newport



*Fictionalized depiction of Newport infrastructure.

Evacuation + Flooding

MCRD Parris Island



*Fictionalized depiction of Parris Island infrastructure.

Mission Dependencies

MCBH Kane'ohe Bay



*Fictionalized depiction of K-Bay infrastructure.

Last-Mile Supply Chains

NPS is conducting research and education to address climate related supply and logistics challenges to critical infrastructure.

Impacts of Climate-Driven Events on Installation Resilience: NPS research integrates the study of climate-driven events into strategic and operational planning via vulnerability analyses and systems modelling. Analytic techniques include machine learning and optimization algorithms to formulate dynamic decision models for future disasters. Resilience assessments for installations include informed decision-making for future hurricanes for Naval Station Newport and surrounding communities.

Last Mile Supply Chain Analysis: Novel assessments for Naval installations vulnerable to future climate surprises, including Marine Corps Base Hawaii, have supported critical infrastructure readiness and last-mile supply chain resilience inside and outside the fence line.

Disaster Preparedness, Response, and Recovery: NPS improves disaster planning operations by researching the design, operation, and adaptation of resilient infrastructure systems and supply networks. Emphasizing resilience engineering theory improves system design and emergency operations, such as protecting local communities that share critical infrastructure systems and resources with DoD installations.

DoD Microgrid Analysis for Energy Resilience: NPS is conducting cutting-edge research in distributed generation, smart grid and microgrids, and transformational technologies such as low-carbon and advanced batteries. This improves installation and operational energy resilience.

Innovative Executive Training and Education: NPS outreach continues to support NAVFAC Civil Engineering Corps and civilian public works officers who manage climate-driven surprises and maintain mission assurance.