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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The Department of Defense Climate Adaption Plan states that specific attention should be given to last-mile supply chains in theater in addition to onshoring and hardening locations of supply. Key recommendations for supply chain resilience to major climate-related disasters focus not only on the production and shipping of supplies, but the last-mile movement of supplies to their final use.

It is acknowledged that ignoring last-mile issues will lead to fragile plans for the Department of Defense affecting defense personnel and missions in emergency management, humanitarian assistance, and disaster relief.

NPS is conducting research and education to address climate related supply and logistics challenges to critical infrastructure with the following activities:

- **Impacts of Climate-Driven Events on Installation Resilience:** Integrating the study of climate-driven events into strategic and operational planning via vulnerability analyses and systems modelling.
- **Last Mile Supply Chain Analysis:** Novel assessments for Naval installations vulnerable to future climate surprises have supported critical infrastructure readiness and last-mile supply chain resilience inside and outside the fence line.
- **Disaster Preparedness, Response, and Recovery**: Improving disaster planning operations by researching the design, operation, and adaptation of resilient infrastructure systems and supply networks.
- **DoD Microgrid Analysis for Energy Resilience:** Cutting-edge research in distributed generation, smart grid and microgrids, and transformational technologies such as low-carbon and advanced batteries.
- **Innovative Executive Training and Education:** Support of NAVFAC Civil Engineering Corps and civilian public works officers who manage climate-driven surprises and maintain mission assurance.


MCBH Kaneohe Bay

NAVSTA Newport

NPS has led key supply chain studies that support Naval installations across diverse problem sets and areas of responsibility, including evacuation coordination and planning for Naval Station Newport and emergency food pre-positioning and distribution for Marine Corps Base Hawaii