

Resource Conservation and Resiliency



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Research that advances DoD's management of its natural resources and improves understanding of climate change-related impacts and adaptation needs.

Department of Defense (DoD) Need

As one of the nation's largest federal land managers, DoD serves as steward of extensive natural resources. Military installations are safe havens for hundreds of listed and at-risk species. They encompass a wide variety of ecological systems that contribute to the nation's biological diversity.

The natural and built infrastructure of installations provides the foundation for training and testing missions and overall military readiness. Military ranges provide the contiguous, unencumbered spaces needed to closely replicate the operational environment. The provisioning of realistic training and testing environments must be met in a manner that is sustainable over long time horizons, is responsive to environmental compliance and stewardship requirements, and accounts for new challenges posed by climate change and surrounding land uses.

Climate-related effects already are being observed at DoD installations in particular regions of the United States, including coastal environments. The direction, degree, and rate of these changes will differ by region, as will the impacts to the military's infrastructure and capabilities. Vulnerable assets must be identified, impacts assessed, and appropriate adaptive responses determined.

SERDP and ESTCP's Strategic Investments

SERDP and ESTCP's Resource Conservation and Resiliency program area is developing the science, technologies, and methods needed to sustainably manage DoD's installation infrastructure. Specific areas of investment are listed below.

- **Natural Resources** - Ecological forestry, arid lands ecology and management, cold regions ecology and management, pacific islands ecology and management, coastal and estuarine ecology and management, living marine resources ecology and management, species ecology and management, and watershed processes and management.
- **Climate Resiliency**- Adaptation science, land use and carbon management, and vulnerability and impact assessment.
- **Air Quality** - Fugitive dust and fire emissions.

Innovative Environmental Solutions

SERDP and ESTCP investments in science, engineering, and technology help to improve the environment and sustain military readiness. Our researchers have made many distinguished contributions to environmental science and technology. Practical application of these findings provides solutions to the complex challenges of ensuring responsible environmental management while meeting critical military missions. Learn more about our investments and products at www.serdp-estcp.org.