



REPI

UNITED STATES DEPARTMENT OF DEFENSE
READINESS AND ENVIRONMENTAL
PROTECTION INTEGRATION PROGRAM

FISCAL YEAR 2023
INSTALLATION RESILIENCE CASE STUDIES



EXECUTING INSTALLATION RESILIENCE PROJECTS THROUGH THE REPI PROGRAM

The Department of Defense (DOD) plays a critical role at the intersection of national security and conservation. Climate change and extreme weather events continue to alter the Department's training environments and create new constraints for the warfighter. To respond to the rapidly changing climate, DOD has developed strategic plans that outline requirements and lines of effort for reducing the adverse impacts of climate change on military operations. The **2021 DOD Climate Adaptation Plan (CAP)** serves as a key roadmap for DOD and the Military Services to enhance resilience across installations and their neighboring communities. The DOD CAP details five lines of effort DOD will support to ensure the Department can operate under changing climate conditions, including:

1. Promoting climate-informed decision-making
2. Training and equipping a climate-ready force
3. Creating resilient built and natural infrastructure
4. Ensuring supply chain resilience
5. Enhancing adaptation and resilience through collaboration

To create resilient natural infrastructure and enhance adaptation and resilience through collaboration, DOD leverages the Readiness and Environmental Protection Integration (REPI) Program. Through the REPI Program, military installations and ranges work with conservation partners to preserve compatible land uses, protect critical habitats for endangered species, and enhance installation resilience to climate change. Under **10 U.S. Code (U.S.C.) § 2684a**, the Military Services can plan, design, and implement nature-based solutions outside military installations and ranges to protect critical mission capabilities. These solutions are complementary to other activities eligible for funding through the REPI Program, including conserving natural habitats and safeguarding areas of cultural or historical importance.

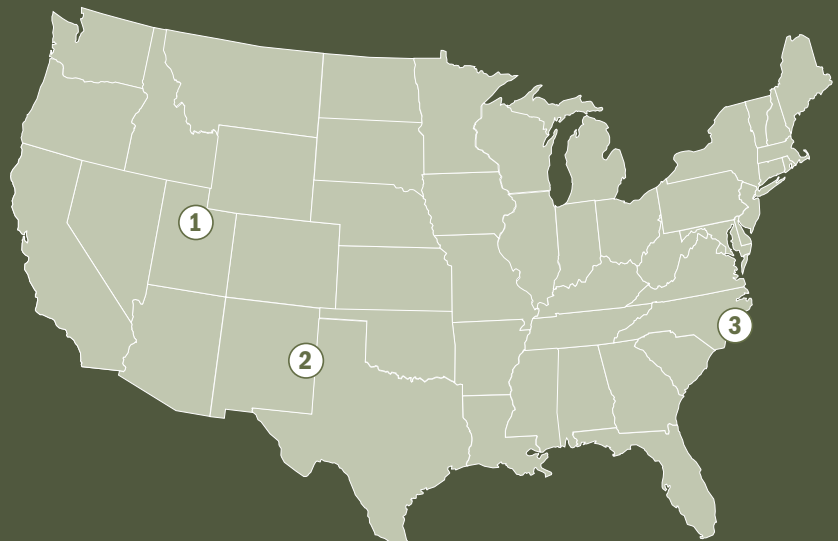
CASE STUDIES FOR CONSERVATION AND CLIMATE SOLUTIONS

To learn more about how installations are creating innovative solutions through the REPI Program, members of the REPI office interviewed installations with innovative ideas for protecting infrastructure, missions, and other assets from climatic conditions and landscape changes outside the installation.

THE THREE INSTALLATIONS SHOWCASED IN THIS SERIES INCLUDE:

- 1 Camp Williams, Utah
- 2 Cannon Air Force Base, New Mexico
- 3 Marine Corps Air Station Cherry Point, North Carolina

For each installation, the REPI office selected a specific authority, activity, or other creative project component to focus on for the interview. Interviewees then shared information on how they developed the project idea, any challenges they have overcome to date, and advice for other installations interested in creating similar REPI projects.





CANNON AIR FORCE BASE

ESTABLISHING WATER RIGHT LEASE AGREEMENTS

Interviewees: Jeffrey Davis, Realty Specialist, Cannon AFB, U.S. Air Force;
Ladona Clayton, Executive Director, Ogallala Land & Water Trust

OVERVIEW

Cannon Air Force Base (Cannon AFB), home of the 27th Special Operations Wing, is also the western home of the Air Commando and other U.S. Special Operations Command components. The missions of the wing include infiltration, exfiltration, and resupply of special operations forces; air refueling of special operations rotary wing and tiltrotor aircraft; and precision fire support. These capabilities support a variety of special operations missions, including direct action, unconventional warfare, special reconnaissance, counterterrorism, personnel recovery, psychological operations, and information operations.

Q: Can you explain how drought threatens the missions at Cannon AFB?

A: Cannon AFB lies in the high plains of eastern New Mexico, near the Texas Panhandle. The region is extremely dry, which makes access to potable water critical for mission sustainment. Over the last 15 years, the water levels of the Ogallala Aquifer, Cannon AFB's sole source of potable water and one of the world's largest fresh groundwater resources, have been declining drastically due to groundwater mining. Based on current trends and water usage, the Ogallala Aquifer is predicted to be depleted in about 10 years. Groundwater pumped for irrigation farming from the Ogallala Aquifer is the principal driver of the region's agricultural-based economy. Unfortunately, intensive irrigated agriculture and ongoing development are draining the aquifer much faster than limited rainfall can recharge it.

Q: How are you addressing impacts to the Ogallala Aquifer through the REPI Program?

A: The Ogallala Aquifer is the primary water source for the base, making it a key priority for DOD to protect. The installation took a unique approach by using a Water Right Lease Agreement (WRLA) to secure water rights in the area and safeguard critical groundwater resources. Working in partnership with the Ogallala Land & Water Conservancy, the installation used REPI Program funding to secure three-year, short-term water right lease agreements to provide immediate relief to the strained aquifer. This partnership allows time to support local farmers' transition to more sustainable agricultural practices, such as converting to dryland farming or natural grasslands, and to work on securing perpetual groundwater conservation easements. During the first three years of water right lease agreements, with only ten initial participating landowners, a total of 12 billion gallons of groundwater will be saved to support mission-critical operations at Cannon AFB and preserve natural resources and quality of life for the communities of Curry County and the City of Clovis.

Q: Water Right Lease Agreements are a new use of the REPI Program's authority. Did you experience any complications while executing the project?

A: The installation faced delays in making sure the project met all legal requirements. Since the installation used a three-year WRLA to place the water right and the groundwater under contract, as opposed to traditional land conservation efforts, it required the installation and partner to negotiate state and local laws resulting in multiple iterations of the WRLA over several months to obtain support from the Air Force legal staff. Landowners anticipated execution of the WRLA after postponing the original deadline, and the Air Force REPI Program and Eligible Entity, the Ogallala Land & Water Conservancy, came through on time. In addition, the Ogallala Land & Water Conservancy had to work closely with local landowners to establish support for the project activities and ensure landowners did not feel excluded from this opportunity.

**Q:****How would you advise other installations and partners who want to pursue a similar project?**

A: Building community support with local and state governments and landowners is crucial for project success. To build community relationships, Cannon AFB initially collaborated with a local farmer and agricultural consultant who had existing personal relationships with the other farmers in the area. The installation then looked to the Conservancy to continue cultivating these relationships. In addition, the installation and the Ogallala Land & Water Conservancy also reviewed and refreshed existing data, such as the community's Master Water Assurance Plan and hydrogeologic mapping around the Ogallala Aquifer, to drive project priorities and plans. The local knowledge combined with the quantitative data helped better inform the installation and partner's understanding of the feasibility and design of the project.