REPI

UNITED STATES DEPARTMENT OF DEFENSE
READINESS AND ENVIRONMENTAL PROTECTION INTEGRATION PROGRAM

FY 2024 REPI CHALLENGE GUAM

The REPI Program

The Department of Defense's (DOD) Readiness and Environmental Protection Integration (REPI) Program facilitates long-term, collaborative partnerships that improve resilience, preserve essential habitats and natural resources, and promote sustainable land uses near installations and ranges.

REPI Challenge

For the 13th consecutive year, the REPI Program hosted the annual REPI Challenge, a competition with dedicated funding to advance REPI project outcomes through large-scale innovation and conservation. The REPI Challenge aims to:

Cultivate new projects that protect natural and cultural resources using diverse funding avenues.

Protect critical testing and training capabilities while fostering long-term sustainability for communities surrounding installations.

Support DOD's strategic priorities and the REPI Program in meeting its ambitious conservation goals.

Harness the creativity of organizations with shared priorities to access unconventional funding sources and leverage market-based approaches.

REPI Challenge Investments in Guam

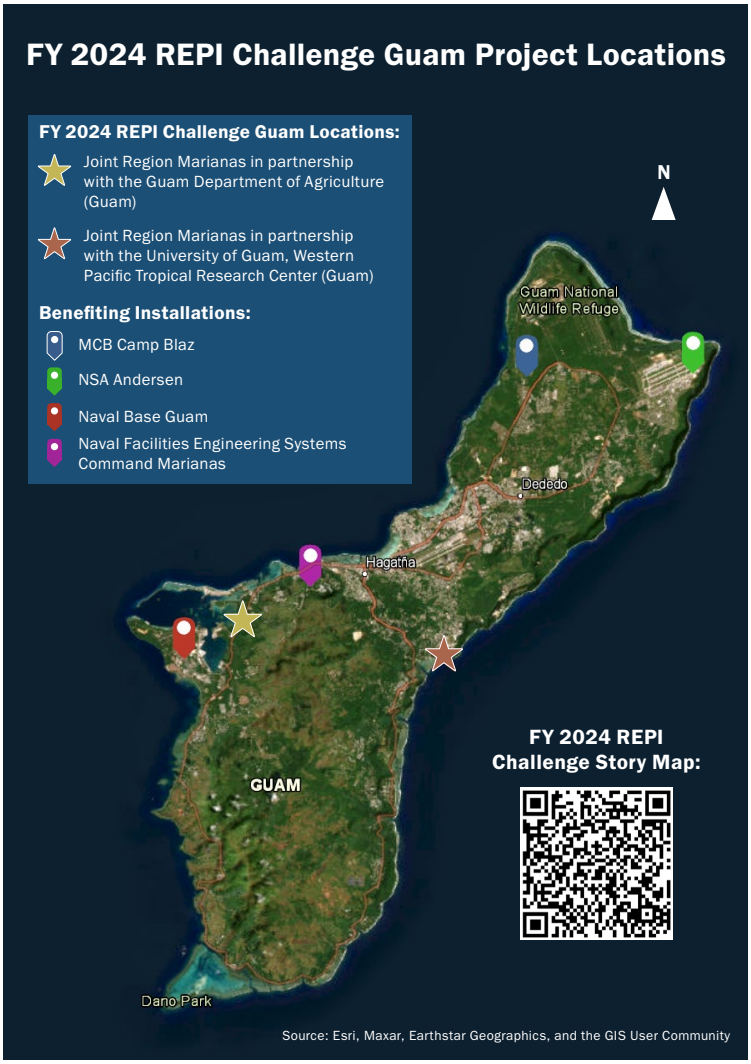
Since the first REPI Challenge project launched in Guam in 2023, the four funded projects on Guam represent the following:

- **$4.4M** in REPI Program funds invested in protecting vital natural resources and critical military missions;
- **$6.0M** in partner contributions, providing a cost-savings ratio over 1:1; and
- **Four project locations** with projects restoring critical habitats and native forests, protecting Guam's aquifer, enhancing climate adaptation efforts, and promoting compatible land use.

FY 2024 REPI Challenge Collaborates with Partners to Prioritize Ecosystem and Watershed Restoration in Guam

The FY 2024 REPI Challenge in Guam has **contributed $1.3 million** in REPI Program funds to be coupled with **$1.3 million** in partner contributions. These funds will help implement **two new projects in Guam** that strategically work towards **improving ecosystem and watershed resilience**, which supports **long-term sustainability in the region**. The FY 2024 REPI Challenge projects across the country are preserving the DOD mission through collaboration with conservation partners and state and local governments. By allocating funds to projects in Guam, the FY 2024 REPI Challenge will contribute to initiatives safeguarding the military mission at **Naval Facilities Engineering Systems Command Marianas, Marine Corps Base Camp Blaz, Naval Base Guam, and Andersen Air Force Base**.

FY 2024 REPI Challenge Guam Project Locations



For more information about the REPI Program and supportive DOD efforts, please visit www.repi.mil.

Joint Region Marianas

in partnership with the **Guam Department of Agriculture**, Guam

Evaluating Watershed Management and Restoration Success

- The Guam Department of Agriculture (DOAG), whose mission is to develop and protect the island's agriculture, natural resources, and aquatic and wildlife resources, has identified the protection and restoration of coastal ecosystems as a priority of the Department. To protect critical watersheds, DOAG has partnered with the Naval Facilities Engineering Systems Command Marianas to identify data gaps in watershed management planning that can help shape improvements for landscape-scale restoration.
- Watersheds on Guam are experiencing degradation as a result of the impacts of invasive species, fire and the effects of a changing climate, leaving these coastal installations vulnerable to extreme weather events. While watershed management efforts have been ongoing for several years, the effects of these activities on downstream areas have not been well documented.
- This project will develop baseline water quality data in the Piti-Asan watershed, a priority watershed home to Joint Region Marianas (JRM) facilities, including sites with endangered snails, and is upstream of one of Guam's five marine protected areas. Collecting water quality baseline data will inform watershed management practices to improve near shore water quality and increase survival and growth rates for an in-water coral nursery which will serve as an important source of coral to restore and rehabilitate reefs around the island. The resiliency of coastal installations and communities relies on healthy coral reef systems and their ability to serve as natural infrastructure to protect coastlines.

Anao, Guam.

REPI Funds: $525K

Partner Contributions: $537K

Total: $1.1M

BENEFITTING INSTALLATIONS

- Marine Corps Base Camp Blaz
- Naval Facilities Engineering Systems Command Marianas
- Naval Base Guam
- Andersen Air Force Base

PARTICIPATING PARTNERS

- University of Guam Marine Laboratory
- Research Corporation of the University of Guam

Joint Region Marianas

in partnership with the **University of Guam, Western Pacific Tropical Research Center**, Guam

Creating Protocols for Safeguarding Ecosystem Services Post-Disturbances

- The University of Guam's Western Pacific Tropical Research Center (WPTRC), the research arm of the College of Natural & Applied Sciences, explores topics surrounding the well-being of the environment and people throughout the region, concentrating on applied research that directly impacts agriculture on the island. Following the recent impacts of Typhoon Mawar on critical ecosystem services, WPTRC has partnered with JRM to prioritize ecosystem restoration and necessary response actions to ensure future preparedness.
- Guam's southern coastal ecosystems already suffer from high levels of erosion and sedimentation driven by severe wildfires that burn native forests, paving the way for fire-tolerant grasses to take over. Given the dead vegetation and expected drought in the coming year after the typhoon, Guam's natural ecosystems—which provide essential services for JRM installations and the people of Guam—are at significant risk of climate threats. Infrastructure damage caused by increased storm frequency, increased wildfires, suffering water quality, coral reef degradation, and loss of biodiversity and critical ecosystem functions will negatively impact community resiliency to climate threats and JRM mission capabilities.
- This project will create protocols to safeguard ecosystem services post-disturbances, such as fire and typhoons, to help restore natural areas and ensure the sustainability of critical ecological services. These protocols will enable resource managers to react quickly following disturbances by delineating timely and detailed steps to stabilize soils, combat invasive species, and restore native habitats. Developing a quick, cost-effective recovery protocol will remediate Guam's natural ecosystems that the community and neighboring JRM installations depend on.

Native limestone forest of Guam's northern plateau.

REPI Funds: $749K

Partner Contributions: $779K

Total: $1.5M

BENEFITTING INSTALLATIONS

- Marine Corps Base Camp Blaz
- Naval Facilities Engineering Systems Command Marianas
- Naval Base Guam
- Andersen Air Force Base

PARTICIPATING PARTNERS

- Guam Department of Agriculture
- Guam Center for Island Sustainability
- Southern Guam Soil and Water Conservation District
- Northern Guam Soil and Water Conservation District