



## PRESS RELEASE

### FOR IMMEDIATE RELEASE

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### **\$715K awarded for UOG research into aquifer and coral reef health**

This November, University of Guam will start a \$715,014 project that will use unmanned aerial systems (UAS), remote sensing, and NASA technology to closely examine the Northern Guam Lens Aquifer, which supplies 90% of the island's drinking water, and produce critical data and tools for resource management.

*Hånom Fresko yan Acho' Tåsi*, which translates to "Freshwater and Coral," is a three-part project that will produce maps of coastal freshwater discharge, fine-tune variables needed to better estimate the aquifer's water supply, and look for relationships between that freshwater discharge and coral reef health.

The project will be funded by a grant recently awarded through a NASA EPSCoR Cooperative Agreement Notice. The UOG Water and Environmental Research Institute of the Western Pacific and the Micronesian Area Research Center will co-lead the project with collaborators from local and federal agencies.

"Freshwater is the most basic requirement for the survival and prosperity of any community. And island communities must make do with what we can catch, store, and manage inside our own coastlines. Importing water via rivers or pipelines is not an option," said WERI Director and Chief Hydrologist John Jenson, who is serving as co-science investigator for the project. "Water managers can use reliable estimates of

The research team will incorporate NASA technologies and methods in gathering ridge-to-reef data and in modeling the hydrologic processes in karst and non-karst landscapes.

“Building on the work of the last two cooperative agreements with NASA, we are continuing to use UASes to expand our maps of aquifer discharge along the coast, to include the entire northern half of Guam,” said Associate Professor Romina King, who leads the Pacific Islands Climate Adaptation Science Center at UOG and is serving as the other science investigator on the project. “Coupled with high-resolution coral reef maps using NASA fluid lensing techniques, this will allow us to investigate if that coastal discharge potentially plays a role in coral reef health.”

A robust cyberinfrastructure hub will store, compute, and visualize the data collected from the aquifer along with complimentary data from partnering agencies. This database could be an important resource for ongoing and future research and water management decision support.

“This is an excellent example of how Guam can utilize NASA’s research opportunities to produce impactful data to better manage our natural resources,” said UOG Associate Professor Leslie Camacho Aquino, executive director of the NASA Guam EPSCoR program at the university and the administrative principal investigator for the award.

The grant award will also allow for science-based trainings for students and capacity-building with scientists and managers from other agencies, Aquino said.

“These efforts all point toward a more holistic approach in maintaining our aquifer and coastal ecosystems,” she said.

### **About the NASA EPSCoR program**

The Established Program to Stimulate Competitive Research, or EPSCoR, creates partnerships with government, higher education, and industry that are designed to affect lasting improvements in a state or region’s capacity. The NASA EPSCoR program focuses on jurisdictions that have not

activities. NASA Guam EPSCoR is housed within UOG and is focused on research that aligns with NASA missions and/or technologies and is relevant to Guam and the region.

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**Photo caption:**

Eliana Walker, research associate with the Water and Environmental Research Institute of the Western Pacific at the University of Guam, prepares for a drone excursion.

Unmanned aerial systems will be used in a \$715,000 NASA Guam EPSCoR project to

drinking water, and nearby coral reefs.

*Photo courtesy of the University of Guam*