

Unmanned Aerial System (UAS) Data Collection at Reclamation Sites

UAS data collection was conducted at several different sites to demonstrate that using UAS for data collection was better quality, faster and safer

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UAS technology could improve data collection methods for major areas such as condition assessments and inspections, geologic mapping and monitoring, and geographic information.

Mission Issue

UAS technology helps Reclamation achieve its mission by collecting high quality data faster and safer.

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Problem

The Bureau of Reclamation (Reclamation) is faced with an increasingly aging infrastructure composed of many features and parts that require continual maintenance and inspection. There is a need throughout Reclamation to increase data collection quality while reducing costs in order to manage and maintain its facilities. However, collecting quality inspection data requires significant resources and can be costly in terms of time, money, and safety.

Solution

Unmanned aerial system (UAS) technology has many attributes that can benefit Reclamation. UAS technology could improve data collection methods for major areas such as condition assessments and inspections, geologic mapping and monitoring, and geographic information. Using a UAS can reduce the costs associated with data collection, improve data quality, and increase safety. A UAS can collect high-quality data more cost-effectively and safer than other alternatives.



Operating a UAS at Hoover Dam, Nevada/Arizona.

“We are just at the beginning of understanding how the use of UAS will affect our data collection. This project has allowed Reclamation to become a leader in UAS data collection.”

Matthew Klein
Civil Engineer
Bureau of Reclamation

Collaborators

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More Information

<https://www.usbr.gov/research/projects/detail.cfm?id=7104>

Application and Results

Over the past three years, UAS team members have worked to demonstrate that UAS can collect data faster, cheaper, and safer than traditional methods. Funded in whole, in part, or in collaboration with this project, a total of nine demonstrations were conducted. Also, during this period, the Technical Service Center conducted a total of 39 UAS projects resulting in nearly 100 hours of UAS flight time.

Future Plans

While this project has demonstrated the invaluable contribution that UAS can make, there is still much more to be accomplished. UAS technology is rapidly evolving and new applications are discovered every day that can make data collection better quality, in less time and safer. It is the Reclamation’s responsibility to investigate and implement UAS to accomplish its mission.