



BUCKEYE UNMANNED AERIAL SYSTEM

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

Background: The BuckEye Unmanned Aerial System (UAS) is a multi-purpose platform that supports requirements for collection of unclassified geospatial data. Sensors on-board include a 39-megapixel color camera and a Light Detection and Ranging (LIDAR) system that provides high-resolution elevation data.

The Buckeye UAS can support CONOPS for Change Detection, Intelligence, Surveillance and Reconnaissance (ISR), and Urban Mapping. Its purpose is to demonstrate the feasibility and military utility of rapid collection and processing of high-resolution, high-accuracy geospatial data. The versatile platform also provides a testbed for on-board data processing and downlink of BuckEye data.

The UAS platform has a 10 hour endurance, operates at altitudes between 3,000' to 8,000' above ground level (AGL) and is capable of collecting all three CONOPS during a single mission.

Operations in Afghanistan require thorough knowledge of its diverse terrain. High resolution imagery and elevation data provide soldiers with sufficient detail to conduct accurate terrain studies, mission planning, line of sight analysis, identification of Helicopter Landing Zones (HLZs), dynamic 3D fly-throughs and many more critical intelligence products. The Buckeye UAS empowers the commander to plan, manage and rehearse missions with an accurate understanding of the terrain.

BuckEye Sensors:

Flight LanData 39-megapixel color camera with 3 to 5 cm resolution
OPTECH Orion LIDAR System with 50 cm resolution

UAS Platform:

23' wingspan, 19' long - 12,000' above sea level ceiling
50 mile Line of Sight (LOS) Range for Flight Control and 10 Hour Endurance
Ground Control Station S280 shelter - 6 megabit / sec LOS Downlink (AGIG)

Current Operations / Future Developments

During the Summer of 2010, the BuckEye UAS successfully completed a 90 day Initial Operational Capability (IOC) test in Afghanistan. The 3 month IOC tested the CONOPS for data collection, processing, and distribution for tactical users. This successful IOC has led to additional deployments. Currently, the UAS is deployed to Afghanistan.



BuckEye UAS examples of Imagery, LIDAR, and Analysis Products (Helicopter Landing Zones)

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