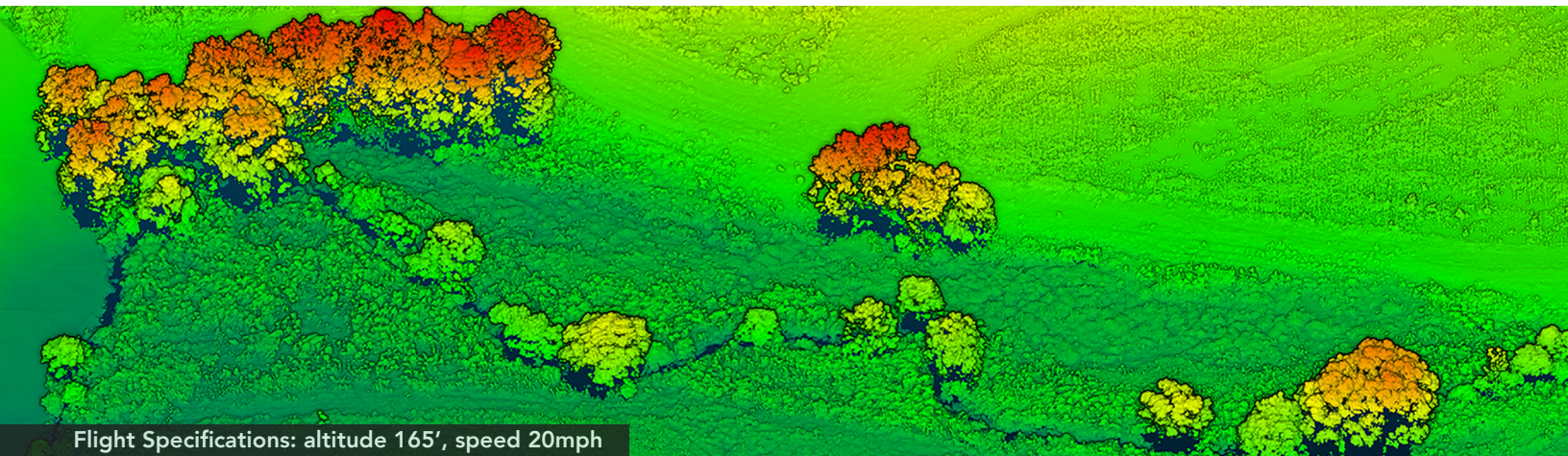


APPLICATION WETLAND MANAGEMENT

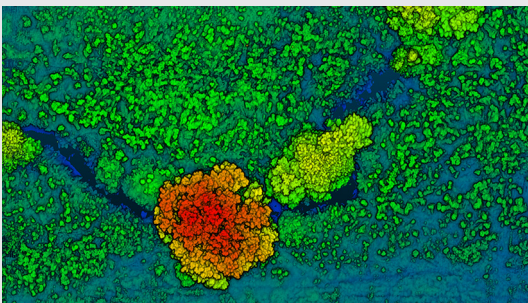


Flight Specifications: altitude 165', speed 20mph

High Resolution Images

Superior Range

High Point Density



High-Resolution Point Cloud

Flight Specifications: altitude 100', speed 13mph

The RedTail LiDAR System – incorporating LiDAR technology licensed from the U.S. Army Research Laboratory – is designed to provide high-resolution imaging from multicopters, hybrid, and fixed-wing UAVs.

Designed specifically for small unmanned aerial vehicles, the RedTail LiDAR System is a superior point cloud generation tool for determining the hydrology and vegetation patterns found within wetlands. Wetlands are distinct ecosystems flooded by water, either permanently or seasonally, where oxygen-free processes prevail. The primary factor that distinguishes wetlands from other land forms or water bodies is the characteristic vegetation of aquatic plants.

The power of LiDAR imaging for wetland management is the creation of point clouds that can be analyzed in a diverse number of ways. Data collected in a wetland environment can be used to: 1) measure vegetation height and assess the health of the environment, 2) measure land volume to assess erosion of surrounding areas which can adversely affect the ecology of the wetland, 3) identify changes to the hydrology brought on by natural or man-made alterations to the flow of water through the wetland, and 4) assist in the delineation between wetland and upland forest areas. In addition, digital elevation models (DEMs) can be used for vegetation differentiation, and digital surface models (DSMs) provide a useful metric for vegetation classification.

The RedTail LiDAR is the optimal solution for wetland imaging. With a pulse repetition rate of up to 400,000 pulses per second, even point distribution on the ground, superior ranging capability and optimized scan angles, the RedTail LiDAR System simplifies even the most difficult of wetland 3D mapping missions.

About the RedTail LiDAR System

The RedTail LiDAR System was designed to meet the market demand for high-quality, high-resolution point clouds from unmanned aerial vehicles. The microelectromechanical (MEMS) mirror-based technology was developed at the Army Research Laboratory (ARL) with the goal of generating accurate, high resolution point clouds over areas of interest on a single drone flight. At RedTail LiDAR Systems, our mission is to provide the optimal tool to rapidly and efficiently create superior point clouds for a broad range of commercial, academic and government customers.



The RedTail LiDAR System – Scanning the way it was meant to be.™

HIGH RESOLUTION

The RedTail LiDAR System's small beam divergence angle yields high-resolution point clouds.

EASE OF USE

The RedTail LiDAR System has been designed by a team of professionals that understands how important it is to provide a system that is easy to use and simple to integrate onto UAV platforms.

RANGE

The RedTail LiDAR System was designed with range being a critical performance attribute. Our system operates effectively against 15% reflective targets at a height of 250 feet, and 400 feet against 80% reflective targets, thereby ensuring mapping flights can be performed in a wide variety of operating environments (e.g., tall trees, buildings).

SCAN PATTERN

The RedTail LiDAR System transmits all laser pulses to the ground to optimize point cloud density. LiDAR points are evenly spaced to provide superior mapping capability.

LINE SCAN FREQUENCY AND PULSE REPETITION RATE (PRR)

The RedTail LiDAR System has a line scan frequency of 400 scans per second and a PRR of up to 400,000 pulses per second. This rapid side to side scan pattern, coupled with the high PRR, allows operators to fly faster and cover more area.

SCAN ANGLE AND SCAN TYPE

The RedTail LiDAR System was designed with an optimum scan angle of 30 degrees which enhances accuracy and data quality. In addition to side-to-side scanning, the RedTail LiDAR System can operate in a 30 x 30-degree raster scan mode which lets you focus precisely on areas of interest.

Learn more at redtaillidar.com

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