Unmanned Aerial System Fact Sheet

The University of Vermont

EQUIPMENT

The eBee is a small unmanned aerial system (UAS) for capturing high-resolution imagery at a relatively low cost. The UAS allows us to quickly gather accurate data for assessing conditions of natural and built areas.
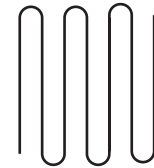
senseFly eBee
The eBee is an Unmanned Aerial System (UAS) made of durable foam. It weighs 1.5 lbs and has a wingspan of 38 in.

Digital Cameras
We use two digital cameras to produce true color and color infrared imagery.

Flight Plans
Pre-created flight plans allow the UAS to fly and land itself while being monitored from the ground using a laptop or tablet.

FLIGHT OPERATIONS

The flight operations team consists of three to four personnel. Six or more flights can be completed in one day, capturing 1,000 + acres of imagery.

Flight Time
40 mins per battery

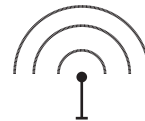Depends on weather conditions. 6 flights per day.

Flight Area
74 - 250 acres per flight

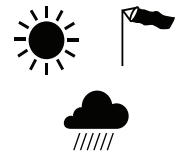Varies on terrain and image parameters. Up to 1000 acres/day.

Flight Range
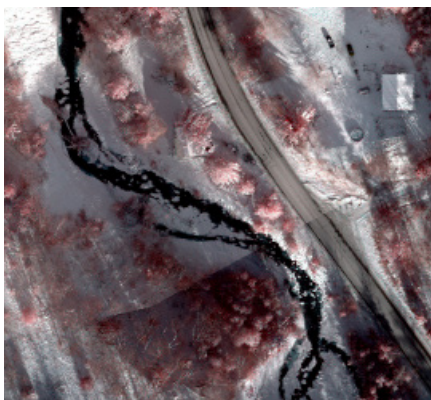Up to 3km

Hills and other obstructions impact range.

Weather
Cannot fly in heavy rain, wind conditions greater than 28 mph, or extreme temperatures.

PRODUCTS

2-D and 3-D GIS-ready data products are available within 2-8 hours of completion of flight operations.
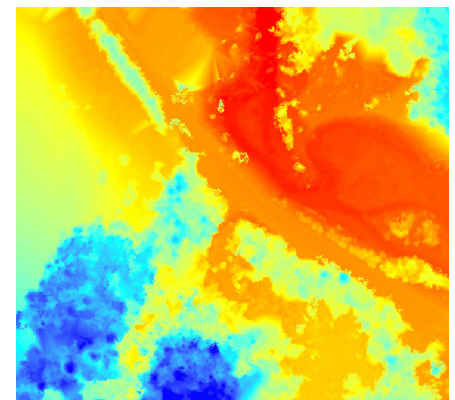
Orthomosaic (Color infrared)
A single, orthorectified image dataset in GeoTIFF format that can be opened in any GIS software. Horizontal accuracy as good as 3cm.

Point Cloud
A 3D collection of points with x, y and z coordinates. Stored in the LAS format. Similar to LiDAR. Vertical accuracy as good as 3cm.

Digital Surface Model
A 3D raster surface model of the terrain including objects such as trees and buildings. Stored in GeoTIFF format. Can be opened in GIS software.

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