Forest SAT 2026

Association for Forest Spatial Analysis Technologies

May 4-8, 2026 | Gainesville, Florida, USA

Title: Introduction to Airborne Laser Scanning (ALS) and Basic Data Processing in R

Instructors/Affiliation: Dr. Jonathan L Batchelor

Frankie College of Forestry and Conservation, University of Montana

Description: This four-hour online workshop provides a practical introduction to Airborne Laser Scanning (ALS) and the essential steps for processing LiDAR data in R. Participants will learn how to locate and acquire raw point cloud datasets from publicly available sources, then process them to create Digital Terrain Models (DTM) and Digital Surface Models (DSM). The workshop will also cover calculating canopy metrics and visualizing point clouds. Through a series of guided, hands-on exercises, attendees will gain the skills to move from raw ALS data to actionable information, building a solid foundation for more advanced LiDAR analyses in forestry, environmental monitoring, and land management contexts. No prior LiDAR experience is required.

Learning Objectives:

- Understand the basics of Airborne Laser Scanning (ALS) and LiDAR data.
- Learn how to locate and acquire raw point cloud datasets from publicly available sources.
- Process raw LiDAR data to create Digital Terrain Models (DTM) and Digital Surface Models (DSM).
- Calculate canopy metrics and visualize point clouds.
- Develop practical skills to transform raw ALS data into actionable information for forestry, environmental monitoring, and land management.

Target audience: Researchers, students, and professionals in forestry, environmental science, and land management.

Format & Activities:

- Four-hour online workshop.
- Guided, hands-on exercises covering data acquisition, processing, visualization, and metric calculations.

Expected outcomes:

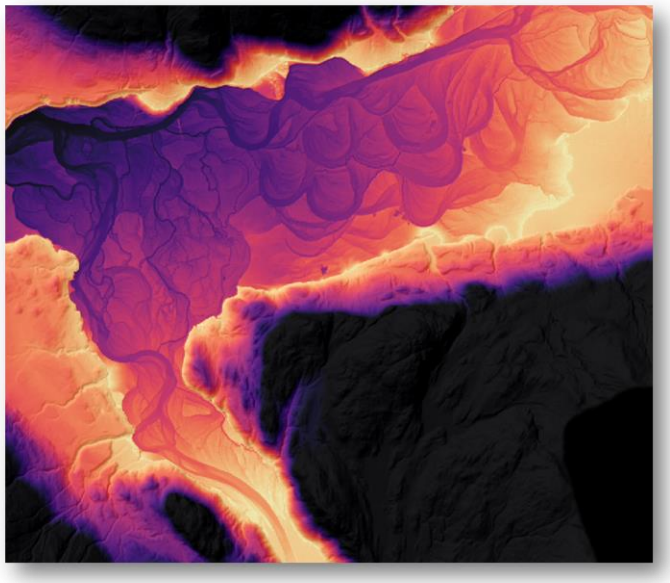
- Ability to acquire and process raw LiDAR datasets.
- Skills to generate DTM and DSM from ALS data.
- Capability to calculate canopy metrics and visualize point clouds.
- Foundation for more advanced LiDAR analyses.

Language: English

Requirements: Computer with R Studio and LidR package installed. Bonus to also have Cloud Compared installed.

Schedule: February 18, 9:00 AM – 2:00 PM (EST)

Duration: 4 hours.



Agenda

Eastern Time (ET)	Topic	Instructor
9:00 – 9:45	**Introduction & Data Acquisition** – Overview of ALS and LiDAR applications; locating and downloading raw point cloud datasets	Dr. Jonathan L Batchelor
9:45 – 10:45	**Processing LiDAR Data** – Creating Digital Terrain Models (DTM) and Digital Surface Models (DSM) in R	Dr. Jonathan L Batchelor
10:45 – 11:45	**break**	
11:45 – 13:00	**Canopy Metrics & Visualization** – Calculating vegetation metrics and visualizing point clouds	Dr. Jonathan L Batchelor
13:00 – 14:00	Hands-on Exercise & Wrap-up – Applying all steps from raw data to actionable outputs; discussion and Q&A	Dr. Jonathan L Batchelor