

# TNTmips Newsletter — Manage and Classify LIDAR Point Clouds

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In TNTmips 2013 you can display, manage, and automatically classify LIDAR point clouds stored in the standard LAS file format.

## **Use the Lidar Manager in TNTmips 2013 to link to Lidar point cloud files and perform many basic management operations.**

Link to one or more LAS files and scan to produce spatial index for fast display.

Change class numbers assigned to points.

Reproject points to a different coordinate reference system.

Update LAS files in place or produce new LAS files.

Extract points by area or by class.

Merge flight line files and subdivide into rectangular tiles for efficient display and processing.

Create Lidar Dataset Files to enable tiled sets to be viewed and used as a single seamless dataset.

Process multiple files simultaneously using TNT Job Processing.

## **Automatically classify noise and ground points in LAS point clouds using the Lidar Classification process in TNTmips 2013.**

You can use the Lidar Classification process to classify unclassified point clouds or to modify a previous classification.

- Choose which input point classes to reclassify and which to exclude.
- Easily run sequential classifications with differing classifiers and settings.
- Save previous classification results and change point style display to use any previous class set.
- Immediately view class change statistics and save as HTML table.
- Process tiled sets of LAS files as single dataset to enable proper neighborhood analysis along tile edges.

### **Identify and classify low and high noise points.**

LIDAR point clouds may include points that have anomalously high or low elevations relative to valid points on the ground, vegetation, and structures in the survey area. Anomalous points may result from returns from thin clouds, birds, or aircraft (high points) or multiple reflections from trees or structures (low points). The Lidar Classification process can identify such points and reassign them to the high noise and low noise classes so they can be excluded from further display or processing.

- Classify point as noise if elevation is outside expected overall elevation range you specify.
- Classify point as noise if elevation is higher or lower than neighbors by more than the specified distances.
- Specify search distance and minimum number of points for neighborhood comparison.
- Special settings to handle water bodies with sparse point coverage.

### **Identify and classify ground points.**

A major application of LIDAR point clouds is the accurate delineation of the terrain surface. But identifying a bare-earth terrain surface requires distinguishing ground points from the other point returns from vegetation and man-made structures. The Lidar Classification process in TNTmips provides several robust classifiers to automatically identify ground points.

- Classify ground points by terrain following using slope breaks to eliminate trees and structures.
- Classify ground points by multiscale curvature using iterative analysis of height above local surface.

## **New and Updated Technical Technical Guides.**

[Manage LAS Point Clouds](#)

[Merge and/or Tile LAS Point Clouds](#)

[Use LAS Files as Single Seamless Dataset](#)

[Automatically Classify LAS Point Clouds](#)

[Automatically Classify Noise in LAS Point Clouds](#)

[Classify Ground Points by Multiscale Curvature](#)

[Classify Ground Points by Terrain Following](#)

[Comparing Automatic Classification Results](#)