

Merge and/or Tile Lidar Point Clouds

The Lidar Manager in TNTmips Pro (Terrain / Lidar Manager) can perform a number of operations on Lidar point files in the LAS format (see the Technical Guide entitled *LIDAR: Manage Lidar Point Clouds*). Among these operations are the options to produce new output LAS files by merging and/or tiling the input files.

Individual input LAS files can be subdivided into separate sets of output LAS files along user-specified rectangular grid lines in the coordinate reference system (CRS) chosen for the output LAS points. (The output CRS can be the same as that of the input file or the points can be reprojected to any CRS). You specify the desired east-west and north-south tile dimensions (intervals) in the units of the output CRS. The resulting tile boundary coordinates are integer multiples of the tiling intervals. Tile files are automatically named using the easting and northing coordinates of their lower left corner, but you can specify a prefix and/or suffix to add to the root names.

You also have the options to merge a number of input LAS files to a single output LAS file or to merge the inputs and then subdivide the result into a set of tiled output files. The merge options are

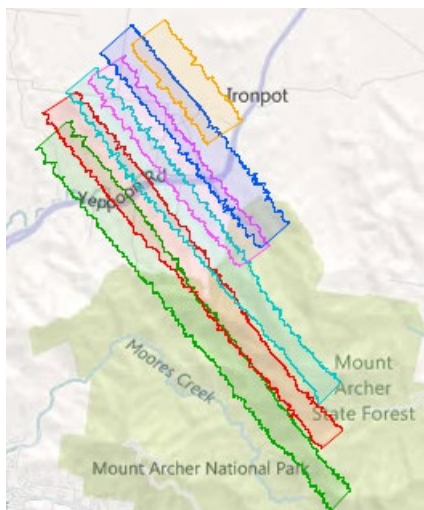
intended for use with sets of LAS files acquired along adjacent flight lines (swath data) in the same project area.

When you create tiled output you also have the option to create a single Lidar DataSet (LDS) file that links to the entire set of LAS files. The LDS file makes it easy to select, view, and process the tiled set in a convenient and seamless fashion (see the TechGuide entitled *LIDAR: Use LAS Files as Single Seamless Dataset*).

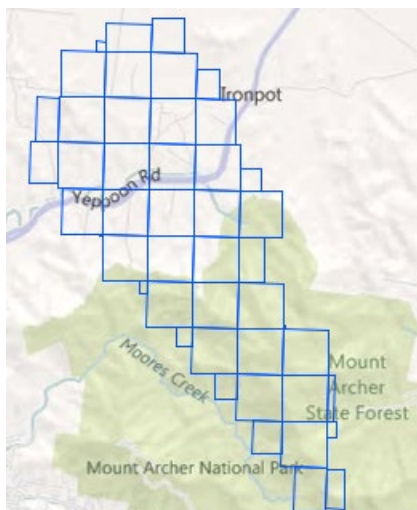
Merging and tiling operations can involve processing tens to hundreds of millions of elevation points. You have the option to run these operations immediately in the Lidar Manager or to assign them as jobs to be run in the TNTmips Job Processing system. You can choose to either Queue Job or Save Job. The Queue Job option adds the job to the pending jobs queue in the TNTmips Job Manager, where it will be run immediately or as soon as a job slot becomes available. The Save Job option adds the job to the queue with Hold status; this status allows you to schedule the job to be run at any convenient time (such as after normal work hours).

In this example, 6 LAS files containing flight-line point collections have been selected as input files. These files contain in aggregate over 118 million elevation points and associated point attributes. (The footprints of these input swath line files are shown in the illustration below.)

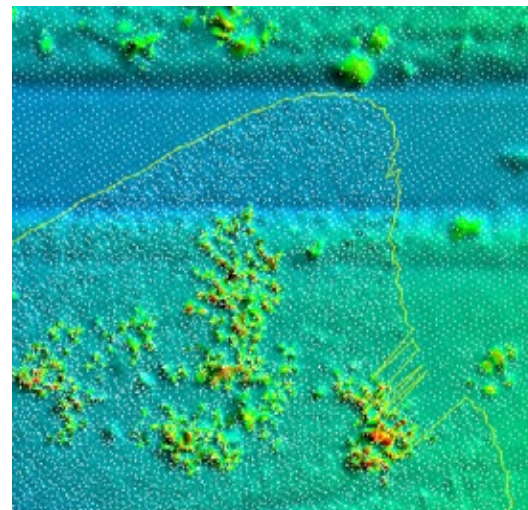
Use the Tiling panel controls to set the parameters for tiling the output. You set east-west and north south tiling intervals and optional file name prefix and suffix text.



Bounding regions for 6 input LAS files containing flight-line point collections are shown above over a Bing Maps terrain image. The longest of the flight lines is just over 10 kilometers in length.



Shown above are the rectangular extents of the LAS file files produced by merging and tiling the 6 LAS swath files. The east-west and north-south tiling interval is 1000 meters.



Detail of one of the resulting LAS tile files displayed using a virtual color-shaded relief display from the LAS points (overlaid in white). The yellow line marks one edge of the overlap area between two adjacent input swath files.