rapidlasso

LAStools

Tools Basic Description

DATA CONVERT (Import & Export)	
las2las	Extract first/last returns, reprojects, subsamples, translates,... LiDAR in LAS/LAZ/BIN/ASCII format (*)
las2shp	Converts LiDAR from LAS/LAZ/BIN/ASCII format into ESRI Shapefile format
las2txt	Converts LiDAR from LAS/LAZ/BIN/ASCII format into ASCII format (*)
txt2las	Converts LiDAR data from ASCII text formats to binary LAS/LAZ/BIN format (*)
e572las	Converts 3D point files in E57 format to binary LAS/LAZ/BIN format (**)
shp2las	Converts ESRI Shapefiles (type 1,11,21,8,18,28) into LAS/LAZ/BIN/TXT files

DATA COMPRESSION	
LASzip	Lossless compression of LiDAR data
demzip	Lossless compression of DEM (**)

QUALITY CONTROL & INFORMATION	
LAScontrol	Quality checks LiDAR elevation against a list of control points
LASinfo	Extracts metadata information and additional information from a LAZ/LAS/BIN/ASCII file (*)
LASoverlap	Quality check LiDAR flightline overlaps and horizontal/vertical alignments (*)
LASreturn	Reports geometric returns statistics and repairs 'number of returns' field based on GPS time

VISUALIZATION & COLORIZATION	
LASview	Viewer for LiDAR data (includes manual classification editing tools)
LAScolor	Colors LiDAR points using RGB values from an orthophoto (*)

PREPROCESSING	
LASboundary	Computes the exact boundary polygon for massive amounts of LiDAR points (*)
LASclip	Clips (or classifies) LiDAR points against poligonal building footprints/swath boundaries (*)
LAScopy	Copies selected point attributes from a reference file to a target file (*)
LASdatum	Shift LiDAR points via a NTv2 grid transformation (**)(***)
LASdiff	Compares two LiDAR files or number of LAS to corresponding LAZ files for differences (*)
LASdistance	Classifies, flags, or remove points within a specified distance of polygonal segments (*)
LASduplicate	Removes duplicate LiDAR points with identical x and y coordinates (and optionally, z) (*)
LASindex	Creates a spatial index LAX for fast spatial queries (*)
LASmerge	Merges several LiDAR files into one (or splits them into several parts) (*)
LASnoise	Removes or flag isolated noise points in LiDAR files (*)
LASoptimize	Optimize, compress and spatially index LiDAR files before distribution (*)
LASoverage	Finds and flags overage points to remove the flightline overlaps from an airborne LiDAR collect (*)
LASprecision	Finds the actual precision of LiDAR points and allows to correct the scaling if necessary (*)
LASsort	Sorts LiDAR by gps_time, point_source, or into spatial proximity via space filling curve (*)
LASsplit	Divides LiDAR points from different flights lines into different files (*)
LAStile	Tiles huge amounts of LiDAR points from LAS/LAZ/BIN/ASCII format into square files (*)

(*) Available in 32 and 64 bits versions. Please use LASxxxx64.exe program for 64 bits systems obtaining a more adequate use of your computer's resources.
(**) Execution only through the command prompt window.
(***) Program under development.

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CLASSIFICATION & FILTERING	
LASclassify	Finds buildings and trees in airborne LiDAR point clouds (*)
LASground	Extract the bare-earth from LiDAR by classifying all ground points (*)
LASground_new	Extract the bare-earth from LiDAR by classifying all ground points (improved versión) (*)
LASthin	Thins LiDAR points using the lowest, highest or a random point per grid set (*)
LAStrack	Classifies LiDAR point based on vertical or horizontal trajectory (**)
sonarnoiseblaster	Streaming cleaning of massive SONAR point clouds from multi-beam echosounders

DSM/DTM GENERATION & PRODUCTS	
blast2dem	Rasters billions of LiDAR points via a streaming TIN to elevation, intensity, slope or RGB grid
blast2iso	Contours billions of LiDAR points via a streaming TIN to isolineas in KML or SHP format
demdiff	Compares rasters in ASC, BIL, TIF, IMG, RasterLAZ formats and reports differences
las2dem	Rasters LiDAR (via a temporary TIN) to hillshade, slope, elevation, RGB, false color grid (*)
las2iso	Extract, optionally simplified, elevation contours from LiDAR (via a temporary TIN) (*)
LASgrid	Raster huge LiDAR collections into elevation, intensity, ... grids (*)
las2tin	Triangulate the LiDAR points of a LAS/LAZ/BIN/ASCII file into a TIN (*)
LAScanopy	Computes many different plot or raster metrics for forest analysis (*)
LASheight	Computes for each LiDAR point its height above the ground (*)
LASplanes	Finds planar patches (tie-planes) in terrestrial and mobile (and maybe airborne) scans
LASvoxel	Computes various voxelizations for LiDAR point clouds (*)

PUBLISHING	
LASpublish	Creating a Web page for online viewing and download of LiDAR using Potree (***)

OTHER UTILITIES	
bytecopy	Utility to copy byte-level information between two LiDAR files (**)
bytediff	Utility to detect byte-level differences between two LiDAR files (**)

(*) Available in 32 and 64 bits versions. Please use LASxxxx64.exe program for 64 bits systems obtaining a more adequate use of your computer's resources.
(**) Execution only through the command prompt window.
(***) Potree is a free open-source WebGL based point cloud renderer for large point clouds, developed at the Institute of Computer Graphics and Algorithms, TU Wien