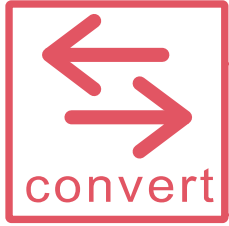


LAStools cheatsheet



-osep
comma
tab
dot
colon
semicolon
hyphen
space



las2las
Convert, translate, extract, reproject,... LiDAR data
las2txt
LAS/LAZ to TXT point cloud converter
txt2las
Text/CSV file to LAS/LAZ converter

las2shp
LAS/LAZ to SHP converter
shp2las
SHP to LAS/LAZ converter

las2tin
Triangulate LiDAR points to a TIN

laszip
Lossless compression of LiDAR data in LAS format
lasindex
LAS/LAZ indexer for fast spatial queries
lasopcindex 32
COPC index generation

demzip
lossless DEM raster compression

lasdatum
Datum transformation using a NTV2 grid
lasvdatum
Vertical datum transform using a grid

laslayers
Adds layer functionality to LAS/LAZ files
lastile
Tiles huge amounts of LiDAR points into square files
lassplit
Splits LAS or LAZ files by flight line or other attributes
lasmerge
Merges or split LAS/LAZ files
lascopy
Copies attributes between point files
lassort
Sorts LiDAR by several attributes

lasboundary
SHP polygon boundaries detection for point clouds
lasclip
Clip or classifies points against SHP boundaries
lasdistance
Clip or classify along 2D SHP polylines
las3dpoly 32
Clip or classify along 3D polylines

lasground
Ground point classification
lasground new
Ground point classification (improved)
lasheight
Normalization of points to height above the ground

lasintensity 32
Intensity correction by atmospheric absorption
lasthin
Thins LiDAR points using different algorithms
lasnoise
Removes or flag noise points in LiDAR files

lasduplicate
Duplicate removal and thinning
lasreturn
Analyze and repair 'number of returns' data
lasoptimize
Optimize LAS/LAZ files data structures

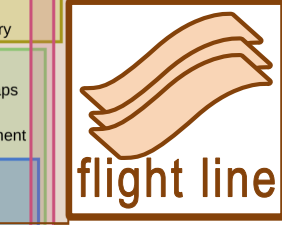
lasclassify
Classifies buildings and trees
lastrack
Classifies points by vertical or horizontal trajectory



lasdiff
Compares LAS/LAZ files
lasprecision
Precision calculation and scale correction
lasinfo
LAS/LAZ file information and statistics
lasvalidate
Quality check against control point list
LAS/LAZ ASPRS LAS spec validation
lasview
Viewer for LiDAR data (with classification editing tools)

demdiff
raster comparison
lascontrol
Quality check against control point list
lasprobe
Quality check against single elevation point

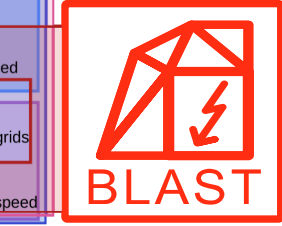
lascoverage
Finds overage points to remove the flight line overlaps
lasoverlap
Quality check for flight line overlaps and strip alignment
lasplanes
Finds planar patches and output them to SHP



lascolor
Colorize points by orthophotos
laspublish
Potree web page creation for LiDAR visualization

lasvoxel
Voxelization of point clouds
lascanopy
Forest analysis metrics calculation
lasgrid
Rasterization of point clouds

las2iso
ISO contours from LiDAR in high precision
blast2iso
ISO contours with billions of points in blast speed
las2dem
DEM,DTM,DSM hillshade, slope, elevation,... grids
blast2dem
DEM,DTM,DSM with billions of points in blast speed



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-add_attribute [m] [n] [o] [p] [q] [t]: adds a new "extra_byte" attribute of **data_type** [m] name [n] description [o]; optional: scale[p] offset [q] no_data_value [t]

-parse / -oparse parameters

x-y-z-coordinates X-Y-Z-unscaled gps_time
R_G_B_color skip_column intensity scan_angle
number_of_returns number_of_return
flags: withheld keypoint synthetic_flag overlap
edge_of_flight_line scan_direction
scanner_channel point_index-m(0)/M(1)
Wavepacket_attributes wave_desc_index
classification_user_data point_source_ID
0-9_additional_attributes/extra_bytes

-coldesc to insert column description as first line

data_type	
1	U8
2	I8
3	U16
4	I16
5	U32
6	I32
7	U64
8	I64
9	F32
10	F64

Projection	
-epsg [1]	use epsg as source projection
-proj_epsg [1] [2]	do a PROJ reprojection from epsg 1 to epsg 2
-elevation_meter	use meter for elevation
-feet	use feet
-sp27 SC_N	NAD27 South Carolina North state plane
-wgs84	use the WGS-84 ellipsoid

LAStools LiDAR processing

