# Precision 3D

Topo

Carlson Precision 3D Topo 2018

Bridge the gap between drones and CAD

Designed for use by surveyors, civil engineers, and contractors, Precision 3D Topo allows users to import survey data, points, polylines, surfaces, point clouds, both traditional LIDAR and aerial drone survey data, and more from a wide variety of programs and entities to create usable 3D surfaces.

- Importing Point Cloud data from Lidar and Aerial Drone mapping.

- Merge and edit point clouds to create surface models.

- Import survey data to further refine surface models.

- Powerful surface Editing tools to perfect surface models. Including Google Maps photographic background, automated Google surface creation.

- Easy surface volume tools directly from point clouds or surfaces.

- Advanced Texturing and Presentation Tools

- Import / Export all data as LandXML, DXF, and Surface Models as TIN, TN3, and TTM.

### Remarkably easy-to-use 3D engineering design software
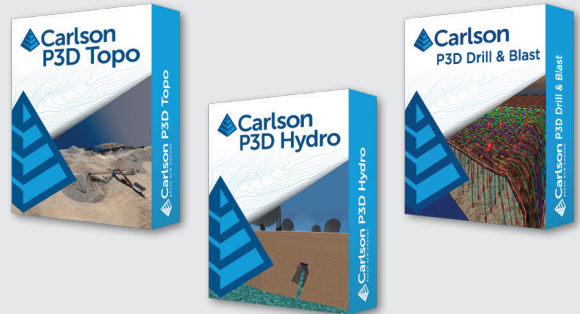
- P3D is multithreaded and performance will in-crease with core count.

- P3D is 64bit and will use all available RAM avail-able to support large models.

- P3D uses advanced 3D shaders and performance will increase with graphics cards that process these faster.

Import Point Cloud data from Lidar and Aerial Drone mapping.

- Import up to 50 point cloud files at once
- Bare earth classification filter
  .las, .laz, .ply, .xyz, .pts, .e57, .pcd files
- Remove outliers
- Apply thinning factor
- Automatically merge clouds.
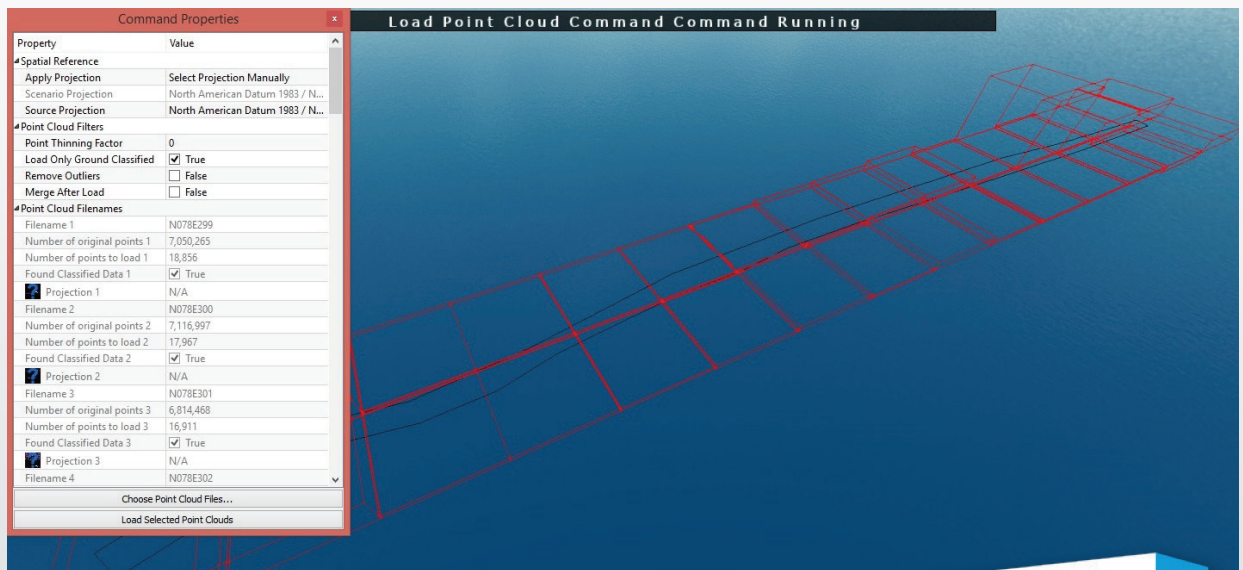
Once the point clouds are loaded use the powerful editing tools.

- Point Cloud point selector tool for crop, delete, with the ability to create a totally new cloud from a the selection.
- Save point cloud to LAS/LAZ version 1.2, 1.3 and 1.4 including coordinate projection WKT.
- Merge multiple point clouds together.
- Crop point cloud to smaller area.
- Delete point cloud points.
- Crop/delete points using polygons.
- Remove trees, vegetation, cars, building using bareground filter.
- Apply all filters within polygon boundaries.
- Reduce points using voxel grid, outlier and shadow points filters.
- Unlimited Undo/Redo support

As it is multithreaded, P3D performance will increase with core count. In addition, because P3D is 64 bit, it will use all available RAM to support large models. The use of advanced 3D shaders will also increase performance when used with graphic cards that process these faster.

BREAK NEW GROUND
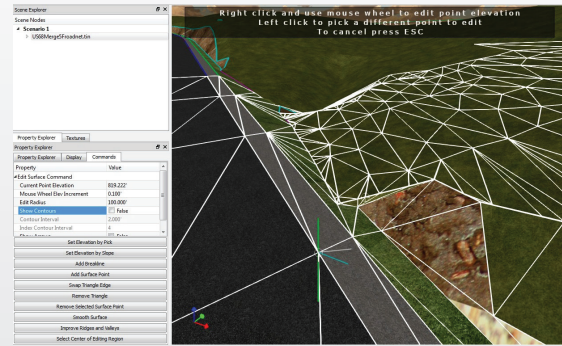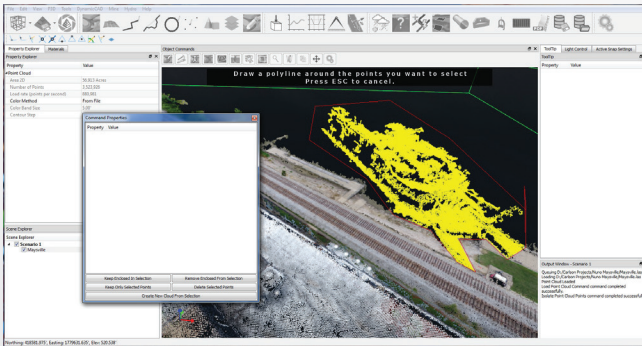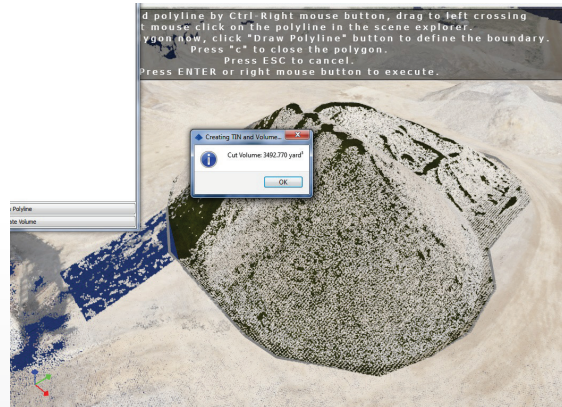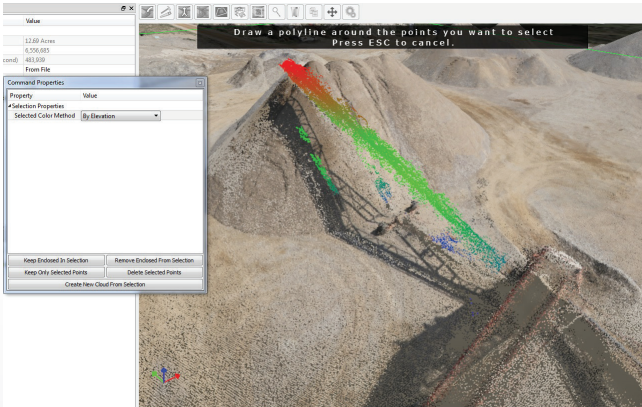
Powerful Surface Editing Tools

- Create Surface TIN models from edited point clouds.
- Import Survey data as points, polylines, and 3D breaklines.
- Create or Add Points, Polylines, or 3D breaklines to surfaces.
- Quickly import surface models and images from Google maps.
- Import proposed design surfaces and merge to existing surface models.
- Rich surface editing tool box.
- Export surfaces to LandXML, DXF, TIN, TN3, and TTN.

Surface Editing Tools

- *Real-time dynamic contours.*
- *Add/remove points*
- *Add breaklines*
- *Swap triangle edges*
- *Remove triangles*
- *Edit point elevation*
- *Set point elevation from slope*
- *Surface smoothing*
- *Improve ridges and valleys*
- *Remove dimples*
- *Crop surfaces to polyline*
- *Merge Surfaces*

Surface Volumes

- Calculate volumes directly from point clouds.
- Surface to surface volumes.
- Display cut/fill volumes in properties window.
- Display contours in point clouds.
- Tools to create volume reports.
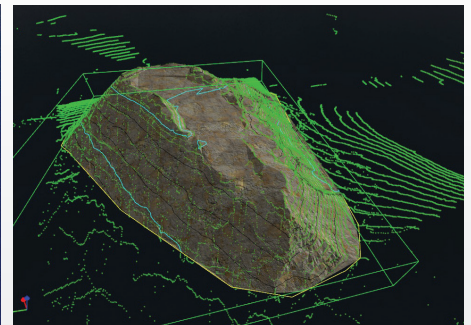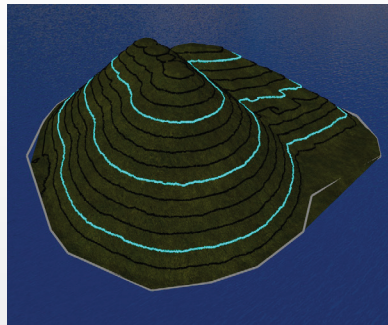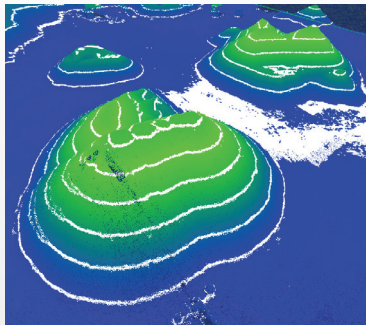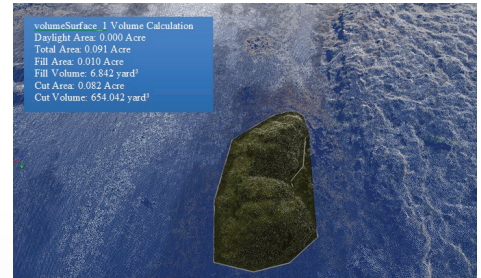
Advanced Texturing and Presentation Tools

- Google map images for backgrounds and draped to surfaces.
- Automated 3D textures of colorized Carlson TIN and LandXML-2.0 surfaces.
- Auto texture / colorization tools for imported monochromatic surfaces.
- Insert 3D models from .OBJ and .SKP files.
- Overlay image data with surfaces.
- Simple texturing using polylines.
- Profile and Section view for polylines.
- Animation tools for drive along and fly over videos.
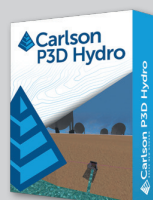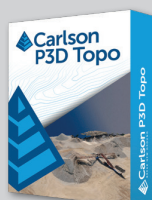
System Requirements for Carlson P3D
- OS: Windows 7 64-Bit or later.
- CPU: Intel® Core™ i7 or equivalent.
- 16GB RAM min, recommend 32GB if processing large point clouds
- Nvidia GTX 870, AMD comparable or better