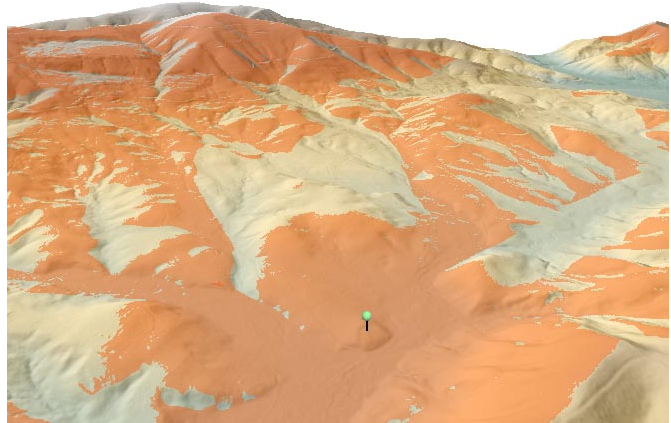


Terrain Operations

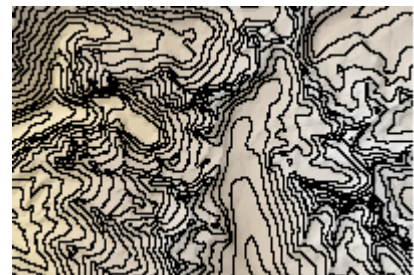
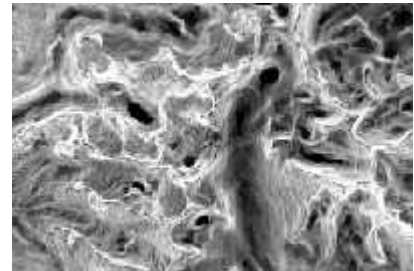
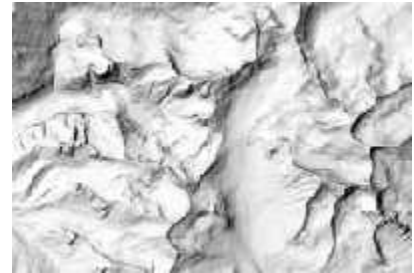
TNTmips provides a number of tools for analyzing and processing digital elevation model (DEM) raster objects. The **Topographic Properties** process computes general terrain characteristics such as slope, aspect, shading, and curvature for each elevation cell. The **Viewshed** process identifies terrain areas that are visible from input points on or above the surface. The **Cut and Fill Analysis** process compares two DEMs of the same area and identifies locations where their elevation values differ. The **Watershed Process** models the movement of water over the land surface. The **Surface Modeling** process provides transformations between different elevation representations: DEMs, contours, and triangulated irregular networks (TINs).



Viewshed (orange) computed for a 50-meter tower (stalked green point) for a LIDAR DEM with 2.5-meter resolution.

TNT Terrain Operations Highlights:

- Work with large-size DEMs at any resolution (detailed local LIDAR DEMs to continent-sized 90-meter SRTM data)
- Automatically determine illumination parameters for relief shading to match a particular location, date, and time of day
- Compute slope in decimal or integer degrees or as percent slope
- Compute slope direction (aspect) in decimal or integer degrees clockwise from north
- Compute profile (vertical) and plan(horizontal) curvature in radians per meter or radians per 100 meters
- Choose from several methods for determining the local surface shape when computing slope, aspect, shading, and curvature
- Determine viewshed from points placed manually or loaded from any geometric object (vector, CAD, or shape)
- Adjust height above surface independently for each viewpoint
- Adjust field of view independently for each viewpoint by entering values or using on-screen graphics
- Determine changes in elevation through time due to erosion, landsliding, or human activities
- Derive stream networks, watersheds, and subwatersheds along with many geomorphic and hydrographic attributes
- Perform contouring, surface fitting, and triangulation operations



[Technical Guides on Terrain Operations](#)

[Analyzing Terrain and Surfaces tutorial](#)