# View Shaded Relief Using a Custom Terrain

Google Earth 3D tilesets that you create in TNTmips combine your custom elevation data with a raster image that is draped over that terrain for 3D viewing in Google Earth. A shaded-relief raster produced directly from your elevation data (DEM raster) in the Topographic Properties process in TNTmips provides a very useful image to use as the drape image in a Google Earth 3D tileset. When you view a shaded-relief 3D tileset in Google Earth, features of your custom 3D surface are visually accentuated by the relief shading in the drape image. Subtle topographic features that might be obscured by vegetation patterns or cultural features in an aerial or satellite image become more obvious in the more uniformly-textured shaded relief image, especially if you have used high-resolution elevation data as input (e.g., bare-earth Lidar DEM).

The illustrations below show Google Earth views of example shaded-relief Google Earth 3D tilesets created using high-resolution Lidar DEMs in the Export Google Earth 3D Tileset process (Tileset / Collada / Build). See the Technical Guides entitled *Tilesets — Google Earth: Overlay Geodata Using a Custom Terrain* and *Terrain Analysis: Computing Topographic Properties* for details of the processes used to create these examples.
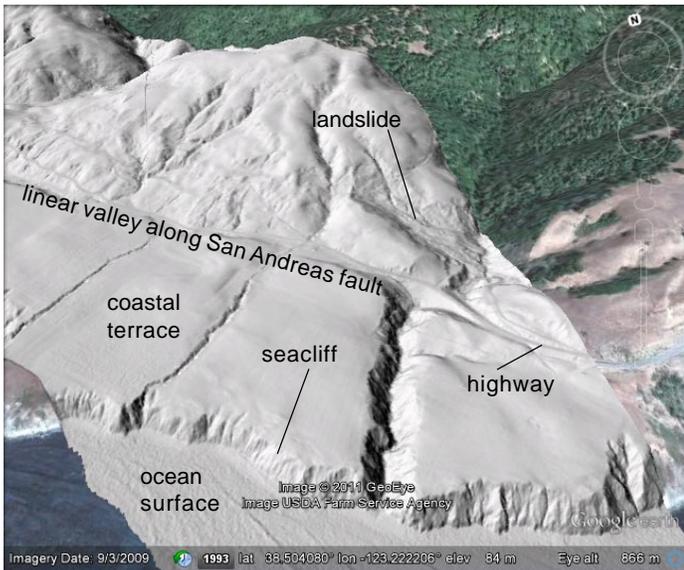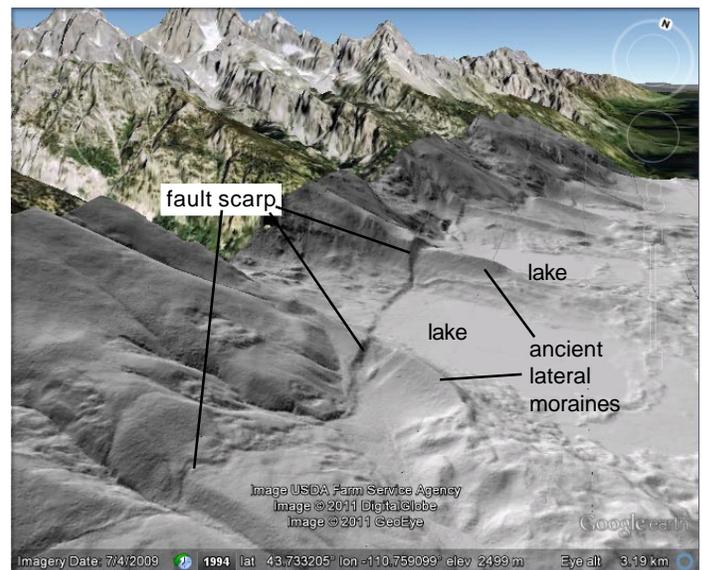

Shaded-relief Google Earth 3D tileset showing coastal terrace near Fort Ross, California, along the trace of the San Andreas fault. Terrain and shading created from Lidar DEM with 0.5-m cell size. A variety of natural and man-made topographic features are easily visible.

Shaded-relief Google Earth 3D tileset of a surface coal mine in eastern Pennsylvania. Terrain and shading created from Lidar DEM with 1-meter cell size. A large terraced spoils pile is in front of the shallow mine pits.
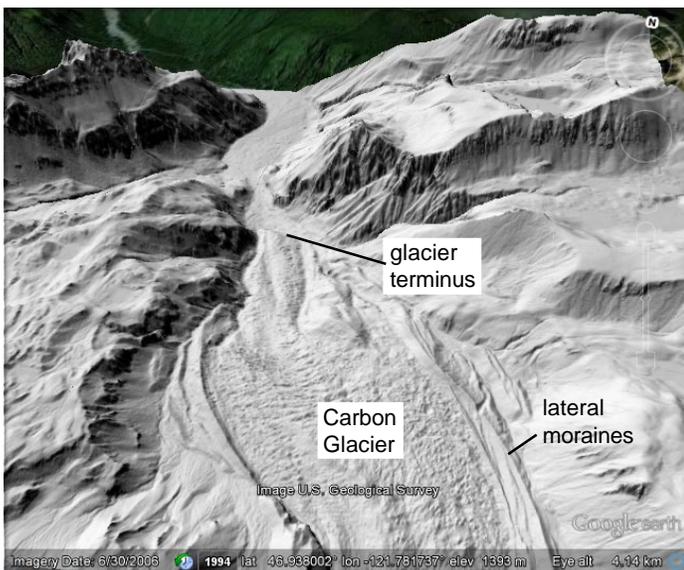
Shaded-relief Google Earth 3D tileset showing the lower end (terminus) of the Carbon Glacier on the flank of Mt. Ranier, Washington. Terrain and shading created from Lidar DEM with 1-meter cell size.

Shaded-relief Google Earth 3D tilesett showing a fault scarp along the eastern foot of the Grand Teton mountain range, Wyoming. Terrain and shading created from Lidar DEM with 0.5-meter cell size.