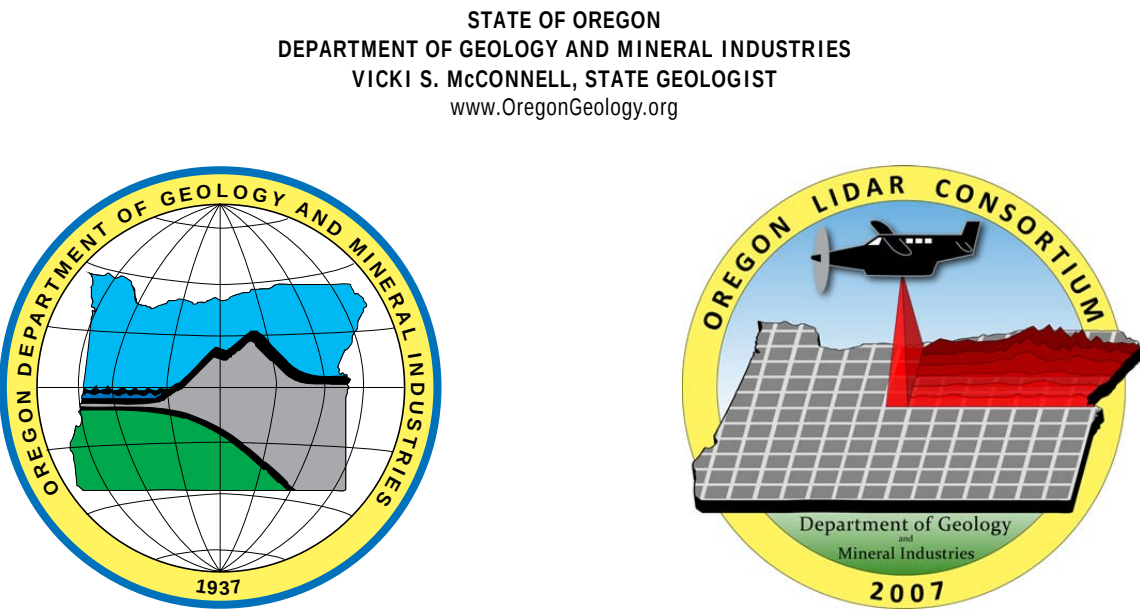


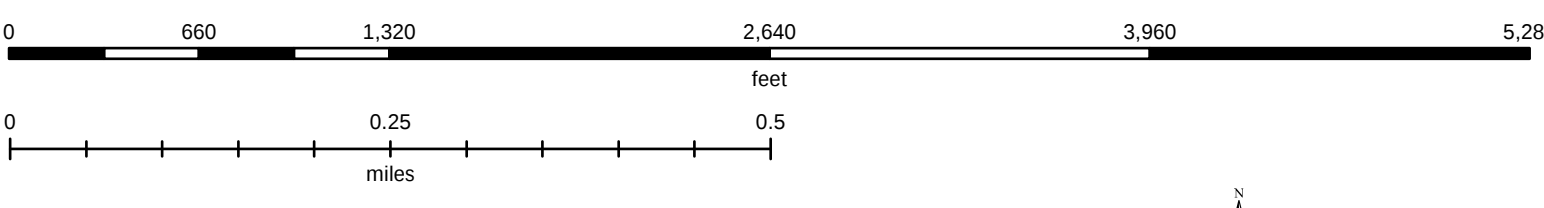


Lidar Imagery Series

LIS-2010-4512267-St. Helens

Lidar Imagery of the St. Helens 7.5' Quadrangle,
Columbia County, Oregon

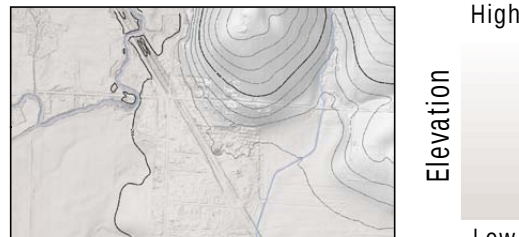
2010



Cartography by Jrd Roberts and Sarah Robinson, Oregon Department of Geology and Mineral Industries.
Additional cartography and data processing by John English, Kabeena Hughes, Matthew Titman, and Rustie Hazzey, Oregon Department of Geology and Mineral Industries.
Data Source: Lidar data from Puget Sound Lidar Consortium.
Lidar flown 2005.
Hydrology features digitized from lidar data by DCGMI. Feature names from Google Maps.
U.S. Bureau of Land Management, U.S. Geological Survey, and ESRI.
Contours derived from bare earth elevation model smoothed by 40' x 40' averaging kernel.
Map projection: Universal Transverse Mercator Zone 10 North, North American Datum 1983.

Scale: 1:8,000
1 inch = 667 feet
Contour interval: 20 feet
UTM grid: 1 kilometer
Water features
10-foot supplementary contours

Bare Earth Image



The bare earth image is a representation of the earth's surface stripped of man-made objects and vegetation. This is achieved by post-processing lidar point data.

Highest Hit Image



The highest hit image is a representation of the landscape at the time of the lidar flight. Unlike the bare earth image, this image shows features such as trees, buildings, and even cars.

Lidar Data Origins and Map Image Limitations

These maps were created using data derived from lidar (light detection and ranging) technology. A lidar measurement system collects huge quantities of three-dimensional point data where laser pulses have been reflected off opaque objects such as buildings, trees, bushes, and the ground surface.

The lidar all-returns point cloud data that are the original basis for these images were collected by Watershed Sciences Inc., Terraplani, LLC, and Merrick and Company. The point cloud is a remotely sensed collection of three-dimensional point data that are systematically calibrated relative to GPS ground control points.

The services provided and map products produced by Watershed Sciences Inc. and Terraplani, LLC were performed under the supervision of a State of Oregon registered and certified Registered Land Surveyor. The bare-earth and highest hit digital elevation surface models (DEM) produced by the three companies and made

available by DCGMI as the Lidar Data Quadrangle (LDQ) series, are georeferenced raster grids (ESRI format) interpolated from the point cloud data.

The map images depicted here are examples by DCGMI using GIS techniques to extract and emphasize selected features. These map images, the interpretive content displayed, and this lidar image series are for general information purposes and are not intended to indicate the authoritative location or definition of real property boundaries, the precise shape or contour of the earth, or the precise location of fixed works of human. No warranty, expressed or implied, is made regarding the accuracy or utility of the information described and/or contained herein, nor shall the act of distribution constitute any such warranty. This disclaimer applies both to individual use of the data and aggregate use with other data. The Oregon Department of Geology and Mineral Industries shall not be held liable for improper or incorrect use of this information.

