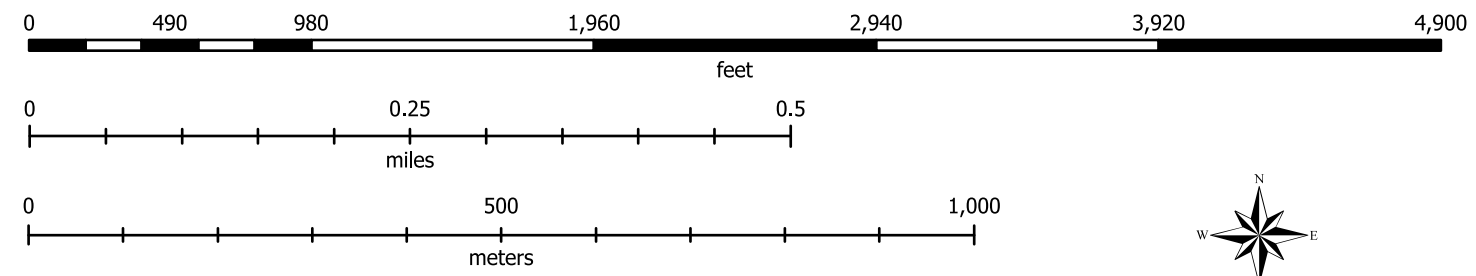


Lidar Imagery Series

LIS-2009-4512203-Sandy

Lidar Imagery of the Sandy 7.5' Quadrangle,
Clackamas and Multnomah Counties, Oregon

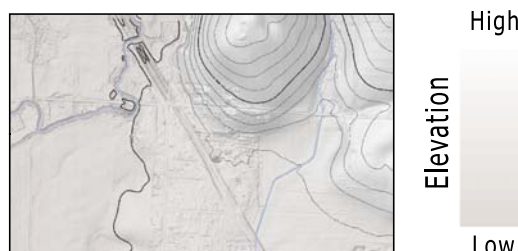
2009



Cartography by Ted Roberts and Ruffie Wotzig, Oregon Department of Geology and Mineral Industries.
Additional cartography and data processing by Jane Englin, Seth Robinson, Muelan Titman, and
Kathryn Hughes, Oregon Department of Geology and Mineral Industries.
Data Source: Lidar data from DOGAMI.
Lidar from 2007.
Hydrology features digitized from lidar data by DOGAMI. Feature names from Google Maps,
U.S. Bureau of Land Management, U.S. Geological Survey, and ESRI.
Contours derived from bare earth elevation models smoothed by 10' x 10' averaging kernel.
Map projection: Universal Transverse Mercator Zone 10 North, North American Datum 1983.

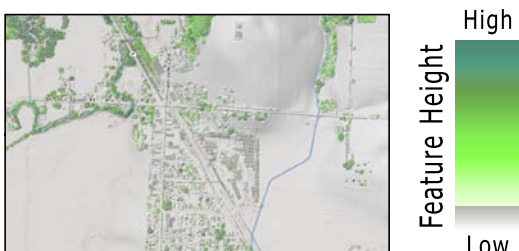
Scale: 1:8,000
1 inch = 667 feet
Contour interval: 20 feet
UTM grid: 1 kilometer
Water Features

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
emits high 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., TerraPoint,
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 TerraPoint, 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 DOGAMI as the Lidar Data Quadrangle (LDQ) series, are
georeferenced raster grids (ESRI format) interpolated from the point
cloud data.

The map images displayed here are examples by DOGAMI 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
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