

Database Code: GI010

Title: LiDAR data (August 2008) for the Andrews Experimental Forest and Willamette National Forest study areas

**Abstract:**

Watershed Sciences, Inc. collected Light Detection and Ranging (LiDAR) data from HJ Andrews and the Willamette National Forest (WNF) on August 10-11, 2008. Total area of the study area is 17,705 acres. The total area of delivered LiDAR including 100 m buffer is 19,493 acres. This data set includes the base products delivered by Watershed Sciences, and derived products (hill shades, slope and aspect grids, and contours). The base products include the point cloud data (LAS format), and the derived bare-earth and highest-hits digital elevation models (DEM). The DEMs are at 1 meter cell size resolution. The bare-earth DEM is a representation of the topography of the area, with all the vegetation removed. The highest-hit DEM is a representation of the first object the LiDAR system struck during data capture. This includes the bare-earth topography with vegetation and structures. The vegetation DEM is the result of subtracting the bare-earth DEM from the highest-hit DEM. The elevations are the heights of the vegetation. The final products are in ESRI GRID digital format, with a 1 meter cell size resolution. Each cell in the GRID has a value that represents the modeled elevation (either total elevation or vegetation height) at that location. The resulting DEM's were used to create slope, aspect, hill shade, and contour data for the area.

**Keywords:** Forest structure; GIS; Geology/geomorphology; Landscape analysis; Spatial data; Disturbance; Organic matter; stand structure; geology; geomorphology; spatial properties; geographic information systems; disturbance; landscape change; organic matter;

**Date data commenced:** 2008-08-10

**Date data terminated:** 2008-08-11

**Principal Investigator:** Thomas A. Spies

**List of Entities:**

1. Bare earth digital elevation model (DEM) from 2008 LiDAR, Andrews Experimental Forest
2. Highest hits digital elevation model (DEM) from 2008 LiDAR, Andrews Experimental Forest
3. Vegetation Height digital elevation model (DEM) from 2008 LiDAR, Andrews Experimental Forest
4. Raw data (Point cloud LAS files) from 2008 LiDAR, Andrews Experimental Forest
5. Aspect grid from Bare earth digital elevation model (DEM) from 2008 LiDAR, Andrews Experimental Forest
6. Percent slope grid from Bare earth digital elevation model (DEM) from 2008 LiDAR, Andrews Experimental Forest
7. Hillshade grid generated from 2008 LiDAR 1 meter bare-earth DEM
8. 10 meter contour lines generated from a 10 meter DEM (from 2009 LiDAR Bare-earth DEM)
9. 25 meter contour lines generated from a 10 meter DEM (from 2009 LiDAR Bare-earth DEM)
10. 50 meter contour lines generated from a 10 meter DEM (from 2009 LiDAR Bare-earth DEM)
11. Hillshade grid generated from 2008 LiDAR 1 meter highest-hits DEM

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1. Bare earth digital elevation model (DEM) from 2008 LiDAR, Andrews Experimental Forest

**Attribute List:**

2. Highest hits digital elevation model (DEM) from 2008 LiDAR, Andrews Experimental Forest

**Attribute List:**

3. Vegetation Height digital elevation model (DEM) from 2008 LiDAR, Andrews Experimental Forest

**Attribute List:**

4. Raw data (Point cloud LAS files) from 2008 LiDAR, Andrews Experimental Forest

LiDAR point clouds are too large to put on line. Data download links to instructions for obtaining data.

**Attribute List:**

5. Aspect grid from Bare earth digital elevation model (DEM) from 2008 LiDAR, Andrews Experimental Forest

**Attribute List:**

6. Percent slope grid from Bare earth digital elevation model (DEM) from 2008 LiDAR, Andrews Experimental Forest

**Attribute List:**

7. Hillshade grid generated from 2008 LiDAR 1 meter bare-earth DEM

**Attribute List:**

8. 10 meter contour lines generated from a 10 meter DEM (from 2009 LiDAR Bare-earth DEM)

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9. 25 meter contour lines generated from a 10 meter DEM (from 2009 LiDAR Bare-earth DEM)

**Attribute List:**

10. 50 meter contour lines generated from a 10 meter DEM (from 2009 LiDAR Bare-earth DEM)

**Attribute List:**

11. Hillshade grid generated from 2008 LiDAR 1 meter highest-hits DEM

**Attribute List:**

Attributes Definitions:

Enumerated Domains: