



Data Collection & Product Report for Lidar Acquisition of Eagle Creek Fire Area in the Columbia River Gorge, Oregon

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Data Collection Summary:

Collection Dates, Flights:	May 3–6, 2018 (DOY 123–126) comprising seven (7) flights
Aircraft, Equipment:	Robinson R44 Raven II (N86JD) with CRREL HeliPod Lidar (RIEGL VQ-480i)
Flight Plan Parameters:	Flying Height: 500 m AGL, Swath Width: 580 m, Overlap: 50%
Equipment Parameters:	PRF: 100 kHz, Scan Frequency: 44 Hz, Scan Angle: $\pm 30^\circ$
Collected Area:	305.7 km ²

GNSS Reference Station Summary:

Station Name	Operating Agency	Control Coordinates (NAD83(2011) epoch 2010.00/Ellipsoid)	RMS (OPUS)
P427	UNAVCO	45°25'48.62856" N, 122°20'26.21213" W, 149.592 m	0.017 m
P429	UNAVCO	45°40'34.04507" N, 121°52'38.43649" W, 25.953 m	0.011 m

Data Processing Summary:

Scan Angle Cutoff:	0°
Intensity Normalization:	RIEGL reflectance
Data Adjustments:	Line-by-line elevation correction
Ground Classification:	Three iterations of aggressive ground determination, manual classification of cliff edges and misclassified ground
Elevation Model Generation:	Elevation values calculated from Kriging

Data Accuracy Summary

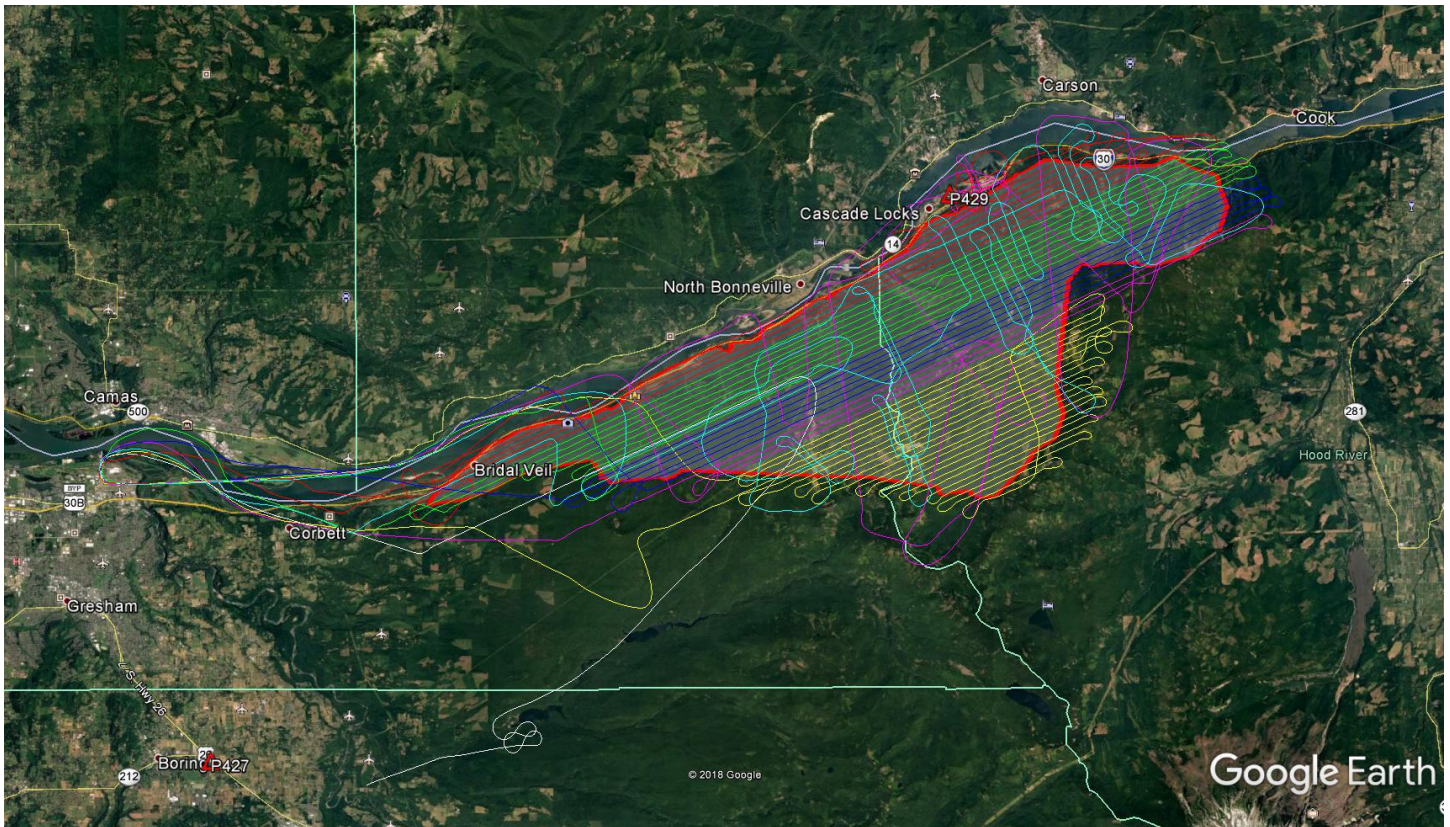
Strip-to-Strip Average	0.134 m
GCP Residual Average	0.038 m

Data Product Summary:

Horizontal / Vertical Datum:	NAD83(2011) epoch 2010.00 / NAVD88 (GEOID12B)
Projection / Units:	UTM Zone 10N / meters
Point Cloud Tiles:	1000-m × 1000-m tiles in LAS format (Version 1.4) classified by non-ground (1), ground (2), intermediate echo (4), low point (7), and high point (18) returns
Bare-Earth Elevation Model:	ESRI FLT format @ 1-m resolution from classified ground points
Bare-Earth Hillshade:	ESRI-created raster @ 1-m resolution
First-Surface Elevation Model:	ESRI FLT format @ 1-m resolution with canopy included
First-Surface Hillshade:	ESRI-created raster @ 1-m resolution

A detailed summary of the equipment and processing techniques used by NCALM is included in the [Data Collection & Processing Summary](#).

Area of Interest:



Location of survey polygon (in red), aircraft trajectories, and GNSS reference stations

The requested survey area consisted of one polygon located in the gorge and mountains between Troutdale and Hood River, OR. The polygon encloses approximately 259.5 km² (100.2 mi²).