



Data Collection & Product Report for 2019 Seed Project: Preserving Mountains as “Water Towers” through Forest Management

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Data Collection Summary:

Collection Dates, Flights:	1 flight on November 10, 2020 (DOY 315)
Aircraft, Equipment:	Piper PA-31-350 Navajo Chieftain (N640WA), Optech Titan (14SEN340)
Flight Plan Parameters:	Flying Height: 500 m AGL, Speed: 150 kt, Overlap: 50%
Equipment Parameters:	PRF: 100 kHz, Scan Frequency: 26 Hz, Scan Angle: $\pm 30^\circ$
Collected Area:	72.4 km ²

GNSS Reference Station Summary:

Station Name	Operating Agency	Control Coordinates (NAD83(2011)/Ellipsoid)
GSE4	NCALM	39° 19' 08.69970" N, 120° 08' 49.67984" W, 1776.5811 m
P150	UNAVCO	39° 17' 32.55486" N, 120° 02' 01.82015" W, 2619.6470 m

Data Processing Summary:

Scan Angle Cutoff:	$\pm 1^\circ$
Intensity Normalization:	500 m
Data Adjustments:	Line-by-line/channel-by-channel roll/elevation correction, project elevation shift of -0.21 m
Ground Classification:	Two iterations of moderate ground determination, manual classification of misclassified ground
Elevation Model Generation:	Elevation values calculated from Kriging

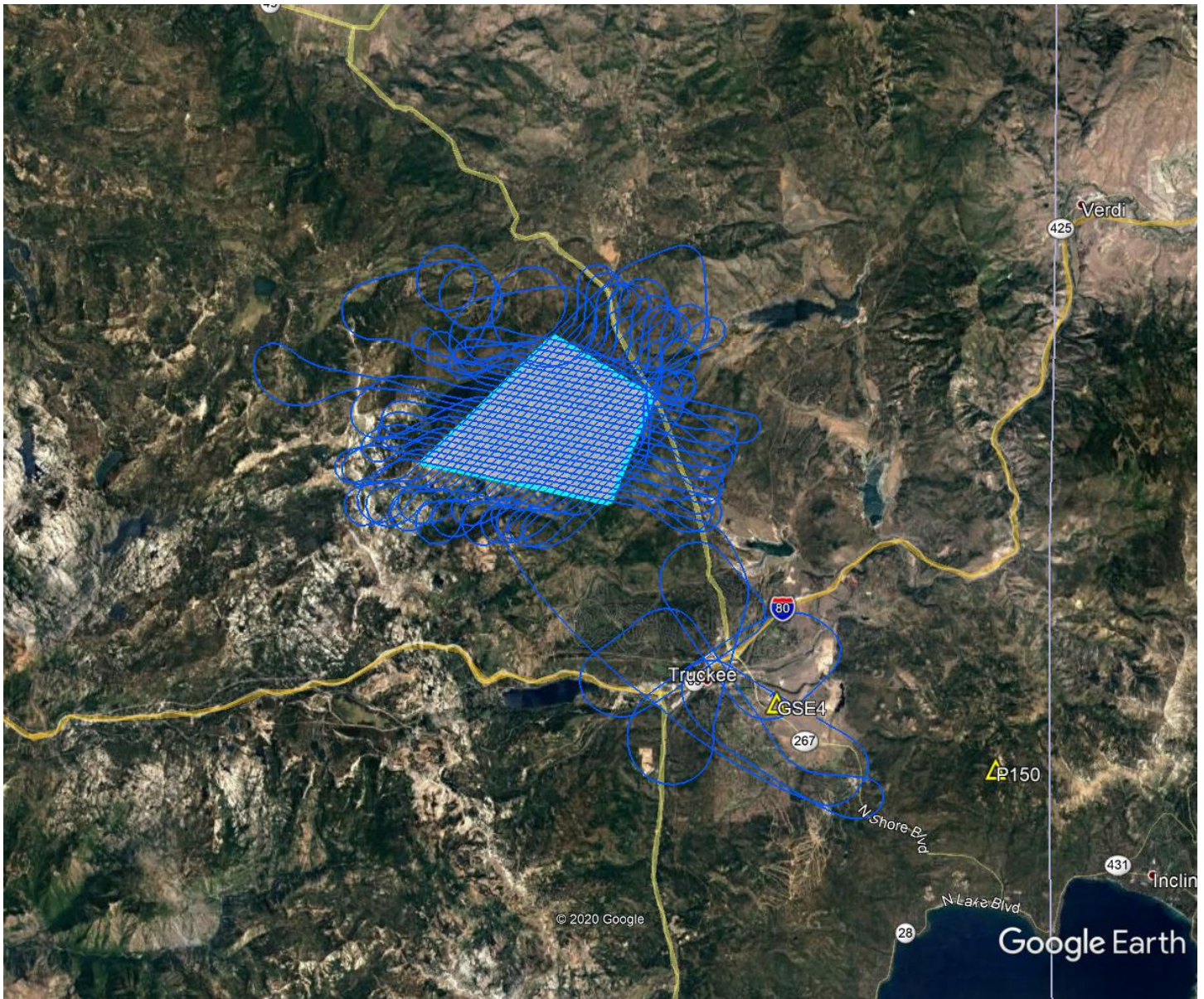
Data Accuracy Summary

Strip-to-Strip Average	0.053 m
GCP Residual RMS	N/A

Data Product Summary:

Horizontal / Vertical Datum:	NAD83(2011) epoch 2010.00 / ellipsoid
Projection / Units:	UTM Zone 10N / meters
Point Cloud Tiles:	1000-m \times 1000-m tiles in LAS format (Version 1.4) with non-ground (1), ground (2), and outlier (7) 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
First-Surface Hillshade:	ESRI-created raster @ 1-m resolution

Area of Interest:



Location of survey polygons, aircraft trajectory, and GNSS reference stations

The requested survey area consisted of one polygon located northwest of Truckee, CA. The polygon enclosed approximately 42.4 km² (16.4 mi²).