Data Collection & Product Report for 2020 Seed Project: Topographic and Lithologic Controls on Subsurface Weathering in the Sierra Nevada, California

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Data Collection Summary:

Collection Dates, Flights:	1 flight on July 13, 2021 (DOY 194)
Aircraft, Equipment:	Aero Commander 500 (N161BL), RIEGL VQ-580 II (H2225798)
Flight Plan Parameters:	Flying Height: 700 m AGL, Speed: 130 kt, Overlap: 50%
Equipment Parameters:	PRR: 300 kHz, LPS: 113/s, Scan Angle: ± 37.5°
Collected Area:	38.2 km²

GNSS Reference Station Summary:

Station Name	Operating Agency	Control Coordinates (NAD83(2011) / Ellipsoid)
BRAN	NCALM	36°52'00.05315" N, 119°33'51.24557" W, 118.317 m
GSE3	NCALM	36°52'00.04940" N, 119°33'50.74978" W, 118.690 m
MUSB	UNAVCO	37°10'11.77349" N, 119°18'33.61180" W, 2043.268 m

Data Processing Summary:

Data Adjustments:	Line-by-line roll/elevation correction
Ground Classification:	Two iterations of moderate ground determination, manual classification of misclassified ground
Elevation Model Generation:	Elevation values calculated from Kriging

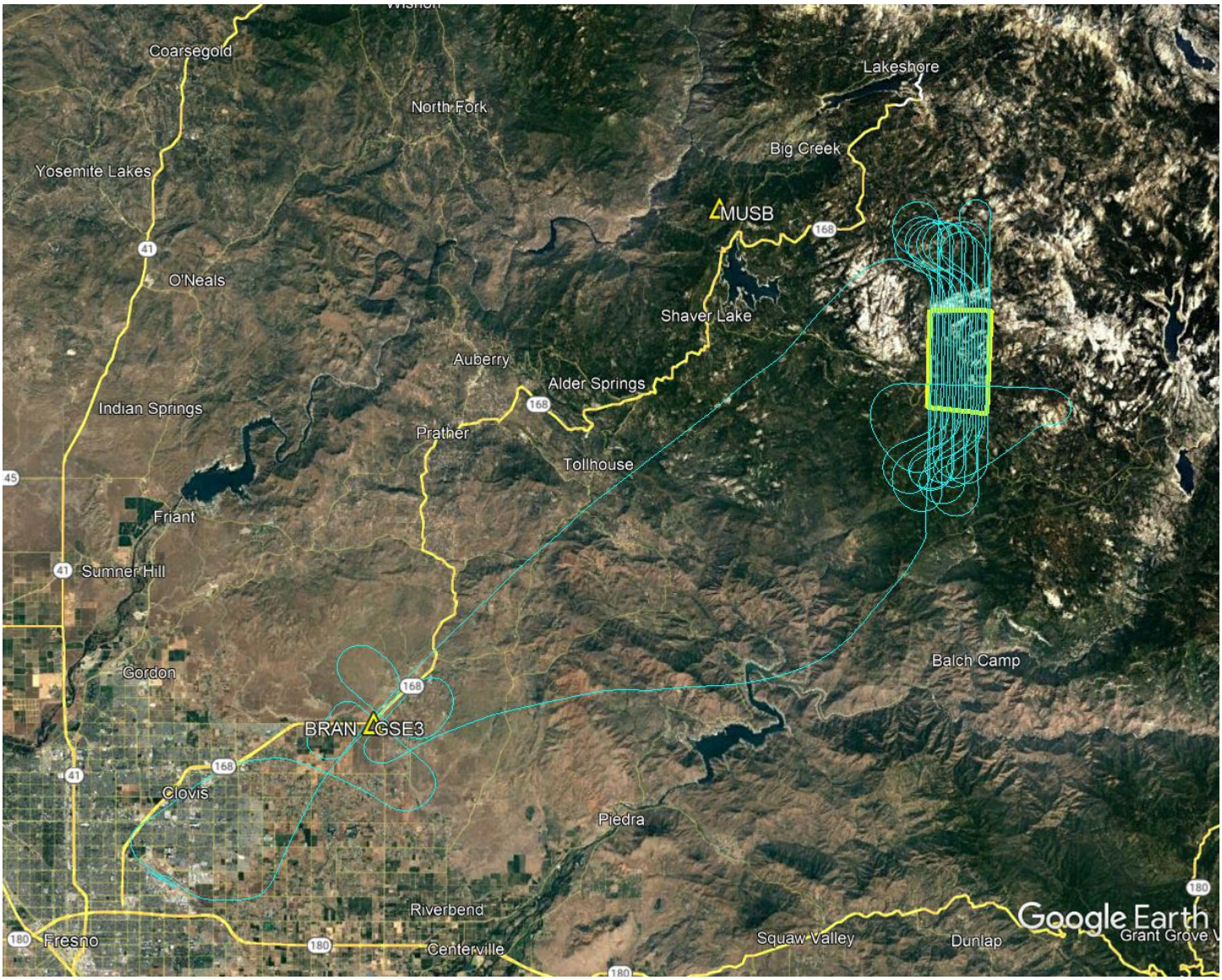
Data Accuracy Summary

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

Data Product Summary:

Horizontal / Vertical Datum:	NAD83(2011) epoch 2010.00 / NAVD88 (GEOID18)
Projection / Units:	UTM Zone 11N / meters
Point Cloud Tiles:	1000-m × 1000-m tiles in LAS format (Version 1.4) with non-ground (1), ground (2), and low point (7) returns
Bare-Earth Elevation Model:	GeoTIFF @ 1-m resolution from classified ground
First-Surface Elevation Model:	GeoTIFF @ 1-m resolution with canopy included

Area of Interest:



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

The requested survey area consisted of one polygon located northeast of Fresno, CA. The polygon enclosed approximately 26.0 km^2 (10.0 mi^2).