

Data Collection & Product Report for 2020 Seed Project: Impact of Waterfall Formation on River Long Profiles

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Data Collection Summary:

Collection Dates, Flights:	2 flights on July 25 & 27, 2021 (DOY 206 & 208)
Aircraft, Equipment:	Robinson R44 II (N7106Z), RIEGL VUX-240 (S2224985)
Flight Plan Parameters:	Flying Height: 500 m AGL, Speed: 60 kt, Overlap: 50%
Equipment Parameters:	PRR: 150 kHz, LPS: 71/s, Scan Angle: ± 37.5°
Collected Area:	72.3 km²

GNSS Reference Station Summary:

Station Name	Operating Agency	Control Coordinates (WGS84/Ellipsoid)
GSE3	NCALM	36°01′50.35429″ N, 119°03′39.88958″ W, 100.956 m
P056	UNAVCO	36°01′38.77432″ N, 119°03′46.34669″ W, 101.030 m
P566	UNAVCO	36°19′28.03526″ N, 119°13′45.44537″ W, 78.031 m
P571	UNAVCO	36°13′52.91594″ N, 118°46′00.18725″ W, 914.217 m
P572	UNAVCO	36°35′07.85645″ N, 118°57′16.55654″ W, 1167.343 m

Data Processing Summary:

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Data Adjustments:	Line-by-line roll/elevation correction, project elevation shift of +0.057 m	
Ground Classification:	Two iterations of moderate ground determination, manual classification of misclassified ground	
Elevation Model Generation:	Bare-earth calculated from Kriging, first-return calculated from TIN model	

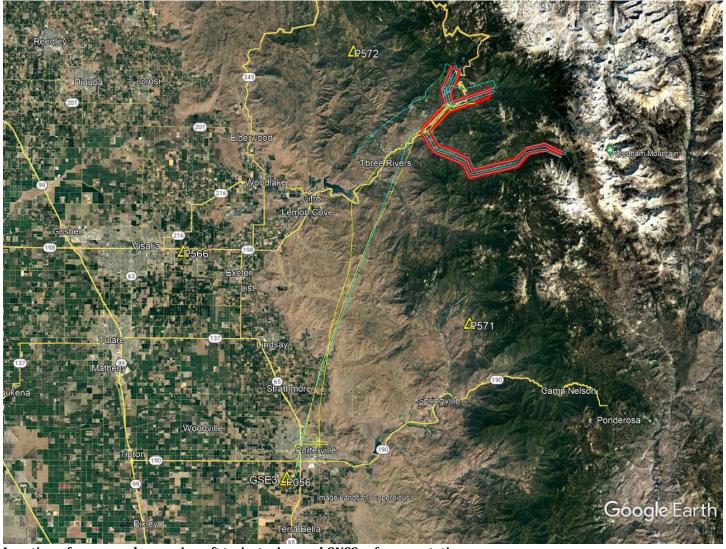
Data Accuracy Summary

Strip-to-Strip Average	0.095 m
GCP Residual RMS	0.024 m (calibration area)

Data Product Summary:

Horizontal / Vertical Datum:	WGS84 / ellipsoid
Projection / Units:	UTM Zone 11N / meters
Point Cloud Tiles:	1000-m $ imes$ 1000 -m tiles in LAS format (Version 1.4) with non-ground (1), ground
	(2), low point (7), and high point (18) returns
Bare-Earth Elevation Model:	GeoTIFF @ 1-m resolution from classified ground
First-Surface Elevation Model:	GeoTIFF @ 1-m resolution with canopy and buildings included

Area of Interest:



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

The requested survey area consisted of one polygon located east of Visalia, CA. The polygon enclosed approximately 42.0 km² (16.2 mi²).