



Data Collection & Product Report for 2021 Seed Project: Volcanic and climate controls on the growth and collapse of Paoha Island, Mono Lake, Eastern California

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Data Collection Summary:

Collection Dates, Flights:	1 flight on September 27, 2023 (DOY 270)
Aircraft, Equipment:	Piper PA-31 Navajo (C-GJMT), Optech Titan (14SEN340)
Nominal Flight Parameters:	Flying Height: 600 m AGL, Speed: 120 kt, Overlap: 50%
Nominal Equipment Parameters:	Pulse Rate: 150 kHz, Scan Rate: 26 Hz, Scan Angle: $\pm 30^\circ$
Collected Area:	44.3 km ²

GNSS Reference Station Summary:

Station Name	Operating Agency	Coordinates (ITRF2014 Epoch 2023.739 / Ellipsoid) : Using NGS OPUS
5212K	NCALM	37° 37' 38.58370" N, 118° 50' 36.93970" W, 2145.326 m
P633	UNAVCO	37° 54' 48.45564" N, 119° 1' 58.76630" W, 2293.041 m
P654	UNAVCO	38° 3' 28.56319" N, 119° 9' 0.69408" W, 2053.497 m

Data Processing Summary:

Scan Angle Cutoff:	$\pm 1^\circ$
Intensity Normalization:	600 m
Point cloud Processing	Ground classification was done using a morphological filter in Terrascan. No Bathymetric processing was done (Classification and correction)
Elevation Model Generation:	Bare-earth (DEM) and first-return (DSM) raster were created using Kriging

Data Accuracy Summary:

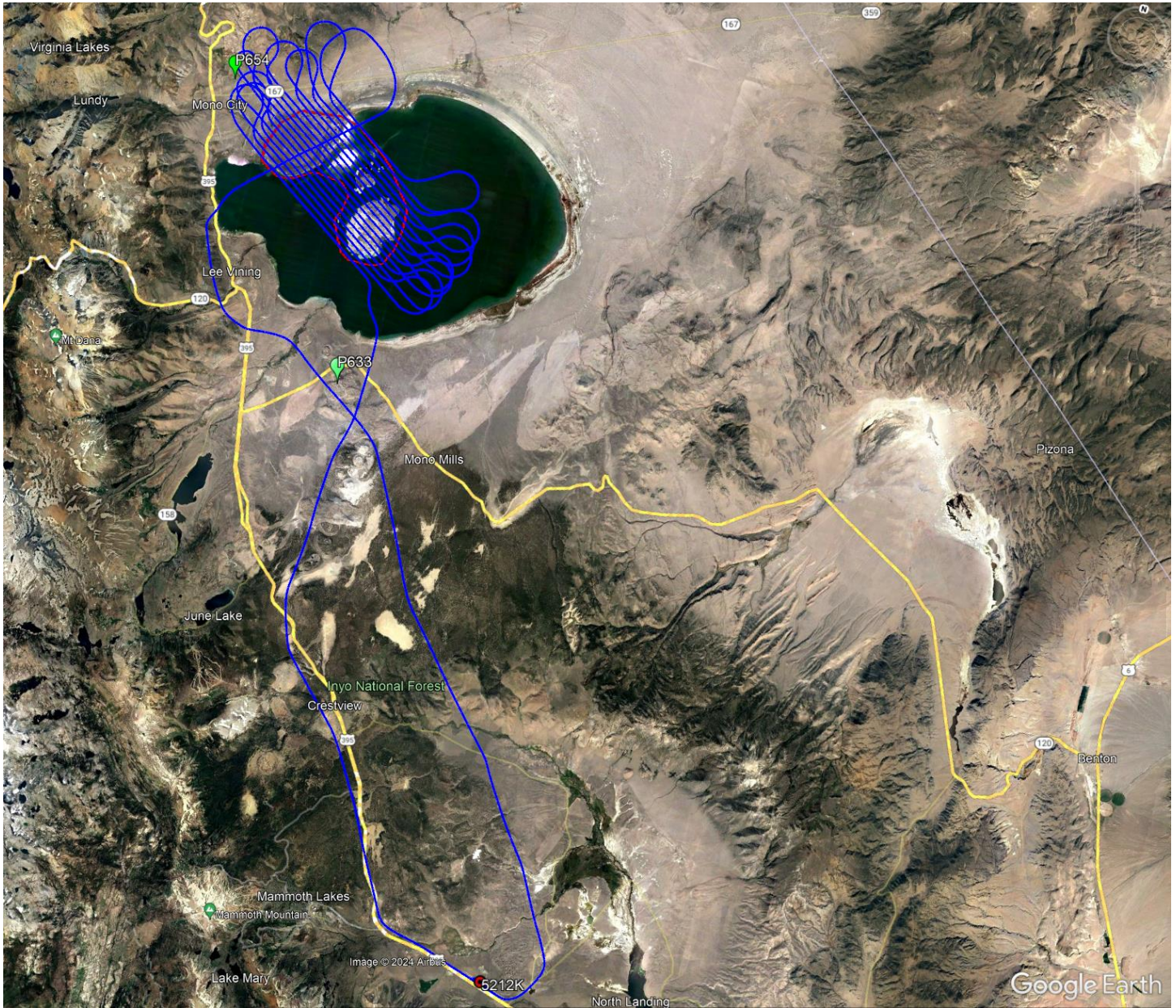
GCP Residual RMS:	N/A
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Ground check points were collected on a car mounted GPS antenna inside the survey polygon on Pole Line Rd (Rd 167) and Cemetery Rd. and compared with lidar data.

Data Product Summary:

Horizontal / Vertical Datum:	NAD83(2011) epoch 2010.00 / orthometric (GEOID18)
Projection / Units:	UTM Zone 11N / 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:	GeoTIFF @ 50-cm resolution from classified ground
First-Surface Elevation Model:	GeoTIFF @ 50-cm resolution with canopy and buildings included

Area of Interest:



Location of survey polygon, aircraft trajectory (including instrument calibration), and GNSS reference stations

The requested survey area consisted of one polygon located north of Mammoth Lakes, CA, over the Mono Lake. The polygon enclosed approximately 40 km².