Data Collection & Product Report for
2018 Seed Project in Death Valley, CA
Using meandering channels in Death Valley to determine the role of bank cohesion for un-vegetated rivers on Earth and Mars

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Data Collection Summary:

Collection Dates, Flights:	1 flight on September 27, 2019 (DOY 270)
Aircraft, Equipment:	Piper PA-31-350 Navajo Chieftain (N640WA), Optech Titan (14SEN340)
Topography Flight Plan Parameters:	Flying Height: 500 m AGL, Speed: 140 kt, Overlap: 50%
Topography Equipment Parameters:	PRF: 150 kHz, Scan Frequency: 30 Hz, Scan Angle: ± 26°
Collected Area:	72.4 km²

GNSS Reference Station Summary:

Station Name	Operating Agency	Control Coordinates (NAD83(2011) epoch 2010.00/Ellipsoid)
P462	UNAVCO	N 36° 4' 16.72504" , W116° 37' 43.30031" , 1335.111m
P596	UNAVCO	35° 42' 38.14423" , 116° 53' 18.17671" , 1194.873m
P597	UNAVCO	35° 59' 53.42525" 116° 53' 22.23193" , 431.184m

Data Processing Summary:

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Scan Angle Cutoff:	± 1°
Intensity Normalization:	500 m
Data Adjustments:	Line-by-line/channel-by-channel roll/elevation correction
Ground Classification:	N/A
Elevation Model Generation:	Calculated from Unclassified Points (kriging)

Data Accuracy Summary

Strip-to-Strip Average	0.018 m
GCP Residual RMS	0.169 m

Data Product Summary:

Horizontal / Vertical Datum:	NAD83(2011) epoch 2010.00 / ellipsoid
Projection / Units:	UTM Zone 11N / meters
Point Cloud Tiles:	1000-m × 1000-m tiles in LAS format (Version 1.4) with unclassfied (point class 0) returns
First-Surface Elevation Model:	ESRI FLT format @0.5-m resolution with first-return points
First-Surface Hillshade:	ESRI-created raster @0.5-m resolution

Area of Interest:
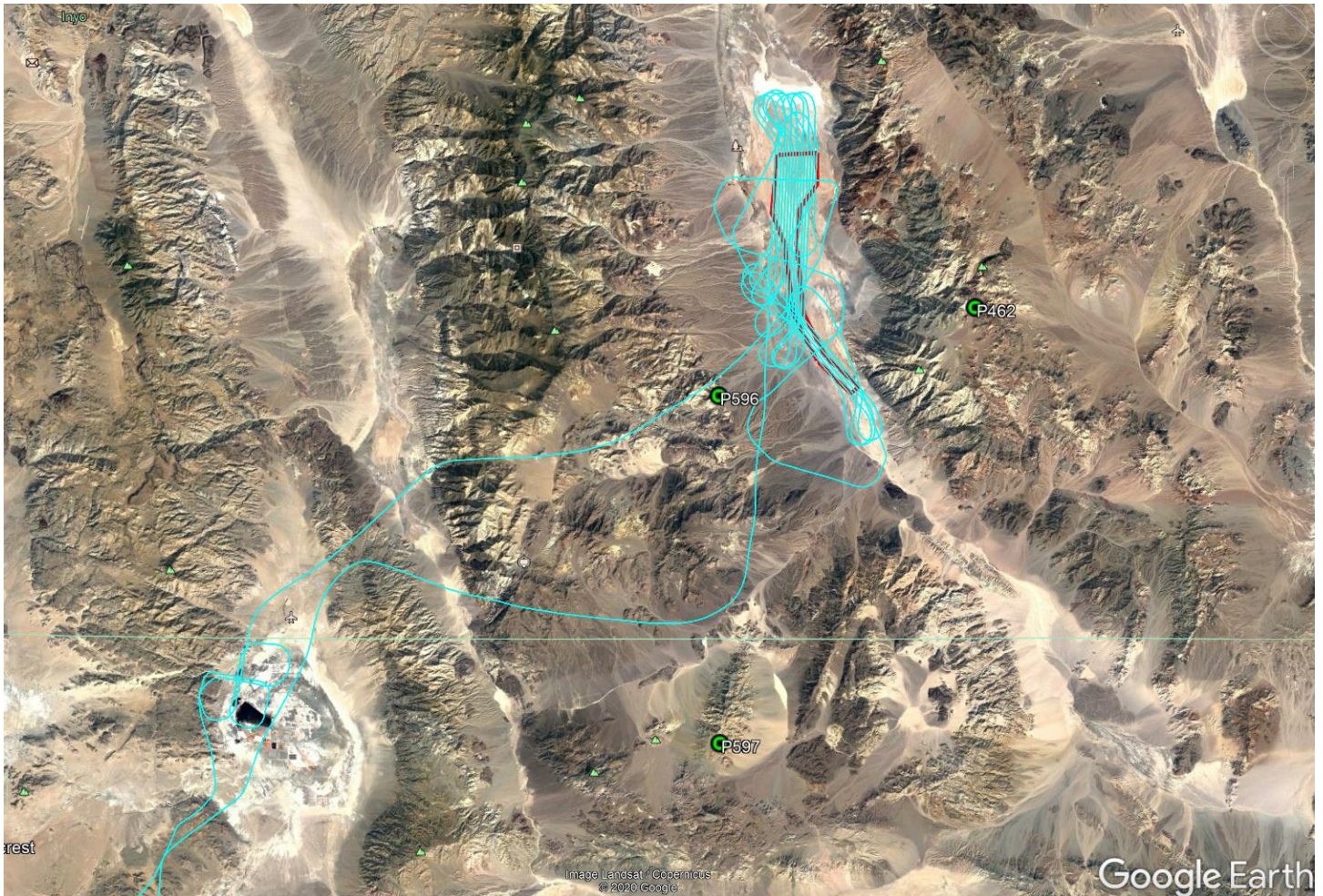
Location of survey polygon, aircraft trajectory, and GNSS reference stations.

The requested survey area consisted of one polygon located in Death Valley National Park, California. The polygon enclosed approximately 40.0 km^2.