Data Collection & Processing Report for 2015 Seed Project: Using Inverted Channels to Reconstruct River Dynamics and 3D Architecture of Alluvial Stratigraphy on Earth and Mars

PI: Alistair T. Hayden (ahayden@caltech.edu)
California Institute of Technology, Division of Geological & Planetary Sciences
Mail Code 170-25, 1200 E California Blvd, Pasadena, CA   91125

Data Collection Summary:

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Collection Dates, # Flights:	1 flight on October 4, 2016 (DOY 278)
Aircraft, Equipment:	Piper PA-31-350 Navajo Chieftain (N640WA), Optech Titan (14SEN340)
Flight Plan Parameters:	Flying Height: 700 m AGL, Swath Width: 700 m, Overlap: 50%, Line Spacing: 350 m
Equipment Parameters:	PRF: 125 kHz, Scan Frequency: 29 Hz, Scan Angle: ± 27°
Collected Area:	54 km²

GNSS Reference Station Summary:

PUC2	CORS	39°35'38.10058" N, 110°45'41.52524" W, 1714.255 m (Ellipsoid)

Data Processing Summary:

Horizontal / Vertical Datum:	NAD83(2011) / NAVD88 (GEOID12A)
Projection / Units:	UTM Zone 12N / meters
Point Cloud Tiles:	1000-m × 1000-m tiles in LAS format (Version 1.4), classified with ground and non-ground 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 included
First-Surface Hillshade:	ESRI-created raster @ 1-m resolution

A detailed summary of the equipment and typical processing techniques used by NCALM is included in the Data Collection & Processing Summary.

Area of Interest:
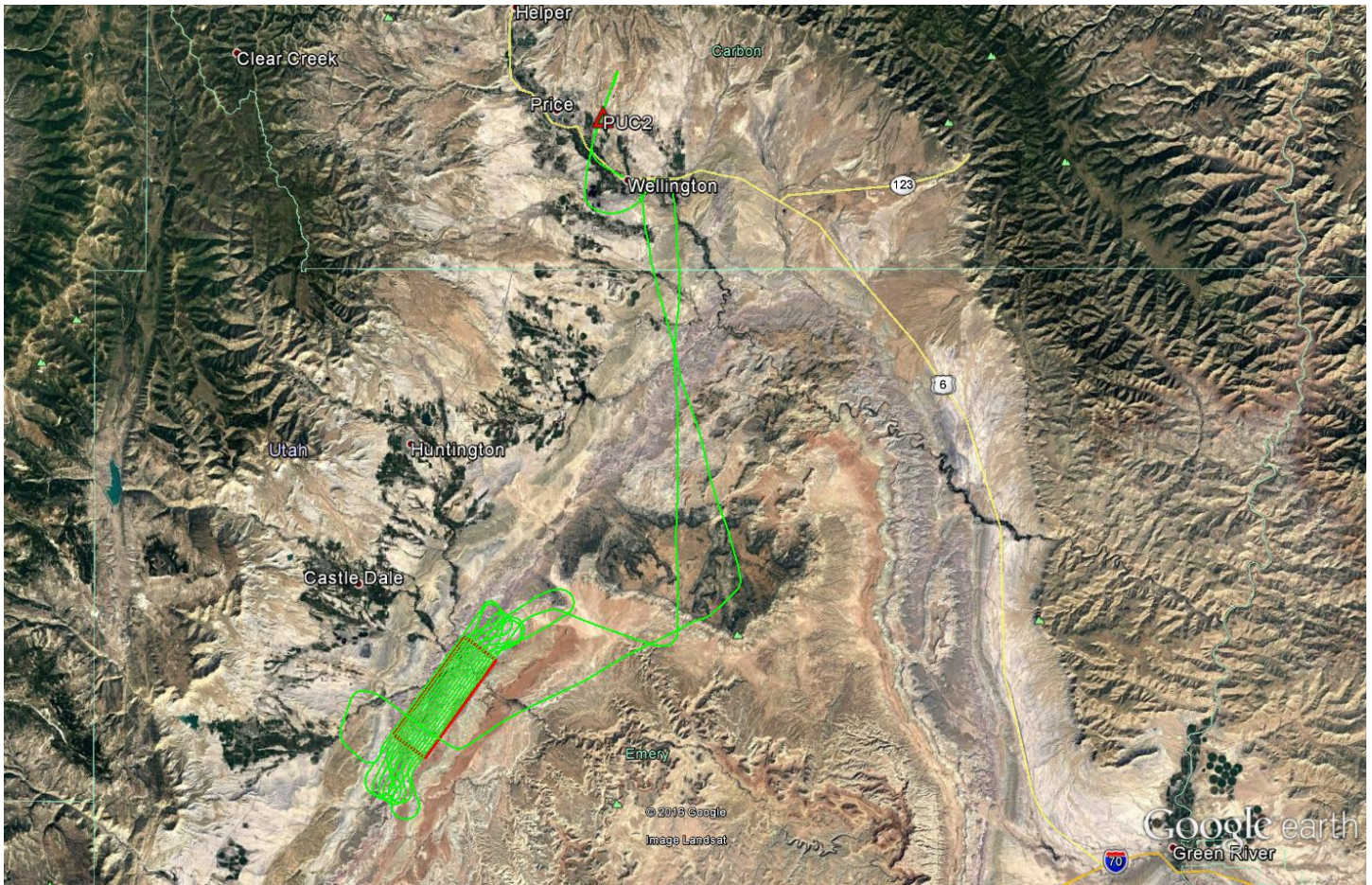
Location of survey polygon (in red), aircraft trajectory (in green), and GNSS reference station

The requested survey area consisted of one polygon located south of Price, UT. The polygon enclosed approximately 38 km² (15 mi²).