



Data Collection & Processing Report for 2016 Seed Project: Soil Chemical Weathering Under Morphologic and Climatic Controls in the Northern Rockies, Montana

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Data Collection Summary:

Collection Dates, # Flights:	1 flight on September 28, 2016 (DOY 272)
Aircraft, Equipment:	Piper PA-31-350 Navajo Chieftain (N640WA), Optech Titan (14SEN340)
Flight Plan Parameters:	Flying Height: 500 m AGL, Swath Width: 600 m, Overlap: 50%, Line Spacing: 300 m
Equipment Parameters:	PRF: 75/100 kHz, Scan Frequency: 26 Hz, Scan Angle: $\pm 30^\circ$, Aperture: 8.0+ 2/3
Collected Area:	99 km ²

GNSS Reference Station Summary:

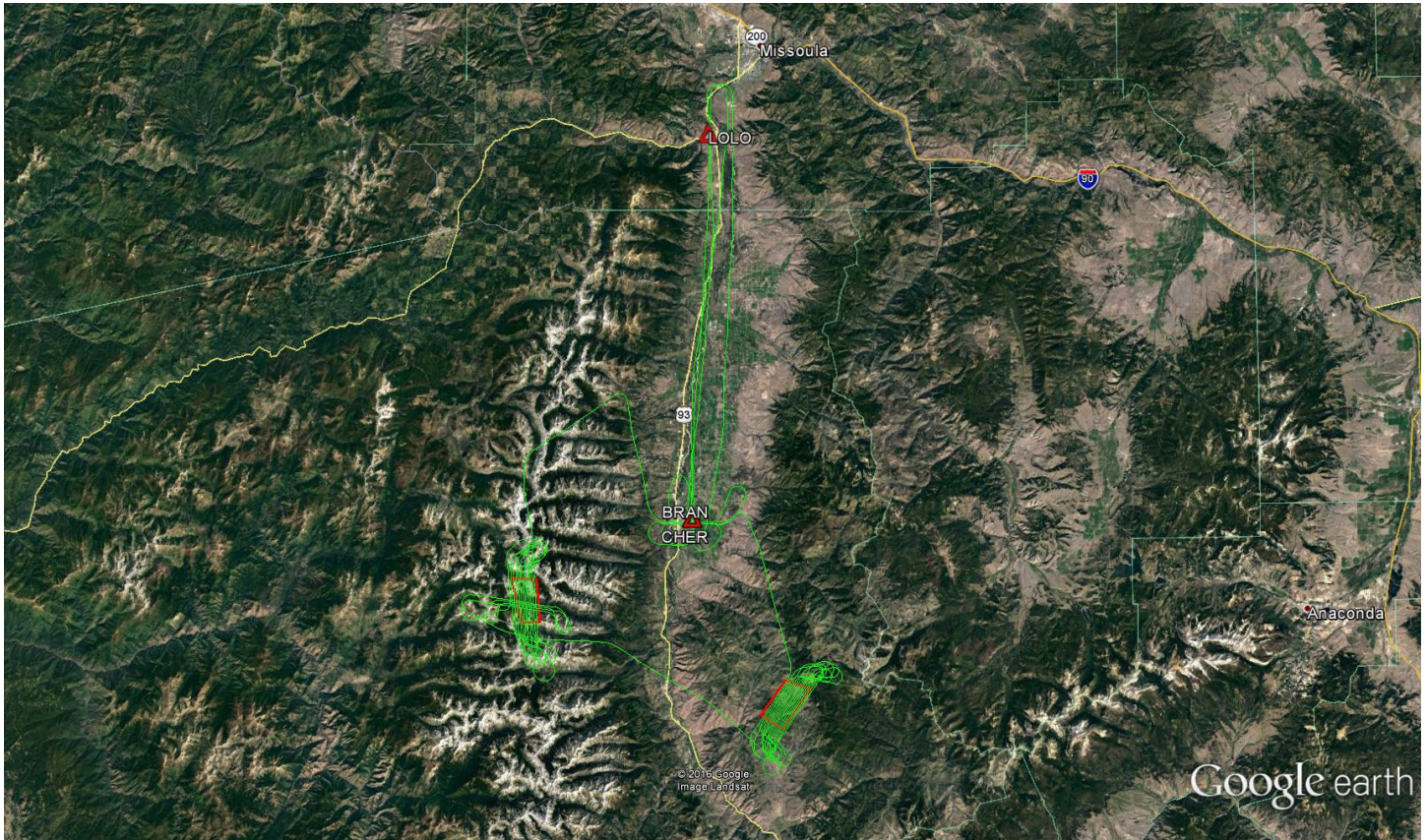
BRAN	User (Ravalli County Airport)	46°15'11.91837" N, 114°07'41.71911" W, 1086.375 m (Ellipsoid)
CHER	User (Ravalli County Airport)	46°15'12.05423" N, 114°07'41.74293" W, 1086.380 m (Ellipsoid)
LOLO	CORS	46°45'46.24773" N, 114°05'48.67207" W, 1109.856 m (Ellipsoid)

Data Processing Summary:

Horizontal / Vertical Datum:	NAD83(2011) / NAVD88 (GEOID12A)
Projection / Units:	UTM Zone 11N / meters
Point Cloud Tiles:	1000-m \times 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 and buildings included
First-Surface Hillshade:	ESRI-created raster @ 1-m resolution
Aerial Images:	Radiometrically corrected 8-bit TIFF files @ 300 dpi with timestamp and trajectory information

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 polygons (in red), aircraft trajectory (in green), and GNSS reference stations

The requested survey area consisted of two polygons located south of Missoula, MT. The polygons enclose approximately 46 km² (18 mi²).