



Data Collection & Processing Report for 2015 Seed Project: Validating Simulations of Floodplain Topographic Evolution with Field Data

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Data Collection Summary:

Collection Dates, # Flights:	1 flight on September 30, 2016 (DOY 274)
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: 100 kHz, Scan Frequency: 29 Hz, Scan Angle: $\pm 27^\circ$
Collected Area:	96 km ²

GNSS Reference Station Summary:

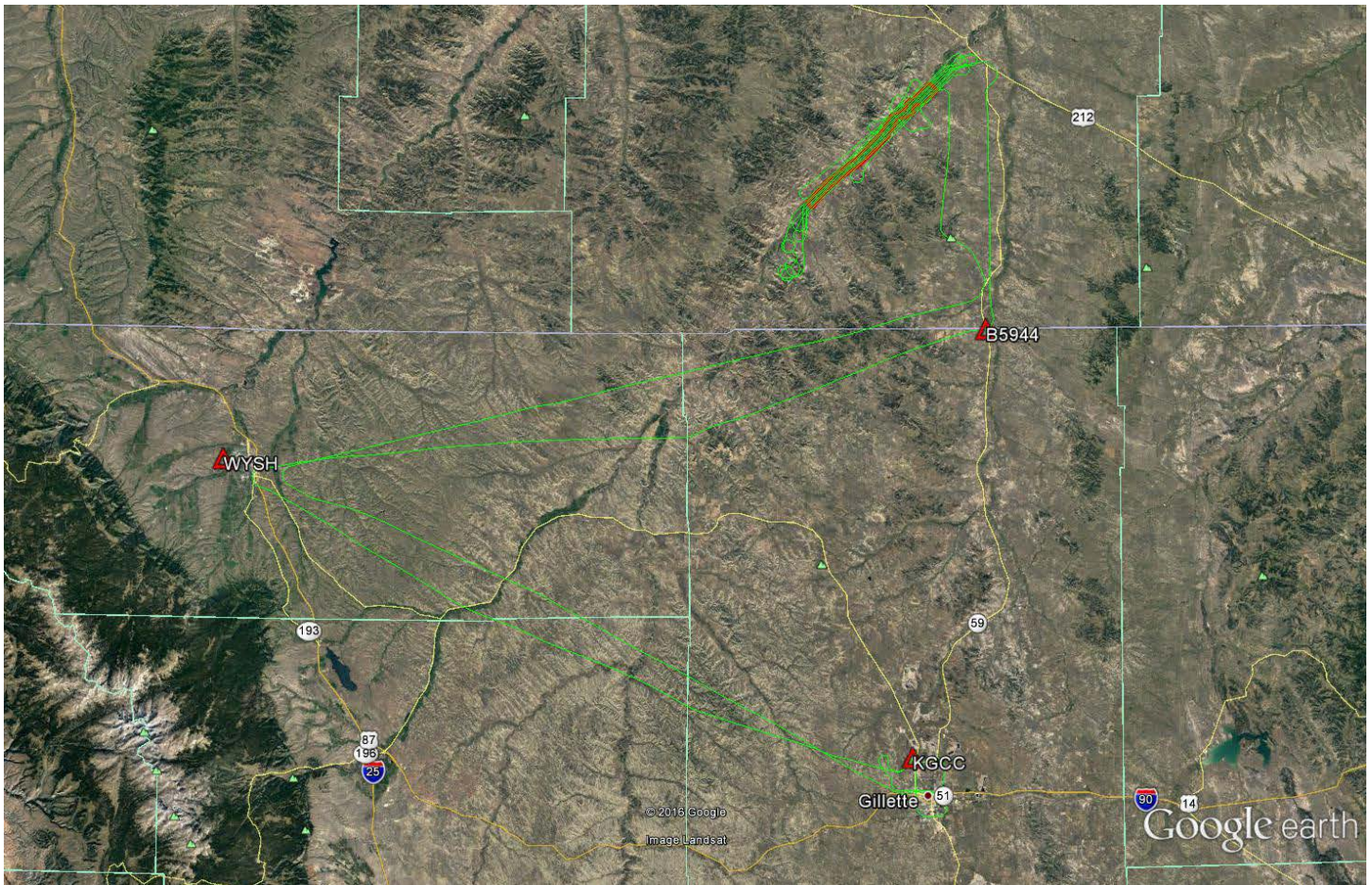
B5944	User (Montana-Wyoming State Line)	44°59'56.02124" N, 105°22'17.64930" W, 1056.839 m (Ellipsoid)
KGCC	User (Gillette-Campbell County Airport)	44°20'56.01060" N, 105°32'02.56017" W, 1307.196 m (Ellipsoid)
WYSH	CORS	44°48'01.76938" N, 107°00'35.71572" W, 1221.357 m (Ellipsoid)

Data Processing Summary:

Horizontal / Vertical Datum:	NAD83(2011) / NAVD88 (GEOID12A)
Projection / Units:	UTM Zone 13N / meters
Point Cloud Tiles:	1000-m \times 1000-m tiles in LAS format (Version 1.2), classified with ground (and Bathymetry for Band #3) and non-ground returns
Waveform Data:	Individual flightlines in WDP format (for LAS Version 1.4), unprocessed
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

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 stations

The requested survey area consisted of one polygon located in southeast MT, and north of Gillette, WY. The polygon enclosed approximately 96 km².