



Data Collection & Product Report for 2018 Project over Rampart Range, Colorado Topographic response to the transition from snowmelt- to rainfall- triggered-extremes

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Data Collection Summary:

Collection Dates, Flights:	4 flights total : 2 flights each on September 15 and 16, 2018 (DOY 258 and 259)
Aircraft, Equipment:	Piper PA-31-350 Navajo Chieftain (N640WA), Optech Titan (14SEN340)
Topography Flight Plan Parameters:	Flying Height: 700 m AGL, Speed: 140 kt, Overlap: 50%
Topography Equipment Parameters:	PRF: 375/300 kHz, Scan Frequency: 25/32 Hz, Scan Angle: $\pm 28^\circ/25^\circ$
Collected Area:	100 km ²

GNSS Reference Station Summary:

Station Name	Operating Agency	Control Coordinates (NAD83(2011) epoch 2010.00/Ellipsoid)
NCALM1	NCALM	N 38° 48' 6.46888", W 104° 43' 52.53330", 1820.441m
NCALM2	NCALM	N 39° 5' 20.40277", W 104° 51' 27.59962", 2125.081m
CTMC	CORS	N 39° 43' 17.49312", W 105° 11' 34.33565", 1819.842
ZDV1	CORS	N 40° 11' 14.27201", W 105° 07' 37.95983" W, 1541.784m
P037	UNAVCO	N 38° 25' 18.29406", W 105° 06' 16.81888", 1617.718m
P040	UNAVCO	N 38° 04' 17.4", W 102° 41' 13.128", 1102.656m
RG16	UNAVCO	N 39° 31' 49.3284", W 106° 12' 19.6704", 2597.700m

Data Processing Summary:

Scan Angle Cutoff:	$\pm 1^\circ$
Intensity Normalization:	800 m
Data Adjustments:	Line-by-line/channel-by-channel roll/elevation correction
Ground Classification:	Terrascan
Elevation Model Generation:	First Surface model from First>Returns and Ground Classified bare earth model

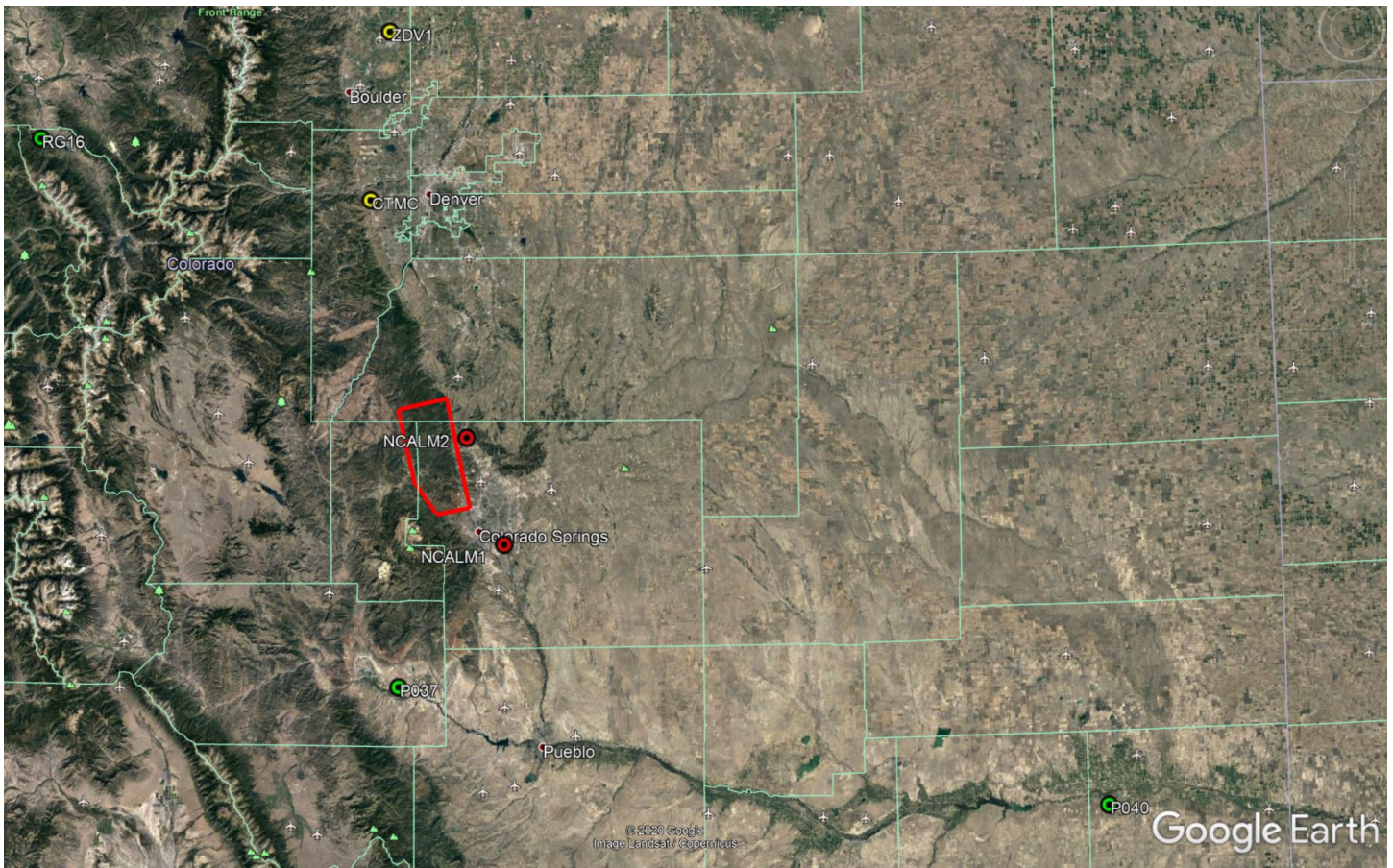
Data Accuracy Summary

Strip-to-Strip Average	0.048 m
GCP Residual RMS	0.013 m

Data Product Summary:

Horizontal / Vertical Datum:	NAD83(2011) epoch 2010.00 / NAVD88 –GEOID12B
Projection / Units:	UTM Zone 13N / meters
Point Cloud Tiles:	1000-m \times 1000-m tiles in LAS format (Version 1.4) with unclassified and ground classified returns
First-Surface and Bare Earth Elevation Model:	ArcGIS FLT @ 1 m resolution
First-Surface and Bare Earth Hillshade:	GeoTIFF @ 1 m resolution

Area of Interest:



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

The requested survey area consisted of one polygon located north of Colorado Springs over the Front Range in Colorado. The polygon enclosed approximately 92.0 km².