

Data Collection & Product Report for 2017 Project:

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Data Collection Summary:

Collection Dates, Flights:	2 flights October 12 and 14 th , 2017 (DOY 285 and 287)
Aircraft, Equipment:	Piper PA-31-350 Navajo Chieftain (N640WA), Optech Titan (14SEN340)
Flight Plan Parameters:	Flying Height: 650 - 1250 m AGL, Swath Width: 470 - 908 m, Overlap: over 50%
Equipment Parameters:	PRF: 125 kHz, Scan Frequency: 40 Hz, Scan Angle: $\pm 20^\circ$
Equipment Parameters:	PRF: 100 kHz, Scan Frequency: 50 Hz, Scan Angle: $\pm 16^\circ$
Equipment Parameters:	PRF: 075 kHz, Scan Frequency: 40 Hz, Scan Angle: $\pm 20^\circ$
Imagery Flight Plan Parameters:	None collected
Collected Area:	20 km ² (requested) 44.9 km ² (actual)

GNSS Reference Station Summary:

KWVI	NCALM	36 56 04.93246 N 121 47 23.37043 W EL HGT: 12.515(m)
P212	UNAVCO PBO	36 57 43.22448 N 121 51 45.78912 W EL HGT: 37.150(m)
P214	UNAVCO PBO	37 0 3.65857 N 121 47 47.59519 W EL HGT: 73.831(m)
P216	UNAVCO PBO	37 0 8.71996 N 121 43 34.29448 W EL HGT: 337.480(m)

Data Processing Summary:

Scan Angle Cutoff:	$\pm 1^\circ$
Intensity Normalization:	1000 m
Data Adjustments:	Line-by-line elevation correction (Z-shift)
Ground Classification:	Two iterations of aggressive ground determination
Elevation Model Generation:	Elevation model values calculated as mean elevation from all ground class points inside each 1 meter cell.

Data Product Summary:

Horizontal / Vertical Datum:	NAD83(2011) epoch 2010.00 / NAVD88 via GEOID12B
Projection / Units:	UTM Zone 10N / meters
Point Cloud Tiles:	1000-m \times 1000-m tiles in LAS format (Version 1.2) classified as ground or 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

A detailed summary of the equipment and processing techniques used by NCALM is included in the [Data Collection & Processing Summary](#).

Area of Interest:

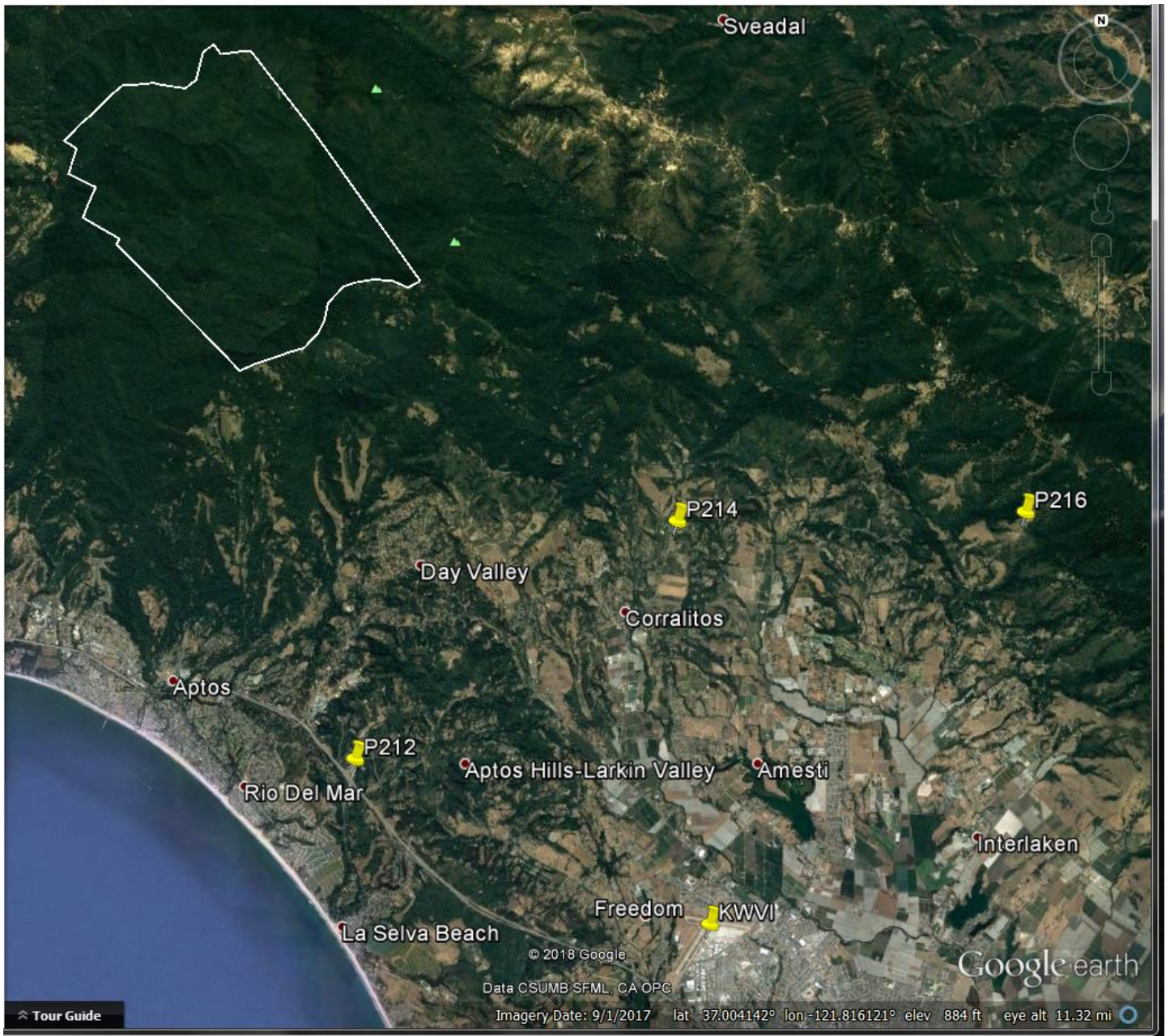


Figure 1. Location of survey polygon (in white) and GNSS reference stations (yellow pushpins)

The requested survey area consisted of a single polygon located northwest of Watsonville, CA. The polygon encloses approximately 20 km²; the total area surveyed and processed was 45 km².

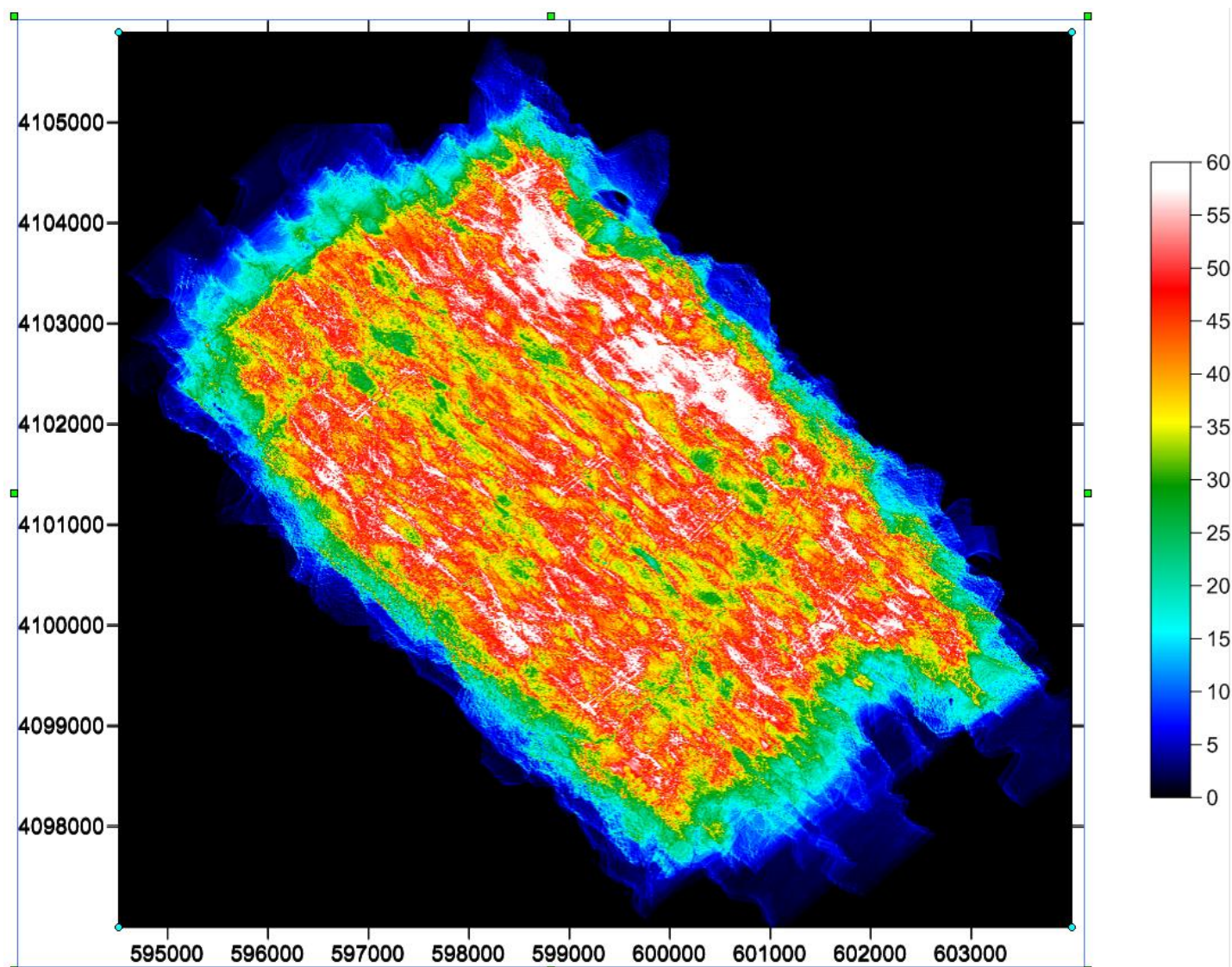


Figure 2. Laser shots fired per square meter. Does not include multiple returns per shot.