



**Brief Data Collection & Processing Report**  
**2014 CICESE Ensenada, Baja California Norte, Mexico**  
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**Report Version 1.0 (20200828)**

**Data Collection Summary:**

Collection Dates, # Flights:	Single flight, July 02, 2014 (DOY: 183)
Aircraft, Equipment:	Piper Navajo PA-31-350 (Tail No. N931SA), LIDAR: Optech Gemini (06 SEN/CON 195)
Flight Plan Parameters:	Flying Height: 600 m AGL, Swath Width: 320 m, Overlap: 50%, Line Spacing: 160 m
Equipment Parameters:	PRF: 125 kHz, Scan Frequency: 60 Hz, Scan Angle: $\pm 15-1^\circ$
Planned Laser Pulse Density:	Mean 15 pulses/m <sup>2</sup>
Requested/Collected Area:	2.1 km <sup>2</sup> CICESE + 2.8 km <sup>2</sup> landslide (computed from DSM filled nodes.)

**GNSS Reference Station Summary:**

1.	CIC1	31.870600° N, 116.665800° W
2.	PALX	31.559100° N, 116.063800° W
3.	PSTX	31.313100° N, 115.835400° W

**Data Products Summary:**

Horizontal / Vertical Datum:	NAD83 2011 (Ellipsoidal Heights)
Projection / Units:	NAD83 2011 UTM Zone 11N meters
Point Cloud Tiles:	3 files in LAS format (Version 1.2), one for CICESE and two for the landslide on km marker 93 Mexico RD1. Classified into <b>ground</b> (class 2 using strict parameters), <b>Building</b> , <b>high vegetation</b> , <b>medium vegetation</b> , <b>low vegetation</b> . There are returns from power lines within the project area that are classified as high vegetation.
Raster Sections	Each kind of raster data described below was generated for three different sections (CICESE, k93Landslide_1, k93Landslide_2).
Bare-Earth Elevation Model:	ESRI FLT formats @ 1 m grid spacing from classified ground returns.
First-Surface Elevation Model:	ESRI FLT format @ 1 m resolution based only on first returns.

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

Special notes:

1. Direct validation of the lidar raster datasets elevation within the project area was not conducted by NCALM. Height validation may have been conducted by Alejandro Hinojosa of CICESE.



Figure 1. Mapped areas of interest and location of one of three GPS base stations used for survey.