

**CREST Center for Climate and Natural Resource Solutions for  
Water-limited Regions Focusing on the California Central Valley  
and Environs**

**Subproject title:**

**Earth System Response: Erosion and Sedimentation within the  
Sierra Nevada and Central Valley**



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**Data Collection Summary:**

Collection Dates, # Flights:	2 flights both on October 9, 2016 (DOY 283)
Aircraft, Equipment:	Piper PA-31-350 Navajo Chieftain (N640WA), Optech Titan (14SEN340)
Flight Plan Parameters:	Flying Height: 1000 m AGL (nominal), Swath Width: 728 m, Overlap: 50%, Line Spacing: 360 m
Equipment Parameters:	PRF: 100 kHz per channel (3 channels), Scan Frequency: 40 Hz, Scan Angle: $\pm 20^\circ$
Collected Area:	200 KM square, approx. 22 shots per square meter

**GNSS Reference Station Summary:**

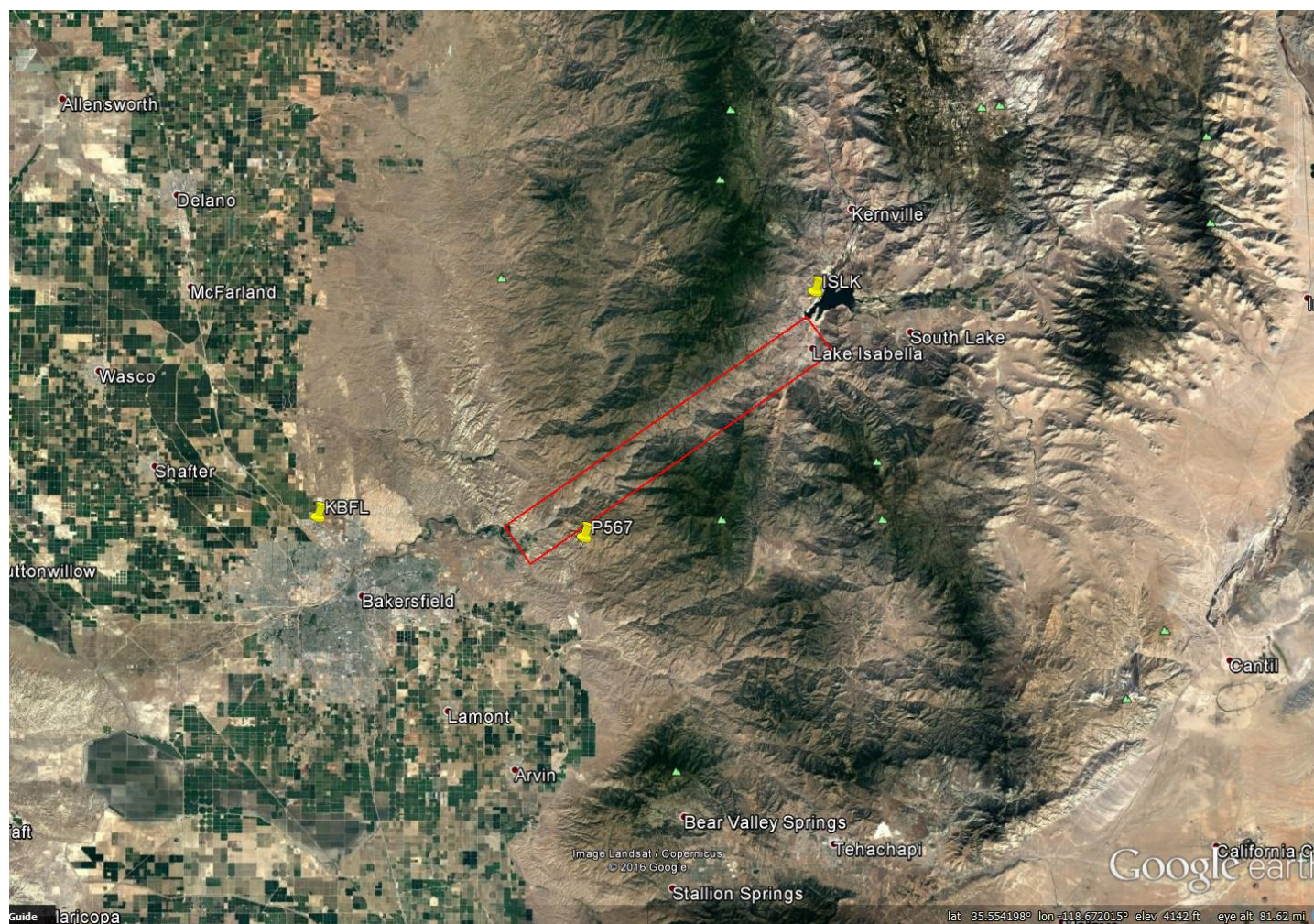
KBFL	35 26 22.14474 N 119 04 38.14819 W	110.111 Meters (Ellipsoid)
P567	35 25 15.39374 N 118 45 12.82545 W	706.995 Meters ARP (Ellipsoid)
ISLK	35 39 44.16187 N 118 28 27.43358 W	824.041 Meters ARP (Ellipsoid)

**Data Processing Summary:**

Horizontal / Vertical Datum:	NAD_83(2011)(EPOCH:2010.0000) NAVD88 via NGS Geoid Model 12A
Projection / Units:	UTM Zone 11N / 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 CH01 (1550 nm) and CH02 (1064 nm) and CH03 (532 nm)
Bare-Earth Hillshade:	ESRI-created raster @ 1-m resolution
First Surface Elevation Model:	ESRI FLT format @ 1-m resolution from first returns only (all 3 channels)
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: Rectangular polygon northeast of Bakersfield, CA



Red polygon shows the survey area (119 square KM)

Yellow markers show locations of the GPS reference stations.