NCALM

National Center for Airborne Laser Mapping
University of Houston • University of California, Berkeley
Craig Glennie, Associate Professor

Geosensing Systems Engineering • Dept. of Civil & Env. Engineering, University of Houston, 5000 Gulf Freeway, Bldg. 4, Suite 216, Houston, TX 77204-5059

January 31, 2018

Joshua Roering
Earth Sciences Department
100 Cascade Hall
1272 University of Oregon
Eugene, OR 97403-1272

Dear Dr. Roering,

NCALM supports your research effort to get high-resolution research quality near IR topographic lidar data as a part of your work on the Eagle Creek Fire in Oregon. NCALM will collect topographic lidar data for an approximate total area of 260 km^2 you have identified in your proposal (Figure 1). We will provide personnel and GPS receivers to operate ground stations for the lidar survey, as well as a pilot, laser operator, and an aircraft for the data collection. Data will be collected using CRREL's HeliPod lidar unit. Some of the major LiDAR collection parameters will be:

Lidar System: RIEGL VQ-580 operating at: 150–300 kHz
- Flying height: 500 m AGL
- Swath width: 500 m
- Overlap between adjacent swaths: 50%
- Scan angle: ± 30°

NCALM expects the following results:
- Vertical accuracy (on open, hard, flat surface): 5–10 cm (1σ)
- Horizontal accuracy: 10–20 cm (1σ)
- Points per square meter: 20

NCALM will be able to schedule the data collection activity in a reasonable time frame after the grant is awarded, and NCALM has the capacity to undertake this activity at a time and season which will optimize the quality of the data for your research application. NCALM looks forward to working with you, your colleagues, and students to provide research quality topographic data for the scientific application as outlined in your proposal.

Email: clglennie@uh.edu **Tel: (832) 842-8861** **Fax: (713) 743-0187** **www.ncalm.org**

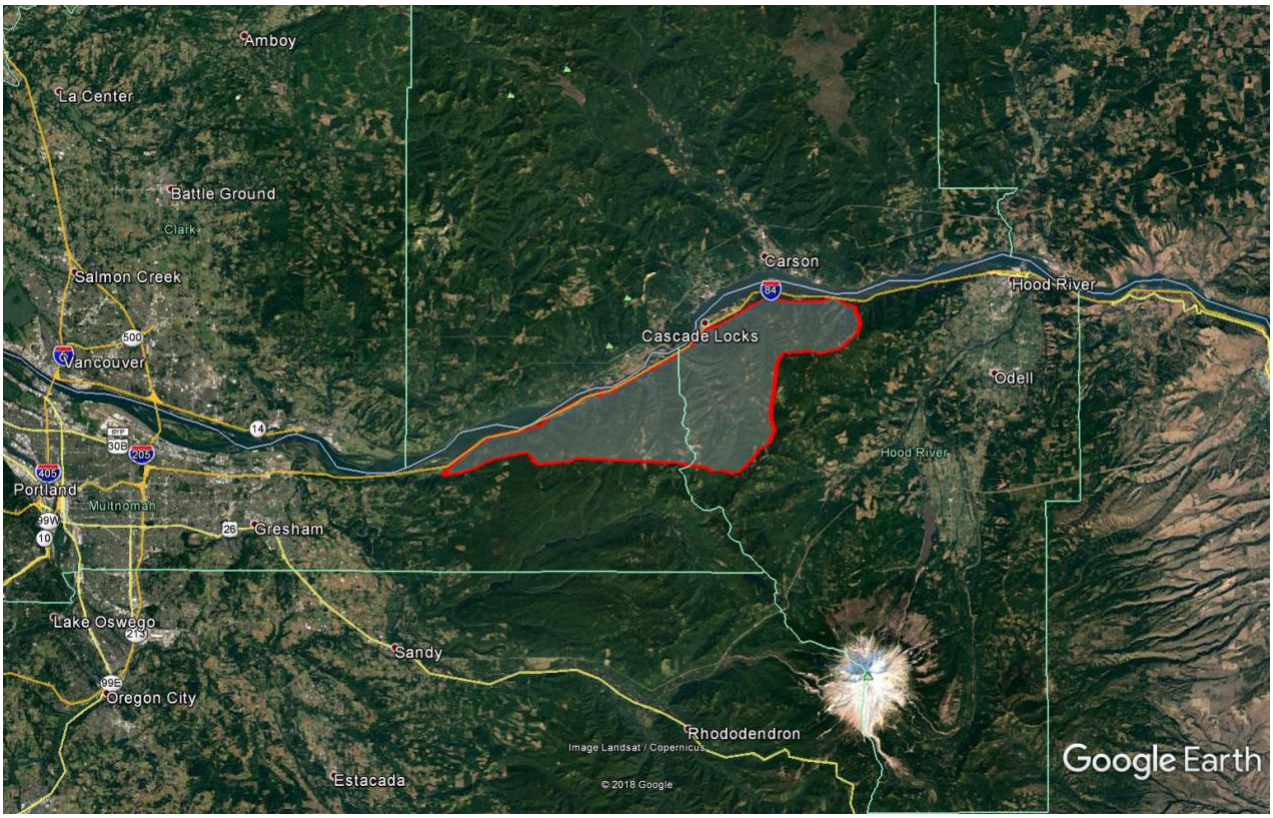

Figure 1. Project Site Location Near Portland, OR

Among others, the deliverables will include: 1) tiled, classified point cloud data in LAS 1.4 format in a datum of your choice, 2) digital elevation model in ESRI FLT format, 3) hillshaded elevation model, 4) estimated density map, and 5) project summary report.

As a part of the overall mission of NCALM to provide a training ground for students and researchers to meet the growing needs of industry and academia, we encourage you and your graduate students to come to University of Houston or to the University of California, Berkeley for a week. NCALM will provide hands-on training from processing, calibration, and verification to product generation processes. Please note that the NCALM budget does not cover expenses for the training.

The total budget for the project is $49,298 (details in Table A).

Please do not hesitate to contact me should you need further information. Thank you.

Sincerely,

Craig L. Glennie

Table A: UH/NCALM Budget		
Project Title: Eagle Creek Fire Oregon Acquisition		
Total Area not to Exceed: 260 km^2	Raw Point Density 20 points/m^2	
NCALM PI: Craig Glennie	Start Date	2/15/18
Department: NCALM/CEE	End Date	2/14/19
Sponsor: Non-NSF	IDC Rate	On Campus
		Yr 1
Personnel Salary		
Craig Glennie, PI		$0
Juan Fernandez, Flight Operations Manager		$0
Abhinav Singhania, Laser Operator		$2,865
Darren Hauser, Laser Operator		$2,136
Laura Murphy, Program Manager		$0
Graduate Students		$0
	Total Salary	$5,001
Personnel Fringe Benefits		
Craig Glennie, PI		$0
Juan Fernandez, Flight Operations Manager		$0
Abhinav Singhania, Laser Operator		$797
Darren Hauser, Laser Operator		$673
Laura Murphy, Program Manager		$0
Graduate Students		$0
	Fringe Benefits	$1,470
	Total Salary & Fringe	$6,471
Other Costs		
Equipment		$0
Travel to Conference		$0
Material and Supplies		$0
Other Costs		$0
Equipment Warranty and Insurance		$0
Data Collection Costs		$25,750
	Total Other Costs	$25,750
Total Direct Costs		$32,221
IDC Calculation		
IDC Base	MTDC	$32,221
Total IDC	53.0%	$17,077
Total Cost		$49,298