



LOS ANGELES BASIN GEOLOGICAL SOCIETY

October 2023 Meeting Announcement

A Satellite's Perspective of Shifting Sand and Ice

Dr. Joshua Kelly, Dept. of Geography, Geology, and Environment, CSU, Los Angeles

Thursday, October 26th, 11:30 start, Signal Hill Petroleum, 2633 Cherry Ave., Signal Hill, Conference Room, 2nd floor

The LABGS Executive Committee and Membership extends their sincere appreciation to Brady Barto and SHPI for their support!

Abstract

Studying the effects of a changing climate on coastal and glacial landscapes often requires the use of satellite remote sensing due to the logistical hurdles presented by traveling to and working in such environments. An important component of remote sensing studies, often overlooked, is validating that what we are observing from space-borne platforms is representative of what is happening on the ground. Combined satellite datasets and in situ field data are used to produce an integrated study of coastal geomorphic change in Australia and California and glacial deformation on the Juneau Icefield in Alaska. Specifically addressed are how certain climate phases control cycles of erosion and accretion on Australia's sandy coastlines and the implications that has for future modeled climate scenarios. In addition, I will discuss how the latest satellite technology can significantly enhance our ability to monitor coastal change at spatiotemporal scales, previously attainable only by field and light aircraft surveys. Following this, I will talk about my time as a faculty member with the Juneau Icefield Research Program where I am assessing how reliable satellite-derived glacial flow velocities are by comparison to RTK-GPS velocity measurements made across various glaciers on the Icefield. I will also talk about the trials and tribulations of living on an icefield and the unfortunate but necessary reliance on Tang.

Speaker's Biography

Dr. Kelly is an Assistant Professor in the Department of Geography, Geology, and Environment at Cal State LA by way of San Diego State University and the University of California San Diego where he earned his PhD in 2020. He is a geomorphologist whose research interests lie at the intersection of coastal and glacial morphology, remote sensing, and geophysical surveying. He aims to understand how coastal and glacial systems evolve on various timescales (days to years) using state-of-the-art geophysical instruments such as

Unmanned Aircraft Systems, Ground Penetrating Radar, and Real Time Kinematic GPS. Much of his work relies on satellite remote sensing data and, as such, he is interested in assessing the uncertainty of these data and their derivative products using in situ field data. He has studied coastal systems in Brazil, Australia, and most recently throughout Southern California and has spent the last two summers on the Juneau Icefield.

Luncheon Prices, cash or check

Lunch and Talk (pre-registered)	\$25.00
Retired:	\$20.00
Student:	\$10.00
Walk-ins:	\$35.00

Location

Signal Hill Petroleum, 2633 Cherry Ave., Signal Hill, Conference Room, 2nd floor.

Reservations are required by noon, Monday, October 23rd at labgs.org/meeting_info.html. Alternatively, contact LABGS Secretary Joseph Landeros at (626) 497-1710 or landerosjd@gmail.com.

“Civilization exists by geological consent, subject to change without notice.”
Will Durant (1885 – 1981)

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