

# Joseph Lucey-Renteria

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## EDUCATION

- University of California, Los Angeles, Los Angeles, CA** **Fall 2018 – Summer 2023**  
Ph.D., Civil & Environmental Engineering  
Emphasis: Hydrology and Water Resources
- University of California, Los Angeles, Los Angeles, CA** **Fall 2018 – Winter 2020**  
M.S., Civil & Environmental Engineering  
Emphasis: Hydrology and Water Resources
- California State University, Los Angeles, Los Angeles, CA** **Fall 2013 – Spring 2018**  
B.S., Civil Engineering  
Cum Laude, Honors College

## RESEARCH EXPERIENCE

- U.S. Army Corps of Engineers, Engineer Research and Development Center, Coastal and Hydraulics Laboratory** **Summer 2023 - Summer 2024**  
*Postdoctoral Researcher*
- Characterize flood transition zones along the U.S. Pacific at highly urbanized regions
  - Develop a hybrid statistical-numerical model flood assessment framework to evaluate flooding
  - Assess influence of engineered channels on transition zone characteristics
- University of California, Los Angeles, Los Angeles, CA** **Fall 2018 – Summer 2023**  
*Graduate Student Researcher*
- Numerically model compound flooding events in infrastructure-rich urban environments
  - Quantify uncertainties related to data sampling, data source, data length, and copula selection on flood risk estimates
  - Expanded a MATLAB toolbox to determine various uni- and multivariate flood risks
  - Installation, preparation, and retrieval of instrumentation for data collection
- Lawrence Berkeley National Laboratory (LBNL), Berkeley, CA** **Summer 2018**  
*GEM Fellow Intern*
- Developed high stream flow metrics that can be used to evaluate hydrologic models and study extreme flow events
  - Statistically analyzed observation and model streamflow to determine similarities and study varying hydrologic trends
- NASA Jet Propulsion Laboratory (JPL), Pasadena, CA** **Fall 2016 – Spring 2018**  
*Student Intern*
- Developed statistical relationships between precipitation, surface inundation and total water storage
  - Investigated surface inundation dynamics using linear regression analysis

## ACADEMIC/ TEACHING EXPERIENCE

- California State University - Los Angeles, Los Angeles, CA** **Summer 2024 - Present**  
*Assistant Professor in the Department of Civil Engineering*
- Teaching Water Resources Engineering (CE 3860) and Hydraulics Laboratory (CE 3140)

- Developing Introduction to Coastal Engineering course and materials for Statistics and Data Analysis for Engineers (CE 3220)

#### *Guest Lectures*

- Applications of Water Resources and Introduction to Hydrology lecture on July 25<sup>th</sup>, 2022
- Introduction to Coastal Engineering lectures on May 1<sup>st</sup>, 2021 and Jul. 28<sup>th</sup>, 2021

#### **University of California, Los Angeles, Los Angeles, CA**

##### *Guest Lecturer*

- Water Resources Engineering (CEE151) lecture during Winter 2021, 2022, and 2023

#### **Center for Excellence in Engineering and Diversity**

**Fall 2019, 2022**

##### *Graduate Student Mentor*

- Conceptualize and lead introductory research experience for 1<sup>st</sup> year undergraduate students
- Developed a project on coastal flood risk and flood defense structures
- Introduced students to MATLAB and academic literature
- Assisted students in creating and organizing a research presentation

#### **LICENSES**

- Federal Aviation Administration Remote Pilot License (FAA Part 107) #4220802
- California State Parks Division of Boating and Waterways Boater Card # B11E207427
- Engineer-In-Training certified, June 2018

#### **FELLOWSHIPS AND SCHOLARSHIPS (*during graduate education*)**

- Ocean Sciences Meeting Registration Grant 2022
- Robert L. Wiegel Scholarship for Coastal Studies 2021
- GEM Fellow, NSF GRFP, Eugene V. Cota-Robles Fellowship 2018

#### **PUBLICATIONS**

- **Lucey-Renteria, J.**, Gallien, T. W., Lopez, S., and Savant, G., Identification and characterization of hydrologic-marine compound flood transition zones in a highly urbanized watershed, *Journal of Hydraulic Engineering*, (**in preparation**)
- **Lucey-Renteria, J.**, Tang, B., and Gallien, T. W., A hybrid statistical-numerical modeling compound flood risk assessment and quantification of uncertainties, *Journal of Coastal Engineering*, (**in preparation**)
- **Lucey, J. T.D.** and Gallien, T. W., Quantifying compound flood event uncertainties in a wave and tidally dominated coastal region: The impacts of copula selection, sampling, record length, and precipitation gauge selection, *Journal of Flood Risk Management*, e12984, 2024.
- **Lucey, J. T.D.**, Characterizing multivariate coastal flooding events in a semi-arid region: the implications of copula choice, sampling, and infrastructure, University of California, Los Angeles ProQuest Dissertations Publishing, 2023.
- **Lucey, J. T.D.** and Gallien, T. W., Characterizing multivariate coastal flooding events in a semi-arid region: the implications of copula choice, sampling, and infrastructure, *Natural Hazards and Earth System Sciences*, 22, 2145–2167, <https://doi.org/10.5194/nhess-22-2145-2022>, 2022.
- **Lucey, Joseph T.D.**, John T. Reager, and Sonya R. Lopez. "Global partitioning of runoff generation mechanisms using remote sensing data." *Hydrology and Earth System Sciences* 24.3 (2020): 1415-1427.
- Brandenberg, Scott J., Jonathan P. Stewart, Pengfei Wang, Chukwuebuka C. Nweke, Kenneth Hudson, Christine A. Goulet, Xiaofeng Meng, Craig A. Davis, Sean K. Ahdi, Martin B. Hudson, Andrea Donnellan, Gregory Lyzenga, Marlon Pierce, Jun Wang, Maria A. Winters, Marie-Pierre

Delisle, **Joseph Lucey**, Yeulwoo Kim, Timu W. Gallien, Andrew Lyda, J. Sean Yeung, Omar Issa, Tristan Buckreis, Zhengxiang Yi. "Ground deformation data from GEER investigations of Ridgecrest earthquake sequence." *Seismological Research Letters* 91.4 (2020): 2024-2034.

- **Lucey, Joseph**, Aria Fathi, and Mehran Mazari. "Predicting Pavement Roughness as a Performance Indicator Using Historical Data and Artificial Intelligence." *Airfield and Highway Pavements 2019: Innovation and Sustainability in Highway and Airfield Pavement Technology*. Reston, VA: American Society of Civil Engineers, 2019. 10-18.
- Gallien, Timu W., Nikos Kalligeris, Marie-Pierre C. Delisle, Bo-Xiang Tang, **Joseph TD Lucey**, and Maria A. Winters. "Coastal flood modeling challenges in defended urban backshores." *Geosciences* 8.12 (2018): 450.

## PRESENTATIONS (2022 - 2024)

### *Oral*

- **Lucey-Renteria, J.**, Gallien, T., Lopez, S., Savant, G., Characterizing the development of compound flood transition zones along coastal urban domains, 2024 World Environmental & Water Resources Congress, May 19<sup>th</sup> - 22<sup>nd</sup>, 2024
- **Lucey-Renteria, J.**, Gallien, T., Savant, G., Quantifying compound flood event uncertainties in a wave and tidally dominated coastal region, Headwaters to Ocean Conference 2023, November 29<sup>th</sup> - 30<sup>th</sup>, 2023
- **Lucey-Renteria, J.**, Assessing compound coastal flooding and quantifying uncertainties in urban coastal communities, Invited speaker at Lawrence Berkeley National Laboratory, October 19<sup>th</sup>, 2023
- **Lucey-Renteria, J.**, Tang, B., Gallien, T., Hybrid statistical-numerical modeling for compound flood risk assessment and uncertainty quantification, 2023 ASBPA National Coastal Conference Lightning Presentation, October 11<sup>th</sup>, 2023
- **Lucey, J. T. D.**, Gallien, T. W., Characterizing compound coastal flood risks and uncertainties in urbanized communities, UCLA C&EE seminar, January 31<sup>st</sup>, 2023
- **Lucey, J. T. D.**, Gallien, T. W., Multivariate coastal flood risk along the US Pacific, 37th International Conference on Coastal Engineering (ICCE 2022), December 4<sup>th</sup>-9<sup>th</sup>, 2022
- **Lucey, J. T. D.**, Gallien, T. W., Characterizing compound coastal flood risk in urbanized communities: A multivariate approach, CSULA Center for Advancement toward Sustainable Urban Systems seminar, November 4<sup>th</sup>, 2022
- **Lucey, J. T. D.**, Gallien, T. W., Characterizing multivariate coastal flooding events in a semi-arid region: The implications of copula choice, sampling, and infrastructure, 2022 ASBPA National Coastal Conference "Shifting Shores, Surf, and Sediment", September 15<sup>th</sup>, 2022
- **Lucey, J. T. D.**, Gallien, T. W., Multivariate Coastal Flood Risk Along the US Pacific, UCLA C&EE Student Research Lunch & Learn, May 11<sup>th</sup>, 2022
- **Lucey, J. T. D.**, Gallien, T. W., Characterizing compound coastal flood risks from marine water levels, waves, and precipitation, AGU Ocean Sciences Meeting 2022, March 2<sup>nd</sup>, 2022

### *Poster*

- **Lucey-Renteria, J.**, Gallien, T., Quantifying Methodological Uncertainties in Compound Event Estimation, 2024 Board on Coastal Engineering Research Meeting, August 13<sup>th</sup>, 2024
- **Lucey-Renteria, J.**, Gallien, T., Lopez, S., Savant, G., Characterizing the development of compound flood transition zones in a highly urbanized domain, Ocean Sciences Meeting, February 18<sup>th</sup> - 23<sup>rd</sup>, 2024
- **Lucey-Renteria, J.**, Tang, B., Gallien, T., Hybrid statistical-numerical modeling for compound flood risk assessment and uncertainty quantification, 2023 ASBPA National Coastal Conference, October 11<sup>th</sup>, 2023