

# SIMON J. MARKS

My background has inspired a desire to contribute toward natural resource management that strikes a careful balance between satisfying the anthropogenic and environmental resource requirements of today with those of the future. With my budding skills in research, hydrology, and statistical analysis, I am applying myself in water resource science as a graduate student. Taking great pride in my work, I hold myself, peers, and collaborators to high standards, while also exuding a calmness to minimize unnecessary stress.



## EDUCATION

current  
|  
2019



### M.S., Environmental Sciences and Management

California Polytechnic State University

📍 San Luis Obispo, CA

- Thesis: Estimating evapotranspiration of a mountain meadow encroached by conifers using sap flow measurements
- Expected June 2021

2019  
|  
2015



### B.S., Environmental Management and Protection (minor statistics)

California Polytechnic State University

📍 San Luis Obispo, CA

- Concentration: Watershed management and hydrology
- Summa cum laude



## RESEARCH EXPERIENCE

current  
|  
2019



### Graduate Research Assistant

Dr. Chris Surfleet's Lab

📍 California Polytechnic State University

- Primarily working with sap flow field data to quantify evapotranspiration of a conifer encroached meadow near Chester, CA
- Managed maintenance of field instruments at meadow restoration study sites and developed R scripts designed to streamline compilation and temporal aggregation of field data
- Performed regression analysis (MLR) to study hydrologic and suspended sediment effects of forest roads at the Caspar Creek Experimental Watershed

Summer  
2018



### Summer Undergraduate Researcher

Dr. Chris Surfleet's Lab

📍 California Polytechnic State University

- Completed sub-surface soil sampling, performed soil particle size distribution lab analysis, and computed soil hydraulic properties in support of meadow restoration research- presented results with a poster at an on campus research symposium to conclude the summer
- Cleaned and analyzed storm event peak flow and sediment discharge data collected at the Caspar Creek Experimental Watershed needed for distributed hydrology soil vegetation model (DHSVM) development

## CONTACT

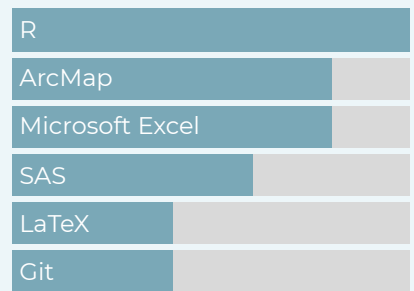
✉ [sjmarks@calpoly.edu](mailto:sjmarks@calpoly.edu)

🐙 [github.com/sjmarks](https://github.com/sjmarks)

in [linkedin.com/in/sjmarks97](https://www.linkedin.com/in/sjmarks97)

📁 Academic Portfolio

## TECHNICAL SKILLS



*The source code used to create  
this CV is available on  
[github.com/sjmarks/datadriven\\_cv](https://github.com/sjmarks/datadriven_cv).*

*Last updated on 2021-03-30.*



## INDUSTRY EXPERIENCE

Summer  
2017

- **Natural Resource Damage Assessment Intern**  
California Department of Fish and Wildlife 📍 Sacramento, CA
  - Worked within the Office of Spill Prevention and Response on tasks related to injury assessment and environmental sampling including development of environmental reports, field documentation, checklists, and operating procedures
  - Created an instructional 'how to' video detailing field procedures when collecting environmental samples following a deleterious material spill event



## TEACHING EXPERIENCE

current  
|  
2019

- **Watershed Processes and Management TA**  
Cal Poly NRES Dept. 📍 San Luis Obispo, CA
  - Covered (all field based) streamflow measurement, stream channel and riparian assessment, road erosion hazard rating, and water quality measurement
  - Assisted in GIS-based labs, troubleshooting spatial analyst tools

2018  
|  
2016

- **Supplemental Workshops in Science Facilitator**  
Cal Poly Student Academic Services 📍 San Luis Obispo, CA
  - Facilitated medium groups of undergraduate students, providing instruction in chemistry coursework and promoting community/collaboration



## ACADEMIC PROJECTS

Spring  
2020

- **Evaluation of Lower Scotts Creek Floodplain and Habitat Enhancement Project in HEC-RAS<sup>1</sup>**  
CE 536: Computer Applications in Water Resources with GIS
  - Ran steady flow analysis at lower Scotts Creek (near Davenport, CA) to compare floodplain activation between pre and post-restoration states in the context of salmonid habitat improvement

Spring  
2020

- **1-Way ANOVA- Model Representations, Power, and Sample Size Tutorial<sup>2</sup>**  
STAT 431: Advanced Statistical Computing in R
  - Authored tutorial using the `bookdown` package, showcasing the means and effects models including their manual implementation via matrix algebra
  - Demonstrated data viz skills using `ggplot2` and `gganimate` packages, creating static and dynamic figures communicating the role of power and sample size in ANOVA

Fall 2018

- **Froom Ranch Specific Plan Draft EIR<sup>3</sup>**  
NR 425: Applied Resource Analysis and Assessment
  - Identified environmental impacts and prescribed respective mitigation measures pertaining to hydrology, aesthetics, public services, and recreation for a locally proposed project in San Luis Obispo, CA

Fall 2017

- **Morro Bay Water Reclamation Facility Proposal to Prepare EIR<sup>4</sup>**  
NR 416: Environmental Impact Analysis and Management
  - Gained familiarity with the CEQA process, specifically environmental impacts associated with hydrologic, geologic, biologic, and aesthetic resources



## ACADEMIC PUBLICATIONS

2020



### **Hydrologic and suspended sediment effects of forest roads using field and DHSVM modelling studies**

Under-Review in Forest Ecology and Management (copy available upon request.)

• Authored with Chris Surfleet of the California Polytechnic State University San Luis Obispo NRES Dept.



## AWARDS AND HONORS

2019



### **Hull Graduate Assistantship**

2019



### **Cal Poly San Luis Obispo Dean's List**

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2015

2018



### **Association of Environmental Professionals (AEP) Scholarship**



## LINKS

1: <https://portfolium.com/entry/eval-of-scotts-creek-habitat-restoration-project>

2: <https://sjmarks.github.io/anovatutorial/>

3: <https://portfolium.com/entry/froom-ranch-specific-plan-deir>

4: <https://portfolium.com/entry/proposal-to-prepare-eir>