

# 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

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

2019  
|  
2015

- **B.S., Environmental Management and Protection (minor statistics)**  
California Polytechnic State University San Luis Obispo

- 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 transpiration of a conifer encroached meadow near Chester, CA in a meadow restoration research context
- 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

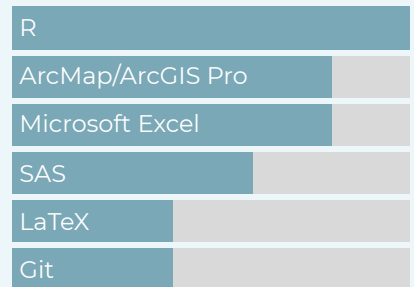
- **Summer Undergraduate Researcher**  
Dr. Chris Surfleet's Lab  California Polytechnic State University

- 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)  
 209-747-9697  
 [github.com/sjmarks](https://github.com/sjmarks)  
 [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 2021-09-03.*



## 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



## 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
- Led GIS-based labs applying (geo)spatial analyst tools to watershed management problems

2018  
|  
2017

### **Supplemental Workshops in Science Facilitator**

Cal Poly Student Academic Services

📍 San Luis Obispo, CA

- Facilitated medium groups of undergraduate students, providing instruction in chemistry and biology coursework and promoting community/collaboration



## ACADEMIC PUBLICATIONS

2021

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

Forest Ecology and Management

- Authored with Chris Surfleet of the Cal Poly State University San Luis Obispo NRES Dept.



## NOTABLE GRADUATE SCHOOL COURSE PROJECTS

Spring  
2020

### **Evaluation of Lower Scotts Creek Floodplain and Habitat Enhancement Project in HEC-RAS<sup>2</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>3</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



## AWARDS AND HONORS

2019

- **Hull Graduate Assistantship**

2019

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

2015

2018

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



## REFERENCES

- **Christopher Surfleet, Ph.D.**  
Associate Professor Watershed Management and Hydrology;  
Graduate Coordinator
  - Email (preferred): [csurflee@calpoly.edu](mailto:csurflee@calpoly.edu)
  - Phone: (805) 756-2743
- **Bwalya Malama, Ph.D.**  
Associate Professor Groundwater and Soil Biophysics
  - Email (preferred): [bmalama@calpoly.edu](mailto:bmalama@calpoly.edu)
  - Phone: (805) 756-2971



## LINKS

1. <https://www.sciencedirect.com/science/article/pii/S0378112721007222>
2. <https://portfolium.com/entry/eval-of-scotts-creek-habitat-restoration-project>
3. <https://sjmarks.github.io/anovatutorial/>