

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
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2019



M.S., Environmental Sciences and Management

California Polytechnic State University San Luis Obispo

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

2019
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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 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

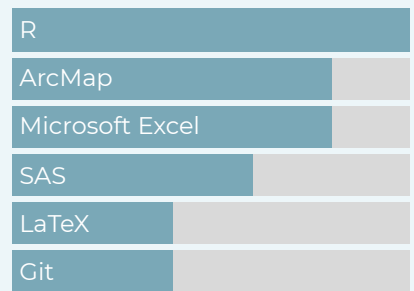
✉ sjmarks@calpoly.edu

🐙 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.*

Last updated on 2021-04-02.



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
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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
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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 coursework and promoting community/collaboration



ACADEMIC PROJECTS

Spring
2020



Evaluation of Lower Scotts Creek Floodplain and Habitat Enhancement Project in HEC-RAS¹

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 Tutorial²

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 EIR³

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 EIR⁴

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

2021

- **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>