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
209-747-9697
github.com/sjmarks
linkedin.com/in/sjmarks97
Academic Portfolio

TECHNICAL SKILLS

- R
- ArcMap/ArcGIS Pro
- Microsoft Excel
- SAS
- LaTeX
- Git

The source code used to create this CV is available on 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[1]

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[2]

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[3]

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 | 2015 **Cal Poly San Luis Obispo Dean's List**

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
- Phone: (805) 756-2743

Bwalya Malama, Ph.D.

Associate Professor Groundwater and Soil Biophysics

- Email (preferred): 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/