

RYAN AVERY

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EDUCATION

University of California – Santa Barbara

Ph.D. student in Geography

Advisor: Dr. Kelly Caylor

Research Interests: remote sensing of vegetation and hydrology, climate hazards, disaster mitigation

2017 – 2022 anticipated

University of California – Berkeley

B.S. in Environmental Sciences: Concentration in the Biological Sciences

Thesis: “Effects of Digital Elevation Model Source on Hydrology Network Accuracy”

2016

RESEARCH AND PROFESSIONAL EXPERIENCE

NASA Langley Research Center, NASA DEVELOP National Program – SSAI

Geoinformatics and Project Coordination Fellow

Instructed researchers on topics ranging from GIS to version control. Reviewed technical papers and advised on code development. Developed a web-enabled slippy map for the DEVELOP program and a light pollution model and time series of forest disturbance maps for the National Park Service.

September 2016 – August 2017

NASA Langley Research Center, NASA DEVELOP National Program – SSAI

Lead Team Researcher

Conducted supervised and unsupervised classifications and data analysis of cheatgrass presence for NPS’s Exotic Plant Management Team.

June 2016 – August 2016

Berkeley Energy and Climate Institute, Cal Energy Corps

Undergraduate Research Fellow

Enhanced python program to calculate hydropower energy potential from DEMs. Processed Landsat time series to reduce the effect of clouds with the Google Earth Engine API. Composed detailed documentation of geospatial processing tasks.

May 2015 – December 2015

Kelly Research and Outreach Lab, UC Berkeley

Undergraduate Researcher

Composed literature review synthesizing reports and analysis on the relationship between geography, recreation, park policy and social trail use and its impacts.

May 2015 – December 2015

ICF International, Sacramento, California

On-Call Wildlife Biologist

Conducted data entry and quality control checks on geolocated avian mortalities from the Altamont Pass and Montezuma Hills wind farms. Performed surveys in Montezuma Hills over the course of 3 weeks to record the feather size, morphology, and species of fatalities found along transects.

May 2013 – December 2014

PUBLICATIONS

Avery, R., V. Warda, S. Chu, S. Chao. 2017. “Detecting Changes in Nighttime Sky Brightness over Grand Teton National Park with the Suomi NPP VIIRS Sensor”. Technical Report.

Pampalone, C. R. Avery, W. Turner. 2017. “Enhancements to Visualization of CALIPSO (VOCAL) through Case Studies of Saharan Dust”. Technical Report. <https://github.com/NASA-DEVELOP/VOCAL>

Avery, R., Mays, C., Alvarado A. 2017 “A Threshold-Based Decision Tree Approach to Mapping Landscape Disturbance in Glacier National Park”. Technical Report.

Avery, R., K. Landesman, T. Whaley. 2016. “Mapping Invasive Species to Efficiently Monitor Southwestern National Park Areas”. Technical Report.

PRESENTATIONS

NASA DEVELOP’s Interactive Mapper: for Dr. Nancy Searby – Director of Capacity Building. NASA Headquarters, Washington D.C. August 11 2017

Looking Ahead: DEVELOP's 20th Anniversary. Applied Earth Science Applications Showcase, NASA Headquarters, Washington D.C. August 11 2017
 Enhancements to CALIPSO: for Dr. Chip Trepte – Lead Researcher CALIPSO Science Team. NASA Langley Research Center, VA. August 8 2017
 A Threshold Based Decision Tree Approach to Mapping Landscape Disturbance in Glacier National Park. NASA Langley Closeout NASA Langley Research Center, VA. March 15 2017
 Mapping Invasive Species to Efficiently Monitor Southwestern National Park Areas. George Wright Society Conference. Norfolk, VA. April 3 2017
 Mapping Invasive Species to Efficiently Monitor Southwestern National Park Areas. Applied Earth Science Applications Showcase, NASA Headquarters, Washington D.C. August 12 2016
 Effects of Digital Elevation Model Source on Hydrology Network Accuracy. Environmental Sciences Thesis Showcase. Berkeley, CA. May 12 2016
 Expanding Clean Energy Use in Brazil. 2015 Cal Energy Corps Symposium. Berkeley, CA. September 29 2015
 Social Trails and their Impact on Recreation and Invasive Species Propagation. 2015 College of Natural Resource Advisory Board Meeting. Berkeley, CA. April 2015

TEACHING EXPERIENCE

Positions

University of California – Santa Barbara, Geography Department*Graduate Teaching Assistant, Geography 3A: Oceans and Atmosphere***September 2017 – Present**

Three sections each week, covering core earth system science concepts and leading students in field measurements and computer lab exercises.

Software Carpentry*Software Carpentry Instructor***9/1/2017**

Completed pedagogy training and live coding teaching demos. Certified to teach official workshops that cover basic computing skills for researchers, such as using the Unix shell or version control.

Short Courses/Workshop Series

Programming with Python. NASA Langley Research Center. January 26-27 2017.

Version Control with Git, Programming with Python. NASA Langley Research Center. June 8-9 2017.

Version Control with Git, The Unix Shell. NASA DEVELOP – Wise County Node. June 12-13 2017.

The Unix Shell, Version Control with Git, Batch Processing with GDAL. NASA Jet Propulsion Laboratory. September 18-19 2017.

SERVICE

A Brighter Side to ASD – Hampton, VA*Event Organizer***March 2017 – August 2017**

Led nature walks for children with autism spectrum disorders and their families at Sandy Bottom Nature Park. Composed monthly meeting minutes and provided logistical support for events.

E-Soccer – Berkeley, CA*Head Coach***August 2012 – May 2016**

Led an age group of 11-18 year olds with and without developmental and physical disabilities in soccer games and peer bonding exercises. Trained coaches on one-on-one mentorship and assistance techniques.

Autism Speaks U at Berkeley – Berkeley, CA*VP of Volunteering***August 2012 – May 2016**

Elected by members each year to coordinate volunteering events and partnerships, including logistics and staffing for E-soccer and the Annual Autism Awareness 5K Run/Walk.

Special Needs Aquatic Program – Berkeley, CA*Volunteer Mentor***August 2013 – December 2013**

Learned basic physical therapy skills to assist children and young adults with cerebral palsy engage in aquatic games and exercises

Berkeley Student Cooperative Association – Berkeley, CA*WERM – Waste and Energy Reduction Manager***August 2012 – May 2016**

Elected by members of Ridge House to coordinate the compartmentalization and proper disposal of house waste and to improve house energy efficiency through education and the installment of flow gauges.

OTHER ACTIVITIES

UC Berkeley Model United Nations

Crisis Director

January 2015 – May 2016

Conducted historical literature reviews with a team to create realistic and competitive scenarios for annual Model U.N. debate competition hosted by UCBMUN