Nikole Vannest

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EDUCATION

Master of Environmental Science and Management (Expected June 2022)
Bren School of Environmental Science & Management – University of California, Santa Barbara (UCSB)
> Specialization: Conservation Planning | Focus: Data Science
> Highlighted Courses: Environmental and Population Modeling, Advanced GIS, Environmental Data Analysis, Conservation Planning and Priority Setting, Landscape Ecology, Strategic Planning for Non-Profit Ventures
> Awards: Forest Sustainability Fellowship (Awarded $18,879)
> La Kretz Graduate Fellowship (Awarded $10,560)

Bachelor of Science in Plant Biology (May 2014)
Michigan State University, East Lansing, MI
> Awards: Norman A. Good Scholarship, MSU Department of Plant Biology (Awarded $1,000)

MASTER'S GROUP PROJECT

Estimating Mountain Lion Habitat Connectivity at the Dangermond Preserve (JLDP) (3/2021 – Present)
Role: Data Manager | Client: The Nature Conservancy (TNC)
- Collaborating on multidisciplinary 5-person team to create research intensive deliverables including 25-page finalized report, ESRI StoryMap, 7-minute outward facing documentary, and 15-minute public presentation.
- Built a suitability model from 15+ geospatial layers and 200+ presence points using Maxent and ArcGIS Pro.
- Developing connectivity model using Omniscape and Circuitscape to determine probable corridors and barriers to movement within the JLDP and across the Central and Southern California coastline.

RESEARCH EXPERIENCE

Data Visualization Contractor – Michael Petroni Consulting, Remote (2/14/2022 – Present)
- Assisting in the creation of an individualized air pollution profile prototype by developing and evaluating environmental risk communication products such as graphs, reports and reproduceable software in R.
- Troubleshooting, streamlining, and tidying several Rmarkdown documents for proof of concept.

Participant – NASA DEVELOP National Program, Fort Collins, CO [Remote] (6/2021 – 8/2021)
Science Systems and Applications, Inc. (SSAI)
- Research-intensive 10-week group project developing model to detect invasive cheatgrass using Landsat and PRISM satellite data, and in collaboration with client USDA Forest Service.
- Built scripts using JavaScript language in Google Earth Engine and utilized Random Forest to develop models predicting and detecting post-burn invasive cheatgrass distribution at the Cameron Peak Fire site.
- Utilized ArcGIS Pro and ArcMap tools to create compelling visuals for finalized presentations and reports.

Graduate Researcher – La Kretz Center for Research at Sedgwick Reserve, Santa Barbara, CA (10/2020 – 6/2021)
- Collected local weather data during prescribed burn (Rustici II) testing burn severity of grazing methods.
- Developed protocol, implemented research sites, and collected oak census data via Wildnote app to monitor prescribed burn at Sedgwick Reserve and Midland School under Dr. Frank Davis.
- Oversaw and maintained camera traps and camera trap data of fauna throughout Sedgwick Reserve.
- Utilized ArcMap to digitize geology and land use maps of Dangermond Preserve into applicable GIS layers.
- Scripted protocol in Rmarkdown to streamline Wildnote data management collected by visiting researchers.

Lab & Field Technician – Sierra Nevada Research Institute, Merced, CA (1/2019 – 7/2020)
- Hindcasted forest model Sortie-ND parameterized to mimic the Sierra Nevada forests under RCP 8.5 climate change scenarios and built R scripts to analyze output of model runs.
- Authored research paper, *Modeling the forest dynamics of the Sierra Nevada under climate change using SORTIE-ND*, demonstrating novel Sortie-ND behaviors and outcomes (Annals of Forest Science, 2021).
- Showcased model output using R to create visuals utilized in completing 32-page research paper and presented findings at 2020 ESA conference by Dr. Emily Moran.

Field Technician – Colorado State University, Fort Collins, CO (5/2015 – 8/2015)
- Performed tree census within multiple national forests in Northern and Central Colorado concerning the bark beetle epidemic and regeneration of trees in previously harvested stands.

Research Assistant – Forestry Lab at Michigan State University, East Lansing, MI (1/2013 – 5/2014)
- Launched independent research study and written work focused on the relationship between soil nutrients and the density and abundance of arbuscular mycorrhizal fungi (AMF).
- Successfully identified genera of AMF spores via wet sieve and decant method on 100+ samples.

VOLUNTEER EXPERIENCE

Volunteer – Peace Corps, Senegal, West Africa (9/2015 – 11/2017)
- Peer-elected as Podor region's Work Zone Coordinator, entailing management of fellow volunteers, facilitating collaboration within work zone, development of future volunteer sites, and liaison between headquarter staff and regional volunteers.
- Wrote 3 successful small grants securing $1500/each in funding for trainings and camps throughout service.
- Designed, organized, and lead large training of local farmers on climate change, deforestation, and tree care techniques including grafting, transplanting, etc.

ADDITIONAL EXPERIENCE

Plant Health Care Technician - The Davey Tree Expert Company, Littleton, CO (8/2018 – 1/2019)
Demonstrated arborist tree climbing techniques to perform in-tree maintenance.
Greenhouse Assistant - Spring Meadow Nursery, Grand Haven, MI (5/2014 – 5/2015)
Performed regular maintenance of electronic watering, lighting, and pesticide application systems as well as collected data and monitored flowering shrub trials intended for market release.
Administrative Assistant – Kellogg Biological Station, East Lansing MI (8/2013 – 5/2014)
Tended to hybrid rice plants in MSU greenhouses and represented and promoted KBS at MSU career fairs.
Learning Assistant – Michigan State University, East Lansing MI (8/2012 – 12/2012)
Wrote and graded quizzes and exams for Dr. David Skole's Forestry and Environmental Science course.
Environmental Intern – Environment Michigan, East Lansing MI (8/2011 – 12/2011)
Published six letters advocating for the Clean Air Act in newspapers across Michigan. Organized databases, updated websites, and photographed protests and interviews.

SKILLS, AFFILIATIONS, & CERTIFICATIONS

Coding Languages: R, Python, C++, JavaScript, Julia
Geospatial Tools: QGIS, ArcGIS Software (ArcMap, ArcGIS Pro, Arc Online, Esri StoryMap), Circuitscape, Maxent, Marxan, Omniscape, LANDIS
GUI models and other computer skills: RStudio, Sortie-ND Forest Model, Software for Assisted Habitat Modeling (SAHM), Random Forest, Generalized Linear Model, Boosted Regression Trees, FRAGSTATS, Omniscape, WordPress, Google Suite, Eclipse IDE, Microsoft (Excel, PowerPoint, Word), Wildnote
Languages & Certificatons: Pulaar (Northern Senegal dialect) | TEFL certified (2018)