TARO KATAYAMA

tarokatayama1@gmail.com | (516) 317-4303 | Portfolio | San Diego, CA
US Citizen

Education

Duke University, Durham, NC 27710 — 2023
Master of Environmental Management
Nicholas School of the Environment | Water Resource Management

Master's Project: — 2023
Analyzing the Water Footprint of Electric Car Batteries – A Dive into the Water-Energy Nexus

- Partnered with RIVIAN Automotive to analyze water footprint of mined minerals in electric car batteries.
- Analysis performed included an ArcGIS Pro water scarcity map, as well as an ArcGIS online dashboard, which shows mines with high water usage and underlying water scarcity issues.

Colby College, Waterville, ME 04901 — 2019
Bachelor of Arts, Major: Environmental Science, Minor: Anthropology

Capstone Research Project: — 2019
Urban Stream Syndrome in Waterville Streams

- Studied the effects of urbanization on Waterville, ME streams.
- Sampled stream discharge during various weather conditions.
- Analyzed discharge and nutrient content of streams during storm events using time-series analysis and FIA Lachat QuikChem instrument.

University of Canterbury, Christchurch, NZ — 2018
Program: Earth System Science: Concentration in Environmental Science

Summary of Qualifications

Data Analysis, and Visualization

- Proficient at creating clean, effective, reproducible code using R.
- Expert in spatial data analysis using ArcGIS Pro and modelbuilder (https://tarokatayama.github.io/).
- Created R Shiny dashboard for shorebird data entry and analysis.
- Developed data packages for the fog monitoring program.
- Proficient in utilizing ArcGIS Online apps, with expertise in dashboards, storymaps, and creating reproducible feature layers.
- Reproducible data and script publication and management using GitHub (https://github.com/tarokatayama).

Scientific Monitoring and Monitoring Program Design

- Execute and manage multiple long-term monitoring programs including rocky intertidal monitoring, shorebird monitoring, landbird monitoring, visitation monitoring, fog monitoring, and wildlife camera programs.
- Perform quarterly ocean acidification monitoring with instrument changes and annual data requests.
- Analyze and publish monitoring data, including rocky intertidal program annual reports and trend analyses.

- ♦ Designed and deployed a comprehensive long-term fog monitoring program at Cabrillo National Monument, integrating various instruments such as a weather station, camera, and leaf wetness sensors.
- ♦ Review and QA/QC monitoring data, including comprehensive review of shorebird data from 2011-2024.

Creative Science Communicaiton Skills
- ♦ Adept and innovative in communicating scientific information tailored to diverse audiences and expertise levels, including NPS WASO level staff, NPS Pacific West Region Natural Resources and Management Program Lead, NPS Pacific West Region Natural Resources and Management Staff, Science communicators in Pacific West Region, and various audiences at Cabrillo National Monument.
- ♦ Skilled in utilizing various mediums for effective science communication, including ArcGIS Online Storymaps, ArcGIS Online Dashboards, PowerPoint, R Markdown, R Shiny, and websites.
- ♦ Bridging academic researchers and resource managers in identifying questions, conducting field studies, and presenting results.
- ♦ Strong oral communication skills demonstrated by presentations at the Department of Interior to NPS staff, Cabrillo National Monument's "Naturally Speaking" Series, and published article in Park Science.

Professional Experience

Biologist, GS-09 | 40h/week

National Park Service | Cabrillo National Monument, San Diego, CA.   *Sept. 2024 – Feb. 2025*

Supervisor: Dr. Lauren Pandori | Resources Management Biologist | lauren_pandori@nps.gov

- Lead multiple natural resource monitoring programs including shorebird, landbird, visitation, fog, and trail camera monitoring, with responsibilities for data collection, analysis, and reporting.
- Successfully completed sampling of all intertidal sites and produced annual and trend reports for the rocky intertidal monitoring program, as part of a multi-agency intertidal monitoring program (MARINe).
- Authored and published Park Science article on the fog monitoring program.
- Created an R Shiny dashboard for efficient shorebird data entry and analysis.
- Wrote a Vegetation Administrative History report on invasive plant management and native species planting.
- Streamlined geospatial data management by creating Invasive Species Management map on ArcPro and AGOL.
- Wrote a grant proposal for NRCM FY 29 on coastal sage scrub vegetation work.
- Secured funding ($30,000) for 4 Scientists in Parks (SIP) interns through successful DHA SIP proposals.
- Monitored adherence with research permit conditions.

Science Communication Fellow | 40h/week   June 2023- May 2024
National Park Service | Pacific West Regional Office, REMOTE
Supervisors: Lena Lee
External Energy & Minerals Specialist
Lena_Lee@nps.gov
- ♦ Crafting communication plans for large (>$400,000) Inflation Reduction Act and Bipartisan Infrastructure Law funded projected including the NPS ecosystem restoration project of sagebrush ecosystems.
- ♦ Established and leads science communication ambassador group aimed at increasing public outreach of crucial science being done in parks.

♦ Wrote a status and recommendation guide for University of California and NPS field station partnerships in California's National Parks.

Natural Resources Management Assistant | 40 h/week   May 2022- Aug. 2022
National Park Service | Cabrillo National Monument, SD, CA 92106
Supervisors: Dr. Linh Anh Cat | Chief of Resources Management linhanh_cat@nps.gov
Dr. Lauren Pandori | Resources Management Biologist lauren_pandori@nps.gov
♦ Created and deployed a novel, self-sustaining fog monitoring program at Cabrillo National Monument (San Diego, CA).
♦ Set up a network of weather stations, cameras, and leaf wetness sensors to explore whether microclimates at the park promote vegetation survival in a drought-prone climate.
♦ Wrote a detailed 58-page SOP that details how to retrieve data, troubleshoot, and replicate study.
♦ Utilized ArcGIS Pro to identify ideal location for deployment of fog monitoring station using variables slope position, elevation gradient, land-cover/land use, and aspect.
♦ Created efficient, reproducible R scripts to clean and analyze the leaf wetness sensor data.
♦ Presented project findings at Department of Interior in Washington.
♦ Programmed Raspberry Pi computer to run as a datalogger for Davis Vantage Pro 2 weather station.
♦ Specific skills: ArcGIS Pro mapping, GIS data collection using Trimble PG 200 GNSS Receiver and FieldMaps, R programming, ClimaVue weather station setup and operation, Davis Vantage Pro 2 weather station setup and operation, Raspberry Pi programming, computer assembly and soldering.
♦ Effectively used $3,000 budget to add additional weather stations and cameras to fog monitoring stations.

Wetland Restoration Assistant | 8 h/week   Sept. 2021- May 2022
Duke University, Wetland Center – Durham, NC 27710
Supervisor: Paul Heine | Lab Technician | pheine@duke.edu (retired)
♦ Investigated the effectiveness of stream/wetland restoration in reestablishing ecosystem function in restored wetlands at the Duke University Wetland Center.
♦ Aided in water quality monitoring and ecological assessments of streams, wetlands, and peatlands in the Stream and Wetland Assessment Management Park located in Duke Forest.

Biological Technician Volunteer | 20 h/week   April 2021- June 2021
US Fish and Wildlife Services, Keālia Pond National Wildlife Refuge – Kihei, HI 96753
♦ Worked alongside U.S. Fish and Wildlife biologists at Keālia Pond National Wildlife Refuge to restore 705 acres of key coastal wetland habitat for the conservation of endangered species, Hawaiian stilts and Hawaiian coots.
♦ Conducted waterbird surveys to monitor populations of endemic species. Responsible for nesting surveys and collecting nest visit data for a collaborative reproductive success study throughout the Hawaiian and Pacific Island National Wildlife Refuge Complex.
♦ Manages the predator control program by opening, checking, and closing traps, deciding best trap/bait uses and locations/placements.

Assistant Supervisor of Salmon Restoration Crew | 40 h/week   Oct. 2019- Sept. 2020
Washington Conservation Corps | King Conservation District- Renton, WA 98057
Supervisor: Haly Rylko | Crew Supervisor | (206) 661-8956 | hcrylko@msn.com
♦ Collaborated as part of a 5-person crew to promote conservation of key salmon habitat through riparian zone enhancement projects.

- Coordinated with landowners and project managers to tailor each restoration site with site specific needs.
- Removed invasive species that inhibited natural ecological functions and planted native species that improved and preserved stream quality.
- Prepared and sold over 80,000 native bare-root plants during annual native plant-sale.
- Supervised and directed the crew when supervisor was offsite

Youth Educator | 40 h/week   Aug. 2019- Sept. 2019
Naturalists at Large – Ventura, CA
- Facilitated outdoor education programs in diverse environments such as Joshua Tree National Park and El Capitán State Beach.
- Instilled an appreciation of the natural environments through hands-on learning experiences such as spelunking, tide pool exploration, and stargazing.

Research Assistant to Prof. Bruesewitz | 40 h/week   Jul. 2018- Feb. 2019
Colby College | Dept. of Environmental Science – Waterville, ME
Supervisor: Denise Bruesewitz | Associate Professor of Environmental Studies | dabruese@colby.edu
- Researched nutrient limitation in Belgrade Lakes by analyzing lake sample for response to nutrient solutions.
- Presented research at the Colby Undergraduate Summer Research Retreat.

Teaching Assistant of Introduction to Ecology | 4 h/week   Sept. 2017- Dec. 2017
Colby College | Dept. of Environmental Science – Waterville, ME
- Supervised laboratory safety, assisted students with analytical techniques including R, instrument calibration, and microscope use.
- Assisted in species identification and data collection out in the field.
- Manages the predator control program by opening, checking, and closing traps, deciding best trap/bait uses and locations/placements.

Relevant Coursework

Environmental Data Analytics | ENVIRON 872L-1	3 Credits
Geospatial Data Analytics | ENVIRON 859	3 Credits
Hydrology | EOS 723	3 Credits
Environmental Decision Analysis | ENVIRON 832	3 Credits
Time Series Analysis for Energy Data | ENVIRON 790	3 Credits
Emerging/Rotating Topics in GIS | ENVIRON 790	1.5 Credits
Wetland Ecology and Management | ENVIRON 812	3 Credits
GIS for Land and Water Management | ENVIRON 761	4 Credits
Water Resources Law | LAW 320	2 Credits
Financial Foundations for Environmental Managers | ENVIRON 796	3 Credits
Water Resources Finance | ENVIRON 741	1.5 Credits
Water Quality and Health | EOS 524	3 Credits
Landscape Ecology | ENVIRON 714	3 Credits
Environment and Natural Resource Economics | EC 231	4 Credits
Advanced and Applied Ecology | ES 352	4 Credits

Skills & Certifications

- Working proficiency with R
- Working proficiency with Microsoft Suites
- Working proficiency with ArcGIS Pro
- Basic proficiency with Python
- FEMA IS 100, IS 200, IS 700
- NPS youth supervisor training
- Fluent in conversational Japanese

Publications

- Park Science: Innovative System Measures Fog That Beloved Plants Need to Survive (2024)
- Vegetation Administrative History Report: Invasive Plant Management and Native Species Planting (2024)
- Standard Operating Procedure for Fog Monitoring Program at Cabrillo National Monument
- Assessing the Water Footprint of Electric Car Batteries – A Dive into the Water-Energy Nexus

Awards & Scholarships

- Virlis L. Fischer Award for Academic Achievement   2023
- Nicholas School of the Environment Scholarship Fund, $18,000   2021-2023
- Nicholas Scholarship, $10,000   2021-2023
- Nicholas School Assistantship, $6,000   2021-2023
- Segal Americorps Education Award, $6,095   2020
- Colby College Dean's List   2019