Juliet Cohen

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SUMMARY OF QUALIFICATIONS

- Executed statistical analysis and spatial data analysis in R for the Ocean Health Index at the National Center for Ecological Analysis and Synthesis
- Supported open data science practices and conducted database curation at the Arctic Data Center, the primary repository for the NSF's Office of Polar Programs
- Served as Data Manager for Master's capstone project applying machine learning methods to process satellite imagery in Python and develop a predictive model over space and time
- Modeled species distributions, collaborated with partner agencies, and summarized monthly data reports as the Data Specialist for the Oahu Invasive Species Committee

EDUCATION

Master of Environmental Data Science (June 2022 – GPA: 4.0)
Bren School of Environmental Science & Management - University of California, Santa Barbara
Selected Coursework: Modeling Environmental Systems; Remote Sensing and Environmental Data; Analytical Workflows and Scientific Reproducibility; Spatial Analysis for Environmental Data Science

Bachelor of Science in Ecology and Evolution (June 2019 – Major GPA: 3.7)
University of California, Santa Barbara
Honors: Distinction in the Major
Study Abroad: Monteverde Institute, Costa Rica - Tropical Biology and Conservation Program
Athletics: Rowing Team

ECOLOGICAL RESEARCH & CONFERENCES

Master's Capstone Project - An open-source pipeline for remote sensing of crop yields: a Zambia case study (1/22 – 6/22)
- Role: Data Manager - executed data synthesis & analysis, metadata documentation, and client communication
- Developed an open-source tool in Python to process satellite imagery for modeling environmental trends through both unsupervised and supervised machine learning (see project organization on GitHub)
- Contributed to a task-agnostic tool for researchers to monitor the impact of climate change and socioeconomic factors over time and space through the MOSAIKS API

Yale School of the Environment: New Horizons in Conservation Conference (3/22)
- Presented master's project and its environmental justice implications for the *Justice, Equity, Diversity, and Sustainability Initiative* through a poster, presentation, and expert panel review (see Programming Blog on website)

Anthropogenic niche partitioning: mesocarnivore spatial and temporal coexistence along an urban gradient through camera traps (6/18 – 6/19)
- Independent senior thesis project conducted throughout Santa Barbara County
- Funded through Undergraduate Research and Creative Activities Grant
- Poster presentation at the *UC Santa Barbara Undergraduate Research Colloquium* (see Research section on website)

Filtration Efficiency in Bivalves: effects of species and size in oysters and mussels (9/18 – 12/18)
- Scientific paper presented at *Monteverde Institute Research Symposium 2018* in Monteverde, Costa Rica
- Funded research through Tropical Biology and Conservation program (see Research section on website)

DATA SCIENCE & CONSERVATION WORK EXPERIENCE

Ocean Health Index, National Center for Ecological Analysis and Synthesis – Data Scientist Fellow (5/02 – present)
- Process and synthesize global datasets related to marine biology, climate change, and human well-being
- Statistically calculate future trajectories of biodiversity, industrial fishing in exclusive economic zones, carbon storage, fishery stock trends, coastal erosion, tourism-based economies, etc.
- Communicate results through interactive visualizations (maps, plots, open-source code and documentation)

DATA SCIENCE & CONSERVATION WORK EXPERIENCE - Continued

Arctic Data Center, National Center for Ecological Analysis and Synthesis – Data Intern
(1/22 – 4/22)
- Database curation in R, using API's to organize data and metadata for research related to arctic ecosystems
- Associate related data with sematic annotations, categorization, and provenance
- Correspond with researchers to publish open-source datasets with associated metadata
- Communicate daily with team members to peer review curated datasets, improve reproducible workflows, and integrate Ethical Research Practice documentation into artic metadata

Pacific States Marine Fisheries Commission & CDFW - Fisheries Technician (12/20 – 6/21)
- Monitored endangered Southern California steelhead trout (*Oncorhynchus mykiss*) populations
- Utilized DIDSON underwater sonar cameras to monitor fish populations, trained other employees in software
- Conducted trout spawning surveys, electrofishing, PIT tagging, and database maintenance

Oahu Invasive Species Committee - Data Specialist & Field Technician (9/19 – 8/20)
- Served as data specialist and crew leader in field surveys for incipient invasive flora and fauna on Oahu
- Mapped in ArcGIS, ran queries, executed species distribution modeling and database quality control
- Hiked in mountainous terrain through rugged forests & sampled endemic tree species for fungal pathogen
- Communicated with the public and reported to partner organizations in Hawaii on a weekly basis

San Diego Natural History Museum - Field Technician (5/19 – 7/19)
- Led field surveys of the flat-tailed horned lizard, a cryptic species threatened by anthropogenic activity
- Hiked survey transects, handled reptiles, navigated unmaintained desert terrain, used Collector for ArcGIS

UC Santa Barbara McCauley Lab - Research Assistant (9/17 – 5/19)
- Conducted mesocarnivore spatial ecology research studying anthropogenic impacts on behavior
- Trapped, handled, & collared mesocarnivores & tracked via VHF radio-telemetry and remote cameras

ADDITIONAL WORK EXPERIENCE

Cheadle Center for Biodiversity and Ecological Restoration – Field Technician (1/18 – 5/19)
Wetland field restoration, herbarium maintenance, and botanical specimen preparation
Channel Islands Restoration - Field Assistant (8/17)
Surveyed for endangered plant species in wetland habitat of Carpinteria salt marshes
Partnership for the Interdisciplinary Study of Coastal Oceans - Laboratory Intern (6/17 – 9/17)
Identified invertebrate species with microscope to reveal long term trends in intertidal marine life

AWARDS & SCHOLARSHIPS

Undergraduate Research and Creative Activities Grant 2018
$750 awarded by UC Santa Barbara to fund senior thesis research (see Ecological Research & Papers)
Dean Bazzi Memorial Scholarship 2018
$500 Awarded to an outstanding student in aquatic biology, environmental biology, or Zoology
UC Santa Barbara EAP Gaucho Scholarship 2018
$2000 scholarship allocated towards studying abroad at the Monteverde Institute, Costa Rica

SKILLS AND CERTIFICATIONS

Computer Programs: R, Python, Ecological Metadata Language, ArcGIS, SQL, GitHub, DIDSON sonar metrics software, Microsoft Access, Microsoft Suite
Field Skills: Trap and handle wildlife, monitor mammals using VHF radio-telemetry techniques and remote cameras (camera traps and DIDSON sonar metrics cameras), drive 4-wheel drive vehicles, lead field surveys, landscape restoration and horticulture
Certifications: Wilderness First Aid, Interagency Aviation Training, IACUC, First Aid, CPR