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, data archival procedures, and 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, 4.0 GPA (June 2022)
Bren School of Environmental Science & Management - University of California, Santa Barbara
Highlighted 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, 3.7 GPA (June 2019)
University of California, Santa Barbara
Honors: Distinction in the Major
Study Abroad: Monteverde Institute, Costa Rica - Tropical Biology and Conservation Program
Athletics: Rowing Team

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 | Clients: Tamma Carleton, Jonathan Proctor

- 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
- 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 at the New Horizons in Conservation Conference (3/22) at the Yale School of the Environment (see Programming Blog on website)
- Executed statistical analysis, documented metadata, and collaborated with clients to publish results

DATA SCIENCE & CONSERVATION WORK EXPERIENCE

Ocean Health Index, National Center for Ecological Analysis and Synthesis – Data Scientist Fellow
(5/22 – present)

- Processed and synthesized global datasets related to marine biology, climate change, and human well-being
- Statistically calculated future trajectories of biodiversity, industrial fishing in exclusive economic zones, carbon storage, fishery stock trends, coastal erosion, tourism-based economies, etc.
- Communicated results to teammates and the public through interactive visualizations, maps, plots, open-source code and documentation, and programming blog posts

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
- Associated related data with sematic annotations, categorization, and provenance
- Corresponded with researchers to publish open-source datasets with associated metadata
- Communicated daily with team members to peer review curated datasets, improve reproducible workflows, and integrate Ethical Research Practice documentation into arctic metadata

-Continued-

DATA SCIENCE & CONSERVATION WORK EXPERIENCE - Continued

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 and sampled endemic tree species for fungal pathogens
- 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

ADDITIONAL WORK EXPERIENCE

UC Santa Barbara McCauley Lab - Research Assistant (9/17 – 5/19)
Conducted mesocarnivore spatial ecology research studying anthropogenic impacts on behavior
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

ECOLOGICAL RESEARCH

Anthropogenic niche partitioning: mesocarnivore spatial and temporal coexistence along an urban gradient through camera traps (6/18 – 6/19)
- Conducted independent senior thesis project 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)

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 & CERTIFICATIONS

Programming Languages: R, Python, SQL
Software Proficiency: ArcGIS, DIDSON sonar metrics, 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