

STEVEN COGNAC

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EDUCATION

Master of Environmental Data Science, 3.92 GPA (Expected June 2022)

Bren School of Environmental Science & Management - University of California, Santa Barbara

Highlighted Coursework: Statistics for Environmental Data Science, Machine Learning in Environmental Science, Spatial Analysis, Remote Sensing, Data Visualization and Communication

Bachelor of Science in Environmental Science | Bachelor of Science in Sustainable Food & Farming, 3.69 GPA (May 2014)

University of Massachusetts Amherst

Honors: cum laude, Dean's List (7 quarters)

Teaching: Introductory Geographic Information Systems (GIS) Teaching Assistant (1/14-5/14)

MASTER'S CAPSTONE PROJECT

An open-source pipeline for remote sensing of crop yields under environmental change in sub-Saharan Africa

Client: Tamma Carleton, UCSB; Jonathan Proctor, Harvard (1/22–present)

- Develop an open-source tool in Python to streamline crop yield predictions that pairs satellite imagery and machine learning techniques.
- Create a task-agnostic tool using random convolution features for researchers to monitor the impact of climate change over time and space.

ENVIRONMENTAL EXPERIENCE

Biologist (1/19–5/21)

WRA, Inc., Emeryville, CA

- Managed budgets, designed, and executed baseline turbidity monitoring for a 3,000-acre tidal habitat restoration project in the San Francisco Bay delta. Initiated a data-driven approach to set exceedance thresholds for environmental permit compliance in collaboration with USGS.
- Conducted natural resource assessments including wetland delineations, special-status plant surveys, and vegetation mapping on urban properties and ranches up to 4,000 acres.
- Collaborated with clients on environmental regulatory compliance for development, biological community restoration, water quality enhancements, and biological monitoring projects
- Managed permitting processes with agencies such as U.S. Army Corps of Engineers, California's Regional Water Quality Control Boards, California Department of Fish and Wildlife, and California Coastal Commission
- Collaborated with project stakeholders, botanists, wildlife biologists, landscape architects, and engineers to aggregate and quantify information for technical and resource assessment reports

Vegetation Ecology Intern (3/18–10/18)

National Park Service (NPS), Point Reyes Station, CA

- Planned and executed botanical surveys with mobile mapping units of 131 emerging invasive plants throughout the San Francisco Bay Area National Park system
- Ensure proper data entry, management, and storage in the Calflora Weed Manager database and internal MS Access database
- Sampled and inventoried federal and state-listed rare, threatened, and endangered species to assist NPS staff in annual population assessments.
- Perform herbarium work such as collecting, photographing, processing, scanning, and pressing plant specimens for digital and physical herbarium accession

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Research Assistant (8/17–1/18)

Everglades Wetland Research Park, Naples, FL

- Aided pilot development of a GIS-based wetland restoration model aimed at targeting restoration hot-spots in the historic extent of the Great Black Swamp region in Ohio
- Assisted MS and PhD candidates in researching how storm pulsing influences the dynamics of the hydrologic budget and water quality parameters within a tropical constructed stormwater wetland

ENVIRONMENTAL EXPERIENCE (Continued)

Wetland Scientist/Environmental Analyst (6/14–5/16, 9/16–6/17)

Vanasse Hangen Brustlin, Inc., Watertown, MA

- Developed environmental permit applications in support of engineering projects for state and local transportation agencies and private development clients
- Lead and organized natural resource surveys including wetland and stream delineations, invasive species mapping, habitat assessments, stormwater/groundwater monitoring, and wetland assessments
- Developed an ArcGIS protocol to aggregate field data and state geodatabase repositories to assess the impact of development on native grassland and vernal pool amphibian corridors. Received approval from state and federal agencies on assessment methodologies
- Analyzed MassDOT Highway transportation project plans/scopes of work to identify, document, and administer environmental compliance pertaining to federal/state environmental permitting

Wetland Field Technician (5/16–9/16)

Midwest Biodiversity Institute, Hilliard, OH

- Executed EPA field sampling protocols at over 65 sites throughout the eastern seaboard for the 2016 National Wetland Condition Assessment
- Analyzed and collected hydric soil and water samples, conducted botanical inventories, characterized hydrology, and led disposition of samples
- Handled site reconnaissance, landowner and agency coordination, and pre-sample site visits to determine presence/absence of hydric soil and wetland flora

SKILLS, CERTIFICATIONS, & AFFILIATIONS

Computer Languages: R, Python, Markdown, Bash, SQL

Computer Software: RStudio, JupyterLab, Bash, Git, GitHub, ArcGIS, Google Earth Engine, Microsoft Planetary Computer, Docker, pgAdmin, SQLite, Tableau, Google Earth Pro, Trimble Pathfinder

Field Skills & Equipment: wetland delineation, botanical dichotomous keys, Trimble GPS (Geo Explorer), YSI ProDSS/EXO2, pressure transducer setup and management

Project & Content Management: Microsoft Office Suite (Word, Excel, PowerPoint, Access), Google Suite, Slack

Certifications: 40-HR HAZWOPER, Basic Wetland Delineation, First Aid/CPR, SCUBA Open Water

Affiliations: Eco-Data Science, Association of State Wetland Managers, California Native Plant Society

VOLUNTEER EXPERIENCE

Plant Conservation Volunteer - New England Wildflower Society, Plant Conservation Volunteer (PCV) Program. Conducted surveys of rare and endangered species within Massachusetts (3/17 - 7/18)

Curatorial Volunteer - Jepson Herbarium, Berkeley, CA. Mounting specimens (11/18 - 1/19)

Rare Plant Volunteer - East Bay California Native Plant Society rare and unusual plant volunteer in Alameda and Contra Costa Counties (2/20-6/21)