# SOPHIA LEIKER

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## EDUCATION

**Master of Environmental Science and Management** (Expected June 2023)
**Bren School of Environmental Science & Management – University of California, Santa Barbara (UCSB)**
Specialization: Conservation Planning

**Bachelor of Science in Environmental Sciences | Physical Science Concentration**, 3.6 GPA (2018)
**University of California, Berkeley**
Thesis: Oceans Fueling Our Future: Optimizing Placement of Marine Hydrokinetic Energy Along the CA Coast
Study Abroad: UCEAP Madrid - Accent International Study Abroad
Honors/Awards: Elks Most Valuable Student Scholar, California Water Company Grand Prize Scholarship Recipient, UC Berkeley Study Abroad Scholarship Recipient, Co-founder Association of Environmental Professionals, UC Berkeley Chapter

## GEOSPATIAL EXPERIENCE

**Geospatial Environmental Researcher & Project Analyst – Regen Network & Development**, (7/20-8/21)
- Contributor to Microsoft purchase of 119,000 Carbon Credits in one of the largest soil carbon credit issuances ever in Australia; coordinated outreach with 4 Australian ranchers, wrote thirteen 40 page monitoring reports
- Co-developed Regen Registry program design, defined processes for onboarding and hosting external methods and ecosystem credits on the native blockchain
- Coordinated onboarding of 5 new credit and methodology developers in supporting community engagement to streamline process for creating community governed ecosystem assets
- Facilitated project development to back ecosystem service credits with appropriate data/analysis

**Data Scientist and GIS Analyst**
- Co-developed 42 page *Methodology for GHG and Co-Benefits in Grazing Systems* combining remote sensing data with in-field measurements to train machine learning algorithms for carbon stock estimation
- Contributor to USDA's OpenTEAM consortium (*Open Tech Ecosystem for Ag Management*) working group
- Presented *Remote Sensing Methods for Soil Carbon Accounting* at Yale's OpenLab Open Climate Collabathon

**NASA DEVELOP** (9/18-8/19)
**Assistant Center Lead – Moloka'I Water Resources**
- Collaborated with The Nature Conservancy & USGS to employ Landsat-8 , Sentinel-2, wrote technical report
- Managed 2 NASA Develop Nodes, facilitated partner, national office interactions, supported project protocols
- Mapped Impacts of the Ohi'a Rust and invasive ungulates on forest health and coastal turbidity on HI island
- Oversaw 3 projects, managed datasets, geo-databases, code documentation, provided technical support
- Presented findings at NASA Headquarters for *2019 Earth Science Applications Showcase* in Washington DC

**Data Manager – Invasive Species Ecological Forecasting**
- Collaborated with USGS and National Parks Service to employ Landsat 8 and Sentinel 1/2 to enhanced bare ground layers from 250m to 10m increasing accuracy of invasive species habitat suitability monitoring
- Derived 6 environmental indices in Google Earth Engine, modeled in Software for Assisted Habitat Modeling

**Project Lead – Colorado & New Mexico Forest Management**
- Managed 4 person research team w/ Colorado State University- Natural Resource Ecology Lab & private ranch managers to employ geospatial data to quantify forest mortality and burn severity for management decisions
- Utilized ArcGIS, Google Earth Engine & R Random Forest to assess tree mortality & species distribution models

**Research Fellow – Summer Institute on Sustainability and Energy: University of Illinois, Chicago** (8/18)
- Revitalized underserved Chicago communities through proposals of renewable energy and green initiatives
- Created 28-page comprehensive North Lawndale community package plan for historic buildings, vacant lots
- Developed plans for bio-infiltration lot, prefabricated storefronts from up-cycled shipping containers

**Undergraduate Senior Thesis GIS Project** (5/17-5/18)

- Developed 3 geospatial models to visualize optimal distribution of marine hydrokinetic energy devices (ocean energy) off the CA coast using ArcGIS suitability analyses based on binary, ranked, and weighted classifications
- Employed data from NOAA, NREL and CA Department of Fish and Wildlife to create output maps
- Presented at UC Berkeley's 2018 Undergraduate Sciences Thesis Symposium

**Research Assistant – Kelly Research and Outreach Lab UC Berkeley** (5/17-9/17)

- Utilized ArcGIS to georeference historic CA map layers for Weislander Vegetation Type Mapping Project
- Carried out analysis creating ground control points by linking map origin coordinates to target coordinates

## OTHER EXPERIENCE & VOLUNTEER

**NASA DEVELOP Earth Science Collaborative Technician, NASA DEVELOP** (6/19–8/19)
Provided technical and coding assistance for geospatial analysis in JavaScript, R , ArcGIS across 20 projects
**Executive Board Member: Association of Environmental Professionals, UC Berkeley Chapter** (9/17-5/18)
Established founding chapter on UC Berkeley campus, organized career development & professional events
**American Association of University Women: Tech Trek Stanford/UC Davis** (1/12-1/17)
Facilitator for STEM camps for girls, developed new forensics program, taught robotics, engineering, chemistry
**Tutorfly Tutor** (2/20-5/120)
Organized curriculum, prepared STEM course lesson plans, increased student scores, received 5 star reviews
**UC Berkeley Study Abroad Ambassador, UCEAP** (9/17-5/18)
Facilitated outreach and recruitment for study abroad at UC Berkeley, presented Spain specific cultural
**Odyssey Teams: Prosthetic Hand Quality Assurance Specialist** (1/15-12/16)
Evaluated, tested and assembled pre-built LN-4 prosthetic hands to send to 75 countries for land mine victims

**Other Organizations:** Rotary International, Girl Scouts of America, CA Scholarship Federation, Kiwanis Club, Environmental Science Student Association, CA Scholarship Federation, Ability First Wheelchair Sports Camp

## SKILLS AND CERTIFICATIONS

**Computer:** Esri ArcGIS, Google Earth Engine, R Computing Software, Python, Software for Assisted Habitat Modeling, Google Sketch-Up, Adobe Illustrator, Adobe Photoshop, Adobe Premiere Pro, I-Movie, Microsoft PowerPoint, Excel, Word, Google Suite
**Modeling:** Machine learning (random forest), Digital Ocular Sampling, Image Processing, Generalized Linear Models, Statistical Analysis, data manipulation, remote sensing
**Certifications:** NASA'S Applied Remote Sensing Training Program (ARSET) 1. Species Distribution Modeling with Remote Sensing and 2. Using Google Earth Engine for Land Monitoring Applications
**Project Management:** Experience with agile program/project management, leading bi-weekly scrum meetings, facilitating cross-team collaborations, organizing and tracking KPIs in notion workspaces, defining sprints
**Languages:** Spanish, Conversational