

Sofia Ingersoll

/soF-AYA Ing-er-saul/

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EDUCATION

Master of Environmental Data Science | June 2024 | Bren School of Environmental Science & Management, UCSB | Leadership: Class Co-Chair; Dean's Advisory Committee, Representative; BSLC, Representative

Bachelor of Science in Chemistry | June 2023 | Earl Warren College, University of California, San Diego | Certification: American Chemical Society (ACS) Certification

A.S. in Mathematics, Physics, Chemistry, & Natural Sciences | May 2021 | Moorpark College, Moorpark, CA | Leadership: Women in Engineering, Mathematics, & Science, Treasurer (2020–2021); Delta Alpha Pi International Honors Society, Member (2019–2021)

HIGHLIGHTED PROJECTS

S. Ingersoll. "Investigation on the Thomas Fire Impacts in Santa Barbara County, CA (2017 - 2018)." *Bren School of Environmental Science & Management, UCSB*. November 2023. [Blog](#) | [GitHub](#)

S. Ingersoll, S. Derrick, S. Kannan, D. Tate. "San Bernardino Wildland Fires: Assessing the Conditions of Pre-Fire and Post-Fire Vegetation in San Bernardino California with NASA Earth Observations" *NASA DEVELOP, Analytical Mechanics Associates, NASA Jet Propulsion Laboratory, California Institute of Technology*. April 2025. [Technical Report](#) | [Presentation](#) | [Public Education Material for Tabling Events](#)

S. Ingersoll, G. Shen, T. Simonich, N. Trux, "Los Angeles County Ecological Conservation: Mapping and Identifying the Health of Urban Oak Trees in Los Angeles County." *NASA DEVELOP, Analytical Mechanics Associates, NASA Jet Propulsion Laboratory, California Institute of Technology*. August 2025. [Public Education Material](#) | [Presentation](#) | [Poster](#)

RELEVANT SKILLS

Analytical & Technical: Quantitative and qualitative data analysis, geospatial analysis, data visualizations, machine learning, forecasting, policy evaluation, raster, vector, and tabular data, projections, data collection, accuracy and validation testing, CEQA, NEPA, database management, science communication, web applications, statistics, quantifying landscape changes, multivariate regression analysis, field sampling, GHG emission calculations, carbon accounting

Languages & Software: R, Python, SQL, Git/Bash, HTML, CSS, C/SCC, JS, GitHub, Version Control, Microsoft Office, ESRI, ArcGIS Pro, ArcGIS Online, QGIS, ENVI, Google Earth Engine, APIs, R Shiny App, Shiny for Python, Panel, Qualtrics, Docker, Survey123, HPC

PROFESSIONAL EXPERIENCE

Project Lead & GIS Specialist (1/25–8/25)

NASA DEVELOP Analytical Mechanics Associates @ Jet Propulsion Laboratory

Projects: **San Bernardino Wildland Fires Project; Los Angeles County Ecological Conservation Project**

Partners: Los Angeles County Department of Internal Services; Los Angeles County Fire Department; USDA, Wildland Fire Management R&D; USDA, San Bernardino National Forest; San Bernardino Municipal Water District; SUSB, Institute for Watershed Resiliency; CSUN, Center for Geospatial Science & Technology

- Established feasible project scope which highlighted milestones, defined QA/QC practices. Acted as the primary point of contact when communicating with stakeholders.
- Analyzed, quantified, synthesized, and communicated findings for Earth observation satellite, LiDAR, and SAR data to inform land management decisions and evaluate previous intervention efforts.

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- Maintained stakeholder relations, produced high quality science communication materials such as technical papers, posters, presentations, data archives, metadata, cartographic and statistical visualizations.
- Assessed pre-fire and post-fire landscape characteristics of the Line Fire (2024) and the Angelus Oak Understory Rx Burn (2024) to understand and compare vegetation water use trends, fire-fuel recovery rates, and soil burn severity over time.
- Conducted an ordinary least squares time-series regression analysis to compare the case study wildfire and prescribed burn using composite raster images. A significant relationship ($**p < 0.05$) for the median enhanced vegetation index over time was found for both fire-types. Analysis provided leading insights to support the local use of prescribed fires to protect urban development from the spread of wildfires.

Environmental Data Scientist (10/23–9/24)

The 2035 Initiative, UCSB

Projects: *California Climate Action: CA Electrification Equitable Grid Modeling Project; SEC 10-K Oil Company Disclosure Web Scraping Project; Internal SOPs for Remote Sensing Surveying Methods Project; Global Climate Adaptation Observatory Project; Climatic Conversations: On the Beliefs and Motivations of the Public and Politicians on Climate Policy, Data Science Capstone*

- Supported a myriad of projects with interdisciplinary teams, compiled and analyzed datasets, developed remote surveying methods, negotiated data gathering and sharing agreements.
- Evaluated the adaptability and impact of policy suggestions, as well as collaborated to develop strategic policy suggestions that enhance economic stability while promoting a transition to clean energy.
- Statistically interpreted qualitative and quantitative data, created interactive and informative data visualizations, conducted literature reviews, trouble-shot, and optimized workflows.

Master's Capstone Lead Data Engineer & Communications Manager (1/24–6/24)

National Center for Atmospheric Research - Climate & Global Dynamics Lab

Project: *Understanding the Influence of Parameter Value Uncertainty on Climate Model Output: Developing an Interactive Dashboard*

[Blog](#) | [Data Repository](#) | [Technical Documentation](#)

- Designed data modeling and archival workflows to visualize predictions from a 10TB database of NetCDF files using high-performance computing (HPC).
- Applied dimensional reductions; spatiotemporal manipulations; Bayesian machine learning analysis; sensitivity, accuracy, and validation testing. Developed palatable analogies to explain the science methodology to a broad audience and alleviate information gaps.

Environmental Data Analyst (12/22–6/23)

UC San Diego, Dept of Chemistry & Biochemistry, The Slade Lab

Project: *Measuring Airborne Toxics and Determining Oceanic Relationships (MATADOR) Project*

- Enhanced the organization of the project by standardizing the various data sources used by all team members and provided preliminary data analyses in Excel.
- Followed safety protocols, collected and recorded bidaily field samples, assembled sampling devices, extracted prepared solutions, and measured sample quantities, and identified unknown substances using analytical techniques. Ensured continuous monitoring of UV photometric analyzers for ozone and nitrogen oxides levels.