

# Ian Morris-Sibaja

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## EDUCATION

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**Master of Environmental Data Science**, (June 2025)

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

Highlighted Coursework: Environmental Machine Learning, Geospatial Analysis, Cloud Computing for Earth Data, Python for Data Science, Git Version Control for Data Science, Applied Causal Inference

**Bachelor of Science in Biology** (June 2022)

**University of California, Los Angeles**

Highlighted Coursework: Applied Data Science, Data Structures and Algorithms, Ecological Modeling

Honors/Awards: Departmental Honors, Specialization in Computing

## PROJECT EXPERIENCE

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**Assessing Range Shifts of Coastal Species in California's Biogeographic Transition Zones** (06/25)

- **Designed and launched** the [California Ranges of Intertidal Species Portal \(CRISP\)](#), an interactive web app on The Nature Conservancy's Dangermond Geospatial Hub.
- **Applied** statistical modeling (GAMs, CDFs) and ensemble species distribution models in R to analyze 24 years of intertidal biodiversity/climate data, projecting range shifts under SSP 4.5.
- **Developed** a novel species range shift assessment framework, revealing an average 28.7% projected habitat loss, directly informing coastal conservation strategies.

**Effects of Climate Change on Flowering Phenology of Californian Annual Forbs** (06/22)

- **Managed and analyzed** 9,000+ flowering records and 6,000 climate observations spanning 50 years, performing data wrangling and cleaning to prepare datasets for analysis.
- **Applied regression modeling and statistical analysis** (p-values,  $R^2$ , coefficients) to quantify the relationship between temperature, precipitation, and flowering phenology by regional divisions.
- **Generated actionable insights on climate-driven ecological shifts**, identifying that native species such as *Clarkia botata* bloom ~11 days earlier per +1°C while invasives remain stable.

## WORK EXPERIENCE

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**Associate Biologist – South Environmental**, Pasadena, CA (10/23–08/24)

- **Collected and managed** geospatial ecological data using submeter-accurate GPS and ArcGIS, ensuring high-quality datasets across 200+ vegetation observations and wildlife records.
- **Conducted** pre-construction surveys and real-time construction monitoring to safeguard sensitive resources, including nesting birds, protected trees, waters of the state, and multiple listed species.
- **Collaborated** with interdisciplinary teams of biologists, contractors, and regulators to integrate ecological protections into project planning, directly reducing construction environmental impacts.

**Forestry Aide – California State Parks**, Ventura, CA (05/23–09/23)

- **Engineered** a reproducible workflow by cleaning and manipulating 3 years of data and 1000+ observations using Python and ArcGIS to create surveys, analyzing vegetation distributions
- **Introduced** a comprehensive log of 73 plant species, including location and invasive status details, to support data analysis and decision-making processes
- **Statistically estimated** an increase in native groundcover of 170% through invasive removal efforts.

## TECHNICAL SKILLS

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**Programming & Reproducible Research**: R, Python, Git/GitHub, RMarkdown, documentation

**Data Analysis & Modeling**: Statistical modeling, regression, predictive and ensemble models, time series analysis

**Data Wrangling & QA/QC**: Multi-source data integration, feature engineering, data validation, reproducible workflows

**Visualization & Decision Support**: ggplot2, interactive dashboards, spatial and temporal analysis, stakeholder-facing reporting

**Tools & Libraries**: tidyverse, pandas, scikit-learn, TensorFlow, ArcGIS