



Diana Moanga

Lecturer

Earth Systems Program

 Curriculum Vitae available Online

Bio

BIO

Diana A. Moanga, PhD, is a Lecturer in the Earth Systems Program at Stanford University's Doerr School of Sustainability and serves as Manager of the Spatial Analysis Center. She teaches a comprehensive suite of geospatial courses including Remote Sensing of Land, Fundamentals of Geographic Information Science, Advanced Concepts in Geospatial Information Science, and Independent Study classes, and has been recognized with Stanford Doerr School of Sustainability's Excellence in Teaching Award in 2025.

Dr. Moanga's research centers on coastal resilience, land system science, and conservation, with expertise in GIS, remote sensing, and spatial analysis. Her work focuses on understanding land use and land cover change processes, particularly examining the effects of environmental and anthropogenic stressors on coastal systems. She is especially passionate about advancing our understanding of coupled socio-ecological systems, mapping coastal hazards dynamics and developing resilience metrics.

She earned her PhD in Environmental Science Policy and Management from UC Berkeley in 2020, where her dissertation research employed geospatial techniques to study land use and land cover changes across California. Her doctoral work explored management impacts on California's coastal lands, agricultural transitions in the Central Valley, and wildfire activity under future climate regimes. Prior to her doctoral studies, Diana completed a Master's in Marine Affairs and Policy from the University of Miami in 2015, where she examined the spatial and temporal characteristics of harmful algal blooms and studied coastal zone management and coral conservation.

Before joining Stanford as a lecturer in 2023, Dr. Moanga served as a postdoctoral researcher at Stanford University's Department of Earth System Science and previously at Florida International University's Sea Level Solutions Center.

ACADEMIC APPOINTMENTS

- Lecturer, Earth Systems Program

HONORS AND AWARDS

- Excellence in Teaching Award, Stanford Doerr School of Sustainability (May 2025)
- Community Engaged Teaching Fellowship, Haas Center for Public Service (2024-2025)

PROFESSIONAL EDUCATION

- BA, University of Miami , Marine Affairs (2013)
- MS, University of Miami , Marine Affairs and Policy (2015)

- PhD, University of California Berkeley , Environmental Science Policy and Management (2020)

Research & Scholarship

RESEARCH INTERESTS

- Data Sciences
- Environmental Education

Teaching

COURSES

2025-26

- Advanced Concepts in Geographic Information Science: EARTHSYS 145, EARTHSYS 245, ESS 235, URBANST 145 (Win)
- Biology and Global Change: BIO 117, EARTHSYS 111, EARTHSYS 217, ESS 111 (Spr)
- Earth Systems Capstone Project: EARTHSYS 210P (Win, Spr)
- Fundamentals of Geographic Information Science (GIS): EARTHSYS 144, ESS 164 (Aut)
- Remote Sensing of Land: EARTHSYS 142, EARTHSYS 242, ESS 162, ESS 262 (Spr)
- Senior Capstone and Reflection: EARTHSYS 210A (Aut)
- Senior Capstone and Reflection: EARTHSYS 210B (Win)
- Spatial Planning for Gigascale Renewables & Transmission: CEE 176M, CEE 276M, EARTHSYS 176M, EARTHSYS 276M (Spr)

2024-25

- Advanced Concepts in Geographic Information Science: EARTHSYS 145, EARTHSYS 245, URBANST 145 (Win)
- Fundamentals of Geographic Information Science (GIS): EARTHSYS 144, ESS 164 (Aut)
- Remote Sensing of Land: EARTHSYS 142, EARTHSYS 242, ESS 162, ESS 262 (Win)

2023-24

- Fundamentals of Geographic Information Science (GIS): EARTHSYS 144, ESS 164 (Aut)
- Remote Sensing of Land: EARTHSYS 142, EARTHSYS 242, ESS 162, ESS 262 (Spr)

2022-23

- Remote Sensing of Land: EARTHSYS 142, EARTHSYS 242, ESS 162, ESS 262 (Spr)

Publications

PUBLICATIONS

- **Exploring state-level messaging toward US water reuse: a media analysis across time and space** *ENVIRONMENTAL RESEARCH: INFRASTRUCTURE AND SUSTAINABILITY*
Fu, S., Moanga, D., Hacker, M. E., Scruggs, C., Osman, K. K.
2025; 5 (3)
- **Evaluating perceptions of green stormwater infrastructure (GSI) through a community-based participatory research (CBPR) approach** *ENVIRONMENTAL RESEARCH LETTERS*
Medina, C. Y., Shrivatsa, S., Stone, M., Moanga, D., White Jr, E., Awais, M., Cardenas, A., Revels, K., Nieto, Y., Osman, K. K.
2025; 20 (5)
- **Advancing the understanding of coastal disturbances with a network-of-networks approach** *ECOSPHERE*
Myers-Pigg, A. N., Moanga, D., Bond-Lamberty, B., Ward, N. D., Megonigal, J., White Jr, E., Bailey, V. L., Kirwan, M. L.
2025; 16 (1)

- **A cloudy forecast for species distribution models: Predictive uncertainties abound for California birds after a century of climate and land-use change.** *Global change biology*
Clare, J. D., de Valpine, P., Moanga, D. A., Tingley, M. W., Beissinger, S. R.
2023: e17019
- **Hyperlocal Observations Reveal Persistent Extreme Urban Heat in Southeast Florida** *Journal of Applied Meteorology and Climatology*
Clement, A., Troxler, T., Keefe, O., Arcordia, M., Cruz, M., Moanga, D., Hernandez, A., Adefris, Z., Jacobson, S.
2023
- **Farm consolidation and turnover dynamics linked to increased crop diversity and higher agricultural input use.** *Agricultural Systems*
Olivia, H., Butsic, V., Moanga, D., Wartenberg, A.
2023
- **The threat of wildfire is unique to cannabis among agricultural sectors in California** *ECOSPHERE*
Dillis, C., Van Butsic, Moanga, D., Parker-Shames, P., Wartenberg, A., Grantham, T. E.
2022; 13 (9)
- **Identifying drivers of change and predicting future land-use impacts in established farmlands** *JOURNAL OF LAND USE SCIENCE*
Wartenberg, A. C., Moanga, D., Butsic, V.
2022; 17 (1): 161-180
- **Limited Economic-Ecological Trade-Offs in a Shifting Agricultural Landscape: A Case Study From Kern County, California** *FRONTIERS IN SUSTAINABLE FOOD SYSTEMS*
Wartenberg, A. C., Moanga, D., Potts, M. D., Butsic, V.
2021; 5
- **A System for Resilience Learning: Developing a community-driven, multi-sector research approach for greater preparedness and resilience to long-term climate stresses and extreme events in the Miami metropolitan region** *Journal of Extreme Events*.
Troxler, T., et al
2021
- **The space-time cube as an approach to quantifying future wildfires in California** *INTERNATIONAL JOURNAL OF WILDLAND FIRE*
Moanga, D., Biging, G., Radke, J., Butsic, V.
2021; 30 (2): 139-153
- **"Sealed in San Jose:" Paving of front yards diminishes urban forest resource and benefits in low-density residential neighborhoods** *URBAN FORESTRY & URBAN GREENING*
Lacan, I., Moanga, D., McBride, J. R., Butsic, V.
2020; 54
- **Avoided land use conversions and carbon loss from conservation purchases in California** *JOURNAL OF LAND USE SCIENCE*
Moanga, D., Schroeter, I., Ackerly, D., Butsic, V.
2018; 13 (4): 391-413
- **Using InVEST to assess ecosystem services on conserved properties in Sonoma County, CAYY** *CALIFORNIA AGRICULTURE*
Butsic, V., Shapero, M., Moanga, D., Larson, S.
2017; 71 (2): 81-89
- **Eastern Pacific Coral Reef Provinces, Coral Community Structure and Composition: An Overview** *CORAL REEFS OF THE EASTERN TROPICAL PACIFIC: PERSISTENCE AND LOSS IN A DYNAMIC ENVIRONMENT*
Glynn, P. W., Alvarado, J. J., Banks, S., Cortes, J., Feingold, J. S., Jimenez, C., Maragos, J. E., Martinez, P., Mate, J. L., Moanga, D. A., Navarrete, S., Reyes-Bonilla, H., Riegl, et al
edited by Glynn, P. W., Manzello, D. P., Enochs, I. C.
2017; 8: 107-176

PRESENTATIONS

- Tracking Bluefin Tuna Across the Atlantic Basin: Migration Patterns, Habitat Preferences, and Fishing Pressure - ESRI User Conference
- Where Coastal Hazards Converge: The Threat of Sea Level Rise (SLR), Saltwater Intrusion (SWI) and Hurricanes in the Gulf of Mexico - ESRI User Conference

- United States Wetland to Cash Crop Conversion - ESRI User Conference