

## Diana A. Moanga, PhD

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### Appointments

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04/2023 – present    Lecturer – **Stanford University**  
01/2023 – present    Manager of the Spatial Analysis Center – **Stanford University**  
09/2022 – 01/2023    Postdoctoral Researcher – **Stanford University**  
Department of Earth System Science, Doerr School of Sustainability  
02/2021 – 08/2022    Postdoctoral Researcher – **Florida International University**  
Department of Earth and Environment, Sea Level Solutions Center

### Education

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08/2015 – 12/2020    PhD – **University of California Berkeley**  
Environmental Science Policy and Management  
  
01/2014 – 08/2015    MS – **University of Miami**  
Marine Affairs and Policy  
  
08/2012 – 12/2013    BA – **University of Miami**  
Marine Affairs, Ecosystem Science and Policy (Minor)  
  
08/2008 – 04/2012    **Florida International University**  
Hospitality and Tourism Management (transferred to University of Miami)

### Research Interests

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Coastal Resilience; Land System Science: GIS; Remote Sensing; Spatial Analysis; Conservation

### Publications

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- 2023    Clare, J.D., de Valpine, P., B, **Moanga, D.**, & Beissinger, S.R.  
A Cloudy Forecast for Predicting Species Distributions: Predictive  
Uncertainties Abound For California Birds After A Century Of Climate And  
Land-Use Change. *Global Change Biology*.  
<https://onlinelibrary.wiley.com/doi/full/10.1111/gcb.17019>  
Hemond, O., Butsic V., **Moanga, D.**, & Wartenberg, A. Farm consolidation and  
turnover dynamics linked to increased crop diversity and higher agricultural  
input use. *Agricultural Systems*. <https://doi.org/10.1016/j.agry.2023.103708>
- 2022    Clement. A., Troxler, T., Keefe, O., Arcodia, M., Cruz, M., Hernandez. A.,  
**Moanga, D.**, Adefris. Z. & Jacobson, S. Hyperlocal Observations Reveal  
Persistent Extreme Urban Heat in Southeast Florida. *Journal of Applied  
Meteorology and Climatology*. <https://doi.org/10.1175/JAMC-D-22-0165.1>  
Dillis, C., Butsic, V., **Moanga, D.**, Parker-Shames, P., Wartenberg, A., & Grantham,  
T. The threat of wildfire is unique to cannabis among agricultural sectors in  
California. *Ecosphere*. <https://doi.org/10.1002/ecs2.4205>
- 2021    Troxler, T., Clement, A. C, Arditi-Rocha, Y., Beesing, G., Bhat, M., Bolson, J.,  
Caban-Aleman. C., Castillo. K., Collins, O., Cruz, M., Dodd, A., Evans, S.D.,  
Fleming, A.L., Sequera, C.G., Gilbert, J., Hernandez, A., Folder, C., Ilcheva, M.,

- Kelly, E., Leon, A., Lombard, J., Mach, K., **Moanga, D.**, Murley, J.F., Knowles, A., Obeysekera, J., Parra, L., Posner, J., Sarwat, A., Silverstein, R., Stuart, J.A., Sukop, M., Wdowinski, S., & Wheaton, E. (2021). 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*. <https://doi.org/10.1142/S2345737621500196>.
- Wartenberg C.A., **Moanga D.**, & Butsic V. (2021). Identifying drivers of change and predicting future land-use impacts in established farmlands. *Journal of Land Use Science*. <https://doi.org/10.1080/1747423X.2021.2018061>
- Wartenberg, A., **Moanga, D.**, Potts, M.D., & Butsic V. (2021). Limited economic-ecological trade-offs in a shifting agricultural landscape: a case study from Kern County, California. *Frontiers in Sustainable Food Systems, section Agroecology and Ecosystem Services*, 5:650727, <https://doi.org/10.3389/fsufs.2021.650727>.
- 2020 **Moanga, D.**, Biging, G.S., Butsic, V., & Radke, J. (2020). The space time cube as an approach to quantifying future wildfires in California. *International Journal of Wildland Fire*, 30(2). <https://doi.org/10.1071/WF19062>.
- Laćan, I., **Moanga, D.**, Butsic, V., & McBride, J.R. (2020). Sealed in San José: paving of front yards and its effect diminishes on urban forest resource and benefits in low- density residential neighborhoods. *Journal of Urban Forestry & Urban Greening* 54. <https://doi.org/10.1016/j.ufug.2020.126755>.
- Moanga, D. A.** (2020). Modelling land use and land cover changes in California's landscapes (Publication No. 2509614805). Doctoral dissertation, University of California, Berkeley. ProQuest Dissertations and Theses Global.
- 2018 **Moanga, D.**, Schroeter, I., Ackerly, D., & Butsic, V. (2018). Avoided land use conversions and carbon loss from conservation purchases in California. *Journal of Land Use Science* 13(4): 391-413. <https://doi.org/10.1080/1747423X.2018.1533043>
- 2017 Butsic, V., Shapero, M., **Moanga, D.**, & Larson S. (2017). Using InVEST to assess ecosystem services on conserved properties in Sonoma County, CA. *California Agriculture* 71(2):81-89. <https://doi.org/10.3733/ca.2017a0008>.
- Glynn, P.W., Alvarado, J.J., Banks, S., Cortés, J., Feingold, J.S., Jiménez, C., Maragos, J.E., Martínez, P., Maté, J.L., **Moanga, D.A.**, Navarrete, S. Reyes-Bonilla, H., Riegl, B., Rivera, F., Vargas-Angel, R., Wieters, E.A., & Zapata, F.A. (2017). Eastern Pacific coral reef provinces, coral community structure and composition: an overview. In *Coral Reefs of the Eastern Tropical Pacific* (pp. 107-176). Springer, Dordrecht. [https://link.springer.com/chapter/10.1007/978-94-017-7499-4\\_5](https://link.springer.com/chapter/10.1007/978-94-017-7499-4_5).
- 2015 **Moanga, D.** (2015). *Karenia brevis* hot spots in the west Florida shelf and their associated socio-economic implications. University of Miami Scholarly Repository.
- Under Review Myers-Pigg, A.N., **Moanga, D.**, Bond-Lamberty., B., Ward., N.D., Megonigal, P., White., E., Bailey, V., & Kirwan., M.L. Advancing the understanding of coastal disturbances with a networks-of-networks approach. *Ecosphere*.

- Medina, C.Y., Shrivatsa, S., Stone, M., **Moanga, D.**, White, E., Awais, M., Revels, K., Cardenas, A., McCloud, A.J., Osman, K. From grassroots to green: understanding community perceptions of green stormwater infrastructure (GSI) in the Houston Metropolitan Area using community based participatory research (CBPR) practices. *Environmental Research Letters (ERL)*.
- In Prep* **Moanga, D.**, Stone, M., Medina, C.Y., Shrivatsa, S., White, E., Awais, M., Osman, K. Wetland Restoration as a Nature-based Solution for Flood Mitigation in Marginalized Communities. *Environmental Research Letters (ERL)*.
- Moanga, D.**, White, E. Quantifying Coastal Hazard Exposure of Critical Water Infrastructure for Disadvantaged Communities on the Northern Gulf of Mexico. *International Journal of Disaster Risk Science (IJDRS)*
- Moanga, D.**, White, E. Exploring land cover changes in the coastal margin of the continental US Wetland conversion to agriculture. *Land*
- Fu, S., **Moanga, D.**, Osman, K., Exploring State-Level Institutional Attitudes Toward U.S. Water Reuse: A Media Analysis Across Time and Space. *Water Research*.
- White, E. **Moanga, D.**, White, J.R., Hiatt, M. Determining the Impacts of a Combined Historical Watershed and Regional Drought on Coastal Louisiana Wetland Ecohydrology. *Nature Communications*.
- Troxler, T., **Moanga, D.**, Hewavithana, D., Moore, C., Jacobson, S., Goshgarian, M., Hernandez, A., Kamrath, C., Hagemann, K., Clement, A., Sukop, M., Obeysekera, J., Localized flood thresholds for land area and structures – a south Florida application for current and projected future conditions. *Urban Climate*.
- Moanga, D.**, T. Troxler, K. Ishtiaq, S. Jacobson, M. Cruz, A. Clement, A. Hernandez, & Z. Adefris. Understanding Miami's urban heat with the help of citizen science. *Journal of Urban Climate*.

## Technical reports

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- 2022 Ghebremichael, K., Troxler, T., Hernandez, A., Fourqurean, R., Jerome, L., Carroll, K., **Moanga, D.**, Lazzaroni, H., Roy, S., Jenkins, J., McFarlane-Weinstein, J., Kaur, A., Knowles, H., Alvarez, S., Sukop, & M., Obeysekera, J. (2022). Laying the groundwork for 'Getting to Neutral' in the State of Florida. Technical Report. Florida Climate Institute. <https://floridacclimateinstitute.org/2012-03-02-19-57-58/getting-to-neutral-report>.
- 2018 Ackerly, D., Battles, J., Butsic, V., Gonzalez, P., Kelly, M., Silver, W., Saah, D., Di Tommaso, S., Mayer, A., **Moanga, D.**, Schroeter, I., & Riordan, B. (2018). Land Acquisition and Ecosystem Carbon in Coastal California. California's Fourth Climate Change Assessment. Publication number: CCCA4-EXT-2018-003.
- Radke, J.D., Biging, G.S., Rovers, K., Schmidt-Poolman, M., Foster, H., Roe, E., Ju, Y., Lindbergh, S., Beach, T., Maier, L., He, Y., Ashenfarb, M., Norton, P. Wray, M., Alruheil, A., Yi, S., Rau, R. Collins, J., Radke, D., Coufal, M., Marx, S., **Moanga, D.**, Ulyashin, V., & Dalal, A. (2018). Assessing Extreme Weather-Related Vulnerability and Identifying Resilience Options for California's Interdependent Transportation Fuel Sector. California's Fourth Climate Change Assessment, California Energy Commission. Pub. Nr: CCCA4-CEC-2018-012.

## Teaching Experience (Lecturer – L; Teaching Assistant – TA)

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Fall 2024 (L)	Fundamentals of Geographic Information Science (Ug & G)	Stanford University
Fall 2024 (L)	Independent Study in Earth System Science (G)	Stanford University
Spring 2024 (L)	Remote Sensing of Land (Undergraduate - Ug & / Graduate – G)	Stanford University
Fall 2023 (L)	Fundamentals of Geographic Information Science (Ug & G)	Stanford University
Spring 2023 (L)	Remote Sensing of Land (Ug & G)	Stanford University
Winter 2023 (TA)	From Freshwater to Oceans to Land Systems: an Earth System Perspective to Global Challenges (G)	Stanford University
Spring 2023 (L)	Remote Sensing of Land (Ug & G)	Stanford University
Fall 2020 (TA)	International Environmental Politics (Ug)	UC Berkeley
Fall 2018 (TA)	International Environmental Politics (Ug)	UC Berkeley
Spring 2016 (TA)	Environmental Issues (Ug)	UC Berkeley
Spring 2015 (TA)	Spatial Analysis: Intermediate Course in Marine GIS (G)	University of Miami
Spring 2015 (TA)	Spatial Applications in Marine Science (Ug)	University of Miami
Fall 2014 (TA)	Spatial Applications in Marine Science (Ug)	University of Miami
Spring 2014 (TA)	Introduction to Marine GIS Laboratory (Ug)	University of Miami
Fall 2014 (TA)	Introduction to Marine GIS Laboratory (Ug)	University of Miami
Fall 2013 (TA)	Spatial Applications in Marine Science (Ug)	University of Miami

## Future courses

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Winter 2025	Advanced Concepts in Geospatial Data Science (Ug/G)	Stanford University
Winter 2025	Remote Sensing of Land (Ug & G)	Stanford University

## Service and Professional Development

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Peer Reviewer for: AGU Advances; Carbon Balance and Management; Heliyon; International Journal of Disaster Risk Reduction; International Journal of Environmental Research and Public Health; International Journal of Wildland Fire; Journal of Environmental Planning and Management; Journal of Land Use Science; Landscape and Urban Planning; PLOS Sustainability and Transformation; Springer Nature Environmental Management; MDPI family of journals: Agriculture; Agronomy; Applied Sciences; Atmosphere; Fire; Land; Remote Sensing; Resources; & MDPI Sustainability. Book reviewer for Oxford University Press.

Guest Editor for MDPI Land Special Issue: Mapping Agricultural Land Cover by Integrating Remote Sensing Data.

## Mentorship

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2024	Lily Colburn - PhD Student in the Emmett Interdisciplinary Program in Environment and Resources (E-IPER) , Stanford University
	Ruby Lee Gates - Masters Student in Civil and Environmental Engineering, Stanford University

Raven Longwolf Alcott - PhD Student in Earth System Science, Stanford University  
*Committee Member:*

- 2023 Gayatri Mujumdar - MS in Environmental Studies at San Jose State University  
Stanford Woods Institute Mentoring Undergraduates in Interdisciplinary Research (MUIR) 2023 summer program – Project titled: “*Evaluating the role of nature-based solutions for low-income residents in the Galveston Bay Area.*”
- 2021 Collaborative Online International Learning (COIL) Program: Design for Adaptability: Coastal Design Explorations for Changing Climatic Conditions and Social/Cultural Environments. Program Mentor.

## **Invited Talks and Academic Presentations**

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### **American Geophysical Union**

- 2024 Evaluating the flood mitigation potential of wetland restoration surrounding vulnerable communities in the Houston-Galveston region. Poster presentation. Washington DC.
- 2023 Quantifying Coastal Hazard Exposure of Critical Water Infrastructure for Disadvantaged Communities on the Northern Gulf of Mexico. **Moanga, D.** White., E. Poster presentation. San Francisco. CA.
- Unveiling US’s Water Reuse Media Trends: A Journey Across Temporal and Spatial Boundaries. Fu., S; Osman., K., **Moanga, D.**

### **ESRI User Conference**

- 2024 Where Coastal Hazards Converge: Identifying Areas Threatened by Sea Level Rise (SLR), Saltwater Intrusion (SWI) and Storm Surge Under Two Different Scenarios. Poster presentation. San Diego. CA.
- 2023 United States Wetland to Cash Crop Conversion. Poster presentation. San Diego, CA.
- 2022 Mapping and Monitoring Extreme Heat and King Tide Flooding in North Miami Beach with the Help of Citizen Scientists. ESRI User Conference. Poster presentation. San Diego. CA.
- 2019 The space time cube as an approach to quantifying future wildfires in California (2000-2100). ESRI User Conference. San Diego, CA. Poster presentation. San Diego. CA.

### **Natural Capital Symposium**

- 2024 Landscape Scale Wetland Restoration for Equitable Flood Mitigation. White E., & **Moanga, D.** Stanford University.

### **Branner Earth Sciences Data Science Fair**

- 2024 Evaluating Wetland Restoration Potential & Quantifying Wetland Ecosystem Services in the Houston Galveston Bay Area.

### **Just Transitions Policy Lab**

- 2024 Geospatial Applications for Environmental Justice. GIS Workshop. Stanford University.

## **Altamont Landfill Open Space Advisory Committee**

2024 Panel member discussing potential Payments for Ecosystem Services.

## **Stanford Geballe Laboratory for Advanced Materials (GLAM)**

2023 Guest panel speaker. Postdoc Community Special Event.

## **Santa Clara University**

2023 Climate Change as a Driver of Ghost Forest Formation and Threaten Equity in Coastal Community Resilience

## **International Congress of Biometeorology (ICB)**

2021 Understanding Miami's urban heat with the help of citizen science. Virtual conference. White E., & **Moanga, D.** San Jose. CA.

## **University of Miami**

2021 Understanding the different dimensions of Coastal Resilience. Seminar in Marine Science.

## **UC Berkeley**

2020 Modelling Land Use and Land Cover Changes for Conservation. Sustainable Seminars.

2019 Map Design: Creating Effective Visualizations. Introduction to GIS course.  
Introduction to GIS and remote sensing: potential applications. Forest Management Seminar.

## **Media Mentions**

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2023 Gewin, V. (2023). *City-based scientists get creative to tackle rural-research needs*. Nature Science cities 2023. <https://www.nature.com/articles/d41586-023-02992-w>

2022 Skinner, A. (2022). *California Wildfires Threaten Nearly All of State's Cannabis Crops*. NewsWeek. <https://www.newsweek.com/california-wildfires-threaten-nearly-all-states-cannabis-crops-1742111>

## **Grants**

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2023 The Stanford Woods Institute Environmental Venture Projects (EVP) (Contributor)

2022 The Stanford UPS Endowment for Transportation, Logistics and Urban Issues (Contributor)

## **Technical Skills**

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ArcPro, ArcGIS Online, R, Google Earth Engine (GEE), STATA, C++, Python, arcPy, eCognition, InVEST, ENVI, Tableau.

## **Languages and Certificates**

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Romanian (native), English (proficient), Spanish (conversational), French (conversational).

ESRI Cartography Certificate (June 2020); ESRI Spatial Data Science Certificate (Aug. 2023); ESRI Imagery in Action Certificate (Oct. 2023); ESRI MOOC Spatial Data Science: The New Frontier in Analytics (Oct. 2023); ESRI Exploring Spatial Patterns in your Data using ArcGIS

Training Certificate (Feb. 2024); ESRI MOOC Going Places with Spatial Analysis (March 2024). Collaborative Institutional Training Initiative (CITI) Program, Social/Behavioral Human Research Course (Aug. 2021).

CITI Physical Science Responsible Conduct of Research; CITI Social and Behavioral Responsible Conduct of Research (Aug. 2023).

## **Outreach and Community Service**

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- 2024 Focus group organizer – *Strengthening Community Self-Advocacy through Ecosystem Service Evaluation* in collaboration with the Bayou City Waterkeeper.
- 2022 Represented Florida International University (FIU) Sea Level Solutions Center at Natural Disaster Expo.
- 2022 Organized and lead workshops for the *Resilient305* Collaborative in Miami, FL.  
Represented FIU at the Phillip and Patricia Frost Museum of Science for Earth Day Celebration.  
Helped lead “Science for Kids” event during Earth Week at the Miami Frost Art museum
- 2021 Organized citizen science events and community engagement opportunities at FIU Sea Level Solution Center (SLSC).
- 2018 Organized and lead the Mature & Historic Tree Stands Management Symposium in Berkeley, CA.
- 2014 Volunteer at the Coral Reef Futures Lab at University of Miami.
- 2013 Member of the University of Miami Propeller Club.

## **Awards and Accomplishments**

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Ranked above departmental average in student course evaluations for Fundamentals of Geographic Information Science and Remote Sensing of Land courses at Stanford University.  
Florida International University Postdoctoral Scholar Travel Award (2022)  
Part of the Southeast Florida Regional Citizen Science Climate Action Network – Second place in the Climate Challenge Cup at the UN Climate Change Convention COP 26 (2021)  
Florida International University Postdoctoral Scholar Research Recognition Award (2021)  
UC Berkeley Travel Grant Summer (2019)  
UC Berkeley Travel Grant Spring (2019)  
Teaching Award - Outstanding Graduate Student Instructor (GSI) Award (Spring 2019)  
UC Berkeley Starter Grant Award (2015)  
RSMAS Graduate Career Development Fund (2014)  
Master of Professional Science (MPS) Partial Tuition Scholarship (2014)  
Graduated Summa Cum Laude (4.0 GPA), top 1% of graduating class, University of Miami (2013)  
University of Miami Honor: President's & Provost's Honor Rolls & Dean's List (2012-2013)  
University of Miami Dean's Scholarship (2012)  
Florida International University Student Government Association Recognition award (2011-2012)  
FIU SAGE Scholarship (2011)  
Sally Goldman Scholarship (2011)  
Philip and Euline Honors College Scholarship (2010)  
Florida International University Dean's List (every academic semester between 2008 and 2012)  
Florida International University Presidential Scholarship (2008)