

DR. PINKI MONDAL

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University of Delaware

Department of Geography & Spatial Sciences

125 Academy Street, Newark, DE 19716, USA

APPOINTMENTS

- 2021 – Director, Environmental Science Undergraduate Program, University of Delaware, Newark, Delaware, USA
- 2018 – University of Delaware, Newark, Delaware, USA
Assistant Professor; Department of Geography and Spatial Sciences
Joint Appointment: Assistant Professor; Department of Plant and Soil Sciences
Resident Faculty: Data Science Institute
Affiliate: Delaware Environmental Institute; Water Science and Policy Program; Center for Food Systems and Sustainability
- 2015 – Columbia University, New York, USA
- 2018 Senior Research Associate; Center for International Earth Science Information Network (CIESIN), Earth Institute
- 2012 – Columbia University, New York, USA
- 2015 Postdoctoral Research Scientist; Department of Ecology, Evolution and Environmental Biology
- 2011 University of Massachusetts, Amherst, Massachusetts, USA
Postdoctoral Research Associate; Department of Environmental Conservation, Family Forest Research Center

PROFESSIONAL PREPARATION

- 2011 University of Florida, Gainesville, Florida, USA
Ph.D. in Geography; Concentration: Land Change Science; Minor: Research Design and Methods in Conservation
- 2004 Jadavpur University, India
M.Sc. in Applied Geology
- 2002 University of Calcutta, India
B.Sc. in Geology (Honors); Minor: Chemistry and Mathematics

GRANTS AND AWARDS (PI = Principal Investigator) (funded = 17; submitted = 2)

1. Submitted: NSF proposal for 2024-2029 for project titled "RII Track 1: Delaware Sustainability Science & Policy Hub for a Circular Economy" (\$24,000,000 – **Co-PI**)
2. Submitted: NSF proposal for 2024-2027 for project titled "Identifying multi-scale drivers of surface and subsurface salinization in coastal environments" (\$778,030 – **Co-PI**)

Funded Projects

1. NASA DE Space Grant Graduate Fellowship for 2022-2023 (\$30,000 – **Lead PI** with co-PI PhD student Walter)
2. NSF proposal for 2022-2023 for project titled "IUCRC Planning Grant University of Delaware: Center for Robotic Oceanic and Coastal Systems (CROCS)" (\$20,000 – **Co-PI**)
3. Harry R. Hughes Center for Agro-Ecology Research proposal for 2022-2024 for project titled "Adapting to increasingly saline soil in coastal Maryland" (\$140,235 – **Lead PI**)
4. US National Fish and Wildlife Foundation grant for 2020-2023 for project titled "Increasing Wetland Habitat and Creating Tidal Salt Marshes to Support American Black Duck" (\$469,888 – **Co-PI**)
5. NASA EPSCoR grant for 2020-2023 for project titled "Building a Competitive and Sustainable Delaware Remote Sensing Big Data Center for Cutting-Edge Coastal and Environmental Change Research and Workforce Development" (\$749,807 – **Co-I**)
6. NASA DE Space Grant Graduate Fellowship for 2021-2022 (\$30,000 – **Lead PI** with co-PI PhD student Walter)
7. University of Delaware Research Foundation (UDRF) Grant for 2019-2023 for project titled "Big data analytics for quantifying land cover transitions in coffee production systems in Vietnam" (\$38,500 – **Single PI**)
8. University of Delaware General University Research (GUR) Grant for 2019-2023 for project titled "Analyzing radar satellite data to examine changing rice intensification patterns in the Vietnamese Mekong Delta" (\$15,000 – **Single PI**)
9. Delaware Energy Institute grant for 2019-2021 for project titled "The energy footprint of food" (\$150,000 – **Co-PI**)
10. University of Delaware Data Science Institute Seed Grant for 2019-2020 for project titled "A Data Visualization and Dissemination Dashboard (DVD2) for enhancing interdisciplinary research and collaboration" (\$10,000 – **Single PI**)
11. University of Delaware Center for Teaching and Assessment of Learning (CTAL) Instructional Improvement for 2019 for project titled "Training a new pool of teaching assistants using open educational resources for a new course in Geospatial Data Science" (\$5,000 – **Single PI**)
12. University of Delaware ADVANCE Institute Leadership Mini-grant for 2018 (\$1,563 – **Single PI**)
13. NASA Land-Cover and Land-Use Change (LCLUC) grant for FY 2017-2021 for project titled "The role of urbanization in degradation and regeneration of tropical deciduous forests in south Asia" (\$750,004 – **Co-I**)
14. Google Earth Engine Research Award for 2014 for "The sensitivity of agricultural output to climate variability across smallholder farms in South Asia" (\$62,867 – **Project collaborator**)

15. Lamont Climate Center sponsored project for FY2014-2017 on “Assessing agricultural adaptation strategies for reducing winter crop sensitivity to future climate variability in central India” (\$9,850 – **Co-PI**)
16. Indo-US Science and Technology Forum: Indo-US Bilateral Workshop for 2014 on “Adaptation of rural communities to climate change: Bridging the gap between academia and community workers and identifying research needs” (~\$16,000 – **US PI**)
17. USDA Forest Service (Remote Sensing Steering Committee) sponsored project for FY2012 (\$79,205 – **Co-I**)

Peer-reviewed journal articles (published = 35)

(^u undergraduate mentee, ^g graduate advisee, ^p postdoctoral mentee)

Published journal articles

1. **Mondal, P.**, Walter, M.^g, Miller, J., Epanchin-Niell, R., Gedan, K., Yawatkar, V.^g, Nguyen, E.^u, Tully, K. 2023. The spread and cost of saltwater intrusion in the US Mid-Atlantic. *Nature Sustainability*. 6:1352. doi: 10.1038/s41893-023-01186-6. [PDF](#)
2. Braden, D.^g, **Mondal, P.**, Park, T., de la Rosa, J.A.A., Leal, M.I.A., Lara, R.A.C., Saucedo, R.M., Paz, F., Salas-Aguilar, V.M., Soriano-Luna, M.d.l.Á, Vargas, R. Quantifying forest extent and associated uncertainty across Mexico. *Environmental Research Letters*. *Accepted*.
3. Khanwilkar, S., Galletti, C., **Mondal, P.**, Urpelainen, J., Nagendra, H., Jhala, Y., Qureshi, Q., DeFries, R. 2023. Land cover and forest health indicator datasets for central India using very-high resolution satellite data. *Scientific Data*. 10:738. doi.org/10.1038/s41597-023-02634-w. [PDF](#)
4. Miller, J., **Mondal, P.**, Sarupria, M.^g 2023. Sensor-based measurements of NDVI in small grain and corn fields by tractor, drone, and satellite platforms. *Crop and Environment*. doi: 10.1016/j.crope.2023.11.001.
5. Walter, M.^g, Bagozzi, B., Ajibade, I., **Mondal, P.** 2023. Social media analysis reveals environmental injustices in Philadelphia urban parks. *Scientific Reports*. 13:12571. doi: 10.1038/s41598-023-39579-4. [PDF](#)
6. Walter, M.^g, **Mondal, P.** 2023. Mapping of *Phragmites* in estuarine wetlands using high-resolution aerial imagery. *Environmental Monitoring and Assessment*. 195(478), doi: 10.1007/s10661-023-11071-6. [PDF](#)
7. **Mondal, P.**, Dutta, T., Qadir, A.^g, Sharma, S. 2022. Radar and optical remote sensing for near-real time assessments of cyclone impacts on coastal ecosystems. *Remote Sensing in Ecology and Conservation*. doi: 10.1002/rse2.257. [PDF](#)
8. Maskell, G.^g, Chemura, A., Nguyen, H. T. T., Gornott, C., **Mondal, P.** 2021. Integration of Sentinel optical and radar data for mapping smallholder coffee production systems in Vietnam. *Remote Sensing of Environment*. 266, 112709, doi: 10.1016/j.rse.2021.112709. [PDF](#)

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9. Huang, N., **Mondal, P.**, Cook, B., McDermid, S. 2021. Moisture and temperature influences on nonlinear vegetation trends in Serengeti National Park. Environmental Research Letters. 16: 094049. doi: 10.1088/1748-9326/ac1a37. [PDF](#)
 10. **Mondal, P.**, DeFries, R., Clark, J.^u, Flowerhill, N.^u, Arif, Md., Harou, A., Downs, S., Fanzo, J. 2021. Multiple cropping alone does not improve year-round food security among smallholders in rural India. Environmental Research Letters. 16: 0605017. doi: 10.1088/1748-9326/ac05ee. [PDF](#)
 11. Choksi, P., Singh, D., Singh, J., **Mondal, P.**, Nagendra, H., Urpelainen, J., DeFries, R. 2021. Sensitivity of seasonal migration to climatic variability in central India. Environmental Research Letters. 16: 064074. doi: 10.1088/1748-9326/ac046f. [PDF](#)
 12. DeFries, R., Agarwala, M., Baquie, S., Choksi, P., Khanwilkar, S., **Mondal, P.**, Nagendra, H., Urpelainen, J. 2021. Improved household living standards can restore dry tropical forests. Biotropica. doi: 10.1111/btp.12978. [PDF](#)
 13. Jain, M., Fishman, R., **Mondal, P.**, Galford, G., Bhattarai, N., Naeem, S., DeFries, R. 2021. Groundwater depletion will reduce cropping intensity in India. Science Advances. 7(9): eabd2849. doi: 10.1126/sciadv.abd2849. [PDF](#)
 14. Baquie, S., Urpelainen, J., Khanwilkar, S., Galletti, C., Velho, N., **Mondal, P.**, Nagendra, H., DeFries, R. 2021. Migration, assets, and forest degradation in a tropical deciduous forest of South Asia. Ecological Economics. 181: 106887. [PDF](#)
 15. Liu, X., Fatoyinbo, T.E., Thomas, N.M., Guan, W., Zhan, Y., **Mondal, P.**, Lagomasino, D., Simard, M., Trettin, C.C., Deo, R., Barenblitt, A. 2021. Large-scale high-resolution coastal mangrove forests mapping across West Africa with machine learning ensemble and satellite big data. Frontiers in Earth Science. doi: 10.3389/feart.2020.560933. [PDF](#)
 16. Jin, E.^p, Al Fahel, N., **Mondal, P.**, Li, H., Archer, C. L. 2020. Energy Footprint of Food: The Case of Corn Production in Delaware. Food and Energy Security. 9:e222. doi: 10.1002/fes3.222. [PDF](#)
 17. DeFries, R., Agarwala, M., Baquie, S., Choksi, P., Dogra, N., Preetha G.S., Khanwilkar, S., **Mondal, P.**, Nagendra, H., Urpelainen, J. 2020. Post-lockdown spread of COVID-19 from cities to vulnerable forest-fringe villages in Central India. Current Science. 119(1). [PDF](#)
 18. Qadir, A.^g, **Mondal, P.** 2020. Synergistic use of radar and optical satellite data for improved monsoon cropland mapping in India. Remote Sensing. 12(3), 522. doi: 10.3390/rs12030522. [PDF](#)
 19. **Mondal, P.**, McDermid, S., Qadir, A.^g 2020. A reporting framework for Sustainable Development Goal 15: Multi-scale monitoring of forest degradation using MODIS, Landsat and Sentinel data. Remote Sensing of Environment. 237, 111592. doi: 10.1016/j.rse.2019.111592. [PDF](#)
 20. **Mondal, P.**, Liu, X., Fatoyinbo, L., Lagomasino, D. 2019. Evaluating combinations of Sentinel-2 data and machine-learning algorithms for mangrove mapping in West Africa. Remote Sensing. 11(24), 2928. doi: 10.3390/rs11242928. [PDF](#)
 21. Walter, M.^g, **Mondal, P.** 2019. A rapidly assessed wetland stress index (RAWSI) using Landsat 8 and Sentinel-1 radar data. Remote Sensing. 11(21), 2549. doi: 10.3390/rs11212549. [PDF](#)

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22. **Mondal, P.**, Trzaska, S., de Sherbinin, A. 2018. Landsat-derived estimates of mangroves in the Sierra Leone Coastal Landscape Complex during 1990-2016. Sensors. 18(1), 12. doi: 10.3390/s18010012. [PDF](#)
 23. Jain, M., **Mondal, P.**, Galford, G., Fiske, G., DeFries, R. 2017. An Automated Approach to Map Winter Cropped Area of Smallholder Farms across Large Scales Using MODIS Imagery. Remote Sensing. 9(6), 566. doi: 10.3390/rs9060566. [PDF](#)
 24. DeFries, R., Fanzo, J., **Mondal, P.**, Remans, R., Wood, S. 2017. Is voluntary certification of tropical agricultural commodities achieving sustainability goals?: A review of the evidence. Environmental Research Letters. 12(3) 033001. [PDF](#)
 25. DeFries, R., **Mondal, P.**, Singh, D., Agrawal, I, Fanzo, J., Remans, R., Wood, S. 2016. Synergies and Trade-offs for Sustainable Agriculture: Nutritional Yields and Climate-Resilience for Cereal Crops in Central India. Global Food Security 11, 44-53. doi: 10.1016/j.gfs.2016.07.001. [PDF](#)
 26. **Mondal, P.**, Jain, M., Zukowski, M., Galford, G., DeFries, R. 2016. Quantifying fluctuations in winter cropped area in the Central Indian Highland landscape. Regional Environmental Change 16, 69-82. [PDF](#)
 27. **Mondal, P.**, Jain, M., DeFries, R., Galford, G., Small, C. 2015. Sensitivity of crop cover to climate variability: Insights from two Indian agro-ecoregions. Journal of Environmental Management 148, 21-30. [PDF](#)
 28. **Mondal, P.**, Jain, M., Robertson, A., Galford, G., Small, C., DeFries, R. 2014. Winter crop sensitivity to inter-annual climate variability in central India. Climatic Change 126, 61-76. [PDF](#)
 29. Jain, M., **Mondal, P.**, DeFries, R., Small, C., Galford, G. 2013. Mapping cropping intensity of smallholder farms: a comparison of methods using multiple sensors. Remote Sensing of Environment 134, 210-223. [PDF](#)
 30. **Mondal, P.**, Butler, B., Kittredge, D., Moser, W. 2013. How are America's private forests changing? An integrated assessment of forest management, housing pressure, and urban development in alternate emissions scenarios. Land Use Policy 32, 230-238. [PDF](#)
 31. **Mondal, P.**, Tatem, A. 2012. Uncertainties in measuring populations potentially impacted by sea level rise and coastal flooding. PLoS One 7 (10): e48191. doi:10.1371/journal.pone.0048191. [PDF](#)
 32. **Mondal, P.**, Nagendra, H. 2011. Trends of forest dynamics in tiger landscapes across Asia. Environmental Management 48 (4), 781-794. [PDF](#)
 33. **Mondal, P.** 2011. Quantifying surface gradients with a 2-band Enhanced Vegetation Index (EVI2). Ecological Indicators 11 (3), 918-924. [PDF](#)
 34. **Mondal, P.**, Southworth, J. 2010. Evaluation of conservation interventions using a cellular automata-Markov model. Forest Ecology and Management 260 (10), 1716-1725. [PDF](#)
 35. **Mondal, P.**, Southworth, J. 2010. Protection vs. Commercial management: spatial and temporal analysis of land cover changes in the tropical forests of Central India. Forest Ecology and Management 259 (5), 1009 -1017. [PDF](#)

Data sets and documentations (published = 11)

1. Walter, M.^g, **Mondal, P.** 2023. High resolution Phragmites australis classification in Delaware estuaries. Available at: <https://doi.org/10.5281/zenodo.7644495>
2. Walter, M.^g, **Mondal, P.** 2023. High resolution greenspace land cover in Philadelphia, Pennsylvania. Available at: <https://doi.org/10.5281/zenodo.7604104>
3. **Mondal, P.**, Walter, M.^g, Miller, J., Epanchin-Niell, R., Yawatkar, V.^g, Nguyen, E.^u, Gedan, K. and Tully, K. 2022. High-resolution remotely sensed datasets for saltwater intrusion across the Delmarva Peninsula. Available at: <https://doi.org/10.5281/zenodo.6685695>
4. **Mondal, P.**, DeFries, R., Clark, J.^u, Flowerhill, N.^u, Arif, Md., Harou, A., Downs, S., Fanzo, J. 2021. Multiple cropping alone does not improve year-round food security among smallholders in rural India. Dryad. <https://doi.org/10.5061/dryad.tdz08kq07>
5. Khanwilkar, S., Galletti, C., **Mondal, P.**, Urpelainen, J., Nagendra, H., Jhala, Y.V., Quresh, Q., DeFries, R. 2021. Tropical Deciduous Forests of South Asia: Land Cover Classification and Monitoring Forest Degradation Using the Bare Ground Index LULC. NASA LCLUC Metadata. <https://lcluc.umd.edu/metadadatafiles/LCLUC-2017-PIDefries/>
6. DeFries, R., Agarwala, M., Baquie, S., Choksi, P., Khanwilkar, S., **Mondal, P.**, Nagendra, H., Urpelainen, J. 2021. Improved household living standards can restore dry tropical forests. Dryad. <https://doi.org/10.5061/dryad.44j0zpcdg>
7. **Mondal, P.**, Dutta, T., Qadir, A.^g, Sharma, S. 2020. High-resolution inundation dataset for coastal India and Bangladesh (Version 1.0.0). Zenodo. <http://doi.org/10.5281/zenodo.4390084>
8. Meiyappan, P., Roy, P. S., Soliman, A., Li, T., **Mondal, P.**, Wang, S., Jain, A. K. 2018. India Village-Level Geospatial Socio-Economic Data Set: 1991, 2001. Palisades, NY: NASA Socioeconomic Data and Applications Center (SEDAC). <https://doi.org/10.7927/H4CN71ZJ>
9. Jain, M., **Mondal, P.**, Galford, G. L., Fiske, G., DeFries, R. S. 2017. India Annual Winter Cropped Area, 2001-2016. Palisades, NY: NASA Socioeconomic Data and Applications Center (SEDAC). <https://doi.org/10.7927/H47D2S3W>
10. Center for International Earth Science Information Network - CIESIN - Columbia University. 2016. Global Urban Heat Island (UHI) Data Set, 2013. Palisades, NY: NASA Socioeconomic Data and Applications Center (SEDAC). <http://dx.doi.org/10.7927/H4H70CRF>
11. Center for International Earth Science Information Network -CIESIN - Columbia University. 2016. Global Summer Land Surface Temperature (LST) Grids, 2013. Palisades, NY: NASA Socioeconomic Data and Applications Center (SEDAC). <http://doi.org/10.7927/H408638T>

Invited book chapters (published = 3, accepted = 1)

1. UNESCO and the American Geophysical Union, 2023. Geoscience in Action: Advancing Sustainable Development. Available at: <https://geoscienceinaction.org/-/media/Files/Geoscience-In-Action/023-4187542760-Geoscience-In-Action-Report-WEB.pdf>

2. Velho, N., DeFries, R., Nagendra, H., Galletti, C.S., Baquie, S., Urperlainen, J., **Mondal, P.**, Agarwala, M. Impacts of urban migration on forest use in central India. Book Chapter. Forthcoming.
3. **Mondal, P.**, Nagendra, H. 2012. Parks and Preserves. In Joel Campbell, Jingjing Liu, & Sony Pellissery (Eds.), *The Encyclopedia of Sustainability*, Vol. 7: China, India, and East and Southeast Asia: Assessing Sustainability. Great Barrington, MA: Berkshire Publishing.
4. Nagendra, H., **Mondal, P.**, Adhikari, S., Southworth, J. 2012. Peopled parks: Forest change in India's protected landscapes. In E. S. Brondizio and E. F. Moran (Eds.), *Human-Environment Interactions: current and future directions*, Springer.

Editorials (published = 2)

1. **Mondal, P.**, McDermid, S. 2021. Global Vegetation and Land Surface Dynamics in a Changing Climate. *Land* 10(1), 45, <https://doi.org/10.3390/land10010045>.
2. **Mondal, P.**, Nagendra, H., DeFries, R. 2016. Addressing issues of climate change impacts, adaptation and vulnerability on the ground: Challenges and opportunities. *Current Science* 110 (7), 1193-1194.

Technical/scientific reports (published = 7)

1. **Mondal, P.**, de Sherbinin, A., Trzaska, S. 2020. Sierra Leone mangrove forest cover change and carbon stock assessment 2017. Report published under the USAID West Africa Biodiversity and Climate Change (WA BiCC) project. Palisades, NY: Center for International Earth Science Information Network, Columbia University. Available at: https://pdf.usaid.gov/pdf_docs/PA00X4JZ.pdf
2. Trzaska, S., de Sherbinin, A., Kim-Blanco, P., Mara, V., Schnarr, E., Jaiteh, M., **Mondal, P.** 2018. Climate change vulnerability assessment in mangrove regions of Sierra Leone: Long version. Report published under the USAID West Africa Biodiversity and Climate Change (WA BiCC) project. Palisades, NY: Center for International Earth Science Information Network, Columbia University. Available at: http://www.ciesin.columbia.edu/wa-bicc/SierraLeone_Coastal_VA_long-report_jan2018.pdf
3. Trzaska, S., de Sherbinin, A., Kim-Blanco, P., Mara, V., Schnarr, E., Jaiteh, M., **Mondal, P.** 2017. Climate change vulnerability assessment in mangrove regions of Sierra Leone: Abridged version. Report published under the USAID West Africa Biodiversity and Climate Change (WA BiCC) project. Palisades, NY: Center for International Earth Science Information Network, Columbia University. Available at: <http://www.ciesin.columbia.edu/wa-bicc/wa-bicc-ccva-abridged-ff.pdf>
4. Housman, I., **Mondal, P.**, Hamilton, R., Fisk, H., Lister, A., Butler, B., Jacobs, D., Lister, T., Salajanu, D. 2013. Percent impervious landcover modeling: Analyzing the impacts of model types, calibration methods, and ecoregions. RSAC-10025-RPT1. Salt Lake City, UT: U.S. Department of Agriculture, Forest Service, Remote Sensing Applications Center. 13 p.
5. **Mondal, P.** 2011. Parks and policies: Integrating geospatial tools and modeling to evaluate conservation interventions in central India, University of Florida. (*PhD dissertation*)

6. **Mondal, P.** 2010. 30 Years of Protection: A Success Story. In: Jha, M. and Joshi, C. 2010. Pench, Maharashtra: The Big Tale of a Small Tiger Reserve, Technical Book No. 3, Pench Tiger Reserve, India and Center for Environment Education, India.
7. **Mondal, P.** 2004. Land use/land cover analysis of Sundarbans using remote sensing techniques: A case study in Jharkhali Island. (*Master's thesis*)

AWARDS, HONORS AND NOMINATIONS

- 2023 [Elevate the Discipline Scholar in Climate and Society](#), [American Association of Geographers](#)
Nominated for the Research Excellence Award, [American Association of Geographers](#) Human Dimensions of Global Change specialty group
- 2022 Nominated for the Junior Faculty Award for Scholarly Excellence ([college-level](#)), University of Delaware
- 2020 Nominated for the Emerging Scholar Award, [American Association of Geographers](#) Spatial Analysis and Modeling specialty group
Nominated for the Excellence in Teaching Award ([university-level](#)), University of Delaware
- 2015 Junior Researcher Task Force member, 2nd International Conference on Global Food Security
- 2011 Sponsored Student Travel Award, US Regional Association of the International Association for Landscape Ecology
- 2010 NSF "On the Cutting Edge" Professional Development Workshop Stipend
NASA-MSU Professional Enhancement Award, US Regional Association of the International Association for Landscape Ecology
Best Paper Award, University of Florida Graduate Student Council Interdisciplinary Research Conference
CLAS Graduate Travel Award, University of Florida
- 2009 Ryan Poehling Fellowship, University of Florida
- 2009 Graduate Student Council Travel Grant, University of Florida
Imagery Grant, GeoEye Foundation, Virginia
Best Poster Award, University of Florida Graduate Student Council Interdisciplinary Research Conference
University of Florida Office of Graduate Research and Program Travel Grant
- 2008 Tropical Conservation and Development Field Research Grant, University of Florida
Graduate Student Council Travel Grant, University of Florida
- 2006 Alumni Fellowship, University of Florida
- 2002, Certificate of merit under National Scholarship Scheme, Government of India
1997

MEDIA COVERAGE

- 2023 [CBS News Baltimore](#): Saltwater posing threats to farmers livelihoods on Maryland's Eastern Shore.
- [Chesapeake Bay Journal](#): Salt patches, a product of rising seas, are spreading rapidly on the Chesapeake's Eastern Shore.
- [UDaily article](#): Unequal park quality.
- [Delaware News Journal](#): Delaware farmland is turning to marsh.
- [WRDE Coast TV](#): Saltwater intrusion on local farms.
- [Scripps News](#): Rising sea levels put coastal farms at risk from saltwater intrusion.
- [UDaily article](#) covering Dr. Mondal's paper on saltwater intrusion.
- Dr. Mondal's paper covered by [Solutions from the Land](#).
- 2022 Dr. Mondal quoted in [Circle of Blue](#) article.
- [University of Maryland](#) covering Dr. Mondal's collaborative work on saltwater intrusion.
- [UDaily article](#) covering Dr. Mondal's collaborative work on saltwater intrusion.
- [Mongabay India](#) covering Dr. Mondal's paper on cyclone impacts in coastal S. Asia.
- 2021 [UDaily article](#) covering Dr. Mondal's food and nutrition security research.
- [CNN](#) covering Dr. Mondal's collaborative research in India.
- [UDaily article](#) covering Dr. Mondal's collaborative research in India.
- 2020 [UDaily article](#) covering Dr. Mondal's forest cover research.
- 2019 Dr. Mondal quoted in [Washington Post](#) article.
- 2018 [NASA Earth Science User Data Profile](#) for Dr. Mondal.
- 2014 Ashoka Trust for Research in Ecology and the Environment (ATREE) outreach newsletter featuring Indo-US bilateral workshop that Dr. Mondal led and co-organized: [Keeping pace with climate change impacts](#).
- 2014 Times of India coverage on Kanha-Pench Landscape Symposium that Dr. Mondal co-organized: [Symposium on Kanha-Pench landscape held at Mocha](#).
- 2010 Government of India (National Tiger Conservation Authority) bi-monthly outreach journal STRIPES highlighting Dr. Mondal's doctoral dissertation research: [Pench Tiger Reserve: Increase in Forest Cover](#).
- University of Florida alumni newsletter CLASnotes featuring Dr. Mondal's doctoral work: From Deforestation to Reforestation.
- 2009 Times of India coverage of Dr. Mondal's doctoral research: [Pench forest cover up, says study](#).

INVITED RESEARCH SEMINARS: EXTERNAL (total = 22)

- 2023 **Temple University**, GIS Day Keynote Speech, Department of Geography and Urban Studies, USA (Nov 2023)
Environmental Research: Food Systems, New journal global launch event (Oct 2023)
- 2022 **Temple University**, Department of Earth and Environmental Science, USA.
Pennsylvania State University, Department of Ecosystem Science and Management, USA.
Florida State University, Department of Geography, USA.
- 2021 **Columbia University**, Department of Electrical Engineering, USA.
University of California Santa Barbara, Bren School of Environmental Science and Management, USA.
NSF Convergence Workshop on Food Security in Extreme Environments and Food Deserts, USA.
University of Washington, School of Environmental and Forest Sciences, USA.
University of North Carolina Wilmington, Department of Earth and Ocean Sciences, USA.
Boise State University, Ecology, Evolution and Behavior Program, USA.
Central Indian Landscape Symposium 4, India.
- 2020 Delaware Museum of Natural History. World of Discovery Lecture Series.
Canceled due to COVID-19.
- 2019 **American Geophysical Union Fall Meeting**, USA.
Can Tho University, College of Environment and Natural Resources, Vietnam.
- 2018 **Rutgers University**, USA. Annual Rutgers Climate Symposium.
- 2017 **Columbia Global Centers** | Mumbai, India.
New York University, Department of Environmental Studies.
- 2016 **Pre-IGU International Conference** on Land Use and Rural Sustainability, Xi'an, China.
- 2015 **AsiaFlux Workshop** 2015 and ISPRD TC WG VIII/3: Weather, Atmosphere and Climate Studies Joint Conference, Pune, India.
- 2014 **San Francisco State University**, USA.
- 2013 **Oklahoma State University**, USA.
- 2010 **University of Colorado**, Colorado Springs, USA.

INVITED RESEARCH SEMINARS: INTERNAL (total = 8)

- 2023 NSF EPSCoR Project WiCCED all-hands meeting. Dover, DE
- 2022 Ocean Currents Lecture Series. University of Delaware, USA.
- 2021 NSF EPSCoR Project WiCCED Seminar Series. University of Delaware, USA.
 Department of Geography and Spatial Sciences. University of Delaware, USA.

- 2020 Biden School of Public Policy and Administration. University of Delaware, USA.
DARWIN HPC kick-off meeting. University of Delaware, USA.
- 2019 Department of Plant and Soil Sciences. University of Delaware, USA.
GIS Coffee Hour. University of Delaware, USA.

PUBLISHED ABSTRACTS AND PRESENTATIONS (total = 68)

(^g graduate advisee, ^u undergraduate mentee, ^h high school mentee)

1. Mondal, P., Sarupria, M.^g, Walter, M.^g Saltwater intrusion in coastal US landscapes: Challenges and potential solutions. The American Association of Geographers Annual Meeting. 16-20 April, 2024 (*Accepted*). Oral Presentation.
2. Walter, M.^g, Mondal, P. Equitable distribution of tree cover in the USA northeast megalopolis. The American Association of Geographers Annual Meeting. 16-20 April, 2024 (*Accepted*). Oral Presentation.
3. Sarupria, M.^g, Walter, M.^g, Mondal, P. The role of hydroclimatic factors in driving the spatio-temporal changes in salt-impacted farmlands in coastal Delmarva. 16-20 April, 2024 (*Accepted*). Oral Presentation.
4. Sarupria, M.^g, Mondal, P. Spectral unmixing of satellite images for quantifying salt-impacted farmlands in Delmarva. Delaware Environmental Institute Research Symposium. 12 April 2023, University of Delaware. Poster Presentation.
5. Walter, M.^g, Bagozzi, B., Ajibade, I., Mondal, P. Semi-supervised topic modeling and Random Forest for identifying environmental injustice in Philadelphia. Delaware Environmental Institute Research Symposium. 12 April 2023, University of Delaware. Poster Presentation.
6. Sarupria, M.^g, Mondal, P. Spectral unmixing of satellite images for quantifying salt-impacted farmlands in Delmarva. Ecological Society of America 2023 Mid-Atlantic Annual Meeting. 1 April 2023. Poster presentation.
7. Mondal, P., Walter, M.^g, Sarupria, M.^g, Miller, J., Epanchin-Niell, R., Gedan, K., Tully, K. Marsh expansion on the Delmarva farmlands: Can ongoing changes be a part of long-term land management? The American Association of Geographers Annual Meeting. 23-27 March 2023. Oral Presentation.
8. Walter, M.^g, Bagozzi, B., Ajibade, I., Mondal, P. Unequal Urban Park Quality leads to environmental injustices in Philadelphia, Pennsylvania. The American Association of Geographers Annual Meeting. 23-27 March 2023. Oral Presentation.
9. Sarupria, M.^g, Walter, M.^g, Mondal, P. Estimating the impacts of saltwater intrusion on Coastal Farmlands of Delmarva Peninsula using Sentinel-2 Imagery and spectral unmixing. The American Association of Geographers Annual Meeting. 23-27 March 2023. Oral Presentation.
10. Walter, M.^g, Bagozzi, B., Ajibade, I., Mondal, P. Semi-supervised topic modeling and Random Forest for identifying environmental injustice in Philadelphia. Delaware Space Grant Consortium Research Symposium. 22 March 2023, Poster Presentation.

11. Sarupria, M.^g, Mondal, P. Spectral unmixing of satellite images for quantifying salt-impacted farmlands in Delmarva. Delaware Environmental Monitoring Summit. 15 March 2023. Poster presentation.
12. Mondal, P., Vachepalli, G.^g, Callahan, T. A mobile app for saltwater intrusion across the Delmarva Peninsula. 2023 Saltwater Intrusion Stakeholder Meeting, 24 February 2023, Princess Anne, Maryland. Oral Presentation (virtual).
13. Sarupria, M.^g, Mondal, P. Spectral unmixing of satellite images for quantifying salt-impacted farmlands in Delmarva. DARWIN Computing Symposium. 23 February 2023. Poster presentation.
14. Walter, M.^g, Bagozzi, B., Ajibade, I., Mondal, P. Semi-supervised topic modeling and Random Forest for identifying environmental injustice in Philadelphia. DARWIN Computing Symposium. 23 February 2023. Poster presentation.
15. Vachepalli, G.^g, Callahan, T., Mondal, P. A mobile app for saltwater intrusion across the Delmarva Peninsula. DARWIN Computing Symposium. 23 February 2023. Poster presentation.
16. Braden, D.^g, Mondal, P., Park, T., Vargas, R. Identifying variability in forest cover estimates in Mexico by comparing multiple satellite-derived data products. American Geophysical Union Fall Meeting. 12-16 December 2022. Poster Presentation (virtual).
17. Sarupria, M.^g, Walter, M.^g, Mondal, P. Mapping salt-impacted coastal farmlands of Delmarva Peninsula using sentinel-2 imagery. American Geophysical Union Fall Meeting. 12-16 December 2022. Poster Presentation (virtual).
18. Walter, M.^g, Miller, J., Yawatkar, V.^g, Epanchin-Niell, R., Nguyen, E.^u, Gedan, K., Tully, K., Mondal, P. Mapping salt deposits in the delmarva peninsula using aerial imagery and Landsat. 2022 Mid-Atlantic Regional Space Grant Consortium Meeting. 21-23 August 2022. Poster Presentation.
19. Walter, M.^g, Mondal, P. Inequalities of urban park quality using remote sensing and social media data. Delaware Environmental Institute Research Symposium. 13 April 2022, University of Delaware. Poster Presentation.
20. Walter, M.^g, Miller, J., Yawatkar, V.^g, Epanchin-Niell, R., Nguyen, E.^u, Gedan, K., Tully, K., Mondal, P. Mapping salt deposits in the Delmarva Peninsula using aerial imagery and Landsat. Delaware Space Grant Consortium Research Symposium. 7 April 2022, University of Delaware. Poster Presentation.
21. Ventimiglia, I.^u, Ahouangbenon, M.^g, Mondal, P. Radar satellite data for mapping rice farming activities in the Vietnamese Mekong Delta. Delaware Space Grant Consortium Research Symposium. 7 April 2022, University of Delaware. Poster Presentation.
22. Mondal, P., Walter, M.^g, Miller, J., Yawatkar, V.^g, Epanchin-Niell, R., Nguyen, E.^u, Gedan, K., Tully, K. The invisible threat of saltwater intrusion on the Delmarva farmlands. The American Association of Geographers Annual Meeting. 25 February-1 March 2022 (virtual). Oral Presentation.
23. Mondal, P., Walter, M.^g, Miller, J., Yawatkar, V.^g, Epanchin-Niell, R., Nguyen, E.^u, Gedan, K., Tully, K. Visual evidence of saltwater intrusion in coastal Maryland. Maryland Water Monitoring Council Annual Conference. 2-3 December 2021 (virtual). Oral Presentation.

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24. Mondal, P., Soni, S.^h. Do you have salt on your land? Delaware Data Science Symposium, 17 November, 2021, University of Delaware. Oral Presentation.
 25. Yawatkar, V.^g, Nguyen, E.^u, Walter, M.^g, Tully, K., Mondal, P. Using Machine Learning and Remote Sensing Data for Land Cover Classification in the Eastern USA. 6th DENIN Graduate Research Symposium, 5 March, 2021 (virtual), University of Delaware. Poster Presentation.
 26. Yawatkar, V.^g, Walter, M.^g, Nguyen, E.^u, Tully, K., and Mondal, P. Using machine learning and remote sensing data for land cover classification in the eastern USA. DARWIN Computing Symposium, February 2021 (virtual). Poster presentation.
 27. Walter, M.^g, Mondal, P. Invasive species mapping in estuarine wetlands using high-resolution aerial imagery. GIS Day, University of Delaware, November 2020 (virtual). Oral presentation.
 28. Walter, M.^g, Mondal, P. Invasive species mapping in estuarine wetlands using high-resolution aerial imagery. Middle States American Association of Geographers Annual Meeting. October 2020 (virtual). Oral presentation.
 29. Yawatkar, V.^g, Nguyen, E.^u, Walter, M.^g, Tully, K., and Mondal, P. Quantifying land cover changes due to saltwater intrusion in the Delmarva peninsula using machine-learning and NAIP imagery. Middle States American Association of Geographers Annual Meeting. October 2020 (virtual). Poster presentation.
 30. Mondal, P., DeFries, R., Harou, A., Downs, S., Ad. Arif, Clark, J.^u, Flowerhill, N.^u, Fanzo, J. Implications of agricultural intensification for dietary diversity and food security in rural India. The American Association of Geographers Annual Meeting. 6-10 April 2020, Denver. Oral Presentation. [Session canceled due to COVID-19.](#)
 31. Qadir, A.^g, Mondal, P. Improved monsoon crop mapping with radar-optical satellite data for small-scale farms in tropical regions. The American Association of Geographers Annual Meeting. 6-10 April 2020, Denver. Oral Presentation. [Session canceled due to COVID-19.](#)
 32. Walter, M.^g, Mondal, P. A rapidly assessed wetland stress index (RAWSI) using Landsat 8 and Sentinel-1 radar data. The American Association of Geographers Annual Meeting. 6-10 April 2020, Denver. Oral Presentation. [Session canceled due to COVID-19.](#)
 33. Yawatkar, V.^g, Nguyen, E.^u, Walter, M.^g, Tully, K., Mondal, P. Quantifying land cover changes due to saltwater intrusion in the Delmarva peninsula using machine-learning and NAIP imagery. The American Association of Geographers Annual Meeting. 6-10 April 2020, Denver. Poster Presentation. [Session canceled due to COVID-19.](#)
 34. Yawatkar, V.^g, Nguyen, E.^u, Walter, M.^g, Tully, K., Mondal, P. Using machine learning to study saltwater intrusion in the Delmarva Peninsula. DENIN Graduate Research Symposium, 5 March, 2020, University of Delaware. Poster Presentation.
 35. Mondal, P., Walter, M.^g, Miller, J., Yawatkar, V.^g, Epanchin-Niell, R., Nguyen, E.^u, Gedan, K., Tully, K. 2020. Using remote sensing to map saltwater intrusion. 2020 Saltwater Intrusion Stakeholder Meeting, 14 February 2020, Princess Anne, Maryland. Oral Presentation.
 36. Yawatkar, V.^g, Nguyen, E.^u, Walter, M.^g, Tully, K., Mondal, P. Machine learning and cloud computing for environmental research. DARWIN Computing Symposium, 14 February 2020, University of Delaware. Poster Presentation.

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37. Mondal, P., Jain, M., Singh, D., McFadden, C.^u, Galford, G., DeFries, R. Assessing impacts of climatic and non-climatic factors on smallholder agricultural systems in India. American Geophysical Union Fall Meeting. 9-13 December 2019, San Francisco. Oral Presentation.
 38. Qadir, A.^g, Mondal, P. A novel machine learning based approach to generate dynamic monsoon crop mask for small-scale farms in tropical regions using a combination of radar and optical satellite data. American Geophysical Union Fall Meeting. 9-13 December 2019, San Francisco. Poster Presentation.
 39. Clark, J.^u, Mondal, P. When producers are consumers: Dietary diversity and food insecurity among Indian smallholder farmers. 10th Annual Undergraduate Research and Service Scholar Symposium. 15 August 2019, University of Delaware. Poster Presentation.
 40. Mondal, P., McDermid, S., Qadir, A.^g Multi-scale monitoring of forest degradation using MODIS, Landsat and Sentinel data. Global Land Project 4th Open Science Meeting. 24-26 April 2019, Bern, Switzerland. Oral Presentation.
 41. Mondal, P., Jain, M., Singh, D., Galford, G., DeFries, R. The relative importance of climatic and non-climatic factors in explaining spatio-temporal variability in Indian agriculture. The American Association of Geographers Annual Meeting. 3-7 April 2019, Washington DC. Oral Presentation.
 42. Qadir, A.^g, Mondal, P. Synergistic use of optical and Synthetic Aperture Radar (SAR) time series imagery for improved mapping of monsoon crops for small-scale farmers. The American Association of Geographers Annual Meeting. 3-7 April 2019, Washington DC. Poster Presentation.
 43. Walter, M.^g, Mondal, P. Evaluating buffer stress along a spectrum of land uses for wetland health rapid assessment in Delaware. The American Association of Geographers Annual Meeting. 3-7 April 2019, Washington DC. Poster Presentation.
 44. Mondal, P., McDermid, S. Forest degradation in South Asia: A vegetation trend analysis in the context of climate variability. American Geophysical Union Fall Meeting. 10-14 December 2018, Washington, D.C. Poster Presentation.
 45. Mondal, P., Md. Arif, Agrawal, I., Gallant, M., Singh, D., Fanzo, J., Remans, R., Wood, S., DeFries, R. Implications of agricultural intensification for diet and nutrition in central India. Central Indian Landscape Symposium. 14-17 December 2016, Nagpur, India. Oral Presentation.
 46. Mondal, P., Jain, M., Galford, G., DeFries, R. Coupled Effects of Climatic and Socio-economic Factors on Winter Cropping in India. American Geophysical Union Fall Meeting. 14-18 December 2015, San Francisco, California. Poster Presentation.
 47. Mondal, P., Jain, M., Galford, G., DeFries, R. Quantifying winter crop sensitivity to climate variability across agro-ecological zones in India. International Conference on Global Food Security. 11-14 October 2015, Ithaca, New York. Oral Presentation.
 48. Jain, M., Fishman, R., Mondal, P., Galford, G., Naeem, S., Modi, V., DeFries, R. Irrigation as an Adaptation Strategy to Climate Change: The Relative Influence of Groundwater and Canal Irrigation on Winter Crop Production and its Sensitivity to Weather Variability in India. American Geophysical Union Fall Meeting. 15-19 December 2014, San Francisco, California. Poster Presentation.

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49. DeFries, R., Mondal, P., Jain, M., and Galford, G., Climate Sensitivity of Cropping Intensity in India. NASA Synthesis Workshop on Land Use and Land Cover Dynamics in South and Southeast Asia. 3-4 November 2014, Kathmandu, Nepal. Oral Presentation.
 50. Mondal, P., Jain, M., DeFries, R., Galford, G., Small, C. Climate sensitivity of smallholder farmers across multiple agro-ecological zones in India. Global Land Project Open Science Meeting. 19-21 March 2014, Berlin, Germany. Oral Presentation.
 51. Mondal, P., Jain, M., DeFries, R., Galford, G., Small, C. Sensitivity of crop cover to inter-annual climate variability: Insights from two Indian agro-ecoregions. IUSSTF Indo-US bilateral workshop. 20-21 February 2014, Bengaluru, India. Oral Presentation.
 52. Mondal, P., Jain, M., Robertson, A., Galford, G., Small, C., DeFries, R. Winter crop sensitivity to inter-annual climate variability in central India. Kanha-Pench Landscape Symposium. 16-18 February 2014, Mocha, India. Oral Presentation.
 53. Mondal, P., Jain, M., DeFries, R., Galford, G., Small, C. Impacts of Changing Climate on Agricultural Variability: Implications for Smallholder Farmers in India. American Geophysical Union Fall Meeting. 9-13 December 2013, San Francisco, California. Poster Presentation.
 54. Mondal, P., Jain, M., DeFries, R., Galford, G., Small, C. Agricultural susceptibility to climate variability: Insight from two Indian agro-ecoregions. NASA Land-Cover and Land-Use Change Science Team Meeting. 2-4 April 2013, Rockville, Maryland. Poster Presentation.
 55. Jain, M., Small, C., Mondal, P., Galford, G., DeFries, R. Mapping Cropped Area of Smallholder Farms in South Asia. NASA Land-Cover and Land-Use Change Science Team Meeting. 2-4 April 2013, Rockville, Maryland. Poster Presentation.
 56. Mondal, P., DeFries, R., Jain, M., Robertson, A., Galford, G., Small, C. A multi-sensor approach to identify crop sensitivity related to climate variability in Central India. American Geophysical Union Fall Meeting. 3-7 December 2012, San Francisco, California. Poster Presentation.
 57. Jain, M., Mondal, P., Small, C., Galford, G., DeFries, R. 2012. Mapping cropping intensity of smallholder farms in South Asia: A comparison of MODIS, Landsat, and mixture model techniques. NASA Land-Cover and Land-Use Change Science Team Meeting. 3-5 April 2012, Rockville, Maryland. Poster Presentation.
 58. Mondal, P., Butler, B. and Kittredge, D. 2012. Impact of climate and land use change: How are America's private forests changing? The Association of American Geographers Annual Meeting. 24-28 February 2012, New York. Oral Presentation.
 59. Losey, K., Kittredge, D., Butler, B., Catanzaro, P., Mondal, P. 2011. Assessing Woodland Owner Education Programs in Massachusetts. Student Conference on Conservation Science New York. 11-14 October 2011, New York. Poster Presentation.
 60. Mondal, P., Southworth, J. and Fik, T. 2011. Comparison of ASTER-derived vegetation indices and surface temperature in detecting forest successions. US Regional Association of the International Association for Landscape Ecology Symposium. 3-7 April 2011, Portland, Oregon. Oral Presentation.
 61. Mondal, P. and Southworth, J. 2010. Exploring the utility of ASTER thermal bands in measuring protected area effectiveness. The Association of American Geographers Annual Meeting. 14-18 April 2010, Washington DC. Paper Presentation.

62. Mondal, P. 2010. Enhanced Vegetation Index as a fragmentation indicator. US Regional Association of the International Association for Landscape Ecology Symposium. 4-8 April 2010, Athens, Georgia. Paper Presentation.
63. Mondal, P. 2010. Using CA-Markov model to investigate the importance of national level policy in forest conservation. UF Graduate Student Council Interdisciplinary Research Conference. 3 February 2010, Gainesville, Florida. Paper Presentation.
64. Mondal, P. and Southworth, J. 2010. Using CA-Markov model to investigate the importance of national level policy in forest conservation. Florida Society of Geographers Annual Meeting. 15-17 January 2010, Tampa, FL. Paper Presentation.
65. Mondal, P. and Southworth, J. 2009. The role of government policies in protected area management: A case study from Central India. South Eastern Division of the Association of American Geographers Annual Meeting. 22-24 November 2009, Knoxville, Tennessee. Paper Presentation.
66. Mondal, P. 2009. 30 Years of Protection: Examining a Park's Performance in Decreasing Forest Fragmentation in Central India. US Regional Association of the International Association for Landscape Ecology Symposium. 12-16 April 2009, Snowbird, Utah. Poster Presentation.
67. Mondal, P. 2009. Identifying forest cover change in and around Pench Tiger Reserve, India. The Association of American Geographers Annual Meeting. 22-27 March 2009, Las Vegas, Nevada. Poster Presentation.
68. Mondal, P. 2009. 30 years of protection: is Pench Tiger Reserve a success story? UF Graduate Student Council Interdisciplinary Research Conference. 12 February 2009, Gainesville, Florida. Poster Presentation.

CONFERENCE SESSIONS/SYMPOSIA/PANELS ORGANIZED/CHAired (total = 10)

- 2023 The American Association of Geographers Annual Meeting. "Women in Remote Sensing." 23-27 March 2023. **Role: Invited panelist.**
- 2022 The American Association of Geographers Annual Meeting. "From Food to Diet and Nutrition in Geographies of Food and Agriculture." 25 February-1 March 2022. **Role: Invited panelist.**
The American Association of Geographers Annual Meeting. "Agricultural Geography: Mechanization and Irrigation." 25 February-1 March 2022. **Role: Session Chair/Speaker.**
- 2019 The American Association of Geographers Annual Meeting. "Agriculture and Food Systems: Interdisciplinary Perspectives I-III." 3-7 April 2019, Washington DC. **Role: Co-organizer.**
- 2018 American Geophysical Union Fall Meeting. "Global Vegetation and Land Surface Dynamics in a Changing Climate." 10-14 December 2018, Washington, D.C. **Role: Co-convenor/Co-chair.**
Annual Rutgers Climate Symposium. "Food Security and Climate Change." 14 November 2018, Rutgers University, New Jersey. **Role: Plenary panelist.**
- 2017 NASA DAAC workshop at the Ecological Society of America Annual Meeting. "Ecology from Space: How Can NASA Remote-Sensing Data Inform Your Research?" 6-11 August 2017, Portland, Oregon. **Role: Co-organizer/Speaker.**

- 2016 Central Indian Landscape Symposium. "Future of water, Climate, and Agriculture." 14-17 December 2016, Pench Tiger Reserve, India. **Role: Co-organizer/Co-chair/Speaker.**
- 2014 Indo-US bilateral workshop. "Adaptation of rural communities to climate change: Bridging the gap between academia and community workers and identifying research needs." 20-21 February 2014, Bengaluru, India. **Role: Co-organizer/Leader.**
- 2013 American Geophysical Union Fall Meeting. "Improving the Understanding of Climate Variability and Change in Agriculture: AgMIP, Tropical Farm Adaptation, and Related Research I-III." 9-13 December 2013, San Francisco, California. Role: **Co-convener/Co-chair.**

WORKSHOPS AND PROFESSIONAL TRAINING (total = 15)

- 2023 Elevate the Discipline in Climate and Society. 14-18 August, 2023. **Role: 1 of the 15 competitively selected scholars across the US and West Indies.**
- 2021 Leadership in STEM Fields: Increasing Leadership from Historically Underrepresented Groups. 29 October 2021. **Role: Invited Participant.**
- 2020 AgMIP 8 Virtual Webshop: Food Systems, Shocks, and Actions. 13-15 October 2020. **Role: Participant.**
University of Delaware Center for Teaching and Assessment of Learning (CTAL) virtual Summer Institute on Teaching. 3 June 2020. University of Delaware. **Role: Participant.**
- 2019 University of Delaware Center for Teaching and Assessment of Learning (CTAL) Summer Course Design Institute. 11-13 June 2019. University of Delaware. **Role: Selected participant.**
- 2018 NSF Fall 2018 Grants Conference. 8-9 November 2018. New Orleans, Louisiana. **Role: Selected participant.**
Early Career Geoscience Faculty Workshop. University of Maryland. 22-27 July 2018. College Park, Maryland. **Role: Selected participant.**
- 2017 NASA and World Resources Institute workshop. GPM Agricultural Application Workshop. 1 August 2017, Washington D.C. **Role: Participant.**
- 2013 Dinamica: Landscape Dynamics Modeling. University of Vermont. 20-23 August 2013, Burlington, Vermont. **Role: Participant.**
- 2011 GIS Tools for Analyzing Dynamic Landscapes. US Regional Association of the International Association for Landscape Ecology Symposium. 3 April 2011, Portland, Oregon. **Role: Participant.**
- 2010 NSF "On the Cutting Edge: Preparing for an Academic Career in the Geosciences" Workshop. 29 July – 1 August 2010, Stanford University, California. **Role: Participant.**
Land Surface Phenology. US Regional Association of the International Association for Landscape Ecology Symposium. 5 April 2010, Athens, Georgia. **Role: Participant.**
- 2009 What is Landscape Ecology up to in the Climate Change Debate? US Regional Association of the International Association for Landscape Ecology Symposium. 14 April 2009, Snowbird, Utah. **Role: Participant.**

2007 Airborne GPS and Inertia in Support of Triangulation and Orientation of Airborne Framing and Push broom Sensors. American Society for Photogrammetry and Remote Sensing Annual Conference. 8 May 2007, Tampa, Florida. **Role: Participant.**

2006 DOEACC A-level professional training in computer applications (training equivalent to Post Graduate Diploma in Computer Application), Kolkata, India. **Role: Participant.**

FIELDWORK

2022 Remote sensing field data collection in Maryland, USA

2019 Remote sensing field data collection in Vietnam

2016, Semi-quantitative food frequency questionnaire survey in central India
2015

2013, Remote sensing field data collection and social survey for post-doc project in Madhya
2012 Pradesh, India

2008 Remote sensing field data collection for PhD project in Maharashtra, India
Ecological survey and questionnaire-based social survey in Yucatan, Mexico

2003, Geological survey in structurally complex zones in Jharkhand and Maharashtra, India
2001

TEACHING (UG=Undergraduate; G=Graduate; UG/G=both)

YEAR (Fall/ Spring/ Summer)	INSTITUTE	COURSE TITLE	COURSE LEVEL	STUDENT NUMBERS	MODALITY
F 2023	University of Delaware	Introduction to GIS (with 2 lab sections)	UG	52	In person
		Remote Sensing of Environment (with lab)	UG/G	22	In person
		Environmental Internship	UG	2	Online
		Honors: Directed Research (Independent Study)	UG	1	Online
		Pre-candidacy study (Independent Study)	G	1	In person
S 2023	University of Delaware	Introduction to GIS (with 2 lab sections)	UG	42	In person
		Special Problem (Independent Study)	G	1	In person

		Doctoral Dissertation (Independent Study)	G	1	Online
F 2022	University of Delaware	Introduction to GIS (with 2 lab sections)	UG	54	Hybrid
		Special Problem (Independent Study)	G	2	Online
		Master's Thesis (Independent Study)	G	1	Online
		Doctoral Dissertation (Independent Study)	G	1	Online
Su 2022	University of Delaware	Environmental Internship	UG	2	Online
		Special Session Research	G	4	Online
S 2022	University of Delaware	Special Problem (Independent Study)	G	2	Online
		Doctoral Dissertation (Independent Study)	G	1	Online
F 2021	University of Delaware	Introduction to GIS (with 2 lab sections)	UG	52	Hybrid
		Remote Sensing of Environment (with lab)	UG/G	21	Hybrid
		Special Problem (Independent Study)	G	2	Online
		Master's Thesis (Independent Study)	G	1	Online
S 2021	Pre-tenure Research Leave				
	University of Delaware	Research	G	1	Online
		Master's Thesis (Independent Study)	G	1	Online
F 2020	University of Delaware	Introduction to GIS (with 2 lab sections)	UG	47	Online
		Remote Sensing of Environment (with lab)	UG/G	31	Online
		Research	G	1	Online
		Special Problem (Independent Study)	G	1	Online
		Master's Thesis (Independent Study)	G	1	Online
Su 2020	University of Delaware	Research	G	1	Online

S 2020	University of Delaware	Introduction to GIS (with 2 lab sections)	UG	56	Online after first month
		Special Problem (Independent Study)	G	1	Online after first month
		Research	G	1	Online after first month
		Master's Thesis (Independent Study)	G	2	Online after first month
F 2019	University of Delaware	Introduction to GIS (with 2 lab sections)	UG	43	In person
		Know Your Satellites (with lab)	UG/G	19	In person
		Master's Thesis (Independent Study)	G	2	In person
S 2019	University of Delaware	Introduction to GIS (with 2 lab sections)	UG	43	In person
		Master's Thesis (Independent Study)	G	1	In person
		Special Problem (Independent Study)	G	1	In person
F 2018	University of Delaware	Introduction to GIS (with 2 lab sections)	UG	48	In person
S 2018	California State University, Bakersfield	GIS Applications in Geoscience (with lab)	UG/G	14	Online after first month
F 2017	City University of New York - City College	Introduction to Ecology & GIS	G	17	In person
F 2016	City University of New York - City College	Physical Geography	G	15	In person

S 2016	Columbia University	Introduction to Landscape Analysis (with lab; co-teach)	UG/G	13	In person
F 2015	City University of New York - City College	Physical Geography	G	18	In person
F 2008	University of Florida	Physical Geography	UG	129	In person
S 2008	University of Florida	Physical Geography	UG	62	In person
F 2007	University of Florida	Physical Geography	UG	113	In person

GUEST LECTURES (*UG=Undergraduate; G=Graduate; UG/G=both*)

YEAR	INSTITUTE	COURSE TITLE	COURSE LEVEL
2023	University of Delaware	Prelude to Geography	G
		Ocean (Atmosphere) Remote Sensing	G
2022	University of Delaware	Ocean (Atmosphere) Remote Sensing	G
		Prelude to Geography	G
2021	University of Delaware	Prelude to Geography	G
2020	Osher Institute of Lifelong Learning	Environmental Issues	G
	University of Delaware	Prelude to Geography	G
2019	University of Delaware	World Regional Geography	UG
		Prelude to Geography	G
2018	University of Delaware	Prelude to Geography	G
	California State University, Bakersfield	Principles of Nutrition	G
2013	Columbia University	Global Assessment and Monitoring Using Remote Sensing	UG/G
2010	University of Florida	Remote Sensing	UG/G
2010	University of Florida	Regional Geography	UG

GRADUATE ADVISEES (*Dissertation/Thesis committee chair = **8**; Committee member = **16**)

2023 – **Mekhala Mitra*** (PhD in Geography expected 2028; "Patterns and processes of saltwater intrusion across Delmarva")

Elena Diez Pastor (PhD in Plant and Soil Sciences expected 2027; "Geostatistical algorithms for forest inventory in Mexico")

- Bhoktear Khan** (PhD in Geography expected 2026; "Climate extremes, cropland expansion, and nutrition in Nigeria")
- 2022 – **Manan Sarupria*** (Advanced to candidacy; PhD in Geography expected 2026; "Spectral unmixing of satellite images for quantifying salt-impacted farmlands in Delmarva")
- Nicolas Al Fahel** (Advanced to candidacy; "Integrated footprint of food: The case study of the poultry industry in the US"; PhD in Energy and Environmental Policy expected 2024)
- Deanna Edwing** (MS in Oceanography expected 2023; "Characterizing coastal flooding in the Delaware Bay region using neural networks and Sentinel-1 imagery"; graduated summer 2023)
- Matthew Shatley** (MS in Geography expected 2024; "Machine learning techniques for solar radiation measurements")
- 2021 – **Dustin Braden*** (MS in Geography; "Quantifying uncertainty of forest extent estimates in Mexico by comparing satellite-derived land and tree cover products"; graduated Winter 2023)
- Kevin Oluoch** (MS in Plant and Soil Sciences; "A suite of agronomic factors can offset the effects of climate variability on rainfed maize production in Kenya"; graduated Summer 2022)
- 2020 – **Matthieu Ahouangbenon*** (Advanced to candidacy; "Integrating farmers' decisions and high-resolution geospatial data for an improved crop-climate modeling framework"; PhD in Geography expected 2025)
- Matthew Walter*** (Advanced to candidacy; "Urban eco-gentrification: Greening, housing prices, and demographic displacement in US cities"; PhD in Geography expected 2024)
- Dongyang Wei** (Advanced to candidacy; "Challenges and solutions for achieving sustainable food supply chains"; PhD in Geography expected 2024)
- Piyush Mehta** (Advanced to candidacy; "Linkages between irrigation and nutrition in children"; PhD in Geography expected 2024)
- Hanan Abou Ali** (Advanced to candidacy; "Remote sensing and machine learning for crop mapping and classification in Nigeria"; PhD in Geography expected 2025)
- Nicholas Butler** (MS in Geography expected 2023; "A climatic analysis of mid-Atlantic lightning strikes 1987-2019")
- 2019 – **Vishruta Yawatkar*** (MS in Data Science; "An evaluation of remotely sensed images and machine learning algorithms for accurate mapping of fine-scale landscape patterns in the eastern USA"; graduated Summer 2021)
- Gina Maskell** (Examiner/committee member, Potsdam Institute for Climate Impact Research, Germany; "Integrating remote sensing and mixed social science methods for studying adaptation to climate change"; PhD expected 2024)
- 2018 – **Abdul Qadir*** (MS in Data Science; "Synergistic use of microwave and optical satellite data for monsoon cropland mapping in India"; graduated Spring 2020)
- Matthew Walter*** (MS in Geography; "Application of field methods and remotely sensed satellite and aerial imagery in analyzing relationships between human activities and wetland health in the State of Delaware"; graduated Spring 2020)

Emma Stell (MS in Geography; "Spatial inconsistencies influence global estimates of soil respiration: How can we improve global predictions?"; graduated Fall 2020)

Elizabeth Smith (Advanced to candidacy; "Modeling spatiotemporal trends of soil nitrogen and respiration at regional and global scales"; PhD in Plant and Soil Sciences expected 2024)

Israt Jahan (Advanced to candidacy; "Urban Heat Island (UHI) Development in Bangladesh over the last 30 years: A case study of three cities"; PhD in Geography expected 2023)

Mehmet Altingoz (PhD in Water Science and Policy; "Water diplomacy in post-Soviet geographies: Analyzing multiple scales of cooperative potential"; graduated Spring 2022)

Ricardo Llamas Barba (PhD in Water Science and Policy; "Multi-scale satellite-derived soil moisture modeling across space and time"; graduated Fall 2023)

POSTDOCTORAL MENTEE

2022 Hemadri Bhusan Amat (India; co-mentored with Harini Nagendra, Santonu Goswami, and Sonali McDermid)

2019 Enze Jin (co-mentored with C. Archer)

UNDERGRADUATE/HIGH SCHOOL MENTEE

2022 Alexia Hernandez (NASA DEVELOP team)

Clay Hays (NASA DEVELOP team)

Matthew Borden (NASA DEVELOP team)

Arina Morozova (NASA DEVELOP team)

2021 Isabella Ventimiglia (DE Space Grant and UDRF-funded undergraduate intern; Major: Geography)

Saumya Soni (UD High School Scholar Program)

2020 Antigone Goetz (UD Summer Scholars Program)

Isabella Ventimiglia (UD Summer Fellow Program; Major: Geography)

Rebecca King (UD EPSCoR project; Major: Geography)

2019 Jessica Clark (CENFOODS intern; Major: Environmental Science)

Justin Czech (Major: Environmental Science)

Nicole Flowerhill (Major: Environmental Science)

Callie McFadden (CENFOODS intern; Major: Environmental Science)

Elizabeth Nguyen (University of Maryland; Major: Environmental Science and Technology)

Undergraduate advisee: ~150 (Environmental Science majors per year, co-advised with V. Yancy)
8 (before becoming Environmental Science Program Director)

AWARDS TO ADVISEES/MENTEES (total = 31)

2023 Manan Sarupria; American Association of Geographers (AAG) Landscape Specialty Group Conference Registration Award

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- Manan Sarupria; Delaware Environmental Institute (DENIN) Pitch:90 Fan Favorite
- Matthew Walter; U. Delaware Graduate College Travel Award
- Matthew Walter; U. Delaware Data Science Institute Travel Award
- Manan Sarupria; U. Delaware Graduate College Travel Award
- Matthew Walter; U. Delaware Doctoral Fellowship for Excellence
- Matthieu Ahouangbenon; U. Delaware Departmental Excellence in Teaching Award
- Matthieu Ahouangbenon; U. Delaware Graduate College Travel Award
- Matthew Walter; U. Delaware Graduate College Travel Award
- 2022 Matthew Walter; NASA DE Space Grant Graduate Fellowship
- Dustin Braden; U. Delaware Departmental Excellence in Research Award
- Matthew Walter; 2nd place in graduate student poster competition, Delaware Environmental Institute (DENIN) Research Symposium
- Matthieu Ahouangbenon; U. Delaware Climate Change Hub Graduate Research Enhancement Grant
- Matthieu Ahouangbenon; American Association of Geographers (AAG) Human Dimensions of Global Change (HDGC) Specialty Group Graduate Student Research Award
- Matthieu Ahouangbenon; American Association of Geographers (AAG) Africa Specialty Group Graduate Research Grant Award
- Matthew Walter; Ecological Society of America 2022 Katherine S. McCarter Graduate Student Policy Award
- 2021 Matthew Walter; NASA DE Space Grant Graduate Fellowship
- Isabella Ventimiglia; NASA DE Space Grant Summer Internship
- Saumya Soni; NSF EPSCoR Project WicCED High School Scholar Internship
- 2020 Matthew Walter; 1st place in paper presentation competition, The Middle States Division of the American Association of Geographers Meeting
- Abdul Qadir; Ta Liang Memorial Award, The American Society for Photogrammetry and Remote Sensing (ASPRS)
- Matthew Walter; U. Delaware Departmental Excellence in Teaching Award
- Abdul Qadir; U. Delaware Departmental Excellence in Research Award
- 2019 Matthew Walter; 1st place in paper presentation competition, The Middle States Division of the American Association of Geographers Meeting
- Abdul Qadir; 2nd place in paper presentation competition, The Middle States Division of the American Association of Geographers Meeting
- Abdul Qadir; 1st place in poster competition, International Statistical Institute/ESRI Student Competition

Matthew Walter; Mather Graduate Fellows Research Award

Matthew Walter; 1st place in poster competition, Human and Climate Series III: Water Management and Policy: Local and Global Perspectives Symposium

Gina Maskell (unofficial mentee); Geo.X Young Academy PhD Fellowship, Germany

Jessica Clark; UD Center for Food Systems and Sustainability undergraduate internship

Callie McFadden; UD Center for Food Systems and Sustainability undergraduate internship

SERVICE & LEADERSHIP

PROFESSION

2023 – **Editor:** Earth Interactions (an American Meteorological Society journal)

Editorial Board Member: Environmental Research: Food Systems (an IOPScience journal)

Proposal reviewer: Harry R. Hughes Center for Agro-Ecology, U. Maryland College Park

Conference student competition judge: American Association of Geographers Remote Sensing Specialty Group

2022 **Science Advisor:** NASA DEVELOP program

Ad hoc proposal reviewer: National Science Foundation (NSF)

2020 – **Associate Editor:** CABI Agriculture & Bioscience (Section: Food Security, Nutrition & Planetary Health)

2019 – **Editorial Board member:** Land

2021

2019 **Panel reviewer:** National Science Foundation (NSF) Geography and Spatial Sciences Doctoral Dissertation Research Improvement (2 different cycles)

Ad hoc proposal reviewer: NSF Geography and Spatial Sciences Doctoral Dissertation Research Improvement

Undergraduate research presentation abstract reviewer: Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS)

Guest co-Editor: Land (Special Issue: Global Vegetation and Land Surface Dynamics in a Changing Climate)

Invited member: Global Land Programme Social Media Team

2019, **Outstanding Student Presentation Award judge:** American Geophysical Union (AGU) fall meeting

2018 **Ad hoc proposal reviewer:** NSF International Research Experiences for Students (IRES), Track III

2018, **Organizing committee member:** Central Indian Landscape Symposium

2016 **Panel reviewer:** NASA NESSF-Carbon Cycle and Ecosystems Program

Founder/member: Network for Conserving Central India

- Guest co-Editor:** Current Science (Special Section on Livelihood impacts and adaptation of rural communities to climate change in India)
- 2014 **PI and co-organizer:** Indo-US bilateral workshop
Organizing committee member: Kanha-Pench Landscape Symposium
- 2013 **Panel reviewer:** NASA Terrestrial Ecology Program
- 2010 – **Manuscript reviewer** (in alphabetical order): CABI Agriculture and Bioscience; Climatic Change; Earth Interactions; Ecological Complexity; Environmental Management; Environmental Research Letters; Forest Ecology and Management; Geocarto International; Global Food Security; International Journal of Remote Sensing; ISPRS Journal of Photogrammetry and Remote Sensing; Journal of Geophysical Research: Biogeosciences; Journal of Land Use Science; Landscape Ecology; Landscape and Urban Planning; Land Use Policy; One Earth; PeerJ; PLoS One; Remote Sensing; Remote Sensing Applications: Society and Environment; Science Advances; Scientific Data; Scientific Reports; Society & Natural Resources; Water Resources Research.

UNIVERSITY

- 2023 **Departmental representative:** UD Faculty Senate
Departmental representative: UD Chapter of the American Association of University Professors (AAUP)
Invited panelist: Second Presidential Sustainability and Climate Teach-In, U. Delaware Office of Sustainability and Gerard J. Mangone Climate Change Science and Policy Hub
Invited panelist: Earth Week Research Discussion panel, U. Delaware Students for the Environment (S4E) and Earth, Ocean, and Environment Club
Invited speaker: Climate Scholars Program
- 2021 **Mentor:** a group of 4 junior colleagues for the UD Faculty Achievement Program (modeled after National Center for Faculty Development and Diversity (NCFDD))
Panelist: UD's Womxn of Color Discussion Series: Asian American Identity and Asian Identity in America
Speaker: UD NSF Career Academy
- 2019 **Faculty search committee member:** U. Delaware Data Science Institute
Committee member: U. Delaware Data Science Institute Fall Symposium Organizing Committee
Postdoctoral researcher search committee member: U. Delaware Department of Environmental Science & Engineering
Speaker: U. Delaware MS in Data Science New Student Orientation
Speaker: U. Delaware MS in Data Science Launch Event
- 2016 **Mentor:** Columbia's Lamont-Doherty Earth Observatory High School Student Intern Mentoring Program

COLLEGE

- 2023 **Volunteer:** Blue and Golden Saturday
- 2022 **Volunteer:** SACNAS conference recruitment booth (virtual)
Volunteer: Virtual visits for Distinguished Scholars (prospective undergraduate students)
Volunteer: Blue and Golden Saturday
Volunteer: Decision Day (prospective undergraduate students)
- 2021 **Volunteer:** Open house for prospective students from local high schools (virtual)
Volunteer: Open house for prospective graduate students (virtual)
Volunteer: Graduate School Information Panel for Current CEOE Undergraduate Students (virtual)
Volunteer: Blue and Golden Saturday
- 2019 **Faculty search committee member:** U. Delaware School of Marine Science and Policy
Volunteer: Blue and Golden Saturday
Volunteer: U. Delaware recruitment booth at the AGU fall meeting
- 2018 **Invited panelist:** U. Delaware Department of Geological Sciences grad school Q&A panel
Invited panelist: U. Delaware “Ph.D. to Postdoc to Faculty” panel

DEPARTMENT

- 2023 **Faculty search committee member:** two continuing track positions - environmental studies and meteorology and climate science
Volunteer: Virtual Decision Day (prospective undergraduate students)
- 2021 – **Director:** Environmental Science Program (Undergraduate Major)
- Responsible for all majors (current enrollment=157) in the largest undergraduate program in the department
 - Led programmatic changes
 - Designed and launched multiple fundraising efforts
 - Established paid internship opportunities using newly raised gift funds
- 2019- **Co-organizer,** U. Delaware Department of Geography and Spatial Sciences Seminar Series
2020
- 2018 **Committee member:** U. Delaware Department of Geography GIS lab renovation committee
- 2009 **Graduate Representative:** U. Florida Geography
Liaison person between Geography and U. Florida Graduate Student Council
Co-organizer: U. Florida Geography new student orientation events and departmental participation in several national meetings

COMMUNITY SERVICE AND PUBLIC OUTREACH

- 2023 **Blog post writer:** Nature Communities – [Coastal farmlands across US mid-Atlantic turning too salty for traditional farming](#)

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- 2022 **Invited expert talk:** "Sustainable dietary choices" for [Leadwire](#)
- 2021 **Invited contributor:** International Society for Photogrammetry and Remote Sensing Student Consortium (ISPRS SC) newsletter
Contributor: [First-Gen Geoscience: A Community Blog](#)
- 2020, **Scientist volunteer pen-pal:** Letters to a Pre-Scientist Program
2019
- 2020, **Volunteer:** DE Coast Day
2018
- 2017 **Invited panel scientist:** 4th Annual Women in Science Night at East Side Community High School, New York
- 2015 **Blog post writer:** Cornell University's Economics that Really Matters – [Can we climate-proof global food systems?](#)
Blog post writer: Columbia University's State of the Planet – [Help for Indian small farmers in a changing climate](#)
Volunteer: [Columbia University's Lamont-Doherty Open House](#)
- 2006 **Volunteer:** Florida Museum of Natural History Fossil Hunt

PROFESSIONAL MEMBERSHIP

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- 2023 – IPBES; GeoBON; Future Earth
- 2018 – Global Land Programme
- 2012 – American Geophysical Union
- 2011 – CHANS-Net: International Network of Research on Coupled Human and Natural Systems
- 2008 – American Association of Geographers