

## DR. PINKI MONDAL

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Web: <http://pink-mondal.weebly.com/>

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University of Delaware

125 Academy Street,  
Newark, DE 19716, USA

## Education

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University of Florida, Florida (2006 – 2011)

Ph.D. in Geography; Concentration: Land Change Science; Minor: Research Design and Methods in Conservation

Jadavpur University, India (2002 – 2004)

M.Sc. in Applied Geology

University of Calcutta, India (1999 – 2002)

B.Sc. in Geology (Honors); Minor: Chemistry and Mathematics

## Appointments

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University of Delaware, Newark, DE (Aug 2018 – Current)

Assistant Professor; Department of Geography and Spatial Sciences

*Joint Appointment:* Assistant Professor; Department of Plant and Soil Sciences

*Resident Faculty:* Data Science Institute

*Affiliate:* Water Science and Policy Program, Center for Food Systems and Sustainability

Columbia University, New York (Sep 2015 – Aug 2018)

Senior Research Associate; Center for International Earth Science Information Network (CIESIN), Earth Institute

Adjunct Lecturer (Jan – May 2016); Department of Ecology, Evolution and Environmental Biology

City University of New York – City College, New York (Aug 2015 – Dec 2017)

Adjunct Professor; Spitzer School of Architecture

Columbia University, New York (Jan 2012 – Aug 2015)

Postdoctoral Research Scientist; Department of Ecology, Evolution and Environmental Biology

University of Massachusetts – Amherst, Massachusetts (Feb – Dec 2011)

Postdoctoral Research Associate; Department of Environmental Conservation, Family Forest Research Center (FFRC)

University of Florida, Florida (2006 – 2011)

Graduate Fellow, Research and Teaching Assistant; Department of Geography

## Research Projects

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- *Developing monsoon crop mapping methods for tropical countries using optical and radar data (2018-present)*
- *Mapping coffee landscapes and examining drivers of change in the uplands of Vietnam (2019-present)*

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- *Implications of Agricultural Intensification for Diet and Nutrition in Rural India* (2015- present)
  - *Assessing agricultural adaptation strategies for reducing winter crop sensitivity to future climate variability in central India* (2014-present)
  - *Agricultural sensitivity, climate variability, and future food security in South Asia* (2012-present)
  - *Development and dissemination of global Urban Heat Island (UHI) and Land Surface Temperature (LST) data products by compiling and analyzing MODIS satellite data* (2015-2018)
  - *Spatial characteristics of forest and forest ownership attributes across urban-rural gradients of the United States* (2011-2012)
  - *Using Remote Sensing to Measure Protected Area Effectiveness in a Tropical Landscape* (2006-2010)
  - *A global-level study estimating the risk of rising sea level to global population in low elevation coastal zones* (2010)
  - *An ethno-ecological study on bird-species in Yucatan, Mexico* (2007)
  - *Land use/land cover analyses of Sundarbans using remote sensing techniques: a case study in Jharkhali island* (2003-2004)

## **Publications** (†graduate student)

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### **Peer-reviewed journal articles**

15. **Mondal, P.**, McDermid, S., Qadir, A.†. A reporting framework for Sustainable Development Goal 15: Multi-scale monitoring of forest degradation using MODIS, Landsat and Sentinel data. *Remote Sensing of Environment*. Revised and resubmitted.
14. **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.
13. 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.
12. 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.
11. 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.

10. **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.
9. **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.
8. **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.
7. 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.
6. **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.
5. **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
4. **Mondal, P.**, Nagendra, H. 2011. Trends of forest dynamics in tiger landscapes across Asia. *Environmental Management* 48 (4), 781-794.
3. **Mondal, P.** 2011. Quantifying surface gradients with a 2-band Enhanced Vegetation Index (EVI2). *Ecological Indicators* 11 (3), 918-924.
2. **Mondal, P.**, Southworth, J. 2010. Evaluation of conservation interventions using a cellular automata-Markov model. *Forest Ecology and Management* 260 (10), 1716-1725.
1. **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.

### **Manuscripts in preparation**

6. **Mondal, P.**, Liu, X., Fatoyinbo, L. Evaluating combinations of Sentinel-2 data and machine-learning algorithms for mangrove mapping in West Africa. Target journal: *Remote Sensing*.
5. Liu, X., Fatoyinbo, L., Guan, W., Zhan, Y., **Mondal, P.**, Lagomasino, D., Trettin, C., Lee, S. Large-scale high-resolution mangrove extent mapping for West African continent using Sentinel 1 and Sentinel 2 satellite data and machine learning ensemble. Target journal: *Sensors*.
4. Qadir, A. †, **Mondal, P.** Synergistic use of optical and SAR imagery for improved mapping of monsoon crops for small-scale farmers. Target journal: *Remote Sensing*.
3. Walter, M. †, **Mondal, P.** Assessment of wetland stress in Delaware using remotely sensed data. Target journal: *Remote Sensing*.

2. Baquie, S., Urperlainen, J., Galletti, C.S., DeFries, R., Velho, N., **Mondal, P.**, Nagendra, H. Migration and tropical deciduous forests of South Asia: Assets, forest pressures and degradation. Target journal: *Land Use Policy*.
1. Jain, M., Fishman, R., **Mondal, P.**, Galford, G., Bhattarai, N., Naeem, S., DeFries, R. Groundwater depletion will reduce cropping intensity in India. Target journal: *Nature Sustainability*.

### **Data sets and documentation**

4. 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>.
3. 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>.
2. 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>.  
*Developed data sets; led data dissemination following NASA data dissemination protocol and documentation.*
1. 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>.  
*Developed data sets; led data dissemination following NASA data dissemination protocol and documentation.*

### **Invited chapters in edited volumes**

3. 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 Submitted.
2. **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.
1. 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**

1. **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.

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***Technical/scientific reports***

6. 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](http://www.ciesin.columbia.edu/wa-bicc/SierraLeone%20Coastal%20VA%20long-report%20jan2018.pdf)
5. 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.
3. **Mondal, P.** 2011. Parks and policies: Integrating geospatial tools and modeling to evaluate conservation interventions in central India, University of Florida.
2. **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.
1. **Mondal, P.** 2004. Land use/land cover analysis of Sundarbans using remote sensing techniques: A case study in Jharkhali Island (*Master's thesis*).

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**Grants and Awards**

- University of Delaware Research Foundation (UDRF) Grant for 2019-2021 for project titled "Big data analytics for quantifying land cover transitions in coffee production systems in Vietnam" (\$38,500 – PI)
- University of Delaware General University Research (GUR) Grant for 2019-2021 for project titled "Analyzing radar satellite data to examine changing rice intensification patterns in the Vietnamese Mekong Delta" (\$15,000 – PI)
- Delaware Energy Institute grant for 2019-2021 for project titled "The energy footprint of food" (\$150,000 – co-PI)
- University of Delaware Center for Teaching and Assessment of Learning (CTAL) Instructional Improvement Grant for 2019-2020 for project titled "Training a new pool of teaching assistants using open educational resources for a new course in Geospatial Data Science" (\$5,000 – PI)

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- University of Delaware ADVANCE Institute Leadership Mini-grant for fall 2018 (\$1,563 – PI)
  - NASA Land-Cover and Land-Use Change (LCLUC) grant for FY 2017-2020 for project titled “The role of urbanization in degradation and regeneration of tropical deciduous forests in south Asia” (\$750,004 – co-I)
  - Google Earth Engine Research Award for “The sensitivity of agricultural output to climate variability across smallholder farms in South Asia” (\$62,867 – Project collaborator)
  - 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)
  - Indo-US Science and Technology Forum (~\$16,000 – US PI): Indo-US Bilateral Workshop on “Adaptation of rural communities to climate change: Bridging the gap between academia and community workers and identifying research needs”, Feb 2014
  - USDA Forest Service (Remote Sensing Steering Committee) sponsored project for FY2012 (\$79,205 – Co-I): Oct 2011 – Sep 2012

## Media Coverage

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- [NASA Earth Science User Data Profile](#) for Dr. Mondal.
- 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](#)
- Times of India coverage on Kanha-Pench Landscape Symposium that Dr. Mondal co-organized: [Symposium on Kanha-Pench landscape held at Mocha](#)
- 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](#)
- Times of India coverage of Dr. Mondal's doctoral research: [Pench forest cover up, says study](#)

## Other Awards and Honors

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- Junior Researcher Task Force member, 2<sup>nd</sup> International Conference on Global Food Security



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University of Delaware

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- Sponsored Student Travel Award, US Regional Association of the International Association for Landscape Ecology
  - 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
  - Ryan Poehling Fellowship, University of Florida
  - Graduate Student Council Travel Grant (2009, 2008), University of Florida
  - Imagery Grant, GeoEye Foundation, Virginia
  - Best Poster Award, University of Florida Graduate Student Council Interdisciplinary Research Conference
  - Office of Graduate Research and Program Travel Grant, University of Florida
  - Tropical Conservation and Development Field Research Grant, University of Florida
  - Alumni Fellowship, University of Florida
  - Certificate of merit under National Scholarship Scheme (2002, 1997), Government of India

## Invited Talks/Seminars

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12. Assessing impacts of climatic and non-climatic factors on smallholder agricultural systems in India. *American Geophysical Union Fall Meeting*. San Francisco, December 2019.
11. Climate variability and impacts on food production systems. *College of Environment and Natural Resources seminar*. Can Tho University, Vietnam, May 2019.
10. Climate variability and impacts on food production systems. *Plant & Soil Sciences Seminar*. University of Delaware, February 2019.
9. Earth observation for sustainable ecosystem and livelihood. *GIS Coffee Hour*. University of Delaware, February 2019.
8. Agricultural sensitivity to inter-annual climate variability: Implications for smallholder farmers in India. *Annual Rutgers Climate Symposium*. Rutgers University, November 2018.
7. Mangroves through the Eye of a Satellite. *Columbia Global Centers | Mumbai*, India, May 2017.
6. Landscape level change in South Asia and impacts to food production systems. *Department of Environmental Studies*. New York University, March 2017.

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5. Quantifying fluctuations in winter productive cropped area in the central Indian highlands. *Pre-IGU International Conference on Land Use and Rural Sustainability*. Xi'an, China, August 2016.
  4. Decoupling the spatial and temporal vulnerability of agricultural systems to future climate changes. *AsiaFlux Workshop 2015 and ISPRD TC WG VIII/3: Weather, Atmosphere and Climate Studies Joint Conference*. Pune, India, November 2015.
  3. Agricultural sensitivity to inter-annual climate variability: Implications for smallholder farmers in India. *San Francisco State University*, January 2014
  2. Agricultural sensitivity to inter-annual climate variability: Implications for smallholder farmers in India. *Oklahoma State University*, November 2013
  1. Parks and Policies: Integrating geospatial tools and modeling to evaluate conservation interventions in Central India. *University of Colorado*, Colorado Springs, November 2010

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**Published Abstracts and Presentations** (†graduate student, \*undergraduate student)

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32. Qadir, A.† **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. Submitted.
  31. **Mondal, P.**, Jain, M., Singh, D., McFadden, C.\*, 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. Submitted.
  30. Clark, J.\*, **Mondal, P.** When producers are consumers: Dietary diversity and food insecurity among Indian smallholder farmers. *10<sup>th</sup> Annual Undergraduate Research and Service Scholar Symposium*. 15 August 2019, University of Delaware. Poster Presentation.
  29. **Mondal, P.**, McDermid, S., Qadir, A.† Multi-scale monitoring of forest degradation using MODIS, Landsat and Sentinel data. *Global Land Project 4<sup>th</sup> Open Science Meeting*. 24-26 April 2019, Bern, Switzerland. Oral Presentation.
  28. **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.
  27. Qadir, A.†, **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.
  26. Walter, M.†, **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.



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25. **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.
  24. **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.
  23. **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.
  22. **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.
  21. 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.
  20. 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.
  19. **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.
  18. **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.
  17. **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.
  16. **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.
  15. **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.
  14. 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.

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13. DeFries, R., **Mondal, P.**, Jain, M., Small, C., and Galford, G. Multi-sensor Fusion to Determine Agricultural Sensitivity to Climate Variability in South Asia. *NASA Science Team Meeting*. January 2013, Coimbatore, India. Oral Presentation.
  12. **Mondal, P.**, DeFries, R., Jain, M., Robertson, A., Galford, G., Small, C. 2012. 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.
  11. 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.
  10. **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.
  9. **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.
  8. **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. Oral Presentation.
  7. **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. Oral Presentation.
  6. **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. Oral Presentation.
  5. **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. Oral Presentation.
  4. **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. Oral Presentation.
  3. **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.
  2. **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.

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1. **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 Organized/Chaired

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6. Agriculture and Food Systems: Interdisciplinary Perspectives I-III. *The American Association of Geographers Annual Meeting*. 3-7 April 2019, Washington DC. **Role:** Co-organizer.
5. Global Vegetation and Land Surface Dynamics in a Changing Climate. *American Geophysical Union Fall Meeting*. 10-14 December 2018, Washington, D.C. **Role:** Co-convener/Co-chair.
4. Food Security and Climate Change. *Annual Rutgers Climate Symposium*. 14 November 2018, Rutgers University, New Jersey. **Role:** Plenary panelist.
3. Ecology from Space: How Can NASA Remote-Sensing Data Inform Your Research? *NASA DAAC workshop at the Ecological Society of America Annual Meeting*. 6-11 August 2017, Portland, Oregon. **Role:** Co-organizer/Speaker.
2. Adaptation of rural communities to climate change: Bridging the gap between academia and community workers and identifying research needs. *Indo-US bilateral workshop*. 20-21 February 2014, Bengaluru, India. **Role:** Co-organizer/Leader.
1. Improving the Understanding of Climate Variability and Change in Agriculture: AgMIP, Tropical Farm Adaptation, and Related Research I-III. *American Geophysical Union Fall Meeting*. 9-13 December 2013, San Francisco, California. **Role:** Co-convener/Co-chair.

## Workshops and Professional Training

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11. University of Delaware Center for Teaching and Assessment of Learning (CTAL) Summer Course Design Institute. June 11-13 2019. University of Delaware. **Role:** Selected participant.
10. NSF Fall 2018 Grants Conference. 8-9 November 2018. New Orleans, Louisiana. **Role:** Selected participant.
9. Early Career Geoscience Faculty Workshop. University of Maryland. 22-27 July 2018. College Park, Maryland. **Role:** Selected participant.
8. GPM Agricultural Application Workshop. *NASA and World Resources Institute workshop*. 1 August 2017, Washington D.C. **Role:** Participant.
7. Dinamica: Landscape Dynamics Modeling. *University of Vermont*. 20-23 August 2013, Burlington, Vermont. **Role:** Participant.
6. GIS Tools for Analyzing Dynamic Landscapes. *US Regional Association of the International Association for Landscape Ecology Symposium*. 3 April 2011, Portland, Oregon. **Role:** Participant.

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Google Scholar: <https://scholar.google.com/citations?user=PnouwuQAAAAJ&hl=en>

University of Delaware

125 Academy Street,  
Newark, DE 19716, USA

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5. NSF “*On the Cutting Edge: Preparing for an Academic Career in the Geosciences*” Workshop. 29 July – 1 August 2010, Stanford University, California. **Role:** Participant.
  4. Land Surface Phenology. *US Regional Association of the International Association for Landscape Ecology Symposium*. 5 April 2010, Athens, Georgia. **Role:** Participant.
  3. 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.
  2. 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.
  1. DOEACC *A-level professional training in computer applications* including programming, problem solving and data structure through C, database management systems, basics of OS, UNIX and Shell programming, object oriented programming and C++ (training equivalent to Post Graduate Diploma in Computer Application), Kolkata, India. **Role:** Participant.

## Field Experience

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Remote sensing field data collection in Vietnam (2019)

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

Remote sensing field data collection and social survey for post-doc project in Madhya Pradesh, India (2012-13), and for PhD project in Maharashtra, India (2008)

Ecological survey and questionnaire-based social survey in Yucatan, Mexico (2008)

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

## Teaching

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### University of Delaware

Know Your Satellites (Undergraduate/Graduate lecture + lab course)

- Fall 2019 – Enrollment: 18

Introduction to GIS (Undergraduate lecture + lab course)

- Fall 2019 – Enrollment: 42
- Spring 2019 – Enrollment: 43
- Fall 2018 – Enrollment: 48

Special Problem: Wetlands Remote Sensing (Spring 2019)

Special Problem: Independent Study (Spring 2019)

Honors: Directed Research (Spring 2019)

Master’s thesis (Spring 2019; Fall 2019)

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### ***California State University, Bakersfield***

GIS Applications in Geoscience (Undergraduate/Graduate online lecture + lab course)

- Spring 2018 – Enrollment: 14

### ***City University of New York - City College***

Introduction to Ecology & GIS (Graduate lecture + lab course, co-taught with M. Tantala)

- Fall 2017 – Enrollment: 17

Physical Geography (Graduate lecture + lab course, co-taught with M. Tantala)

- Fall 2016 – Enrollment: 15
- Fall 2015 – Enrollment: 18

### ***Columbia University***

Introduction to Landscape Analysis (Upper level undergraduate/Graduate lecture + lab course, co-taught with R. DeFries)

- Spring 2016 – Enrollment: 13

Global Assessment and Monitoring Using Remote Sensing (Upper level undergraduate/Graduate lecture + lab course)

- Guest lecture – Fall 2013

### ***University of Florida***

Physical Geography (Undergraduate lecture course designed and taught by the instructor)

- Fall 2008 – Enrollment: 129
- Spring 2008 – Enrollment: 62
- Fall 2007 – Enrollment: 113

Remote Sensing (Upper level undergraduate/Graduate lecture + lab course)

- Guest lecture – Fall 2010
- Lab manual designer – Fall 2010

Regional Geography (Undergraduate lecture course)

- Guest lecture – Fall 2010

### **Graduate Advisees** (\*Thesis committee chair)

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Abdul Qadir\* (MS in Data Science expected 2020)

Matthew Walter\* (MS in Geography expected 2020)

Elizabeth Smith (MS in Plant and Soil Sciences expected 2020)

Emma Stell (MS in Geography expected 2020)

Israt Jahan (PhD in Geography expected 2021)

Mehmet Altinoguz (PhD in Water Science and Policy expected 2021)

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Ricardo Llamas Barba (PhD in Plant and Soil Sciences expected 2021)

Vishruta Yawatkar\* (MS in Data Science expected 2021)

Gina Maskell (Potsdam Institute for Climate Impact Research, Germany; PhD expected 2022)

## **Postdoctoral Mentee**

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Enze Jin (Aug 2019 - )

## **Undergraduate Mentee**

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Jessica Clark (Major: Environmental Science)

Nicole Flowerhill (Major: Environmental Science)

Callie McFadden (Major: Environmental Science)

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

***Informal undergraduate mentee: 1***

## **Awards to Advisees/Mentees**

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Abdul Qadir; 1<sup>st</sup> place in poster competition, International Statistical Institute/ESRI Student Competition, 2018-19

Matthew Walter; Mather Graduate Fellows Research Award, 2019

Matthew Walter; 1<sup>st</sup> place in poster competition, Human and Climate Series III: Water Management and Policy: Local and Global Perspectives Symposium, 2019

Gina Maskell; Geo.X Young Academy PhD Fellowship 2019

Jessica Clark; Center for Food Systems and Sustainability internship, 2019-2020

Callie McFadden; Center for Food Systems and Sustainability internship, 2019-2020

## **Service & Leadership**

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### ***International***

Guest co-Editor: *Land* (Special Issue: *Global Vegetation and Land Surface Dynamics in a Changing Climate*; 2019-)

Editorial Board member: *Land* (2019-)

Invited member, Global Land Programme Social Media Team (2019)

Founder/member; symposium organizing committee member, Central Indian Landscape Symposium 3 (2016-2019)

Organizing committee member, Central Indian Landscape Symposium (2016)



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Guest co-Editor: *Current Science* (Special Section on *Livelihood impacts and adaptation of rural communities to climate change in India*, 2016)

PI and co-organizer, Indo-US bilateral workshop (2014)

Organizing committee member, Kanha-Pench Landscape Symposium (2014)

Journal reviewer: *Science Advances*; *Scientific Reports*; *Scientific Data*; *Environmental Research Letters*; *Remote Sensing*; *International Journal of Remote Sensing*; *ISPRS Journal of Photogrammetry and Remote Sensing*; *Global Food Security*; *Forest Ecology and Management*; *Landscape and Urban Planning*; *Ecological Complexity*; *Environmental Management*; *Land Use Policy*; *Landscape Ecology*; *Climatic Change*; *Journal of Land Use Science*; *Society & Natural Resources*, *PLoS One*, *PeerJ*.

### **National**

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

Ad hoc reviewer: NSF Geography and Spatial Sciences Doctoral Dissertation Research Improvement (2019)

Undergraduate research presentation abstract reviewer: Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) (2019)

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

Outstanding Student Presentation Award judge: American Geophysical Union (AGU) fall meeting (2018)

Panel reviewer, NASA NESSF-Carbon Cycle and Ecosystems Program (2016)

Panel reviewer, NASA Terrestrial Ecology Program (2013)

### **University**

Search committee member, U. Delaware Data Science Institute (2019-2020)

Committee member, U. Delaware Data Science Institute Fall Symposium Organizing Committee (2019)

Speaker, U. Delaware MS in Data Science New Student Orientation (2019)

Speaker, U. Delaware MS in Data Science Launch Event (2019)

Mentor, Columbia's Lamont-Doherty Earth Observatory High School Student Intern Mentoring Program (2016)

### **College**

Search committee member, U. Delaware School of Marine Science and Policy (2019-2020)

Invited panelist, U. Delaware Department of Geological Sciences grad school Q&A panel (2018, 2019)

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Invited panelist, U. Delaware “Ph.D. to Postdoc to Faculty” panel (2018)

Volunteer, U. Delaware recruitment booth at the AGU fall meeting (2018)

### **Department**

Co-chair, U. Delaware Department of Geography Seminar Series (2019-2020)

Committee member, U. Delaware Department of Geography GIS lab renovation committee (2018-2019)

Graduate Representative, U. Florida Geography (2009-2010)

Liaison person between Geography and U. Florida Graduate Student Council (2009-2010)

Co-organizer, U. Florida Geography new student orientation events and departmental participation in several national meetings (2009-2010)

### **Community Service and Public Outreach**

Scientist volunteer pen-pal, Letters to a Pre-Scientist Program (2019-2020)

Volunteer, DE Coast Day (2018)

Invited panel scientist, 4th Annual Women in Science Night at East Side Community High School, New York (2017)

Blog post for Cornell University’s *Economics that Really Matters*:

<http://www.econthatmatters.com/2015/10/can-we-climate-proof-global-food-systems/>

Blog post for Columbia University’s *State of the Planet*:

<http://blogs.ei.columbia.edu/2015/07/10/help-for-indian-small-farmers-in-a-changing-climate/>

Volunteer at Columbia’s Lamont-Doherty Open House: <http://openhouse.ldeo.columbia.edu/>

Volunteer, Florida Museum of Natural History Fossil Hunt (2006)

### **Professional Membership**

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American Association of Geographers (since 2008); CHANS-Net: International Network of Research on Coupled Human and Natural Systems (since 2011); American Geophysical Union (since 2012); Global Land Programme (since 2018)