



Soumendu Chatterjee

PROFESSOR

*Department of Geography
Faculty of Natural & Mathematical Sciences*

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PROFILE

My research activities primarily focus on model-based inquiry into the atmospheric processes and their probable modifications at the face of Global Climate Change. In pursuance to FINER (feasible, interesting, novel, ethical, relevant) research questions, I desire to learn more on sophisticated statistics, machine learning, coding and modeling. I prefer to teach climatology, pedology, multivariate statistics, machine learning and coding with an aim to prepare and motivate my students for working in modern fields of the Earth Sciences. I feel that the contemporary technological breakthrough in the Earth Monitoring Systems have tremendously expanded the opportunities to understand our Mother Earth more precisely and my students should effectively participate in harnessing such knowledges in order to be able to make meaningful contributions towards making this plane a sustainable abode of humanity.

INTERESTS

- * Pedology
- * Climatology
- * Data Analysis

ACADEMIC PROILE



QUALIFICATIONS

PhD (The University of Burdwan)
M.Sc (The University of Burdwan)
B.Sc (Hons) (Chnadernagore Govt. College, Chandannagar)
Higher Secondary (Tamluk Hamilton High School, Tamluk)
Madhyamik (Tamluk Hamilton High School, Tamluk)

EXPERIENCES

Professor, Presidency University, Kolkata (31-03-2017 - 13-06-2022)
Assistant Professor, Presidency University, Kolkata (02-07-2013 - 30-03-2017)
Assistant Professor, Vidyasagar Univesity, Midnapore (16-12-2005 - 01-07-2013)
Lecturer, Michael Madhusudan Memorial College, Durgapur (24-01-2001 - 15-12-2005)

PUBLICATIONS

Journal Articles: 20
Book Chapters: 1
Conference Proceedings: 1
Books: 3
Edited Books: 2

LINKS

Researchgate: <https://www.researchgate.net/profile/Soumendu-Chatterjee>
Google Scholar: <https://scholar.google.com/citations?user=2sxr3TcAAAAJ&hl=en>
ORCID: <https://orcid.org/my-orcid?orcid=0000-0003-3340-7889>

PRESIDENCY UNIVERSITY KOLKATA



Hindoo College (1817-1855), Presidency College (1855-2010)
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PUBLICATIONS

Articles in Research Journals

1. Mithun, S., Sahana, M., Chattopadhyay, S., Chatterjee, S., Islam, J., & Costache, R. (2022). Comparative framework for spatially explicit urban growth modeling for monitoring urban land-use efficiency and sustainable urban development (SDG 11.3.1): a study on Kolkata metropolitan area, India. *Geocarto International*, , 1-32. doi: <https://doi.org/10.1080/10106049.2022.2136259>.
2. Mallick, K., Sahana, M., & Chatterjee, S. (2022). Comparing Delphi fuzzy AHP and fuzzy logic membership in soil fertility assessment: a study of an active Ganga Delta in Sundarban Biosphere Reserve, India. *Environmental Science and Pollution Research*, , 0-0. doi: <https://doi.org/10.1007/s11356-022-21983-4>.
3. Chatterjee, S., & Dinda, A. (2022). Determination of Characterized Urban Thermal Zones (UTZ) for Assessing Microclimates in the Tropical Metropolitan Area of Kolkata. *Sustainable Cities and Society*, 80, 0-0. doi: <https://doi.org/10.1016/j.scs.2022.103807>.
4. Dinda, A., & Chatterjee, S. (2022). Assessing the local- impacts of heat advection on urban heat islands in Kolkata Metropolitan Area. *Urban Climate*, 42, 101-139. doi: <https://doi.org/10.1016/j.uclim.2022.101139>.
5. Das, S., Chatterjee, S., & Rajbanshi, J. (2021). Responses of soil organic carbon to conservation practices including climate-smart agriculture in tropical and subtropical regions: A meta-analysis. *Science of The Total Environment*, 805, 0-0. doi: <https://doi.org/10.1016/j.scitotenv.2021.150428>.
6. Pal, A., Chatterjee, S. (2021). The influence of upper level surrounding winds on tropical cyclone motion: a case study of the Bay of Bengal region. *Proceedings of the Indian National Science Academy* , 87(2), 343-350. doi: <https://doi.org/10.1007/s43538-021-00036-3>.
7. Pal, A., & Chatterjee, S. (2021). Influence of seasonal variability in the environmental factors on tropical cyclone activity over the Bay of Bengal region. *Spatial Information Research*, 29(5), 673-684. doi: <https://doi.org/10.1007/s41324-021-00383-9>.
8. Pal, A. & Chatterjee, S. (2020). Seasonal Nature and Trends of Tropical Cyclone Frequency and Intensity over the North Indian Ocean. *Current World Environment*, 15(3), 526-534. doi: <http://dx.doi.org/10.12944/CWE.15.3.16>.
9. Sarkar, T., Mishra, M. & Chatterjee, S. (2020). On detailed field-based observations of laterite and laterization: a study in the Paschim Medinipur lateritic upland of India. *Journal of Sedimentary Environments*, 5, 219-245. doi: <https://doi.org/10.1007/s43217-020-00017-4>.
10. Chatterjee, S., Khan, A., Dinda, A., Mithun, S., Khatun, R., Akbari, H., ... & Wang, Y. (2019). Simulating micro-scale thermal interactions in different building environments for mitigating urban heat islands. *Science of The Total Environment*, 663, 610-631. doi: <https://doi.org/10.1016/j.scitotenv.2019.01.299>.
11. Mondal, B., Chakraborti, S., Das, D. N., Joshi, P. K., Maity, S., Pramanik, M. K., & Chatterjee, S. (2019). Comparison of spatial modelling approaches to simulate urban growth: a case study on Udaipur city, India. *Geocarto International*, 35(4), 411-433. doi: <https://doi.org/10.1080/10106049.2018.1520922>.
12. Ghatak, I., & Chatterjee, S. (2018). Urban street vending practices: an investigation of ethnic food safety knowledge, attitudes, and risks among untrained Chinese vendors in chinatown, Kolkata. *Journal of Ethnic Foods*, 5(4), 272-285. doi: <https://doi.org/10.1016/j.jef.2018.11.003>.
13. Ghatak, I., & Chatterjee, S. (2018). Statelessness, citizenship and social boundaries: A narrative inquiry of Chinese population in Kolkata. *American International Journal of Research in Humanities, Arts and Social Sciences*, 23(1), 84-90. doi: <http://iasir.net/AIJRHASSpapers/AIJRHASS18-318.pdf>.
14. Dolui, G., Chatterjee, S., & Chatterjee, N. D. (2018). Rock to Regolith: A Synthesis of Physico-chemical Processes in Purulia District, West Bengal. *Indian Journal of Geography & Environment*, 15-16 (201, 130-136. doi: <http://inet.vidyasagar.ac.in:8080/jspui/bitstream/123456789/4524/1/G.%20Dolui.pdf>.
15. Mishra, M., & Chatterjee, S. (2018). Application of Analytical Hierarchy Process (AHP) algorithm to income insecurity susceptibility mapping A study in the district of Purulia, India. *Socio-Economic Planning Sciences*, 62, 56-74. doi: <https://doi.org/10.1016/j.seps.2017.07.002>.
16. Khan, A., Chatterjee, S., Akbari, H., Bhatti, S. S., Dinda, A., Mitra, C., ... & Doan, Q. V. (2017). Step-wise Land-class Elimination Approach for extracting mixed-type built-up areas of Kolkata megacity. *Geocarto International*, 34(5), 504-527. doi: <https://doi.org/10.1080/10106049.2017.1408704>.
17. Khan, A., Chatterjee, S., & Bisai, D. (2017). Air temperature variability and trend analysis by non-parametric test for Kolkata observatory, West Bengal, India. *NISCAIR-CSIR* , 966-971. doi: <http://nopr.niscair.res.in/handle/123456789/41661>.
18. Mishra, M., & Chatterjee, S. (2017). School dropout susceptibility mapping with fuzzy logic a study in the District of Purulia, India. *Human Geographies*, 11(1), 111-128. doi: DOI:10.5719/hgeo.2017.111.7.

19. Mishra, M., & Chatterjee, S. (2017). An effort of mapping the income inequality in the district of Purulia, West Bengal, India. *Journal of Social and Economic Development*, 19(1), 111-142. doi: <https://doi.org/10.1007/s40847-017-0035-1>.
20. Mishra, M., & Chatterjee, S. (2014). Measuring Micro Spatial Inequality of Human Development with the Application of Principal Component Analysis (PCA) District, West Bengal, India. *International Research Journal of Social Sciences*, 6(1), 19-35. doi: <http://www.isca.in/IJSS/Archive/v6/i1/4.ISCA-IRJSS-2016-198.php>.

Book Chapter Contributions

1. Khan, A., Chatterjee, S., Filho, W.L., Khatun, R., Dinda, A. & Minhas, A. (2020). City-scale Modeling of Urban Heat Islands for Kolkata. In Leal Filho, W., Nagy, G., Borga, M., Chávez Muñoz, P. & Magnuszewski, A. (Eds.), *Climate Change, Hazards and Adaptation Options: Handling the Impacts of a Changing Climate* (pp. 89-133). Cham: Springer.

Edited Books

1. Mishra, M., Singh, R. B., de Lucena, A. J., & Chatterjee, S. (Eds.). (2021). *Regional Development Planning and Practice: Contemporary Issues in South Asia*. Springer Singapore. <https://doi.org/10.1007/978-981-16-5681-1>
2. Singh, R.B., Chatterjee, S. Mishra, M. & Lucena, A.J. (Eds.). (2021). *Practices in Regional Science and Sustainable Regional Development: Experiences from the Global South*. Springer Nature. <https://doi.org/10.1007/978-981-16-2221-2>

Books

1. Khan, A., Chatterjee, S. & Wang, Y. (2020). *Urban Heat Island Modeling for Tropical Climates*. Elsevier. <https://doi.org/10.1016/C2019-0-00327-5>
2. Mishra, M., & Chatterjee, S. (2020). *Contouring Human Development: Methods and Applications Using an Indian District as Case Study*. Springer Singapore. <https://doi.org/10.1007/978-981-15-4083-7>
3. Khan, A., & Chatterjee, S. (2018). *Coastal Risk Assessment: A Comprehensive Framework for the Bay of Bengal*. Springer Cham. <https://doi.org/10.1007/978-3-319-69992-9>

Conference Proceedings

1. Das Chatterjee, N. & Chatterjee, S. (2014). Changing Habitat and Elephant Migration from Dalma Wildlife Sanctuary, Jharkhand to Panchet Forest Division, Bankura, West Bengal: A Biogeographical Analysis. In M. Singh, R. B. Singh & M. I. Hassan (Eds.), *Climate Change and Biodiversity Proceedings of IGU Rohtak Conference, Vol. 1 Advances in Geograph* (pp. 209-222). Tokyo: Springer.

RESEARCH

Research Projects

1. Soumendu Chatterjee (PI) (2020). Completed SERB funded project titled *A Model-based Inquiry into the Radiative Forcing of Urban Heat Island Effects in Search of Mitigation Strategies suitable for the Tropics*. Rs. 34.9536 Lakh. 05 February 2020 - 04 August 2023 [CRG/2019/002987]

Doctoral Research Guidance

SL	Researcher	Fellowship	Level	Research Title	Period	Status
1.	Apurba Dinda	JRF (UGC)	Doctoral	Coupling Building Environment and Urban Microclimate for delineation of	30-03-2021 - 29-03-2026	Ongoing

					Climatopes and their Thermal Planning: A Study in Kolkata Metropolitan Area		
2.	Sharmistha Das	JRF (UGC)	Doctoral		Impact of Soil Carbon Sequestration on Productivity of Red and Lateritic Soils of Rarh Region in West Bengal	27-07-2019 - 26-07-2024	Ongoing
3.	Abhisek Pal	SRF (UGC)	Doctoral		Influence of the Large-Scale Circulation Anomalies on the Genesis, Trajectory and Potentiality of the Tropical Cyclones in the Bay of Bengal Region (1981-2015)	08-12-2017 - 31-12-2023	Completed

PARTICIPATION

Seminar (International)

SL	Title	Organizer	Held at	Sponsor	Role(s)	Period	Lecture Title
1.	International Conference on Climate Change, Disaster Management and Environmental Sustainability	Department of Geography, Jamia Millia Islamia	Department of Geography, Jamia Millia Islamia (New Delhi)		Session Chair	21-02-2024 - 22-02-2024	
2.	35th National Conference of the Indian Institute of Geomorphologists (IGI) on Geomorphology, Environment and Management	Indian Institute of Geomorphologists (IGI)	CSR, Jawaharlal University (New Delhi)		Session Chair	25-11-2023 - 27-12-2023	
3.	39th INCA International Congress	Indian National Cartographic Association	Survey of India (Dehradun)		Participant (Won Best Paper Award)	18-12-2019 - 20-12-2019	Fuzzy-based Classification of Thermal Fields for Mapping and Characterization of UHI Zones in the Tropical City of Kolkata

Seminar (National)

SL	Title	Organizer	Held at	Sponsor	Role(s)	Period	Lecture Title
1.	National Seminar on Challenges to Sustainability: Role of Geography	Department of Geography & Environment Management, Vidyasagar University	Department of Geography & Environment Management, Vidyasagar University (Midnapore)	VU, NATMO, WBPCB	Lead lecture and Chairing a session	08-04-2024 - 09-04-2024	Modelling and Machine Learning for Observation and Prediction of Earth Systems

Seminar (State and Local)

SL	Title	Organizer	Held at	Sponsor	Role(s)	Period	Lecture Title
1.	Fifth Regional Science and Technology Congress	Department of Science and Technology and Biotechnology, Government of West Bengal	West Bengal State University (Barasat)	DST	Session Chair	19-01-2023 - 20-01-2023	
2.	Fifth Regional Science and Technology Congress	Department of Science and	Raja N L Khan Women's	DST	Session Chair, Speaker	13-01-2023 - 14-01-2023	Recent Trends in Earth Science

Technology College
and Biotechn (Midnapore)
ology,
Government
of West
Bengal

Membership

SL	Role	Organization	Location	Tenure
1.	Member	PhD Committee, Department of Geography & Environment Management, Vidyasagar University	Midnapore	01-06-2022 - 18-06-2022
2.	Member	Centre for Environmental Studies, Vidyasagar University	Midnapore	01-03-2022 - 19-06-2022
3.	Member	PhD Committee, Department of Geography, West Bengal State University	Barasat	01-12-2019 - 20-06-2021
4.	External Member	Board of Undergraduate Studies in Geography, University of Calcutta	Kolkata	01-01-2018 - 19-06-2022
5.	Member	Governing Board, Presidency University	Kolkata	01-01-2016 - 20-06-2022