

# Ravinder Dhiman

Academic Curriculum Vitae | Public version | Updated September 2026

## Assistant Professor

Centre for Water Policy and Governance  
School of Habitat Studies  
Tata Institute of Social Sciences, Mumbai

## Professional contact

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## Academic profile

IIT Bombay-trained geospatial scientist with research and teaching experience across Remote Sensing, Earth Observation, GIScience, Decision Science, water resources, flood risk, environmental planning, and climate-resilient urban and coastal infrastructure. My work combines satellite observations, field evidence and quantitative decision methods to support planning under uncertainty.

## Research and teaching interests

Applied Remote Sensing and Earth Observation; GIScience and Spatial Analytics; Water Resource Management; Environmental Systems; Flood Risk and Vulnerability; Decision Science; Spatial Decision Support Systems; Climate Adaptation and Resilient Infrastructure.

## Academic appointments

Jan 2025-present

**Assistant Professor, Centre for Water Policy and Governance**  
School of Habitat Studies, Tata Institute of Social Sciences, Mumbai

Jul 2021-Dec 2024

**Assistant Professor and Chairperson, Centre for Geo-Informatics**  
Jamsetji Tata School of Disaster Studies, TISS, Mumbai

Jul 2020-Mar 2021

**Assistant Professor, Centre for Geo-Informatics (ad hoc)**  
Jamsetji Tata School of Disaster Studies, TISS, Mumbai

Nov 2019-May 2020

**Research Associate**  
Centre for Urban Science and Engineering, IIT Bombay

Sep 2013-Dec 2014

**Senior Project Assistant - Remote Sensing of Coastal Processes**  
Physical Oceanography Division, CSIR-National Institute of Oceanography, Goa

## Education

2020

**Ph.D. in Urban Science and Engineering**  
Indian Institute of Technology Bombay. Thesis: *Geospatial Approaches for Land-use Planning of Coastal Urban Regions*. Supervisors: Prof. Pradip P. Kalbar and Prof. A. B. Inamdar. CPI: 9.25/10.

2013

**M.Tech. in Energy and Environmental Management**  
Kurukshetra University, Kurukshetra

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|------|-----------------------------------------------------------------------------------------------------------|
| 2010 | <b>B.E. in Biotechnology Engineering</b><br>Maharshi Dayanand University, Rohtak                          |
| 2007 | <b>Diploma in Computer Engineering</b><br>Government Polytechnic, State Board Technical Education Haryana |

### Sponsored research and collaboration

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|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2025-2027 | <b>Principal Investigator, NRSC (ISRO)-TISS Bihar Flood Vulnerability Research Project</b><br>Sanctioned project budget: INR 2,832,979. Research on socio-economic flood vulnerability and village-level vulnerability modelling across sixteen highly flood-affected districts of Bihar. |
| 2022-2027 | <b>India Principal Investigator, TRANSCEND</b><br>Transformation Decisions for the Adaptation and Sustainability of Cities in the Face of Environmental and Socio-economic Change. International collaboration with LMU Munich.                                                           |

### Selected distinctions

Excellence in PhD Research Award, IIT Bombay (award cycle 2018-2020); Teaching Assistantship Fellowship, Ministry of Human Resource Development, Government of India (2015-2020); International Travel Grant, American Geophysical Union, USA (2017 and 2018); Invited Global Student Delegate, Chicago Forum on Global Cities (2018), nominated by IIT Bombay.

### Technical and methodological competencies

**Geospatial and Earth observation:** ArcGIS and ArcGIS Pro, QGIS, Google Earth Engine, ERDAS Imagine, MapServer and WebGIS, spatial analytics in R, GeoLibre and CoastSat.

**Programming and analysis:** R and RStudio, Python and MATLAB; reproducible statistical and geospatial analysis. **Spatial methods:** Remote sensing image analysis, GIS-MCDA, AHP, TOPSIS, PCA, spatial decision support, vulnerability and index modelling, watershed analysis and Digital Shoreline Analysis System.

### Selected professional development

ISRO Disaster Management Support Capacity Building Programme RASTER-2023, IIT Roorkee; NASA-ISRO SAR Workshop, Space Applications Centre, Ahmedabad (2023); Faculty Development Programme on Resilient Rural Development in Changing Climate, National Institute of Disaster Management (2024); UGC Faculty Induction Programme, Himachal Pradesh University, Shimla (2025).

# Selected publications

Complete bibliographic record available at the personal website and Google Scholar.

## Peer-reviewed journal articles

1. Petzold, J., Garschagen, M., Deshpande, S., Dhiman, R., Doshi, D., Katzschner, A., Santos, A. P., & Parthasarathy, D. (2024). Identifying future challenges for climate change adaptation through insights from participatory scenario-downscaling in Mumbai. *npj Climate Action*, 3, 111. <https://doi.org/10.1038/s44168-024-00197-z>
2. Kumari, N., Dhiman, R., Krishnankutty, M., & Kalbar, P. (2024). Localising vulnerability assessment to urban floods: A comparative analysis of top-down and bottom-up geospatial approaches in Patna City, India. *International Journal of Disaster Risk Reduction*, 100, 104230. <https://doi.org/10.1016/j.ijdr.2023.104230>
3. Dhiman, R., Kalbar, P. P., & Inamdar, A. B. (2022). Integrated geospatial approach for environment-sensitive planning of coastal urban regions: A case study from the megacity of Mumbai, India. *Ocean & Coastal Management*, 220, 106092. <https://doi.org/10.1016/j.ocecoaman.2022.106092>
4. VishnuRadhan, R., Thresyamma, D. D., Eldho, T. I., Dhiman, R., & Bhavan, S. G. (2022). On the emergence of a health-pollutant-climate nexus in the wake of a global pandemic. *Environmental Science and Pollution Research*, 29(57), 85619-85631. <https://doi.org/10.1007/s11356-021-16392-y>
5. Dhiman, R., VishnuRadhan, R., Inamdar, A. B., & Eldho, T. I. (2020). Web-GIS integrated open source mashup technology as a cue for integrated management in coastal megacities. *Journal of Coastal Conservation*, 24, 18. <https://doi.org/10.1007/s11852-020-00734-y>
6. Dhiman, R., Kalbar, P. P., & Inamdar, A. B. (2019). Spatial planning of coastal urban areas in India: Current practice versus quantitative approach. *Ocean & Coastal Management*, 182, 104929. <https://doi.org/10.1016/j.ocecoaman.2019.104929>
7. Dhiman, R., VishnuRadhan, R., Eldho, T. I., & Inamdar, A. B. (2019). Flood risk and adaptation in Indian coastal cities: Recent scenarios. *Applied Water Science*, 9, 5. <https://doi.org/10.1007/s13201-018-0881-9>
8. Dhiman, R., Kalbar, P. P., & Inamdar, A. B. (2018). GIS coupled multiple criteria decision making approach for classifying urban coastal areas in India. *Habitat International*, 71, 125-134. <https://doi.org/10.1016/j.habitatint.2017.12.002>
9. VishnuRadhan, R., Zainudin, Z., Sreekanth, G. B., Dhiman, R., Salleh, M. N., & Vethamony, P. (2017). Temporal water quality response in an urban river: A case study in peninsular Malaysia. *Applied Water Science*, 7, 923-933. <https://doi.org/10.1007/s13201-015-0303-1>
10. Mani Murali, R., Dhiman, R., Choudhary, R., Seelam, J. K., Ilangoan, D., & Vethamony, P. (2015). Decadal shoreline assessment using remote sensing along the central Odisha coast, India. *Environmental Earth Sciences*, 74(10), 7201-7213. <https://doi.org/10.1007/s12665-015-4698-7>
11. Kumar, A., Dhiman, R., & Deshmukh, B. (2014). Morphometric analysis of watersheds of Kangra region of Indian Himalaya for assessing their fluvial erosion susceptibility. *Himalayan Geology*, 35, 47-55.

## Peer-reviewed book chapters

1. VishnuRadhan, R., Ayomiposi, O. O., Dhiman, R., & Zainudin, Z. (2026). IoT-Based Water Quality Monitoring. In *Handbook of Digitalization and Big Data in the Water Sector* (pp. 61-83). <https://doi.org/10.1201/9781003536079-4>
2. Dhiman, R., Kalbar, P. P., & Inamdar, A. B. (2021). Assimilating geospatial and decision science: Application to planning and management of urban coasts. In *Advances in Urban Planning in Developing Nations* (pp. 140-159). Routledge India.
3. VishnuRadhan, R., Eldho, T. I., Dhiman, R., Misra, A., Jayakrishnan, P. R., & Zainudin, Z. (2021). Repercussions of Monsoon in the Indian Sub-continent During COVID-19. In *COVID-19: Systemic Risk and Resilience*. Springer.

# Teaching, leadership and selected engagement

Academic contributions represented in the finalized curriculum vitae.

## Teaching and curriculum development

Postgraduate teaching at TISS includes: Introduction to Technologies for Disaster Management; Hazard Monitoring, Early Warning Systems and Coordinated Action; Geospatial Hydrology in Disaster Management; GIS for Social Sciences; Introduction to Disaster Science - Concepts and Debates; Research Tutorials; Advances in Early Warning Systems for Hazards; Decision Science and System in Disaster Management; and Geospatial Advances in Water Resource Management.

Independently developed curriculum includes Geospatial Advances in Water Resource Management, Introduction to Urban Geoinformatics, Geo-intelligence for Preparedness and Early Warning Systems, Decision Science and Systems for Disaster Management, a one-year Master's Programme in Disaster Informatics and Geospatial Technologies, and Emerging Approaches for Disaster Risk Reduction. Jointly developed curriculum includes Earth System Science and Hazards and the Executive Post-Graduate Diploma in Risk Assessment, Climate Change and Sustainability.

Supervision: 16 Master's research dissertations cumulatively supervised. One Ph.D. scholar formally registered under supervision in July 2026.

## Selected invited lectures

- Development of a science-policy instrument for the planning of coastal urban regions - an integrated geospatial approach. Department of Geography, LMU Munich, Germany, 23 October 2023.
- Science-policy instrument for Integrated Coastal Management in urban regions: challenges and way forward. AICTE-ATAL Faculty Development Programme, 05 January 2024.
- Disasters and Technology: Science-policy and Society Interface. International ACU-TISS Summer School, 2021.
- Citizen Science in Escalating Flood Risk Preparedness. TISS-NIDM Roundtable on trans-boundary water issues in South Asia, 2021.
- Big Data and Social Media Usage in Disaster Management. AICTE-sponsored FDP on AI/ML/Deep Learning for RS-GIS-GNSS applications, 2021.

## Academic leadership and institutional service

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|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Jul 2021-Dec 2024 | <b>Chairperson, Centre for Geo-Informatics, TISS</b><br>Academic coordination, centre vision, laboratory upgradation, recruitment support and research collaborations.                                                                     |
| Jun 2025-present  | <b>Programme Coordinator, Centre for Water Policy and Governance, TISS</b>                                                                                                                                                                 |
| Nov 2025-present  | <b>Faculty In-Charge, Computer Centre, TISS</b><br>Computer Centre responsibility under formal office order; Institute IT Policy development recorded in the CV.                                                                           |
| 2025-present      | <b>Selected institutional service</b><br>Member, Building and Works Committee; Member Secretary, Centre of Excellence in CSR; Member, Field Action Project SOP Review Committee; Member, Podcast Team; Member, Institutional Review Board. |