



Amit Daiman [Remote Sensing, Geoinformatics and Hydroinformatics]

Nationality: Indian Date of birth: 01/09/1988 (+91) 9875842709 9875842709 Publications

Home: 58, Government Hospital Road, 303313 Bandikui (India)

Language Skills: Hindi - Mother Tongue, English - Professional

Motivated and pragmatic professional with a solid track record of over 10-years as a Remote Sensing and GIS Expert. Adept at harnessing satellite, airborne data and conducting fieldwork in challenging terrains, including forests, tribal and rural areas, for natural resource mapping. Proficient in translating complex data into valuable maps for applications spanning water resources, agriculture, forestry, and environmental studies. Possesses strong research, teaching, and technical skills. A proven collaborator, project manager, experienced in working across interdisciplinary teams with scientists, engineers, and policymakers to tackle complex environmental challenges.

AREA OF EXPERTISE: Remote Sensing & GIS: Forestry, Ecology, Agriculture and Hydrology | Spatial Data Science | Climatology | Hydroinformatics: Flood, Drought, Catchment and Groundwater Modeling| Project Management & Development | Technical Report Writing | Data Visualization | Cross-Disciplinary Collaboration | Citizen Geospatial Science | Sustainable Development.

TECHNICAL SKILLS: IMAGE PROCESSING: OPTICAL, THERMAL, SAR, LiDAR MACHINE LEARNING FOR IMAGE CLASSIFICATION R GOOGLE EARTH ENGINE PYTHON JAVASCRIPT (GEE) GIT-HUB JUPYTER NOTEBOOK HTML CSS COLAB ARCGIS-PRO, MODEL BUILDER GEOSERVER ERDAS IMAGINE GRASS WEB-GIS QGIS PATHWAY SWAT HEC-RAS MODFLOW MIKE: 0, 11, 21, FLOOD, URBAN GPS & DGPS STATISTICAL ANALYSIS DATA MINING

EDUCATION
MS HYDROINFORMATICS, 2019-21
IHE Delft Institute for Water Education, Netherlands
MSc REMOTE SENSING & GEOINFORMATICS, 2010 -12
Maharishi Dayanand Saraswati University, Ajmer, India
MA/MSc GEOGRAPHY, 2008 -10
University of Rajasthan, Jaipur, India

SHORT COURSES (offline):
• Introduction to GIS for Water Science & Engineering, IHE, Delft, Netherlands (2019).
• GIS & Remote Sensing for Application of Water, UNESCO-IHE Delft, Netherlands (2018).

MAJOR EDUCATIONAL PROJECTS (IHE) in:
• Hydraulic Lab Experimentation in TU Delft and Deltares: using python and numerical modelling.
• River flood modelling using SOBEK & MIKE.
• Data driven modelling using machine learning.
• Groundwater modelling using MODFLOW.
• Catchment modelling using MIKE SHE.
• 1D and 2D urban flood modelling using MIKE 21, Urban and ArcGIS, Dhaka City Bangladesh.
• Flood Damage and Vulnerability assessment.
• Flood risk mapping (FRM) using HEC-RAS and ArcGIS for Baxter River, California, United States.
• FRM using ArcGIS, Sirajganj Bangladesh.
• Precision agriculture & remote sensing for Agriculture Water Management using PySEBAL, GEE, QGIS, Miandoab Irrigation Scheme, Iran.
• Project proposal development on Integrated Coastal Area and River Basin Management Plan (ICARM) Rhône Delta- France.

PROFESSIONAL AND RESEARCH EXPERIENCES [10 YEAR]

SCIENTIST AND ACADEMICIAN (INDEPENDENT) [05/2021 – Current]
PROJECTS AND ACCOMPLISHMENTS:
• As the Lead Remote Sensing & GIS Expert for the RECAP4NDC project, I developed a Google Earth Engine-based model for Land Use Land Cover (LULC) mapping and Multi-Criteria Analysis (MCA) to identify and propose interventions for degraded lands. Utilizing advanced tools like QGIS and ArcGIS Pro, I engaged with stakeholders to enhance project outcomes and documented the methodology and results. Collaborations included IUCN, GIZ, Maharashtra Forest Department, IDCG, Bhugol-GIS (February— August 2024)
• Overseeing FES's remote sensing team, I am collaborating with IELA on the "Grassland Ecosystem of Rajasthan, India" project. Our goal is to prevent drought in the arid and semi-arid regions of Rajasthan as part of our efforts to combat climate change.
• Leading Ahmednagar project, integrating community knowledge into ecosystem assessment using GIS, promoting sustainability with IELA and Ashankur.
• Executed wildlife habitat mapping and water harvesting site selection in Sitamata Wildlife Sanctuary (2023).
• Engaged as a resource scientist, speaker, and expert collaborating with international and national agencies and NGOs.

PROJECT DIRECTOR [02/2024 – Current]
SOUTH ASIAN INSTITUTE FOR ADVANCED RESEARCH & DEVELOPMENT
City: Kolkata, **Country:** India
• Fulfilling the pivotal role of Project Director, overseeing and coordinating multifaceted aspects of the initiative to ensure its successful execution and alignment with organizational goals.

MS HYDROINFORMATICS THESIS [10/2020 – 03/2021]
IHE DELFT INSTITUTE FOR WATER EDUCATION, NETHERLANDS
THESIS TITLE: Assessing and analysing desertification in the Chambal River Basin (CRB) using remote sensing and machine learning (ML).
• Processed remote sensing data in GEE from 1990 to 2020 for land use and land cover (LULC) change detection.
• Analyzed meteorological, agriculture, and hydrological drought using Standardized Precipitation Evapotranspiration Index (SPEI).
• Applied different ML algorithms for image classification optimization.
• The purpose of this thesis is to draw the attention of policymakers and scientists to the need for preventing drought conditions in the CRB.

SENIOR RESEARCH FELLOW [10/2013 – 8/2019]

VISITING RESEARCHER (NESAC - ISRO) [December—2018]

JUNIOR RESEARCH FELLOW [11/2014 – 4/2017]

GIS ASSISTANT [10/2013 – 11/2014]

REMOTE SENSING APPLICATION CENTRE, MP COUNCIL OF SCIENCE AND TECHNOLOGY, City: Bhopal, Country: India

PROJECTS AND ACCOMPLISHMENTS:

- State Disaster Command Response and Monitoring System for Madhya Pradesh (MP). [Disaster layers preparation and analysis]
- Integrated hydrology, climate change, and IWRM for Bundelkhand region. [GIS Database Development and watershed modelling]
- Mapping of Biodiversity and Development of GIS Based Web portal for MP State Biodiversity Board. [Project Mgmt. & GIS analysis]
- MP District wise Resource Atlas Program. [Editor, Author, field data collection, photography]
- Environmental Feasibility Analysis for Setting up a proposed Nuclear Power Plants in MP. [Sustainable site suitability analysis]
- Dial 100 program for MP Police. [GIS Database Development, Road, Police Station Boundary and assets mapping]
- Cadastral Geo-Rectification Projects. [Team Lead]
- Web-Based Property Status Search System. [Satellite image processing (Worldview) and GIS Database Development]
- Mapping of Higher Education Colleges to establish new colleges for Dept. of Higher Education, MP. [site suitability analysis]
- Site suitability analysis and mapping of silkworm and food plants for sericulture using remote sensing and GIS at NESAC-ISRO.

ACQUIRED SKILLS: REMOTE SENSING AND GIS FOR WATER, AGRICULTURE AND FORESTRY (PYTHON, R, GEE, ARCGIS, QGIS, ERDAS)

Agriculture Water Management, Biomass & Bio-resource Mapping, Watershed Management, Project Management, Natural Resource Management (NRM) & Climate Change, Project Proposal Development, Editorial & Fieldwork Proficiency, Optical & Microwave Satellite Data Handling (Landsat, Sentinel, IRS, Worldview), Team Leadership & Data Accuracy, Forestry & Sustainability, Nature Based Solutions.

RESEARCH TRAINEE

[02/2013 – 08/2013]

CENTER FOR POLICY STUDIES, City: Delhi, Country: India

- Contributed to the Madhya Pradesh Resource Atlas Program as a Remote Sensing and GIS analyst.

INTERN (MSC REMOTE SENSING & GEOINFORMATICS THESIS)

[04/2012 – 09/2012]

REMOTE SENSING APPLICATION CENTRE, MP COUNCIL OF SCIENCE AND TECHNOLOGY, City: Bhopal Country: India

Thesis Title: Integrated GIS Modeling for Exploring Groundwater Potential Using Morphometric Hydro-Geomorphological Studies.

- Developed ArcGIS Model (model builder) for groundwater potential mapping using weightage overlay (multi-criteria analysis).

CERTIFICATIONS AND TRAININGS

- Offline:**
- ArcGIS Desktop Advance, *Remote Sensing Application Centre, MP Council of Science & Technology Bhopal, India (2018)*
 - ERDAS IMAGINE Professional, Vector and Virtual GIS, *Intergraph Geospatial, Bhopal, India (2012)*
- Online:**
- UN CC: Introductory E-Course on Climate Change, *United Nations Institute of Training Research (2017)*
 - Monitoring Climate From Space, *ESA (2016)*
 - QGIS for Earth Observation And Geospatial Applications, *Learnfly (2022)*
 - Getting Started with GIS, *ESRI (2016)*
 - Editing in ArcGIS Desktop, *ESRI (2016)*
 - Geographic Coordinate System, *ESRI (2011)*

ORGANIZATIONAL ASSOCIATIONS

- **Honorary Scientific Advisor** | Institute for Ecology and Livelihood Action (IELA), Udaipur, India | [February 2023 – Current]
- **Scientific Resource Person** | Department of Science and Technology, Government of India | [November 2018 – Current]
- **Honorary member** | Indigenous and Conserved Communities Area (ICCA) Consortium, Helsinki, Finland | [October 2018 – Current]
- **Commission Member** | CEM-IUCN, Switzerland | [2017 – Current]
- **Course Coordinator and Instructor** | INGEOEXPERT, Spain | [June 2022– Current]
- **Member** | Indian Society of Geomatics - ISRO | [December 2010 – Current]

SCHOLARSHIPS, HONORS AND AWARDS

- **OKP Fellowship**, Ministry of Foreign Affairs, The Netherlands - MS in Hydroinformatics from IHE Delft [13/10/2019]
- **National Young Scientist Award**, Rajasthan Geographic Association, India - Presented research paper [12/01/2019]
- **OKP Fellowship**, Ministry of Foreign Affairs, Netherlands - Completed GIS and Remote Sensing course at UNESCO-IHE [29/10/2018]
- **Certificate of Excellence**, Science Centre Gwalior and DST Gol - Regional training workshop at RSCERT, Udaipur, Rajasthan [13/09/2023]
- **Appreciation**, Additional Director General of Police, Madhya Pradesh - Completed Dial 100 project [07/10/2017]
- **Appreciation**, Maharana Pratap Govt. College, Chittorgarh - Established GIS and Remote Sensing Laboratory [2018]
- **Appreciation**, RSAC - MPCOST, Bhopal - Organizing the National Science Congress on Energy [31/12/2013]
- **Appreciation**, Maharana Pratap Govt. College, Chittorgarh - Delivered lecture on Earth Observations and Information Technology [2021]
- **Appreciation**, Prashansa foundation Gujrat and Directorate of Education UT Administration-'Summer Research Camp' [17-23/05/2023]
- **Appreciation**, SAGE University Bhopal- Delivered lectures on Exploring Life in Water through Remote Sensing and GIS [22/08/2023]
- **Honorary membership**, ICCA Consortium, Helsinki, Finland - Recognized as a member [22/10/2018]
- **Guest of Honor**, UNICEF and WHO - COVID-19 honor campaign participant [24/12/2022]

TEACHING EXPERIENCES/ RESOURCE PERSON/ INVITED TALK

- **lead instructor and course coordinator:** Delivered 'Remote sensing and GIS for planning studies' at IPS Academy, Indore-India [August 2023].
- **Instructor and Course Coordinator:** Developed and conducted a fifty-hour course for INGEOEXPERT Training Centre, Spain [2022].
- **Guest Lecture:** Trained police officers in 'Use of Space Technology in Policing' at Rajasthan Police Academy, Jaipur [Feb 2023].
- **Guest Lecture:** 'Basics of Remote Sensing and GIS' to M.Sc. Geology students at MPCOST, Bhopal, India [2018].
- **Evaluator,** National Children Science Congress, Ministry of Sci & Tech: Evaluated research projects in Delhi [Sep 2023] & Rajasthan [Nov 2018].
- **Master Resource Scientist:** Trained teachers on 'Eco-Eureka Kit' in RSCERT, Udaipur under DST - Gol [9-13 Sep 2023].
- **Master Resource Scientist:** Provided training to science students and teachers on remote sensing, GIS, and hydroinformatics during the 'Summer Research Camp' organized by DST, Govt. of India [2023].
- **Master Resource Scientist:** Involved in 'Script Writing' for science kit under DST - Gol [13-18 August 2023].
- **Subject Matter Expert,** Science Centre Madhya Pradesh, Gwalior - Development and Duplication of Eureka project [23/05/2019].
- **Resource Person:** Delivered a lecture on Earth Observations and IT at the State Level Training Programme jointly organized by the Commissionerate of College Education, Government of Rajasthan, and Maharana Pratap Government College, Chittorgarh, India - 2021.
- **Resource Person:** 'Recent Trends in Geography' at the International Webinar on Research at Govt College Bundi, Rajasthan, India - 2020.
- **Resource Person:** 'Recent Trends and Applied Aspects' at international webinar organized by Govet College Deoli, Rajasthan, India - 2020.
- **Co-chair and Speaker:** Lectured on Applications of Remote Sensing and GIS in Forestry in International Webinar on Biodiversity Conservation and Sustainable Development Organized by Govt. Madhav Sadashivrao Golwalkar College, Rewa and IQAC [28-29 Aug 2023].
- **Speaker:** SAGE University Bhopal- Delivered lectures on Exploring Life in Water through Remote Sensing and GIS [22/08/2023].
- **Speaker:** "Fundamentals and Applications of Remote Sensing and GIS" at the national seminar on 'Applications of RS & GIS and career opportunities' organized by Government College Ajmer (GCA), Rajasthan - 2023.
- **Online Talk:** 'Fundamentals and Applications of Remote Sensing and GIS in Ecosystem Study' session at the state-level National Children Science Congress (NCSC) 2022, organized by Science Centre Madhya Pradesh.
- **Invited Talk:** 'Role of Space Technology' at workshop on Conservation of the Community Conserved Areas in Jodhpur, India - 2017.

PUBLICATIONS

Research Papers: {Citations: Google Scholar– 15, Research gate– 34}

- Narendra Gupta, Manu Raj Purohit, & Amit Daiman. (2024). A comprehensive exploration of land use dynamics, NDVI trends, and stakeholder engagement for crafting sustainable green spaces. National Geographical Journal of India, 70(1).
- Daiman A, Goyal S. Geospatial approach based mapping using proximity analysis techniques for establishment of new higher education colleges-A case study of Chambal division, Madhya Pradesh, India. Asian Journal of Multidimensional Research (AJMR). 2020;9(2):237-46.
- Daiman A, Gupta N, Dubey S. Assessment of Suspended Sediments in Lake Udaisagar, Udaipur, India. Annals of the RGA. 2018; 35.
- Karwariya S., Tripathi S., Daiman A. Geo-Spatial Approach For Tiger Habitat Suitability Mapping: A Case Study of Amarkantak Biosphere Reserve. Int J Recent Sci Res. 2017; 8(10): 21220-21226.
- Goyal S., Daiman A., Soni D. Fuzzy logic based multi-criteria analysis for exploration of groundwater potential in Karawan watershed Madhya Pradesh India. Journal of Geomatics. 2017; 11 (2): 232-239
- Manna S, Mishra A, Daiman A, Karwariya S, Goyal S. Integrated Approach for Land Resource Management Using Digital Classification Technique. Journal of Climate Change and Water. 2017; 2(1): 01-11.
- Jat J.P., Gupta N., Daiman A. Hydro-geomorphological Studies for Exploring Ground Water Potential of Bamel Watershed in Sagar, Madhya Pradesh. Annals of the RGA. 2015.
- Daiman, A., Gupta, N. Identification of groundwater recharge zones and rainwater harvesting sites using geoinformatics: A case study of Karwan watershed Madhya Pradesh. Journal of Geomatics. 2015; 9(2): 198-202.
- Daiman, A., Gupta, N. AHP technique used for developing GIS model of groundwater potential zone in parts of Bhopal district. International Journal of Engineering, Science and Mathematics. 2014; 3(4): 123-137.
- Singh, R. P., Amit, D., Ajay, K. Spatiotemporal Characteristics of Ground Water Level Fluctuation in Jaipur Urban Area Rajasthan, India. Global Journal of Research and Review. 2014; 1(3): 72-78. <https://www.gjrr.org>.

Books, Atlases and Chapters:

- Daiman A., Gupta N., Tiwari G., Shiva S. (2021), Impact of Climate Change and Monsoon Variability on Groundwater Level Fluctuation: A Case Study of Semi-Arid Region of Rajasthan.
- Editor and Author of Gwalior and Barwani Districts Resource Atlases (Madhya Pradesh- India).
- Editor and Author of Chhindwara and Seoni Districts Biodiversity Atlases (Madhya Pradesh- India).

EXTRACURRICULAR ACTIVITIES AND HOBBIES

Mr. Fresher & Mr. Farewell (MSc in Remote Sensing and GIS), **Dance, Singing:** Enthusiastic vocalist, **Accomplished poet, Skilled photographer.** **Travelling:** Avid explorer, visited 20 countries, **Chess:** Strategic thinker, **Badminton:** Active player.

REFERENCES

- **Dr. Parth Sarathi Roy**, Senior Fellow, WRI India, Former Director ISRO (NRSC, IIRS, NESAC), parth.roy@wri.org, +91-9000971952.
- **Dr. Biswa Bhattacharya**, Hydroinformatics, IHE Delft, The Netherlands, b.bhattacharya@un-ihe.org, +31152151749
- **Dr. Schalk Jan van Aniel**, Hydroinformatics, IHE Delft, The Netherlands, s.vanandel@un-ihe.org, +31152151803.