

Curriculum vitae

Dr. Reshma M.R.,
Research Scientist,
Division of Ecology and Environmental Sciences
S.S.Research Foundation,
Kallidaikurichi, Tirunelveli District, TN, INDIA.

E-mail: reshmamr@uohyd.ac.in, reshmamr04@gmail.com
Mobile Number: +91-9490206259

Career Objective

To excel in my field through hard work, research, skills and perseverance. To serve my parents, nature and my country with the best of my abilities.

Academic Profile

Degree & year of pass	Board/University	Major Subject	Percentage of Marks
Ph.D.	University of Hyderabad	Spatial modeling of land use dynamics and its impact on ecosystem services in Eastern Ghats, India	Completed
SRF, MoES funded project October 2015 to 2019	Affiliated with University of Hyderabad, Hyderabad – 500 046, India	Spatial modeling of land use dynamics and its impact on ecosystem services in Eastern Ghats, India	Completed
Junior Research Fellow - Dr. K.L. Rao Geospatial Chair Professor Scheme (December 2013 to October 2015)	Affiliated with University of Hyderabad, Hyderabad – 500 046, India	Spatial modeling of land use dynamics in Eastern Ghats, India	Completed
M.Phil. (2012-2013)	Indian Institute of Information Technology and Management, Thiruvananthapuram, CUSAT	Ecological Informatics	79.97% (First Division)
M.Sc. (2010-2012)	Pondicherry Central University, Puducherry - 605 014, India	Ecology & Environmental Sciences	85.3% (First Division)
B.Sc. (2007-2010)	NSS College, Cherthala. University of Kerala	Environment & Water	83.7% (First Rank with Distinction)

		Management	
H.S.C. (2004-2006)	Board of Higher Secondary Examination, Kerala, India	Pure Science	70 % (First Division)
S.S.L.C. (2004)	Board of Secondary Examination, Kerala, India	General	72.5%(First Division)

Awards/Fellowships/Membership

- Member of Indian Meteorological Society
- Selected as a Senior Research Fellow Under MoES funded project at Centre for Earth, Ocean and Atmospheric Sciences, University of Hyderabad [October 2015– Till date]
- Selected as a Junior Research Fellow Under Dr. K.L.Rao Geospatial Chair Professor Scheme funded by Department of Science and Technology(DST), Government of India, New Delhi, India [09.12.2013 – October 2015]
- UGC-NET (Lectureship) qualified December– 2011 Reg.No.: 16890061
- Kerala University Rank holder (1st) for B.Sc. Environment and Water Management examination held in March 2010

Research Experiences

Project #1

Project Title:Spatial modelling of land use dynamics and its impact on ecosystem services in Eastern Ghats, India

Funding agency:Ministry of Earth Sciences, New Delhi, India (October 2015-Till date)

Mentor: Dr. V.C. Chakravarthi, Associate Professor, Centre for Earth, Ocean and Atmospheric Sciences,University of Hyderabad, Hyderabad - 500 046

Brief Overview of Project: The study seeks the long term land use changes in Eastern Ghats from 1920-2015.Historical maps and satellite images from 1920 to 2015 were used to develop the land use and fragmentation maps. The effects of land use changes on ecosystems services and plant diversity are assessed.

Project #2

Project Title:Spatial modelling of land use dynamics in Eastern Ghats, India

Funding agency: Department of Science and Technology (DST), New Delhi, India. Dr. K. L. Rao Geospatial Chair Professor Scheme Fellowship (December 2013-Till date)

Mentor: Dr. P.S. Roy, Geospatial Chair Professor , Centre for Earth and Space Sciences University of Hyderabad, Hyderabad - 500 046

Brief Overview of Project: The land use land cover dynamics and its impacts on ecosystem services in Eastern Ghats one of the oldest hill ranges in India covering the parts of Orissa, Andhra Pradesh, Telangana, Karnataka and Tamil Nadu, which house extensive number of endemic and medicinal plants and more than 60 tribal groups are residing in the Eastern Ghats. By studying the land use and land cover of this area will improve the conservation and management options in the Eastern Ghats.

Project #3

Project Title: Assessment And Monitoring Of Long Term Forest Cover Changes In Idukki District, Kerala, India Using Remote Sensing And GIS

Duration: M.Phil Project at Forestry and Ecology Division, National Remote Sensing Centre, Balanagar, Hyderabad (January 2013-To June 2013)

Mentor: Dr. C. Sudhakar Reddy, Scientist SE, Forestry and Ecology Division, Balanagar Hyderabad

Brief Overview of Project: The study carried out the assessment and monitoring of long term forest cover changes in Idukki district, Kerala, India. The objectives of the present study was to map forest covers in Idukki district using multi-temporal remote sensing data (1975, 1990, 2001 and 2012) and topographical maps (1925) and to analyze the long term forest cover changes, using remote sensing and Geographic Information System (GIS) techniques. The satellite data of Idukki district were acquired for the five periods are Landsat Multi Spectral Scanner (MSS) image of 1975, Landsat Thematic Mapper (TM) image of 1990, Landsat Enhanced Thematic Mapper Plus (ETM+) image of 2001 and Indian Remote Sensing-P6 (IRS-P6) Advanced Wide Field Sensor (AWiFS) image of the year 2012. The topographical maps (1:250,000 scale) were used for the historical forest cover change assessment. Overall statistics for the period of 1925 indicates that about 4675.7 km² (93.2%) of the landscape was under green wash. Forest cover reduced drastically during 1925 to 2012.

Project #4

Project Title: An assessment of heavy metal accumulation and their dynamics in water, sediment and different Aquatic edible species in Vembanad Wetlands, Southwest Coast of India.

Duration: M.Sc. Project (6 months)

Mentor: Dr. Anisa. B. Khan, Professor, Dept. Ecology and Environmental Sciences, Pondicherry University, Puducherry.

Brief Overview of Project:

Studied the impact of heavy metal pollution in the lake Vembanad, Kerala. The water, sediment and aquatic animal samples are collected for 3 months 2011-12 and analyzed the samples in the atomic absorption spectrometer for finding the amount of heavy metal present. The results shows that the samples carrying the very less amount of heavy metals even though it will make harmful effect if the pollution rate is going in the present condition.

Project #5

Project Title: An Assessment of the Water Quality Parameters of the Mud Bank Waters of Alleppy Sea Coast.

Duration: B.Sc. Project (six months)

Mentor: Dr. V. Rajamani Amma, Department of Chemistry, N.S.S College, Cherthala

Project #6

Project Title: Impacts of Indiscriminate Sand Mining in Kerala-Special Reference with Cherthala Taluk.

Duration:B.Sc. Project (six months)

Mentor:Mr.S.Mohandas M.Sc., M.Phil. Department of Chemistry, N.S.S.College, Cherthala.

Publications

Peer Reviewed Research Articles

1. Saurabh Srivastava, Supriya Abhijit Bejalwar, R Ramachandran, Biswo Ranjan Mishra, R Arun, R Mythily (2024). E-Commerce And Digital Libraries: Exploring The Future Of Information Access In The Digital Economy. *Library of Progress-Library Science, Information Technology & Computer*, 44 (3).
2. Roy, P.S., Ramachandran, R.M., Paul, O. *et al.* Anthropogenic Land Use and Land Cover Changes—A Review on Its Environmental Consequences and Climate Change. *J Indian Soc Remote Sens* **50**, 1615–1640 (2022). <https://doi.org/10.1007/s12524-022-01569-w>
3. Reshma M R,Roy PS, Chakravarthi V, Joshi P K, & Sanjay J. (2020). Land use and climate change impacts on distribution of plant species of conservation value in Eastern Ghats, India: a simulation study. *Environmental Monitoring and Assessment*, 192(2). doi:10.1007/s10661-019-8044-5 [IF- 1.959]
4. Pande RM, Behera MD, Roy PS,Reshma M R. (2019). On the relationships between plant species richness and the environment: a case study in Eastern Ghats, India. *Environmental Monitoring and Assessment* 191, 784. <https://doi.org/10.1007/s10661-019-7686-7>
5. **Reshma M R**, Roy P S, Chakravarthi V, Sanjay J, Pawan K. Joshi. (2018) Long-term land use and land cover changes (1920–2015) in Eastern Ghats, India: Pattern of dynamics and challenges in plant species conservation. *Ecological Indicators* 85: 21–36.[IF: 3.86]
6. Kale M P, **Reshma M R**, Pardeshi S N, Chavan M, Joshi P K, Pai D S, Bhavani P, Ashok K, Roy P S (2017).Are Climate Extremities Changing Forest Fire Regimes in India? An Analysis Using MODIS Fire Locations during 2003–2013 and Gridded Climate Data of India Meteorological Department. *Proceedings of the National Academy of Sciences, India Section A: Physical Sciences*.87 (4), 827–843[IF: 0.42]
7. Meiyappan P, Roy P S, Sharma Y, **Reshma M R**, Joshi P K, DeFries R S and Jain A K (2016) Dynamics and determinants of land change in India: Integrating satellite data with village socioeconomics. *Regional Environmental Change*.17 (3): 753–766 DOI 10.1007/s10113-016-1068-2.[IF: 2.91]
8. **Reshma M R** and Reddy C S (2016) Monitoring of deforestation and land use changes (1925–2012) in Idukki district, Kerala, India using remote sensing and GIS. *Journal of Indian Society of Remote Sensing*.45 (1): 163–170.DOI 10.1007/s12524-015-0521-x [IF: 0.725]
9. Roy P S, Roy A, Joshi P K, Kale M P, Srivastava V K, Srivastava S K, Dwevidi R S, Joshi C, Behera M D, Meiyappan P , Sharma Y, Jain A K, Singh J S, Palchowdhuri Y, **Reshma M R**, Pinjarla B, Chakravarthi V, Babu N, Gowsalya M S, Thiruvengadam P, Kotteeswaran M, Priya V, Yelishetty K M V N, Maithani S, Talukdar G, Mondal I,

Rajan K S, Narendra P S, Biswal S, Chakraborty A, Padalia H, Chavan M, Pardeshi S N, Chaudhari S A, Anand A, Vyas A, Reddy M K, Ramalingam M, Manonmani R, Behera P, Das P, Tripathi P, Matin S, Khan M L, Tripathi O P, Deka J, Kumar P and Kushwaha D (2015) Development of Decadal (1985–1995–2005) Land Use and Land Cover Database for India. *Remote Sensing* (7) 2401-2430; doi:10.3390/rs70302401 [IF: 2.623]

10. Roy P S, Behera M D, Murthy M S R, Roy A, Singh S, Kushwaha S P S, Jha C S, Sudhakar S, Joshi P K, Reddy C S, Gupta S, Pujar G, Dutt C B S, Srivastava V K, Porwal M C, Tripathi P, Singh J S, Chitale V, Skidmore A K, Rajshekhar G, Kushwaha D, Karnataka H, Saran S, Giriraj A, Padalia H, Kale M, Nandy S, Jaganathan C, Singh C P....., Uniyal B P, Debnath B, Rout D K, Thapa R, Joseph S, Chhetri and **Reshma M R**, (2015) New Vegetation Type Map of India Prepared Using Satellite Remote Sensing: Comparison with Global Vegetation Maps and Utilities. *International Journal of Applied Earth Observations and Geoinformation* **39** 142–159. [IF: 2.8]

Book chapters

1. **Reshma M R** and Roy P S. 2018. Vegetation response to climate change in Himalayan hill ranges: a remote sensing perspective. In: Plant Diversity in the Himalaya Hotspot Region. Pp423-446.

Proceedings in the conference

1. **Reshma M R**, Roy P S and Chakravarthi V (2018). Habitat loss of endemic and RET plants in Eastern Ghats under land use and multiple climate change scenarios. International Biodiversity Congress held at Forest Research Institute, Dehradun from 4-6th October 2018, Uttarakhand, India.
2. **Reshma M R**, Roy P S and Chakravarthi V (2017) Landscape change monitoring (1920-2015) of forests of Eastern Ghats, India. Fourth Indian Biodiversity Congress held at Pondicherry University from 10-12 March 2017, Puducherry, India.
3. K. Srinivas, P. S. Roy and **Reshma M R** (2015) Forest fire locations in India, their Spatio-temporal patterns and impact of Climatic variables. National conference on Open Source GIS- Opportunities and challenges (OSGIS- 2015) October 9-10, 2015. Department of Civil Engineering IIT, BHU, Varanasi.
4. **Reshma M R**, P. S. Roy and V. Chakravarthi (2015) Land use land cover dynamics of Eastern Ghats India using geospatial technologies. Joint International Conference AsiaFlux workshop 2015 and ISPRD TC WG VIII/3 Weather, Atmosphere and Climate Studies on “Challenges and Significance of Ecosystem Research in Asia to better understand Climate change”. 22-29 November 2015 Indian Institute of Tropical Meteorology, Pune, India

Workshops and Training programs

1. One day training on Google Earth Engine at International Institute of Information Technology, Hyderabad on 20 December 2017.
2. Workshop on current issues and applications of statistical methods organized by School of Mathematics and Statistics, University of Hyderabad on 16th October 2017.

3. GIAN Program on Extreme weather and climate variability; observations, understanding and prediction held at IIT, Bhubaneswar from 22-31 December 2016.
4. Joint conference Asia Flux Workshop 2015 and ISPRD TC WG VIII/3 : Weather, Atmosphere and Climate Studies on “Challenges and Significance of Ecosystem Research in Asia to Better Understand Climate Change” 22-29 November 2015, Indian Institute of Tropical Meteorology Pune, India.
5. Three day workshop on R statistics conducted by C. R. Rao Institute of Advanced Mathematics, Computer Sciences and Statistics and Department of Mathematics, University of Hyderabad from 9th to 11th January 2015.
6. Three months Geospatial Technologies and Applications course from 9th June 2014 to 28 August 2014, NRSC, Balanagar, Hyderabad.
7. NRDM Geospatial Winter School on Open Source Development of Geospatial Technology 27th January-15th February, 2014- IIIT, Hyderabad
8. Two months online course on Geospatial technologies conducted by IIRS from September 2012 to November 2012

Conferences and Seminars attended

1. Fourth Indian Biodiversity Congress held at Pondicherry University from 10-12 March 2017, Puducherry, India.
2. Conference and one day methodology workshop on scenarios and models in biodiversity and ecosystem services held at CESS, Hyderabad from 14-16 February 2017.
3. Joint conference Asia Flux Workshop 2015 and ISPRD TC WG VIII/3 : Weather, Atmosphere and Climate Studies on “Challenges and Significance of Ecosystem Research in Asia to Better Understand Climate Change” 22-29 November 2015, Indian Institute of Tropical Meteorology Pune, India.
4. India Geospatial Forum Conference 10-12th February, 2015 at Hyderabad

Technical exposure

- Remote sensing and GIS (Image processing, Image interpretation, spatial database creation etc...)
- Water and soil quality analysis technique

Known statistical Packages

R statistics, Matlab

Known GIS and RS Software

Arc GIS, ERDAS IMAGIN, Q GIS, Grass

Other packages

Google earth engine, Grads, Climate data operator (CDO)

Personal details

Date of Birth and Age : 26.04.1989
 Gender : Female

Marital Status : Married
Nationality : Indian
Languages Known : Malayalam, English, Tamil and
German (Level I)