PRASHANT PATIL

team lead

Phone : +91 8790348603
Email ID : ptpatil@hotmail.com
Address : New Delhi, India
Date of Birth: 15-06-1982

Seeking a challenging Team Lead role in the Renewables/Environment industry leveraging extensive experience in Remote Sensing, GIS, and environmental data analysis. Proven ability to lead project teams, manage complex datasets, and deliver actionable insights to support sustainability initiatives and drive environmental responsibility. Eager to contribute to a leading organization committed to environmental stewardship and a sustainable future.

Professional Summary

- Led GIS and Remote Sensing projects for organizations including Carbon Business ReNew, SatSure, and Earth Analytics India LTD.
- Successfully mapped and monitored forest biomass and carbon, contributing to environmental sustainability initiatives.
- Conducted LULC mapping and change detection analysis using various datasets like Landsat and Sentinel.
- Utilized expertise in remote sensing and GIS for crop type mapping, yield estimation, and land degradation assessment.
- Developed and implemented methodologies for assessing and mapping standing forest phytomass and carbon density.

Career Timeline

1. Oct 2023 - Present
   GIS Lead
   Carbon Business ReNew
2. Sep 2021 - Sep 2023
   Senior Geo-Spatial Data Scientist
   SatSure
3. Sep 2018 - May 2021
   Senior Remote Sensing Specialist
   Earth Analytics India LTD
4. Sep 2017 - Dec 2017
   Remote Sensing & GIS Consultant
   International Crops Research Institute for the Semi-Arid Tropics
5. Sep 2015 - Aug 2017
   Researcher
   Institute of Remote Sensing and Digital Earth (RADI), Chinese Academy of Science
6. Oct 2013 - Jun 2015
   Remote Sensing & GIS Consultant
   International Centre for Agricultural Research in the Dry Areas (ICARDA)
7. Nov 2012 - Feb 2013
   Research Associate
   ATREE and Academy of Forest and Environmental Sciences
8. Nov 2011 - Apr 2012
   GIS Engineer
   Agriculture and Natural Resources Division, RMSI
9. Nov 2009 - Jun 2011
   Junior Research Fellow
   ISRO-GBP | Indian Institute of Remote Sensing, ISRO

Work Experience

Oct 2023 - Present

GIS Lead

Carbon Business ReNew (Gurugram, India)

Technical Skills

Remote Sensing	★★★★★
GIS	★★★★★
Spatial Analysis	★★★★½
Biomass Estimation	★★★★½
Carbon Modeling	★★★★½
LULC Mapping	★★★★½
Image Processing	★★★★☆
ArcGIS	★★★★½
Google Earth Engine	★★★★☆
ENVI	★★★★☆

Soft Skills

Communication
Teamwork
Problem-solving
Analytical Skills
Adaptability
Time Management
Leadership
Detail-Oriented
Data Analysis
Research

Core Competencies

Geospatial Analysis
Environmental Modeling
Remote Sensing Applications
Data Visualization & Interpretation
Project Management

Education

Master of Technology
Indian Institute of Remote Sensing, Dehradun (ISRO), India
2007 - 2009

Bachelor of Science in Forestry
University of Agricultural Sciences, Dharwad, College of Forestry, Sirsi, Karnataka, India
2002 - 2006

Languages

English
Kannada
Marathi
Hindi

Hobbies

Gardening
Sustainability
Outdoors
Environment

Responsibilities involved leading GIS analysis, ensuring data quality, and providing technical guidance to the team for carbon offset projects related to agroforestry.

- Led project feasibility studies, ensuring alignment with Verra ARR and Gold Standard guidelines, for sustainable land management and carbon offset projects.
- Developed and implemented GIS-based monitoring systems to track plantation health, growth, and carbon sequestration progress.
- Conducted spatial analysis to determine farm eligibility for carbon offset programs based on predefined criteria.
- Developed and delivered training programs for field teams on data collection techniques, ensuring accurate and reliable ground-truthing data for GIS analysis.

Achievements:

- Successfully assessed feasibility for multiple projects, contributing to the company's portfolio of sustainable land use initiatives.
- Implemented a GIS-based monitoring system that enhanced data accuracy and efficiency for tracking plantation progress.
- Streamlined farm eligibility checks, improving efficiency in project implementation.

Sep 2021 - Sep 2023

Senior Geo-Spatial Data Scientist

SatSure (Bengaluru, India)

Responsibilities encompassed leading geospatial data analysis, developing innovative mapping methodologies, and delivering actionable insights to guide decision-making in forestry and agriculture domains.

- Developed advanced geospatial models and algorithms for mapping and monitoring forest biomass, carbon stocks, and soil organic carbon, supporting sustainable forestry practices and carbon sequestration assessments.
- Led the LULC mapping and change detection analysis of the Lower Dibang Valley in Arunachal Pradesh, India, leveraging remote sensing data to understand land use patterns and environmental impacts.
- Conducted crop type and yield mapping in Nagaur district, Rajasthan, and crop type mapping in Nigeria, using satellite imagery and machine learning techniques to support agricultural productivity assessments.
- Performed site suitability analysis for Arecanut, Black Pepper, and Banana plantations in Uttar Kannada, Karnataka, utilizing geospatial data to inform optimal planting locations and promote sustainable agriculture practices.

Achievements:

- Developed accurate biomass and carbon stock estimates utilizing advanced geospatial techniques, providing valuable data for forest management and carbon offset projects.
- Generated comprehensive LULC maps and change detection analyses, providing insights into deforestation trends and supporting land use planning for Lower Dibang Valley.
- Successfully mapped crop types and estimated yields, contributing valuable data for agricultural monitoring, yield forecasting, and food security initiatives.

Sep 2018 - May 2021

Senior Remote Sensing Specialist

Earth Analytics India LTD (Mumbai)

Responsibilities included leading remote sensing analysis, overseeing project execution, and collaborating with international organizations to deliver high-quality geospatial data for agricultural and environmental applications.

- Led the development and execution of high-resolution cropland mapping projects across India, leveraging optical and SAR datasets to support the Pradhan Mantri Fasal Bima Yojana (PMFIY) initiative.
- Developed advanced image processing and classification techniques to map crop types using SAR data for dryland regions in North and Central India, collaborating with Swiss Development & Cooperation (SDC) on a project focused on agricultural risk management.
- Conducted comprehensive crop type mapping and soil organic carbon assessments for Balrampur district, Uttar Pradesh, utilizing SAR data to inform sustainable agriculture practices and soil health management.
- Performed detailed LULC mapping and change detection analysis of the Hindu Kush Himalayan region, providing crucial insights into ecosystem dynamics and land cover changes in fragile mountainous environments.

Achievements:

- Generated accurate and high-resolution cropland maps for various regions in India, contributing to the successful implementation of the PMFIY scheme by providing crucial data for crop insurance assessments.
- Developed innovative crop classification methods using SAR data, enhancing agricultural monitoring capabilities in dryland regions and supporting the SDC's efforts in agricultural risk mitigation.
- Provided crucial spatial data on crop types and soil organic carbon content, contributing to sustainable agricultural planning and soil conservation efforts in Balrampur district.

Sep 2017 - Dec 2017

Remote Sensing & GIS Consultant

International Crops Research Institute for the Semi-Arid Tropics (Hyderabad, India)

Responsibilities involved conducting field surveys, analyzing diverse geospatial datasets, and delivering high-quality mapping products to support agricultural research and development initiatives in semi-arid regions.

- Conducted extensive field surveys and collected ground truth data in four districts of Karnataka, India, to support LULC and crop type mapping initiatives for sustainable agricultural development.
- Performed detailed LULC and crop type mapping for Bidar, Gulbarga, Dharwad, and Devanagari districts (Karnataka, India) using Sentinel-1 & 2 datasets, providing valuable insights for agricultural planning and resource management.

- Completed LULC mapping and a 36-year change detection analysis of Niger, leveraging multi-temporal Landsat data (MSS, ETM+, and Landsat-8) to assess long-term land degradation trends and their impact on agriculture and the environment.
- Conducted time-series analysis to assess land degradation patterns over 14 years in Niger, contributing valuable data for understanding desertification processes and developing sustainable land management strategies.
- Performed crop type mapping for Ahmednagar, Balaghat, and Mandal districts using Landsat time series data to provide essential information for crop monitoring, yield estimation, and food security assessments.
- Generated a comprehensive LULC map of Nigeria for 2017, providing a valuable baseline for monitoring land use changes, deforestation rates, and agricultural expansion.
- Initiated a comprehensive study to assess and map land degradation patterns over 36 years in Niger and Nigeria using extensive Landsat datasets, aiming to provide crucial insights into the environmental impacts of land degradation in the region.

Achievements:

- Successfully mapped LULC and crop types for multiple regions, aiding in the development of informed agricultural practices and resource management strategies in semi-arid regions.
- Generated comprehensive land degradation maps and analyses spanning several decades, contributing significant insights into long-term environmental changes and their impact on agricultural sustainability.
- Contributed to a manuscript titled "A review of the available land cover and cropland maps for South Asia," aiming to improve the accessibility and utilization of geospatial data for informed decision-making in the region.

Sep 2015 - Aug 2017

Researcher

Institute of Remote Sensing and Digital Earth (RADI), Chinese Academy of Science (Beijing, China)

Responsibilities included conducting independent research, analyzing large-scale remote sensing datasets, and contributing to international research collaborations focused on agricultural monitoring and food security.

- Researched and developed high-resolution mapping techniques for monitoring cropland dynamics and change detection across South Asia over three decades, as part of the Global CropWatch program.
- Utilized advanced remote sensing datasets and methodologies to analyze cropland extent, distribution, and temporal changes to aid in understanding agricultural land use patterns and food security assessments.

Achievements:

- Contributed to the Global CropWatch program by generating valuable insights into cropland dynamics and change patterns across South Asia.
- Developed refined cropland mapping methodologies using high-resolution data, enhancing the accuracy and detail of agricultural land use assessments.

Oct 2013 - Jun 2015

Remote Sensing & GIS Consultant

International Centre for Agricultural Research in the Dry Areas (ICARDA) (Amman, Jordan)

Responsibilities included conducting training programs, leading remote sensing analysis, and collaborating with international partners to assess and monitor agricultural and environmental resources in dryland regions.

- Conducted training programs on remote sensing and GIS applications for agricultural research and development in dryland environments, enhancing the technical capacity of researchers and practitioners.
- Utilized remote sensing and field observations to quantify terrestrial phytomass and carbon stocks in the Hindu Kush Himalayan forests, contributing to regional carbon sequestration assessments and sustainable forest management.
- Analyzed decadal changes in land use and land cover patterns in Jordan, employing remote sensing data to understand land degradation processes and inform sustainable land management practices in dryland ecosystems.
- Conducted crop type mapping, estimated crop biomass, and assessed carbon sequestration potential in Morocco, using high-resolution WorldView satellite data to support agricultural monitoring and carbon accounting initiatives.
- Performed LULC mapping for three sites in Afghanistan, leveraging WorldView imagery to provide baseline data for environmental monitoring, land use planning, and resource management.

Achievements:

- Successfully delivered remote sensing and GIS training programs, equipping researchers and professionals with valuable skills for sustainable agriculture in dryland regions.
- Generated valuable data on forest carbon stocks in the Hindu Kush Himalayas, contributing to regional carbon balance assessments and informing sustainable forest management strategies.
- Provided critical insights into land degradation trends and their drivers in Jordan, supporting the development of data-driven land management practices for dryland ecosystems.

Nov 2012 - Feb 2013

Research Associate

ATREE and Academy of Forest and Environmental Sciences (Dehradun, India)

Responsibilities involved conducting field research, collaborating with local communities, and promoting the use of geospatial technologies for effective forest management and conservation.

- Conducted LULC mapping of Van Panchayats (forest councils) using remote sensing, GIS, and field surveys to support community-based forest management and conservation initiatives in the Himalayan region.
- Collaborated with local communities in 22 villages across Pauri Garhwal, Almora, and Nainital districts of Uttarakhand, India, to promote sustainable forest management practices, focusing on the restoration of traditional water bodies, revitalization of degraded lands, and protection of endangered tree species.

- Developed project proposals to secure funding for building capacity in Van Panchayats, focusing on utilizing remote sensing and GIS technologies for forest management planning and resource monitoring.

Achievements:

- Generated detailed LULC maps of Van Panchayat areas, providing valuable data for informing community-based forest conservation and management decisions.
- Successfully engaged with local communities to implement sustainable forest management practices, contributing to the restoration of degraded ecosystems and the conservation of biodiversity in the Himalayan region.

Nov 2011 - Apr 2012

GIS Engineer

Agriculture and Natural Resources Division, RMSI (Hyderabad, India)

Responsibilities involved conducting geospatial analysis, managing large datasets, and generating high-quality maps and reports to support sustainable forest management and carbon sequestration assessments.

- Performed Land Use Land Cover (LULC) mapping and estimated standing forest phytomass and carbon sequestration rates across four provinces in Cambodia, providing essential data for forest management and carbon offset programs.
- Conducted comprehensive LULC mapping and estimated standing forest phytomass, carbon sequestration rates, and associated parameters (tree count, growing stock, fire occurrence) for the entire forest cover of Siberia, Russia, generating a detailed GIS database used for forest resource management and carbon accounting.

Achievements:

- Generated key geospatial data products on forest cover, phytomass, and carbon sequestration for Cambodia, informing national forest management strategies and supporting carbon offset initiatives.
- Developed an extensive GIS database for Siberian forests, compiling detailed LULC, biomass, and carbon stock information used for large-scale forest monitoring, carbon accounting, and research purposes.

Nov 2009 - Jun 2011

Junior Research Fellow

ISRO-GBP | Indian Institute of Remote Sensing, ISRO (Dehradun, India)

Responsibilities included developing remote sensing methodologies, conducting field research, managing geospatial data, and contributing to scientific publications in the field of forest resource assessment and carbon inventory.

- Developed and implemented a scientific methodology for assessing standing forest phytomass and carbon density using remote sensing techniques, contributing to national carbon inventory efforts.
- Conducted field surveys for pilot case studies and assisted in field data collection for national-level projects, ensuring accurate ground truth data for remote sensing analysis.
- Performed quality checks on project progress, ensuring adherence to scientific protocols and data quality standards for national forest inventory initiatives.
- Provided training to research scholars on phytomass analysis, modeling, and mapping techniques, contributing to capacity building in remote sensing applications for forest resource management.
- Maintained and updated a comprehensive geospatial database, integrating data from various sources to support national forest inventory and carbon stock assessments.
- Analyzed field data, developed and implemented models for forest phytomass and carbon density estimation, and contributed to research publications on forest carbon dynamics.

Achievements:

- Successfully developed and implemented a standardized methodology for assessing forest phytomass and carbon density using remote sensing, contributing to national-level carbon inventory efforts.
- Played a key role in collecting and ensuring the quality of field data for national projects focused on forest resource assessment and carbon stock estimation.
- Contributed to advancing research capacity in forest remote sensing by providing training on advanced analysis and modeling techniques.

MISCELLANEOUS

Countries visited: Jordan, China, Germany, Switzerland and Italy.

LinkedIn profile: https://www.linkedin.com/in/prashant-patil-55135b61/

Research gate profile: https://www.researchgate.net/profile/Prashant-Patil-14/research

PUBLICATIONS:

- Dadhwal, V.K., Sarnam singh and Prashant Patil (2009). Assessment of Phytomass Carbon Pools in Forest Ecosystems in India. NNRMS Bulletin. 41-57. Sens (DOI 10.1007/s 12524-011-0121-3).
- Prashant Patil, Sarnam Singh and Dadhwal V.K (March 2012) Above Ground Forest Phytomass Assessment in Southern Gujarat. J Indian Soc. Remote.
- Ravi Kumar, S.R. Gupta, Prashant Patil, Sarnam Singh and V.K. Dadhwal (2011): Spatial Distribution of Forest Biomass Using Remote Sensing and Regression Models in Northern Haryana, India. Inter. J Eco Envi Sci. 37.
- Sarnam Singh, Prashant Patil, V.K.Dadhwal, J.R.Banday and D.N.Pant (2012): Assessment of Aboveground Phytomass in Temperate Forests of Kashmir Valley, J&K, India. Inter. J Eco Envi Sci. 38 (2-3).

- V.K.Dadhwal, S.P.S. Kushwaha, Sarnam Singh, N.R.Patel, R.K.Nayak, Prashant Patil, C.B.S.Dutt, M.S.R.Murthy, C.S.Jha, G. Rajsekar, G.S.Pujar, Shivam Trivedi, Neerja Sharma and M.M.Ali (2012): Recent Results From EO Studies on Indian Carbon Cycle Assessment. ISPRS Archives XXXVIII-8/W20; Workshop Proceedings: Earth Observation for Terrestrial Ecosystems.
- G.M.Devagiri, S.Money, Sarnam Singh, V.K. Dadhwal, Prashant Patil, Anilkumar Khaple, A.S.Devakumar and Santosh Hubballi (2013): Assessment of above ground biomass and carbon pool in different vegetation types of south western part of Karnataka, India using Spectral modeling: Tropical Ecology 54 (2): 149-165.
- Prashant Patil, Deboleena Dutta, Chandrasekhar Biradar (2014). Quantification of the terrestrial phytomass and carbon in the Hindu Kush Himalayan forests using remote sensing and in-situ observations; The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, At Berlin, Germany, Volume: Volume XL-7/W3, 2015 36th International Symposium on Remote Sensing of Environment, 11–15 May 2015, DOI: 10.5194/isprsarchives- XL-7-W3-483-2015.
- Prashant Patil, Chandrashekhar Biradar, Layal Atassi, Rachid Moussadek, Mohamed Kharrat, Murari Singh, Fouad Abbad Andaloussi, Shiv Kumar; Mapping and Monitoring Of Food Legumes and Dryland Cereal Production Systems, Conference: Agro Geo-informatics, 2015 Fourth International Conference, At Istanbul, Volume: IEEE Xplore Digital Library, 407 - 413, INSPEC Accession Number: 15439206.
- Prashant Patil and Murli Krishna Gumma: A review of the available cropland and land cover maps for South Asia. Agriculture, 2018.
- François Waldner…., Prashant Patil et all: Conflation of expert and crowd reference data to validate global binary thematic maps, Remote Sensing of Environment, 2019.
- P. Prashant and A. Michael "Application of geospatial technology for high-resolution mapping and monitoring of crop patterns in support of crop insurance for the rain-fed regions of India", Proc. SPIE 11528, Remote Sensing for Agriculture, Ecosystems, and Hydrology XXII, 1152804 (20 September 2020); https://doi.org/10.1117/12.2572393.
- Prashant Patil, Nagaraj Hegde, Chintan Nanda and Uttam Kumar Sahoo (2022): Understanding the Concept of Biomimetics for Geoinformatics Technology and its Utilization for Nature-based Solutions. International Journal of Ecology and Environmental Sciences 48: 533-540, 2022. https://doi.org/10.55863/ijees.2022.0533.
- Shravankumar Shivappa Masalvad, Chidanand Patil,Akkaram Pravalika, Basavaraj Katageri Purandara Bekal Prashant Patil, Nagraj Hegde, Uttam Kumar Sahoo, Praveen Kumar Sakare (2024): Application of geospatial technology for the land use/landcover change assessment and future change predictions using CA Markov chain model. Environment, Development and Sustainability (2024) 26:24817–24842https://doi.org/10.1007/s10668-023-03657-4.
- P. Patil, C. Patil, S. Musalvad, N. Hegde, U. K. Sahoo, S. T. Janardhana, S. Kumar, N. Lyngdoh (2024): Monitoring Land Use Land Cover Change And Its Impact on Climatic Parameters Using Remote Sensing And Gis: A Case Study Of Lower Dibang Valley,Arunachal Pradesh, India. Geoinformatica Polonica, DOI: 10.4467/21995923GP.24.005.20472.

Publications in national and international seminar and symposium:

- Prashant Patil, Sarnam Singh, VK Dadhwal, Zalid Riyaz Bande and DN Pant (2011)"Above Ground Biomass and Carbon assessment in Temperate Forests of Kashmir Valley, J&K using Geospatial Techniques" National Symposium on GIS and Remote Sensing in Infrastructure Development, Pune.
- Prashant Patil, Sarnam Singh & VK Dadhwal (2011)"above ground forest phytomass assessment in Jalgaon District, Maharashtra" National Symposium on GIS and Remote Sensing in Infrastructure Development, Pune.
- Kumar, R., Patil, P., Gupta, S.R., Singh, S. and Dhadhwal, V.K. (2011). Spatial Distribution of Forest Aboveground Biomass using Regression Models and Remote Sensing in Northern Haryana, India. Journal of Environmental Science & Technology (IJEES).2010.
- Prashant Patil., Kumar, R., Singh, S., Gupta, S.R, and Dhadhwal, V.K. (2011). Above Ground Biomass and Carbon Estimation using Field Inventory, Aerospace Data and Geographic Information System in Yamunanagar District, Haryana. National Seminar on Forest Resources: Diversity, Utilization and Conservation, Bengaluru.
- Chandrashekhar Biradar, Abdallah Bari, Prashant Patil, Ahmed Amri, Murari Singh and C.Jeganathan Geoinformatics and Genetic Resources under Changing Climate. International workshop on Applied Mathematics and Omics Technologies for Discovering Biodiversity and Genetic Resources for Climate Change Mitigation and Adaptation to Sustain Agriculture in Drylands, June 24-27, 2014, Morocco, Rabat., Morocco, Rabat; 06/2014.
- Chandrashekhar Biradar, F. Löw, G. Zhang, Xiangming Xiao, Jinwei Dong, E. Fliemann, Prashant Patil, Murari Singh, Fawaz Tulaymat, Jalal Eddin Omary, T. Richard, 2015; Quantification of cropping pattern and productivity of agro-ecosystems in Central Asia; The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, 36th International Symposium on Remote Sensing of Environment, At Berlin, Germany.
- Chandrashekhar Biradar, Xiangming Xiao, G. Zhang, Yao Zhang, F. Löw, E Fliemann, Pradeep Wagle, Christopher Conrad, De By, Geert Sterk, F Ziadat, Quang Bao Le, Prashant Patil, Murari Singh, B Dosov, E Bonaiuti, Maarten van Ginkel. 2015; COMBATING DROUGHT, L AND DEGRADATION AND DESERTIFICATION FOR POVERTY REDUCTION AND SUSTAINABLE DEVELOPMENT, Quantification of Land Degradation and Productivity of Agro-ecosystems under Changing Climate and Land Use. Cancun, Mexico, Conference:
- 3rd UNCCD, Affiliation: ICARDA, DOI: 10.13140/RG.2.1.2647.3041; DOI: 10.13140/RG.2.1.2647.3041.
- Prashant Patil, Zhang Miao, Chandrashekhar Biradar, Murari Singh and Bingfang Wu, 2016; Decision tree algorithm for crop type mapping using Landsat 8 optical satellite imagery; 6th Digital Earth Summit, Beijing (7-8 July 2016), DOI: 10.13140/RG.2.1.1775.8964, DOI: 10.13140/RG.2.1.1775.8964.

Reports Published:

- Report titled "National Carbon Project (NCP), Status Report II, Vegetation Carbon Pool Assessment (VCP), 10 March 2010". VK Dadhwal, Sarnam Singh and Prashant Patil