

# Pratik Deb

## Senior Researcher

Srinagar-Garhwal, Uttarakhand / India | [deb.pratik26@gmail.com](mailto:deb.pratik26@gmail.com)

### Summary

Highly organized, efficient, meticulous and analytical Researcher with more than 3 years of hands-on experience in GIS; spatial data science; climate change impact assessment; land use mapping; hydro-climatology; hillslope hydrology; hydrological instrumentation and modelling and groundwater studies. Experienced in leading and guiding team members in National Level Projects. Contributed as a Senior Researcher in creating GIS and Hydrology based solutions to increase efficiencies in GIS, Remote Sensing, Water Resources; Urban Water Management and Planning Sector.

### Work Experience

Hydrological Scientist (Volunteer) 2020-07 - Present  
EQORIA Earth Consortium

- Identifying, analyzing and relating Earth Resources.
- Observing, collecting, analyzing and presenting changes of Earth Resources using Geo-Spatial and other remote sensing technologies.
- Achieving the SDGs requires the partnership of governments, private sector, civil society and citizens alike to make sure we leave a better planet for future generations.
- Analysing the present status of water scarcity throughout the World.

Senior Researcher - GIS / Watershed Management 2017-06 - Present  
G.B. Pant National Institute of Himalayan Environment

- Quantification of the hydrological processes and establishment of a functional relationship of land use changes and hydrological responses in social scenario.
- Model development for groundwater augmentation through a participatory approach.
- Development and demonstration of functional land use model using optimized hydrological response at sub-watershed level.
- Assessment of seasonal and annual rainfall trend, homogeneity and change point detection through different statistical methods.
- Vegetative growth analysis of different forest species in the Garhwal Himalaya.
- Population and decadal change assessment in Pauri block, Kaljikhil block and Pauri district through spatial-temporal mapping in GIS environment.
- Dissemination an adaptive land use policy and integrated decision support system for water management at the watershed level to professionals working to develop restoration plans.

Student Researcher - GIS / Hydrological Modelling 2015 - 2016  
Indian Institute of Technology, Kharagpur

- Development of different land use map by quantifying its changes.
- Prediction of the associated probability of change for each land use classes.
- Set up, calibration and validation of SWAT for streamflow to evaluate the effects of land use changes during 1987 to 2011.
- Recommendations regarding adaptive land use policy for water resource management.

### Education

M.Tech (Land and Water Resources Engineering) 2014 - 2016  
Indian Institute of Technology, Kharagpur

B.Tech (Agricultural Engineering) 2009 - 2013  
North Bengal Agriculture University

### Core Competencies

Spatial Analysis 

Arc GIS Products 

Remote Sensing Applications 

Hydrological Modelling 

Hydrological Instrumentation 

Land use Planning 

Watershed Management 

Spatial Data Science 

Sustainability 

Research & Development 

### Software Skills

ERDAS IMAGINE , ENVI 5.1, eCognition, Arc GIS, QGIS, Global Mapper, Geomatica and IDRISI

### Tools

Arc Hydro, Topology, GeoHMS, NDNR Hydrology, Spatial Analyst, CDO and LCM

### Models

SWAT, SWMM, WEAP, HBV Light, TOPMODEL, GeoHEC-RAS HEC-RAS and Hydromad

## Achievment and Awards

- Secured AIR - 47 (AG) in GATE 2014.
- Receiving scholarship provided by MHRD India during 2014 – 2016.
- Awarded as **YOUNG SCIENTIST** by Uttarakhand State Council for Science and Technology.
- Nominated as "**Hydrological Scientist & Planetarian Singularity Impact Specialist**" at EQORIA Earth Academy.

## Publications

- **Deb, P.** and Mishra, A., 2016, Forest Cover Change Estimation using Remote Sensing and GIS– A Study of the Subarnarekha River Basin, Eastern India. *The Technology, People and Sustainable Development*, 2016 (pp. 161-175).
- Kumar, S., **Deb, P.** and Kumar, A., 2017. Terrain Evaluation and Landform Classification to Assess Landscape Ecology of Bacchanshiv Gad, Garhwal Himalayan Region. *Indian Cartographer*, 37, pp.333-346.
- Pramanik, M., Paudel, U., Mondal, B., Chakraborti, S. and **Deb, P.**, 2018. Predicting climate change impacts on the distribution of the threatened *Garcinia Indica* in the Western Ghats, India. *Climate Risk Management*, 19, pp.94-105.
- **Deb, P.**, Mishra, A. and Tarafdar, S. 2018. Streamflow Response to Land Use-Land Cover Change over the Subarnarekha River Basin, India. *Hydrological Modelling, Water Management and WaterGovernance, Springer: Water Science and Technology Library*.
- **Deb, P.** and Tarafdar, S. 2019. Land use land cover change and trend analysis of rainfall and temperature patterns in mid-Himalayan catchment using remote sensing data. *Advancement in Basic and Applied Sciences, ANCIENT PUBLISHING HOUSE, New Delhi, ISBN: 978-93-84866-90-7*.
- Tarafdar, S., **Deb, P.**, Kumar, A., Pandey, D. and Kumar, D. 2020. Inventory and Mapping of Springs in Headwaters of Paschimi Nayar River, Pauri District. *Technical Report-I, pp. 01-47, G.B. Pant. National Institute of Himalayan Environment (NIHE), Garhwal Regional Center, Srinagar-Garhwal, Uttarakhand 246 174*.
- **Deb, P.**, Mishra, A., Mushikin, I. and Tarafdar, S., 2017, Application of Landsat Time-series Images to Quantifying Land-use Land cover Dynamic Change and its Future Projection. *International Conference on Remote Sensing and GIS for Applications in Geosciences*, pp. 138.

## Membership

- EQORIA Earth Citizen
- EQORIA Earth Academy
- IWRA
- NSPE
- ICIMOD-HUC
- AES, IIT Kharagpur

## Certification

Application of Geospatial Technology  
Cities and Climate Change  
Ecosystem Dynamics and Conservation  
Statistical Analysis Using R  
Introduction to WASH  
Disaster Preparedness  
Mountain Matters

## Address

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Bengal, India 736 146

## Website

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