



Indian Institute of Remote Sensing, ISRO
Dehradun



National Seminar

on

Recent Trends in Geospatial Technology for Environment & Health

March 24, 2022

Jointly organised by

Indian Institute of Remote Sensing (IIRS)

&

Indian Society of Remote Sensing (ISRS-DC)

(Dehradun Chapter)

Registration: 09:00 - 09:30 hrs. (Venue: Bhaskara Auditorium Foyer)

09:30 - 10:15 hrs.	10:45 - 11:45 hrs.	12:00 - 13:00 hrs.	14:15 - 15:15 hrs.	16:00 - 16:40 hrs
Inaugural Ceremony (Venue: Bhaskara Auditorium)	Technical Session 1 Theme-4 & Theme-5 (Venue: GID Conference hall)	Technical Session 5 Theme-6 (Venue: GID Conference hall)	Technical Session 9 Theme – 2 & Theme - 3 (Venue: GID Conference hall)	Closing Ceremony (Venue: Bhaskara Auditorium)
	10:45 - 11:45 hrs.	12:00 - 13:00 hrs.	14:15 - 15:15 hrs.	
	Technical Session 2 Theme-1 (Venue: CSSTEAP Conference hall)	Technical Session 6 Theme-1 (Venue: CSSTEAP Conference hall)	Technical Session 10 Theme-1 (Venue: CSSTEAP Conference hall)	
	10:45 - 11:45 hrs.	12:00 - 13:00 hrs.	14:15 - 15:15 hrs.	
	Technical Session 3 Theme-2 (Venue: Aryabhata L.T.)	Technical Session 7 Theme-2 (Venue: Aryabhata L.T.)	Technical Session 11 Theme-2 (Venue: Aryabhata L.T.)	
	10:45 - 11:45 hrs.	12:00 - 13:00 hrs.	14:15 - 15:15 hrs.	
	Technical Session 4 Theme-3 (Venue: Bhaskara Auditorium)	Technical Session 8 Theme-3 (Venue: Bhaskara Auditorium)	Technical Session 12 Theme-3 (Venue: Bhaskara Auditorium)	

High Tea: 10:15-10:45 hrs. & 16:40 - 17:00 hrs. || **Tea:** 15:15-15:30 hrs. || **Lunch:** 13:00 - 14:15 hrs.

Theme-1: Geospatial Technology for Atmosphere & Climate

Theme-2: Geospatial Technology for Water Resources

Theme-3: Geospatial Technology for Land Resources

Theme-4: Geospatial Technology for Infectious Disease

Theme-5: Geospatial Technology for Non-communicable Disease

Theme-6: Geospatial Technology for Health Care Facilities



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Inaugural Ceremony (09:30 – 10:15 hrs.)

(Venue: Bhaskara Auditorium)

High Tea: 10:15-10:45 hrs.

Technical Programme

ID

Abstract & Affiliation

Technical Session - 1 (Venue: GID Conference hall)

10:45 - 11:45 hrs.

Theme-4: Geospatial technology for infectious disease & Theme-5: Geospatial technology for non-communicable disease

351 Online	Comparison of Trend and Distribution of First and Third Wave of COVID -19 in Rishikesh using GIS Technology , Anaswara Manohar, Dr Smita Sinha, <i>AIIMS Rishikesh</i>
398	Role of Health GIS in Assessment of Infectious Disease Caused by Avian Hosts: Migratory Birds , Vishal Kumar ^{1,2} , Sameer Saran ¹ , C Jeganathan ² , ¹ IIRS Dehradun, ² BIT Mesra, Ranchi
330 Online	Assessment of Relationship between Prevalence of Non-Communicable Diseases (NCDS) and Availability of Urban Green Spaces using Geospatial Technology in Rishikesh , Parteek Walia, Ranjeeta Kumari, Yogesh Bahurupi, Nisarg Arvandan, <i>AIIMS Rishikesh</i>
355 Online	Assessment of Relationship between Prevalence of Cancers and Availability of Green Spaces Using Geospatial Technology in Rishikesh , Nisarg Aravindan, Ranjeeta Kumari, Yogesh A Bahurupi, Prateek Walia, <i>AIIMS Rishikesh</i>
412	Urban Heat Island or Urban Cool Island: An analysis of Major Cities in India , Sreeraj R, Kshama Gupta, <i>Indian Institute of Remote Sensing, Dehradun</i>

Technical Session - 2 (Venue: CSSTEAP Conference hall)**10:45 - 11:45 hrs.****Theme-1: Geospatial Technology for Atmosphere & Climate**

315	Urban Heat Island and its Relationship with Fog Hole in the Indo Gangetic Plain , Shailja Mangain, Kshama Gupta, Pooja Jindal, Arijit Roy, Harish Karnatak, Prakash Chauhan, <i>Indian Institute of Remote Sensing, Dehradun</i>
378	Sea Surface Signature of Extreme Indian Ocean Dipole Events using Remote Sensing , Amit Kumar Jena, Sachiko Mohanty, <i>Indian Institute of Remote Sensing, Dehradun</i>
399	Development of AOD Retrieval Tool for OCEANSAT-2 Data Over Land , Anushree Jain, Manu Mehta, <i>Indian Institute of Remote Sensing, Dehradun</i>
402	Estimation of Urban Energy Fluxes using Earth Observation Data , Manushi Miteshbhai Bhatt, Kshama Gupta, Abhishek Danodia, <i>Indian Institute of Remote Sensing, Dehradun</i>
367	An Appraisal of the Indian Summer Monsoon System under Future Warming Scenarios , Manali Saha and Charu Singh, <i>Indian Institute of Remote Sensing, Dehradun</i>
408	Spatio-Temporal Distribution of Heatwaves across India , Laivy Rose Augustine, Arijit Roy, Kshama Gupta, <i>Indian Institute of Remote Sensing, Dehradun</i>

Technical Session - 3 (Venue: Aryabhata L.T.)**10:45 - 11:45 hrs.****Theme-2: Geospatial Technology for Water Resources**

336 Online	Identification of Rainwater Harvesting Potential Zones in the Man River Basin of Lower Narmada Valley with the help of Geospatial Techniques , Ankit Rathore, <i>School of Studies in Earth Sciences, Vikram University, Ujjain</i>
342 Online	Geospatial Technology in Water Resources Management in Alirajpur District, Western Part of Madhya Pradesh India , Tarun Rathore, <i>Vikram University, Ujjain</i>
364 Online	Time Series Analysis of Tanks of Noyyal River Basin using Google Earth Engine and GIS , Akshaya M, <i>TNAU, Coimbatore</i>
409 Online	Applying Deep Learning Approach for Groundwater Level Prediction in North-West India , ^{1,2} Pranshu Pranjal, ² R. S. Chatterjee, ¹ Dheeraj Kumar and ^{1,3} Ashish Soni, ¹ IIT (ISM), Dhanbad ² Indian Institute of Remote Sensing, Dehradun ³ Lovely Professional University, Punjab
304	Water Resource Modelling using RS & GIS Methods: Monitoring & Development for Future , Jawahar Raja P, <i>Dr. N.G.P. Arts and Science College</i>
332	Urban Flood Hazard Modelling in a Dense Urban Set-up with Inputs from UAV Data , Ujjwal Kumar Swain, Pramod Kumar, Chandra Mohan Bhatt, Vinay Kumar, <i>Indian Institute of Remote Sensing, Dehradun</i>

Technical Session - 4 (Venue: Bhaskara Auditorium)**10:45 - 11:45 hrs.****Theme-3: Geospatial Technology for Land Resources**

298 Online	Digital Techniques for Soil and Plant Health Assessment , Karthikeyan B, Bhakiyathu Saliha B, Senthilkumar A, Ramamoorthy P, Nagaraj S, <i>Agricultural College & Research Institute, TNAU Madurai</i>
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419	Assessment of Vulnerability of Mountain Slope Instability Hazard Using Remote Sensing Techniques – A Case Study of Rishiganga River Basin, Uttarakhand , Ishita Raj, C.M. Bhatt, Pratima Pandey, <i>Indian Institute of Remote Sensing, Dehradun</i>
421 Online	Soil Phosphorus Variability Impacts Inherent Soil Properties in Young Alluvial Plains of Kosi Region through Digital Agriculture , Rajni Prabha Rani, Y. K. Singh, Rajkishore Kumar
459 Online	Assessment of Soil Salinity in Bandar Canal Command Area using RS and GIS , P. Indraj, Dr. H.V. Hema Kumar, Dr. K. Krupavathi, Dr. A. Mani, <i>Dr. NTR College of Agricultural Engineering, ANGRAU, Bapatla</i>
306	Landform Element Analysis for Soil Quality Parameters Assessment using Digital Terrain Model and Remote Sensing Data , Nandhakumar Murugan, Suresh Kumar, Justin George K., <i>Indian Institute of Remote Sensing, Dehradun</i>
432 Online	Semi-Physical Approach based Spatial Rice Yield Estimation , Tamilmounika R, Pazhanivelan S, Ragunath K P, Kumaraperumal R, Sudarmanian N S, <i>Tamil Nadu Agricultural University, Coimbatore</i>
Technical Session - 5 (Venue: GID Conference hall) 12:00 - 13:00 hrs. Theme-6: Geospatial Technology for Health Care Facilities	
350 Online	GIS Technology for Mapping Dengue Cluster Cases in Haridwar and Accessibility to Nearby Health Care Facility , Aakriti Jasrotia, Vartika Saxena, Yogesh Bahurupi, <i>AIIMS Rishikesh</i>
389 Online	Local and Spatial Analysis of Women’s Health Access Index and Health Center: A Case Study of Rajasthan , Tulika Tripathi, Vijay Kumar, <i>Central University of Gujarat</i>
406 Online	Geospatial Technologies and Tools Cut Through the Thick Fog of Alternating Views about Healthcare and Bring Real Data and Results to the Forefront , Vedant Raj Chittravanshi, <i>University of Allahabad</i>
462 Online	Change in the Geographical Accessibility to Trauma Centers after the Addition of 7 New Trauma Centers in the State of Rajasthan , Kartik Nair, Amba Shetty, <i>National Institute of Technology Karnataka, Surathkal</i>
317	Vaccine Distribution Optimization Using GIS , Bijo George Philip, Priyadarsini Sivaraj, Mehak Jindal, <i>Indian Institute of Remote Sensing, Dehradun</i>
476	Interactive Map Visualization of COVID-19 World Data with 3D Virtual Globe , Priyadarsini Sivaraj, Bijo George Philip, Mehak Jindal, <i>Indian Institute of Remote Sensing, Dehradun</i>
Technical Session - 6 (Venue: CSSTEAP Conference hall) 12:00 - 13:00 hrs. Theme-1: Geospatial Technology for Atmosphere & Climate	
413	Pre and Post COVID-19 Comparison of Air Quality using GEOS , Harshith C Prince, Sneha Mendiratta, Aditi Ahlawat, Shanti Kumari, Arijit Roy, <i>Indian Institute of Remote Sensing, Dehradun</i>
377	Simulation of Tropical Cyclone ‘Yaas’ using the WRF Modelling System , Sukanya Mukherjee, Sanjeev Kumar Singh, <i>Indian Institute of Remote Sensing, Dehradun</i>
469	Estimation of Solar Energy Potentials in Western Himalayan Region , Saurabh Verma, Charu Singh, <i>Indian Institute of Remote Sensing, Dehradun</i>

422 Online	Spatio-Temporal analysis of Glacial Lakes of Western Himalayas in Chamoli and Pithoragarh Dist of Uttarakhand using Remote Sensing and GIS , Thahira. U, Bulu Basak, Shahid Gulzar, <i>Bharathidasan University, Tamil Nadu</i>
474	A Case Study of Changes in Particulate Matter Pollution during COVID-19 Lockdown in Delhi , Arshad Peer Mohamed S H, Manu Mehta, Luvkesh Attri, Bhargavi B A, Gaurish Singhal, <i>Indian Institute of Remote Sensing, Dehradun</i>
493	Glacier and Glacial Lake Dynamics of the Rishiganga Basin, Chamoli using Remote Sensing Techniques , Shubham Mishra, Pratima Pandey, Shovan Lal Chatteraj, <i>Indian Institute of Remote Sensing, Dehradun</i>
Technical Session - 7 (Venue: Aryabhata L.T.) 12:00 - 13:00 hrs. Theme-2: Geospatial Technology for Water Resources	
448 Online	Spatio-Temporal Analysis of Precipitation of India Using Google Earth Engine , Chirag P. Ladavia, Reena D. Popawala, C. K. Pithawala <i>College of Engg. & Technology, Surat</i>
363	Rapid Flood Inundation and Damage Assessment Using SAR and Cloud Platform , Uday Kumar ¹ , Praveen Kumar Thakur ¹ , Vaibhav Garg ¹ , Armugha Khan ² , <i>¹Indian Institute of Remote Sensing, Dehradun, ²Aligarh Muslim University</i>
450 Online	RS-GIS based Watershed Mapping of Banka District, Bihar , Sushma Kumari, B.K. Vimal, Rajkishore Kumar, Ragini Kumari, <i>Bihar Agricultural University, Bhagalpur</i>
376 Online	Application of Microwave Remote Sensing in Identification of Paleochannel , Himanshu Shekhar Sahu, S. Pasupathi, M. Muthukumar, <i>Gandhigram Rural Institute, Tamil Nadu</i>
392 Online	Analysis of the GRACE-based Flood Potential Index as a Covariate for Non-stationary Flood Frequency Analysis , Sachin Bhare, Manne Janga Reddy, <i>Indian Institute of Technology, Bombay</i>
400 Online	Analysis of Polarimetric Techniques for characterization of Glacial Feature , Shashwati Singh, Shashi Kumar, Praveen K. Thankur, Varun Narayan Mishra, <i>Suresh Gyan Vihar University, Jaipur</i>
Technical Session - 8 (Venue: Bhaskara Auditorium) 12:00 - 13:00 hrs. Theme-3: Geospatial Technology for Land Resources	
337 Online	Estimation Acreage of Senna (Cassia angustifolia Vahl.) using Remote Sensing and Geographic Information System , Paras Hirapara, R. Nagaraja Reddy, Sujay Dutta, B. B. Basak, Manivel P., B. K. Bhattacharya, <i>Directorat of Medicinal and Aromatic Plant Research</i>
439 Online	Performance of Ten Vegetation Indices on Tree Species Identification , Himali Vaghela, R A Alagu Raja, <i>Thiagarajar College of Engineering, Madurai</i>
373	Forest Fire Monitoring using Normalized Burn Ratio (NBR) and Burnt Area Algorithm in the Pauri Garhwal District, Uttarakhand , Rahul Pandey, <i>SSJ University, Almora</i>
465	Impact of Vegetation Structure and Elevation Gradient on ICESat-2 Canopy Height Uncertainty , Divesh Pangtey, Rahul Bodh, Hitendra Padalia, Ishwari Datt Rai, <i>Indian Institute of Remote Sensing, Dehradun</i>
498	Mapping Leaf Area Index and Chlorophyll in Tropical Moist Deciduous Forest Using PRISMA Hyperspectral Data and Partial Least Squares Regression , Mahima, Hitendra Padalia, Taibanganba Watham, <i>Indian Institute of Remote Sensing, Dehradun</i>

467	Use of Hidden Markov model (HMM) to Quantify Animal Movement in Heterogeneous Landscapes , Amrapali Tiwari ^{1,2} , Sameer Saran ¹ , Kirti Avishek ² , ¹ IIRS Dehradun, ² BIT Mesra, Ranchi
499	Potential of Planet Scope, Sentinel-2, LANDSAT-8 data for characterizing Alpine plant communities using Random Forest Algorithm , Joyal Arya, Ishwari Datta Rai, <i>Indian Institute of Remote Sensing, Dehradun</i>

Technical Session - 9 (Venue: GID Conference hall)

14:15 - 15:15 hrs.

Theme-2: Geospatial Technology for Water Resources & Theme-3: Geospatial Technology for Land Resources

510	Time Series Analysis and Assessment of the Seasonal Variations of Water Bodies around Chennai using Landsat 8 data , Vigneswaran S
359	Glacier Recession and Ice Velocity of Glacier in Zaskar Basin of Western Himalaya Using Advance Remote Sensing Techniques , Varun Khajuria, Praveen Kumar Thakur, Bhaskar Ramachandra Nikam, Antony Joh Moothedan, <i>Indian Institute of Remote Sensing, Dehradun</i>
379	Machine Learning based Long Term Crop Pattern Change Analysis using Time Series Data , Joyita Dash, Prabhakar Alok Verma, <i>Indian Institute of Remote Sensing, Dehradun</i>
417	Mapping the Spatial Distribution and Height of Rubber Plantations by Integrating Optical, Lidar and SAR Data Using Random Forest Algorithm in Sepahijala District of Tripura, Northeast India , Yamini Bhat, Subrata Nandy, <i>Indian Institute of Remote Sensing, Dehradun</i>
433 Online	Knowledge - Based Approach in Generating Digital Soil Class Information for Tiruppur District, Tamil Nadu , S. Janarth, R. Kumaraperumal, S. Pazhanivelan, K.P. Rangunath, <i>Tamil Nadu Agricultural University, Coimbatore</i>
407 Online	High-Resolution Satellite Data for Delineation of Cashew Area through Image Classification Methods , Sabthapathy M, Rangunath K P, Sudarmanian N S, Pazhanivelan S, <i>Tamil Nadu Agricultural University, Coimbatore</i>

Technical Session - 10 (Venue: CSSTEAP Conference hall)

14:15 - 15:15 hrs.

Theme-1: Geospatial Technology for Atmosphere & Climate

511	Bibliometric analysis for the Occurrence of Natural Disasters on a Global Scale using EM-DAT (1900-2021) , Waqar Ul Islam, P Danuta Mohan, Dizna James, Akhil Francis T, Bhargavi B A, Akshayasimha C H, Vaishnavi Uday Honap, Madhuparna Majumder, Karishma, <i>Indian Institute of Remote Sensing, Dehradun</i>
446	On the Extreme Rainfall Events over Uttarakhand Region for Recent 22 Years by using Satellite Based Data , Arvind Pagire, Charu Singh, <i>Indian Institute of Remote Sensing, Dehradun</i>
479	Development of an Improved NO2 Emission Inventory over Indian Region using Satellite Data and WRF-Chem Model , Sreeraj R, Shuchita Srivastava, <i>Indian Institute of Remote Sensing, Dehradun</i>
492 Online	Long Term Trend Analysis for Surface Temperature, Air Temperature and AOD Derived from MERRA-2 Reanalysis Model for Delhi, Mumbai, Jaipur, Kanpur and Pan-India , Seema Nihalani, Manu Mehta, Harsh Yadav, Sandhya Singh, Shruti Jain, Srishti Bhandari, <i>SVNIT, Surat</i>
501	Socio Economic Risk Assessment and Prioritizing Nature based Solutions in the Context of Urban Flooding and Climate Change , Manivannan K, <i>Indian Institute of Remote Sensing, Dehradun</i>

Technical Session - 11 (Venue: Aryabhata L.T.)**14:15 - 15:15 hrs.****Theme-2: Geospatial Technology for Water Resources**

403 Online	Reconnaissance of Aquifer Recharge Zone using Geospatial Techniques in Uri-Baghni Valley, Western Madhya Pradesh , Shafia Khan, <i>Vikram University, Ujjain</i>
434	Applicability of Different Anchor Pixel Selection Techniques in METRIC Model and Model Evaluation with LAS Readings , Pooja Nandagopal, Abhishek Danodia, Bhaskar Nikam, N. R. Patel, <i>Indian Institute of Remote Sensing, Dehradun</i>
497 Online	A GIS Based Approach to Depict Water Availability and Demand Scenarios in Varuna River Basin (Varanasi, Pratapgarh and Sant Ravidas Nagar) , Muskan Yadav, <i>Isabella Thoburn College, Lucknow</i>
454	Analysis of Polarimetric Synthetic Aperture Radar (PolSAR) for the Estimation of Snow Pack Density in the Upper Region of Garhwal Himalaya , Avinash Bhatt, <i>National Institute of Technology, Uttarakhand</i>
496 Online	A GIS Based Approach to Depict Water Availability and Demand Scenario in the Varuna River Basin (Prayagraj and Jaunpur) , Malvika Tiwari, <i>Isabella Thoburn College, Lucknow</i>
503 Online	Analysis of Morphometric Characteristics of Manu Watershed - A Case Study , Anuradha Sahu ¹ , Susanta Das ² , <i>¹Banaras Hindu University, Varanasi, ²Punjab Agricultural University, Ludhiana</i>

Technical Session - 12 (Venue: Bhaskara Auditorium)**14:15 - 15:15 hrs.****Theme-3: Geospatial Technology for Land Resources**

328 Online	Exploring Urban Form and Environment with Spatial Analysis Techniques , Monica Kashkari, Tejwant Singh Brar, <i>Sushant University, Gurugram</i>
333 Online	Study of Urban Heat Island Manifestation and Its Impact in Delhi using Remote Sensing & GIS , Richa Jain, Tejwant Singh Brar, <i>Sushant University, Gurugram</i>
345	Development of QGIS Plugin for the Detection of the Built-up Area Using Machine Learning Algorithm , Dev Dinesh, Kamal Pandey, Prasun Kumar Gupta, Prabhakar Alok Verma, Sameer Saran, Harish Chandra Kamatak, <i>Indian Institute of Remote Sensing, Dehradun</i>
420	Comparison of Hybrid Polarimetry and Fully Polarimetric Spaceborne SAR Data for Characterization of Manmade and Natural Features , Avinash Singh, Shashi Kumar, <i>Indian Institute of Remote Sensing, Dehradun</i>
460	Analysing the Spatio-temporal Variations in Land Surface Temperature and Mapping the Urban Heat Islands in Dehradun , Sneha Pandey ¹ ; Gautam Talukdar ¹ ; Subrata Nandy ² , <i>¹Wildlife Institute of India, Dehradun, ²Indian Institute of Remote Sensing, Dehradun</i>
430	Analysing the Temperature Change through Indices: A Case Study in Haldwani City Uttarakhand (2000-2022) , Abhay Singh Parihar, Arvind Pandey, Dheeraj Chandra Kurai, <i>Department of Remote Sensing and GIS, Almora Campus</i>