

Contents

	Page No.
Preface	
A Brief Introduction about Indian National Cartographic Association	i
About 43 rd INCA International Congress	ii – v
The Host Organisation and Organising Team	vi – ix
Todar Mal Memorial Lecture: Digital Cartography for Land Record Modernisation in India	
Lt. Gen. Girish Kumar, VSM (Retd.)	1–11
S.P. Chatterjee Memorial Lecture: Space Technology for Sustainable Ecosystem & Geospatial Economy	
Shantanu Bhatawdekar	12–22
1 Assessing Significant Changes in the Geomorphology and Biological Productivity of Chilika Lagoon under the Influence of Natural Events and Anthropogenic Interventions	
Kumbhakarna Mallik & Krishna Pada Bauri	23–32
2 Satellite Based Detection of Informal Settlements in Desert Terrain using Deep Learning	
Reedhi Shukla, Sampath Kumar P, Satish Jayanthi, & Prakash Chauhan	33–39
3 Application of Universal Hydrographic Data Model S-100 Standards for Marine Spatial Data Management, Coastal Zone Management and Ocean Studies	
Pankaj Kumar Mahato & BK Ramprasad	40–48
4 The Role of Geospatial Mapping in Tourism Startups: Leveraging Location Intelligence for Enhanced Visitor Experiences	
Kanchan Thakur	49–56
5 A Deep Learning Approach for Monitoring Urban Growth and Analysing Surface Urban Heat Islands over Hyderabad, Telangana, and Visualisation through Interactive Leaflet Web Map	
Ronald Singh, Sachin, Nikhil Rajdeep, Swastika Mandal, Pondari Satyanarayana, Rajiv Kumar, & Sreenivas Kandrika	57–66
6 Assessment of Ecotourism Potential of Sariska Tiger Reserve for Growth of Green Economy	
Vivek Raj Singh Chauhan & Lalit Singh Jhala	67–73
7 Convolution Neural Networks Based Crop Type Classification using Spatio-Temporal Remote Sensing Data	
Preetilata Murmu, Kanhaiya Lal, Ronald Singh, Porchelvan A, Sreenivas Kandrika, Rajiv Kumar, Girish Shankar Pujar, & Pondari Satyanarayana	74–83
8 Estimation of Surface Soil Moisture from Agricultural Lands using Multi-Spectral Optical Satellite Data: A Study of Bhagwanpur-I CD Block, East Medinipur, West Bengal, India.	
Goutam Kumar Das	84–108
9 Tree Detection and Characterization in Diverse Agroforestry Systems	109–118

- using UAV Imagery and DL
 Nagashree M. K, Satisha G.C, Rama Subramoniam S, Satish Kumar B,
 Narendran J, Maddi Reddy S. S, Chamundeshwari D, Premananda B. D,
 Hebbar R, & Srivatsav S. K
- 10 Parcel Level Crop Mapping using Temporal Satellite Data and Machine Learning Techniques
 Gali Brahmavar, Nagashree M.K, Rama Subramoniam S, Muskan Sindagi,
 Ganiger R, & Hebbar R 119–129
- 11 Remote Sensing-Based Fractal Dimension Algorithm to Identify Land Cover Class from Time Series EVI Data
 Niraj Priyadarshi, Suparn Pathak, Debasish Chakraborty, Sushil Kumar
 Srivastav, Chandrasekar K, Vemuri Muthayya Chowdary, & Soumya
 Bandyopadhyay 130–137
- 12 Bamboo Distribution Mapping using Hyperspectral Remote Sensing in Ri Bhoi District of North East India
 Dhruval Bhavsar, Kasturi Chakraborty, Sarma K.K, & Aggarwal S. P 138–154
- 13 Role of ENM, GeoCAT and Arc-GIS Software's in Conservation, Mapping and IUCN Assessments of Threatened Palms in Andaman & Nicobar Islands (ANI's), India
 Purohit C.S, Bishnu Charan Dey, Singh L.J., & Vivek C. P 155–180
- 14 Hyperspectral Reflectance for Preliminary Identification of Degraded Soil Zones in Industrial Sites: A Screening Tool before Undertaking Ground-Based Investigations
 Amitava Dutta, Rashi Tyagi, Shilpi Sharma, & Manoj Datta 181–188
- 15 Deep Learning Approach for Classification of Horticulture Plantations using Very High-Resolution Satellite Images
 Ganiger R, Nagashree M.K, Rama Subramoniam S, Gali Brahmavar,
 Mahesha D.B, Hebbar R 189–198
- 16 Modelling of Surface Runoff Estimation through Geoinformatics Techniques. A Case Study of Osman Sagar Reservoir, Ranga Reddy District and Telangana State
 Sneha J, Masilamani P, & Sampath Kumar P 199–205
- 17 Geospatial Technology Edification: Capacity Building for Viable Evolution
 Abhishek Sharma 206–212
- 18 Co-active Neuro Fuzzy Inference System for Estimating Reference Evapotranspiration over Indore District of Madhya Pradesh
 Madhulika Singh, Ronald Singh, Vikram Singh, & Tushar P. Rathod 213–222
- 19 Development of a Cloud-Based Application for the Assessment and Monitoring of Water-Bodies in Haryana
 Dharmendra Singh, Parveen Kumar, & Sultan Singh 223–231
- 20 Increasing Heart Attacks in Indian Youth - Post COVID Health Hazards and Mitigation Measures using Geospatial Technologies
 Ramprasad B. K 232–242
- 21 Automatic Feature Extraction from UAV Imagery using Deep Learning
 Ranjan Negi 243–249

22	Assessing the Resilience of Surface Water Bodies to Population Outbursts and Climate Fluctuations Aakash Verma, Kunal Lende, Srashti Singh, & Anugya Shukla	250–257
23	Response of Maize Yield in Future Climate of Namakkal District with Reference to HADGEM-ES and GFDL-CM3 Climate Models, Tamil Nadu, India Vinothkanna S & Emayavaramban V	258–266
24	Vegetative Health Assessment of Citrus Orchards using Geospatial Techniques Jugal Kishore Mani, Varghese AO, & Sreenivasan G	267–275
25	Optimal Cell Phone Tower Location Based on 3D GIS Nalini J, Narender B, Muralikrishnan S, Prakash Chauhan	276–282
26	Kharif Crop-Type Mapping of Haryana State using Geospatial Approach Dharmendra Singh, Neha Pandey, Priti Atri, Parmod Kumar, & Sultan Singh	283–293
27	Investigation of the Spatiotemporal Variability of Meteorological Parameters Associated with the Extreme Rainfall Events using Indian Geostationary Satellite Data Ahana Mukhopadhyaya & Charu Singh	294–301
28	Assessing the Performance of Automatic Co-registration Technique of Satellite Image using Markov Chain-Based Time Series Analysis Prosenjit Barman & Sk. Mustak	302–312
29	Comparison of Classifiers in Sentinel-2 and Landsat 9 Datasets for Land Use and Land Cover Classification in GEE Tejash Anand, Aadrita Chowdhury, Srashti Singh, & Anugya Shukla	313–321
30	Rainfall Induced Landslide Detection using Persistent Scatterer Interferometry Annu Kumari, Dharmendra Singh, & Sultan Singh	322–331
31	A Comparative Assessment of Ground Water Resources using GRACE and Ground Data in Highly Populated Regions of Haryana, India. Dharmendra Singh, Nandini Sharma, Tripti Singhal, Sultan Singh	332–341
32	An Assessment of Built-Up Area in Madurai City using Geospatial Technology Parvathy MR & Manonmani IK	342–350
33	A Hybrid Domain Approach to Remove Horizontal Stripping in Remote Sensing Images using Spatial, Frequency & Wavelet Components Vikash Tyagi, Ravi N, Wagh Ganesh Nana, Suresh Kumar P, & Chandrakanth R	351–366
34	Identification of Suitable Sites for Solar Panel plants using Geospatial Technology Akshita Tomar, Sadhana Jain, Varghese AO, & Sreenivasan G	367–373
35	Contribution of Geo-Spatial Technologies in Promoting Sustainable Agriculture and Irrigation Resources Study with Reference to Pali District (Rajasthan) Sukhdev Meghwal & Lalit Singh Jhala	374–380

36	Characterization of Urban Waterbodies using Deep Learning Sampath Kumar P, Saiveena Suresh, Satish Chandra Jayanthi	381–386
37	Site Suitability Analysis for Aquaculture and Management Using Multi Criteria Decision Analysis (MCDA) and Analytic Hierarchy Process (AHP) Riju Singha Modak, Nirupam Acharyya, Jatisankar Bandyopadhyay, & Suman Das	387–398
38	Modelling Canopy Structure of Forest using Big Geospatial Data and Deep Learning Sunil S Fatehpur	399–417
39	Analyzing the Land Surface Temperature Dynamics in Kolkata City, India Aadrita Chowdhury, Tejash Anand, Srashti Singh, & Anugya Shukla	418–427
40	Flood Mapping and Monitoring using Microwave Remote Sensing Shivani Pathak & Priyanka Tuteja	428–434
41	Phase Unwrapping Techniques for SAR Interferometry: A Comprehensive Review Alka Saini, Deepak Mishra, & Manavala Ramanujam V	435–448
42	Analysis of Different SAR Polarimetric Decomposition Methods using EOS-04 Polarimetric Data for Urban and Natural Features Srivally MV, Sujata Ghosh, Nidhi Chaubey, Swati Upadhyay, & Sumit Pandey	449–459
43	Convolution Neural Networks Based Crop Type Classification using Spatio-Temporal Remote Sensing Data Preetilata Murmu, Kanhaiya Lal, Ronald Singh, Porchelvan A, Sreenivas Kandrika, Rajiv Kumar, & Pondari Satyanarayana	460–468
44	Seamless Polar Mosaic Generation from Chandrayaan-2 TMC-2 DEM Baharul Islam, Abdullah S.A Zinjani, & Amitabh	469–474
45	Enhancing Mining Efficiency and Safety with Autonomous Drone Technology Cyriac Joseph, Darshana Kumare, Amogh Gudekar, & Satyaprakash Balooni	475–483
46	Application of Geospatial technologies in Landscape Assessment: Upper Alaknanda & Bhagirathi River Basin, Uttarakhand Deepa Bhattacharyaa	484–498
47	Registration of Sparse-Dense Point Cloud from LiDAR and its Applications Surbhi Barnwal, Salil Goel, Mansi P. Koshti	499–509
48	Remote Sensing and GIS in Identification of Soil Constraints for Sustainable Development in Ajmer District, Rajasthan Laxman Singh, Rajeev Jain, Manu Sikharwar, & Mahendra Prakash Mathur	510–519
49	Demography, Urbanisation and Urban Planning of Smart Cities using Geographical Information System Kamlesh Kumar	520–531
50	Monitoring Ecological Crisis of Kolkata Metropolitan Area using Spatial Technology Pritam Mitra, S.K Mustak, & Prosenjit Barman	532–546

51	Band Reconstruction for High Resolution Satellite Images using Deep Learning Md Aminur Hossain, Sanjay K. Singh, Arvind K. Singh, & Devakanth Naidu	S	547–556
52	Mapping of Climatic Suitability to Sugarcane Cultivation and Assessment of Irrigation Requirement in Pune District using Eco-Crop and CROPWAT Models of Geospatial Technology	Bombe D. D	557–568
53	Pixels in Focus: Deep Learning's Breakthrough in Remote Sensing Built-Up Segmentation Dhroj Kumar Behera, Pondari Satyanarayana, Rajiv Kumar, & K Sreenivas		569–579
54	Appraisal of Agricultural Situation and Challenges in Sirohi District, Rajasthan	Balak Ram	580–591
55	The Chandrayaan Mission of India: Geographical Analysis of Geographical Progress in India	Anil Kumar	592–597
56	Geospatial Approach for Land and Water Resource Development Planning for Dausa District of Rajasthan Sagar Subhashrao Salunkhe, Subhajit Roy, Suparn Pathak, & Rakesh Paliwal		598–612
	Glimpses of 43 rd INCA International Congress 06-08 Nov. 2023, Jodhpur		613–619
	Authors Index		620–621
	Acknowledgments		622