



23rd December 2021 (Thursday)

02:00 PM – 03:45 PM

Technical Session – TS1

Technical Session – TS1	Parallel Session – 01	TS1-EH1
Theme	: Environmental Hydraulics	
Session Chairs	: Prof. A B Gupta, MNIT Jaipur Dr. K D Yadav, SVNIT Surat	

Keynote 01	: Prof. A B Gupta, MNIT Jaipur	(02:00 – 02:25 PM)
Topic	: Importance of water quality aspects in water resources planning	

S. No.	Paper ID	Paper Title and Author(s)	(02:25 – 03:45 PM)
1	11	Numerical Modeling of Transport and Fate of Chromium (VI) in Sub-surface Porous Media <i>Shreya Ganguly and Sayantan Ganguly</i>	
2	117	A Comparative Evaluation of Surface Water Suitability Irrigation and Drinking Purposes Along Baitarani River, Odisha <i>Abhijeet Das</i>	
3	148	Application of QUAL2K Model for Water Quality Modeling of Bhadra River Stretch, India <i>Mummidivarapu Satish Kumar, Rehana Shaik and Himanshi Singh</i>	
4	157	Design of Smart Geo-Sensor for Detection of Fluoride in Water Resources <i>Tanmay Sardar, Shivani Pandey, Satanand Mishra and H L Tiwari</i>	
5	186	Understanding the Impact of Agricultural Fertilizer Application Over Inflows into Nagarjuna Sagar Reservoir <i>Tarun Teja K and K S Rajan</i>	
6	220	Application of Pollution Indices for the Assessment of Chambal River Water Quality at Kota (Rajasthan) <i>Porush Kumar, Kuldeep and Anil K Mathur</i>	
7	265	Water Quality Index Assessment for Upper Ganga Riverine Wetland <i>Alka Yadav and M L Kansal</i>	
8	417	Water Quality Modeling using QUAL-2K at Bray Marina, UK <i>Dinesh Sahoo and Ratnakar Swain</i>	

Technical Session – TS1	Parallel Session – 02	TS1-GTW1
Theme	: Geospatial Technologies in Water Resources Engineering	
Session Chairs	: Prof. Y B Katpatal, VNIT Nagpur Dr. A B Mirajkar, VNIT Nagpur	

Keynote 02	: Prof. P K Garg, IIT Roorkee	(02:00 – 02:25 PM)
Topic	: Applications of Geospatial technologies for water resources engineering	

S. No.	Paper ID	Paper Title and Author(s)	(02:25 – 03:45 PM)
1	15	An Approach to Determine Land Use Factors to Study their Influence on Stream Water Quality <i>Nagalapalli Satish, Jagadeesh Anmala, Murari R R Varma and K Rajitha</i>	
2	23	Comparison of Spatial Interpolation Methods for Mapping Seasonal Groundwater Levels <i>Akash Singh Raghuvanshi and H L Tiwari</i>	
3	34	Estimation of Surface Water Quality and Velocity with CNN based Image Processing and Classification <i>M Selva Balan, Om Pimpalgaonkar, Avishek Bhowmick and Atharva Pol</i>	
4	42	Application of GIS and RS for Morphometric and Hypsometric Analysis of Pargaon Watershed: A Case Study <i>Wagh S and Manekar V</i>	
5	65	Assessment of Groundwater Potential Zones using Geospatial Technology: A Case Study of Kabul, Afghanistan <i>Amanullah Hayat, Sudhanshu Dixit and Rita M Jadav</i>	



S. No.	Paper ID	Paper Title and Author(s) (02:25 - 03:45 PM)
6	72	Drought Monitoring Using Satellite Soil Moisture Data over Godavari Basin, India <i>Hussain P, Manali Pal and Rajib Maity</i>
7	135	Waterlogging Risk Assessment of Patiala City, Punjab using Analytical Hierarchy Process and GIS Analysis: A Case Study <i>Sanjoy Gorai, Amit Dhir and Dwarikanath Ratha</i>

Technical Session – TS1

Parallel Session – 03

TS1-STW1

Theme : **Soft Computing Techniques in Water Resources Engineering**
Session Chairs : **Dr. A K Lohani, NIH Roorkee**
Prof. S N Londhe, VIIT Pune

Keynote 03 : **Dr. A K Lohani, NIH Roorkee** (02:00 – 02:25 PM)
Topic : **Application of soft computing techniques in hydrological modeling**

S. No.	Paper ID	Paper Title and Author(s) (02:25 - 03:45 PM)
1	8	Artificial Intelligence-Based Reference Evapotranspiration Modeling with Minimum Climatic Parameters <i>K Chandrasekhar Reddy</i>
2	14	Analysis of Water Resources of Bisalpur Dam using Time Series Forecasting Models <i>Shraddha Laxmi and Rohit Goyal</i>
3	30	Least Cost Path Pipeline Routing using Spatial Multi-Criteria Analysis for Vidarbha Region: a case study <i>Abhishek Mhamane and Ashwini Mirajkar</i>
4	61	Developing Leak Detection Strategies in Water Distribution Networks using Machine Learning Techniques <i>Kushang V Shah and H M Patel</i>
5	187	Comparative Assessment of Different Machine Learning Models to Estimate Daily Soil Moisture <i>Nagashree G E and M K Nema</i>
6	218	A Bayesian Approach to Evaluate Surface Water Quality in Upper Krishna basin, India <i>Chanapathi Tirupathi and Thatikonda Shashidhar</i>
7	276	Streamflow Forecasting with Deep Learning based LSTM Approach <i>Mohd Imran Khan and Rajib Maity</i>
8	283	Complex Networks Concepts for Hydrometric Network Design: Evaluation of Influence of Stations <i>B Deepthi and Bellie Sivakumar</i>

Technical Session – TS1

Parallel Session – 04

TS1-FH1

Theme : **Fluvial Hydraulics**
Session Chairs : **Prof. Dhrubajyoti Sen, IIT Kharagpur**
Dr. Bandita Barman, IIT-ISM Dhanbad

Keynote 04 : **Prof. Dhrubajyoti Sen, IIT Kharagpur** (02:00 – 02:25 PM)
Topic : **River bank erosion mechanism and field examples of protection measures for South Bengal Rivers**

S. No.	Paper ID	Paper Title and Author(s) (02:25 - 03:45 PM)
1	12	Quantification of Wake Vortices around Tandem Piers on Rigid Bed Channel <i>L N Pasupuleti, P V Timbadiya and P L Patel</i>
2	28	Effect of Reservoir Desilting Material on Manning's Coefficient using Suction Characterization and Drying Wetting Cycles <i>Manish V Shah and Tanvi A Thakkar</i>
3	69	Capacity loss & Silt Assessment of Khuga Reservoir, Manipur using Bathymetry Survey Technique - A Case Study



S. No.	Paper ID	Paper Title and Author(s)	(02:25 - 03:45 PM)
		<i>M S Bist, Ajay Sonawane, Ajit Singh, J K Singh and M Selva Balan</i>	
4	75	Assessment of Reservoir Sedimentation using Geospatial Tools: A Case Study of Kadana Reservoir <i>Himadri Shah, Sudhanshu Dixit and Sharad Chander</i>	
5	101	Reservoir Sedimentation Analysis using SWAT Model <i>Ranjeet Sabale, Shreenivas Londhe, Mathew Jose and Usharani Karande</i>	
6	123	Model studies for Assessing Hydrodynamics and Siltation at the inlet of a Power Plant Intake- A Case Study <i>B Krishna, G A Rajkumar, Karthikeyan M and L R Ranganath</i>	
7	137	Indispensability of Model Studies in the Design of Settling Basins of Hydropower Projects in River Basins with High Sediment Yield <i>Chandrashekhar Iyer and E J James</i>	
8	193	Analysis of River Meandering and Morphometric Parameters using Remote Sensing and GIS <i>Srushti N Patel and Falguni Parekh</i>	

Technical Session – TS1

Parallel Session – 05

TS1-HHM1

Theme : **Hydrology and Hydrologic Modeling**

Session Chairs : **Dr. R P Pandey, NIH Roorkee**

Prof. Vishnu Prasad, MANIT Bhopal

Keynote 05 : **Dr. R P Pandey, NIH Roorkee**

(02:00 - 02:25 PM)

Topic : **Application of hydrologic model for assessment of vulnerability of drought**

S. No.	Paper ID	Paper Title and Author(s)	(02:25 - 03:45 PM)
1	10	Hydrological Modeling for the Sutlej River Basin using SWAT <i>Thallam Prashanth and Sayantan Ganguly</i>	
2	49	Comparison of Different Climate Models Projections for Watershed Using Soil and Water Assessment Tool: A Case Study of Middle Tapi Sub-Basin <i>Vishal Sharma, Priyamitra Munoth and Rohit Goyal</i>	
3	52	Implementation of Rainfall based Drought Indices for Regional Drought Assessment <i>Shradhanjalee Pradhan and Bibhuti Bhusan Sahoo</i>	
4	56	Telemetry Systems for Real Time Hydrological Information Systems (RTHIS) in India <i>P K Dorle, Saurabh Anand, S D Ranade</i>	
5	70	Investigation of Crop Evapotranspiration and Irrigation Water Requirement in the Ukai-Kakrapar Command Area, India <i>K B Baladaniya, P L Patel, P V Timbadiya</i>	
6	89	River and Inlets Cross-Sections Extraction using Stereo Pair Images for Hydraulic Modeling <i>Mark Prabhakar Vuppati, Shubham Dixit, Rajani B Deogade, Prabhat Chandra</i>	
7	125	Rain-Gauge Network Design and Rainfall Estimation- Case Study of Baitarani River Basin <i>Biswajit Choudhury, Anil Kumar Kar</i>	
8	212	Investigations on Hydraulic Conductivity Assessment of Porous Media Treated with Fly Ash <i>Abhishish Chandel, Vijay Shankar, M A Alam</i>	

**Technical Session – TS1****Parallel Session – 06****TS1-CCW1**

Theme : **Climate Change Impact on Water Resources**

Session Chairs : **Prof. D Nagesh Kumar, IISc Bangalore
Dr. H L Tiwari, MANIT Bhopal**

Keynote 06 : **Prof. D Nagesh Kumar, IISc Bangalore** (02:00 – 02:25 PM)

Topic : **Assessing severe drought and wet events over India in a future climate**

S. No.	Paper ID	Paper Title and Author(s)	(02:25 – 03:45 PM)
1	2	Spatio-temporal Changes in the Streamflow Regimes Across Mahanadi River Basin <i>Ashutosh Sharma and Priyank J Sharma</i>	
2	31	Assessment of Crop Water Requirement in the Context of Climate Change <i>Jitendra Sharma, M K Choudhary and R K Jaiswal</i>	
3	40	Climate Change Impact Assessment on Water Resources – A Review <i>Prajakta Prabhakar Surkar and M K Choudhary</i>	
4	71	Temporal Networks: A New Approach in Hydroclimatic Studies to Capture Time-Varying <i>Riya Dutta and Rajib Maity</i>	
5	108	Projection of Daily Rainfall States over Tapi Basin using CMIP5 and CMIP6 based Global Climate Model <i>Aarti S Ghate and P V Timbadiya</i>	
6	120	Statistical Downscaling of GRACE data for Krishna River using LSTM <i>Saisrinivas Gorugantula and BVN P Kambhammettu</i>	
7	171	Impact of Climate Change on Precipitation Extremes in Northeast India under CMIP5 Models <i>Jayshree Hazarika and Mridusmita Boro</i>	
8	189	Trend Analysis of Groundwater Levels in Visakhapatnam Coastal Aquifer <i>V M Priyanka, M Ramesh and Y Srinivas</i>	



23rd December 2021 (Thursday)

03:55 PM – 05:50 PM

Technical Session – TS2

Technical Session – TS2	Parallel Session – 01	TS2-CCW2
Theme	: Climate Change Impact on Water Resources	
Session Chairs	: Prof. J N Patel, SVNIT Surat Dr. Priyank Sharma, IIT Indore	

Keynote 07	: Prof. Roberto Ranzi, Hydraulic Structures and River basin monitoring and restoration at University of Brescia, Italy	(03:55 – 04:20 PM)
Topic	: Long term variability of streamflow and snow water equivalent in the Central Italian Alps	

S. No.	Paper ID	Paper Title and Author(s)	(04:20 – 05:50 PM)
1	1	Trends In Extreme Streamflow Indices in The Godavari River Basin <i>Aajaz Ahmad Padder and Priyank J Sharma</i>	
2	3	Assessment of Temporal Changes in Streamflow Characteristics Across Cauvery River Basin <i>Nidhi Kaundal and Priyank J Sharma</i>	
3	100	Climate Change Impact and Adaptive Measures <i>Rutuja D Telrandhe and H L Tiwari</i>	
4	107	Assessment of Kernel Regression Based Statistically Downscaled Rainfall Over Tapi River Basin, India <i>Lalit Kumar Gehlot, P L Patel and P V Timbadiya</i>	
5	190	Assessment of Precipitation Extremes in Northeast India Under CMIP5 Models <i>Jayshree Hazarika and Deepjyoti Phukan</i>	
6	202	Downscaling Climate Data Using Artificial Neural Networks <i>S S Shah and S N Londhe</i>	
7	211	Intercomparison of MoM, MLM and LMO Estimators of Probability Distributions for Assessment of Extreme Rainfall <i>N Vivekanandan and C Srishailam R G Patil</i>	
8	214	Statistical Analysis of Rainfall Variability From 1981 To 2020 For Kota, Rajasthan (India) <i>Kuldeep, Sohil Sisodiya and Anil K Mathur</i>	
9	256	Trend Analysis of Long-Term Rainfall Data Series <i>Sharad K Jain</i>	

Technical Session – TS2	Parallel Session – 02	TS2-HHM2
Theme	: Hydrology and Hydrologic Modeling	
Session Chairs	: Prof. N K Goel, IIT Roorkee Prof. Javed Alam, AMU Aligarh	

Keynote 08	: Prof. N K Goel, IIT Roorkee	(03:55 – 04:20 PM)
Topic	: Development of operational inflow forecasting system for the Tehri dam	

S. No.	Paper ID	Paper Title and Author(s)	(04:20 – 05:50 PM)
1	24	Performance Evaluation of Lumped Conceptual Rainfall-Runoff Genie Rural (GR) Hydrological Models for Streamflow Simulation <i>Siddik Ahmed Barbhuiya, Akash Singh Raghuvanshi and H L Tiwari</i>	
2	67	Capacity Assessment of Khoupum Reservoir, Manipur using Hydrographic Survey - A Case Study <i>M S Bist Ajay Sonawane, Ajit Singh, K Subbarao Murthy and M Selva Balan</i>	
3	130	Estimation of River Discharge in Mandovi Basin, Goa <i>Raghavendra Talawar and Jaya Kumar Seelam</i>	
4	145	Assessing the Performance of SWOT Simulator in Estimating River Discharge of a Tropical Basin <i>Taha Aawar, Adarsh M S and C T Dhanya</i>	



S. No.	Paper ID	Paper Title and Author(s) (04:20 – 05:50 PM)
5	167	Assessment of Drought using Drought Indices and Analyzing the Relationship between Groundwater Levels and Drought Indices: A Case Study of Ahmedabad District <i>Viraj Bhuva, Bhoomi Andharia and T M V Suryanarayana</i>
6	168	PMF Estimation for Extreme Events from PMP Atlas, A GIS and Hydrologic Model Based Case Study in Tehri Catchment <i>Mohit Jani, Praveen K Thakur, Arpit Chouksey, S P Aggarwal, P Chauhan and Atul Singh</i>
7	198	Effect of Land Use/Land Cover Changes on Runoff from Watershed Using CN Approach <i>Velayudha Das and Poongothai S</i>
8	213	Appraisal of Soil Salinity in Haryana State by using Electromagnetic Induction Tool <i>Hemant Raheja, Arun Goel, Mahesh Pal, D S Bundela</i>
9	236	Comparison of Three Trend Detection Methods for Hydrological Parameters of Wainganga Basin, India <i>Madhura Aher and S M Yadav</i>

Technical Session – TS2

Parallel Session – 03

TS2-HSH1

Theme : **Hydraulic Structures and Hydropower Project**

Session Chairs : **Prof. Nayan Sharma, Former Professor, IIT Roorkee**
Prof. V L Manekar, SVNIT Surat

Keynote 09 : **Prof. Nayan Sharma, IIT Roorkee** (03:55 – 04:20 PM)

Topic : **Imperatives to overhaul standing dams for spillway capacity and flood storage to take on climate challenges**

S. No.	Paper ID	Paper Title and Author(s) (04:20 – 05:50 PM)
1	50	Hydro Power Potential in India: A Review <i>Varun Mishra, Ruchi Khare and Rutuja Chavan</i>
2	62	Physical Model Studies in Finalising the Efficient Hydraulic Design of Spillway, Energy Dissipator and Deciding the Optimum Layout of Plunge Pool – A Case Study <i>K T More, V S RamaRao and M R Bhajantri</i>
3	82	Review of Non-Destructive Testing Methods used for Structural Safety Assessment of Civil Structures <i>Prakash K Palei, Vijay Ghodake, Santhosh Kumar and Rizwan Ali</i>
4	83	Safety of Hydraulic Structures against Vibrations Generated due to Operation of Turbine Unit – A Case Study <i>Vijay Ghodake, Prakash Palei, S Santhosh Kumar and Rizwan Ali</i>
5	85	Logging and Tracer study - An integral part of NDT for Seepage through Hydraulic Structures <i>Rolland Andrade, Amol Chunade and Suresh Kumar B</i>
6	87	Tracer Techniques – A Diagnostic Tool in Seepage Detection of Hydropower Projects <i>A D Chunade, G A Panvalkar and B Suresh Kumar</i>
7	90	Optimization of Hydraulic Design of Spillways and its Appurtenant Structures - Role of Physical Model Studies <i>Prajakta Gadge, M R Bhajantri and Kunal Kapur</i>
8	91	Seepage through Sub Surface of Dam and Its Remedial Measures <i>Sanjay A Burele, G C Singarkar, Pravuram Panda, K A M Bagwan and Rizwan Ali</i>
9	97	Role of Hydraulic Model Studies in the Safe and Efficient Operation of Spillway of a Run-of-the river Hydro Electric Project <i>B S Sundarlal, Amol H Gaikwad and M R Bhajantri</i>

Technical Session – TS2

Parallel Session – 04

TS2-CIWC

Theme : **Climate Change Impacts on Water and Coastal Infrastructures**

Session Organiser : **Prof. Sannasiraj, IIT Madras**

Session Chair : **Prof. M S Babel, Asian Institute of Technology, Bangkok**

Keynote 10 : **Prof. M S Babel, AIT Bangkok** (03:55 – 04:20 PM)



Topic : **A bottom-up approach for enhancing Climate resilience of urban water supply systems: cases of Bangkok and Colombo**

S. No.	Paper ID	Paper Title and Author(s) (04:20 - 05:50 PM)
1	45	Future Sea Level Rise at Indian Ports using a Combined Numerical and Data-Driven Approach <i>Priyen Somaiya and M C Deo</i>
2	286	Strategies for Adaptation of Solid Waste Management Infrastructure in Coastal Areas to Climate Change <i>Anu Rachel Thomas, Mohammed Iqbal Thayyil and Ligy Philip</i>
3	300	Longshore Sediment Transport Rate along Ponnani Coast, Kerala, India <i>Pradeep A, Sannasiraj S A Murali K and Sundar V</i>
4	306	Beach Profile Changes along an Open Coast and Near an Estuary <i>Vasanthakumar S, Sannasiraj S A, Murali K and Sundar V</i>
5	308	Stability of the Approach Channel at Karaikal Tidal Inlet, India <i>Sukanya R, Sundar V, Murali K and Arun Rajasekar A</i>
6	318	Political Connectivity, Social Capital and Multidimensional Coastal Vulnerability Index in India <i>Sabuj Kumar Mandal, Sudhir Chella Rajan and Benisha G</i>
7	320	Assessment of Vulnerability for Eastern India Coastal Region Using Geospatial Techniques <i>Ashiq Ahmed M, Nilanjan Saha and Sannasiraj S A</i>

Technical Session – TS2

Parallel Session – 05

TS2-CMWW

Theme : **Challenges in Management of Water Resources and Flooding in West Flowing Rivers**

Session Chairs : **Prof. T I Eldho, IIT Bombay**
Prof. H J Shiva Prasad, GBPUAT Pantnagar

Keynote 11 : **Prof. T I Eldho, IIT Bombay** (03:55 – 04:20 PM)

Topic : **Challenges and issues for water resources management in west flowing river basins**

S. No.	Paper ID	Paper Title and Author(s) (04:20 - 05:50 PM)
1	68	A Dam Break Analysis using HEC-RAS 2D Hydrodynamic Modeling for Decision Making System <i>Kishanlal Darji and Dhruvesh Patel</i>
2	84	Flood Estimation Studies for Lower Tapi- A Case Study <i>Annapurna Patra, Ujjal Chowdhury and C Srishailam</i>
3	176	2D Flood Simulation and Mapping using Hydraulic Model and GIS Technology <i>Anant Patel, Neha Keriwala and S M Yadav</i>
4	278	Flood Inundation Mapping using 2D Hydrodynamic Model and GIS Technique for Lower Tapi Basin, India <i>Theertha Ravi, Shubham M Jibhakate and P V Timbadiya</i>
5	297	Performance Evaluation of 2D Hydrodynamic Model for Lower Narmada River Basin, India <i>Aedla Madhu Priya Shubham M Jibhakate and P V Timbadiya</i>
6	386	Role of Large Scale Oceanic-Atmospheric Circulations over Hydro-Climatological Extremes of Narmada Basin, India <i>Shivam Singh, Nikhil Kumar and Manish Kumar Goyal</i>
7	391	Impact of Climate Change and Human Activities on Runoff in the Mahi Bajaj Sagar Basin <i>Mithun Choudhary, Mahesh Kumar Jat and Mahender Choudhary</i>
8	409	Meteorological Drought Analysis of Sabarmati Basin, India <i>Jakka Sai Priya, Madhu Priya Aedla, Theertha Ravi, P L Patel and Alka Sharma</i>



24th December 2021 (Friday)

10:00 AM – 12:00 PM

Technical Session – TS3

Technical Session – TS3	Parallel Session – 01	TS3-CEM
Theme :	Coastal Environment and Measurement	
Session Organiser :	Prof. V. Sundar, Professor Emeritus, IIT Madras	
Session Chair :	Dr. P Chandramohan, MD, Indomer Coastal Hydraulics (P) Ltd, Chennai, India	

Keynote 12 :	Dr. P Chandramohan, MD, Indomer Coastal Hydraulics (P) Ltd, Chennai, India	(10:00 – 10:25 AM)
Topic :	Importance of field measurements for coastal engineering projects	

S. No.	Paper ID	Paper Title and Author(s)	(10:25 – 12:00 PM)
1	38	Estimation of Nearshore Sediment Transport along the North Konkan Coast- A Numerical Approach <i>Lavanya H, Jyoti P Kerkar and Jayakumar Seelam</i>	
2	94	Suitable Coastal Protection Measures for a Vulnerable Coastal Site using Numerical Techniques <i>Prabhat Chandra, R K Chaudhari and S K Kori</i>	
3	129	Impacts of Coastal Structures in Typical Bays on Different Shorelines <i>B Gopikrishna and J D Agrawal</i>	
4	146	Impact of Wave Dynamics on Shoreline Changes due to Proposed Reclamation by Numerical Models in Tapi Estuary for M/S EBTL, Hazira <i>Vighe K S, Rahul Sawant and Ranganath L R</i>	
5	209	Coastal Data Collection at North Maharashtra and South Gujarat – A Case Study on Planning, Challenges and Strategies <i>S N Jha, H B Jagadeesh and Prabhat Chandra</i>	
6	257	Harbour Tranquillity and Prediction of Shoreline Evolution - A Case Study <i>Vaibhawi Roy, Santosh Kori, Jiweshwar Sinha and Prabhat Chandra</i>	
7	455	A Review on Directional Focusing Waves: Generation Methods towards 3D Idealization of Rogue or Extreme Waves in Laboratory <i>Lakshman R, Sriram Vand Sundar V</i>	
8	464	Coastal Management Information System (CMIS) for South Indian Coastal States <i>Sriganesh J, Sundar V, Sannasiraj S A and Murali K</i>	
9	491	Physical Model Study on the Soft Option of Coastal Protection Works by Vegetation Meadow - A Review <i>Surakshitha, Manu and Subba Rao</i>	

Technical Session – TS3	Parallel Session – 02	TS3-STW2
Theme :	Soft Computing Techniques in Water Resources Engineering	
Session Chairs :	Prof. Ramesh Teegavarapu, FAU Florida Prof. S M Yadav, SVNIT Surat	

Keynote 13 :	Prof. Ramesh Teegavarapu, FAU Florida	(10:00 – 10:25 AM)
Topic :	Data analytics, soft and statistical computing for modeling and management of hydrosystems	

S. No.	Paper ID	Paper Title and Author(s)	(10:25 – 12:00 PM)
1	136	Development of Short-Term Reservoir Level Forecasting Models: A Case Study of Ajwa-Pratappura Reservoir System of Vishwamitri River Basin of Central Gujarat <i>Urvish P Nagar and H M Patel</i>	
2	175	Machine-Learning Framework for Flood Susceptibility Modeling in a Fast-Growing Urban City of Southern India <i>A L Achu, Girish Gopinath and Surendran U</i>	
3	244	Conjunctive use Planning for Pench Irrigation Project	



S. No.	Paper ID	Paper Title and Author(s)	(10:25 - 12:00 PM)
		<i>Narendra Bonde and V L Manekar</i>	
4	247	Analysis of Hazipur Village Water Distribution Network by using EPANET <i>Akhilesh Sonker, Tuhin Mukherjee and Ganesh D Kale</i>	
5	254	Suitable Artificial Intelligence Techniques for Hyperspectral Images <i>Ritica Thakur and V L Manekar</i>	
6	324	Fuzzy Optimization Framework for Facilitating Best Management Practices in the Context of Urban Floods <i>Rohit Dwivedula, Rampalli Madhuri, K Srinivasa Raju, Vasan A</i>	
7	334	Optimization of an Irrigation Reservoir using Dynamic Programming Model <i>Nidhi Khare and V L Manekar</i>	
8	337	Leakage Management in WDS using Optimization Technique <i>Ashwini Sukhram singh and Ashwini Mirajkar</i>	
9	385	A Review on the Techniques Employed in Prediction of Northeast Monsoon Rainfall over Peninsular India <i>Hemchandra R Pawar, Satishkumar S Kashid and Satyawan D Jagdale</i>	

Technical Session – TS3

Parallel Session – 03

TS3-FFM1

Theme : **Flood Forecasting and Mitigation Measures**
Session Chairs : **Dr. Soumendra Nath Kuiry, IIT Madras**
Dr. Dhruvesh Patel, PDPU Gandhinagar

Keynote 14 : **Dr. Soumendra Nath Kuiry, IIT Madras** (10:00 – 10:25 AM)
Topic : **A novel local-inertial formulation representing sub-grid scale topographic effects for urban flood simulation**

S. No.	Paper ID	Paper Title and Author(s)	(10:25 - 12:00 PM)
1	35	Generation of Intensity Duration Frequency Curve for Tezpur, Assam <i>Priyanshu Kashyap Hazarika, Ananya Swargiary, Gautam Sonowal and Anurag Sharma</i>	
2	36	A Sustainable Approach for Flood Mitigation in Kokrajhar, Assam <i>Sagar Basumatary, Soumen Maji, and Debshri Swargiary</i>	
3	53	Role of Spread Spectrum based LoRa in Advance Flood Monitoring and Warning System <i>Shaneel Saurabh Sao, M Selva Balan and Prajakta A More</i>	
4	128	Existence of Swamps and Detention Tanks for Preventing Urban Flood- A Case Study <i>Ankita Bohidar, Anil Kumar Kar and Prof Pradeep Kumar Das</i>	
5	149	Hydrodynamic Modeling and Satellite Altimeter based Establishment of Virtual Gauging Network in Flood Prone River Basin <i>Joshil Kumar Bansal, Pankaj R Dhote, Vaibhav Garg and Praveen K Thakur</i>	
6	156	UAV (Drone) for Preparation of High-Resolution DEM/DTM – A Case Application of Post Flood Assessment of Dhanera City, Rel River Catchment <i>Kishanlal Darji, Dhruvesh Patel, Amit Kumar Dubey, Praveen Kumar Gupta, and Raghavendra P Singh</i>	
7	205	Development of Seasonal Rainfall Forecasting Model for Kumaon Region of Uttarakhand <i>Utkarsh Kumar and Rashmi</i>	
8	258	Flood Mitigation in and around Sangli, Maharashtra by Modification of River Meander Geometry <i>H T Dhumal, S B Thakare, S N Londhe, Pallavi Gavali and Mohamed Niyaz</i>	
9	295	Review on Resilient Spatial Planning Strategies to Reduce Urban Flood Risks <i>D G Patil and S S Kashid</i>	

**Technical Session – TS3****Parallel Session – 04****TS3-HHM3**

Theme : **Hydrology and Hydrologic Modeling**

Session Chairs : **Prof. V V Srinivas, IISc Bangalore**
Prof. Arun Goel, NIT Kurukshetra

Keynote 15 : **Prof. V V Srinivas, IISc Bangalore**

(10:00 – 10:25 AM)

Topic : **Emerging perspectives in predicting hydrologic extremes**

S. No.	Paper ID	Paper Title and Author(s)	(10:25 – 12:00 PM)
1	64	Hydro-Climatic Variability over Northern India: Implications for Water Resource Management <i>Dar Junaid and Abdul Qayoom Dar</i>	
2	277	Rainfall-Runoff Simulation using Coupled ANN-SCS Approach in Pagladiya Watershed: A Sub-Catchment of River Brahmaputra <i>Sagar Debbarma, Swapnali Barman, Amulya Chandra Debnath, Manoranjan Nath and Sonu Kumar</i>	
3	285	Groundwater Flow Modeling for Evaluating Specific Yield Sensitivity of a Sandstone Aquifer system in Gunderu Sub-basin <i>S V Vijaya Kumar, A VaraPrasada Rao and N Srinivas, D Srija</i>	
4	290	A Review: Contribution of HEC-HMS Model <i>Mukul Kumar Sahu, Shwetha H R and G S Dwarakish</i>	
5	298	Flood Routing using Numerical Methods: A Review <i>Ekant Sarkar, Biswajit Pradhan and Kishanjit Kumar Khatua</i>	
6	301	Investigation of SCS-CN based Modified Models for Runoff Prediction <i>Pankaj Upreti, C S P Ojha</i>	
7	303	Application of the HEC-RAS Model for the Floodplain Delineation in a Flat Semi-Arid River Basin <i>Mohamedmaroof P Shaikh, Sanjaykumar M Yadav, and Vivek L Manekar</i>	
8	316	A Dual Porosity Lumped Parameter Model of Hillslope Hydrological Processes-A Case Study <i>Syedeh Raazia and Rakesh Khosa</i>	
9	322	Interlinking of Rivers (Godavari-Krishna-Pennar-Cauvery) <i>Rohitha, Sudheera, Renuka, Manisha and Kamalini Devi</i>	



24th December 2021 (Friday)

12:05 PM – 01:35 PM

Technical Session – TS4

Technical Session – TS4	Parallel Session – 01	TS4-FH2
Theme	: Fluvial Hydraulics	
Session Chairs	: Prof. Luca Solari, University of Florence, Italy Dr. Anurag Sharma, NIT Rourkela	

Keynote 16	: Prof. Luca Solari, University of Florence, Italy	(12:05 – 12:30 PM)
Topic	: Plastic in rivers: production, transport and deposition	

S. No.	Paper ID	Paper Title and Author(s)	(12:30 – 01:35 PM)
1	143	Field Data Collection and Analysis for Siltation Studies at new Mangalore Port, Panambur, Karnataka <i>Banwari Lal Meena, H B Jagadeesh and Prabhat Chandra</i>	
2	147	Comparison of Methods for Determining Sediment Distribution of a Reservoir - A Case Study <i>Anjana Khamari and Anil Kumar Kar</i>	
3	163	Impact of Sand Mining on River Channel and its Inundation Pattern <i>Vaibhav Garg and Rahul M Kapurkar</i>	
4	169	Analysis of River Meandering and Morphometric changes using GIS approach: A Case Study of Sub basin of the Narmada River <i>H S Lalwani and T M V Suryanarayana</i>	
5	216	Empirical Formula for Sequent Depth Ratio (SDR) in Smooth Sloping Rectangular Channels <i>Mohd. Mohsin</i>	
6	228	Analysis of Scour Depth around a Bridge Pier using HEC-RAS Modeling tool - A Case Study <i>Biswajit Dalal and Subhrajyoti Deb</i>	

Technical Session – TS4	Parallel Session – 02	TS4-COE1
Theme	: Coastal, Harbour and Ocean Engineering	
Session Chairs	: Dr. Manasa Ranjan Behera, IIT Bombay Dr. L R Ranganath, Secretary, ISH	

Keynote 17	: Dr. Manasa Ranjan Behera, IIT Bombay	(12:05 – 12:30 PM)
Topic	: Resilient infrastructure for ocean and coastal disasters	

S. No.	Paper ID	Paper Title and Author(s)	(12:30 – 01:35 PM)
1	7	Wave Flume Studies for the Restoration of Existing Breakwater at Bhagwati Bunder Port, Ratnagiri, Maharashtra <i>Uday B Patil, A V Mahalingaiah and Ganesh N S</i>	
2	27	Experimental Studies of Wave Runup and Transmission through Submerged Rigid and Flexible Vegetation <i>Kishore Kumar Reddy P, Muni Reddy M G and Prathap Kumar N</i>	
3	46	Development of Index for Delineation of Potential Submarine Groundwater Discharge Zones along the Coast <i>Chandrashekhar Bhagat, Anant Misra, Pranab Kumar Mohapatra and Manish Kumar</i>	
4	48	Effect of Super Cyclone AMPHAN on Structure: A Case Study <i>Puja Haldar A, Somnath Karmakar B and Souvik Roy C</i>	
5	60	Effect of Cyclone Yaas on Digha Sea Beach and Adjoining Coastal Areas in West Bengal <i>Mayuraksha Bardhan</i>	
6	96	Rejuvenation of Fishing Harbour Heavily Affected by Impact of High Waves and Sedimentation using Numerical Methods <i>R K Chaudhari, S K Kori and Prabhat Chandra</i>	



Technical Session – TS4	Parallel Session – 03	TS4-STW3
Theme	: Soft Computing Techniques in Water Resources Engineering	
Session Chairs	: Prof. V Jothiprakash, IIT Bombay Prof. H M Patel, MSU Baroda	

Keynote 18	: Prof. V Jothiprakash, IIT Bombay	(12:05 – 12:30 PM)
Topic	: Soft computing techniques in water resources engineering	

S. No.	Paper ID	Paper Title and Author(s)	(12:30 – 01:35 PM)
1	80	Simulation of Reservoir Inflow using HEC-HMS <i>Mahesh Shelke, S N Londhe, P R Dixit and Pravin Kolhe</i>	
2	95	Rainfall-Runoff Modeling using Artificial Neural Networks (ANNs) For Upper Krishna Basin, Maharashtra, India. <i>Aparna M Deulkar, S N Londhe, R K Jain and P R Dixit</i>	
3	159	Application of Random Forest and Model Tree for Discharge and Water Level Estimation and Prediction <i>S N Londhe, P R Dixit, P S Kulkarni and H Dhumal</i>	
4	398	Data-Driven Approaches for Estimation of Particle Froude Number in a Sewer System <i>Deepti Shakya, Mayank Agarwal, Vishal Deshpande and Bimlesh Kumar</i>	
5	413	Estimation of Time-Dependent Pier Scour Depth using Ensemble and Boosting Based Data Driven Approaches <i>Sanjit Kumar, Mayank Agarwal, Vishal Deshpande and Manish Kumar Goyal</i>	
6	415	Optimum Placement of Pressure and Acoustics Sensors for Leak Detection in Ramnagar GSR Water Distribution Network of Nagpur City <i>N Poojitha and Rajesh Gupta</i>	

Technical Session – TS4	Parallel Session – 04	TS4-CCW3
Theme	: Climate Change Impact on Water Resources	
Session Chairs	: Prof. Subimal Ghosh, IIT Bombay Dr. Sanskriti Mujumdar, MSU Baroda	

Keynote 19	: Prof. Subimal Ghosh, IIT Bombay	(12:05 – 12:30 PM)
Topic	: Land-atmosphere interactions in Indian monsoon	

S. No.	Paper ID	Paper Title and Author(s)	(12:30 – 01:35 PM)
1	105	Climate Change Impact on Future Reference Evapotranspiration and Crop Evapotranspiration for Maize in Sehore District of Madhya Pradesh <i>Ankit Balvanshi and H L Tiwari</i>	
2	262	Spatio-Temporal Variability and Trend Analysis of Changing Rainfall Patterns Over Upper Bhima Sub-Basin, Maharashtra, India <i>Digambar S Londhe, Yashwant B Katpatal and Mukesh M S</i>	
3	271	Analysis of Uncertainty Due to Climate Change using Rea Approach in Different Regions of Western Ghats, South India <i>Navya Chandu and T I Eldho</i>	
4	280	Downscaling of GCM Output using Deep Learning Techniques <i>Chandra Prakash Tamang, Subir Paul and Dasika Nagesh Kumar</i>	
5	293	Efficacy of TVDM in Downscaling the Observed Precipitation Over Godavari River Basin, India <i>Subbarao Pichuka, Srikanth Bhoopathi and Siva Sai Syam Nandikanti</i>	
6	335	Spatio-Temporal Analysis of Rainfall and Temperature over Pennar River Basin, India <i>G Roshan Chand Naik and Ashwini B Mirajkar</i>	
7	354	Assessment of Climate Change for Generating Future Scenarios of Temperature over Lower Godavari Sub Basin Maharashtra State, India by using SDSM and Excel Model <i>Barokar Y J and Regulwar D G</i>	



Technical Session – TS4

Parallel Session – 05

TS4-HHM4

Theme : **Hydrology and Hydrologic Modeling**

Session Chairs : **Prof. Ramakar Jha, NIT Patna**
Prof. Jyothi Prasad, GBPUAT Pantnagar

Keynote 20 : **Prof. Ramakar Jha, NIT Patna** **(12:05 – 12:30 PM)**

Topic : **Soil moisture and water retention capacity in Ganga plains for flood management**

S. No.	Paper ID	Paper Title and Author(s) (12:30 – 01:35 PM)
1	302	A Simple Event-Based Rainfall-Runoff Model without using Curve Number Concept <i>Pankaj Upreti, and C S P Ojha</i>
2	327	Highlighting the Impacts of Anthropogenic Activities on Hydrological Drought in Godavari River Basin – A Modeling Approach <i>Satyajeet Sahu, Bhaskar R Nikam, Vaibhav Garg and S P Aggarwal</i>
3	341	Intercomparison of the Performance of CHIRPS Satellite Rainfall Data and Gauge Gridded IMD Data for Hydrological Modeling <i>Gupta K</i>
4	353	Drought Analysis for the Region in and around of Mizoram State, India <i>Vanlalhmuaka Ralte and Briti Sundar Sil</i>
5	379	Flash Drought and Its Impact on Terrestrial Ecosystem over India <i>Vikas Poonia and Manish Kumar Goyal</i>
6	381	Assessment of Hydrological Resilience and Hydroclimatic Extremes in Peninsular Catchments, India <i>Nikhil Kumar, Piyush Patel, Shivam Singh and Manish Kumar Goyal</i>



24th December 2021 (Friday)

02:15 PM – 03:55 PM

Technical Session – TS5

Technical Session – TS5	Parallel Session – 01	TS5-FH3
Theme	: Fluvial Hydraulics	
Session Chairs	: Prof. B S Mazumder, Former Professor, ISI Kolkata Prof. G L Asawa, Adjunct Professor, SVNIT Surat	

Keynote 21	: Prof. B S Mazumder, ISI Kolkata	(02:15 – 02:40 PM)
Topic	: Turbulence characteristics in natural rivers due to navigation traffics	

S. No.	Paper ID	Paper Title and Author(s)	(02:40 – 03:55 PM)
1	102	The Experimental Analysis of Incipient Motion Condition of Nonuniform Sediment <i>Deepali Rahul Kulkarni and Anand Bhalerao</i>	
2	259	Analysis of Riverbank Erosion-Accretion Process using Geospatial Approach – A Case Study of the Upper Segment of Yamuna River <i>Rajat Mittal, Saif Said and Mubeen Beg</i>	
3	274	Local Scour Near Sluice Gate in Clay-Sand Mixtures <i>Divya T, Sarkar A and Soumendra Nath Kuiry</i>	
4	281	Estimation of Stream Bank Erosion Rates using Jet Apparatus Approach in the Barak River Basin, India <i>Tinkle Das, Kumar Ashwini and Briti Sundar Sil</i>	
5	321	Numerical Investigation of Secondary Flow Structures in a Gravel Bed Asymmetric Compound Channel <i>S Sahoo, K Devi, J R Khuntia and K K Khatua</i>	
6	388	Scour Around Submerged Spur Dikes: An Experimental Study <i>Manish Pandey</i>	
7	397	Prediction of Bed Load Transport Rate in Mountain River by ANN Model <i>Hitesh Diwakar, Vipinkumar Yadav and Sanjaykumar M Yadav</i>	
8	444	Shear Force Modeling in Compound Open Channel using Support Vector Machine <i>Rahul Kumar Gaurav, B S Das, J R Khuntia and K Devi</i>	

Technical Session – TS5	Parallel Session – 02	TS5-GTW2
Theme	: Geospatial Technologies in Water Resources Engineering	
Session Chairs	: Prof. Subashisa Dutta, IIT Guwahati Prof. P G Agnihotri, SVNIT Surat	

Keynote 22	: Prof. Subashisa Dutta, IIT Guwahati	(02:15 – 02:40 PM)
Topic	: Cloud computing on geospatial data for hydrological studies	

S. No.	Paper ID	Paper Title and Author(s)	(02:40 – 03:55 PM)
1	19	Climate Change Impact and Adaptive Measures for Green Cover Assessment at District Level <i>Amol Dhokchaule, Anita Morkar, Santosh Wagh and Makarand Kulkarni</i>	
2	20	GIS and RS Applications in Water Resources Management in Consumption with Crop Assessment <i>Suvarna Kulkarni, Sunil Gaikwad and Makarand Kulkarni</i>	
3	44	Analytical study on correlation between LST with LULC and Topography on temporal basis: A Case Study of Bhubaneswar city, Odisha <i>Manorama Sarangi and Anil Kumar Kar</i>	
4	73	Assessment of Vertical Accuracy of Freely Available Global Digital Elevation Models for Heterogeneous Terrains in India <i>Vineela Nandam and Patel P L</i>	
5	199	An Ecohydrological and Geospatial Assessment for Urban River System: A Case Study in the Bhogdoi River, India <i>Anupal Baruah, Dhruba Jyoti Sarmah and Arup Kumar Sarma</i>	



S. No.	Paper ID	Paper Title and Author(s) (02:40 - 03:55 PM)
6	208	Estimation of Potential Evapotranspiration for Bobbili Region by Using ArcGIS <i> Sravani Duvvuri, G V R Srinivasa Rao, Vamsi Krishna, Satya Sairam and Naga Lakshmi</i>

Technical Session – TS5	Parallel Session – 03	TS5-HSH2
Theme	: Hydraulics Structures and Hydropower Project	
Session Chairs	: Prof. Z Ahmad, IIT Roorkee Dr. U P Gupta, CWC New Delhi	

Keynote 23	: Prof. Z Ahmad, IIT Roorkee	(02:15 - 02:40 PM)
Topic	: Critical submergence water intake structures	

S. No.	Paper ID	Paper Title and Author(s) (02:40 - 03:55 PM)
1	92	Hydraulics of Morning Glory Spillway- An Overview <i> Prajakta Gadge and M R Bhajantri</i>
2	93	Studies to Determine In-Situ Strength Parameters of Stone Masonry of Massanjore Dam, Jharkhand <i> Sanjay A Burele, G C Singarkar, Pravuram Panda, K A M Bagwan and Rizwan Ali</i>
3	99	Recent trends in the design of Auxiliary/ Additional Spillways for Flood Management- Some Hydraulic Considerations <i> B S Sundarlal, R R Bhate, M R Bhajantri</i>
4	103	Development of Techno-Economic Feasible Design of Spillway for a Major Hydropower Project in Sikkim- A Case Study <i> S R Patnaik, M R Bhajantri, V P Gadhe and N M Meena</i>
5	113	Non-invasive Diagnostic Methods for Structural Health Monitoring of Concrete Gravity Dams – Case study of Umiam Dam <i> S Santhosh Kumar, Vijay K Ghodake, Prakash K Palei and Rizwan Ali</i>
6	114	Hydraulic Model Investigations to Optimise the Design of an Orifice Spillway – A Case Study <i> R R Bhate, M R Bhajantri and P V Mane</i>
7	133	Estimation of Pressure in a Plunge Pool with Rectangular Plunging Jet <i> Sushma J Vyas and Y N Srivastava</i>
8	487	Prediction of Discharge Coefficients for Trapezoidal Labyrinth Weir with Half-Round (HR) and Quarter-Round (QR) Crest <i> Mohammad Danish Mustafa, Talib Mansoor, Mohammad Muzzammil</i>

Technical Session – TS5	Parallel Session – 04	TS5-CCW4
Theme	: Climate Change Impact on Water Resources	
Session Chairs	: Prof. Shubhankar Karmakar, IIT Bombay Dr. Ashutosh Sharma, IIT Roorkee	

Keynote 24	: Prof. Shubhankar Karmakar, IIT Bombay	(02:15 - 02:40 PM)
Topic	: Mapping flood risk under changing climate	

S. No.	Paper ID	Paper Title and Author(s) (02:40 - 03:55 PM)
1	340	Analysis of Rainfall Variability and Drought over Bardoli Region <i> Priyank Patel, Kinjal Patel, Darshan Mehta and Sahita Waikhom</i>
2	350	Trend Analysis of Climatic Variables and their Relation to Snow Cover and Water Availability in the Himalayan Region, India <i> Surendra P Sing and R Krishnan</i>
3	351	A Non-Parametric Study on the Precipitation Trend in the Upper Brahmaputra River Basin, India <i> Shehnaj Ahmed Pathan, Subhrajyoti Deb and Briti Sundar Sil</i>
4	362	Trend Analysis of Drought Events over the Sirohi District in Western Rajasthan of India <i> Darshan J Mehta and S M Yadav</i>



S. No.	Paper ID	Paper Title and Author(s) (02:40 - 03:55 PM)
5	369	A spatio-temporal analysis of rainfall trends and variability due to changing climate in the central zone of Himachal Pradesh, India <i>Suman Kumari and Vijay Shankar</i>
6	378	Trend Analysis of Hourly Rainfall Indices in Savitri River Basin, India <i>E S Namitha, V Jothiprakash and Bellie Sivakumar</i>
7	383	Spatio-Temporal Assessment of Seasonal Trends and Extreme Indices of Precipitation and Temperature in Himalayan States of India <i>Saika Manzoor and Manzoor Ahmad Ahangar</i>

Technical Session – TS5

Parallel Session – 05

TS5-ECF1

Theme : **Experimental and Computational Fluid Mechanics**

Session Chairs : **Prof. K C Patra, NIT Rourkela**
Dr. H B Mehta, SVNIT Surat

Keynote 25 : **Prof. K C Patra, NIT Rourkela** (02:15 - 02:40 PM)

Topic : **Evolution of dam breach parameters and its application**

S. No.	Paper ID	Paper Title and Author(s) (02:40 - 03:55 PM)
1	63	Numerical Solution of Two-Dimensional Shallow Water Flow with Finite Difference Scheme <i>Koradia Ashishkumar and Bandita Barman</i>
2	131	Modeling of Conical Central Baffle Flumes using CFD <i>Ankur Kapoor, Aniruddha D Ghare and Sujith Nair</i>
3	217	Mathematical Model Studies for Surge Analysis of Mhaisal Lift Irrigation Scheme Stage 6A <i>G V R Murthy, V S Telgote and Y N Srivastava</i>
4	248	Study of Chute Blocks in Stilling Basins with Low Froude Number <i>S H Kulkarni and Y N Srivastava</i>
5	255	Estimation of Velocity Index for Flow Calculation in Open Channels using Geometric and Hydraulic Characteristics <i>Patel Pooja, Kar Rohan and Sarkar Arindam</i>
6	266	Double-Averaged Turbulence Characteristics over Hemi-spherical Rough Bed <i>Jaynata Shounda and Krishnendu Barman</i>



24th December 2021 (Friday)

04:05 PM – 05:45 PM

Technical Session – TS6

Technical Session – TS6	Parallel Session – 01	TS6-COE2
Theme	: Coastal, Harbour and Ocean Engineering	
Session Chairs	: Prof. Nilanjan Saha, IIT Madras Dr. Prabhat Chandra, CWPRS, Pune	

Keynote 26	: Prof. Nilanjan Saha, IIT Madras	(04:05 – 04:30 PM)
Topic	: Use of geosynthetics as a coastal and river protection measure	

S. No.	Paper ID	Paper Title and Author(s)	(04:30 – 05:45 PM)
1	127	Morphological Response of Sandy Beaches to Tauktae Cyclone in Goa, West coast of India <i>Rajendiran S, Jaya Kumar Seelam, Raghavendra Talawar, Lavanya H, Malavika S, Ritesh K Vanjari, Mandar Naik, Vinayak Yerudkar and Abdul V Sayyed</i>	
2	141	Feasibility of the Proposed Ropax Jetty through Evaluation of Hydrodynamics by Mathematical Model Study <i>N S Jagtap, A K Singh and L R Ranganath</i>	
3	142	A Numerical Approach for the Efficiency of Submerged Breakwater to Reduce Wave Impact on an Eroding Beach Adjacent to Estuary <i>Sawant Rahul, Barve K H, Ranganath L R and Agrawal J D</i>	
4	161	Estimation of Sedimentation for a Harbour Located in a Bay by Different Methods <i>Omnath Singh, Gopikrishna B, Agrawal J D and H P Singh</i>	
5	194	Extension of Breakwater and Restoration of River Mouth At Kasaragod Fishery Harbour, Kerala <i>Shivani Sahu, Jiweshwar Sinha, B L Meena and Prabhat Chandra</i>	
6	246	Mitigation of Sedimentation in Approach Channel and Harbour at Passenger Jetty, Mandwa, Maharashtra <i>V B Sharma, V P Konde and Prabhat Chandra</i>	
7	268	Issues and Challenges of Mangrove Sustainability in Vietnam Considering Driver-Pressure-Impact-Response (DPSIR) Model <i>Nguyen Thi Ngoc Bich, Mitthan Lal Kansal and Hai-Hoa Nguyen</i>	
8	282	Assessment of Submarine Groundwater Discharge (SGD) Zones along the Coastal Tract of Odisha <i>Y R Satyajai Rao, Soumya Kanta Nayak, Girish Yenagimath, Vijay Teeparthi and Sudhir Kumar</i>	

Technical Session – TS6	Parallel Session – 02	TS6-EH2
Theme	: Environmental Hydraulics	
Session Chairs	: Prof. A K Keshari, IIT Delhi Dr. Manish Pandey, NIT Warangal	

Keynote 27	: Prof. A K Keshari, IIT Delhi	(04:05 – 04:30 PM)
Topic	: Plausible interventions for convergence between water environment and developmental activities	

S. No.	Paper ID	Paper Title and Author(s)	(04:30 – 05:45 PM)
1	43	Review of Pollutant Release and Its Mobility Due to Sediment Erosion in the River Bed <i>Ranjit Kurmi, Ashwini Langrai and Anurag Sharma</i>	
2	76	Analysis of Water Distribution Network of the Zone-3 in Sarangpur City by using LOOP 4.0 and EPANET Software <i>Vinod Kumar Malviya and Ganesh D Kale</i>	
3	115	Environmental Impact Assessment of Water resource Projects <i>Supriya Nath, Jitesh N Vyas, Dudekula Nikhil Kumar, R B Deogade and Prabhat Chandra</i>	
4	119	Water Quality Monitoring and Assessment Along the Stretch of Baitarani Basin, Odisha [A Case Study] <i>Abhijeet Das and Bhagirathi Tripathi</i>	



S. No.	Paper ID	Paper Title and Author(s) (04:30 - 05:45 PM)
5	240	Improving the Khosala Method of Estimating Subsurface Flow Properties in Hydraulic Design using MODFLOW <i>Rath Prayas, Khatua K K and Patra K C</i>
6	420	Increasing Efficiency of Oxygen Separation from Air Through Ceramic Membranes - A Review <i>Mohammad Adnan Iqbal, Shivendra Kumar Jaiswal and Abdur Rahman Quaff</i>
7	440	Emanation of Radon from Coastal and Inland Groundwater of Northern Kerala, India <i>Arjun P, Jesiya N P, Girish Gopinath and Resmi T R</i>

Technical Session – TS6	Parallel Session – 03	TS6-HSH3
Theme : Hydraulic Structures and Hydropower Project		
Session Chairs : Shri. V P Kapadia, Director, SSNNL & Secretary, Govt. of Gujarat Prof. Mohmammad Muzzammil, AMU Aligarh		

Keynote 28	: Shri. V P Kapadia, Director, SSNNL & Secretary, Govt. of Gujarat	(04:05 - 04:30 PM)
Topic	: Hydraulic structures: issues and solutions (case studies)	

S. No.	Paper ID	Paper Title and Author(s) (04:30 - 05:45 PM)
1	104	Role of Divide Walls & Schedule of Gate Operation for Spillways with Large Number of Spans Ascertaining Optimum Energy Dissipation- A Case Study <i>S R Patnaik, M R Bhajantri, V P Gadhe and N M Meena</i>
2	151	Hydraulic Design of Spillway Approach Channel and Upstream Guide Bund of Polavaram Irrigation Project, Andhra Pradesh <i>Vankayalapati S Rama Rao and Yogendra Nath Srivastava</i>
3	170	Experimental Investigation on Local Scour in Downstream of Ski-Jump Spillway <i>Jyotirmaya Behera and Anil Kumar Kar</i>
4	195	Dam Safety Measures Against Earthquakes in Seismic Regions <i>Selvan S, Suman Sinha, Sachin Khupat, Chaman Singh, Jerin Paul K and Rizwan Ali</i>
5	197	Assessment of Seismic Potential for a Hydroelectric Project: A Case Study <i>Sachin N Khupat, Chaman Singh, Suman Sinha, S Selvan, Anamika Saha and Rizwan Ali</i>
6	234	Performance of Geometry of Gate Lip Angle – A Case Study <i>Kanhu Charan Sahu, Koppalakonda Rajesh, Akhilesh Kumar Agrawal</i>
7	235	Hydraulic Design of Plunge Pool Downstream of Ski-jump Bucket of Orifice Spillways <i>Kulhare, A, Bhate R R, Bhajantri M R</i>
8	489	Design of Dam Spillway Cum Downstream Wave Basin Physical Model for Kalpasar Project – A Case Study <i>Kashyape P A, Bhate R R, H B Jagadeesh and Prabhat Chandra</i>

Technical Session – TS6	Parallel Session – 04	TS6-FFM2
Theme : Flood Forecasting and Mitigation Measures		
Session Chairs : Dr. R N Sankhua, Chief Engineer (South), Ministry of Jal Shakti (WR, RD & GR), Govt. of India Dr. Viraj D Loliyana, CEO, FAMS, Mumbai		

Keynote 29	: Dr. R N Sankhua, Chief Engineer (South), MoJS	(04:05 - 04:30 PM)
Topic	: Palliating flood impacts through flood forecasting and mitigation	

S. No.	Paper ID	Paper Title and Author(s) (04:30 - 05:45 PM)
1	200	Computation of Socio-economic Vulnerability for Densely Populated Surat City, India <i>Shubham M Jibhakte, P V Timbadiya and P L Patel</i>
2	264	Impact of Encroachment of Floodplains of Adyar River on Chennai Floods <i>Reshma R and Soumendra Nath Kuiry</i>



S. No.	Paper ID	Paper Title and Author(s)	(04:30 - 05:45 PM)
3	305	Urban Flood Modeling of West Zone of Surat City, India <i>Jakka Sai Priya, P V Timbadiya, Aarti Ghate and Shubham Jibhakate</i>	
4	311	Effect of Land Use Land Cover Changes on Urban Floods <i>Himanshu Meena, V L Manekar and J N Patel</i>	
5	336	Impact of Land Use Changes on Urban Flooding in Patna City <i>Shashi Ranjan, Imamuddin Mohd Danish and Vivekanand Singh</i>	
6	342	Flood Frequency Analysis of Lower Tapi River Basin: A Case Study of Surat <i>Vipul Varma, Jinal Pastagia, Sahita Waikhom and Darshan Mehta</i>	
7	357	Frequency Analysis Incorporating a Decision Support System over Mahanadi Catchment in India <i>Neha Gupta and Sagar Rohidas Chavan</i>	

Technical Session – TS6

Parallel Session – 05

TS6-ECF2

Theme : **Experimental and Computational Fluid Mechanics**
Session Chairs : **Prof. K K Khatua, NIT Rourkela**
Dr. Tinesh Pathania, IIT-ISM Dhanbad

Keynote 30 : **Prof. K K Khatua, NIT Rourkela** (04:05 – 04:30 PM)
Topic : **Experimental investigations of unsteady flow over rough bed channels**

S. No.	Paper ID	Paper Title and Author(s)	(04:30 - 05:45 PM)
1	267	Rain-on-grid local-Inertial Formulation to Model within Grid Topography <i>Nithila Devi N and Soumendra Nath Kuiry</i>	
2	284	Numerical Simulation of Pressure Flow due to Vertical Contraction on a Rigid Bed <i>Sofi Aamir Majid and Shivam Tripathi</i>	
3	313	Calibration of Conventional Type Current Meters at Various Submergence Level- A Case Study <i>R B Deogade, H R Khandagale and Shri Milankumar Someshwara</i>	
4	380	Different Modeling Approaches in Increasing Efficiency of Raceway Pond <i>Sweety Rajput, B S Das and Anil Kumar Sharma</i>	
5	425	Numerical Simulation to Study the Influence of Number of Vanes of Diffuser on Performance of Multistage Pump <i>Deepak Prajapat, Ruchi Khare and Shyam N Shukla</i>	
6	437	Efficient Discharge Method to Estimate the Flow in Asymmetric Compound Open Channel <i>Sumit Kumar and Bhabani Shankar Das</i>	



25th December 2021 (Saturday)

10:05 AM – 12:05 PM

Technical Session – TS7

Technical Session – TS7	Parallel Session – 01	TS7-EH3
Theme	: Environmental Hydraulics	
Session Chairs	: Prof. Rajesh Gupta, VNIT Nagpur Dr. N D Jariwala, SVNIT Surat	

Keynote 31	: Prof. Rajesh Gupta, VNIT Nagpur	(10:05 – 10:30 AM)
Topic	: Water distribution network optimization: past, present and future	

S. No.	Paper ID	Paper Title and Author(s)	(10:30 – 12:05 PM)
1	106	Effect of Valve Closure Schedule on Peak Pressure in Pressurised Conduit under Transient Condition using Method of Characteristics <i>V M Rana and H M Patel</i>	
2	118	Water Quality Monitoring and Its Assessment on Mahanadi Basin <i>Abhijeet Das and Bhagirathi Tripathy</i>	
3	152	Hydraulic Design of Pipeline of Right Bank Canal of Lendi Inter- State Irrigation Project, Maharashtra <i>Vankayalapati S Ramarao and Yogendra Nath Srivastava</i>	
4	155	Advanced Sensor for Arsenic and Fluoride Detection <i>Shivani Pandey, Satanand Mishra, Vijay Kumar Dwivedi, Tanmay Sardar, Archana Singh and Hari Narayan Bhargav</i>	
5	165	Provisions Under Indian Penal Code for Water Pollution <i>Suman Somaprava Kar and Anil Kumar Kar</i>	
6	219	Effect of Environmental Flow on Health of Dammed Rivers <i>Vivek P Kapadia</i>	
7	231	Optimum Design of Rural Water Supply System Using Jal Tantra and Evolutionary Algorithms <i>Vidhi N Mehta and H M Pate</i>	
8	275	Dispersion Phenomena in a Two-layer Packed Tube Flow through Porous Media <i>Buddhadeb Mondal and Krishnendu Barman</i>	
9	443	Groundwater Quality Assessment and Water Quality Index (WQI) Mapping of Phreatic Aquifer System of Palakkad District, “Granary of Kerala” <i>Swetha Thulasi Veedu, Remitha Rajan and Girish Gopinath</i>	
10	447	Multivariate Statistical Approach for the Assessment of Water Quality of Mahanadi Basin, Odisha <i>Abhijeet Das</i>	

Technical Session – TS7	Parallel Session – 02	TS7-GTW3
Theme	: Geospatial Technologies in Water Resources Engineering	
Session Chairs	: Dr. M K Goyal, Associate Professor, IIT Indore Dr. Vaibhav Garg, IIRS Dehradun	

Keynote 32	: Dr. M K Goyal, IIT Indore	(10:05 – 10:30 AM)
Topic	: Heat wave events over Indian cities under climate change	

S. No.	Paper ID	Paper Title and Author(s)	(10:30 – 12:05 PM)
1	403	Decadal Seasonal Cropping Pattern Mapping using NDVI- A Case Study of Nashik Region of Maharashtra (India) <i>Kalpesh Borse and P G Agnihotri</i>	
2	405	Hypsometric Analysis of Brahmani_Baitarani Basin using ArcGIS <i>R N Sankhua and K P Samal</i>	
3	412	Shoreline Changes and Sediment Distribution Studies for West Coast of India <i>Kavitha Natarajan, P K Suresh and R Sundaravadivelu</i>	
4	421	A GIS based Multi-Criteria Decision-Making Technique for Groundwater Potential Zones of a Tropical Riverbasin, Northern Kerala, Southern India	



S. No.	Paper ID	Paper Title and Author(s)	(10:30 - 12:05 PM)
		<i>Jesiya N P, Shyamkumar M V and Girish Gopinath</i>	
5	442	Exploring Geospatial Technology in Kadiri basin of Ananthapuramu District, A P for Demarcation of GWPZ and Identification of Recharge Structures <i>P P Chowdary, S Kumar, S Kumar, V G K Villuri and P Srinivas</i>	
6	460	Evolution in Application of Satellite Data for Land use/Land Cover Classification and Change Detection: A Review <i>Zeenat Ara, Ramakar Jha, and Abdur Rahman Quaff</i>	
7	461	Land Use/Land Cover Monitoring and Change Detection of Sabarmati River Basin using GIS and Remote Sensing <i>Rekha Verma, Mohammad Sharif and Azhar Hussain</i>	
8	471	Water Quality Estimation using Remote Sensing Technique: A case study of Bhadra Reservoir, Karnataka <i>Avantika Latwal and Rehana Shaik</i>	

Technical Session – TS7

Parallel Session – 03

TS7-STW4

Theme : **Soft Computing Techniques in Water Resources Engineering**

Session Chairs : **Prof. K Srinivasa Raju, BITS-Pilani, Hyderabad**
Prof. T M V Suryanarayana, MSU Baroda

Keynote 33 : **Prof. K Srinivasa Raju, BITS-Pilani, Hyderabad** (10:05 – 10:30 AM)

Topic : **Cluster analysis and multicriterion decision making in irrigation planning framework: case study in of south india**

S. No.	Paper ID	Paper Title and Author(s)	(10:30 - 12:05 PM)
1	181	Development of Circulation Based Scour Length and Width Model using Artificial Intelligence <i>Praveen Rathod and V L Manekar</i>	
2	229	Prediction of Seasonal and Annual Rainfall for Pune and Mahabaleshwar Regions using ANN and Regression Approaches <i>Vivekanandan N, Aayushi Ghule and Vaishnavi Darade</i>	
3	261	Sustainable Multi Objective Reservoir Optimization Considering Environmental Flow using Python <i>Pushpak D Dabhade, D G Regulwar</i>	
4	418	Comparison of Heuristic and Metaheuristic Evolutionary Algorithms on Optimal Design of Water Distribution Networks <i>Prerna Pandey, Devang Singh, Shilpa Dongre and Rajesh Gupta</i>	
5	423	Development of Multipurpose Single Reservoir Release Policy with Fuzzy Constraints-A Case Study <i>S V Pawar, P L Patel and A B Mirajkar</i>	
6	431	Comparison of Multiple Linear Regression & Artificial Neural Network for Inflow Prediction for Ukai Reservoir <i>Ayushi Panchal, S M Yadav</i>	
7	433	Improved Design Solutions for Benchmark Networks using Genetic Algorithm Involving Penalty Based on Combined Flow and Pressure Deficit <i>Laxmi Gangwani, Shilpa Dongre, Rajesh Gupta and Mohd Abbas H Abdy Sayyed</i>	
8	434	Comparison of a Long Short Term Memory Model with Statistical Based Water Demand Prediction Models on A Case Study of Spain <i>Prityush Kumar Sahu, Prerna Pandey, Shilpa Dongre, and Rajesh Gupta</i>	
9	465	Regionalization of Multiplicative Random Cascade Model Parameter for Awash River Basin, Ethiopia <i>Ashenafi Regasaand Shivam Tripathi</i>	
10	479	ARIMA Model for Snow Cover Monitoring in the Beas Region using MODIS Data <i>Mohit Kumar, Reet Kamal Tiwari and Kamal Kum</i>	



Technical Session – TS7

Parallel Session – 04

TS7-FFM3

Theme : **Flood Forecasting and Mitigation Measures**
Session Chairs : **Shri. Aditya Sharma, Chief Engineer, CWC & Executive Member, Narmada Control Authority, Indore**
Shri Tej Ram Nayak, NIH Roorkee

Keynote 34 : **Shri. Aditya Sharma** (10:05 – 10:30 AM)
Topic : **Flood forecasting activities by Central Water Commission in Narmada basin**

S. No.	Paper ID	Paper Title and Author(s)	(10:30 – 12:05 PM)
1	16	Modeling of Flood Inundation Extent in Data-scare Regions: The Case Study of Bhavnagar District <i>Nikunj K Mangukiya and Bhoomi R Andharia</i>	
2	66	Two-Dimensional Flood Inundation Mapping under Overtopping Failure of Umrar Dam Effect of Terrain Resolution and Sensitivity Analysis <i>Santosh K Sasanapuri, Mahendra K Choudhary and Tej R Nayak</i>	
3	328	Dam Break Flood Inundation Mapping of Umrar Dam using HEC-RAS <i>Bikram Prasad, H L Tiwari and Sunny Gupta</i>	
4	358	Ensemble Flood Forecasting in India: Current and Future Prospects <i>Rashmi Yadav, Sanjay M Yadav</i>	
5	360	Use of Big Data for Flood Assessment through HEC-RAS Model: A Study of Purna River of Navsari <i>Azazkhan I Pathan, P G Agnihotri, Dhruvesh Patel, P J Gandhi, Cristina Prieto, Usman Mohseni and Nilesh Patidar</i>	
6	466	Dams And Hydro Plants Safety in India <i>Rajeev Singhal</i>	
7	470	Unsteady Flood Modeling using HEC-RAS: Chaliyar River Basin, Kerala <i>Shruthi H Babu, T K Drissia and Avinash Vasudeo</i>	
8	472	Interlinking of Rivers (Godavari-Krishna-Pennar-Cauvery) <i>Rohitha, Sudheera, Renuka, Manisha and Kamalini Devi</i>	
9	497	Application of Three Parameter Muskingum Method on Karun River <i>Nisanta Bhatta, Armandev Puhan and K K Khatua</i>	

Technical Session – TS7

Parallel Session – 05

TS7-HHM5

Theme : **Hydrology and Hydrologic Modeling**
Session Chairs : **Shri. J Chandrashekhara Iyer, Chairperson, Godavari River Management Board, MoJS, GoI and CEO, Polavaram Project Authority, Andhra Pradesh.**
Prof. M K Jat, MNIT Jaipur

Keynote 35 : **Shri. J Chandrashekhara Iyer** (10:05 – 10:30 AM)
Topic : **Hydraulic engineering in the planning and implementation of Polavaram Project on Godavari River in Andhra Pradesh**

S. No.	Paper ID	Paper Title and Author(s)	(10:30 – 12:05 PM)
1	390	Model Performance Evaluation using Streamflow and Potential Evapotranspiration over Middle Tapi Basin, India <i>Prabhat Dwivedi, Lalit Kumar Gehlot and P L Patel</i>	
2	404	The Role of Objective Functions in Assessment of Water Balance Components using SUFI- Algorithm in Semi-Arid Basin <i>Alka Sharma, P L Patel and Priyank J Sharma</i>	
3	427	Groundwater Flow Modeling in a Heterogeneous Porous Medium using Meshless Method <i>Tinesh Pathania and T I Eldho</i>	
4	463	Permeability of Sloping Soil Layer: An Experimental Study <i>Mohammad Kafi, Javed Alam, Mohd Muzzammil, and Misbah ul Haque</i>	



S. No.	Paper ID	Paper Title and Author(s) (10:30 - 12:05 PM)
5	467	Hydraulic Design of Spillway Approach Channel and Upstream Guide Bund of Polavaram Irrigation Project, Andhra Pradesh <i>Vankayalapati S Rama Rao and Yogendra Nath Srivastava</i>
6	473	Integrated Modeling of the Lower Tapi Basin using SWAT <i>Aditi K Rathod and Sanskriti Mujumdar</i>
7	476	Effect of Drainage Area Threshold on Stream Flow Modeling using ArcSWAT <i>Shivansh and P L Patel</i>
8	481	Characteristics and Frequency Analysis of Annual Daily Maximum Rainfall at Surat, Gujarat, India <i>K B Bobade and S G Manjunatha</i>
9	492	Hydrologic Impact Evaluation of Land Use and Land Cover Change in Subbasins of Tapi River, using SWAT Model <i>Ankur Sharma, Ruchi Khare, M K Choudhary and V Prasad</i>

Technical Session – TS7

Parallel Session – 06

TS7-CCW5

Theme : **Climate Change Impact on Water Resources**

Session Chairs : **Dr. Rajib Maity, Associate Professor, IIT Kharagpur**
Dr. G D Kale, SVNIT Surat

Keynote 36 : **Dr. Rajib Maity, IIT Kharagpur** (10:05 – 10:30 AM)

Topic : **Global climate shift in 1970s causes a significant worldwide increase in precipitation extremes**

S. No.	Paper ID	Paper Title and Author(s) (10:30 - 12:05 PM)
1	37	Assessment of Climate Change Impacts on Temperature Variation: The Case Study of Amaravati City, Andhra Pradesh State, India <i>Lakshmi Raghu Nagendra, Prasad Rentachintala, M G Muni Reddy and Pranab Kumar Mohapatra</i>
2	345	Trend Analysis of Rainfall and Temperature in the Damoh District, Central India <i>Amit Jain, V L Manekar and J N Patel</i>
3	346	A Trend Analysis of Rainfall and Temperature Pattern using Non Parametric Tests of a Bharuch District, Gujarat, India <i>Khushboo Jariwala and Prasit Agnihotri</i>
4	407	Development of Different Duration Maximum Rainfall Intensity Duration Frequency Curves for Surat City Incorporating Daily Data <i>Pallavi Patarot and S M Yadav</i>
5	408	Assessment of Future Land Use Land Cover Change Impacts on Hydrologic Regime of a River Basin <i>Kashish Sadhwani, TI Eldho and Subhankar Karmakar</i>
6	432	Impact of Climate Change on Crop Water Requirement: a Case Study of Amreli District <i>Swinal Chaudhari and Falguni Parekh</i>
7	435	Precipitation Trends for Flash Flood Prediction in Swarna River basin, Karnataka, India <i>Nagamani K T, Chetana S S and Bhagwat T N</i>
8	454	Observed Rainfall Variability, Number of Rainy Days and Duration of Monsoon Over Eastern Rajasthan, India <i>Kedar Sharma</i>
9	478	Development of a Fog Index to Study Relationships between Fog and Climate Variables <i>Rakshit Paurwal, Shivam Tripathi and Arnab Bhattacharya</i>
10	480	Impact Assessment of Climate Change on Hydrological Parameters: Evaluation of Water Balance of a River Basin <i>Raju Narwade and S K Ukarande</i>



25th December 2021 (Saturday)

12:15 PM – 01:35 PM

Technical Session – TS8

Technical Session – TS8	Parallel Session – 01	TS8-FH4
Theme	: Fluvial Hydraulics	
Session Chairs	: Prof. Bimlesh Kumar, IIT Guwahati Dr. Bhoomi Andharia, CSMCRI, Bhavanagar	

Keynote 37	: Prof. Bimlesh Kumar, IIT Guwahati	(12:15 – 12:40 PM)
Topic	: Streambed instabilities around bridge piers in a dredged channel	

S. No.	Paper ID	Paper Title and Author(s)	(12:40 – 01:35 PM)
1	243	Study of Morphological Changes of River Ganga at the Confluence of River Kosi <i>Chandan Raj and Vivekanand Singh</i>	
2	355	Study of Data Augmentation Technique for Discharge Prediction Problems Including Meandering Parameters <i>Tushar Khankhoje and Susmita Ghosh</i>	
3	392	Effect of Emergent Rigid Vegetation on Flow Properties in an Open Channel <i>Jnana Ranjan Khuntia, Kamalini Devi, Bhabani Shankar Das, Kishanjit Kumar Khatua and Somesh Jena</i>	
4	396	Evaluation of Selected Bed Load Transport Equation for Different Representative Sediment Sizes in Mountain Rivers <i>Vipinkumar Yadav and Sanjaykumar M Yadav</i>	
5	424	Bridge Pier Scour Depth Prediction Model - A Review <i>Anubhav Baranwal, Bhabani Shankar Das and Amandeep Choudhary</i>	
6	495	A Review on Hydrodynamics Study of River Channel Pattern with Respect to its Braided Pattern <i>Rakesh Kumar Anand, Biswajit Pradhan and Kishanjit Kumar Khatua</i>	

Technical Session – TS8	Parallel Session – 02	TS8-COE3
Theme	: Coastal, Harbour and Ocean Engineering	
Session Chairs	: Prof. R Balaji, IIT Bombay Dr. J Sinha, CWPRS Pune	

Keynote 38	: Prof. R Balaji, IIT Bombay	(12:15 – 12:40 PM)
Topic	: Nearshore dynamics and practical challenges	

S. No.	Paper ID	Paper Title and Author(s)	(12:40 – 01:35 PM)
1	272	Tightly Coupled River-Bay Model for Simulating Floods due to Storm Surge and River Flow <i>B Sridharan and Soumendhra Nath Kuiry</i>	
2	451	Evolving Fishing Harbour Layout using Mathematical Models <i>J D Agrawal, H C Patil and Sagar Chanda</i>	
3	462	Wave Propagation through the Long Navigational Channel using Mathematical Modeling Technique <i>S S Hulawale, S N Wankhade, K P Patil, S S Agrawal, J D Agrawal and H C Patil</i>	
4	475	Numerical Wave Modeling for the Development of Fishing Harbour-Case Study <i>Amol S Borkar and Prabhat Chandra</i>	
5	484	Role of Physical Wave Models in Optimization of Breakwater for Development of Harbours on Open Coast <i>Sudheer S Chavan, M D Sawant and Prabhat Chandra</i>	
6	485	Observation of Flow Pattern at Dahej in Gulf of Khambhat <i>J A Shimpi, S G Manjunatha, L R Ranganath, K B Bobade and Vivek Saxena</i>	



Technical Session – TS8	Parallel Session – 03	TS8-HSH4
Theme	: Hydraulic Structures and Hydropower Project	
Session Chairs	: Dr. V V Bhosekar, Former Director, CWPRS, Pune Dr. Ruchi Khare, MANIT Bhopal	

Keynote 39	: Dr. V V Bhosekar, Former Director, CWPRS, Pune	(12:15 – 12:40 PM)
Topic	: Hydraulic design of water resource structures	

S. No.	Paper ID	Paper Title and Author(s)	(12:40 – 01:35 PM)
1	251	Fluorescent Dye Tracer Tests for Seepage Detection in Earthen Dams <i>G A Panvalkar, Archana K Pund, B Suresh Kumar and A K Agrawal</i>	
2	376	River Training and Protection Works for an East Flowing River <i>Manas Bommala, Sarjati Sahoo and Kishanjit Kumar Khatua</i>	
3	382	Seismic Analysis of Earthen Dam <i>Sandhya Joshi, Himanshu Pratap Singh and Suprakash Biswas</i>	
4	474	Risk and Uncertainty in Hydro-Power Development in Uttarakhand Post Kedarnath and Chamoli Flood Disasters in Uttarakhand <i>S K Mazumder and Shivdayal Sharma</i>	
5	482	Discharge Coefficient Estimation of Arched Labyrinth Weir using Gene Expression Programming <i>Faisal Ahmad, Ajmal Hussain and Mujib Ahmad Ansari</i>	
6	483	Application of ANN in Estimating IRED of Stepped Gabion Weir <i>Mohd Danish, Mujib Ahmad Ansari and Ajmal Hussain</i>	

Technical Session – TS8	Parallel Session – 04	TS8-HHM6
Theme	: Hydrology and Hydrologic Modeling	
Session Chairs	: Prof. Ashish Pandey, IIT Roorkee Dr. R Arun Kumar, NIT Calicut	

Keynote 40	: Prof. Ashish Pandey, IIT Roorkee	(12:15 – 12:40 PM)
Topic	: Hydrology and hydrologic modeling	

S. No.	Paper ID	Paper Title and Author(s)	(12:40 – 01:35 PM)
1	269	Spatio-Temporal Variability of Snow Cover in Sutlej Basin using MODIS Snow Cover Data <i>V Madhavi Supriya, B Simhadri Rao, C Sai Krishna, P V Raju and V V Rao</i>	
2	419	Spatio-Temporal Variation of Interception in an Agricultural Watershed Tadepalligudem, West Godavari, India <i>Rajkumar Tammiseti, Reshma Talari and Savitha Chirasmayee</i>	
3	488	Groundwater Flow Simulation in an Unconfined Aquifer using Local Radial Point Interpolation Meshless Method (LRPIM) <i>K Swetha, T I Eldho, L Guneshwor Singh and A Vinod Kumar</i>	
4	494	Quality Assessment of Collected Groundwater Samples around Naregaon Dumping Yard, Aurangabad, Maharashtra, India <i>Sanju R Phulpagar and K A Patil</i>	
5	499	Estimation of Crop Evapotranspiration and Irrigation Water Requirement for Dharoi Command Area, India <i>Payal B Bhujbal, K B Baladaniya, P L Patel and P V Timbadiya</i>	



Technical Session – TS8

Parallel Session – 05

TS8-GTW4

Theme : **Geospatial Technologies in Water Resources Engineering**

Session Chairs : **Dr. Raaj Ramasankaran, IIT Bombay**
Dr. Akshay Jain, Co-founder, LGEOM Pvt Ltd, Gandhinagar

Keynote 41 : **Dr. Raaj Ramasankaran, IIT Bombay** **(12:15 – 12:40 PM)**

Topic : **Geospatial applications in hydrology and water resources - current trends and future directions**

S. No.	Paper ID	Paper Title and Author(s)	(12:40 – 01:35 PM)
1	126	Analysis of Land Use Land Cover Changes in the Netravati Basin, Karnataka, India <i>Nayana N, Dinu Maria Jose and G S Dwarakish</i>	
2	184	Impact Assessment of Water Conservation Planning using RS and GIS Techniques - A Case of "Buldhana Project" <i>Mrunalini Rana and Dhruvesh Patel</i>	
3	230	Spatiotemporal Land use Land Cover Change Impacts on Groundwater Table in Surat District, India <i>Prajakta Jadhav, V L Manekar and J N Patel</i>	
4	326	Assessment of Sedimentation in Harsi Reservoir in the Central India using Remotely Sensed Data <i>Bikram Prasad and H L Tiwari</i>	
5	393	Doppler Weather Radar Data Interpretation <i>Shravani Yadav and S M Yadav</i>	