



HYDRO 2022 INTERNATIONAL
27th International Conference on Hydraulics, Water Resource, Environmental & Coastal Engineering
Civil Engineering Department
Punjab Engineering College, Chandigarh, India
(December 22-24,2022)



Schedule for Oral Presentations

DAY 1 - 22nd December 2022, 11:00 AM to 12:15 PM (New Academic Block)
TS 01 Parallel Session – 01, Theme: Hydrology and Hydrologic Modelling (HMM)

S. No.	Paper ID	Paper Title and Author(s)
1	28	Hydraulic conductivity of porous media: Assessment of wall effect and pressure drop coefficients. (Chandel, Abhishish*; Shankar, Vijay; Alam, M. A.)
2	85	Investigation of Effect of Temporal Variability of Soil Hydraulic Properties on Soil Water Dynamics Modeling. (Kumar Saurabh*; Ojha Richa)
3	96	Characterization of aquifer properties using sandbox experiments and numerical studies. (Sai Srinivas, Gorugantula*, Kambhammettu, BVN P)
4	101	Influence of mulching on the soil moisture balance in the root zone of crops. (Shukla, Yash*; Chandel, Abhishish ; Shankar, Vijay)
5	124	A Comparative study of Infiltration models over a Catchment. (Rajput, Utsav*; Kumar, Mohit)
6	133	Studies of Rainfall-Runoff estimation for newly formed district in Tamilnadu. (Suresh, Pallavur K Murthy*; Surendar, N; Sundaravadivelu, Renganathan)
7	149	A Comparison of the Rain Gauges of Various Sizes and Measuring Principles. (Singh, Pravesh*; Banbariya, Roshan; Tripathi, Shivam)
8	169	Hydraulic Conductivity of Porous Media: Influence of Grain-size distribution and Angularity. (Chaudhary, Rajnish*; Chandel, Abhishish; Shankar, Vijay)
9	183	Addressing the Characteristic Length Enigma in Non-linear Filtration Through Granular Porous Media. (Banerjee, Ashes*; Pasupuleti, Srinivas; Singh, Mritunjay Kumar).
10	206	Assessment of Groundwater Quality for Irrigation and Drinking Purposes in Gajapati District, Odisha. (Mukherjee, Papri*; Debnath, Subhankar)
11	320	Influence of Climatic oscillations on regional droughts over India and the importance of climatic oscillation-based drought frequency analysis. (V V, Sidhan; Singh, Sarmistha; Athira, K*)
12	381	Real Time Data Communication System for Automatic Weather Station. (Dorle, P.K.*; Patra, Annapurna; Ranade, S.D.)



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DAY 1 - 22nd December 2022, 11:00 AM to 12:15 PM (New Academic Block)
TS 01 Parallel Session – 02, Theme: Environmental Hydraulics (EH)

S. No.	Paper ID	Paper Title and Author(s)
1	18	Numerical Modelling of Flap Gate Opening for the Estimation of Sanitary Sewer Overflow Discharge in FLOW-3D HYDRO software. (Deshpande, Sarang Balasaheb*; Mane, Adhirath; Lawande, Pankaj)
2	41	Evaluation of Groundwater Quality and its Suitability for Irrigational Use in Haryana State. (Raheja, Hemant*; Goel, Arun; Pal, Mahesh)
3	145	Recycling and Reuse of Domestic Wastewater Using Soil-Gravel Filter. (Kadbhane, Sharad Jagannath*; Nemade, Pravin; Manekar, Vivek)
4	165	Heavy metal contamination in agricultural region of Yamuna-Hindon inter-basin, India. (Thakur, Divya*; Sharma, Anupma; Raturi, Mayank; Kumar, Dhiraj)
5	167	Hydrodynamic Performance of Raceway Pond using k-epsilon Turbulence Model. (Kumari, Rozy; Sandilya, Shashank Shekhar*; Rajput, Sweety; Das, Bhabani S)
6	187	Effect of Chlorpyrifos Pesticide on Bio-transportation of Escherichia coli through porous media. (Chalotra, Ajay*; Babbar, Richa; Ratha, Dwarikanath; Baranwal, Manoj)
7	259	Stage-discharge modelling for a river cross-section. (Pradhan, Padmini P, Bobili 2havan Sai Atchyuth*)
8	321	Rapid detection of Fluoride in potable water using novel Graphene Quantum Dot material. (Pandey, Shivani*; Mishra, Satanand; Sardar, Tanmay; Mishra)
9	383	Local Inertia Framework for Macroscopic Urban Flooding Modeling. (Kumar, Alok; Pahar, Gourabananda*)
10	430	Comparative Study of Hydrodynamic Model for Dispersal and Transport of Microplastics in Rivers. (Mishra, Srishti*; Tiwari, Manoj)
11	270	Analysis of Water Distribution Network of the Amaha Tal Area in the Sidhi District by Using EPANET. (Pandey, Abhishek; Barde, Tushar; Kale, Ganesh D*; Jarpala, Venkatesh)
12	438	Impacts of unwarranted waste disposal on water reuse pattern in Simrol, Madhya Pradesh. (Panda, Sugato; Pathak, Isha*; Jain, Mayur)
13	446	Studies on Fixed Bed Column Adsorption Modelling Magnifera Indica (Mango) Seed's for Fluoride Removal. (Gurani, Keerthi B*; Mise, Dr. Shashikant; Chakrasali, Vinay)
14	466	Assessment of River Water Quality Using Qual2k Model and Water Quality Index for the Bhadra River, India. (Singh, Himanshi*; Shaik, Rehana; Kumar, Mummdivarapu Satish)
15	492	Evaluation of future groundwater quality trends along a vulnerable coastline stretch near a mining industrial area, Kerala. (B, Bincy*; Devatha C P; Arun Kumar Thalla)
16	504	Geogenic uranium mobilization in the alluvial aquifers of north-west India and extent of contamination- a review. (Bala, Ritu*; Das, Debabrata; Karanveer; Tiwari, Prakash; Sharma, Shivam; Mondal, Ramkrishna)



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DAY 1 – 22nd December 2022, 11:00 AM to 12:15 PM (New Academic Block)
TS 01 Parallel Session-03, Theme- Fluvial Hydraulics (FH)

S. No.	Paper ID	Paper Title and Author(s)
1	24	Geomorphic response of the mid-Mahanadi River towards inflowing runoff and sediment load variation. (Kar, Rohan*; Sarkar, Dr Arindam)
2	31	Scaling of velocity and turbulence intensity distributions in the wake of a circular cylinder. (Devi, Kalpana*; Hanmaiahgari, Prashanth Reddy)
3	54	Computation of Critical Shear Stress of individual sediment at incipient motion for non-uniform sediment mixture. (Kulkarni, Deepali R*; Bhalerao, Anand)
4	58	Prediction of Bed Load Transport in Heterogeneous sand bed Channel Using Artificial Neural Networks (ANN). (Ojha, A*, Kumar, A; Moharana, A; Sharma, A.)
5	59	Friction Factor Prediction of Heterogeneous Channel Using Artificial Neural Network (ANN). (Ajit, P.*; Meher, M.; Dash, S.;Sharma, A.)
6	60	Model studies for meandering of river Vellar in Tamilnadu. (P.K.Suresh* , D Diwaker ,C Balaji ,R Sundaravadivelu ,S Arunagiri)
7	61	Study of turbulent flow characteristics around a circular pier under various submergence conditions using Particle Image Velocimetry (PIV). (Jagilinki, Aravind*; Eldho, T.I.)
8	104	Scour forecast modeling caused by submerged vertical imping circular jet in cohesive sediments- A comparative study between ANFIS and MNLR. (Shakya, Rahul*; Singh, Manendra; Nautiyal, Akhilesh; Bajpai, Mukul; Poddar, Arunava)
9	119	Estimation of Maximum Scour Depth Around Spur Dikes. (Singh, Balraj *; Minocha, Vijay Kumar)
10	136	Simultaneous treatment of velocity and concentration in the suspension region of an open channel turbulent flow. (Hossain, Sourav*; Sen, Sumit; Ghoshal, Koeli; Dhar, Anirban)
11	148	Steady two-dimensional suspended sediment transport in channels with biquadratic log-wake law of velocity and concentration dependent eddy viscosity. (Kumar, Arun*; Hossain, Sourav; Ghoshal, Koeli)
12	166	Critical Appraisal of Different Approaches to Model Hydrodynamic Characteristics of River Confluence. (Sandilya, Shashank Shekhar*; Das, Bhabani S)
13	170	Modelling of Local Scour Depth around Bridge Piers using Large Eddy Simulation. (Baranwal, Anubhav*; Das, Bhabani S)
14	184	Structural countermeasures for Local scour around the Bridge pier: A Review. (Bharadwaj, Rahul*; Gupta, Lav Kumar*; Pandey, Manish)
15	197	Solution of unsteady one-dimensional advection-diffusion equation using fifth kind shifted Chebyshev polynomial. (Sen, Sumit*; Ghoshal, Koeli)



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DAY 1 – 22nd December 2022, 12:15 PM to 1:30 PM (New Academic Block)
TS 02 Parallel Session-01, Theme- Climate Change Impact on Water Resources (CCW) & Coastal/Harbor and Ocean Engineering (COE)

S. No.	Paper ID	Paper Title and Author(s)
1	73	Spatiotemporal variability of Heat waves over India: Historical and future perspectives. (Singh, Shivam*; Goyal, Manish Kumar)
2	97	Effects of climate change over groundwater level fluctuations using artificial neural network-A Review. (Gupta, Swarit*; Tiwari, H L; Hora, M S)
3	112	Land use/land cover mapping for the Gomati River Basin in Tripura Using Arc-GIS Tool. (Majumder, Nikita*; Deb, Subhrajyoti)
4	138	Flash Drought Analysis and its Impact. (Sharma, Hardiki*; Tiwari, H L; Sharma, Abhay)
5	140	Temperature extreme events over India under 1.5°C and 2°C global warming. (Maurya, Hardeep Kumar*; Joshi, Nitin; Suryavanshi, Shakti)
6	157	The impact of climate change on the total water availability of the haora river. (Saha, Dhritiman*; Majumder, Mrinmoy; Chakraborty, Tillotama)
7	191	Adaptation strategies for climate change in water resources- India Specific. (Arora, Manohar*)
8	193	Ramification of Climate Change into Hydrological Parameters Using SWAT: A Review. (Verma, Priya*; Khare, Ruchi)
9	202	Understanding the nonstationary behavior Indian Summer Monsoon Rainfall extremes using wavelet analysis. (K, Athira*; Singh, Sarmistha)
10	229	Climate Change Impact on Rice Cultivation in Palakkad Region, Kerala. (Sreeshna, T R*; P, Athira)
11	277	Assessment of rainfall trends and variability over the Sabari River basin, India. (Vakkalagadda, Rathna Kumar*; Pichuka, Subbarao)
12	72	Future Sea-Level Rise at India's Major Ports using Neural Networks Trained with CMIP5 and CMIP6 Models. (Deo, Makarand Chintamani*; Shahare, Nikhil)
13	189	Prediction of hydrodynamics performance of composite porous breakwater using soft computing techniques. (Gupta, Abhishek*; Karmakar, Debabrata; Jawed, Saquib)
14	431	Coupled dynamic analysis of TLP-type floating wind turbine combined with OWC wave energy converter. (Joju, Austin*; Sebastian, Binoy; Karmakar, Debabrata)



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DAY 1 – 22nd December 2022, 12:15 PM to 1:30 PM (New Academic Block)
TS 02 Parallel Session – 02, Theme: Hydraulic Structure and Hydropower project (HSH) & Geospatial Technologies in Water Resources Engineering (GTW)

S. No.	Paper ID	Paper Title and Author(s)
1	509	Seismic Pore Pressures In Earth Dams – Mathematical Analysis And Modeling. (Goel, Surinder M*)
2	39	Turbulent flow structure around a circular pier under the combination of wave and current effect. (Misuriya, Gaurav*; T.I., Eldho)
3	129	Seepage Analysis of Dam Structure: A Review. (Brahmachari , Bhineshwar *; Das, Bhabani S; Kumar, Shiv Shankar)
4	177	An experimental and CFD based study on the effect of End Sill in energy dissipation of Stilling Basins. (Sen, Bhaswati*; Biswas, Satyaki; Bera, Mahendra)
5	214	Dam Site Suitability using Remote sensing and GIS techniques. (M. Harishankar*)
6	263	An Approach to Utilize the Static Energy of Obstructed Water to Enhance the Use of River Flows for Agricultural Water Supplies. (Tiwari, Rita *; Chavan, Rutuja)
7	372	Review of Sediment Removal Measures for Hydropower Projects. (Thakare, Aditya S*; Goel, Arun; Verma, Manoj; Qamar, M Z)
8	428	Development of a Simple Discharge Coefficient Equation for Triangular Labyrinth Weir. (Mustafa, Mohammad Danish*; Mansoor, Talib; Muzzammil)
9	260	Study of Various Shapes of Gryones Using Flow 3D. (Dehariya, Manjeet*; Chavan, Rutuja)
10	79	Satellite Based Land Use Land Cover Study in Ashtamudi Lake, Kerala. (S, Asha M*; Sebastian, Dawn Emil; P S, Harikumar)
11	120	Mapping of surface water bodies using Google Earth Engine: A Review. (Singh, Abhijeet*; Tiwari, H L; Sharma, Abhay)
12	406	A reliability- based assessment of a bridge pier foundation in cohesive bed against scour. (Muzzammil, Mohammad*; Alam, Javed; Khalid, Mohd)
13	490	Repair and Rehabilitation of Dam Structures Systems and Application Methods. (Vasudev, Manoj*)
14	84	A Case Study From Pune City Using Remote Sensing and GIS To Identify Potential Ground Water Recharge Zones In Urban Areas. (Rayjade, Supriya C*)



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DAY 1 – 22nd December 2022, 12:15 PM to 1:30 PM (New Academic Block)
TS 02 Parallel Session – 03, Theme: Experimental and Computational Fluid Mechanics (ECF) & Challenges in Management of Water Resources (CMWR)

S. No.	Paper ID	Paper Title and Author(s)
1	64	Study of hydraulic jump in sloping channel. (Tiwari, H L*; Hora, M S)
2	125	Comparison of Pressure Drop Characteristics of Multistage Orifice Plate and Normal. (Talageri, Abhishek M*; Sitaram, Nagaraj)
3	181	Numerical Simulation of Twin Piers in Staggered Configuration Using FLOW-3D. (Gupta, Lav Kumar*; Pandey, Manish; Kumari, Swati)
4	200	Numerical modeling of flow over piano key weirs. (Bhat, Naveed Ul Hassan*; Pahar, Gourabananda)
5	216	Numerical modelling of flow past a slippery elliptical cylinder. (Subhrangshu Purkayastha*; Debasish Dutta; Lalit Kumar; Mohammad Saud Afzal)
6	219	Measurement of Head Loss in a Fluid Flowing through a Porous Screen. (Mohanty, Shravani*; Kumar, Rajendra)
7	237	Hydrodynamic Analysis of Raceway Pond using LES Turbulence model. (Rajput, Sweety*; Rajput, Sweety; Das, Bhabani S; Sharma, Anil)
8	403	Comparative study on performance of elbow and conical draft tube at different operating conditions of turbine. (Navya, Dasari*; Prasad, Vishnu)
9	453	Flow Structures in Vortex Chambers A. (Alam, Mohammad Athar*; Noushad M A; Athar, H)
10	454	Effect of Spur dykes on Scour in Meandering Channel. (Alam, Mohammad Athar*; Bhardwaj, A; Athar, H)
11	364	Velocity Distribution in Meandering Channel. (Alam, Mohammad Athar*; Saluja, I S; Athar, H)
12	245	Reclamation of Wastewaters Using Microalgae and Microalgal Bioremediation Potential: A Review. (Ravish, Dr. Sandeep; Khan, Akib; Kumari, Anshika; Singh, Anurag*)



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DAY 2 – 23rd December 2022, 10:30 AM to 11:45 AM (New Academic Block)
TS 03 Parallel Session – 01, Theme: Geospatial Technologies in Water Resources Engineering (GTW)

S. No.	Paper ID	Paper Title and Author(s)
1	95	Identification of Suitable Locations for Artificial Groundwater Recharge by weighted overlay method using GIS tools. (Rudra Ramakrishnan; M. Harishankar*; Sanat Nalini Sahoo; Nathi Ajay Chandra)
2	153	Application of RS and GIS Technique to Map Landslide-prone Villages in Koyna Reservoir Catchment: A Case Study. (Shewale, Shalini B*; Dhokchaule, Amol; Morkar, Anita; Wagh, Santosh; Kulkarni, Makarand)
3	155	Assessment of the suitability of several precipitation datasets for the Upper Yamuna Basin upto Delhi. (Thakur, Aradhana*; Sharma, Anupma; Sarkar, Archana; Thakural, Laxmi Narayan)
4	158	Spatio-Temporal Variation of Unit Hydrograph of Brahmani River Basin. (Pujari, Manoj Kumar*)
5	168	Investigating land use/cover and climate induced hydrological alteration in Western Vidarbha region, India. (Verma, Rakesh K*; Mirajkar, Ashwini)
6	171	Integrating Multiple Land Use and Assessment of Evapotranspiration for Sustainable Management of Land and Water Resources in Upper Yamuna Basin. (Sharma, Prakhari*; Mishra, Prabhakar Kumar; Sharma, Anupma)
7	172	Impact of Climate Change and Land Use Land Cover Change on Tapi River Basin, India. (Dharavath, Balaji*; Mirajkar, Ashwini)
8	182	Flood modelling and mapping for a reach of the Narmada River. (Pandey, Anoop*)
9	218	Assessment of Drought using Meteorological and Remote sensing data. (Pavan Kumar, Dasari*)
10	432	Simulation of existing water distribution network of Aligarh Muslim University Campus. (Khan, MUS; Hussain, A.; Mustafa, M.*)
11	473	Assessment of Inundation Changes of the Dharoi Reservoir using Landsat Observations. (G B. Balaji*; Sharma, Priyank J)
12	5	GIS Aided Study of Post- and Pre-Monsoon Groundwater Quality of Central Haryana Region Based on Selected Water Quality Parameters (Lathwal, Akansha*; Rout, Chadetrik; Das, Ashwini Kumar ; Sharma, Arabinda; Sahoo, Narendra Kumar)_



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DAY 2 – 23rd December 2022, 10:30 AM to 11:45 AM (New Academic Block)
TS 03 Parallel Session – 02, Theme: Coastal Harbor and Ocean Engineering (COE)

S. No.	Paper ID	Paper Title and Author(s)
1	21	Hydraulic characteristics of two rows of perforated pile head breakwater (Hunasanahally Sathyanarayana, Arunakumar*; V V, Nikhil V; Suvarna, Praveen S; Umesh, Pruthviraj; Shirlal, Kiran)
2	47	Experimental investigation on suspended kelp farm for wave attenuating characteristics (KS, surakshitha*; Rao, Manu; Rao, Subba)
3	68	A Study on Seismicity Recurrence of Sumatra-Andaman-Subduction-Zone for Probable Tsunamigenic Earthquake (Bala, Ashis K*; Saha, Ujjwal)
4	106	Numerical Study on the Dynamic Behaviour of a Semi-Submersible Floating Offshore Wind Turbine Platform Combined with an Oscillating Water Column (Sebastian, Binoy*; Karmakar, Debabrata; Rao, Manu)
5	109	Dynamic response of combined Tension leg platform floating wind turbine and point absorber wave energy converter (J S, Rony*; Karmakar, Debabrata)
6	113	Hydroelastic Analysis of floating VLFS with Fixed Floating Breakwater using Multi-domain Boundary Element Method (S, Hemanth*; Muduli, Ronit; Karmakar, Debabrata)
7	130	Hydrodynamic analysis of floating U-shaped Oscillating Water Column device integrated with breakwater using Boundary Element Method (Muduli, Ronit*; Karmakar, Debabrata; Patil, Shivakumar B)
8	137	Hydrodynamic study of a fixed and floating H-shaped stratified porous breakwater (Panda, Aparna*; Karmakar, Debabrata; Rao, Manu; Patil, Shivakumar B)
9	388	Breakwater integrated with oscillating water column wave energy converters -A review (T A, Harikrishnan*; Rao, Manu; Rao, Subba)
10	411	Influence of sea and tidal level fluctuations on operation of coastal hydraulic systems (Sharma, Priyank J*; Teegavarapu, Ramesh; Dessalegne, Tibebe)
11	8	Wave tranquillity studies to evaluate harbour layout – A case study (Patil, Hansraj C*)
12	114	Importance of blending the parametric and global atmospheric wind models in reliable simulation of extreme cyclonic waves (Basu, Animesh*)



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DAY 2 – 23rd December 2022, 10:30 AM to 11:45 AM (New Academic Block)
TS 03 Parallel Session – 03, Theme: Hydraulic Structure and Hydropower Project (HSH) & Coastal Harbor and Ocean Engineering (COE)

S. No.	Paper ID	Paper Title and Author(s)
1	107	Alleviation of Suspended Sediment from Water Conductor System of Hydropower Projects (Verma, M K; Qamar, M Z*; Isaac, Dr Neena)
2	126	Uncommon type Energy Dissipators for Spillways (Ramarao, Vankayalapati S*)
3	361	Role of Model Studies in Optimization of Stilling Basin Type Energy Dissipator (Patnaik, Sangeeta*; Gadhe, Vaishali Prakash ; Meena, Neeraj)
4	327	Efficient hydraulic design of spillway & energy dissipator intended for high tail water levels – Case Studies through Physical modelling (More, Kiran T*)
5	363	Optimizing the Design of a Breast Wall Spillway and Energy Dissipator for a Dam Project through Hydraulic Model Studies (B S, Sundarlal*; Gadge, Prajakta Pranil; Kulhare, Amit)
6	103	Studies for Optimizing Waterway of Ujh River Barrage, J & K. (Sonawane, Namadev Appanna*; Malik, Kuldeep)
7	330	Hydraulic Model Studies for Power Intake of Tapovan-Vishnugad Hydro-Electric Power Project, Uttaraanchal (Malik, Kuldeep; Sonawane, Namadev Appanna*)
8	351	Experimental investigations for hydraulic behavior of Tail Race Tunnel and the influence of tail water level on water level fluctuation in the surge tank (Vyas, Sushma Jitesh*)
9	44	Geotechnical seepage and stability studies for multi-zoned earth dam – A case study (Edlabadkar, Jae S*)
10	375	Non-Destructive testing for assessment of in-situ quality of concrete of barrel concrete structure of Bhatghar Power House, Maharashtra – A Case Study (Ghodake, Vijay K*; Palei, Prakash; Santhoshkumar, S; Jain, Varsha; Ali, Rizwan)
11	123	Optimization of breakwater layout to assess the hydrodynamics and sedimentation in a port (Singh, Akhilesh K*)
12	13	Utility of physical wave model in studying effects of wave reflections from adjacent breakwater – a case study (Chavan, Sudheer S*)



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DAY 2 – 23rd December 2022, 12:00 PM to 01:15 PM (New Academic Block)
TS 04 Parallel Session – 01, Theme: Soft Computing techniques in Water Resource Engineering (STW)

S. No.	Paper ID	Paper Title and Author(s)
1	78	Identification of the Most Influencing Factors for Developing a Low-Cost Water Filter. (Jamatia, Sampari *; Majumder, Mrinmoy; Chakraborty, Tilottama)
2	92	MCDM approach in determination of the most influential surface water quality parameters (Ghosh, Raja*; Bandyopadhyay, Priyankar; Majumder, Mrinmoy ; Chakraborty, Tilottama)
3	131	Hydrological modeling of Terna Dam basin using SWAT model (Khadake, Navnath; Pawar, Rajendra; Shendure, Omkar; Sabale, Ranjeet S*)
4	134	Selection of optimal quality water for specific uses by ANP-MCDM based Auto-Selector. (Bhattacharya, Arnab*; Majumder, Mrinmoy; Chakraborty, Tilottama)
5	139	Rainfall Disaggregation by Integrating Satellite Rainfall Data with Random Multiplicative Cascade Models (Regasa, Ashenafi Dabesa*; Tripathi, Shivam)
6	142	Evaluation and determination of reliability on advanced neural network models for prediction of soil moisture (G E, Nagashree*; Nema, Manish K; Makhdumi, Waleed; Dwarkish, G S)
7	146	A GRNN model for Scour Depth prediction at Spur Dike in Coarse Sediments (Ansari, Mohd Haris*; Alam, Javed; Muzzammil, Mohammad)
8	163	Modelling of Clear Water Scour Depth around Bridge Piers using M5 Tree and ANN-PSO. (Kumar, Amarjeet; Baranwal, Anubhav*; Das, Bhabani S)
9	173	Numerical studies on oblique weirs (Sadan, Prasad P*; Ghare, Aniruddha; Vasudeo, Avinash; Kapoor, Ankur; Nair, Sujith)
10	176	Prediction of Discharge in Compound Channel with Converging and Diverging Floodplains by ANN-PSO and MARS (Shekhar, Divyanshu *; Das, Bhabani S; Khuntia, Jnana Ranjan; Devi, Kamalini)
11	506	Conjunctive use planning in water deficit area (Bonde, N U; Rathod, Praveen*; Manekar, Dr V. L.; Morankar, Dr. Dinesh)
12	115	Forecasting Evapotranspiration Using Machine Learning (Deb, Deepjyoti; Vasan, A; Raju, K Srinivasa*)
13	150	Reservoir Operations using Artificial Neural Network – A case study of Hirakud Reservoir (Dabral, Rajan*; Wadhwa, Shruti; Kumar, Mohit; Sandhu, Dr. Har Amrit Singh; Batish, Sanjay; Bhatia, Rajesh ; Kumar, Dr. Binay; Datta, Upasana ; Kumar Singh, Yogesh ; Prabhu, Murugesh; Rajaram Yendargaye, Girishchandra; Khare, Manoj)
14	265	Discharge Estimation of Cutthroat Flume for Modular Flow (Kajale R. P)



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TS 04 Parallel Session – 02, Theme: Hydrology and Hydrologic Modelling (HHM)
& Experimental and Computational Fluid Mechanics (ECF)

S. No.	Paper ID	Paper Title and Author(s)
1	253	Multifractal detrended fluctuation analysis of meteorological drought time series over two homogeneous rainfall regions of India with distinct climatic conditions. (Pachore, Akshay B*; Remesan, Renji)
2	255	Propagation dynamics of meteorological drought to agricultural drought using lag time analysis. (C V, Anjali*; Pachore, Akshay B; Remesan, Renji)
3	257	Development of Flood Generation Models using Stochastic and Machine Learning techniques (Gaikwad, Ajay; Ray, Litan Kumar*; Reddy V, Manohar)
4	266	Comparison of Groundwater estimation committee (GEC) method and SWAT model for the estimation of groundwater recharge for the waterlogged groundwater system of Cachar, Assam using MODFLOW (Singh, Mrinal kumar*; Ghosh, Susmita)
5	301	Mapping of agricultural drought using Remote Sensing and GIS in Sabarkantha district, North Gujarat, India (Mistry, Pranav B*; Suryanarayana, T. M. V.)
6	304	Groundwater Quality Assessment of phreatic aquifers in Northern Kerala, India (P, Arjun*; N P, Jesiya; Gopinath, Girish; T R, Resmi)
7	311	Prediction of Rainfall by using Different Machine Learning Models (Patel, Mahesh*; Mir, Ajaz Ahmad; Mahajan, Sonakshi)
8	345	Prioritization of the sub-watersheds in Neugal Watershed of the Western Himalayan region using Morphometric analysis and GIS (Chauhan, Saksham*; Thakur, Chander Kant; Meena, Dr. Ray Singh)
9	371	A Review of Drought Indicators and Indices. (Joshi, Pranita *; Goel, Arun)
10	49	Conjunctive use of surface and groundwater for mitigation of soil salinization in Khatav area, Maharashtra. (Sabale, Ranjeet S*; Venkatesh, Basappa; Jose, Mathew)
11	422	Hydrological Modelling using MIKE 11 (NAM Model): A Case Study of Sutlej River Basin. (Paramjit, Paramjit*; Kumar, Mohit)
12	174	Linear and Non-Linear Stability Analysis of Open Channel Flow. (Jiwane, Pratik D*; Vasudeo, Avinash; Singh, Arun K)



HYDRO 2022 INTERNATIONAL

27th International Conference on Hydraulics, Water Resource, Environmental & Coastal Engineering

Civil Engineering Department
Punjab Engineering College, Chandigarh, India
(December 22-24,2022)



DAY 2 – 23rd December 2022, 12:00 PM to 01:15 PM (New Academic Block)
TS 04 Parallel Session – 03, Theme: Flood Forecasting and Mitigation Measures (FFM)

S. No.	Paper ID	Paper Title and Author(s)
1	30	Analysis Of Close Drainage Network System Of Proposed NIT Campus At Bihta, Patna Using SWMM. (Mardi, Malti *)
2	86	Prediction of Rain gardens infiltration rate for different types of vegetation using conventional model. (Kumar, Sandeep*; Singh, K. K.)
3	87	Flood Inundation mapping using HEC-RAS and HEC-Geo RAS. (Vashist, Komal*; Singh, K.K.)
4	94	Urban Flood Estimation in Bhubaneswar city using Storm Water Management Model (SWMM). (Vahida, S*)
5	105	Flood frequency analysis of Upper Cauvery River. (Sahu, Mukul Kumar*; H.R., Shwetha; G. S., Dwarakish)
6	225	Study of flash floods and flow prediction by AI techniques. (A Uma Maheshwari; Margaret Wesley; P Vikesh; K Rahul ; Devi, Kamalini; Khuntia, Jnana Ranjan*)
7	271	Identification of Urban Flooding Hot Spot Zones in the Densely Populated Area of Kolkata Municipal Corporation Area by Using SWMM Model. (Kumar, Aman*; Sankalp, Sovan ; Remesan, Renji)
8	273	Field Study of 3-Dimensional Flow Characteristics at a River Bend using Acoustic Doppler Current Profiler. (Ahmed, Sayed Sadulla*; Barbhuiya, Abdul; Ghosh, Susmita)
9	279	Blue Green Infrastructure: A Sustainable Solution for Urban Flood Management in India (Ahmad, Nadeem*; Hassan, Quamrul)
10	280	Steady Flow Analysis and Floodplain Mapping using HEC-RAS. (Manwar, Rohini Y*)
11	312	Flood Frequency Analysis of Beas River Basin at Pong Dam, India. (Kumari, Suman*; Bansal, Pallavi; Shankar, Vijay)
12	404	Changes in flood seasonality of two contrasting catchments in the Tapi River basin. (Meena, Shivraj*; Sharma, Priyank J; Teegavarapu, Ramesh)
13	415	Flood Hazard Assessment for Vehicle Instability: A Case-study of Surat City, India. (Jibhakate, Shubham M*; Timbadiya, P V; Patel, P L)
14	427	Understanding the flood regime changes of west-flowing rivers in India. (Singh, Achala*; Sharma, Priyank J)
15	70	Assessment of Efficacy of Low Impact Development strategies for Storm Water Drainage System in Aerotropolis City, Mohali. (Tantray , Arbaz W*; Arora, Geeta)
16	209	Analysis of Various Breach Parameters using HEC-RAS 2D of Ramganga Dam, Uttarakhand. (Singh, Pranav*; Prasad, Jyothi ; Prasad, H. J. Shiva)



HYDRO 2022 INTERNATIONAL

27th International Conference on Hydraulics, Water Resource, Environmental & Coastal Engineering

Civil Engineering Department

Punjab Engineering College, Chandigarh, India

(December 22-24,2022)



DAY 2 – 23rd December 2022, 02:00 PM to 03:15 PM (New Academic Block)
TS 05 Parallel Session – 01, Theme: Soft Computing techniques in Water Resource Engineering (STW) & Hydrology and Hydrologic Modelling (HHM)

S. No.	Paper ID	Paper Title and Author(s)
1	198	A Low-Cost Internet-of-Things (IoT) based Smart Sensor for Water Quality Monitoring and Water Pollution Detection (Mishra, Madhuram ; Pandey, Shivani; Sardar, Tanmay; Mishra, Satanand*)
2	340	Impact of Obliquity on Current Meters during Calibration and Measurement Procedure (Khandagale, Harshali R*; Someshwara, Milankumar; Deogade, Rajani)
3	276	Meteorological Drought Index forecasting based on machine learning techniques in the Homogenous Monsoon Region of North-East India Ayilobeni Kikon ¹ , B M Dodamani ² (Kikon, Ayilobeni*)
4	367	Development and Prediction of Stage-Discharge and Sediment-Discharge relationship using data-driven approach for Eastern Dhauliganga River (Rautela, Kuldeep Singh*; Kumar, Manish; Gupta, Vivek; Chandra Kuniyal, Jagdish)
5	365	Scour prediction at bridge abutments in cohesive bed using anfis. (Alam, Javed*; Muzzammil, Mohammad)
6	370	Soft Computing Techniques Hybridised with Swarm Intelligence Metaheuristic Algorithms for Estimating Reference Evapotranspiration – a Review (P, Sruthakeerthi*; Choudhary, M. K.)
7	469	Climate change impact on water balance components in Dharoi catchment of Sabarmati River basin, India (Sharma, Alka; Patel, Prem Lal; Sharma, Priyank J*)
8	414	Temporal Assessment of Drought over the Tapi River Basin, India (Gehlot, Lalit Kumar*; Patel, P. L.; Timbadiya, P V)
9	42	Hydrological Simulation of Inter-Basin Water Transfer (Gadhawe, Shreya Pramod*)
10	300	Estimation of Peak Flood Discharge for Daund-Kalaburagi Railway line Doubling Project, Central Railway, Mumbai (Patra, Annapurna *; Srishilam,C.; Vivekanandan, N.; Patil, R G)
11	326	Effect of Data Length on Assessment of Extreme Rainfall using L-Moments of Probability Distributions (Vivekanandan , N*; Srishailam, C; Patil, R G)



HYDRO 2022 INTERNATIONAL

27th International Conference on Hydraulics, Water Resource, Environmental & Coastal Engineering

Civil Engineering Department
Punjab Engineering College, Chandigarh, India
(December 22-24,2022)



DAY 2 – 23rd December 2022, 2:00 PM to 03:15 PM (New Academic Block)
TS 05 Parallel Session – 02, Theme: Challenges in Management of Water Resources (CMWR)

S. No.	Paper ID	Paper Title and Author(s)
1	43	Utilization of Household Waste Water for Micro-Irrigation- A Case Study (Hooda, Deepak*)
2	76	Estimation Of Soil Erosion Using Revised Universal Soil Loss Equation (RUSLE)- a Review (Suryawanshi, Vijay*, Ramesh H and Nasar T)
3	82	Study of Surface Water and Drinking Suitability through Water Quality Index (WQI) Modelling in Mahanadi Basin, Odisha (Das, Abhijeet *)
4	98	Design and Feasibility Study of River Interlinking in Odisha (Atchyuth, Bobbili Aravind Sai*)
5	227	Urban flood management for Chandigarh city using Low Impact development techniques. (Sen, Himank*)
6	249	Water Quality Assessment using Physico-chemical parameters and NSF-WQI indicator (Deepthi, korla*)
7	254	A web framework for assessing water demand in a watershed (Dwivedi, Bhavana*)
8	450	Technical feasibility of hydropower generation at Meenpidipara, Kollam (Kurian, Sudhi M*; S, Fathima; A, Adhil)
9	500	Some challenges and issues for water transfer from ganga-brahmaputra basins to cauvery-pennar basins in India (Mazumder, Somendra Kumar*)



HYDRO 2022 INTERNATIONAL

27th International Conference on Hydraulics, Water Resource, Environmental & Coastal Engineering

Civil Engineering Department
Punjab Engineering College, Chandigarh, India
(December 22-24,2022)



DAY 2 – 23rd December 2022, 02:00 PM to 03:15 PM (New Academic Block)
TS 05 Parallel Session – 03, Theme: Coastal Harbor and Ocean Engineering (COE)

S. No.	Paper ID	Paper Title and Author(s)
1	11	Hydraulic model studies for the design of deepwater breakwater with accropodetm-ii armour units to the dam of kalpasar project, 15havan15 (N S, Ganesh ; Patil, Uday Baburao*)
2	12	Hydraulic model studies for the design of breakwater/ training wall for development of fishery harbour at anjarle (N S, Ganesh ; Patil, Uday Baburao*)
3	16	Efficient Mooring arrangement for a Bulk Cargo Vessel using Mathematical Model Technique (Chaudhari, Rajeev Kumar*; Kori, Santosh; Chandra, Prabhat)
4	45	Geotechnical stability and settlement analysis of rubble mound breakwater – A case study (A.D. Khot*, Edlabadkar, Jae S)
5	66	Numerical Wave Modelling for Adequacy of Fishing Harbour on the West Coast of Karnataka. (Borkar, Amol Sitaram*)
6	117	Development of FSRU near Wide Estuarine Entrance – A Need for Coupled Modelling Approach (Vaidya, Mandar M*; Karambelkar, Kanak; Purohit, Anil Anant)
7	118	Cell-centric volume method for computing dredging in a port (Jagatap, Naval S*)
8	143	Hydrodynamics and siltation studies for the proposed passenger jetty at an inlet – A case study (Mariappan, Karthikeyan *; Krishna, Boora; Ranganath, L.R.; Mariappan, Karthikeyan)
9	162	Wave Tranquility Studies for Breakwater Extension at Island Harbour using Mathematical Modelling (Sawant, Rahul*)
10	331	Monitoring Changing Position of Coastline using Mathematical Modelling and Google images along North Karnataka coast (Vighe, Komal*; Mariappan, Karthikeyan ; Sinha, Jireshwar)
11	349	A Revisit to Indian Ocean Tsunami 2004 (Bardhan, Mayuraksha*)



HYDRO 2022 INTERNATIONAL

27th International Conference on Hydraulics, Water Resource, Environmental & Coastal Engineering

Civil Engineering Department

Punjab Engineering College, Chandigarh, India

(December 22-24,2022)



DAY 2 – 23rd December 2022, 03:30 PM to 04:45 PM (New Academic Block)
TS 06 Parallel Session – 01, Theme: Climate Change Impact on Water Resources (CCW)

S. No.	Paper ID	Paper Title and Author(s)
1	203	Impact of climate and land use change on streamflow of Kuttiyadi river basin, Kerala (Drissia, T K*)
2	232	Attribution of runoff variation to changes in climate and catchment characteristics for Brahmani-Baitarani river basin in eastern India (Mandal, Nehar*; Chanda, Kironmala)
3	234	An Evaluation of Future Changes in Hydroclimate Extremes across India (Dash, Subhasmita*; Dutta, Riya; Maity, Rajib)
4	236	Non-parametric trend of projected drought over the upper Bundelkhand region in central India (Vishwakarma, Ankur*; Choudhary, Mahendra Kumar; Chauhan, Mrityunjay Singh)
5	281	Impact of Climate Change on The Hydro-Meteorological Trends in Kashmir Valley (Jami, Shahnawaz*; Hassan, Quamrul)
6	289	Homogeneous Precipitation Zones: Newly proposed Zones for India and their Future-projected Changes in Precipitation Characteristics (Sarkar, Subharthi*; Maity, Rajib)
7	293	Impact of Climate Change Scenarios on Inflows into Bhakra Dam from the Satluj Basin (Gupta, Kewal K*; Kumar, Shakti Kumar; Suri, Sanjeev)
8	429	Future irrigation water requirement in the context of climate change: Ukai-Kakrapar command area, India (Baladaniya, Kalpesh Bachubhai*; Gehlot, Lalit Kumar; Patel, P; Timbadiya, P V)
9	75	Comparative Trend Analysis of Climatological Parameters and its impact on Living Root Bridges in Meghalaya (Guru, Nibedita*)



HYDRO 2022 INTERNATIONAL

27th International Conference on Hydraulics, Water Resource, Environmental & Coastal Engineering

Civil Engineering Department
Punjab Engineering College, Chandigarh, India
(December 22-24,2022)



DAY 2 – 23rd December 2022, 03:30 PM to 04:45 PM (New Academic Block)
TS 06 Parallel Session – 02, Theme: Fluvial Hydraulics (FH)

S. No.	Paper ID	Paper Title and Author(s)
1	186	Temporal Evolution of Pressure-flow Scour due to Vertical Contraction (Majid, Sofi Aamir*; Tripathi, Shivam)
2	230	Evaluation of local scour on parallel bridge piers – a case study (Dalal, Biswajit*; Deb, Subhrajyoti)
3	256	Bed Load Transport in Non-uniform Sand Bed Channel: A Review (Singh, Prabhat*; 17havan, Rutuja)
4	261	A review on Hydrodynamics of River Meandering (Kumari, Suniti*; Tiwari, H. L.; Chavan, Rutuja)
5	306	Numerical Modelling of Flood Routing in Laboratory and Natural Open Channels. (Khuntia, Jnana Ranjan *,* Devi, Kamalini; Sahoo, Sarjati; Das, Bhabani Shnakar; Khatua, Kishanjit Kumar)
6	324	Computational modelling of the Chorabari glacial lake outburst and simulation of flooding event (June 2013) in Uttarakhand, India (Sen, Dhruvajyoti*; Singh, Pankaj; Tripathi, Abhimanyu; Roy-Biswas, Tirtha)
7	332	Review of Scour Around Tandem and Staggered Bridge Pier (Anand, Mukul*; Timbadiya, P V, Patel P.L.)
8	382	Modeling Sediment Transport Dynamics of Tel River in the sub-basin of Mahanadi River, India (Dahiwal, Akshay V*; Sekhar, Muddu; Dutta, Upasana; Singh, Yogesh Kumar; Prabhu, Murugesh)
9	396	Effect of Soil Erosion and Sedimentation on Water Bodies. (Singh, Saloni*; Kumar, Nirmal; Thawait, Ajay)
10	482	Bridge pier scour in meandering channel: a model study (Mohammad Athar Alam)
11	488	Influencing parameter determination for Total Load transport (Malani, Urvashi*; Yadav, Sanjay)
12	515	Variation in scour depth around a compound circular bridge pier with changing pier position and sediment sizes (Pandey, Abhishek*; Behera, Pradyumna*; Deshpande, Vishal)
13	448	A Review of Effectiveness of Submerged Vane for Sediment Management in Rivers (Priyanka, Yempali*; Garg, Vikas)
14	455	A review on the Countermeasures used to minimize the scouring effect around the bridge abutment (MEENA, DAMODAR LAL*)



HYDRO 2022 INTERNATIONAL

27th International Conference on Hydraulics, Water Resource, Environmental & Coastal Engineering

Civil Engineering Department

Punjab Engineering College, Chandigarh, India

(December 22-24,2022)



DAY 3 – 24th December 2022, 10:30 AM to 11:45 AM (New Academic Block)
TS 07 Parallel Session – 01, Theme: Hydrology and Hydrologic Modelling (HMM)
& Challenges in Management of Water Resources (CMWR)

S. No.	Paper ID	Paper Title and Author(s)
1	502	Design and Analysis of Water Distribution Network - A Case Study of Khultabad, Aurangabad district, Maharashtra State (Raut, Shreeya Gajanan*)
2	514	Hydrological modelling and evaluation of the Indravati River basin's elements of water balance (Narwade, Raju*; Ukarande, Dr. Suresh)
3	221	Depth variation in soil hydraulic properties of macropores in an agricultural field (Vashishth, Nirali*; Ojha, Richa)
4	226	Groundwater modelling and identification of recharge potential zones using Modflow and GIS (Kumar, Abhishek*; Kumari, Suman; Dogra, Vijay Shankar)
5	231	Quantitative Assessment of Viability of Rainwater Harvesting System for Households (Mohril, Radha S*)
6	251	Monitoring Soil Erosion Prone Areas for Tawi River Catchment using SWAT and RUSLE Model. (Gupta, Rishi*; Fouzdar, Gaurav; Chembolu, Vinay)
7	416	Groundwater Potential Zone Mapping using Geospatial Techniques: A Case Study of Districts of Southern Madhya Pradesh (Mourya, Gaurav; Nema, Manish K*; Nema, Anupam)
8	425	Finite Volume Framework for Coupled Consolidation in Porous Media (Srivastava, Himanshu*; Dhar, Anirban)
9	499	Monthly evapotranspiration trends across India using the Hurst exponent (Gunturu, Vamsi Krishna*; Jothiprakash, Vinayakam; Bellie, Sivakumar)
10	93	Groundwater Quality Assessment for Drinking Purpose in Bhopal City, M.P using Geographic Information System and Water Quality Index (Rahman, Farooque*; Thawait, A.K; Chavan, Rutuja)



HYDRO 2022 INTERNATIONAL

27th International Conference on Hydraulics, Water Resource, Environmental & Coastal Engineering

Civil Engineering Department
Punjab Engineering College, Chandigarh, India
(December 22-24,2022)



DAY 3 – 24th December 2022, 10:30 AM to 11:45 AM (New Academic Block)
TS07 Parallel Session – 02, Theme: Geospatial Technologies in Water Resources Engineering (GTW)

S. No.	Paper ID	Paper Title and Author(s)
1	194	Design of Readout System for Water Quality Assessment with Geospatial Technologies (Sardar, Tanmay*; Pandey, Shivani; Mishra, Madhuram; Mishra, Satanand)
2	195	Variation in sinuosity concerning river migration: A case study of the Sutlej River in Panjab (Nath, Apurba*; Ahmed, Sayed Sadulla; Prakash, Satya; Ghosh, Susmita)
3	212	Optimal variable selection for downscaling of satellite precipitation dataset using ensemble machine learning algorithms-A case study of Marathwada region of Maharashtra (Kesarwani, Mohit*; Neeti, Neeti; Chaudhuri, Ranjana; Chowdary, V.M.)
4	215	Analysis of Reservoir Sedimentation Using Satellite Images (Mishra, Kartikeya*; Tiwari, H L; Tiwari, Neeraj)
5	252	Mapping and assessment of coal mining induced land use changes in the Damodar River Basin, India using remote sensing and GIS techniques (Anjali, Kumari*; Remesan, Renji)
6	286	Rainfall-Runoff Modelling of Sabarmati River Sub- Basin Using SWAT+ (Suryanarayana, T. M. V.*; Jaiswal, Keyur)
7	291	Trend Analysis of Precipitation and Its Relation with Groundwater Recharge (Nandurkar, Rahul Y*; Vasudeo, Avinash; Godbole, Snehal; Katiyar, Pranjul)
8	309	Drought Zoning of Rajasthan: A Comparative Study of Meteorological Drought and Vegetation Cover Index (Diwakar, Manoj Kumar*; Chaturvedi, Ashutosh)
9	310	The impact of land use and land cover changes on soil erosion in Beas Basin (Singh, Chaityendra*; Thakur, Chander; meena, Dr. Ray Singh)
10	319	A holistic assessment of the propensity for utilization of underground minewater for potability in the water-stressed coal mining region of Eastern India: A case study of Jharia Coalfield (Mazinder Baruah, Pritam*; Singh, Gurdeep)



HYDRO 2022 INTERNATIONAL

27th International Conference on Hydraulics, Water Resource, Environmental & Coastal Engineering

Civil Engineering Department
Punjab Engineering College, Chandigarh, India
(December 22-24,2022)



DAY 3 – 24th December 2022, 10:30 AM to 11:45 AM (New Academic Block)
TS 07 Parallel Session – 03, Theme: Coastal Harbor and Ocean Engineering (COE)
& Experimental and Computational Fluid Mechanics (ECF)

S. No.	Paper ID	Paper Title and Author(s)
1	164	Shoreline changes due to the construction of breakwaters at Beypore estuary in Kerala (Paravath, Kunhimammu*; Thuvanismail, Nasar)
2	50	A 20omparative study on the significance of grain size parameters and dynamics of sand sediments in distinct coastal areas: Neelankarai and Mahabalipuram, east coast of Tamil Nadu (Rengasamy, Arivazhagan R*; Muthukumaraswamy Kamalakannan, Sreenivas M K; J, Logeshwari ; K, Premalatha; Sagar, Rekha Y)
3	190	Experimental investigation on hydrodynamic performance of stratified porous breakwater (Jawed, saquib*; Gupta, Abhishek; Karmakar, Debabrata)
4	417	Hydrodynamic Performance of Floating Breakwater combined with Wave Energy Converter (Vishwakarma, Ranti Dev; Patil, Shivakumar B; Karmakar, Debabrata; Ray, Rahul V*)
5	461	Numerical investigation of floating breakwater system combined with wave energy converter (Ray, Rahul V*; Karmakar, Debabrata)
6	518	Sediment Transport Analysis using the 3D Modeling of Beach Survey Profiles along the East Coast of India (Durusoju, Hari Prasad*; Mutukuru Gangireddy, Muni Reddy; Nandyala, Darga Kumar)
7	AA PEC _14	Effect Of Rainfall Variation On Stability Of Slopes (Abhishek Prakash Paswan)
8	479	Computational investigation of energy dissipation downstream of hydraulic structure (Jayant, Harshit Kumar*; Jhamnani, Bharat; Sharma, Aniket Kumar)
9	67	Numerical Modelling for Wave Tranquility inside the Mega Port on the West Coast of India (Borkar, Amol Sitaram*; Chandra, Prabhat)
10	29	Restoration of River Inlet Channel in a Creek through Numerical Model Technique (Chandra, Prabhat*; Chaudhari, Rajeev Kumar; Kori, Santosh)
11	15	Prediction of Manoeuvring Behaviour of 5000 DWT Cargo Vessel at Sharp Bend in Restricted Water Ways (Chaudhari, Rajeev Kumar*; Kori, Santosh; Chandra, Prabhat)
12	316	Numerical modelling of bed shear stress for an asymmetric compound open channel (Sahoo, Sarjati; Devi, Kamalini; Khuntia, Jnana Ranjan*; Khatua, Kishanjit Kumar)
13	343	Mathematical model studies for hydrodynamics and sedimentation aspects for proposed passenger jetty at Janjira, Tal. Murud, District Raigad, Maharashtra (Meena, Banwari Lal*)



HYDRO 2022 INTERNATIONAL

27th International Conference on Hydraulics, Water Resource, Environmental & Coastal Engineering

Civil Engineering Department

Punjab Engineering College, Chandigarh, India

(December 22-24,2022)



DAY 3 – 24th December 2022, 12:00 PM to 01:15 PM (New Academic Block)
TS 08 Parallel Session – 01, Theme: Climate Change Impact on Water Resources (CCW) & Flood Forecasting and Mitigation Measures (FFM)

S. No.	Paper ID	Paper Title and Author(s)
1	296	Study of Intra-model Uncertainty in Future Prediction of Temperature for GCM models: ESM2G and ESM2M. (Hazarika, Jayshree*)
2	302	Assessment of Discharge and Sediment Yield in the Bagmati River Basin using SWAT Model. (Ranjan, Ankit*)
3	378	Ranking of GCMs by Distance based complex network analysis. (T, Anand*; A, Shibu)
4	389	Graphical trend analysis of streamflow in Cauvery river basin, India. (Gupta, Neha*)
5	447	Impact of Land use/Land cover Change on Streamflow Forecasts using SWAT Model: A Case Study in a Heterogeneous River Basin in Western Ghats Region. (R, Visweshwaran*; Ramsankaran, Raaj; T.I., Eldho)
6	467	Effects on dissolved oxygen saturation and water temperature using air2stream over krishna river basin, India. (Veerannapet, Santhosh Vishal*; Maddu, Rajesh; Shaik, Rehana)
7	470	Water Quality Index Prediction using Regression for Bhadra River. (Srivastav, Arohi*; Kumar, Satish ; Shaik, Rehana)
8	478	Impact of Climate Change and Construction of Dams on Peak floods - A Case Study of Lower Tapi basin. (Mujumdar, Dr. Sanskriti*; Agarwal, Nirav; Jariwala, Siddharth)
9	338	Adequacy of Storm water Drainage System for Nagpur City, India. (Thankachan, Amitha*)
10	385	Dam Break Analysis using HEC-RAS 2D Hydrodynamic Modeling – A Case Study of Ukai Dam, Lower Tapi Basin, India. (Shaikh, Arbaaz; Agnihotri, Dr P. J.; Pathan, Azazkhan Ibrahim; Said, Saif; Sidek, Lariyah ; Kachhawa, Nitin Singh*)
11	AA PEC -33	Development of intensity duration frequency curve for Chandigarh city. (Sharma, Nishita)
12	AA PEC _22	A view on CMIP 6- MIP and Experiment (Ritica Thakur)



HYDRO 2022 INTERNATIONAL

27th International Conference on Hydraulics, Water Resource, Environmental & Coastal Engineering

Civil Engineering Department
Punjab Engineering College, Chandigarh, India
(December 22-24,2022)



DAY 3 – 24th December 2022, 12:00 PM to 01:15 PM (New Academic Block)
TS 08 Parallel Session – 02, Theme: Geospatial Technologies in Water Resources Engineering (GTW)

S. No.	Paper ID	Paper Title and Author(s)
1	394	Satellite-based Fog detection for North India using LSTMs (Deshpande, Prasad J*; Tripathi, Shivam; Bhattacharya, Arnab)
2	462	Integrated Remote Sensing - GIS Based Groundwater Potential Zone Mapping Using MCDM Techniques for Surat District, Gujarat, India. (Mohseni, Usman A*; R, Dr. Vinnarasi; Raaj, Saran; Agnihotri, Dr P. G.)
3	494	Evaluating spatial distribution of crop coefficient in a semi-arid environment using the surface energy balance model (Saxena, Dhruv Mr.*; Choudhary, Mahender; Sharma, Gunwant)
4	496	Geospatial Technology to Locate Aquifers in Raigad, Maharashtra State Using Satellite Derived Data for Hydrologic Applications (Bhatt, Anushka Harish*; Avhad, Asawari Ajay; Lokhande, Aniket ; George, Leon; Jogilkar, Uzair; Nagarajan, Dr. Karthik; Narwade, Mr. Raju)
5	497	Geospatial-based Hydro-Ecological Sustainability Assessment of a Himalayan Catchment under the Impact of Climate Change (M, Sathyaseelan*; Ghosh, Sanjay Kumar; Ojha, Chandra Shekhar Prasad)
6	503	Estimation of Velocity and Thickness of Siachen Glacier Using Remote Sensing (Saini, Sunita*)
7	507	Relationship between timberline altitude and climatic parameters in the Himalayan Region of Jammu & Kashmir (Sah, Priyanka*; Shaik, Rehana; Latwal, Avantika; Sharma, subrat)
8	512	Water quality parameter retrieval using the spectral matching technique (Tamang, Lavinia*; Garg, Vaibhav)
9	516	Reliability and significance of satellite derived precipitation products in the context of landslide studies: A review (Sasidharan, Vishnu*; KU, Abdurahiman)
10	495	Spatial and Statistical Analysis of Soil Investigation Data for Construction Planning (Late Parveen Chander; Dr. Rajiv Chauhan; Dr. Rajesh Kumar; Amardeep Kaur*)
11	AA PEC _12	Morphometric analysis and watershed prioritization using a geospatial technique for Singipuram sub-watershed in Tamil Nadu, India (Subbarayan Saravanan)
12	AA PEC _23	Identification of Groundwater Availability in Context of Potential Zone for Ahmedabad District (Amit Jain*)



HYDRO 2022 INTERNATIONAL

27th International Conference on Hydraulics, Water Resource, Environmental & Coastal Engineering

Civil Engineering Department
Punjab Engineering College, Chandigarh, India
(December 22-24,2022)



DAY 3 – 24th December 2022, 12:00 PM to 01:15 PM

TS 08 Parallel Session – 03, Theme: Soft Computing Techniques in Water Resources Engineering (STW)

S. No.	Paper ID	Paper Title and Author(s)
1	204	Comparative Analysis of SVR and ANN in Heatwave Prediction over Rajasthan. (Pal, Manali*; Bhoopathi, Srikanth; Murikinati, Anusha)
2	246	Numerical Modelling of Triangular Central Baffle Flume. (Nair, Sujith*; Ghare, Aniruddha; Vasudeo, Avinash; Kapoor, Ankur; Sadan, Prasad P)
3	275	Conjunctive Use of Ground and Surface Water for Optimal Cropping Pattern. (Sarker, Totan; Talukdar, Swagata*; Ghosh, Susmita)
4	336	Comparative performance of two data driven techniques for rainfall - runoff modelling. (Deulkar, Aparna Mahadeorao*)
5	353	Modelling of Scour Depth around Bridge Pier for Unsteady Flow Condition using ANFIS and GEP. (Kumar, Virendra; Kumar, Rohit; Baranwal, Anubhav*; Das, Bhabani S)
6	391	Application of Data Driven Techniques for Prediction of Koyana Reservoir Inflow. (Shelke, Mahesh Balasaheb*)
7	424	Rainfall Prediction from Antecedent Rainfall using a Model Tree Technique. (Hansda, Vicky Vikram*; Chourasiya, Shikha)
8	426	Aeration efficiency of weirs - a critical review with a proposed numerical solution. (Ali, Md Shaheer*; Ahmad, Md. Masood; Raza, Taslim; Ali, Rizwan)
9	465	Soil Moisture Modelling using Machine Learning Models - Waipara Experimental Catchment, New Zealand. (Gopireddy, Surendra Kumar Reddy*; Sanchana, Praveen; Singh, Shailesh Kumar; Shaik, Rehana)
10	471	Innovative trend analysis technique for annual streamflow and suspended sediment load of Lower Godavari River Basin, India. (Aher, Madhura Chetan*)
11	498	Hybrid Metaheuristic: A Combination of Evolutionary Algorithm and Swarm-based Technique for Optimal Design of WDN (Poojitha, S N*; Jothiprakash, Vinayakam)
12	511	Optimization of leakage and power in water distribution network (Jain, Priyanshu*; Khare, Ruchi)
13	AA PEC _13	Experimental Investigation of Different Types of Piano key Weir. (Dr. Deepak Singh*)
14	AAPE C_21	Groundwater level forecasting model using ANN technique (Prajakta Jadhav)