

Association of Hydrologists of India

38th – 39th AHI - National Seminar on Hydrology

Focal theme:

Changing Climate and Extreme Hydrological Events

25th&26th February, 2022

Departments of Geophysics & Meteorology and Oceanography
Andhra University, Visakhapatnam

Technical Programme

25-02-2022 (Friday)

09:30-10:45 hrs **Inaugural Function**

11:00 -13:00 hrs **Technical Session-1**
Changing Climate and Hydrological Ecosystem

Chairperson: Prof. P.N. Ballukraya

Co-Chairperson: Prof. P. Suneetha

Time-Hrs	Title	Authors
11:00-11:30	<i>Invited talk:</i> Floods in a Changing Climate	Pradeep Mujumdar, IISc Bangalore
11:30-11:36	Effect of climate change on various rainfall events and its global teleconnections over South Peninsular India during the Northeast Monsoon	M:M. Nageswara Rao, M.C. Sannan and U.C. Mohanty
11:36-11:42	Impact of climate change on hydrology of forested and agricultural catchments in central Himalayas (Uttarakhand, India)	M.S. Rawat
11:42-11:48	ENSO and other environmental factors effects on the genesis potential Index during post-monsoon season	P. Suneetha, S.S.V.S. Ramakrishna and C.V. Naidu
11:48-11:54	Identification of aerosol sources and sinks	Bernard Mmame, P. Suneetha and K. Samatha
11:54-12:00	Role of Arabian Sea warming on intensified tropical cyclones in the recent decades	Amasarao Arika, P. Suneetha P and G. Venkata Ramana
12:00-12:06	Impact of Arabian Sea warming on Indian summer monsoon rainfall - role of SST, air sea fluxes and surface circulation	K. Chandra Sekhar and P. Suneetha
12:06-12:12	Simulation of Indian summer monsoon onset using High Resolution Regional Climate Model (RegCM4)	P. Satish and P. Suneetha
12:12-12:18	Analysis of changing nature of precipitation from tropical cyclones over Andhra Pradesh State, India	Anuja Tigga and B. Prasad
12:18-12:24	Biomonitoring of climate change effects on some rocky shores of Visakhapatnam, India.	Sherif S. Ahmed and C. Manjulatha
12:24-12:30	Inter-comparison of probability distributions for	N. Vivekanandan

	selection of best fit for estimation of rainfall using Goodness-of-Fit and diagnostic tests	
12:30-12:36	Physical and biological changes in Bay of Bengal- Role of tropical cyclones	K.Venkateswara Rao and P. Suneetha
12:36-13:00	Discussions	
13:00-14:00	Break	

14:00 – 15:30 hrs

Technical Session-2

Extreme events - Forecast and mitigation

Chairperson: Prof. D.T. Shete

Co- Chairperson: Prof. Anuja Tigga

Time-hrs	Title	Authors
14:00-14:30	<i>Invited talk:</i> Challenges in Hydrological Modeling for Flood Forecasting in a Data Scarce Basin: A case Study of Chennai River Basin	Balaji Narasimhan IIT-Madras
14:30-14:36	Extreme hydrological events in January 2022: A case study over Telangana and Andhra Pradesh states	Sunanda M and Harsha Soni
14:36-14:42	Changes in hydrological regimes leading to natural or manmade disasters	Lakshmana Rao Vennapu, Sravani Alanka and K.P.R. Vittal Murthy
14:42-14:48	Stream flow in the Rushikulya river basin, Odisha- Trends, extremes and climate linkages	D. Panda, Rashmi Rani Anand and M. Devi
14:48-14:54	Flow modelling of Chennai's Adyar sub-basin to predict and manage the extreme weather events using MIKE SHE	M. Rinisha Kartheeshwari and L. Elango
14:54-15:00	Review on climate change effect on Tsunami wave height and infrastructure	Seeram Madhuri and Pramod Kumar
15:00-15:06	Drought assessment and monitoring using different indices in Panchmahal District, Gujart, India	Pranav B Mistry and T.M.V. Suryanarayana
15:06-15:12	Understanding the impact of soil moisture variability on temperature extremes over the Indian region	Naresh Ganeshi, Milind Mujumdar, Yuhei Takaya, Bhupendra Singh, Mangesh Goswami, R. Krishnan and Toru Terao
15:12-15:18	A correlation study between the relative humidity and air temperature at Kalingpatnam coastal site, Andhra Pradesh - A case study	Y.R. Bhagat and S.P. Hedao
15:18-15:30	Discussions	
15:30-15:45	Break	

15:45 – 18:00 hrs

Technical Session-3
Water quality monitoring and management
during extreme events with special reference to
Emerging contaminants

Chairperson: Dr. Y.R. Satyaji Rao Co- Chairperson: Dr. Girish Gopinath

Time-hrs	Title	Authors
15:45-16:15	<i>Invited talk:</i> Water quality monitoring and management during extreme events with special reference to emerging contaminants	Y.R. Satyaji Rao and M.K. Sharma NIH,Kakinada/Roorkee
16:15-16:21	Water quality assessment using major, minor and trace elements in the lower part of Cauvery river basin.	L. Keerthan, R. Ramya Priya, and L. Elango
16:21-16:27	Risk assessment of groundwater quality for drinking purposes during COVID-19 pandemic period around industrial areas, Perundurair, Erode, Tamil Nadu, India.	Manoj Shanmugamoorthy, Anandakumar Subbaiyan, L Elango and Sampathkumar Velusamy
16:27-16:33	Stochastic approach to assess parametric uncertainty of a radionuclide transport model for a proposed tailings pond area in India.	Bhavya Ravinder and L. Elango
16:33-16:39	Hydrochemical characteristics of groundwater resources favour water supply assessment in a rural area.	V. Ajaykumar and N.C. Mondal
16:39-16:45	Assessment of seawater intrusion and nitrate contamination on the groundwater quality in the coastal aquifers of Kakinada region East Godavari district Andhra Pradesh India.	G. Vijayakumar, T. Vinoda Rao, E. N Dhanamjaya Rao, B. Ramakrishna and P. Sreedhar
16:45-16:51	Hydrogeochemical characterization and groundwater quality assessment in coastal parts of East Godavari district Andhra Pradesh India.	B. Ramakrishna, T. Vinoda Rao, E. N Dhanamjaya Rao, P. Sreedhar and G. Vijayakumar
16:51-16:57	Human health risks of groundwater due to anthropogenic nitrate in Nashik District, Maharashtra.	R.C. Panchabhai and N.C. Mondal
16:57-17:03	Assessment of the impact of groundwater quality on chronic kidney disease in the coastal Srikakulam, Andhra Pradesh, India.	Ramdas Pinninti, Gadi Satyanarayana, P. Padmavathi Devi, N.V.B.S.S. Prasad and K.S. Sastry
17:03-17:09	Spatial and seasonal variations and ecological risks of microplastic pellets along the central east coast of India.	M. Prithvi Raj, Mahua Sahab, S. Veerasingam, V. Suneel, Chayanika Rathore, Akshata Naik, P. Suneetha and

		S.S.V.S. Rama Krishna
17:09-17:15	Hydro geochemical study of groundwater in eastern part of Thamirabarani delta, Srivaikundam Taluk, Thoothukudi District, Southern India.	S. Richard Abishek and A. Antony Ravindran
17:09-17:15	An appraisal of groundwater contamination in parts of north western Hyderabad.	P. Ramesh Chandra Phani and K. Rajendra Prasad
17.15-17.45	Discussions	

26-02-2022 (Saturday)

09:00 – 10:30 hrs

Technical Session-3 (Contd.)
Water quality monitoring and management
during extreme events with special reference to
Emerging contaminants

Chairperson: Dr. N.C. Mondal

Co- Chairperson: Dr. A. V. S. S. Anand

Time-hrs	Title	Authors
09:00-09:06	Assessment of groundwater quality using drinking and agriculture water quality index in the Tourist region (Tiruchendur) of South Tamil Nadu, India.	K. Jesuraja and S. Selvam
09:06-09:12	Integrated groundwater quality assessment of Godavari western delta of West Godavari District, Andhra Pradesh, India.	P. Raghuram, T. Rambabu, G. Suri Babu, P.A.R.K. Raju, and J. Jeevan Kumar
09:12-09:18	Water quality analysis using water quality index - a case study.	T. Rambabu, P. Raghuram, J. Jeevan Kumar, P.A.R.K. Raju, and G. Suri Babu
09:18-09:24	Assessment of drinking water quality in the adopted villages under Unnat Bharat Abhiyan scheme.	G. Suri Babu, T. Rambabu, P. Raghuram, J. Jeevan Kumar, and P.A.R.K. Raju
09:24-09:30	Challenges in addressing the impact of emerging heavy metal contaminants in water resource managements.	D. Krishna and B. Sarva Rao
09:30-09:36	Non carcinogenic health risk assessment of chloride and nitrate in groundwater of cosmopolitan Bengaluru city, South India.	Gunnam Venkata Ratnalu, Shekhar More and Ratnakar Dhakate
09:36-09:42	Assessment of Corrosive activity and Potential Scaling Formation of groundwater in Port Area, Visakhapatnam District.	Ommi Amala, K. Vara Lakshmi and Anima Sunil Dadhich
09:42-09:48	Assessment of scaling and corrosion potential of the ground water sources in the Vizianagram District using hydrochemical facie.	K. Vara Lakshmi, O. Amala and Anima Sunil Dadhich

09:48-09:54	Irrigational quality of water in Nimni microwater shed, District Chhatarpur-Central India.	Pradeep Kumar Jain
09:54-10:00	Groundwater chemistry and salinization studies in the coastal areas of eastern parts of Odisha.	Atulya Kumar Mohanty
10:00-10:06	Assessment of groundwater quality in the southeastern part of Bhubaneswar city, Odisha.	Pallavi Nayak, Atulya Kumar Mohanty, Somnath Khaoash and Patitapaban Mishra
10:06-10:12	Groundwater contaminations of heavy metals and integrating the pollution index: a case study from a coal mining area of Sundargarh District, Odisha.	Priyajit Samala, Atulya Kumar Mohanty, Somnath Khaoash, Patitapaban Mishra and Kadari Ramaswamy
10:12-10:18	Study on ground water contamination in and around Visakhapatnam industrial area.	P. Trinadha Rao
10:18-10:45	Discussions	
10:45-11:00	Break	

11.00 – 13.00 Hrs

**Technical Session-4
Spatial Technologies in Water Resources**

Chairperson: Prof. B. Venkateswara Rao

Co- Chairperson: Dr. C. V. Naidu

<i>Time-hrs</i>	<i>Title</i>	<i>Authors</i>
11:00-11:30	Invited talk: Valuing Groundwater to meet the UN SGD: Groundwater making the invisible visible through airborne technology and the integrated approach.	Shakeel Ahmed Maulana Azad National Urdu Univ, Hyderabad
11:30-11:36	Land use land cover change detection and future prediction for Chennai city.	P.V. Razi Sadath and L. Elango
11:36-11:42	Effect of entrapped air on infiltration rate and measures to improve groundwater recharge by soil ventilation.	V.K. Haritha and L. Elango
11:42-11:48	Remote Sensing and GIS-based morphometric studies on Matchkund river catchment Visakhapatnam District, Andhra Pradesh, India.	B. Anandagajapathi Raju
11:48-11:54	Rainwater harvesting for groundwater development of rural area in central part of Jalgaon District, western India.	Patil Bhavesh, Patil Sanjaykumar, Kadam Ajay, Patil Nilesh, Konale Ram, Patil Ajinkya, Pimparkar Abhay and Patil Vilas
11:54-12:00	Identification of dominant physical control on soil moisture spatial variability in a tropical catchment using remote sensing techniques.	Kasi Venkatesh, Rabindra Kumar Panda, and R. Maheswaran
12:00-12:06	Geophysical logging for the tube well located in Saket, New Delhi.	Chhavi Solanki and Gauhar Mehmood
12:06-12:12	Delineation of aquifer characteristics in the different	B. Venkateswara Rao

	hard rock terrains of Ranga Reddy and Vikarabad Districts, Telangana State using 2D Resistivity Imaging method.	and Y. Siva Prasad
12:12-12:18	Geoelectrical investigation of saline water intrusion into freshwater aquifers of Kakinada region East Godavari District, Andhra Pradesh, India.	G. Vijaya Kumar, T. Vinoda Rao, E.N. Dhanamjaya Rao, B. Ramakrishna and P. Sreedhar
12:18-12:24	Assessing aquifer vulnerability and seawater intrusion using GALDIT, GQISWI and GIS methods in coastal aquifers of Kakinada region East Godavari District, Andhra Pradesh, India.	G. Vijaya Kumar, T. Vinoda Rao, E. N. Dhanamjaya Rao, B. Ramakrishna and P. Sreedhar
12:24-12:30	Erosion and sedimentation study of Tungabhadra upper subbasin using RS and GIS	Chillara S. Sameera, G. Abbaiah and S.V. Vijaya Kumar
12:30-12:36	Predicting the Land Use change by using the Machine Learning models (MLP_MC_CA and MLP_MC)	Landa Sankarrao, Dillip Kumar Ghose and R. Maheswaran
12:36-13:00	Discussions	
13:00-14:00	Break	

14.00 – 15.30 hrs

**Technical Session-5
Water Audit**

Chairperson: Prof. Chandu Subba Rao Co- Chairperson: Dr. T.M.V. Suryanarayana

Time-hrs	Title	Authors
14:00-14:30	<i>Invited talk:</i> Relevance of water balance studies at different scales - from Basin level to City level	M.S. Mohan Kumar IISc, Bengaluru
14:30-14:36	Assessing water budget using satellite-based hydrogeological data: A case study in Godavari basin, India.	Aswin Kokkat, Nayeemahmed Mulla and N.C. Mondal
14:36-14:42	A case study on water auditing of MVGR College of Engineering, Campus	S. Chandramouli
14:42-14:50	Variability in crop water requirement for Kharif paddy over the districts of Andhra Pradesh.	Sitanshu Sekhar Patra and P. Suneetha
14:50-14:56	Assessing natural groundwater reserve for its management in hard rock area, Tamil Nadu.	N.C. Mondal
14:56-15:02	Optimal operation policies for Ukai Reservoir using Genetic Algorithm.	Sumitra Sonaliya, Mugdha Trivedi and T.M.V. Suryanarayana
15:02-15:20	Discussions	
15:20-15:30	Break	

15:30 – 16:30 hrs

Technical Session-6
Artificial Intelligence in Water resource systems

Time-hrs	Title	Authors
15:30-16:00	<i>Invited talk:</i> Artificial Intelligence in Water resource systems with special reference to Tamilnadu.	S.A. Jeyakumar, Former Dy Director, AP Ground Water and Water Audit Dept.
16:00-16:30	<i>Invited talk:</i> Recent Advances in AI methods and their application to Water Resources Management	R. Maheswaran IIT-Hyderabad

16:30–17:15 hrs

Panel Discussion

Panelists	
S.No	Name
1	Prof. M.S. Mohan Kumar, Former Professor, Indian Institute of Science, Bangalore.
2	Dr. S.A. Jeyakumar, Former Deputy Director, AP Ground Water and Water Audit Department.
3	Dr. Shakeel Ahmed, Maulana Azad National Urdu University, Hyderabad.
4	Dr. Y.R. Satyaji Rao, Deltaic Regional Centre, NIH, Kakinada.
5	Dr. Girish Gopinath, Principal Scientist, Centre for Water Resources Development and Management, Kozhikode.
6	Dr. K.S. Sastry, Deputy Director, AP Ground Water and Water Audit Department.
7	Prof. P. Rajendra Prasad, President, AHI.
8	Dr. D.R. Prasada Raju, Former Scientist, Dept of Science & Technology
17:15-18:00	
Valedictory Function and AHI Annual Convention	