

Table of Contents of Volumes I & II

Theme - I **Research and Development for the Management of Surface Water**

Group Based Estimation Methods for Missing Values in Hydrologic Data Sets <i>by U.S.Panu and W.C. Lennox</i>	1-11
An Efficient Solution Algorithm for Dendritic Channel Networks using FEM or FDM <i>by Dhruvajyoti Sen</i>	12-22
Role of Storage Characteristics of Glaciers in the Regulation of Streamflow <i>by Pratap Singh, K.S.Ramasastri and Naresh Kumar</i>	23-30
Prediction of Deposited Sediment at the Entrance of Toushka Project <i>by Abdel Aziz Tarek Mohamed</i>	31-40
Research and Development for Management of Water Resources : Needs for Modernizing the Teaching of Water Resources Management <i>by Kumaraswamy Ponnambalam, Arnold Heemink and Steve Fletcher</i>	41-51
Neural Computation Technique for Estimating components of Hydrologic Cycle <i>by K.P.Sudheer, A.K.Gosain and K.S.Ramasastri</i>	52-61
Study of Thermal Structure of Some Stratified Reservoirs in India <i>by D.N.Deshmukh and M.S. Shitole</i>	62-68
Restoring Hydrologic Regime of Overgrazed Pastures and Forest Lands <i>by Murari Lal Gaur</i>	69-76
Effective and Safe Surface Rain Water Management for Reclamation and Crop Production in Black Alkali Soil <i>by S.K.Verma</i>	77-82
Multilinear Discrete Cascade Model for Stage hydrograph Routing <i>by Muthiah Perumal</i>	83-92
Surface Drainage Requirement in Irrigated Command of Central Gujarat <i>by M.S. Zaman, M.K.Khandelwal, P.M.Modi and V.M.Yagnik</i>	93-100
Water Use and Sustainable Development of Commercial Forestry in South Africa <i>by Devi Tewari</i>	101-109

Theme - II Research and Development for the Management of Ground Water

Delineation of Ground Water Table Zones in the Tarai Belt of North-West Uttar Pradesh using Remotely Sensed Data and their Relationship with Soils <i>by H.C.Sharma, Ambrish Kumar and Vinod Kumar</i>	110-114
Unsteady Seepage from a Canal <i>by G. C. Mishra and D. N. Bhargava</i>	115-122
Stream Aquifer Interflow Estimation – Evaluation of Command Algorithms <i>by Deepak Kashyap & Ahmad Al Abbar</i>	123-130
A Two Dimensional Ground Water Flow Model for Spring <i>by A.K.Bhar and G.C.Mishra</i>	131-137
Groundwater Pollution Potential Assessment Through Drastic Indices Methodology - A Case Study for Bangalore North Taluk (Bangalore Urban District) <i>by Nataraju C, Ranga K, Shivakumar, J.Nyamathi, Chandrashekar H and Rangananna G.</i>	138-147
Analysis of Arsenic Contaminated Groundwater Domain in Nadia District of West Bengal <i>by P.K.Majumdar, N.C.Ghosh and B.Chakravorty</i>	148-169
Characterization of Groundwater Resource and Estimation of Aquifer Parameters in Basaltic Terrain, Eastern Part of Amravati District, Maharashtra <i>by S.F.R. Khadri, Manish S. Deshmukh</i>	160-168
Revitalization of Tubewells Yielding Saline Water in Delhi – A Case Study <i>by Sushil Gupta</i>	169-175
Saltwater Intrusion Process in a Layered Coastal Aquifer System <i>by Mathew K.Jose</i>	176-187
Conjunctive Use of Canals Aquifers and Managed Rain Waters <i>by R. Subbaiah and N.K.Tyagi</i>	188-199
Evolution of Water Table with Subsurface Drainage for Variable Recharge and Constant ET <i>by Surjeet Singh and Sushil K. Singh</i>	200-207
A Characteristic Study of Dispersion Parameters for Solute Transport in Groundwater <i>by B. Chakravorty and N.C.Ghosh</i>	208-218
Drain Spacing Computation in Sloping Lands - An Analytical Approach <i>by A. Upadhyaya and H.S.Chauhan</i>	219-228
Analysis of Numerical Dispersion in Finite Difference Approximation of Solute Transport Equation <i>by Anupma Sharma, N.C.Ghosh, Manohar Arora and Digamber Singh</i>	229-238
Estimation of Sub-Surface Components in the Water Balance of Lake Nainital (Kumun Himalaya, India) using Environmental Isotopes <i>by Rm.P.Nachiappan, Bhishm Kumar, U.Saravanakumar, Noble Jacob, Suman Sharma, T.Baby Joseph, S.V.Navada and Rm.Manickavasagam</i>	239-254

Isotope Hydrology : Present Status and Future Prospects in India <i>by Bhishm Kumar and S.M. Seth</i>	255-270
Identification of Aquifer Recharge Sources and Zones in Parts of Ganga Yamuna Doab using Environmental Isotopes <i>by M.S. Rao, Bhishm Kumar, Rm.P. Nachiappan and Jagmohan</i>	271-281
Planning Conjunctive Use for Controlling Water Table in a Canal Command Area <i>by Sunil K. Vishwakarma, V.S.Kale and Y.K. Tiwari</i>	282-288
Characteristic Equations for Estimation of Unsaturated Hydraulic Conductivity – A Case Study <i>by Vivekanand Singh, B. Soni and S.L.Srivastava</i>	289-298
Optimum Lining of Distribution Network for Effective Reduction in Ground Water Withdrawal in a Distributary Canal Command <i>by Vinod Kumar, H.C.Sharma and Shiv Kumar</i>	299-304
Increasing Groundwater Recharge Through Integrated Approach in Black Soil Region <i>by D.H.Ranade and L.K.Jain</i>	305-311
Estimation of Rainfall Recharge in a Coastal Area Through Inverse Groundwater Modelling <i>by J.V.Tyagi and Sudhir Kumar</i>	312-322
Numerical Simulations of Saltwater Intrusion in East Coastal Basins of Indian Sub-Continent due to Anthropogenic Effects <i>by A Ghosh Bobba</i>	323-340
Estimates of the outflux of groundwater along the perimeter of coastal aquifers <i>By Manta Devi Nowbuth, Hemlata Koolwant and Farook Mawlabaccus</i>	341-346

Theme - III Water Pollution & Environmental Considerations

Risk Management to Improve Raw Water Quality <i>By Addie Wong, Nyree Stenekes and Dragan Hranisavlejevic</i>	347-354
Status of Pollution of Yamuna Waters and Remedial Measures for its Prevention <i>by A.K.Shangle, B.D.Pateria and R.K.Pachauri</i>	355-364
Water Quality Control Measures in Urban Water Distribution Systems <i>by U.S.Panu, A. Edmonds and V. Long</i>	365-372
A Finite Element Program for Groundwater Pollutant Transport and Simulation <i>by A.K.Dikshit, K. Satti Babu and Amit Dutta</i>	373-382
A Water Quality Simulation Model for River Systems <i>by A.K.Dikshit, K. Anand and Jahir Bin Alam</i>	383-392
Application of the Agricultural Non-Point Source Pollution Model (AGNPS) to Model Runoff Water Quality when Data is Scarce <i>by L.N.N.Jayasuriya and VK.Siriswardhena</i>	393-402

Modelling Pollutant Movement in Unsaturated Aquifer <i>by Inayathulla M, Sadashivaiah C, Shivakumara I.S, Ranganna G and Venkatachalappa M.</i>	403-412
Arsenic in Groundwater and Redox Conditions in the Bengal Delta- Possible in Situ Remediation <i>by G.Jacks, P.Bhattacharya, K.Matin Ahmed and D.Chatterjee</i>	413-418
Effects of Irrigated Agriculture on Groundwater Quality in Northwestern Bangladesh <i>by M.F.Bari and A.H.M.F. Anwar</i>	419-427
Studies of Impact of Excessive Use of Fertilizers Areas - A Case Study <i>by Sadashivaiah C, Inayathulla M, Manamohan Rao M, Ranganna G, Venkatachlappa M, Puttaswamy J</i>	428-439
Treatability Study on Seafood Processing Industrial Wastewater Using Anaerobic Contact Filter and Rotating Biological Contactor <i>by S. Rajendra Babu and K.Gopalakrishna</i>	440-448
Mass Transport Modelling for Assessment of Groundwater Contamination: Case Studies <i>by V.V.S. Gurunadha Rao and R.L.Dhar</i>	449-463
Development of Deoxygenation and Reaeration Rate Coefficients for a Small Tributary of River Hindon, U.P., India <i>by Ramakar Jha, C.S.P.Ojha and K.K.S.Bhatia</i>	464-474
Ground Water Quality Deterioration Due to Clay Mining Industry in a Midlan Region of Kerala <i>by A.Shahul Hameed, C.Dinil Sony, K.T.Velayudhan and K.Vasu</i>	475-484
River Network and Pollution Abatement (DRNPA) Project - A Case Study <i>by Rweyemamu Mutagaywa</i>	485-489
Isotope Hydrological Investigation in Arsenic Infested Areas of West Bengal, India <i>by K. Shivanna, U.K. Sinha, T.B.Joseph, S.Sharma, A.R. Nair and S.V.Navada</i>	490-500
Water Quality Modelling Studies of River Ganga in the Kanpur Stretch : Estimation of Non-point Sources <i>by Mukesh Sharma, Hare Krishna, Pawan Agrahari and Dipankar Saha</i>	501-510
Environmental Impact of Water Hyacinth Proliferation in the River Niger Basin <i>by I.A.Olomoda</i>	511-518
Impact of Irrigation on the Environmental Geochemistry of Groundwater from Sangamner Area, Ahmednagar District, Maharashtra <i>by K.K.Deshmukh and N.J.Pawar</i>	519-531
Impact of Cultural Stresses on Lentic Water Bodies of Imphal, Manipur <i>by Manorama Thokchom and Asha Gupta</i>	532-542
Hydrological Hazards, Large Dams and Environment Management in Indian Himalayan Region - A critical Overview <i>by R.S. Goel</i>	543-556

Theme - IV Integrated Water Resources Management

Essential Characteristics and Integrated Management Strategies of Water Resources in the Arid and Semiarid Northwest of China <i>by Guozhang Feng</i>	557-567
Sizing of Storage Tanks for Roof-Rainwater Catchment Systems <i>by U.S.Panu and R.Rebneris</i>	568-578
Environmentally sound management of lake Erhai and the Xier river basin <i>by International Environmental Technology Centre</i>	579-590
Integrated Water Resources Management - Role of Research & Development in Hydrology <i>by S. M. Seth</i>	591-601
Water for Mountain Households in the Hindu Kush-Himalayas <i>by S.R.Chalise and Saleem A Sial</i>	602-610
Some Hydrological Characteristics of the Australian Arid Zone <i>by I.Cordery and James Fraser</i>	611-616
Water Use Alternatives for the Bukhara region of Uzbekistan and Water Distribution in the Zerafshan River Basin <i>by Iskandar Abdullaev</i>	617-622
Advances in Groundwater Research for Integrated Resource Management and Sustainable Development <i>by P.S. Datta and S.K. Tyagi</i>	623-632
Assessment of Water Harvesting Structures (Case Studies in three different parts of Iran) <i>by Nasrollah Katantari</i>	633-637
Integrated Management of Water Resources in the Sahel Countries : Relevance, Constraints and Ways of Improvement. Case Study of Senegal <i>by Aissatou Thioubou</i>	638-647
New Perspective of Urban Water Systems : Meeting the Sustainability Challenge <i>by Pratap Raval and Tom Donnelly</i>	648-657
Geostatistics : A Brief Look at Its Application in Drainage Management <i>by Mahmoud M. Moustafa</i>	658-664
Agricultural Data Base for the Sustainable Use of Water in the Ojos Negros Valley, Baja, California, Mexico <i>by V.M.Ponce and H.L.Hernandez</i>	665-670
Emerging Information Technology for Sustainable Water Resources Development in India <i>by H. Chowdhary, S.K.Jain and H.J.M. Ogink</i>	671-687
Hydrological Characteristics of Arid Zone Drainage Basins in Western Rajasthan, India <i>by M.A.Khan and V.P.Gupta</i>	688-699

Hydrological Modelling of a Major Irrigation Command using MIKE SHE <i>by M.L. Sreevidya, A.Mishra, R. Singh and N.S.Raghuvanshi</i>	700-710
Optimal Estimation of Storage-Release Alternatives for Management of Surface Water-Logged Area <i>by A.K.Lohani, C.Chatterjee, N.C.Ghsoh and Rakesh Kumar</i>	711-724
Planning for Irrigation using Reservoir Yield and Crop Planning Models <i>by Tamrat W. Gebriel W.Mariam and D.K. Srivastava</i>	725-734
Spatial and Temporal Variation of Rainfall and Rainwater Harvesting Potential for Kutch District - A Case Study <i>by M.K.Khandelwal, K.C.B.Raju, M.V.Kanzariya and A.M. Shekh</i>	735-743
Water Resources and Water Management in North Western Indian Himalayas <i>by T.N.Dhar</i>	744-756

Theme - V Stochastic and Systems Approach to Hydrological Problems

Scenario Analysis in Water Resource Systems Optimization under Uncertain Conditions <i>by Giovanni M.Sechi and Paola Zuddas</i>	757-764
Seasonal to Interannual Hydrologic Prediction : A Case Study from Sydney, Australia <i>by Ashish Sharma</i>	765-775
A Nonparametric Approach for Preserving Interannual Dependence in Synthetic Flow Sequences <i>by Ashish Sharma and Robert O'Neill</i>	776-787
Temporal Disaggregation of Rainfall data using Artificial Neural Networks <i>by D.Nagesh Kumar & K. Srinivasa Raju</i>	788-795
Rainfall-runoff Relationship Model for AMAMEH watershed in Iran <i>by S.H.R. Sadeghi, J.K.Singh and G.Das</i>	796-804
Development of regional flood frequency relationships using L moments for South Bihar <i>by Rakesh Kumar, C.Chatterjee, Sanjay Kumar, A.K.Lohani and R.D. Singh</i>	805-812
Frequency-Severity-Duration Measures for Security of Supply of Water Supply Systems <i>by B.J.C.Perera</i>	813-822
Worth of Extreme Flood Events in Site Specific Flood Frequency Analysis <i>by B.P.Parida</i>	823-832
Simulation of Soil Moisture Movement in a Forested Watershed <i>by B.K.Purandara and C.P.Kumar</i>	833-839
Stochastic Modelling of Sediment Load of Upper Yangtze River (China) <i>by Zhou Gangyan, N.K.Goel & V.K.Bhatt</i>	840-850

Optimal Operation of Irrigation Reservoirs using Stochastic Dynamic Programming <i>by V.Ravikumar and K.Venugopal</i>	851-860
A Simple 5-Parameter Conceptual Daily Rainfall- Runoff Model <i>by S.V.Vijay Kumar, U.V.N.Rao and K.S.Ramasastri</i>	861-870
Optimal Operation of Multiobjective Multiple- Reservoir System <i>by M.K.Verma, R.K.Shrivastava & S.M.Narulkar</i>	871-880

Theme - VI Watershed Management and Community Participation

Drainage and Reuse of Effluents for Agricultural Management (DREAM) - A Dream Project for Developing Countries <i>by G.N. Magesan</i>	881-888
Water and Erosion Studies in an Integrated Watershed Management Project in the Hindu Kush-Himalayas <i>by Juerg Merz, Thomas Hofer, Rolf Weingartner, Pradeep M. Dangol and Gopal Nakarmi</i>	889-899
Participatory Watershed Management - A New Paradigm for Integrated Water Resource Management <i>by Alok K.Sikka and J.S.Samra</i>	900-910
Sustainable Integrated Watershed Management and the Community Efforts for the same in the North Eastern Region of India <i>by C.P.Sinha and C.S.Raghuvanshi</i>	911-918
Community Participation in Stormwater Management in the Hawkesbury-Nepean Catchment, Australia <i>by Amit Chanan and Michael White</i>	919-926
Community Involvement in Water Management in Ghana <i>by P.Gyau Boakye and J.W.Tumbulto</i>	927-935
Community Participation in a Tribal Dominated Micro Watershed Development Project in Eastern Ghats - A Case Study <i>by U.S.Patnaik, P.R.Choudhury, S.Sudhishri, Pramod Kumar and J.S.Samra</i>	936-946
Participatory Watershed Management - A Lesson Through Experience <i>by Prasad Sevekari and Maneesh K Shukla</i>	947-953
Artificial Recharge of Ground Water in Hard Rock Terrain through Chakriya Vikas Pranali - A Case Study of Palemau District in Bihar State <i>by P.K.Verma and S.P. Sinha</i>	954-962
Assessment of Cumulative Watershed Effects using WATSED Model <i>by B.K.Purandara and G.H.Belt</i>	963-970
Community Participation in Watershed Management- Haryana Experiences in World Bank Aided Project <i>by H.S.Lohan</i>	971-975

Paradigm of Participatory Watershed Management for Sustainability : Principles and Practices <i>by R.C.Yadav and L.S. Bhushan</i>	976-988
Estimation of Runoff and Sediment Yield under Different Land Uses in Bundelkhand Region <i>by A.K. Tiwari, A.K.Sharma, R.K.Tiwari and V.K.Bhatt</i>	989-994
Increasing Agricultural Production Through Optimal Use of Harvested Rainwater at Targhadia Watershed (Rajkot, Gujarat, India) <i>by M.K.Khandelwal, S.K.Shakya, N.K.Narda, s. d. Khepar and I. K. Girdhar</i>	995-1002
Promoting Low Cost Technology and Cost Sharing for Community Participation in Watershed Management <i>by Trilochan Nayak</i>	1003-1011
Impact Assessment of Conservation Measures in Arid Areas : A Case Study of Osian Bigmi (Jodhpur) Watershed <i>by V.P.Gupta, R.P.Sharma and R.K.Goyal</i>	1012-1019

Theme - VII Assessment of Hydrological Hazards and Impact of Climate Change

Modelling Runoff and Impact on Climate Change in Large Himalayan Basins <i>By Klaus Seidel, Jaroslav Martinec and Michael F. Baumgartner</i>	1020-1028
Base Flow Analysis - A Tool in Assessing Climate Change Impacts on Ground-water Resources <i>By Syed M. Afaq Moin, Andrew Piggott, Chuck Soustham and Doug Brown</i>	1029-1038
Vulnerability of Climate and its Impact on Regional Drought Over Semiarid Zone of India <i>By R.Jana</i>	1039-1044
Impact of Climate Changes on the Water Resources in the River Meuse Basin <i>By E.Roulin, A.Cheymol and D.Gellens</i>	1045-1054
Climate Change, Water Supply and Crop Production <i>By Geoff Kite, Peter Droogers and Koos de Voogt</i>	1055-1062
Hydrologic Sensitivity of Some Indian Basins to Expected Climate Change and its Effect on Water Availability using Disaggregated GCMs Output <i>By R. Mehrotra</i>	1063-1080
Effect of Anthropogenic Radiative Forcings in the Simulation of long Term Trend and Variability in Monsoon Climate <i>by Ajay Singh</i>	1081-1089
Challenges in Drought Research : Some Perspectives and Future Directions <i>by U.S.Panu and T.C.Sharma</i>	1090-1100
Forecasting and Warning of Water Related Disasters in a Complex Hydraulic Setting the Case of Bangladesh <i>by Guna N. Paudyal</i>	1101-1107

Assessment and Mitigation of Hydrological Hazards in Sri Lanka <i>by G.G.Rufus De Silva</i>	1108-1116
A Study of Farmers' Crop Management Practices and Opportunities for Drought Alleviation in Rainfed Lowland Rice Systems <i>by Abul Fazal M.Saleh</i>	1117-1126
Drought Recurrence in Different Climatic Regions in India <i>by R.P.Pandey and K.S.Ramasastri</i>	1127-1138
Drought Investigations and Crop Water Need in Kalahandi District in Orissa <i>by R.P.Pandey, B.Soni and K.S.Ramasastri</i>	1139-1152

Theme - VIII Remote Sensing, GIS and Hydrologic Instrumentation

Mapping of Snow Cover and Glacier with High Resolution Remote Sensing Data for Improved Runoff Modelling <i>by Klaus Seidel, Jesko Schaper and J. Martinec</i>	1153-1162
Temporal Orbital Satellite Images in the Drought Assessment and Early Warning Decisions <i>by R. Nagarajan</i>	1163-1170
Estimation of Regional Evapotranspiration for a part of the WYC Command using Remote Sensing Technique <i>by S.K. Ambast, Ashok K.Keshari and A.K.Gosain</i>	1171-1180
An Algorithm for Monitoring Snow Water Equivalent in Ungauged Catchments using GIS <i>by S. Morid, A.K.Gosain and Ashok K. Keshari</i>	1181-1190
Assessment of Sediment Deposition Pattern in Bargi Reservoir using Digital Image Processing <i>by M.K.Goel, Sharad K. Jain and P.K.Agarwal</i>	1191-1202
Soil Erosion and Sediment Yield Modelling using GIS <i>by U.C. Kothyari</i>	1203-1210
Satellite Based Irrigation Performance Monitoring: Case Study over Upper Tapi Irrigation Command, India <i>by A.T.Jeyaseelan, A.V.Suresh Babu, M.Shanker and K.Chandrasekar</i>	1211-1223
Identification of Potential Water Harvesting Sites using GIS & Remote Sensing Technologies : A Case Study of Sadiyagad Watershed, Central Himalaya, India <i>by B.K.Ramprasad, M.S.Miral, R.Pant and K.S.Rao</i>	1224-1233
Geographic Information System (GIS) Approach for Sustainable Land Resources Development of Watershed <i>by Gouranga Kar</i>	1234-1242
Soil Erosion Modelling using Satellite Remote Sensing and GIS <i>by M.K.Jain</i>	1243-1252

Geomorphological Studies of Netravathi and Gurgur River Estuary in the West Coast of India Using Remote Sensing Data	1253-1260
<i>by S.G.Mayya and Subrahmanya K.</i>	
Evaluation of Water Resources Management Practices in Salt Affected Areas of Pratapgarh District - A GIS and Remote Sensing Perspective	1261-1269
<i>by Rahul Khanna and Dhaneshwar Rai</i>	
A New Approach to Extending Stage-Discharge Relations	1270-1277
<i>by I.Cordery and Geoff C.Watson</i>	
Discharge Measurement in Turbulent Streams of the Middle Mountains in Nepal	1278-1285
<i>by Tirtha R. Adhikari, Madhav P.Dhakal, Bhawani S.Dongol and Juerg Merz</i>	
Identification of Seepage Points Inside the Additional Storage Reservoir-I in the Industrial Complex of SPIC - A Case Study	1286-1305
<i>by N. Ramanujam</i>	
