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The Indian Water Resources Society (IWRS) is a multi-disciplinary organization dedicated to the advancement of the science and technology of water resources development and management. The IWRS Journal publishes original papers on scientific, engineering and socio-economic aspects that are clear, concise and presented in a style readily understood by an international audience. Before publication, the papers are reviewed by the Editor/reviewers. Detailed instructions for preparing manuscripts are included in the following. A review of previous issues will be helpful in organizing the manuscript.

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The title should be short, informative and should clearly reflect the content of the paper. The title should not exceed 15 words in length. Terms like Preliminary Investigations, Contributions to, Studies on etc., should be avoided.

The title page should also include the name(s) of the author(s); the affiliation and mailing address of each author; the e-mail address, telephone and fax numbers of the corresponding author.

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References:

Cite references to published literature in the text sorted by author(s) and year, for example, Prasad (1994). Avoid using a numbering system. List all references in alphabetical order in the Reference section. Give the complete title of the reference and the source. Please follow the sample styles below.

Books :

Gupta, S.K., 1999. "Engineering Hydrology", Tata Mc Graw-Hill Publishers, New Delhi

Continued on Inside Back Cover



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Principal Office at:**Deptt. of Water Resources
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ROORKEE - 247 667
Uttarakhand, India****MESSAGE FROM EDITOR'S DESK**

COVID-19 pandemic gained momentum from April, 2020. The daily positivity rate reached its peak during September, 2020 before receding across the country by the year end. Covid-19 is a global challenge that demands holistic efforts across sectors to mitigate its impact. The pandemic reinforced the importance of water management ensuring clean safe water to all. Like the previous issue, the editorial board has decided to publish the Volume 40, Number 3 & 4, July 2020 & October 2020 after combining the two issues of July 2020 and October 2020 together.



The present issue of IWRS Journal broadly covers studies pertaining to optimal reservoir operation, climate change analysis, investigation of meteorological drought, watershed evaluation, role of community participation in the management of water, etc.

The first paper utilizes heuristic approach for the optimal operation of a three-reservoir system located in Mahanadi basin in Chhatisgarh, India. In this approach, the optimal policies and historical inflow data for the downstream reservoir were used to provide targets for the upstream reservoirs. The second paper examines the trends in the monthly rainfall and daily temperature data for Goa for a period from 1980 to 2012. Long term dependence analysis revealed a weak persistence for both rainfall and temperature. In the third paper, effective drought index has been applied to investigate the meteorological drought in six agro-climatic zones of Assam. The study utilizes daily gridded rainfall data from 1901 to 2013 for analysis. It was found that Hills are the most affected zone during monsoon season. Further, it was revealed that dry days are more concentrated since 1992 indicating an increase in frequency of drought occurrence. These kind of studies provides valuable insights on the drought occurrence and its severity which are useful for the policymakers and planners. The fourth paper utilizes bio-physical and socio-economical indicators such as water quality, ground water table, soil quality, soil and water conservation structures for the evaluation of the Ohar watershed. Watersheds are the basic unit of hydrological development, and their overall development is essential through different soil and water conservation measures. This will elevate the agricultural productivity and income of the people. The fifth paper demonstrates the role of community institutions in the management of water infrastructure. This paper assesses the rules related to common water infrastructure in a case in Madhya Pradesh, India. The presented research uses four sources of data which are a) key informants' interviews, b) individual interviews, c) discussions from a learning game intervention, and d) Foundation for Ecological Security (FES) data. The last paper simulate a design and construction of contour trench popularly known as underground water balancing system. These kind of systems are useful in restoring the groundwater on hilly areas and check soil erosion.

Clean and safe water plays an important role in fighting the Covid-19 pandemic. It is hoped that the current issue of IWRS would be useful to all working in the area of water sector. Be safe and healthy.

Raj Deva Singh

(R. D. Singh)

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Dear Members,

Greetings from IWRS!!!

We sincerely trust that you, along with your near & dear ones, are doing fine in this era of Covid-19. We convey our best wishes to all.

We are enclosing herewith a copy of our prestigious Indian Water Resources Society Journal – June 2021 issue. We hope that the article and information included in this journal issue will be of interest to the readers and benefit them. It has always been the endeavor of IWRS to provide a platform to the professionals for sharing their experiences regarding the recent advancements in the water resources sector of the nation and overseas, which may help professionals accelerate the development of water resources.

In a recent update, as per the latest decision taken by the executive committee of IWRS, we would like to inform you that we are discontinuing the regular process of sending hard copies of the forthcoming issues of the journal to the readers from next year. The idea of an E-Journals is in line with the vision of Digital India Mission and minimizes the contribution of printing in the negative state of the environment as we know it today. Henceforth, the manuscripts after acceptance will be published online, with the same credentials as before. Members, authors and readers may download the E-Journals from the website of IWRS for free. We will also send the E-Journal links through emails for which I request all the member to update their email addresses in our database by sending an email to secretaryiwrs@gmail.com.

We convey our sincere thanks to all our esteemed members and experts for their cooperation in achieving the journal's objective of disseminating the latest technical knowledge for the growth of the water resources sector and imparting training in water conservation and management. We request all the professionals in water resources to contribute technical papers in the future.

As usual, we will be eager to seek your valuable guidance in the days to come.

Stay safe & blessed.

Basant Yadav

Secretary

Journal Article:

Rao, S.S., 1979. "Flood Control Regulation of Reservoirs", Journal of Indian Water Resources Society, 11(2), 19-26

Chapter in Book or Paper in a Proceedings:

Singhal, S.P. and Kasliwal, R., 1991. Calibration of Conceptual Catchment Models, in Applied Water Resourcing Planning, P.V. Narasimha (Editor). Tata Mc Graw Hill Publishing Co. New Delhi.

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Each figure should have a title and be numbered. The figure will be placed in the paper as soon as possible after it is first mentioned in the text. The authors should take care to provide good quality figures that can be sent directly for printing or that can be reduced to fit into journal's one-column or two-column format. The original figures should be sent with the final manuscript. Figures should not be larger than twice paper size. Please send only black & white figures. No colour figures would be accepted.

Appendices :

All appendices must have a title (for example Appendix 1 : Description of the Model). The Appendices are to be placed after all Reference section.

Mathematical Symbols :

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