

## CONTENTS

Volume 9, Number 1

2015

Dharmaveer Singh, R.D. Gupta and Sanjay K. Jain	1	GCMs Derived Projection of Precipitation and Analysis of Spatio-Temporal Variation over N-W Himalayan Region
Proloy Deb and Mukand S. Babel	15	Assessment of Impacts of Climate Change and Adaptation Measures for Maize Production in East Sikkim, India
A. Khadka, L. P. Devkota, R. B. Kayastha	28	Impact of Climate Change on the Snow Hydrology of Koshi River Basin
R.R. Sharma, B. Kjeldstad and P. J. Espy	45	UV Index and Total Ozone Column Climatology of Nepal Himalaya Using TOMS and OMI Data
Achut Parajuli, Lochan Prasad Devkota, Tirtha Raj Adhikari, Susmita Dhakal, Rijan Bhakta Kayastha	60	Impact of Climate Change on River Discharge and Rainfall Pattern: A Case Study from Marshyangdi River basin, Nepal
Bikas Chandra Bhattarai, Dhananjay Regmi	74	Impact of Climate Change on Water Resources in View of Contribution of Runoff Components in Stream Flow: A Case Study from Langtang Basin, Nepal
Hafizullah Rasouli, Rijan B. Kayastha, Bikas C. Bhattarai, Ahuti Shrestha, Hedayatullah Arian1, Richard Armstrong	85	Estimation of discharge from Upper Kabul River basin, Afghanistan using the Snowmelt Runoff Model
Sonika Shahi, Rijan B. Kayastha, Prashant Baral, Pradeep K. Mool	95	Influence of a Debris Layer on the Melting of Ice on Lirung Glacier, Langtang Valley, Rasuwa, Nepal
Hedayatullah Arian, Rijan B. Kayastha, Bikas C. Bhattarai, Ahuti Shrestha, Hafizullah Rasouli, Richard Armstrong	109	Application of the Snowmelt Runoff Model in the Salang River basin, Afghanistan using MODIS Satellite Data
Sadhana Pradhanang Kayastha	119	Heavy Metals Fractionation in Bagmati River Sediments, Nepal

Journal of Hydrology and Meteorology is a publication of the Society of Hydrologists and Meteorologists-Nepal (SOHAM-Nepal)

The journal is registered at the District Administration Office, Kathmandu (Regd. No. 88/060/06)

ISSN 1818-25818

Volume 9, Number 1

August 2015

ISSN 1818-2518

# Journal of Hydrology and Meteorology

Vol. 9, No. 1

Journal of Hydrology and Meteorology

Society of Hydrologists and Meteorologists-Nepal



Society of Hydrologists and Meteorologists - Nepal

SOHAM-Nepal

# JOURNAL OF HYDROLOGY AND METEOROLOGY

## AIMS AND SCOPE

Research and studies related to weather, climate and water are vital in understanding the behavior of earth-atmosphere system and its various aspects. The research and studies in Himalayan region, where the interaction of weather with its topography is an unique one, has become a great challenging task to the scientific communities.

With the view of helping to understand the vagaries of the natural phenomena related to hydrology and meteorology, to interact and to disseminate the results, this journal came into its existence. This journal hopes to act as a forum in publishing peer-reviewed papers in the field of meteorology and hydrology and it in turn helping to disseminate the result of the studies and research. Though the main focus of the journal is the weather and water related issues in the Himalayan region, it also intends to include relevant areas like climate change, atmospheric and water pollution, floods, droughts, desertification, glaciology and many others.

The understanding of these phenomena will help a step forward in mitigating the harmful effects of high-impact on weather and climate events. We hope that this journal will be of some help to the society in addressing these challenges and move ahead in complementing the current scientific and technical development with cross-disciplinary and integrated approach.

Global weather and climate patterns are interdependent and not even a single nation can be entirely self-sufficient in the provision of all of its meteorological, hydrological and related environmental services. It is the main reason of having a broad scope of this journal so as to be an integral part, may be in a smaller way to the global concerted effort in understanding the ever challenging aspects of weather, climate and water.

The authors are solely responsible for their statements and opinions expressed in their contributions published in "Journal of Hydrology and Meteorology". The Editor does not hold himself responsible for any such statements and opinions expressed by the authors in their papers.

---

Copyright © 2012 by Society of Hydrologists and Meteorologists–Nepal

Web : [www.soham.org.np](http://www.soham.org.np), Email : [info@soham.org.np](mailto:info@soham.org.np)

---

### EXECUTIVE COMMITTEE

**Chairperson**

Mr. Jagat Kumar Bhusal  
Chairman  
Electricity Tariff Fixation Commission

**Vice Chairperson**

Dr. Rijan Bhakta Kayastha  
Kathmandu University (KU)

**General Secretary**

Mr. Suman Kumar Regmi  
Department of Hydrology and  
Meteorology (DHM)

**Secretary**

Mr. Barun Paudel  
Department of Hydrology and  
Meteorology (DHM)

**Treasurer**

Mr. Rameshwar Rimal  
Nepal Agriculture Research  
Council (NARC)

**Member**

Mr. Binod Parajuli  
Department of Hydrology and  
Meteorology (DHM)

Mr. Ram Chandra Karki  
Department of Hydrology and  
Meteorology (DHM)

Mr. Sujana Subedi  
Department of Hydrology and  
Meteorology (DHM)

Mr. Narayan Prasad Gautam  
Tribhuvan University (TU)

Dr. Dibas Shrestha  
Nepal Academy of Science and  
Technology (NAST)

Dr. Hemu Kafle (Kharel)  
Nepal Academy of Science and  
Technology (NAST)

Dr. Khada Nanda Dulal  
Hillside Engineering College

Mr. Pradeep Man Dongol  
International Centre for Integrated  
Mountain Development (ICIMOD)

### SOHAM-NEPAL Membership Fee

Membership Type	Nepali (NRs)	SAARC (US\$ or equiv NRs.)	Non-SAARC (US\$ or equiv NRs.)
General	300	10	20
Life	5000	120	240
Institutional	5000	300	600
Associate	150	5	10

Please write to [soham@info.org.np](mailto:soham@info.org.np) for membership application form.