



# Third International Conference on Mountain Hydrology and Meteorology for the Sustainable Development

## Technical Program Schedule

10-11 April 2017

Radisson Hotel, Kathmandu, Nepal

### **Organized by:**

**Society of Hydrologists and Meteorologists-Nepal (SOHAM-Nepal)**

### **In Association with:**

**Department of Hydrology and Meteorology (DHM), Government of Nepal (GoN)**

### **Supported by:**

**Central Department of Hydrology and Meteorology (CDHM), Tribhuvan University (TU)**

**Himalayan Cryosphere, Climate and Disaster Research Center, Kathmandu University (KU)**

**International Centre for Integrated Mountain Development (ICIMOD)**

**International Water Management Institute (IWMI)**

**Kathmandu Centre for Research and Education, Tribhuvan University (KCRE, CAS-TU)**

**Nepal Academy of Science and Technology (NAST)**

**OJERI and BK21Plus ELEC of Korea University, Seoul, South Korea**

**Real Times Solutions (RTS)**

**United Nation Educational, Scientific and Cultural Organization, International Hydrological  
Programme Nepal (UNESCO IHP-Nepal)**



ICIMOD





<b>Day 1: 10 April 2017, Monday</b>		<b>TECHNICAL SESSION</b>
<b>Session I: Water Resource Management</b>		<b>Room 1: Nepal</b>
<b>Chair: Dr. Mandria Shrestha</b>		
10:35-10:55	<b>Invited Speaker: Dr. Fraser Sugden</b> <i>Nepal Country Representative and Senior Researcher, International Water Management Institute</i> Title "Water 'availability' versus 'access' in the sub-Himalayan lowlands: the case for an interdisciplinary approach"	
<b>Time</b>	<b>Abstract ID: Title</b>	<b>Presenter/Country</b>
10:55- 11:10	<b>Wm01:</b> Climate change induced risk on water availability: A case of an irrigation system of Mustang in Nepal	Jagat K. Bhusal Nepal
11:10- 11:25	<b>Wm02:</b> Spring water quality assessment in pursuance of water resource management in upper Beas basin of Kullu valley, Himachal Himalayas, India	Nandini Thakur India
11:25-11:40	<b>Wm03:</b> Hydrologic Variability: Implications for Local Management in Nepal	Shobha K. Yadav Nepal
11:40-11:55	<b>Wm04:</b> Role of Traditional Institutions in Ecosystem Service Management. A Study From Upper Mustang, Nepal	Prem S. Chapagain Nepal
11:55-12:10	<b>Wm05:</b> Climate Change Impacts and Adaptation Practices in Water Resources in Salyantar, Central Nepal	Reshu Bashyal Nepal
12:10-12:25	<b>Wm06:</b> Understanding migration and its impact on livelihood of the households: Examples from Dhakarjhong and Phalyak Villages of Upper Kaligandaki Basin	Praju Gurung Nepal
12:25-12:30	Concluding Remarks by Session Chair	
12:30-13:30 <b>LUNCH BREAK</b>		
13:30-14:30 <b>POSTER SESSION</b>		
<b>Session III: Climate Change and Cryosphere</b>		
<b>Chair: Prof. Hiroji Fushimi</b>		
<b>Time</b>	<b>Abstract ID: Title</b>	<b>Presenter/Country</b>
14:30-14:45	<b>Cc01:</b> Contrasted surface mass balances of debris-free glaciers observed between the southern and the inner parts of the Everest region (2007-2015)	Michel Esteves France
14:45-15:00	<b>Cc02:</b> Himalayan ponds: Indicators of glacier melting and precipitation trends	Sudeep Thakuri Nepal
15:00-15:15	<b>Cc03:</b> Improved glacier melt model in SWAT	Sabin Maharjan Nepal
15:15-15:30	<b>Cc04:</b> Modelled Surface ablation and Future Response of the Debris-Covered Himalayan Glaciers towards Changing Climate: A case study of the Chorabari Glacier, Central Himalaya, India	Kapil Kesarwani India
15:30-15:35	Closing Remarks by Session Chair	
15:35– 16:00 <b>TEA BREAK</b>		
<b>Session V: Mountain Hydrology and Hydrological Modeling</b>		
<b>Chair: Dr. Dilip Kumar Gautam</b>		
16:00-16:15	<b>Invited Speaker: Prof. Dr. Ramesh Kumar Maskey</b> <i>Associate Dean, Kathmandu University, Nepal</i> Title "A Novel Approach for Determining Environmental Flow: The Case of Gandaki River Basin in Nepal"	
<b>Time</b>	<b>Abstract ID: Title</b>	<b>Presenter/Country</b>
16:15-16:30	<b>Mh01:</b> Water balance estimation of a large mountain lake with a coupled model: application to Issyk Kul Lake (Kyrgyzstan, Central Asia)	Francois Delclaux France
16:30-16:45	<b>Mh02:</b> Water balance assessment of the Gandaki river basin by applying the J2000 hydrological model	Santosh Nepal Nepal
16:45-17:00	<b>Mh03:</b> Assessment of hydrologic components of a high altitude glacierized catchment in the Nepalese Himalaya	Michel Esteves France
17:00-17:15	<b>Mh04:</b> A hydrological similarity framework based on Budyko theory for applications in China	Shanshan Xu China
17:15-17:30	<b>Mh05:</b> Evaluation TRMM rainfall data in hydrological modeling for an ungaged in Lhasa river basin	Haijuan Ji China
17:30-17:35	Concluding Remarks by Session Chair	
18:00-20:00 <b>DINNER</b>		



<b>Day 1: 10 April 2017 , Monday</b>		<b>PARALLEL SESSION</b>
<b>Session II: Cryospheric Changes and its Impacts on Water Resource, CHARIS I</b>		<b>Room 2:Dhukhu</b>
<b>Chair: Dr. Madan Lal Shrestha</b>		
10:35-10:55	<b>Invited Speaker: Dr. Richard L. Armstrong</b> <i>Senior Research Scientist, Cooperative Institute for Research in Environment Sciences, University of Colorado</i> Title "The CHARIS Project-A Collaborative Effort to Assess the Role of Glaciers and Seasonal Snow Cover in the Hydrology of the Mountains of High Asia"	
<b>Time</b>	<b>Abstract ID: Title</b>	<b>Presenter/Country</b>
10:55-11:10	<b>Ch01:</b> Enhancing spatial resolution with image reconstruction: a newly-reprocessed, global historical passive microwave record and preliminary applications to estimate melt onset	Mary J. Brodzik USA
11:10-11:25	<b>Ch02:</b> Water Resources of Afghanistan and it's climate change impact	Md. N. Eqrar Afghanistan
11:25-11:40	<b>Ch03:</b> Relationship between proglacial stream discharge and meteorology in Chhota Shigri Glacier catchment, Indian Himalaya	AL. Ramanathan India
11:40-11:55	<b>Ch04:</b> Glacier Data: GLIMS, RGI, and other databases	Bruce Raup USA
11:55-12:10	<b>Ch05:</b> Assessment of Evolution of Mountain Lakes and Risks of Glacier Lake Outbursts in the Djungarskiy Alatau, Central Asia, using Landsat Imagery and Glacier Bed Topography (GlabTop2) Model	Vassiliy Kapitsa Kazakhstan
12:10-12:25	<b>Ch06:</b> Climate Change Induced Hazards: An emerging challenge in the Mountain Ecosystem-A case study of Himachal Pradesh, NW Himalaya, India	Shruti Singh India
12:25-12:30	Concluding Remarks by Session Chair	
12:30-13:30 <b>LUNCH BREAK</b>		
13:30-14:30: <b>POSTER SESSION</b>		
<b>Session IV: Cryospheric changes and its Impact on Water Resource, CHARIS-II</b>		
<b>Chair: Dr. Bruce Raup</b>		
<b>Time</b>	<b>Abstract ID: Title</b>	<b>Presenter/Country</b>
14:30-14:45	<b>Ch07:</b> Question of permafrost zone thaw at high altitude above glacier's accumulation zone in Gilgit Baltistan	Haleem Z. Magsi Pakistan
14:45-15:00	<b>Ch08:</b> Glacio-hydrological processes in Shaune Garang basin, Western Himalaya	Rajesh Kumar India
15:00-15:15	<b>Ch09:</b> Hydrology and hydrochemistry of the Vakhsh River and its tributaries	Parviz Normatov Tajikistan
15:15-15:30	<b>Ch10:</b> Micro-meteorological variability in different elevation zones of Chhota Shigri Glacier, India: an analysis of three in situ stations during the summer season 2015	Arindan Mandal India
15:30-15:35	Concluding Remarks by Session Chair	
15:35 – 16: 00 <b>TEA BREAK</b>		
<b>Session VI: Cryospheric changes and its Impact on Water Resource, CHARIS-III</b>		
<b>Chair: Dr. Rijan Bhakta Kayastha</b>		
<b>Time</b>	<b>Abstract ID: Title</b>	<b>Presenter/Country</b>
16:00-16:15	<b>Ch11:</b> An Artificial Intelligence Approach for Flow Volume Modeling of Indus River at Tarbela Reservoir	Mian W. A. Shah Pakistan
16:15-16:30	<b>Ch12:</b> The monitoring of meteorological conditions of the formation area of the Transboundary Pyanj River	Parviz Normatov Tajikistan
16:30-16:45	<b>Ch13:</b> Glacial component in the rivers runoff of Balkhash–Alakol basin	Larissa Kogutenko Kazakhstan
16:45-16:50	Concluding Remarks by Session Chair	
18:00-20:00 <b>DINNER</b>		



Day 2: Tuesday, 11 April 2017		TECHNICAL SESSION
<b>Session VII: Water and Climate Change-KCRE,CAS-TU</b>		<b>Room 1: Nepal</b>
<b>Chair: Prof. Fan Zhang</b>		
Time	Abstract ID: Title	Presenter/Country
9:00- 9:15	<b>Kc01:</b> Kathmandu Centre for Research and Education, Chinese Academy of Science-TU: Research and Activities in Nepal	Fan Zhang China
9:15- 9:30	<b>Kc02:</b> Estimation of discharge using temperature index melt model in Modi River basin, Kaski, Nepal	Smrita Acharya Nepal
9:30-9:45	<b>Kc03:</b> Impact of Climate Change on Snow melt in Marshyangdi River Basin of Nepal	Anita Tuitui Nepal
9:45-10:00	<b>Kc04:</b> Evaluation of GPM/TRMM satellite rainfall estimates over Nepal	Bikas Nepal Nepal
10:00-10:15	<b>Kc05:</b> Distribution of Vascular Plants along Subalpine-Alpine Gradient in Manang, Central Nepal and their Fate against Climate Change	Pratikshya Chalise Nepal
10:15- 10:20	Concluding Remarks by Session Chair	
10:20-11:00 <b>TEA BREAK</b>		
<b>Session IX: Mountain Meteorology and Climate I</b>		
<b>Chair: Prof. Dr. Lochan Prasad Devkota</b>		
11:00-11:20	<b>Invited Speaker: Prof. Fan Zhang</b> <i>Professor, Key Laboratory of Tibetan Environment Changes and Land Surface Processes, Institute of Tibetan Plateau Research, Chinese Academy of Sciences, Beijing, China</i> Title “Air temperature estimation using MODIS LST for snowmelt modeling in the Tibetan Plateau”	
11:20-11:35	<b>Mc01:</b> Simulation of the Composite Structure of Monsoon Depression over the Bay of Bengal using a Complete Environmental Modeling System (EMS) of WRF Model	Md. A. K. Mallik Bangladesh
11:35-11:50	<b>Mc02:</b> Characterizing hydro-climatic systems at the local scale to reduce uncertainties. Application to the Dudh Koshi River basin, Nepal	Francois Delclaux France
11:50-12:05	<b>Mc03:</b> Synoptic study of tropical cyclone: a case study of Hudhud cyclone in Nepal	Bibhuti Pokhrel Nepal
12:05-12:20	<b>Mc04:</b> Estimation of the error of track of the tropical cyclones of the Bay of Bengal using high resolution ARW model	Md. A E Akhter Bangladesh
12:20-12:25	Concluding Remarks by Session Chair	
12:40-13:30 <b>LUNCH BREAK</b>		
<b>Session XI: Mountain Meteorology and Climate II</b>		
<b>Chair: Mani Ratna Shakya</b>		
Time	Abstract ID: Title	Presenter/Country
13:30-13:45	<b>Mc06:</b> Accuracy of Satellite-based Rainfall Estimates in Small Mountain Catchments: Case Study in Khudi Khola, Nepal	Mandira S. Shrestha Nepal
13:45-14:00	<b>Mc07:</b> Recent changes of precipitation over Bangladesh and it's response to Southern Oscillation Index (SOI) and Indian Ocean Dipole (IOD)	Khadija Khatun Bangladesh
14:00-14:15	<b>Mc08:</b> Runoff response to climate change	Shiva G. Shrestha Nepal
14:15-14:30	<b>Mc09:</b> Field investigation on the role of slope on infiltration over pasture surface with temperature variation	Lohit Jain India
14:30-14:45	<b>Mc10:</b> Current climate trends and future climate of Nepal	Dibesh Shrestha Nepal
14:45-14:50	Concluding Remarks by Session Chair	
14:50 -15:15 <b>TEA BREAK</b>		
<b>Session XIII: Hydro-geochemistry</b>		
<b>Chair: Prof. AL. Ramanathan</b>		
Time	Abstract ID: Title	Presenter/Country
15:15-15:30	<b>Hg01:</b> Geomorphic-based models for predicting the spatial distribution of soil thickness in headwater hillslopes and the framework for model parameterization	Jintao Liu China
15:30-15:45	<b>Hg02:</b> Atmospheric Deposition of Nitrogen and Phosphorus in Ganges Basin (India): Integrating Atmosphere-Land-Water Components to Uncover Cross-Domain Carbon Linkages in Ganga River	Jitendra Pandey India
15:45-16:00	<b>Hg03:</b> An investigation of the relationship between meteorological elements and the variation of ion concentration in snowpack : as an example of Ürümqi Glacier No. 1	You Xiaoni China



	in eastern Tianshan	
16:00-16:15	<b>Hg04:</b> Forests and water: insights from Chittagong Hill Tracts, Bangladesh	Laskar M. Rahman Bangladesh
16:15-16:20	Concluding Remarks by Session Chair	
16:50-16:30	<b>CLOSING SESSION</b>	<b>Room: Nepal Dhuku</b>

**Day 2: Tuesday, 11 April 2017** **PARALLEL SESSION**

**Session VIII: Mid-Latitude Session on “Water-Food-Ecosystem Resilience in Mid-Latitude Zone” (Expert Committee)** **Room 2: Dhuku**

**Chair: Dr. Sonam Wang, Bhutan Institute for Himalayan Studies**

9:00-9:20 **Invited Speaker: Prof. Woo-Kyun Lee**  
*Professor, Korea University, Korea*  
Title “Different Ecosystem services on Land Degradation-Restoration-Sustainability in Mid-Latitude Ecotone”

Time	Abstract ID: Title	Presenter/Country
9:20- 9:40	<b>MI01:</b> Building Climate Resilience of Urban Systems through Ecosystem Based Adaptation (EbA) in high altitude city of Thimphu Bhutan: An assessment of vulnerabilities/impacts and needs	Sonam W. Wang Bhutan
9:40- 10:00	<b>MI02:</b> Forest and Watershed Management Projects with Enhanced Food Security under the Forest and Landscape Restoration Mechanism in the Mid-Latitude Region	Yowhan SON Korea
10:00-10:20	<b>MI03:</b> Determining environmental flows of the Gandaki River basin, Nepal: hydrological aspect	Rijan B. Kayastha Nepal
10:20-10:25	Concluding Remarks by Session Chair	

10:25-11:00 **TEA BREAK**

**Session X: Mid-Latitude Session on “Water-Food-Ecosystem Resilience in Mid-Latitude Zone” (Young Scholars Committee)**

**Chair: Prof. Yowhan SON, Korea University, Dr. Sonam Wang, Korea University**

Time	Abstract ID: Title	Presenter/Country
11:00-11:15	<b>MI04:</b> Expert Group Meeting on Achieving the Sustainable Development Goals with Water-Food-Ecosystem Resilience in the Mid-Latitude Region (MLR)	Wona Lee Korea
11:15-11:30	<b>MI05:</b> Impact of Reforestation on Soil Erosion in Mountain Regions – Case Study from Republic of Korea	Gang Sun Kim Korea
11:30-11:45	<b>MI06:</b> Evaluation of Spatial Distribution of Water Yield Service based on Precipitation and Population in South Korea	Soo Jeong Lee Korea
11:45-12:00	<b>MI07:</b> Comparison of hydrological regime in Marsyangdi River basin, Nepal and Chandra River basin, India using Modified Positive Degree Day Model	Aniket Gupta India
12:00-12:15	<b>MI08:</b> Piloting the FBDC Model to Estimate Forest Carbon Dynamics in Bhutan	Nim Dorji Bhutan
12:15-12:30	<b>MI09:</b> Geomorphological mapping of the lower part of Ponkar Glacier and sediment load study of the Dudh Khola, Manang, Nepal	Ajit Sapkota Nepal
12:30-12:35	Concluding Remarks by Session Chair	

12:35-13:30 **LUNCH BREAK**

**Session XII: Climate Variability and Climate Change**

**Chair: Prof. Rupak Rajbhandari**

Time	Abstract ID: Title	Presenter/Country
13:30-13:45	<b>Cc01:</b> An Analysis of Climate Variability and Change in Liangshan Mountain Region, Southwest China	Vishwambhar P. Sati India
13:45-14:00	<b>Cc02:</b> Recent temperature trends analysis of Nepal	Tirtha R. Adhikari Nepal
14:00-14:15	<b>Cc03:</b> Assessment of precipitation trend over Nepal using gauge-based high-resolution gridded rainfall data	Devesh Koirala Nepal
14:15-14:30	<b>Cc04:</b> Variability and trends in daily precipitation extremes on the northern and southern slopes of the central Himalaya	Madan Sigdel Nepal
14:30-14:45	<b>Cc05:</b> Understanding climatic variability and its impact on hydrology of Karnali river basin, Nepal Himalaya using J2000 hydrological model	Kabi R. Khatiwada Nepal



14:45-14:50	Concluding Remarks by Session Chair	
14:50– 15:15 <b>TEA BREAK</b>		
<b>Session XIV: Disaster Risk Reduction</b>		
<b>Chair: Dr. Rishi Ram Sharma</b>		
15:15-15:35	<b>Invited Speaker: Prof. Hiroji Fushimi</b> <i>Professor, Kathmandu University, Nepal</i> Title “GLOF characteristics of Nepal Himalaya”	
<b>Time</b>	<b>Abstract ID: Title</b>	<b>Presenter/Country</b>
15:35-15:50	<b>Dr01:</b> Improving Performance of Flood Forecasting Model Using Complementary Error Model	Dilip K. Gautam Nepal
15:50-16:05	<b>Dr02:</b> Development of Flood Forecasting Model for Narayani River Basin, Nepal	Binod Parajuli Nepal
16:05-16:20	<b>Dr03:</b> Assessment of alternative storm water capture measures for managing urban runoff in changing climate	Binaya K. Mishra Nepal
16:20-16:35	<b>Dr04:</b> Case study of a Severe Thunderstorm: 01 May 2014	Kh. Hafizur Rahman Bangladesh
16:35-16:40	Concluding Remarks by Session Chair	
16:40-17:30	<b>CLOSING SESSION</b>	<b>Room: Nepal Dhuku</b>



Day 1: 10 April 2017, Monday		POSTER SESSION
S.N.	Abstract ID: Title	Presenter/Country
1	<b>P-Cc05:</b> Morphological factors controlling changes in mass balance, surface area, terminus, and snow line altitude of Himalayan glaciers	Sudeep Thakuri Nepal
2	<b>P-Cc06:</b> Snow: An important component of cryosphere in the Tibetan Plateau	Sahadeep Thapa Nepal
3	<b>P-Ch14:</b> The features of changes of air temperature in the geo unit plains-mountains in Central Asia	Alexander Yegorov Kazakhstan
4	<b>P-Ch15:</b> Glacier degradation in Chinese Tien-Shan Mountains for the last half century on the example of Koksu and Kunes rivers	Larissa Kogutenko China
5	<b>P-Ch16:</b> Glacier degradation in the Pskem and Chatkal river basins (Western Tien-Shan)	Alexander Yegorov Kazakhstan
6	<b>P-Ch17:</b> Water stable isotopes in the lower Chamkhar Chhu (River) basin of the central Bhutan, Eastern Himalaya	Dendup Tsering Bhutan
7	<b>P-Ch18:</b> Using hydrochemistry and isotopic tracers to clarify meltwater influence to water supplies at a basin scale: techniques and challenges	Alice Hill USA
8	<b>P-Hg05:</b> Revised estimate of sediment yield of the upper Koshi Basin in Nepal	Sudish L. Maskey Nepal
9	<b>P-Mh07:</b> Stream Discharge Response to Climate Change and Land Use Change in Tamor Basin, Nepal	Sumitra K.C. Nepal
10	<b>P-Wm07:</b> Adaptive governance of mountain ecosystem services through citizen Science: A case of participatory monitoring of water resources in Mustang District, Nepal	Santosh Regmi Nepal
11	<b>P-Mh06:</b> Hydrological Modeling and Climate Change Impact Assessment using HBV-Light Model: A Case Study of Karnali River Basin of Nepal	Sagar Shiwakoti Nepal
12	<b>P-Mc10:</b> Daily adjustment for the wind-induced precipitation under catch of daily gridded precipitation in Japan	Minami Masuda Japan
13	<b>P-Wm08:</b> Climate Change, Out-Migration and Women Drudgery : A Case study of Khul Gad Watershed from Kumaun Himalaya	Suman Singh India
14	<b>P-Hg06:</b> Constraining the release of dissolved organic carbon from mountain glaciers	Xiangying Li China
15	<b>P-Wm07:</b> Climate change impacts on design of cross drainage works on canal done by government of Maharashtra	Sonali Patil India
16	<b>P-Dr05:</b> ENSO induced extreme rainfall events and associated landslide occurrences in Nepal	Uttam Paudel Nepal