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Society of Hydrologists and Meteorologists-Nepal
(SOHAM-Nepal)
G.P.O Box 11444

Annual General Assembly

The 12th annual general assembly of SOHAM-Nepal was held in Kathmandu on 6th October, 2013 at Indreni Complex, Naya Baneshwor. The programme was chaired by Mr. Jagat Kumar. Bhushal, Chairperson of the Society and welcomed by Mr. Gautam Rajkarnikar, Vice Chairperson of the Society. Annual progress reports (F/Y 2069/070) with the programme for the next year (F/Y 2070/71) and financial report were presented by Mr. Deepak Paudel, General Secretary and Mr. Santosh Regmi, Treasurer of the Society respectively. Amendment constitution (draft) of the society was also presented by Mr. Suresh Marahatta, Coordinator of the Bidhan Sansodhan Samiti in the meeting. The drafted amendment constitution was endorsed by the meeting with key suggestions.

WWD and WMO Day Celebration

Every year, March 22 and March 23 is celebrated as a World Water Day (WWD) and World Meteorological Day (WMO day) respectively. On the occasion, various programme were also organized by declaring Water Week to mark the World Water Day.

WMO Day 2014 on the theme "Weather and climate: engaging youth" was organized by Department of Hydrology

and Meteorology (DHM) in collaboration with SOHAM-Nepal in Dharan on 23rd March. Mr. Bhakta Lal Manandhar, Life Members of the Society, Prof. Dr. Lochan Prasad Devkota, Life Members of the Society and Mr. Shiva Prasad Nepal, Life Members of the Society presented a papers on the "Hydro-meteorological services in Nepal and role of youths", "Climate Change" and "the existing weather forecasting system in Nepal" respectively. Department of Meteorology (DOM) and Student Organization of Meteorology (SOM) also jointly organized a half-day programme on 23rd March, 2014 in the premise of Tri-Chandra Campus.

ESPA Research Programme

The three years research programme on "Adaptive Governance of Mountain Ecosystem Services for Poverty Alleviation (ESPA) Enabled by Environmental Virtual Observatories-(Mountain EVO)" is being implemented by the Society from January 2014 with the support of Natural Environment Research Council (NERC) Ecosystem Services for Poverty Alleviation (ESPA) under the leadership of Imperial College London, United Kingdom (UK). The objective of the programme is to improve decision-making on Ecosystem Services (ESS) for poverty alleviation in Upper Kali-gandaki Basin, Mustang, Nepal. SOHAM Nepal, Department of Hydrology and Meteorology (DHM), District Development Committee (DDC) Mustang and UNESCO International Hydrological Programme (IHP) are the partners of the programme.

A kick-off meeting was held 20- 27January, 2014 at Imperial College, London United Kingdom (UK). Deepak Paudel, Keshav P. Sharma and Jagat Kumar Bhusal, Investigators of the research programme participated in the meeting. The objective of the meeting was to review the methodology of the research and share the mutual opportunity of the possible outcome of the programme. All the investigators presented the paper on their respective research areas in the meeting. Mr. Deepak Paudel, Investigator of the programme also attended the sharing meeting in Kyrgyzstan in April, 2014.

Two researchers one from Natural Science and one from Social Science were recruited for full time research work for the programme. Field visits in November/December and in June were made by the study team of Nepal case and central team-London along with DHM representative. The objective of the visit was to overview the general situation of the study area and to organize a district and village level workshops.

The International Conference

The "International Conference on Climate Change, Water Resources and Disasters in Mountainous Regions: Building

Resilience to Changing Climate”, which took place from 27-29 November 2013 at Everest Hotel, New Baneshwor, Kathmandu, Nepal was successfully organized jointly by the Society of Hydrologists and Meteorologists Nepal (SOHAM-Nepal), Department of Hydrology and Meteorology (DHM), Government of Nepal, and United Nation Educational, Scientific and Cultural Organization International Hydrological Programme - Nepal (UNESCO IHP-Nepal), in association with the International Association of Hydrological Sciences (IAHS), International Water Management Institute (IWMI), Central Department of Hydrology and Meteorology Tribhuvan University, Department of Irrigation/Adaptation to Global Change in Agricultural Practices (DoI/AGloCAP), Nepal Development Research Institute (NDRI), Feed the Future Innovation Labs, Colorado University, United State and United Nation Development Programme (UNDP) with the support of International Center for Integrated Mountain Development (ICIMOD), Kathmandu University, Practical Action, OXFAM, Real Time Solution, World Wildlife Fund (WWF),



The conference commenced with the inaugural ceremony by watering a plant by Hon'ble Parmanand Jha, Vice President of Nepal, who graced the opening ceremony as the Chief Guest. The conference was chaired by Mr. Jagat Kumar Bhusal, Chairperson of SOHAM-Nepal. Hon'ble Minister Uma Kanta Jha, Ministry of Science Technology and Environment, Secretary Dr. Som Lal Subedi of Ministry of Science Technology and Environment and Dr. Axel Plathe from UNESCO put their special remarks in the opening session. The opening continued with key note speeches, interactive presentations, discussions, and briefings on topics of interest to the future environment. It concluded with Kathmandu declaration followed by the closing ceremony. Vote of thanks was delivered by Mr. Deepak Paudel, Member Secretary of the Conference.

The event brought together some 275 professional scientists, young researchers, students, and key officials from almost 25 countries to discuss and share ideas on latest research findings and to address current and future climate change challenges particularly in mountainous regions. Several invited keynote speeches were delivered by distinguished scientists from renowned universities and institutions on pertinent issues,

such as opportunities for high mountain research within a new decade of research by Gordon Young, challenges related to global changes and water resources by Stefan Uhlenbrook, South Asian Monsoon systems by Robert Gillies, water security in the Asian Pacific region by Shabaz Khan, climate change insights from IPCC 5th assessment report by Kirk Smith, contribution to high Asian runoff from ice and snow by Richard Armstrong, and overview of 7th world water forum by Soontak Lee. Further 73 scientific papers focused mainly on the mountainous regions extended geographically from Iran to China. These papers focused on climate variability and changes, water resources management, flood, drought, food security, river basin modelling, land degradation, hazards, disaster risk reduction, changes in cryosphere and its impacts on water resources. This conference provided a valuable



networking opportunity and set the stage for further cooperation among government and non-governmental organizations in Nepal and beyond, including developed and developing countries.

Media Sensitization Workshop

SOHAM NEPAL jointly with Kathmandu University (KU) organized a workshop entitled “*Media Sensitization on Hydrology and Meteorology*” at Kathmandu University, Dhulikhel on 23rd March on the occasion of World Meteorological Day and World Water Day 2014.

Eight papers were presented in the three technical sessions. The key papers such as Hydrology, water resources, data and information and livelihood by Keshav Pd. Sharma; Weather forecasting and aviation by Rajendra Pd. Shrestha ; Monsoon and western disturbance by Mani Ratna Shakya; Basic of snow, glacier and climate change by Rijan Bhakta Kayastha; Climatology and climate change by Mani Ratna Shakya; Application of meteorology in development issue by Janak Lal Nayava, by Hydrological aspects and hydropower by Jagat Bhusal; Weather Forecast and Role of Media by Raju Pradhananga; Hydro-meteorological disaster and media by Deepak Paudel; Hydro- meteorological instrumentation and measurement were respectively by Santosh Regmi. About 30 participants including 15 from Media person and 15 from SOHAM Members along with University staffs were participated in the programme.

The outcome of the programme was to promote the effective communication of the use of hydrological and meteorological services to the end users through media tools and the related experts in the country. Several detail and specific sensitization training programs were recommended by the participant in the days to come by active collaboration of the society and media agencies.

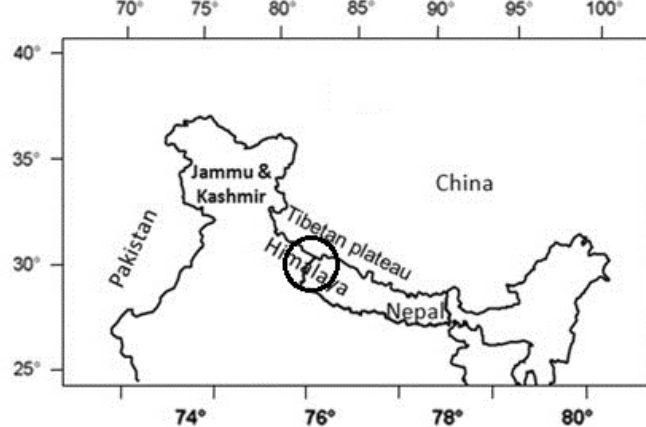
Talk Programme

- A talk on “Ground Water Governance” in Nepal was delivered by Prof Prem Chandra Jha (Ph.D.), Life Member of the Society on 9th January 2013 at Advance College of Engineering and Management, Kupandole, Lalitpur. Prof. Jha emphasized the needs of polices and legislation of groundwater and their effective implementation in the country. Investigation and research on ground water is essential for its development. About 35 participants from different agencies such as university, society members and government and non-government etc participated in the talk programme.
- A talk on “Atmospheric Aerosols: Observations at a high altitude station and a chemical transport modeling results from the Nepal Himalayas” was delivered by Mr. Bhupesh Adhikary(Ph.D.), Researcher, Ev-K2-CNR Committee, Italy on 19th February, 2013 at Meeting Hall, Ground Water Development Committee, Babar Mahal, Kathmandu. The talk highlighted the modeling framework, modeled case studies illustrating sectorial and regional contribution to the aerosol loading over the Himalayan region.
- A talk program on "Spatio-temporal variation of rainfall over the central Himalayan region revealed by TRMM Precipitation Radar" was organized by SOHAM Nepal on 20th September, 2013. Dr. Divas Shrestha, a life member of SOHAM-Nepal presented his paper based on his Ph.D. Thesis The talk program was organized in Meeting Hall, Ground Water Development Committee, Babar Mahal, Kathmandu. More than 30 participants from different organization participated in the program.

Lesson Learned from the Flash floods of 17th June 2013

Most of the districts of far west region of Nepal mainly Darchula, Dadeldhura districts of Nepal and Uttarakhanda of India experienced very heavy rainfall during the period from 16 to 18 June 2013. This rainfall resulted in severe flooding and landslides in many areas of the region, most notably in the Nepal India border along the river Mahakali.

Several stations of western Nepal reported exceptionally high rainfall records during 17th and 18th June 2013. The heaviest rainfall was reported during the 24 hours to 8:45am on 18th June with the highest fall being 186.3 mm at Dipayal. Uttarakhanda, neighboring state of India also received unusual heavy rainfall mainly during 15-17th June.



Date	Dadeldhura	Dipayal	Dhangadhi	Surkhet	Nepalgunj	Dehradun	Uttarakashi	Mukteshwar
15	1.6	0	0.6	2.7	3	220	130	
16	7.8	3.7	1.2	1.8	0	370	210	240
17	104.4	67.8	92.6	60.1	71.4			180
18	167.7	186.3	93.6	98.7	42			
19	18.5	5.7	3.6	8.6	1.1			
20	0.2	0.5	46.3	8.6	0.5			

Table 1 Highest daily rainfall totals in 24 hours (mm)

Unusual heavy downpour caused huge loss of lives and properties during that period. The fury of the flash floods caused serious damages to the roads, bridges, hospitals and settlements. In the Uttarakhanda of India alone, more than one thousand people were killed and an equal number were reported missing by the Indian media. Nepal government also declared that some five thousand Nepalese were affected by the heavy downpour and the subsequent floods and landslides. Community based early warning system is required in the basin for better response plans.

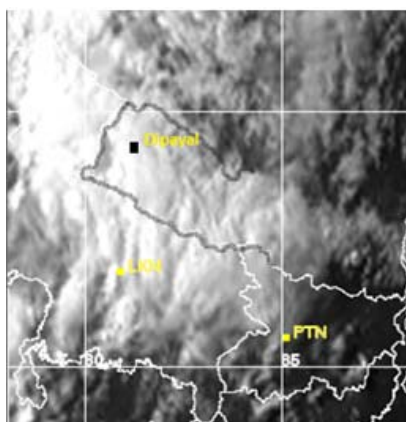


Figure: INSAT-3A Sat. Imagery 17/06/2013/04:45 PM NST (Contributor: Mr. Rajendra P. Shrestha,

Life Member of the Society)

2014 Monsoon Forecast

This year monsoon rainfall will be near normal to below normal in Nepal. Below-normal to normal rainfall is most likely during the 2014 summer monsoon season (June – September) over south Asia as a whole. Below-normal rainfall is likely over broad areas of western, central and southwestern parts of South Asia and some areas in the northeastern-most parts of the region. This statement was released during the fifth meeting of South Asian Climate Outlook Forum (SASCOF-5) held on 14-23 April 2014 in Pune, India.

This consensus outlook for the 2014 southwest monsoon rainfall over South Asia has been developed through an expert

assessment of the prevailing global climate conditions and forecasts from different climate models from around the world. There is strong consensus among the experts about the possibility of evolution of an El Niño event during the summer monsoon season.

The arrival of monsoon this year in eastern Nepal was delayed by 10 days against the normal onset date (10th June). Due to weak surge of monsoon, most part of the country received below normal rainfall in June.

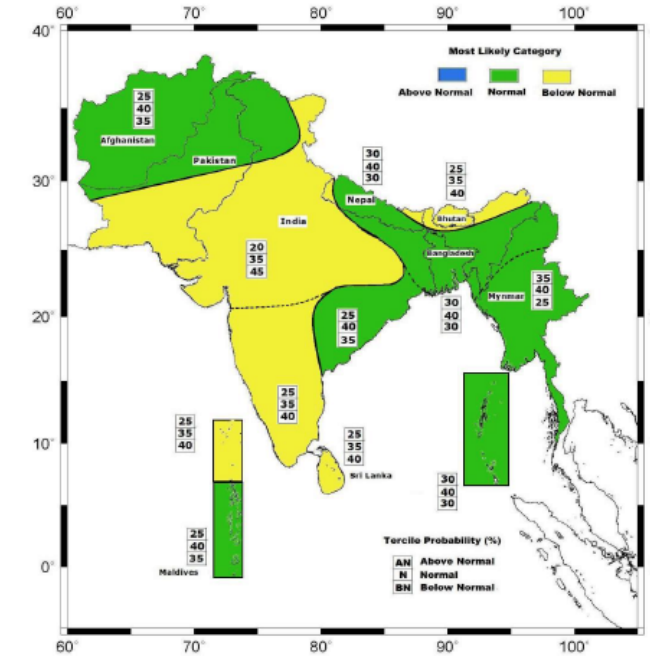
The programme was followed by the technical session with the presentation of five technical papers highlighting 2013 and 2014 monsoon forecast and its status. Similarly, sectoral experience in agriculture, disaster management and aviation were also shared from the representatives of respected institutions. A press conference was also organized at the end of the programme. The programme was sponsored by RIMES (Regional Integrated Multi-hazard Early Warning System) and SMRC (SAARC Meteorological Research Centre).

Some Useful Links

- www.dhm.gov.np
- www.mfd.gov.np
- <http://hydrology.gov.np>
- www.moste.gov.np
- www.nast.gov.np
- www.wmo.int
- www.ipcc.ch
- www.icimod.org
- www.iahs.info

Congratulation

SOHAM-Nepal congratulates following member personalities for the successfully completion of Ph.D. degree in the year of 2013.



As presented in the figure above (SASCOF-5 forecast), most part of the region of the country is likely to receive normal precipitation.

Launching New website



A new website (www.mfd.gov.np) of Meteorological Forecasting Division of Department of Hydrology and Meteorology (DHM) was launched by Mr. Krishna Chandra Poudel, Secretary, Ministry of Science,

Technology and Environment (MOSTE) during the workshop Monsoon Forum on 25th May in Kathmandu.

The weather information in the website has been presented into new outlook with interactive format utilizing the information technology. Satellite image auto update, city forecast of five development regions, weather information display for 15 places in the form of weather icon and climatological information are included in the website.

- Dr. Tek Bahadur Chhetri, Reader, Tribhuvan University - "Study of stable isotopes in precipitation on the southern slope of Himalayas" - Institute of Tibetan Plateau Research, University of Chinese Academy of Science, China.
- Dr. Binod Dawadi, Lecturer, Tribhuvan University - "Variations of pre-monsoon precipitation derived from tree rings in the central Himalayas" - Institute of Tibetan Plateau Research, University of Chinese Academy of Science, China .
- Dr. Dambaru Ballab Kattel - "Characteristics and mechanisms of the surface-air-temperature lapse rate between northern and southern slopes of the Himalayas" - Institute of Tibetan Plateau Research, University of Chinese Academy of Science, China.
- Dr. Dibas Shrestha - "Study of the Precipitation Characteristics around Mountainous Regions in South Asia and South America" - Nagoya University, Nagoya, Japan.
- Dr Shakti P C - "Estimating rainfall amounts in mountainous regions using X-band dual polarization radar" - University of Tsukuba, Japan
- Dr. Yam Prasad Dhital - "Study on the Flood Hydrology of Bagmati River Basin, Nepal" - Department of Environmental Science and Engineering, School of Science, Kathmandu University, Nepal.

Chief Editor: Suman Kumar Regmi Editor: Binod Parajuli
Society of Hydrologists and Meteorologists-Nepal (SOHAM-Nepal) ,
G.P.O Box 11444, Tel/Fax: 977-1-4105029
 New Baneshwor, Kathmandu
Email: info@soham.org.np; soham_npl@yahoo.com
www.soham.org.np