

Developing Hydro-Climate Services for Water Security: Agenda November 2016

Dates: 29 November 2016 - 1 December 2016

Location: Indian Institute of Tropical Meteorology, Pune, India

Convenors: CEH and IITM

Day 1 – Tuesday 29 November

Time	Agenda item
09:00 – 09:30	Arrival and Registration (Venue: Varahamihir Hall) Refreshments – Tea / coffee
09:30 – 11:00	Welcome Addresses and Launch of the IUKWC <ul style="list-style-type: none"> Welcome and introduction to the IUKWC <i>Dr. A K Sahai (IUKWC Coordinator, IITM)</i> Introduction to the IUKWC aims and functions <i>Dr. Harry Dixon (IUKWC Coordinator, CEH)</i> Research Needs and Opportunities for India – UK Water Science <i>Prof. Alan Jenkins (Deputy Director, CEH)</i> Building resilience to water stress – A joint endeavor <i>Prof. V K Gaur (Distinguished Scientist, CSIR Fourth Paradigm Institute, Bangalore)</i>
11:00 – 11:30	High Tea (Venue: Hall opposite Varahamihir Hall)
	WORKSHOP SESSIONS WILL BE HELD AT ARYABHATTA HALL (ABOVE LIBRARY BLDG)
11:30 – 13:00	Session 1: Introduction to the Workshop and Keynote Presentations <ul style="list-style-type: none"> Introduction to the workshop aims and agenda <i>Dr. Harry Dixon (CEH)</i> <p>Format: 4* 15' talks + 3' questions (18' total per presentation)</p> <ul style="list-style-type: none"> Hydromet forecasts and projections: Some recent applications <i>Prof. Pradeep Mujumdar (IISc Bangalore)</i> Hydro-meteorological inputs for hydrological studies <i>Dr. Sharad K. Jain (NIH, Roorkee)</i> A new initiative of MoES towards developing Hydrological Information System for flood warning <i>Dr. S. C. Kar (NCMRWF, MoES, Govt. of India)</i> Existing Indian flood forecasting methodology <i>Shri. Sunil Kumar (National Water Academy, Pune)</i>
13:00 – 14:00	Lunch (Venue: Meghdoot hall basement area)

14:00 – 15:30	<p>Session 2: Hydro-Climate Science and Services – the Global Agenda</p> <p>Chair: <i>Prof. Alan Jenkins (CEH)</i></p> <p>Format: 3* 25' talks + questions</p> <ul style="list-style-type: none"> • WMO Global Framework for Climate Services <i>Dr. Rupa Kumar Kolli (WMO)</i> • Extended Range Prediction Activities at IITM <i>Dr. A K Sahai (IITM, Pune)</i> • UK Met Office Weather and Climate Science for Service Partnership Programme <i>Dr. Chris Hewitt (Met Office, UK)</i>
15:30 – 16:15	Refreshments (Venue: Hall outside Aryabhata)
16:15 – 17:45	<p>Session 3: Using climate information to inform water management – Recent experiences from the UK and India</p> <p>Chair: <i>Dr. S K Srivastava (National Water Academy, Pune)</i></p> <p>Format: 5* 15' talks + 3' questions (18' total per presentation)</p> <p>Presenters:</p> <ul style="list-style-type: none"> • Qualitative and quantitative RDM for water resources adaptation decision-making under uncertainty <i>Dr. Ajay Bhawe (University of Leeds)</i> • EDgE: a prototype climate service for the water sector in Europe <i>Prof. Christel Prudhomme (CEH)</i> • Past and present evolution of Himalayan glaciers: a regional climate model study <i>Dr. Pankaj Kumar (IISER Bhopal)</i> • Water security in the long durée: Insights for developing hydro-climatic services <i>Dr. Zareen Bharucha (Anglian Ruskin University)</i> • Incorporating climate change impacts in estimating maximum flood level at a project site <i>Dr. Pankaj Mani (National Institute of Hydrology, Roorkee)</i>
17:45	Wrap-up of Day 1 (<i>Harry Dixon</i>)
18:00 – 19:00	Poster Session with refreshments (Venue: Meghdoot hall)
19:00 – 21:00	Workshop Dinner at IITM (Venue: Meghdoot hall basement area)

Day 2 – Wednesday 30 November

Time	Agenda item
08:30 – 09:00	Arrival Refreshments
09:00	Welcome to Day 2 (<i>AK Sahai</i>) (Venue: Aryabhatta Hall, Above Library bldg)
09:00 – 10:30	Session 4: Improving understanding of spatial and temporal variability in Indian hydrology Chair: <i>Prof.V. K. Gaur (CSIR Fourth Paradigm Institute, Bangalore)</i> Format: 5* 15' talks + 3' questions (18' total per presentation) Presenters: <ul style="list-style-type: none"> Operational Hydro-meteorological Services in IMD <i>Dr. A. K. Das (Hydromet Division, India Meteorological Department)</i> Assessing WRF model experiments of precipitation in the Indian-Himalaya <i>Dr.Andrew Orr (British Antarctic Survey)</i> Modeling hydrological changes using multiscale remote sensing in India <i>Prof.SekharMuddu (IISc Bangalore)</i> Highlights on the use of climate services for hydrological modelling in the Indian Himalayas <i>Dr.Andrea Momblanch (Cranfield University)</i> Understanding Land Atmosphere Interactions for Indian Monsoon <i>Dr. Subimal Ghosh (IIT Bombay)</i>
10:30 – 11:30	Poster Session with refreshments (Venue: Meghdoot hall)
11:30 – 13:00	Session 5: Improving understanding of climate process for hydrology Chair: <i>Dr.R. Krishnan (IITM, Pune)</i> Format: 5* 15' talks + 3' questions (18' total per presentation) Presenters: <ul style="list-style-type: none"> The challenge of providing defensible downscaled and bias-corrected climate simulations <i>Dr.Martin Widmann (U of Birmingham)</i> Coupling of aerosol-land-cloud-rainfall system over Gangetic Plains: Observations and modelling analysis <i>Prof.Sachchida Tripathi (IIT Kanpur)</i> LSM-RTM Coupling for Microwave Tb Assimilation over India <i>Dr.Indu J (IIT Bombay)</i> Space Technology Applications in Water Resource Management

	<p><i>Dr.Ravi Prakash Singh (National Remote Sensing Centre)</i></p> <ul style="list-style-type: none"> Rainfall information from NCMRWF Unified Numerical Modeling System <i>Dr.Ashis K. Mitra (NCMRWF, MoES, Govt. of India)</i>
13:00 – 14:00	Lunch (Venue: Meghdoot hall basement area)
14:00 – 15:30	<p>Session 6: Future water resource availability and management</p> <p>Chair: <i>Shri. B. Mukhopadhyay (IMD, Pune)</i></p> <p>Format: 5* 15' talks + 3' questions (18' total per presentation)</p> <p>Presenters:</p> <ul style="list-style-type: none"> Satellites for Hydrology <i>Prof.P. C. Pandey (IIT Bhubaneswar)</i> Interconnecting field level services and researchers for effective hydro-climatic services <i>Dr.Dipanjana Maulik (Dept. of Environment, Govt. of West Bengal)</i> WRF-PDM: Prototype for discharge prediction in ungauged basin <i>Dr.Prashant Srivastava (Institute of Environment and Sustainable Development, BHU)</i> Understanding migration of arsenic in the aquifer of North Bengal plain using numerical modelling: A case study of English Bazar Block, Malda District, West Bengal, India <i>Dr.Surajit Chakraborty (Dept. of Environment Management, IISWBM, Kolkata)</i> Changing monsoon and mid-latitude circulation interactions over the Western Himalayas and possible links to occurrences of extreme precipitation <i>Ms. Priya P. (IITM, Pune)</i>
15:30 – 16:30	Poster Session with refreshments (Venue: Meghdoot hall)
16:30 – 18:00	<p>Session 7: Climate services for disaster risk reduction</p> <p>Chair: <i>Prof.Pradeep Mujumdar (IISc, Bangalore)</i></p> <p>Format: 5* 15' talks + 3' questions (18' total per presentation)</p> <p>Presenters:</p> <ul style="list-style-type: none"> Hydrologic extremes under Climate Change: Non-stationarity and Uncertainty <i>Dr.Arпита Mondal (IIT Bombay)</i> An overview of the effectiveness of early warning systems and risk assessments for weather-related hazards in South Asia <i>Dr.Darren Lumbroso (HR Wallingford)</i> Making Smallholder Farming Climate Resilient <i>Dr.Crispino Lobo (Watershed Organisation Trust, Pune)</i>

	<ul style="list-style-type: none"> Changes in Convective Rainfall in future climates over Western Europe <i>Dr. Alan Gadian (NCAS Leeds)</i> Floods research in the UK: potential application in India <i>Dr. Nick Reynard (CEH)</i>
18:00	Wrap-up of Day 2 (<i>Dr. A K Sahai</i>)
18:00 – 19:15	Cultural Programme (Venue: Meghdoot hall)
19:15 – 21:15	Dinner at IITM hosted by the Director, IITM, Pune (Venue: Meghdoot hall basement area)

Day 3 – Thursday 1 December

Time	Agenda item
08:30 – 09:00	Arrival (Venue: Aryabhata Hall, Above Library Bldg) Refreshments
09:00	Welcome to Day 3 (<i>Dr. Harry Dixon</i>)
09:00 – 10:30	Session 8: Breakout Topic A – Gaps in the Science Facilitators: <i>Anita Jobson (CEH) & Subhadeep Halder (IITM)</i> Format: Breakout groups of around 10-15 people discuss knowledge gaps in the science and data needs. Groups should identify the key areas of need and ideas for how to take them forward.
10:30– 11:00	Refreshments (Venue: Hall outside Aryabhata)
11:00 – 12:30	Session 9: Breakout Topic A – Improving Stakeholder Engagement and Science Capacity Facilitators: <i>Anita Jobson (CEH) & Subhadeep Halder (IITM)</i> Format: Breakout groups of around 10-15 people discuss either: a) how to improve working with end users/stakeholders/policy makers (research translation, problem /solution driven research) or; b) Ideas for how to develop improved joint UK-India scientific capacity in the area of hydro-climatic services (e.g. training/sharing capabilities).
12:30 – 13:30	Lunch (Venue: Meghdoot hall basement area)
13:30 – 15:00	Session 10: Feedback from Breakout Groups Chair: <i>Dr. Harry Dixon (CEH)</i> Format: 10' talks + questions from each breakout group Presenters: Rapporteurs from groups
15:00 – 15:30	Refreshments - Tea / coffee (Venue: Hall outside Aryabhata)
15:30 – 16:00	Session 11: Conclusions Chair: <i>Dr. A K Sahai(IITM)</i> Format: Short presentations giving conclusions from the workshop and next steps
16:00	Close of Meeting

List of Posters

No.	Name of the participant	Poster title
1.	Dr.Shivaraju H.P.	Role of Integrated Water Resource Management (IWRM) System in Water Security at Urban Scenario
2.	Dr. S.G.D. Sridhar	Impact of climate change on water resources in Kiliyar sub-basin of Palar river basin, Tamilnadu, India
3.	Ms.SumanApparusu	Monsoon Forecast Impact Assessment Approach for Indian Agriculture
4.	Dr. Subhadeep Halder	Importance of land surface initialization for hydrological forecasts: An assessment based on CFSv2 simulations
5.	Dr.ShailendraRai	Southern Indian Ocean SST as a Modulator for the progression of Indian summer monsoon
6.	Dr. R. Bhatla	Indian summer monsoon simulation using RegCM-4.3 during different phases of monsoon
7.	Mr.Soundhara Raja Pandian R.	Ensemble-based data-driven models for river flow forecasting
8.	Dr. CKAnoop	Isotope Hydrology
9.	Dr. Kamal Kumar Tanti	An Investigation of Trends and Variability of Rainfall in ShillongCity
10.	Dr.JagdishKrishnaswamy	Increasing civil society capacity to generate and disseminate hydro-climate data and services
11.	Dr.SumitSen	Impacts of ENSO and IOD on the Indian rainfall
12.	Dr.Saravanan K	Development of water balance model for climate impact assessment
13.	Dr.Riddhi Singh	Identifying critical climate and land use change thresholds for watersheds using the bottom-up modelling paradigm: case studies from India and the US
14.	Dr.MilindMujumdar	Cosmic-ray soil moisture probe at IITM Pune
15.	Dr.RajibChattopadhyay	Surface water stress and its probable impact on ground water resource in a changing climate scenario: A study based on CMIP5 models
16.	Dr.Sujata Ray	Building Resilience to Climate Change for Groundwater Resources in India
17.	Dr.HamzaVarikoden	Extreme rainfall events in the northeast regions of India during recent decades
18.	Dr.NayanaDeshpande	Sensitivity Analysis of Potential Evapotranspiration to climate parameters
19.	Dr.Susmitha Joseph	Skill evaluation of Extended Range Forecast on sub-divisional scale over India
20.	Gina Tsarouchi	Coupling a Land Surface Model with a Crop Growth Model to improve ET flux estimations in the Upper Ganges basin, India.
21.	Mr. Andrew McKenzie	Characterising groundwater droughts in the UK
22.	Mr. Andrew McKenzie	Groundwater and hydro-climatic information.
23.	Gina Tsarouchi	Land-use change may exacerbate climate change impacts on water resources in the Ganges basin
24.	Dr. Jayashree Revadekar	Trends and variability in summer monsoon precipitation extremes over India