WATER RESOURCES SYSTEMS DIVISION
NATIONAL INSTITUE OF HYDROLOGY
ROORKEE

Dated: 4th April 2016

Report on the Training Course on Hydrologic Modeling Using RS/GIS with Special Reference to Climate Change during March 28 -31, 2016 at NIH, Roorkee, sponsored by NWM, Ministry of Water Resources, RD, and GR.

A Training Course on "Hydrologic Modeling Using RS/GIS with Special Reference to Climate Change" (sponsored by Ministry of Water Resources, RD & GR, National Water Mission, Govt. of India, New Delhi) was organized during March 28 -31, 2016 at National Institute of Hydrology, Roorkee. The coordinators of the course were Dr. Sharad K Jain and Dr. Sanjay K Jain, Sc. 'G'. A course brochure was sent to a number of institutes and oragnisations and was also uploaded on NIH Web site. In response to this, 50 applications were received and after sorting, total 33 participants were selected. A list of the participants is given in Annexure I. The time table of the course was prepared and in this course lectures and hands on training were given almost equal weightage (Time table attached as Annexure II). Course material in bound form was given to all the participants. The inaugural function of the course was held on 28.03.2016 at 9.30 and it was inaugurated by Director, NIH, Roorkee.

During 28th March to 31st March 2016, experts lectures were delivered by Scientists of NIH, IIRS and NCMRWF/MoES, Noida. Hands on training on ERDAS, Arc GIS and ArcSWAT were organized and all the participants took keen interest in completing the exercises. Manuals of all the training exercise were given to all the participants so that they may use these in future.

A valedictory function was oraganised on 31st March 2016 at 4.00 pm in the Society Hall of NIH, Roorkee. The participants expressed their views on the course and all the participants appreciated the course. All the participants were satisfied with the course contents, and informed that they have learned new techniques. Director, NIH distributed the certificates to all the participants. All the lecture notes and ppt of presentations were provided to all the participants on pen drive. The photos of the course are given in Annexure III.

The main benefit from the course was that 33 of participants including many research scholars were trained on hydrologic modeling and related topics.

LIST OF PARTICIPANTS
Hydrologic Modelling Using RS/GIS with Special Reference to Climate Change
During March 28 – 31, 2016 at NIH, ROORKEE

Sl. No.	Name & Designation	Address
1.	Mr. Amit Kumar	Indian Institute of Technology Roorkee, Roorkee-247667, Uttrakhand Mb: +91-9045939559
2.	Dr. Anjali Singh Rathor	School for Environment Sciences Babashab Bhimrao Ambedkar University, Lucknow
3.	Mr. Rahul Kumar Singh	IIT Roorkee 08126089390
4.	Ms. Shonam Sharma	Indian School of Mines, Dhanbad 7549076137
5.	Ms. Priyamvada Chauhan	Deptt. of Environmental Sc., GBPUAT, Pantnagar Ph. 9837588137
6.	Mr. Ravishankar Kumar	Centre for Environment Science and Technology Central University of Punjab, Bathinda 9988676790
7.	Mr. Prateek Verma	IIT Roorkee 7417796557
8.	Mr. Ayush Chandrakar	IIT Roorkee 9897641523
9.	Mr. Neeraj Kumar	SWLEM, SHIATS, Allahabad
10.	Mr. Jitendra Kumar Chaudhary	Dept. of Computer Science Gurukul Kangri Vishwavidyalaya, Haridwar 9456664447
11.	Mr. Sinan Nizar Ph.D. scholar	Applied Mechanics Department NIT-K, Surathkal 9447120744
12.	Mr. Lalit Pal	SVNIT, Surat E-117, Gajjar Bhavan, SVNIT, Surat, Gujarat-395007 Tel No. : 7567008991
13.	Mr. Sitanshu Sekhar Patra	SHIATS, ALLAHABAD
14.	Mr. Randhir Kumar	-do-
15.	Mr. Amit Anand	RMSI Private Limited Noida 09582000143
16.	Ms. Aliva Nanda	G.B. Pant University of Agriculture & Tech., Pantnagar, U.K.

		8859099289
17.	Ms. Madhusmita Behera	G.B. Pant University of Agriculture & Tech., Pantnagar, U.K.
18.	Mr. Sonam Sandeep Dash	G.B. Pant University of Agriculture & Tech., Pantnagar, U.K. 9045909310
19.	Mr. Amit Kumar Rabha	G.B. Pant University of Agriculture & Tech., Pantnagar, U.K. 8476092042
20.	Mr. PS Negi, Sc.'F'	DRDO, SASE, Chandigarh
21.	Mr. Sanjeev Kumar Bhraria	-do-
22.	Mr. Arjun B M	NCMRWF, MoES Noida
23.	Dr. Nidhi Rawat	Uttarakhand (PG) College of Biomedical Sciences & Hospital, Dehradun 8171093932
24.	Ms. Snigdha Pundir	UCST College Dehradun UCST, Nangal Hatnala Sahastradhara Road Dehradun U.K.
25.	Dr. Sudipta Ramola	UCST, Dehradun Dept. of Env. Science UCST, Dehradun, U.K.
26.	Mr. Partho Protim Mondal	NCMRWF, MoES Noida
27.	Mr. G Arun, JRF	Him-Parivartan Project, RSSG Group Chandigarh
28.	Mr. Vivek Rajbhar	PTLMS College Rishikesh
29.	Mr. Fitsum Tilahun Teshome	BHU, Varanasi , 7052305871
30.	Ms. Kaushila Tinsina	
31.	Ms. Mamta Saxena	IIT Roorkee 08791836034
32.	Mr. Md. Jafri Ahsan	SHIATS, ALLAHABAD 14-B, East Mahewa Agricultural Institute, Allahabad
33.	Ms. Swati Singh Sikarwar	BHU, Varanasi

TRAINING SCHEDULE

Date & Day	Time	Topic	Faculty
DAY 1, March 28 Monday	915 hrs-1030 hrs	Registration & Inauguration	
	1030 hrs-1130 hrs	Introduction to Hydrologic modeling and climate change	Dr. Sharad K Jain, Scientist 'G', NIH
	1130 hrs-1230 hrs	Principles of remote sensing and interpretation of satellite data	Dr. Sanjay K. Jain, Scientist G, NIH
	1230 hrs-1330 hrs	Fundamentals and principles of GIS	Mr. D. S. Rathore, Scientist F, NIH
	1330 hrs- 1430 hrs	Lunch	
	1430 hrs-1530 hrs	Hands on Training RS & GIS Software (ERDAS)	Mr. D S Rathore Mr. L N Thakural Mr. Tanvear Ahmad Ms. Neha Jain
	1530 hrs- 1545 hrs	Tea	
	1545 hrs- 1745 hrs	Hands on Training RS & GIS Software (ERDAS)	Mr. D S Rathore Mr. L N Thakural Mr. Tanvear Ahmad Ms. Neha Jain
DAY 2, March 29 Tuesday	915 hrs-1015 hrs	Role of remote sensing/ GIS in hydrological modeling	Dr. Sanjay K Jain, Scientist 'G', NIH
	1015 hrs- 1115 hrs	Rainfall runoff modeling including calibration/validation	Dr. Sharad K Jain Scientist G, NIH
	1115 hrs-1130 hrs	Tea	
	1130 hrs-1230 hrs	Trend Analysis	Dr. Sharad K Jain, Scientist 'G', NIH
	1230 hrs-1330 hrs	Impact of climate change on snowmelt and glacier melt runoff	Dr. Sanjay K Jain Scientist G, NIH
	1330 hrs- 1430 hrs	LUNCH	
	1430 hrs- 1600 hrs	Hands on Training RS & GIS Software (Arc GIS)	Mr. D S Rathore Dr. L N Thakural Mr. Tanvear Ahmad Ms. Neha Jain
	1600 hrs- 1615 hrs	TEA	
	1615 hrs- 1730 hrs	Hands on Training RS & GIS Software (Arc GIS)	Mr. D S Rathore Dr. L N Thakural

			Mr. Tanvear Ahmad Ms. Neha Jain
DAY 3, March 30 Wednesday	915 hrs-1015hrs	Hydrological modeling with SWAT model -I	Dr. J V Tyagi Scientist G, NIH
	1015 hrs-1115 hrs	Hydrological modeling with SWAT model -II	Dr. J V Tyagi Scientist G, NIH
		TEA	
	1130 hrs-1230 hrs	Space Based Parameter Retrieval for climate change studies	Dr. S P Agarwal, Scientist, IIRS, Dehradun
	1230 hrs-1330 hrs	Climate modelling	Dr. Ashis K. Mitra Scientist - G, NCMRWFR/MoES, Noida
	1330 hrs- 1430 hrs	LUNCH	
	1430 hrs- 1530 hrs	Climate modelling	Dr. Ashis K. Mitra Scientist - G, NCMRWFR/MoES, Noida
	1530 hrs- 1545 hrs	TEA	
	1545 hrs- 1645 hrs	Generation of Rainfall data scenarios	Dr. Ashis K. Mitra Scientist - G, NCMRWFR/MoES,Noida
	1645 hrs-1745 hrs	Practical on downscaling	Dr. Sharad K. Jain Scientist G, NIH
DAY 4, March 31 Thursday	915 hrs-1015 hrs	Ground water modelling	Dr. Sudhir Kumar Scientist G, NIH
	1015 hrs-1115 hrs	Hands on training on SWAT model	Dr. J V Tyagi/ Dr. Sanjay Jain/ Mr. PK Agarwal/ Ms. Neha Jain
	1115 hrs- 1130 hrs	TEA	
	1130 hrs-1230 hrs	Hands on training on SWAT model	Dr. J V Tyagi/ Dr. Sanjay Jain/ Mr. PK Agarwal/ Ms. Neha Jain
	1230 hrs-1330 hrs	Hands on training on SWAT model	Dr. J V Tyagi/ Dr. Sanjay Jain/ Mr. PK Agarwal/ Ms. Neha Jain
	1330 hrs- 1430 hrs	LUNCH	
	1430 hrs-1600 hrs	Impact of climate change on water resources	Dr. Sharad K. Jain Scientist G, NIH
	1600 hrs- 1630 hrs	Valedictory function	

Photographs of inaugural, lecture, hands-on training and valedictory functions