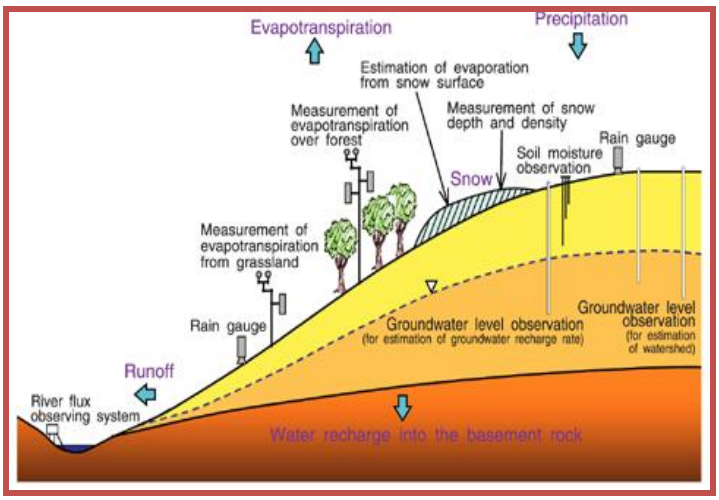
Training Course

On

Advanced Techniques for Hydrological Investigations

(August 16 – 20, 2010)



Organised by

National Institute of Hydrology
Roorkee-247667
(Uttarakhand)

INTRODUCTION

Water sustains plant and animal life, plays a key role in the formation of weather, helps to shape the surface of the planet through erosion and other processes, and approximately 70% of Earth's surface is covered with water.

India is one of the fastest developing economies in the World, which has led to increased developmental activities in all spheres of life. These activities are putting lot of pressure on all the natural resources of the country. Water is no exception. Now, there is an increased competition for utilization of water for power, irrigation, municipal, industrial, recreation, aesthetic and other uses. The overall impact is the change in concept of water sharing and management. Best water management options should ideally be based on accurate and reliable hydrological data base.

Hydrological Investigations are fundamental for assessing water resources and understanding the processes involved in the hydrologic cycle. Because the hydrologic cycle is so diverse, hydrologic measurement methods span many disciplines: including soils, oceanography, atmospheric science, geology, geophysics and limnology, and so on.

Apart from the conventional techniques, many new and advance techniques and instruments are being used for hydrological investigations worldwide. It is high time that the engineers, scientists and professionals working in the field of water resources and hydrology are made conversant with these techniques to improve their capabilities.

Among the latest techniques, application of environmental isotopes and remote sensing has increased dramatically. Isotope techniques can be used both in surface water as well as in groundwater hydrology. The technique can be used to measure GW recharge (both source and location), pattern of sedimentation in water bodies, track pollution in GW, leakage and seepage from water bodies, measurement of hydrogeological parameters, origin and age of groundwater, surface water - groundwater interaction.

Remote sensing and GIS techniques have become the backbone of all the hydrological investigations in the last 2-3 decades. These techniques are being widely used for mapping earth features from airborne sensors.

Many new fully automatic instruments with data logger have also been developed during the past few years. The knowledge of the capabilities of these field and laboratory instruments is must for hydrological measurements.

COURSE STRUCTURE

The Course will consist of lectures by Scientists from National Institute of Hydrology & Professors from IIT Roorkee and other professionals. The lectures will be supported by field and laboratory demonstrations. We plan to cover both theory and practice in right proportion. This course will be conducted as a two-way interaction with the participants so that the problems being experienced by the field organizations as well as academia could be shared.

Following topics shall be covered in this Course:

- Need for Hydrological Investigations
- Conventional Techniques and methods for Hydrological Investigations;
- Application of Remote Sensing and GIS
- Application of isotopic techniques in surface water and groundwater investigations;
- Advance techniques for measurement of soil erosion and reservoir sedimentation
- Advance instrumentation for hydrological investigations; and
- Advance computing techniques for hydrological data analysis.

PARTICIPANTS

The course is intended for engineers, scientists, and officers working in water resources/irrigation and other related departments of Central/State Govt, Corporate and PSU's and those who in academic profession. Post-graduate students and research scholars are encouraged to attend the course.

REGISTRATION

The registration fee per participant shall be Rs. 15,000/- for Corporate Sector, Rs. 8000/- for Government/ Semi-Government / Autonomous Organisations and Rs. 5000/- for bonafide student. The fee includes the registration kit, course material, stay at guest house, lunch on all working days, and a course dinner. Participants shall have to arrange for their TA/DA. A certificate will be given to all participants after the completion of the Course.

The participants are requested to register for the course by filling and mailing the attached registration form latest by 31st July 2010, along with a demand draft in favour of 'National Institute of Hydrology', payable at Roorkee. The number of seats is limited to 25 participants. The registration shall be done on the first come first served basis after the registration fees has been paid.

VENUE

The course shall be organised at National Institute of Hydrology, Roorkee. The Roorkee town is a hub of water resource experts in India. Apart from NIH, other major organisations like Indian Institute of Technology (IIT), U.P. Irrigation Research Institute, are contributing significantly to water resources development and management.

Roorkee is a medium size town of Uttarakhand State and it is well connected by road & rail from different parts of country. During the month of August, weather is warm and humid. The maximum temperature goes up to 40°C. Rain showers may be frequent during this period. Night temperature is expected to be pleasant. Participants will be accommodated in NIH or IIT guest houses.

NATIONAL INSTITUTE OF HYDROLOGY

NIH is the premier research institute of India in the field of hydrology. It is an autonomous society under the Ministry of Water Resources, Govt. of India. NIH has five scientific divisions: Surface Water Hydrology, Ground Water Hydrology, Water Resources Systems, Environmental Hydrology, and Hydrological Investigations and Six Regional Centres located at Belgaum, Gauhati, Jammu, Kakinada, Patna, and Sagar. The Institute frequently organises a number of training courses on different aspects of hydrology at Roorkee and other places in India every year. NIH has well equipped laboratories. For more details please visit www.nih.ernet.in.

All correspondence should be made to course coordinator.

COURSE COORDINATOR

Dr. Sudhir Kumar
Scientist E2
Hydrological Investigations Division
National Institute of Hydrology
Roorkee 247 667 (Uttarakhand)

E-mail: athi.nih@gmail.com
Tel.: (01332) 249212
Fax: (01332) 272123
Mobile: +91-9897024025

For more information about the Institute, please contact

Er. R.D. Singh
Director
National Institute of Hydrology
Roorkee – 247 667
Phone: 01332-272106
Email: director@nih.ernet.in

Dr. Bhishm Kumar
Scientist F & Head, HI Division
National Institute of Hydrology
Roorkee – 247667
Phone: 01332-276414
Email: bk@nih.ernet.in