Geographic Information System for Water Resources Management

(6-11, June 2016)

Overview:

With the growing threat of more frequent and intense hydrologic disasters involving droughts and floods, there is a need to use and apply the state-of-the-art tools for managing water resources. Management of water resources does not only involve the use of basic hydrologic principles, but also the interpretation and analysis of various datasets using computational tools. Most water related problems are dynamic that change in space and time. With the availability of geo-spatial data and remotely sensed information for rainfall, topography, land use, soil, and stream flow, use of Geographic Information Systems (GIS) has become essential to address any water resources problems. Besides data analysis and visualization, GIS can also be used to develop hydrologic and hydraulic models for understanding and simulating water resources of a region.

Many regions in India are experiencing the effect of land use change, population growth, and climate on water resources in the form of both water scarcity and floods. As a result there is a need to develop a workforce for addressing critical issues related to water by using GIS and related computational tools. The proposed course will involve hands-on training in the use of GIS for water resources data analysis, hydrologic and hydraulic modeling, and visualization.

The training schedule is designed in two parts viz. lectures and hands-on. The lecture sessions coupled with a number of hands-on-sessions primarily lay emphasis on following topics:

Modules	A. Fundamentals of GIS and Terrain Analysis : 06th and 07th June 2016 B. Hydrological model development using HEC-HMS, Hydraulic model by HEC-RAS : 08th to 10th June 2016 C. GIS Project: 11 June 2016
Who Can Attend	• PG and research students of Geography, Geoinformatics, Engineering and Environmental Science. • Faculties of academic institution, research institutes, Industry and government organizations who are working in water resource management/ flood modeling.
Fees	The Participation fees for taking the course is as follows: • Participants from abroad: US $300 • PG students and Research scholar without fellowship: Rs. 1000/- • Research Scholars (with fellowship): Rs. 2500/- • Faculties of Academic Institutions/Research Institutes: Rs. 5000/- • Faculties of Industry/ Government Organization: Rs. 10000/- The above fee includes all instructional material, computer lab and scientific instrument usage. Accommodation facility will be provided on payment basis. **Number of participants for the training will be limited to fifty**

The Faculty:

Prof. Venkatesh Merwade is presently working as an Associate Professor in the Lyles School of Civil Engineering at Purdue University, West Lafayette, USA. His research interest includes GIS applications in water resources engineering with specific focus on river channels; surface water hydrology; hydraulics; fluid mechanics and water quality modeling.

Dr. Sachin S. Panhalkar is an Associate Professor of Department of Geography, Shivaji University, Kolhapur. His research interest is watershed management, hydrological modeling, GIS and remote sensing.

Course Co-ordinator:

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Course Registration:
http://www.gian.iitkgp.ac.in/GREGN/index