



**TECHNOLOGY EXPERTS**  
GLOBAL EXPERTS GROUP

# Training Course

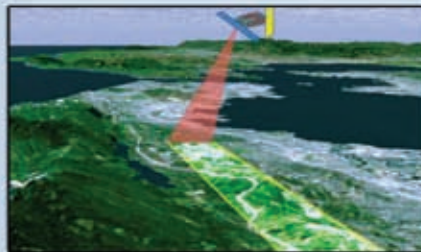
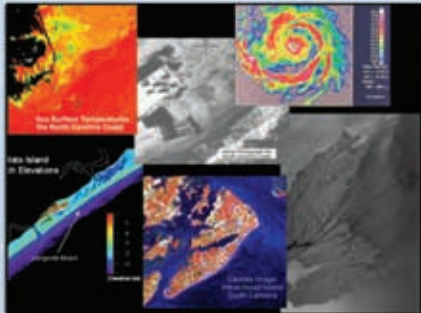
## GIS and Remote Sensing for Hydrological Water Quantification and Flooding

### Date:

The course duration is 5 days  
From  
17/4/2010  
To  
21/4/2010.

### Lecturer:

**Dr. Islam Abou El-Magd**



### Course Description:

There has been a rapid growth in the use of digital spatial and temporal data in many aspects particularly for water resources management and hazard assessment. The aim of this course is to provide both theoretical understanding and hands-on practical introduction to the use of geographic information systems and remote sensing technologies for the analysis and hydrological water quantification and flooding.

### Objectives:

#### Enable participants to:

- Gain a sound fundamental understanding of the GIS and remote sensing technologies.
- Understand the basic principles underlying the GIS model-based for digital elevation models and watershed catchments.
- Be familiar with extraction of the hydrological parameters from the GIS databases.
- Use the TRMM data to extract the rainfall.
- Be able to estimate the runoff water and quantify the flow.
- Become familiar with the hands-on practical and analytical issues of water quantification and flooding hazards.
- Attention will also be given to the complementary role of data gathering systems, spatial/temporal databases, numerical modeling and decision support systems.

### Target Group:

The course is designed for professionals (Engineers and Scientists) active in the water sector or/and natural hazards, especially those involved in planning and management of water. Pre-requisites are a basic knowledge of computing and water related topics, GIS and remote sensing.

### Additional information:

The course focuses on the analysis of digital spatial data, using ready made numerical models to estimate the runoff and flow, presentation of the GIS model results in a professional manner. The course will specifically include:

- Introduction to geographic information systems and remote sensing technologies.
- Basics of remote sensing and using the TRMM data.
- Creation of digital elevation models/Using the SRTM digital elevation model.
- Map projections and coordinate systems.
- Processing of digital geographic information.
- Extract the catchment basin and sub basins.

- Extract the stream networks.
- Generate the hydrographs.
- Estimate the runoff and quantity of water.
- Estimate the stream power for the natural hazards mitigation.
- Visualization.
- Map algebra.
- Terrain analysis for hydrological and hydraulic modeling.
- Presentation of modeling results.

### Course costs:

The cost of the training course is 4500 (SR) per person and will be reduced to 4000 (SR) when more persons from one institute are registered.

**Bank Transfer:** National Commercial Bank,  
Account No. 26552900000103.  
IBAN SA8210000026552900000103

### When do I register?

Registration ends one week before the beginning of the training course due to limitation of seats.

### Contact us:

For more information, please contact us at:  
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