

**Ministry of Earth Sciences
ICMAM Project Directorate, Chennai**

Training programmes scheduled during 2011 – 2012

The following training programmes are scheduled during the year 2011-12. Details about the training and eligibility criteria are listed below.

S.NO	PROGRAMME	PERIOD	ABOUT THE PROGRAMME
1.	Geoinformatics for coastal Disaster Management	June 20 th – 24 th , 2011	<p>Disasters cannot be prevented totally. However, timely warning and planning can minimize the effect of a disaster. The use of modern technology like Geographical Information System (GIS), Remote Sensing and Global positioning systems (GPS) can be of vital importance in the preparation of coastal disaster management plans. This five-day training programme would cover topics on assessing the vulnerability of the Indian coast to disasters such as tsunami, storm surges etc, fundamentals and applications of GIS and Remote Sensing in preparation of coastal vulnerability maps. Practical sessions would include hand-on session on GIS software and steps involved in the preparation of a coastal hazard map. The training programme also incorporates a one day field-trip to demonstrate the use of GPS for collection of spatial data on coastal infrastructure. This training programme would be very useful to teaching personnels from public and private sectors and researchers involved in coastal disaster management projects.</p> <p style="text-align: right;">Coordinator: Dr.Tune Usha, Scientist-E usha@icmam.gov.in</p>
2.	Marine GIS for coastal pollution management	August 8 th – 12 th , 2011	The assessment of status of marine pollution is being carried out using the point data collected on specified parameters in a

			<p>transect manner. For eg., under the COMAPS programme of Min of Earth Sciences, samples for analysis of 25 pollution related parameters are being collected on a transect pattern at 0,2,5,10 km in the sea. As point will provide avenues for limited interpretation, using GIS techniques the point data can be converted as spatial data to derive information on extent spread of chemical elements including pollutants in the sea. Such information is useful to understand the spatial and quantitative (in terms of sq.km) distribution of different concentrations of chemical elements. This is one of the essential requirement for mitigating pollution and also to take decisions to draw seawater for human related use such as desalination and mariculture. During the training programme there will be few lectures on marine pollution and hands on classes on use of GIS to prepare spatial maps of pollutants.</p> <p>The training will be useful to Scientists working on Pollution control and Pollution assessment. The candidates willing to attend the training should have working knowledge of GIS.</p> <p style="text-align: center;">Coordinator: Dr.B.R.Subramanian, Project Director & Scientist -G brs@icmam.gov.in</p>
3.	Satellite Oceanography	Sep. 19 th – 23 rd , 2011	Space technology mostly used to detect the ocean resources in modern days. A detailed descriptions about different mission about earth observing systems; lectures will also cover the basics and most of the physics involved in remotely sensing oceanographic and meteorological parameters. Active and passive remote sensing tutorials are added advantage to beginners. The ability to see the ocean from the space and to use the

			<p>information retrieved will lead us to understand new applications and their impact on understanding climate change and its numerical modeling. Future important research topics and potential novel applications will also be addressed in satellite oceanography lectures, as to predict relevant extreme events such as tropical storms, hurricanes, El Niño, etc. An extensive hands-on-training on oceansat-2 (Indian ocean color sensor) will be useful for trainees.</p> <p>This training will be highly useful to researchers involved in satellite remote sensing for oceanographic applications.</p> <p style="text-align: center;">Coordinator: Dr. Sisir Kumar Dash, Scientist - C skdash@icmam.gov.in</p>
4.	Instruments and Methods for Coastal Ocean Monitoring	Oct. 17 th – 21 st , 2011	<p>The aim of the training is to provide an overview of methods, tools and techniques being adopted now a days in collection various field data in coastal ocean environment. The training will give an exposure to various instruments such as Tide Gauges, Current Meters, Acoustic Doppler Profiles, Automatic Weather Stations, Echosounders, RTK GPS and devices such as Water and Sediment samplers, Sieve Shakers, Particle Size Analyzers, Sediment Grabs, etc. From this training the participants will get a quick glance on operation of the above instruments and devices in collecting the coastal geomorphic parameters such as topographic elevations, beach profiles, sediment size, water depths etc; weather parameters such as wind speed direction, rainfall, air temp etc and coastal oceanographic parameters such as waves, tides, currents, surf zone parameters etc. The training is</p>

			<p>designed to provide hands-on experience on the above instruments and techniques integrating with GIS and GPS. The course will target the participants such as researchers and engineers involved in collection of data in coastal zone.</p> <p style="text-align: center;">Coordinators: Dr.V.Ranga Rao, Scientist – E vrrao@icmam.gov.in Dr. Pravakar Mishra , Scientist - E mishra@icmam.gov.in</p>
5.	Tsunami inundation modelling and mapping	Nov.21- 25 th , 2011	<p>The Indian coast is prone to disaster such as tsunami as was seen in the recent past. It is therefore imperative that a spatial database is prepared and maintained on vulnerable areas which would be essential for future planning, rescue and relief operations. This five-day training programme would be an eye-opener on the fundamentals of GIS, concepts of tsunami inundation modelling and mapping, preparation of hazard maps using GIS. The training programme also incorporates a one day field-trip to demonstrate the use of GPS for collection of spatial data on coastal infrastructure. This training programme would be very useful to technical personnel from public and private sectors and researchers involved in coastal disaster management projects.</p> <p style="text-align: center;">Coordinator: Dr.Tune Usha, Scientist-E usha@icmam.gov.in</p>
6.	Preparation of Shoreline Management Plans	Jan, 17 th – 21 st , 2012	<p>The aim of the training is to provide an overview of shoreline management plans, identification of location specific problems such as erosion, siltation, river flooding in coastal lakes, storm surge problems, natural or manmade problems. Solutions will be discussed based on ICMAM-PD projects. You will also become familiar with specific strategies for</p>

			<p>engaging stakeholders in preparation of SMP. The training will give an exposure to methods and techniques applied in field data collection; GIS and Remote sensing in shoreline changes; analytical and numerical simulation models in studying near shore processes etc. The training is designed to provide hands-on experience on soft or hard solutions for mitigating shoreline problems. Providing working knowledge and discussion regarding SMP arrived for a particular site on east coast or west coast of India such as Chilka lagoon (Orissa)/ Ennore coast (Tamilandu)/ Ullal coast (Karnataka)/ Pulicat lake (Andhra) etc. The course will target the participants such as researchers and engineers involved in shoreline management issues and related activities</p> <p style="text-align: center;">Coordinator: Dr.V.Ranga Rao, Scientist – E vrrao@icmam.gov.in</p>
7.	Oil spill modelling	Feb, 14 th – 16 th , 2012	<p>The main focus of the training is to provide the knowledge on application of modern scientific tools and techniques such numerical modelling and GIS in understanding the fact and behavior of an oil spill, risk assessment, Resource and sensitivity mapping, contingency planning and related issues of marine environment. The training is targeting middle level officers from Government and Port sector who are involved in Oil related activities in marine environment. It is expected that the applicants should have basic computer knowledge, exposure of GIS and modelling tools.</p> <p style="text-align: center;">Coordinator: Dr.R.S.Kankara, Scientist - E kankara@icmam.gov.in</p>

8.	Marine eco-toxicology	March 5 th – 9 th , 2012	<p>The main focus of the training is to provide scientific principles of Marine Ecotoxicology and the methods for deriving Seawater Quality Criteria (SWQC) for chemicals like Copper, Cadmium, Mercury, etc., and organic compounds like Monocrotophos, Atrazine and Petroleum hydrocarbons (PHCs) which are not listed/available in the existing notification for water quality standards for coastal water uses. For the benefit of working level professionals in the Central Pollution Control Boards (CPCBs) and all State Pollution Control Boards (SPCBs), a five days training programme is designed to provide good exposure on toxicity testing methods, seawater quality analysis, biomarker enzyme, Histo-pathological studies and methods for derivation of sea water quality criteria. The training programme also includes a one day field-trip to a nearby tidal inlets/creek for sampling of marine organisms. Nomination (s) of scientists/working level staff from the respective SPCBs and CPCB are invited for participation. It is expected that applicants should have basic knowledge in chemistry and biology.</p> <p style="text-align: center;">Co-ordinator: Dr.D.Mohan, Scientist – E mohan@icmam.gov.in</p>
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There is no course fee for all training programmes. However, the expenditure on travel, boarding and lodging will have to be borne by the candidates. Guest House facility on payment basis is available in the campus.

Interested candidates can apply to the Coordinators through their institutions after a separate call notice is placed in the web site which is normally placed 30 days before commencement of the training programme.