



**ITCOcean**



**Training Course  
on  
"Tides and Tidal Data Analysis"  
13-17 June, 2016**

**Organized  
by  
International Training Centre for  
Operational Oceanography (ITCOcean)  
ESSO-INCOIS  
Hyderabad, India**

## Background:

Tides are one of the most periodic oscillations in the world oceans. This fascinating movement of water is part of the daily lives of those who live near the coastal waters and estuaries. Understanding and predicting tides are very important, particularly for coastal marine operations. Tide gauges are installed in many ports and harbours and locations of strategic importance for measuring the water levels. Since tides are deterministic, they can be predicted. In regions where tidal ranges are large, tidal predictions are important for navigational purposes. Data from these tide gauges are also being used for monitoring the occurrence/approach of natural disasters like tsunamis and storm surges. Long time series of tide gauge data are one of the most important source of information on the sea level changes associated with global warming.

There are several tide gauges installed all along the coasts of India, mainly by the Survey of India. In recent years, ESSO-INCOIS alone has installed and managing about 31 tide gauges that are reporting sea level on real time to INCOIS. Data from these tide gauges are archived in INCOIS and being used for many studies apart from real time monitoring of sea level as part of Indian Ocean Tsunami and storm surge early warning system. It is important to have specialized skills to process and analyse data from tide gauges. In this course, we intent to introduce the basics of the Physics of tides and the methods of tidal data analysis.

## Faculty Members:

- ✍ Dr. S. R. Shetye, Goa University
- ✍ Dr. A. S. Unnikrishnan, CSIR-National Institute of Oceanography, Goa
- ✍ Dr. S. S. C. Shenoi, ESSO-INCOIS, Hyderabad
- ✍ Dr. D. Sundar, CSIR-National Institute of Oceanography, Goa

In addition scientists from ESSO-INCOIS will be involved in organizing hands-on-exercises.

## Prerequisites:

Masters/ Ph D in Physical Oceanography, Atmospheric Science, Mathematics. Minimal basic mathematics and computer skills will be assumed. Preference will be given to research scholars pursuing PhD in Oceanography. M. Sc/M. Tech/B. Tech students need not apply.

## Course Fee:

There is no course fee charged for the training course. The participants are expected to make their own arrangements for all expenses. However, INCOIS can provide accommodation at their Hostel on payment basis for few deserving candidates. Preference in admission will be given to candidates who are supported by their own organizations.

## Important Dates:

Last date for Online Application Submission: **23 May, 2016**

Intimation to Selected candidates: **23 May, 2016**

Course Date: **13-17 June, 2016**

## Notes:

- ✍ The interested candidates may apply online by visiting <http://www.incois.gov.in/portal/ITCOocean/tda.jsp> on or before May 15, 2016.
- ✍ Medium of instruction is English only
- ✍ Interested candidates should upload the following documents:
  - Latest passport photograph
  - Endorsement letter (from research guide or Employer or head of the department/institute)
- ✍ Incase of any difficulty in uploading send email to [webmaster@incois.gov.in](mailto:webmaster@incois.gov.in) / [itcoocean@incois.gov.in](mailto:itcoocean@incois.gov.in)



## Indian National Centre for Ocean Information Services

(An Autonomous Body under the Ministry of Earth Sciences, Government of India)

"Ocean Valley", Hyderabad- 500 090, India

E-mail: [director@incois.gov.in](mailto:director@incois.gov.in) | Website: [www.incois.gov.in](http://www.incois.gov.in)