

**An intense short course on
"Advanced Statistical Concepts in
Atmospheric and Oceanic Sciences"**

February 23-28, 2015

**Organized
by**

**International Training Centre for
Operational Oceanography (ITCOcean)
ESSO-INGOIS, Hyderabad, India**

The International Training Centre for Operational Oceanography (ITCOocean) of the Indian National Centre for Ocean Information Services (ESSO-INCOIS) is organizing an intense short course on "Advanced Statistical Concepts in Atmospheric and Oceanic Sciences" during February 23- 28, 2015.

Goal:

The course provides a basic introduction to the statistical methods commonly applied in Meteorology and Oceanography and experience in the correct use and interpretation of the various statistical methods currently used in the analysis of atmospheric/oceanic observed and model simulated data.

Practical Exercises : Each topic covered in the lectures will be followed by tutorials (involving problem solving exercises)

Topics:

Introduction : Scientific method, Sampling theory - qualitative, random and non-random samples, Data collection-classification, tabulation, graphic representation and diagrammatic representation, Use of Statistical software (excel /sigmaplot)

Advanced Statistics : Error Analysis, Measures of central tendency, Correlation coefficient, 't' test for significance of correlation , Linear regression - bivariate and multiple variate case, F test, Chi-square test, Distributions - binomial, Gaussian, Poisson, inter relationships, distribution of functions and applications

Regression - Stepwise multiple regression, partial correlation coefficients, tests of significance analysis, Power spectrum analysis of time series, wavelet transform, Fourier Transform, Factor analysis, EOF analysis, Principal component analysis

Prerequisites:

Background in Meteorology and / or Oceanography, Minimal statistical knowledge with basic mathematics and computer skills will be assumed.

Learning Outcomes:

The course will help you to develop:

- ✍ statistical expertise necessary for atmospheric, oceanic and climate research
- ✍ an ability to choose appropriate analysis methods
- ✍ an ability to critically interpret the results of analysis

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, ESSO-INCOIS can provide accommodation at their Hostel for few deserving candidates. Preference in admission will be given to candidates who are supported by their own organizations.

Application:

Interested candidates should fill in the application form available at the website link <http://www.incois.gov.in/documents/ITCOocean/CourseApplicationForm.pdf> and send it by **February 05, 2015** to:

ITCOocean Coordinator

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