

**Government of India**  
**Ministry of Earth Sciences**  
**Earth System Sciences Organization (ESSO)**  
**&**  
**Indian Institute of Tropical Meteorology (IITM)**  
**Centre for Advanced Training in**  
**Earth System Sciences and Climate**  
**CAREER OPPORTUNITIES IN CLIMATE SCIENCES**  
**FOR M.Sc / B.Tech / M.Tech / MS GRADUATES**  
**(Admissions for the 2013-14 batch)**

The Centre for Advanced Training in Earth System Sciences and Climate (CATESSC) announces admission to the second batch of scientist trainees. The training program is extremely challenging in view of the projected climate change scenario and its implications on the economy and environment. The main objective of the Centre is to create a large pool of trained and dedicated multidisciplinary climate and earth system scientists with in depth hands on expertise on individual physical processes of the land, ocean, atmosphere, biosphere and cryosphere with special emphasis on climate modeling. The aim is to go beyond the conventional training on individual systems and address weather and climate as processes arising from interactions between the above component systems. Hence for the motivated candidates, the training will offer considerable scope to realize their full potential in this highly challenging field. Meritorious candidates with M.Sc / B.Tech / M.Tech / MS degree with outstanding academic background throughout and with a high rank in the CSIRNET or IIT-GATE examination will be recruited, provided induction training extending to 18 months and on successful completion will be placed in the constituent institutes of the Earth System Sciences Organization (ESSO) of the Ministry of Earth Sciences (visit:[www.moes.gov.in](http://www.moes.gov.in)) as Scientists. The recruits are encouraged to pursue Ph.D after placement. The program is carried out at IITM and a new campus with self contained facilities for training and research is being developed in Pune.

IITM, which is an autonomous institution (visit: [www.tropmet.res.in](http://www.tropmet.res.in)), is committed to develop world class research expertise for understanding and exploring unresolved scientific issues in climate science. A Centre for Climate Change Research (CCCR) has been established at IITM to address all science issues related to climate change and Indian

monsoon. To cater to the modelling needs, a High Performance computer (HPC) has been set up with peak performance of 70 TF which is being gradually upgraded.

The constituent institutions under the Earth System Sciences Organization (ESSO) - India Meteorological Department (IMD) with an all India network ([www.imd.gov.in](http://www.imd.gov.in)); National Centre for Medium Range Forecasting (NCMRWF) at Noida ([www.ncmrwf.gov.in](http://www.ncmrwf.gov.in)); Indian National Centre for Ocean Information Services (INCOIS) at Hyderabad ([www.incois.gov.in](http://www.incois.gov.in)); National Institute of Ocean Technology (NIOT) at Chennai ([www.niot.res.in](http://www.niot.res.in)); Centre for Marine Living Resources and Ecosystems (CMLRE) at Kochi ([www.researchvessels.org](http://www.researchvessels.org)); and National Centre of Antarctic and Ocean Research (NCAOR) at Goa ([www.ncaor.nic.in](http://www.ncaor.nic.in)) have similar advanced facilities in their respective areas.

Applications are invited from eligible candidates of Indian origin for the second batch of the Advanced Training in Earth System Sciences and Climate. The details of the program and requirements are given below.

**Academic qualifications:**

The candidate should possess first class M.Sc / M.Tech / MS degree or equivalent in Physics, Applied Physics, Mathematics, Applied Mathematics, Statistics Meteorology, Atmospheric Sciences, Chemistry, Ocean Sciences, Geophysics, Geology or any other area of Earth Sciences or any related disciplines (detailed list of eligible subjects are indicated in the attached table) with Physics and Mathematics at the graduate level.

**OR**

A first class B.Tech / B.E / M.Tech / M.E / MS in Mechanical, Civil, Chemical, Electrical or Electronics or any other Engineering disciplines (detailed list of eligible subjects are indicated in the attached table). Those who are appearing for the final exams may also apply subject to the condition that they produce the final certificates if and when called for the interview. However, the average marks obtained in the completed semesters be entered in the application.

**Academic Disciplines that are NOT encouraged to apply:**

**Engineering background:**

AGRICULTURAL ENGINEERING  
Applied Petroleum (Chemical)  
BIO CHEMICAL ENGINEERING  
Bio Medical Engineering  
BIOTECHNOLOGY  
Ceramic Technology  
CHEMICAL ENGG(Biochemical)  
computer science  
COMPUTER SCIENCE & ENGG  
Computer Science & Technology  
COMPUTER SCIENCE AND ENGINEERING  
Converging Technologies  
ENVIRONMENTAL ENGINEERING  
FOOD TECHNOLOGY  
Geoinformatics  
Geoscience  
industrial & production  
INDUSTRIAL ENGINEERING  
Industrial Engineering and Management  
INFORMATIONAL TECHNOLOGY  
Leather Technology  
Manufacturing Technology Engineering  
Metallurgical Engineering  
METALLURGY  
PETROCHEMICAL ENGINEERING  
POLYMER ENGINEERING  
Power Engg.  
PRODUCTION & INDUSTRIAL ENGINEERING  
Production Engineering  
production engineering & management

**Science Background:**

AGRICULTURAL STATISTICS  
Bioinformatics and Biotechnology  
computer science  
ENVIRONMENTAL SCIENCE  
Environmental Studies  
GENERAL SCIENCE  
Geography  
Industrial Mathematics and  
Informatics  
Instrumentation Science

**Eligibility is through CSIR-NET or IIT-GATE Examination:**

The candidates applying for the posts should have passed during 2011-13 the CSIR National Eligibility Test (NET) or the IIT-Graduate Aptitude Test in Engineering (GATE). In the case of those who are appearing for the current NET/GATE examinations, the results of which are expected in the first half of 2013, the outcome needs to be communicated to the undersigned once it is announced. The candidates are required to give their admission no. of NET/GATE Examinations and the rank obtained in the Application proforma in the appropriate column.

**Age limit & Reservation**

The upper age limit is fixed as 28 years as on 30 April 2013. It is relaxable by 2 years for M.Techs, 5 years for candidates belonging to SC/ST, 3 years for candidates belonging to the Other Backward Communities and as per Govt. of India rules for ex-servicemen and physically handicapped persons. There is no age limit for the applicants from the constituent institutions of ESSO and other government employees. The reservations as per the Govt. of India norms will be available to the eligible candidates.

**Interview**

The applications received will be screened and the candidates to be called for interview will be shortlisted based on their merit, ranking in the NET/GATE and any other criteria prescribed by the MoES. The shortlisted names will be displayed on the IITM / MoES websites and candidates will be suitably informed about the interview dates. The interviews will be held in Pune in May / June 2013 in two stages on two / four consecutive days. The first phase is to examine the candidates with respect to their grasp in the subject of specialization, general intelligence, reasoning skills, The candidates will be ranked based on their score in this first phase of the interview at the end of the second day. A limited no. of highest scorers from the first stage will be called for the second phase of the interviews on the third / fourth day. This will be mainly to examine the analytical and cross-disciplinary capabilities, interest in the subject of training, research aptitude, and motivation to make a career in climate science. The rank list of the candidates based on the performance in this

stage will be published in the websites. The candidates selected will be intimated appropriately and required to join the training in the last week of July 2013.

### **Travel assistance**

Candidates called for interview will be paid sleeper class to and fro train fare after their interview by the shortest route on production of original tickets.

### **No. of positions**

The maximum number of trainees in the batch is tentatively fixed as THIRTY.

### **Starting date of the training**

The training program for the selected candidates is scheduled to start by the first week of July 2013.

### **Remuneration:**

The selected candidates will be inducted in the training program and will be paid a consolidated remuneration of Rs.25000/- per month with an annual increment of Rs.1,000/- . The trainees will be eligible for annual leave and medical leave as prescribed.

### **The Training Program**

The training is modular / integrated in nature. The trainees will be provided an induction training consisting of 3 semesters (total 18 months). Two semesters will be for the core advanced courses and the last for a project in any one of the ESSO institutions. The training will cover earth systems, the structure and dynamics of atmosphere and oceans, geophysical fluid dynamics, instrumentation and observational techniques, statistical, mathematical and computational techniques, numerical modeling, etc. as applicable to Climate Sciences. Expert national and international faculty will also be available to handle different aspects of the training program. The Ph.D program after placement (optional) will be in different aspects of earth system sciences, monsoon variability, predictability, air-sea interaction and related topics under the supervision of faculty from IITM or CAT or other institutions of ESSO.

Those with technical background will be provided topics suitable to their expertise, but related to atmospheric / climate sciences with appropriate additional supervision from the scientists / engineers of the constituent institutions of ESSO. The Ph.D. trainees may have opportunities to visit and get exposure in the selected international institutions. The Institutes have well maintained/stocked library that provides an excellent opportunity for professional development.

### **Accommodation:**

Hostel facilities are available to the trainees. Once they are placed staff quarters will be provided as per availability and eligibility.

### **Placement**

All those who successfully complete the training program will be placed in any one of the constituent institutions of the ESSO as Scientist-B (for B.Tech / M.Sc) or Scientist C (for M.Tech / MS). As on date, approximate annual salary in the post of Scientist-B is Rs. Five lakh and Scientist-C is Rs. Six lakh at Pune. On joining the posts, career improvement through the Flexible Complementing Promotion Scheme will be available. The staff is entitled for pension benefits, medical facilities for self and dependents, transport allowance, canteen facilities and leave travel concession and such other facilities. Interested candidates may submit their applications online in the prescribed proforma with detailed CV and other relevant documents by 31 March 2013. The online application is available in <http://www.tropmet.res.in>

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