

2nd ONLINE CSSTEAP SHORT COURSE ON

“Use of Space Technology for Weather and Climate Studies”

Organized By
CSSTEAP

Conducted By
SAC, ISRO

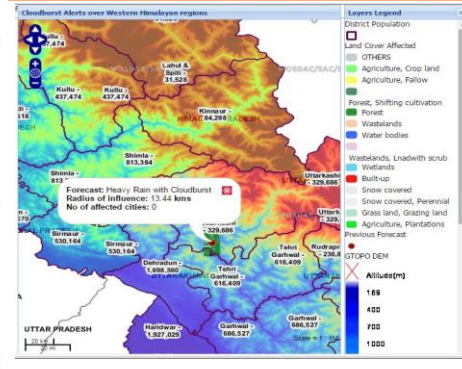
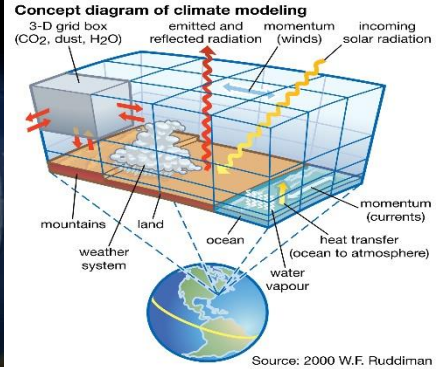
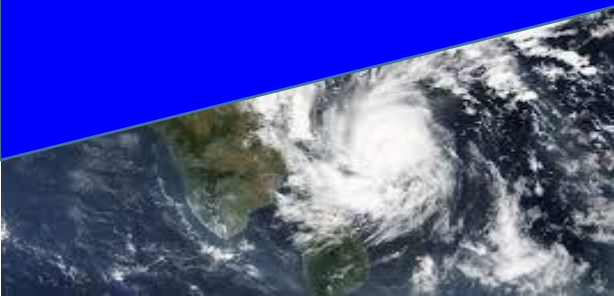


Centre for Space Science and Technology Education in Asia and the Pacific (CSSTEAP)
(Affiliated to the United Nations)
IIRS Campus, 4, Kalidas Road, Dehradun, India
www.cssteap.org



Space Applications Centre (SAC)
Indian Space Research Organisation (ISRO)
Department of Space, Government of India
Ahmedabad, India
www.sac.gov.in

Online Mode
May 22 – June 02, 2023



Source: 2000 W.F. Ruddiman

INTRODUCTION

Weather is the condition of the atmosphere at a particular place over a short period of time, whereas climate refers to the weather pattern, using statistical data, of a place over a long enough period to yield meaningful averages. Climate is an important element because it indicates the atmospheric condition of heat, moisture and circulation; it plays a dominant role in shaping vegetation and soil; and it ultimately affects all forms of life. There are many elements that make up both the weather and the climate of a geographical location. The most significant of these elements are temperature, atmospheric pressure, wind, solar irradiance, humidity, precipitation, condensation and topography. The greatest influence of climatic change is associated with not only natural, but also artificial factors, which can be measured in terms of both short-term and long-term climate change.

ABOUT CSSTEAP AND SAC

CSSTEAP was established in India in November 1995 with its headquarters at Dehradun. The center has emerged as a Centre of Excellence in capacity building in the field of space science and technology applications. The CSSTEAP programmes are executed by the faculty of Department of Space at campuses namely, Indian Institute of Remote Sensing (IIRS), Dehradun, Space Applications Centre and Physical Research Laboratory, Ahmedabad and UR Rao Satellite Centre, Bengaluru. The training programmes includes PG and Short Courses on RS & GIS, Satellite Communications, Satellite Meteorology and Global Climate, Space & Atmospheric Science, Global Navigation Satellite Systems, Small Satellite Missions and DRR regularly. Besides this many short courses, webinars, MOOC and workshops on various themes are also organized.

Space Applications Centre (SAC), one of the major centres of the Indian Space Research Organisation (ISRO), is responsible for the applications programmes of ISRO. It extensively interfaces with the actual users of satellite systems. SAC is active in R & D in the fields of Satellite Meteorology & Oceanography, Remote Sensing, Satellite Navigation and Satellite Communications

OBJECTIVE OF THE COURSE

The overall objective of the 2 weeks training course is to generate awareness among users/ researchers/ professionals /decision-makers /academicians on the basics of weather and climate and recent advances in predicting tropical weather phenomena with special emphasis on Indian Meteorological and Oceanographic satellites. The participants will be familiarized with following topics during lectures sessions: i) basic of weather and climate, ii) atmospheric motion: pressure, winds and circulations, iii) atmospheric instability, temperature, cloud formation and precipitation processes, iv) understanding of tropical weather systems cyclone, monsoon, ENSO etc., v) basics of weather forecasting and analysis, vi) space based observations for weather & climate, vii) atmospheric chemistry and climate interactions, viii) Cryospheric process and climate change, ix) modeling of water cycle and climate change and climate projections. The participants will also be familiarized with applications and uses of satellite data for weather and climate during hands-on sessions.

COURSE CONTENTS

First Week

- Introduction to Weather and Climate.
- Basics of Satellite Meteorology.
- Space Based Observations for Weather and Climate.
- Tropical Weather Systems.
- Satellite data for Cyclone tracks and Intensity Prediction
- Basics of Weather forecasting and analysis.
- Now-casting using satellite data

Second Week

- Aerosol, radiation and chemistry-climate interaction
- Use of satellite data for Weather forecasting.
- Air-Sea Interactions.
- Global Warming and Sea-level Rise
- Urban Heat Island: Causes, effect and mitigation
- Concept of Climate Modeling.
- Modeling of Water Cycle and Climate Change
- Cryospheric process and Climate Change.
- Satellite based measurement of green-house gases.

ELIGIBILITY

Candidates having Master's degree in science or Bachelor's degree in engineering or equivalent qualification in the relevant field of study can apply. Applicants with at least 3-4 years of experience in teaching, research or professional experience in the field of Atmospheric Science, Oceanography, Meteorology and related fields will be given preference.

Applicants are requested to register online by opening the admissions portal at www.cssteap.org or <https://admissions.cssteap.org/login>. The applicants are advised to read each and every instruction given for filling up the online application before applying online. The application should be duly forwarded by the Head of their respective institute for consideration. There is no course fee for applicants applying through proper channel. The course will be conducted in English

Announcement of course: March 15, 2023

Last date for submission : April 20, 2023.

CONTACT DETAIL

For course related query candidate may contact

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Atmospheric and Oceanic Sciences Group
Space Applications Centre
Indian Space Research Organization
Ahmedabad-380015,
Gujarat, India

HOW TO APPLY ONLINE

Instructions to the Applicants for filling online application form:

- The Website is best viewed in Firefox ver.70.x, Chrome ver.84.x, and Edge latest version.
- Please register with valid e-mail, after successful registration e-mail will be triggered at given e-mail address to activate the account.
- To activate your registration login with credentials with the activation link that sent on your already registered e-mail.
- **Note:** In case the e-mail is not delivered on inbox, Please check the spam folder.
- Before submitting the online application form, the applicants are requested to go through the course brochure carefully (eligibility and documents required etc.)
- Submit online application form well in advance along-with legible and scanned copies of all required documents. If the documents are in a language other than English, then translation certificate should be uploaded.
- **The documents should be uploaded in valid scanned .pdf format (with file size limit between 25KB to 500KB).**
- Recent scanned copies of passport-size photograph and Signature should be uploaded in jpeg, .jpg or .png format (with file size limit between 10KB to 100KB).
- The applicants are advised to fill in all their particulars carefully in the online application form.
- **Important Note: Applicant is required to upload sponsoring/nominating agency certificate with official seal, and or forwarded by the Governing Board Member (GB) of CSSTEAP (please refer to the list at www.cssteap.org if any GB Member of your country is in the list). Indian applicants need not to send through GB member.**
- Applicants are advised to retain the printout of the finally submitted online application form.
- **Please be noted that the online application form is not editable after final submission.**
- In case of any difficulties while submitting online application form please e-mail at websupport@iirs.gov.in
- The last date of submitting online application form is April 20, 2023 @ 05:00 PM IST.