

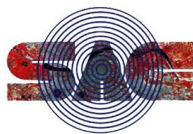
**Centre for Space Science and Technology
Education in Asia and the Pacific
(CSSTEAP)**
(Affiliated to the United Nations)
IIRS Campus, 4, Kalidas Road, Dehradun,
India
www.cssteapun.org

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

CSSTEAP SHORT COURSE
On
**“Use of Space Technology for
Weather and Climate Studies”**

Online Mode

(04-14 November, 2024)



**Organized By
CSSTEAP**

**Conducted By
SAC, ISRO**



Background

Weather is the condition of the atmosphere at a particular place over a short period, 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. Many elements 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 natural and 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 and over the past 28 years, the centre has emerged as a Centre of Excellence in capacity building in the field of space science and technology applications. For more information, visit www.cssteapun.org.

The Space Applications Centre (SAC), located in Ahmedabad, India, is one of the major centres of the Indian Space Research Organization (ISRO). This centre is engaged in the research and development of applications of Space Technology in the fields of Communications, Remote Sensing, Meteorology, Planetary science and Satellite Navigation.

It has major contribution to the recent Chandrayaan-3 mission, which demonstrated a soft landing on the moon. The other achievements of the centre include the development of communication, navigation and meteorological payloads and designing various applications. SAC provides its infrastructure to conduct training courses for the students of CSSTEAP and will be the host centre for this course. For more information on SAC, visit www.sac.gov.in.

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 the following topics during lecture 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. During hands-on sessions, the participants will also be familiarized with applications and uses of satellite data for weather and climate.

Course Content

The structure of the course is balanced between technical presentations and hands-on sessions

The following course content will be covered:

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 greenhouse gases

Eligibility and Selection Process

The course is aimed at decision-makers, weather forecasters, managers, researchers, and professionals in the field of meteorology.

- A limited number of seats are available for this course, which will be filled with participants from different countries.
- Government employees and professionals working in the field of weather forecasting would be given priority.
- Candidates who have obtained a degree in Meteorology will be given preference
- Candidate should have proficiency in the English language as the course will be conducted in English.
- The selection of candidates will be carried out by a designated selection committee.
- The language of the course is English.

How to Apply

Eligible candidates can apply online through the CSSTEAP website. Applicants are requested to send the application forwarded by the Head of their respective institute/Organisation for consideration.

<https://admissions.cssteapun.org>

Announcement of course: September 25, 2024

Last date for receipt of application: October 10, 2024

Incomplete applications will not be considered for selection

Contact Details

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CSSTEAP (SATMET)

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