



“Remote Sensing of Cryosphere”



Geographically the cryospheric elements are located mainly in the polar regions and in the high altitudes of many mountain ranges of the globe. While mountain glaciers are the sources of freshwater required to meet the domestic, irrigational and hydropower needs of very large population, overall cryosphere plays a significant role in modulating global climate by interacting with hydrosphere and atmosphere and also maintains the global sea level. Since most of the snow and ice masses are located in hostile and difficult terrains, only satellite based observations provide routine and synoptic measurements of these regions to understand cryospheric processes at varying spatial and temporal domain.

In the last three decades EO data acquired from sensors onboard orbiting satellites and produced enormous data which has been utilized in many applications. Primarily, data from various Indian Satellites in particular such as IRS and Cartosat Series, RISAT-1, INSAT-3D/3DR, SCATSAT-1, SARAL/Altika etc. and airborne AVIRIS-NG hyperspectral data have been used. Scientists at SAS, ISRO have developed various techniques for cryospheric applications. Major expertise on Cryospheric science and applications at SAC includes;

- Himalayan snow cover monitoring and analysis
- Inventory and monitoring of mountain glaciers
- Characterization of SAR based glacier zones
- Retrieval of ice velocity in polar and Himalayan regions
- Glacier mass balance using DEMs
- Assessment of polar ice sheet mass balance and surface melting
- Monitoring the polar sea ice extent and thickness.
- Sea ice advisory for safer ship navigation

In view of increasing use of space based observations for Cryosphere Science and Applications and forthcoming new Indian EO Missions, Space Applications Centre, Ahmedabad, is organising a training programme on **Cryospheric Applications using Space Based Observations** for Indian Participants. This programme aims to provide theoretical background with hands-on experience to the researchers, faculty members and scientists from across the country on analysis of satellite data for applications on Himalayan and Polar cryosphere.

The tutorial programme consists of forenoon lectures by eminent scientists working in related fields in ISRO, followed by hands-on with satellite data for cryosphere studies in the afternoon. Participants will be provided subsidized paid accommodation at SAC guest house on twin sharing basis. No fees will be charged for the training. However, TA/DA will not be provided. Participation certificates will be provided after completion of the training.

Only 25 participants can be accommodated for the training programme. If more number of applications are received, the selection will be made on the basis of applicant’s background experiences and qualifications.

Date	14-18 October, 2019
No. of participants	25 (maximum)
Target Group	State/Central Government officials, Scientists, Research Scholars, Teachers and Faculties affiliated to recognized Universities and Research Institutions working in field of Remote Sensing, and Himalayan and Polar Cryosphere.
Prerequisite	Basic knowledge of Remote Sensing and working knowledge of image processing software.

Interested persons may send the filled-in application form by E-mail on or before **September 25, 2019** to:

**Dr. S. P. Vyas**

Head, ERTD/VRG/EPISA

Space Applications Centre (ISRO)

Bopal Campus, Ahmedabad - 380058

Phone: 079-26916223 / 6224

Fax: 079-2691-6287

Email : [trees@sac.isro.gov.in](mailto:trees@sac.isro.gov.in)

For further details please visit our website

<https://vedas.sac.gov.in/>



Application for training on  
**Cryospheric Applications using  
 Space Based Observations**  
 (14-18 October 2019)

TREES (Training and Research in Earth Eco-System)

Last date of Application: 25 September 2019

Affix Recent  
 Passport Size  
 Photo

(Please type or write in CAPITAL Letters)

Name Mr./Ms. ....

Date of Birth (DD/MM/YYYY) ..... / ..... / .....

Gender:(Tick)  Male  Female

Contact Information: .....

(Self: Name and address) .....

Phone: .....

Email ID: .....

Aadhaar Card No: .....

	Course	Subject	University	Year of Passing	Percent/ CGPA
Undergraduate					
Postgraduate					
Ph. D					

Name of Institute: .....

Occupation .....

Whether you have attended  Yes  No (If Yes Please Describe)

any training at SAC/ISRO .....

Whether Guest House accommodation  
 required at SAC during training -----(Yes / No)

Signature of the applicant with date .....

Recommendation by Head of Department .....

/ Institution / Principal with seal and date

Contact E-mail / Phone of HOD

/ Office in case of Emergency

Address: Head, ERTD/VRG/EPISA, Space Applications Centre(ISRO), Bopal campus, opposite DPS School, Bopal, Ahmedabad-380058 Phone: 079 2691 6223/24/27, Fax: 079 2691 6287

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