Training on
Space-based Weather Extremes Monitoring and Forewarning

Introduction

Evidences suggest that the frequency of extreme weather events such as flood, drought, cyclone, thunderstorm, cloudburst, cold/heat waves are increasing in recent years. More than two thousand lives have been reported to be lost during the financial year 2018-2019 due to extreme weather events. India has witnessed devastating floods in recent years such as Mumbai floods of July 2005, Uttarakhand flash floods of June 2013, Chennai floods of November 2015 and Kerala floods of August 2018. In 2019, onset and withdrawal of the Indian summer monsoon were delayed, causing a large deficient in June but an excess in rainfall in the following months. Heat waves during summer 2019 claimed as many as 293 lives in Bihar alone, while Maharashtra witnessed 44 deaths. The 2019 North Indian Ocean cyclone seasons were most active on record. In December, country witnessed extreme cold condition and fog. All these evidences suggest that extreme weather events are becoming more frequent, as a result of climate change.

Data from meteorological satellites in conjunction with ground-based information are very much helpful in monitoring and forecasting of weather extremes. Currently INSAT-3D/3DR, Megha-Tropiques, ScatSat-1, SARAL-AltiKa satellites launched by ISRO are operational. Indian satellite data are helpful for monitoring & forecasting/nowcasting of cyclogenesis, cyclone track, cyclone intensity, cloudburst, heavy rainfall, heat/cold waves, fog etc. These data are assimilated worldwide by operational meteorological centres.

Training on Space-based Weather Extremes monitoring and forewarning

Under the SMART programme, a five days training on 'Space-based Weather Extremes monitoring and forewarning' is planned at Space Applications Centre, Ahmedabad. The proposed training will focus on monitoring and forewarning of extreme weather events using Indian satellite data. This training is meant for students, researchers, early career scientists, faculty members, etc who are working/interested to work in this field. This training will cover Meteorological and Oceanographic data availability from Indian satellites, monitoring and forewarning of extreme weather events such as tropical cyclone and associated storm surge, cloudburst, heavy rainfall, heat/cold waves, landslide, avalanche, fog, agricultural drought, hydrology, etc. Hands-on sessions on the use of satellite data in monitoring and forewarning of extreme weather will be demonstrated.

Details of the Training Programme

Dates of training	23-27 March 2020
No. of participants	40
Target group	Students, researchers, faculty members, early career scientists and officials of Government of India recognized Universities/Institutes/ Departments.
Pre-requisite	Working knowledge of Linux, Fortran and Python.
Last date to apply	Filled-in application must reach on or before 20 February 2020.

Training programme consists of lectures in the forenoon by eminent scientists followed by hands-on familiarisation with satellite data in the afternoon. Outstation students/JRFs may be provided paid accommodation at SAC guest house on sharing basis. No fee will be charged for attending the training. No TA/DA will be provided. Participation certificate will be issued after the completion of training. Selected applicants will be intimated by email. Interested may send the filled-in application form on or before 20 February 2020 to:

The Head,
MRTD/MRG, Room No. 6112
Space Applications Centre (ISRO)
Bopal, Ahmedabad - 380058
Phone: 079-26916112   Fax: 079-26916127
Email: sathya@sac.isro.gov.in
Scanned copy of the filled-in application sent by email will also be accepted.

Super Cyclonic Storm Kyarr as observed by ScatSat-1 at 03:31 UTC on 27 October 2019
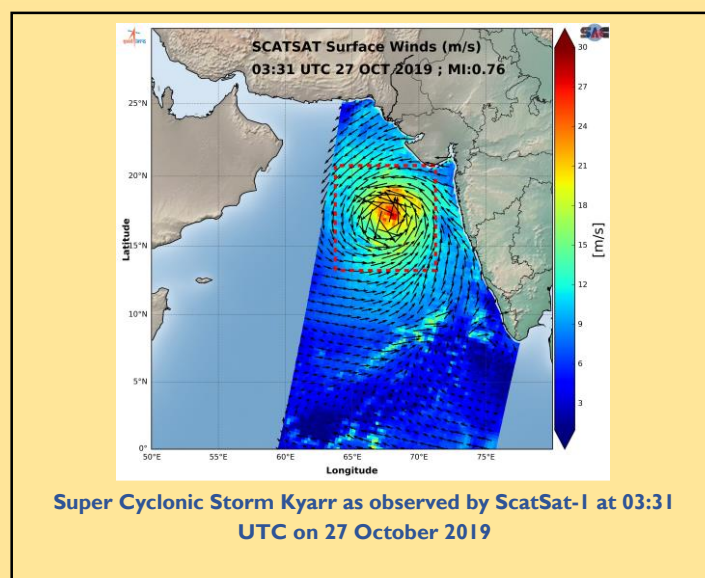
Space Applications Centre, Ahmedabad

Application for *SMART* Training Programme

Space-based Weather Extremes Monitoring and Forewarning

(Please type or write in CAPITAL Letters)

Name   Dr./Mr./Ms/.......……………………………………………………..

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

Gender   …………………………………………………………………

Correspondence Address (official)   …………………………………………………………………

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Email   …………………………………………………………………

Mobile Number   …………………………………………………………………

Designation   …………………………………………………………………

Educational Qualification   Degree   Subject University/College   % marks

Permanent address with Pin code   …………………………………………………………………

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How will this training programme be useful   …………………………………………………………………
to your studies/research/work?   …………………………………………………………………

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Signature of the applicant with date   ……………………………………………………………….

Recommendation from Head of the   …………………………………………………………………
Department or Institution with seal   …………………………………………………………………

Last date to receive the completed application is 20 February 2020