

Theme areas of Workshop

- i. Role of NICES Program in Climate Services
- ii. Remote Sensing applications in Jammu & Kashmir
- iii. Desert, desertification, and climate change
- iv. Alpine vegetation & climate change
- v. Atmospheric GHGs & Climate Research
- vi. Clouds in Earth's climate
- vii. Polar Cryosphere
- viii. Applications of ISRO's Geoportals

Important Dates

Date of Workshop : 04.05.2023

Organizing Committee

Patrons

Dr. Prakash Chauhan

Director, NRSC- ISRO
Hyderabad

Prof. Nilofer Khan

Hon'ble VC, University
of Kashmir Srinagar

Organizing Committee Members

Prof. Shakil Ahmad Romshoo, Chairman
University of Kashmir and VC, IUST
Dr. P. Raja

Principal Scientist, ICAR-IISWC

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Scientist-SF, Earth & Climate Sciences

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School of Earth and Environmental Sciences, UoK

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Dr. Tariq Abdullah Khan,

Project Associate, NHCRL, UoK

Dr. Mudasir Ahmad,

Project Associate, NHCRL, UoK

Dr. Jasia Bashir,

Project Associate, NHCRL, UoK

Workshop Schedule

Inauguration of the Workshop

- Key note addresses
- Technical Session
- Panel Discussion on "Space to Society"
- Concluding Session



Central Library, UoK



NRSC, ISRO

National Information System for Climate and Environment Studies



Information Brochure

on Earth Observations for Climate Services

04th May, 2023

Venue

Gandhi Bhawan, University
of Kashmir Srinagar, J&K.

Organiser

Prof. Shakil Ahmad Romshoo
University of Kashmir/IUST

Convener

Dr. Rajashree V. Bothale
Deputy Director, ECSA NRSC,
ISRO, Hyderabad

Co-Convener

Mr. Mahesh P
Scientist-SE, NRSC, ISRO, Hyderabad

Organised by

National Remote Sensing Centre,
ISRO, Hyderabad - 500037

&

University of Kashmir
Srinagar – J&K 190006

Background

“A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods” defines Climate Change by UNFCCC. Natural processes like changes in the solar output, earth's orbit, volcanic eruptions etc. may cause climate change. But over the past century, there has been a noticeable acceleration in climate change through global warming caused by the accumulation of greenhouse gases in the atmosphere due to anthropogenic activities. Among the different GHGs, CO₂ is of more importance due to its longer residence period in the atmosphere (~150 years) as compared to N₂O (~114 years) and CH₄ (~10-12 years). Ironically the rates of emission of GHGs are faster than their natural removal, causing net accumulation in the atmosphere.

Researchers have predicted future climate scenarios based on different levels of CO₂ and GHGs emission. It is projected that the global temperatures may rise by as much as 5°C (relative to 1986-2005) by 2100 in the absence of any efforts to curtail emissions. The elevation in temperatures is likely to be contained within 2°C only if stringent measures are adopted. However, climate change will continue to occur even after the stabilizing of global mean temperatures.

The World Meteorological Organization (WMO) also releases annual reports on the state of global climate which summarizes significant climate and weather events/trends at the regional and global scale. Efforts to check climate change have gained momentum globally; the Paris Agreement of 2016 drafted by the United Nations aims to check the rise in global temperatures to 2°C below pre-industrial levels. It is thus vital to continue studies of the climate and its variations, occurring as a result of natural and anthropogenic factors, to enable informed decision-making on mitigation / adaptation measures to face a changing climate. Realizing the gravity of the situation and to address the lack of an accurate climate-quality database from the Indian perspective, the Indian Space Research Organization (ISRO) has established 'National Information System for Climate and Environment Studies (NICES)' at National Remote Sensing Centre (NRSC), ISRO, Hyderabad in 2012 to generate long term, consistent and accurate database using satellite data.

NICES is a multi-institutional endeavor from which currently 64 bio/geo physical parameters are being generated and freely disseminated to stakeholders through web enabled services. The objectives of NICES are: establishment of appropriate observational network acquisition and processing of international and national missions' data, generation of spatially and temporally blended climate products, establishment of supporting infrastructure and services and effective dissemination of data for scientific utilization of data towards impact assessment, adaptation, vulnerability and

mitigation strategy. NICES is also instrumental to organize regional workshops to create awareness about the climate change and the innovative use of the climate database being generated at NRSC.

The Earth and Climate Science area is evolving with time and have generated long-term climate database. Advanced infrastructure with high computing facilities, observational network, satellite data reception, and above all a strong team of scientists, has changed the paradigm of defining and quantifying the climate change under Indian perspective.

Keeping all these in view, NRSC, ISRO, Hyderabad & University of Kashmir, Srinagar have jointly proposed to organize **National Workshop on "Earth Observations for Climate Services"** on **04th May, 2023**.

About the NRSC, ISRO, Hyderabad

National Remote Sensing Centre (NRSC) is one of the primary centres of Indian Space Research Organization (ISRO), Department of Space (DOS). NRSC has the mandate for establishment of ground stations for receiving satellite data, generation of data products, dissemination to the users, development of techniques for remote sensing applications including disaster management support, geospatial services for good governance and capacity building for professionals, faculty and students. NRSC operates through multiple campuses to meet national and regional remote sensing data and applications needs of the country.

Main Campus at Balanagar, Hyderabad for Administration, Remote Sensing Applications and Aerial Services. The Campus at Shadnagar for Satellite Data Reception, Data Processing and Dissemination, and Disaster Management Support. Five Regional Centres at Sector 9, KBHB in Jodhpur (Regional Centre-West), Sadhiknagar at New Delhi (Regional Centre-North), New Salt Lake City in Kolkata (Regional Centre-East), Amaravathy Road in Nagpur (Regional Centre-Central), Karthik Nagar in Bangalore (Regional Centre-South) for promoting remote sensing applications for various states. Outreach facility and Earth and Climate Sciences Area (ECSA) are at Jeedimetla in Hyderabad for providing training for professionals, faculty and students and for general outreach. Aircraft operations facility at Begumpet Airport, Hyderabad

About the University of Kashmir, Srinagar

The University of Kashmir, founded in the year 1948, is situated at Hazratbal in Srinagar. It is flanked by the world famous Dal and Nigeen Lakes. The Main Campus of the University is spread over 247 acres of land. Over the Years, the University has expanded substantially and established Satellite Campuses at Anantnag (South Campus) and Baramulla (North Campus), and Kupwara, to make higher education more accessible to people living in remote areas of Kashmir valley. The University has also established a Sub-Office at Jammu to cater

the needs of the candidates enrolled with the University from outside Kashmir.

The University is committed to provide an intellectually stimulating environment for productive learning to enhance the educational, economic, scientific, business and cultural environment of the region. The University offers programmes in all the major faculties; and has been constantly introducing new and innovative programmes to cater to the needs and demands of the students and the society.

Over the years, the University has marched towards excellence in its programmes and activities. It has been re-accredited as Grade A+ University by the National Assessment & Accreditation Council (NAAC) of India and figures among the top 50 universities as per the NIR ranking. This is recognition and reflection of the high standard of quality in teaching and research at the University of Kashmir.

Registration Procedure

The registration will be done at the venue i.e. Gandhi Bhawan, University of Kashmir, Srinagar

For further details, please contact

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For additional information please visit the following websites

<https://www.nrsc.gov.in>

<https://www.kashmiruniversity.net>

<https://geoinformatics.edu.uok.in>

<https://hcr.edu.uok.in>



National Information System for Climate and Environment Studies