

60th IIRS Outreach Programme

on

“Application of Geoinformatics in Ecological Studies”

By Dr. Hitendra Padalia, Dr. Subrata Nandy, Dr. Ishwari Datt Rai, Dr. Taibanganba Watham, Dr. Sameer Saran, Dr. Gautam Talukdar, Dr. Subrata Nandy & Ms. Ritika Srinet, Scientists, Indian Institute of Remote Sensing, Dehradun

13-24 July 2020

The Department of Electronics and Communication Engineering has organized a 9-Day Outreach Programme conducted by Indian Institute of Remote Sensing, Dehradun during 13-24 July, 2020. The target audience are the faculty and students of various disciplines of Sree Vidyanikethan Educational Trust, Tirupati.

Recent advancements in the field of geoinformatics have a substantial impact on ecological studies, providing spatial data and associated information to enable a better understanding of the ecological systems. The temporal dimension of remote sensing is also a valuable attribute for studies of ecological systems at landscape to global scales, providing a means to study the impacts of environmental change. Researchers have become increasingly aware of the potentials of GIS and of data availability and tools for ecological modelling applications. There has been considerable development in WebGIS with regard to visualization and geospatial analysis that are useful to the ecologist. The recent surge in Free and Open Source Software (FOSS) of GIS has added another dimension by enabling services beneficial to the ecological and environmental sciences. With the development of new active and passive sensors with improved spatial, spectral, radiometric, and temporal resolutions, Earth observation data along with better data integration approaches can contribute immensely to ecological research. This outreach programme covered the following topics:

- An overview of application of geoinformatics in ecological studies
- Ecological niche-based species distribution modelling
- Ecological studies using LiDAR
- Biodiversity assessment with geoinformatics
- Geostatistical analysis in ecological studies
- Biodiversity informatics and citizen science
- Satellite telemetry for wildlife studies
- Ecological studies using cloud computing (Demo)

Finally, a group panel discussion was conducted on 24-07-2020 with all online users and expert panel who are experienced Scientists from Indian Institute of Remote Sensing, Dehradun. A total of 31 members from different disciplines have participated in this programme.

Dr. V. V. Satyanarayana Tallapragada, Associate Professor organized this event under the guidance of Dr. P. V. Ramana, Professor and Head, Department of Electronics and Communication Engineering.


Convener



Indian Institute of Remote Sensing
Indian Space Research Organisation
Dept. of Space, Govt. of India
Dehradun

iirs

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Lecture Schedule

Date & Time	Topic	Faculty/Resource person
13.07.2020 1600-1730 hrs	An overview of application of geoinformatics in ecological studies	Dr. Hitendra Padalia
14.07.2020 1600-1730 hrs	Ecological niche-based species distribution modelling	Dr. Hitendra Padalia
15.07.2020 1600-1730 hrs	Ecological studies using LiDAR	Dr. Subrata Nandy
16.07.2020 1600-1730 hrs	Biodiversity assessment with geoinformatics	Dr. Ishwari Datt Rai
17.07.2020 1600-1730 hrs	Geostatistical analysis in ecological studies	Dr. Taibanganba Watham
20.07.2020 1600-1730 hrs	Biodiversity informatics and citizen science	Dr. Sameer Saran
21.07.2020 1600-1730 hrs	Satellite telemetry for wildlife studies	Dr. Gautam Talukdar
23.07.2020 1600-1730 hrs	Ecological studies using cloud computing (Demo)	Dr. Subrata Nandy & Ms. Ritika Srinet
24.07.2020 1600-1700 hrs	Panel discussion	

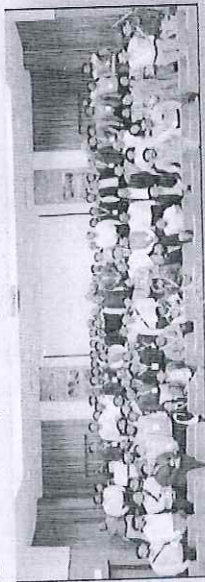
IIRS Outreach Programme

The IIRS outreach programme, which was started in 2007 with 12 universities/ institutions has now grown substantially to 1100. The beneficiaries of the programme may include:

- Central/State/Private Universities & Academic Institutions
- Central & State Government Organisations/Departments
- Forest Resource Professionals
- State Forest Departments/Forest Training Academies
- Research Institutes
- Geospatial Industries
- NGOs

Feedback Mechanism

IIRS has conducted workshops and sessions during IIRS Academia Meet to take feedback from participating institutions to improve the quality of future courses.



IIRS Outreach programme feedback session during IIRS Academia Meet (IAM)-2020

Awards of Appreciation

IIRS has received national awards for excellence in training for outreach and e-learning programme during 1st National Symposium on Excellence in Training conducted during April 11-12, 2015 in New Delhi by Department of Personnel & Training (DoPT), Govt. of India in collaboration with United Nations Development Programme (UNDP).



About IIRS

Indian Institute of Remote Sensing (IIRS) under Indian Space Research Organisation (ISRO), Department of Space, Govt. of India is a premier Training and Educational Institute set up for developing trained professionals in the field of Remote Sensing, Geoinformatics and GNSS Technology for Natural Resources, Environmental and Disaster Management. Formerly known as Indian Photo-interpretation Institute (PII), founded in 1966, the Institute boasts to be the first of its kind in entire South-East Asia. While nurturing its primary endeavour to build capacity among the user community by training mid-career professionals, the Institute has enhanced its capability and evolved many training and education programmes that are tuned to meet the requirements of various target groups, ranging from fresh graduates to policy makers including academia.

IIRS also conducts e-learning programme on Remote Sensing and Geoinformation (<https://elearning.iirs.gov.in>).

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Application of Geoinformatics in Ecological Studies

July 13-24, 2020



Organised by

Indian Institute of Remote Sensing
Indian Space Research Organisation
Department of Space, Govt. of India
Dehradun

www.iirs.gov.in

About the Course

Recent advancements in the field of geoinformatics have a substantial impact on ecological studies, providing spatial data and associated information to enable a better understanding of the ecological systems. Remote sensing has been widely used as a source of environmental information for ecological research. The temporal dimension of remote sensing is also a valuable attribute for studies of ecological systems at landscape to global scales, providing a means to study the impacts of environmental change. Researchers have become increasingly aware of the potentials of GIS and of data availability and tools for ecological modelling applications. There has been considerable development in WebGIS with regard to visualization and geospatial analysis that are useful to the ecologist. The recent surge in Free and Open Source Software (FOSS) of GIS has added another dimension by enabling services beneficial to the ecological and environmental sciences. With the development of new active and passive sensors with improved spatial, spectral, radiometric, and temporal resolutions, Earth observation data along with better data integration approaches can contribute immensely to ecological research.

Course Contents

- An overview of application of geoinformatics in ecological studies
- Ecological niche-based species distribution modelling
- Ecological studies using LIDAR
- Biodiversity assessment with geoinformatics
- Geostatistical analysis in ecological studies
- Biodiversity informatics and citizen science
- Satellite telemetry for wildlife studies
- Ecological studies using cloud computing (Demo)

Target Participants

The course is designed for professionals from Central/State Govt./Private Organizations/NGO/students and researchers engaged in ecological studies.

The course participants have to be duly sponsored by their university/institution and application should be forwarded through coordinators from respective organisations/centres. Users attending programmes under CEC-UGC/CIET/other networks can also participate. Institutions on high speed National Knowledge Network (NKN) can also participate.

Course Study Material

Course study materials like lecture slides, video recorded lectures, open source software & handouts of demonstrations, etc. will be made available through e-class. Video lectures will also be uploaded on e-class (<https://eclass.iirs.gov.in/login>).

Course Fee

There is no course fee for attending this programme.

Course Registration

- Course updates and other details will be available on URL- <https://www.iirs.gov.in/EDUSAT-News>.
- To participate in this programme the interested organizations/ universities/ departments/ Institutes has to identify a coordinator at their end. The identified coordinator will register online his/her Institute as nodal center in IIRS website.
- All the participants have to register online through registration page by selecting his/her organization as nodal center.

Course Funding & Technical Support

The programme is sponsored by National Natural Resources Management System – Standing Committee on Training and Education (SC-T), Indian Space Research Organisation, Department of Space, Government of India.

Programme Reception

Programme can be received through e-class platform of IIRS-ISRO using internet connectivity. No specific hardware/software required. However, it is recommended good internet connectivity at user end. To run the programme in class room, following hardware will be required:

- Desktop computer with web camera microphone and output speakers or laptop with microphone camera and output speaker.
- Large display screen/projector/TV.

Important links

Course updates and other details will be available on URL- <https://www.iirs.gov.in/EDUSAT-News>.

To participate in this programme the interested organizations/ universities/ departments/ Institutes have to identify the Coordinator at their end. The identified coordinator will register online his/her Institute as nodal centre in IIRS website (<https://elearning.iirs.gov.in/edusatregistration/coordinator>).

All the participants have to register online through registration page by selecting his/her organisation as nodal centre.

<https://elearning.iirs.gov.in/edusatregistration/student>

Award of Certificate

Working Professionals and Students: Based on 70% attendance and 40% in the online examination