

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**70<sup>th</sup> IIRS Outreach Programme**

**on**

**“Remote Sensing of Land Degradation”**

***By Dr. Suresh Kumar, Mr. Justin George K., Dr. Dipanwita Haldar, Dr. N. R. Patel, Indian Institute of Remote Sensing, Dehradun***

**01 – 07 December, 2020**

The Department of Electronics and Communication Engineering has organized a 5-Day Outreach Programme conducted by Indian Institute of Remote Sensing, Dehradun during 01 – 07 December, 2020. The target audience are the faculty and students of various disciplines of Sree Vidyanikethan Educational Trust, Tirupati.

Land degradation processes are operating on the earth's surface at varying temporal as well as spatial scales. These different processes cause tremendous pressure on various natural resources including soil, water, vegetation etc causing their non-judicious use as well as unscientific management leading to adverse effects on agricultural/ecosystem productivity as well as environmental quality. The estimation as well as monitoring of diverse degradation processes and types are very vital from a resource management and sustainability point of view. Advent of earth observation satellites operating in different wavelength regions like optical, thermal as well as microwave has enhanced our abilities for monitoring different degradation processes such as soil erosion, soil salinity, vegetal degradation, desertification etc. The remote sensing data also provide vital inputs for estimating as well as modelling degradation processes such soil erosion via a plethora of soil erosion models, operating in varying spatial as well as temporal domains. The increased availability of RS data enables us to periodically monitor the impact of degradation as well as desertification processes on vegetation status including crop growth and productivity. In addition the geospatial techniques helps us in devising management strategies aimed at mitigating the illeffects of land degradation as well as monitoring the progress of restoration activities. This outreach programme covered the following topics:

- An overview of Remote Sensing of Land Degradation
- Remote Sensing of Soil Erosion
- Remote Sensing of Salt-affected Soils: Optical & Microwave
- Remote Sensing of Vegetal Degradation and Desertification
- Mitigating Land Degradation and Land Restoration

Finally, on 07.12.2020, a panel discussion with all the mentors is conducted for interaction with the participants. Five participants have attended this programme.

Dr. V. V. Satyanarayana Tallapragada, Associate Professor has coordinated this event under the guidance of Dr. N. Gireesh, Professor and Head, Department of Electronics and Communication Engineering.

  
**Convener**



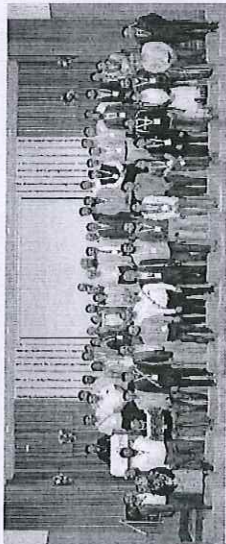
## IIRS Outreach Programme

The IIRS outreach programme, which was started in 2007 with 12 universities/ institutions has now grown substantially to 2500+ network institutes. The beneficiaries of the programme may include:

- Central/ State/ Private Universities & Academic Institutions
- Central & State Government Departments
- ICAR Universities/ Institutes Professionals
- Agriculturists
- Research Institutes
- Geospatial Industries
- NGOs

## Feedback Mechanism

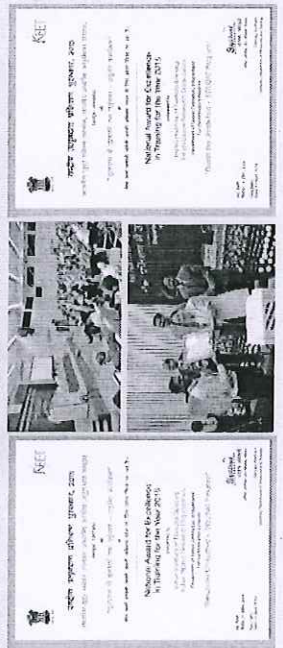
IIRS has conducted workshops and sessions during IIRS User Interaction Meet to take feedback from participating institutions to improve the quality of future courses.



Feedback session during IIRS User Interaction Meet (UIM)-2020

## Awards of Appreciation

IIRS has received national awards for excellence in training for outreach and e-learning programme during 1<sup>st</sup> 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 (IPI), 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 Geo-information Science (<http://elearning.iirs.gov.in>).

## Contact Details

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Agriculture and Soils Department

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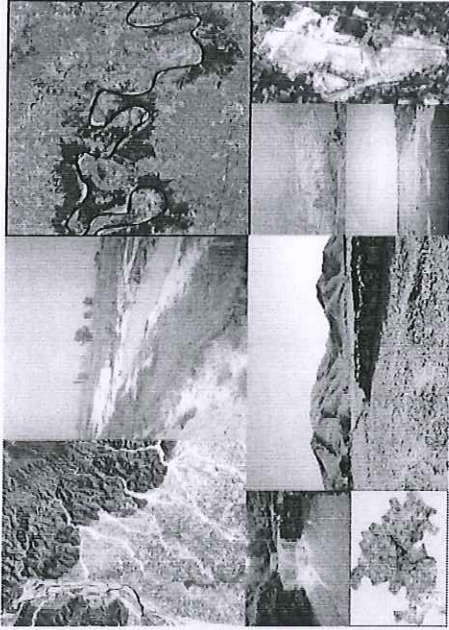
### IIRS DLP Team

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## 70<sup>th</sup> IIRS Outreach Programme



## Remote Sensing of Land Degradation

December 01 – December 07, 2020



**Organised by**  
**Indian Institute of Remote Sensing**  
Indian Space Research Organisation  
Department of Space, Govt. of India  
Dehradun  
[www.iirs.gov.in](http://www.iirs.gov.in)



## About the Course

Land degradation processes are operating on the earth's surface at varying temporal as well as spatial scales. These different processes cause tremendous pressure on various natural resources including soil, water, vegetation etc causing their non-judicious use as well as unscientific management leading to adverse effects on agricultural/ecosystem productivity as well as environmental quality. The estimation as well as monitoring of diverse degradation processes and types are very vital from a resource management and sustainability point of view.

Advent of Earth Observation (EO) satellites operating in different wavelength regions like optical, thermal, as well as microwave has enhanced our abilities for monitoring different degradation processes such as soil erosion, soil salinity, vegetal degradation, desertification etc. The remote sensing data also provide vital inputs for estimating as well as modelling degradation processes such as soil erosion via a plethora of soil erosion models, operating in varying spatial as well as temporal domains. The increased availability of RS data enables us to periodically monitor the impact of degradation as well as desertification processes on vegetation status including crop growth and productivity. In addition the geospatial techniques helps us in devising management strategies aimed at mitigating the ill effects of land degradation as well as monitoring the progress of restoration activities.

## Course Contents

- An overview of Remote Sensing of Land Degradation
- Remote Sensing of Soil Erosion
- Remote Sensing of Salt-affected Soils : Optical & Microwave
- Remote Sensing of Vegetal Degradation and Desertification
- Mitigating Land Degradation and Land Restoration

## Target Participants

- This course is designed for professionals from Central / State Govt. / state watershed directorates/Private Organizations / NGO engaged in land degradation mapping as well as management and planning/students & researchers aligned or engaged in various aspects of land management, mitigating degradation as well as land restoration.

- 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://www.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- <http://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 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

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

To participate in this programme the interested organisations/universities/departments/institutes have to identify 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 organization 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 There are limited number of seats. Registration will be done on first come first serve basis



Course Name: **Remote Sensing of Land Degradation**

Course Coordinator: Mr Justin George K

Course Duration: **Dec 01-07, 2020**

<b>Date</b>	<b>Day</b>	<b>Time</b>	<b>Topic</b>	<b>Speaker</b>
01/12/2020	Tuesday	1600-1700hrs 1700-1730 hrs	Remote Sensing of Land Degradation – An Overview  Interactive Session	Dr.Suresh Kumar
02/12/2020	Wednesday	1600-1700hrs 1700-1730 hrs	Remote Sensing of Soil Erosion  Interactive Session	Mr. Justin George K,
03/12/2020	Thursdays	1600-1700hrs 1700-1730 hrs	Remote Sensing of Salt-affected Soils : Optical & Microwave Interactive Session	Dr. Dipanwita Haldar
04/12/2020	Friday	1600-1700hrs 1700-1730 hrs	Remote Sensing of Vegetal Degradation and Desertification  Interactive Session	Dr. N R Patel,
07/12/2020	Monday	1600-1645hrs	Mitigating Land Degradation and Land Restoration Interactive Session	Dr. Suresh Kumar,
07/12/2020	Monday	1645-1730hrs	Panel Discussion	Course Faculty



Dr. V. V. Satyanarayana T

70- IIRS Outreach Programme on Remote Sensing of Land Degradation

[View Student](#) [Attendance](#) [Attendance Status](#) [Study Material](#) [Download Certificates](#)

Attendance Record For Course On Geospatial Technology For Disaster Risk Reduction-One Day Online Workshop

Show 10

entries

Search:

Registration Number	Name	Total Sessions	No. of sessions attended	%ge of Attendance	Eligibility for Examination/Certificate
2020700544212	MR. GOLLA AMARESH YADAV	5	4	80.00	Yes
2020700569925	MR. VENKATANARESH M	5	4	80.00	Yes
2020700569969	MR. CHOWDAM VENKATA SUDHAKAR	5	4	80.00	Yes
2020700573759	MS. SUCHITRA REDDY AMBATI	5	4	80.00	Yes
2020700574235	MR. NADENDLA SREE HARSHA	5	4	80.00	Yes

Showing 1 to 5 of 5 entries

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#### USEFUL LINKS

[IIRS e-Learning Brochure \(https://elearning.iirs.gov.in/imgs/elearning\\_IRS-English\\_Version2018.pdf\)](https://elearning.iirs.gov.in/imgs/elearning_IRS-English_Version2018.pdf)

[Annual Course Calendar IIRS Distance Learning Programme – 2020 \(https://elearning.iirs.gov.in/imgs/Annual%20Course%20Calendar%202020%20-revised%20\(4\).pdf\)](https://elearning.iirs.gov.in/imgs/Annual%20Course%20Calendar%202020%20-revised%20(4).pdf)

[IIRS Application Form \(https://elearning.iirs.gov.in/imgs/application\\_form.pdf\)](https://elearning.iirs.gov.in/imgs/application_form.pdf)

[ISRO \(https://www.isro.gov.in/\)](https://www.isro.gov.in/)

[CSISRAP \(https://www.csisrap.org/\)](https://www.csisrap.org/)