

# Fourteenth IIRS Outreach Programme



## IIRS Outreach Programme

The IIRS Outreach Programme which started in 2007 with 12 no. Universities / institutions/departments, has now spread over 217 no. spread across India covering 29 States and 2 union territories. Following are the type of Universities /institutions/departments participating IIRS outreach program.

- Central/State Universities
- Research Institutions
- Science and Engineering Colleges
- State Remote Sensing Centres
- Defense Institutions
- State Science & Technology Departments
- Central / State Government Departments
- NKN Universities/Institutions
- Individuals

## Feedback Mechanism

IIRS has conducted five workshops in 2007, 2009, 2010, 2013 and 2014 and invited feedback from participating Universities to help to improve the quality of future courses. IIRS is planning to conduct next feedback workshop on February 27, 2015 to further improve the quality of IIRS outreach programs in future.



Group photo of fifth EDUSAT feedback session during IUIM-2014



Director, IIRS delivering the lecture

## About IIRS

Indian Institute of Remote Sensing (IIRS), Dehradun is one of the units of ISRO to realize the Indian space vision, as a key player, in capacity building for successful implementation of EO Programme for societal benefits. IIRS is a premier institute with internationally acclaimed expertise in the area of training, education and research in the field of Remote Sensing and Geoinformatics and their applications in natural resources survey, Earth and atmospheric sciences, oceanography, Urban and infrastructure planning environmental and disaster management.

IIRS outreach program is popular across India. In the last eight years 13 programs were conducted and trained more than 16,000 participants.

IIRS also conducts e-learning Program on Remote Sensing and Geoinformation Science provided by the Institute. First course is in progress with more than 1000 participants registered for the course. Refer to website [elearning.iirs.gov.in](http://elearning.iirs.gov.in) for details.

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# Applications of Remote Sensing & GIS for Natural Resources

January 27 – March 27, 2015

**Sponsored by:**

National Natural Resources Management System  
(NNRMS)



**Organised by:**

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

## About the Course

Remote Sensing, GIS and GNSS technologies enabled domain experts to use them for a variety of applications such as natural resource management, infrastructure development, environmental and disaster management support, business applications and utility service etc. There is tremendous potential and demand from User Departments/ Institutions / Universities to conduct the program on "Application of RS & GIS for Natural Resources". The purpose of the program is to create awareness and to harness the use of space and geospatial technologies and their applications. The structure and course curriculum details are listed separately.

IIRS has successfully conducted 13 such distance learning courses so far with participation of over 16000 students from 217 Centres /institutions /universities spread across India. This program will be commencing from January 27, 2015 of 8 weeks duration with around 4 /5 lecture sessions of one and half hour period.

## Curriculum

The course structure and broad topics are as follows:

### Agriculture and Soil

- Crop inventory and cropping system analysis
- Agricultural drought monitoring and assessment
- MW RS in Soil Moisture studies
- RS in degraded land mapping and monitoring
- Geospatial approach for soil quality assessment

### Forestry and Ecology

- Spectral properties of vegetation
- Vegetation classification and mapping
- Forest growing stock /carbon assessment
- Wildlife habitat evaluation
- Forest fire risk assessment and monitoring

### Geoscience and Geohazards

- Mineral exploration
- Hydrocarbon exploration
- Hyperspectral image analysis for geological applications
- Hydropower development
- Geophysical techniques for geological applications

### Marine and Atmospheric Sciences

- Ocean atmospheric interaction
- Oceanographic parameter retrieval
- Coastal hazards

- Climate change impact on coastal zone
- Satellite meteorology
- Atmospheric pollution

### Urban and Regional Studies

- Urban and Regional Planning
- Urban Spatial growth modeling
- 3D GIS for Urban development
- Property taxation and slum mapping
- Urban Green Spaces

### Water Resources

- Irrigation Water management
- Flood Inundation, Mapping, Monitoring & Management
- Soil erosion modeling & watershed prioritization
- Hydrological modeling
- Climate change impact on hydrological

## Target Participants

The candidates who want to participate in the course should be a student of undergraduate course or postgraduate course (any year). Technical/ Scientific Staff of Central/ State Government/Faculty / researchers at university/ institutions are also eligible to participate in this course.

Applications of participants have to be duly sponsored by university/ institute and forwarded through coordinators from respective centres. It is possible to accommodate individuals who have good internet facility and have basic knowledge of RS, GIS & GNSS. They will have to appear for evaluation at the nearest IIRS Networked University/Institution. Users receiving programmes under CEC-UGC/CIET /other networks can also participate. Institutions on high speed National Knowledge Network (NKN) can also participate using A-VIEW software.

**Note:** Interested University/Institution/Individuals can participate in this course without any cost payable to IIRS.

## Course Study Material

Course study materials like lecture pdf, lecture video, lecture notes, open source software, practical data & handouts of practical lecture etc. will be made available through IIRS ftp link and YouTube Channel <http://www.youtube.com/user/edusat2004> (only lecture videos)

## Sponsors & 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 and is conducted with due technical help from Development and Educational Communication Unit (DECU), Satellite Communication and Navigation Program (SCNP) Office, ISRO HQs, A-VIEW - National Mission on Education through Information and Communication Technology, Central Institute of Educational Technology - National Council of Educational Research and Training (NCERT), New Delhi, Consortium for Educational Communication (CEC) - University Grants Commission, NKN and all coordinators etc.

## Programme Receptions

NKN/NMEICT Institutions/other Institutions / Universities may participate in IIRS Outreach Programme by setting up either of these facilities:

### Option - I (Satellite Based)- Only Existing Users can receive

- 1.2 m Satellite Interactive Terminal (SIT) Antenna
- Indoor unit (IDU) i.e. set top box
- PC with software for LMS
- LCD Projector
- Classroom
- Total cost: Rs.4 to 4.5 lakhs.
- DECU-ISRO has authorized M/S Infinium (India) Ltd. (<http://www.infinium.co.in>) for procurement, installation and commissioning

### Option - II (Internet Based)

- High end Computer + Speakers (Windows OS)
- A-VIEW software (free to download from [www.aview.in](http://www.aview.in))
- National Knowledge Network or any other high speed internet facility (Preferably without firewall)
- Large Display Screen (Projector or TV)
- Classroom

### Option - III (Internet Based)

#### Web browser based access to IIRS interactive server

- URL- <http://live.iirs.gov.in> (required Flash player and JRE at user end)
- User registration and activation through email
- Participate through live two way web casting.

**Note:** Institutions/universities have to bear total expenses for establishment of the classroom facility