

19th Outreach Certificate Course on “**Remote Sensing and GIS Applications in Carbon Forestry** ” sponsored by NNRMS and organized by IIRS/ ISRO Dept. of Space, Govt. of India,
Dehradun 16/02/2017 to 10/02/2017

RAJA SHRIPATRAO BHAGAWANTRAO MAHAVIDYALAYA, AUNDH, SATARA

Indian Institute of Remote Sensing, ISRO, Dehradun
Department of Space, Government of India

SUMMARY REPORT OF PROGRAM

Date: 10/04/2017

To,
The Principal,
R.S.B. Mahavidyalaya, Aundh
Tal. Khatav, Dist. Satara

I am submitting summary report of Outreach Programme. Please accept it.


1. Name of Programme: Remote Sensing and GIS Applications in Carbon Forestry
2. Duration: 16.02.2017 to 10.03.2017 Total Days: 25
3. Number of enrolled students: 9
4. Name of Coordinator: Dr. Telore Namdev Vasant
5. Name of Resource Persons: i) Dr. Hina Pande ii) Dr. Harish Karnataka
iii) Dr. Poonam Sethi Tiwari


6. Objectives of the Programme:
i. To know basic concepts of Remote Sensing.
ii. To know basic concepts of GIS.
iii. To study applications of geospatial technologies in Carbon Forestry.

7. Outcome of the Programme:
i. Participants become aware of basic concepts of Remote Sensing.
ii. Participants become aware of GIS.
iii. Participants become aware of applications of geospatial technologies in Carbon Forestry.

Centre Coordinator
(Dr. Namdev V. Telore)
Co-ordinator
IIRS Outreach Programme, Dehradun
Govt. of India, ISRO, Dehradun

Principal
PRINCIPAL
Raja Shripatrao Bhagwantrao
Mahavidyalaya, Aundh (Satara)




E-CELLS
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 AND PROGRAMME DELIVERY SYSTEM

<https://elearning.iisb.gov.in/jsp/course.php?>

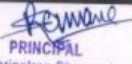
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19- IISB Outreach Programme on Remote Sensing and GIS Applications in Carbon Forestry

View Student
 attendance
 attendance status
 Study Material

S. No.	RegNo.	Name	DOB	Mchiv No.	Email	ID_Proof	Date	Status
1	2017199528	Umesh Potekar	7-29-1988	8308088670	potekarumesh@gmail.com	View	2017-02-01 13:38:25	Approved
2	2017199537	Salim Mulla	2-27-1990	9561485333	salimulla303@gmail.com	View	2017-02-01 13:55:20	Approved
3	2017199539	Barakade Dagaadu	6-1-1969	9822636527	barakadeji@gmail.com	View	2017-02-01 14:02:06	Approved
4	2017199547	Tushar Sawant	9-9-1989	9166503990	pankajumar.sawant@gmail.com	View	2017-02-01 14:10:06	Approved
5	2017191367	Ramteke Khatri	5-4-1971	9502331276	pkramteke@gmail.com	View	2017-02-09 13:57:58	Approved
6	20171912403	Bhagyasree Phadtare	3-4-1994	9619196628	bphadtare777@gmail.com	View	2017-02-10 14:38:44	Approved
7	2017191394	Puneshottam Ramteke	5-6-1971	9502331276	p.kramteke@gmail.com	View	2017-02-09 14:19:02	Approved
8	20171911415	Shubhang Patil	6-1-1971	9690410003	patilshubhangh@gmail.com	View	2017-02-09 14:34:46	Approved
9	20171910299	Sanjay Shinde	8-21-1971	7675780749	smshinde.geog@gmail.com	View	2017-02-07 11:17:23	Approved

Dr. Namdev V. Telore
 Coordinator
 IISB Outreach Programme, Dabholkar
 Centre, S. S. Sakinandyalaya, Keshi, Dist. Satara


PRINCIPAL
 Raja Shripatrao Bhagwantrao
 Mahavidyalaya, Aunshi (Satara)



19- IISG Outreach Programme on Remote Sensing and GIS Applications in Carbon Forestry

View Student attendance attendance status Study Material

S.No.	RegNo.	Name	DOB	Mobile No.	Email	ID_Proof	Date	Status
1	2017199528	Umesh Potekar	7-29-1988	8308088570	potekarumesh@gmail.com	View	2017-02-01 13:38:26	Approved
2	2017199537	Salim Mulla	2-27-1990	9561485333	salimmulla303@gmail.com	View	2017-02-01 13:55:20	Approved
3	2017199539	Barakade Dagedu	6-1-1968	9822636527	barakadejd@gmail.com	View	2017-02-01 14:02:06	Approved
4	2017199547	Tushar Sewant	9-9-1989	9168903590	pankajkumar.sawant@gmail.com	View	2017-02-01 14:10:06	Approved
5	20171911367	Ramteke Khetri	5-6-1971	9552331276	pkranteke@gmail.com	View	2017-02-09 12:57:58	Approved
6	20171912403	Bhagyashree Phadtare	3-4-1994	9619136628	bphadtare777@gmail.com	View	2017-02-10 14:38:44	Approved
7	20171911394	Purushottam Ramteke	5-6-1971	9552331276	p.kranteke@gmail.com	View	2017-02-09 14:19:02	Approved
8	20171911415	Shubhangi Pol	6-1-1971	9890410003	polshubhanghi@gmail.com	View	2017-02-09 14:34:46	Approved
9	20171910399	Sanjay Shinde	8-21-1971	7875780749	smsinde.geog@gmail.com	View	2017-02-07 11:17:23	Approved

Dr. Namdev V. Telore
Co-ordinator
IISG Outreach Programme, Dehradun
Centre: R.S.B. Mahavidyalaya, Aundh Dist. Satara

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भारतीय सुदूर संवेदन संस्थान/ INDIAN INSTITUTE OF REMOTE SENSING
 भारतीय अंतरिक्ष अनुसंधान संगठन/ INDIAN SPACE RESEARCH ORGANISATION
 अंतरिक्ष विभाग, भारत सरकार/ DEPARTMENT OF SPACE, GOVERNMENT OF INDIA



बहिःपरिसर संपर्क/विस्तार कार्यक्रम प्रमाण पत्र
 OFF - CAMPUS OUTREACH CERTIFICATE PROGRAMME



IIRS/DLP/1/19/DLP167

यह प्रमाणित किया जाता है कि राजा श्रीपतराव भगवंतराव महाविद्यालय, औंध, महाराष्ट्र ने 'सुदूर संवेदन तथा भौगोलिक सूचना प्रणाली का कार्बन वानिकी में अनुप्रयोग' पर आधारित ऑनलाइन पाठ्यक्रम में भाग लिया। उक्त पाठ्यक्रम इस संस्थान द्वारा 16 फरवरी से 10 मार्च, 2017 तक संचालित किया गया।

This is to certify that Raja Shripatrao Bhagawantrao Mahavidyalaya, Aundh, Maharashtra has participated in the online training course on "Remote Sensing and GIS Applications in Carbon Forestry" conducted by this institute during February 16 to March 10, 2017.

दिनांक/ Date 24-05-2017
 देहरादून/ Dehradun

मुख्य, विभागीय सर्विस, सूचना प्रौद्योगिकी एवं दूरस्थ अधिगम विभाग
 Geoweb Services, IT & Distance Learning Department, IIRS

समूह निदेशक, भू-स्थानिक प्रौद्योगिकी एवं आउटरीच कार्यक्रम समूह
 Group Director, Geospatial Technologies & Outreach Programme Group, IIRS

Dr. Namdev V. Talore
 Co-ordinator

IIRS Outreach Programme Division
 C. S. B. Mahavidyalaya, Aundh, Dist. Satara

Raja Shripatrao Bhagwantrao
 Mahavidyalaya, Aundh (Satara)

भारतीय सुदूर संवेदन संस्थान
 भारतीय अंतरिक्ष अनुसंधान संगठन
 अंतरिक्ष विभाग, भारत सरकार

Government of India
 Department of Space
 Indian Institute of Remote Sensing
 C. S. B. Mahavidyalaya, Aundh, Dist. Satara
 Dehradun - 248 001 India
 Telephone : +91-021-262324
 Fax : +91-021-270801-2

Dr. A. Senthil Kumar
 Director, Outreach

Dr. Namdev V. Talore
 Co-ordinator
 IIRS Outreach Programme Division
 C. S. B. Mahavidyalaya, Aundh, Dist. Satara

Raja Shripatrao Bhagwantrao
 Mahavidyalaya, Aundh (Satara)

Announcement of IIRS Outreach Program on Remote Sensing and GIS Applications in Carbon Forestry commencing from February 16, 2017

Sir Madam,

Indian Institute of Remote Sensing (IIRS) is a premier institute of IIRS which is engaged in training, education and capacity building in use of geospatial technologies for natural resource monitoring and disaster management support services in the country since last few decades. The institute has set up for conducting 16 satellite and internet-based Outreach Programmes, benefiting more than 13,000 participants from 475 higher educational institutions/Universities/Departmental organisations in India. We have now the pleasure of announcing the twelfth IIRS Outreach Programme targeted to working professionals and 16 to March 10, 2017. This online programme will provide a unique opportunity to the learners to enhance their knowledge by attending the course at their respective working places.

We earnestly expect that we would see the best of it. Thank you and it is sincerely hoped that people who cherish with the success which is their own success should be our success. We are sure that it will be a great success for all of us. We are sure that it will be a great success for all of us. We are sure that it will be a great success for all of us.

Yours faithfully,
 Dr. Namdev V. Talore
 Co-ordinator
 IIRS Outreach Programme Division
 C. S. B. Mahavidyalaya, Aundh, Dist. Satara

Principal
 Raja Shripatrao Bhagwantrao
 Mahavidyalaya, Aundh (Satara)



foresters/professionals/researchers and students interested in learning utility of these modern technologies in the context of forest carbon monitoring (e.g. REDD+). The course will include topics based on carbon cycle, forest based strategies, application of remote sensing and GIS for monitoring forest degradation, forest biomass/carbon estimation etc.

उक्त पाठ्यक्रम की घोषणा सम्बन्धी विवरणिका प्रकटीकरणार्थ तथा आपके संस्थान/विभाग/समय/संस्थान/ विश्वविद्यालय में प्रसार-प्रसार हेतु संलग्न है। इस पाठ्यक्रम में भारत सरकार तथा राज्य सरकार संस्थानों तथा विभागों में कार्यरत समस्त वैशेष तथा शैक्षणिक समुदाय के शिक्षक/शोधकर्ता तथा अन्य वैशेषर भाग ले सकते हैं। कार्यक्रम में भाग लेने के दृष्टिकोण प्रतिभागी संस्थान की वेबसाइट <http://www.iirs.gov.in/EDUSAT-News> के द्वारा पंजीकरण कर सकते हैं।

A copy of the course contents of this online programme is enclosed herewith for your kind perusal and wider circulation in your Ministry/ Department/ Organization/ University/ Institute. The course is open for all the professionals working in various Ministries and Department of Government of India (Central and State), University/Institutional Faculty/Professors, Researchers, other working professionals and students.

इस नि:शुल्क ऑनलाइन पाठ्यक्रम में एम्बू सॉफ्टवेयर के द्वारा तथा इंटरनेट का उपयोग करते हुए भाग लिया जा सकता है। पंजीकृत महाशयियों के उक्त ऑनलाइन कार्यक्रम में जोड़ने हेतु भारतीय सुदूर संवेदन संस्थान (इसरो) द्वारा पत्र/ प्रयोक्ता आईडी/ पासवर्ड उपलब्ध कराया जाएगा। पाठ्यक्रम के समाप्तोपरान्त भारतीय सुदूर संवेदन संस्थान (इसरो) प्रमाण प्रमाणिकाओं को प्रदान कर भी प्रदान करेगा।

The course can be attended without any cost through Internet using A-View Software which is freely available (www.aview.in) for download. IIRS/ISRO will provide credentials to receive this programme online for registered participants. The Certificate of participation will be awarded to all the participants on successful completion of the programme.

उक्त इमेल में और जानकारी हेतु आप डॉ. सत्यम सिंह, पाठ्यक्रम निदेशक ([email:sarnam@iirs.gov.in](mailto:sarnam@iirs.gov.in)), डॉ. हिन्दन पदालिया, पाठ्यक्रम समन्वयक, (दूरभाष: 0135-2524176, मो: 9411193962, ईमेल: hitendra@iirs.gov.in), डॉ. पूनम एम. तिवारी, कार्यक्रम समन्वयक, आई-आई-टी-एन-एन-आइटीएन कार्यक्रम (दूरभाष: 0135-2524115 (कार्यालय), मो: +91 9410924417, ईमेल: poonam@iirs.gov.in), डॉ. हरीश कर्माकर, प्रमुख, विद्योत्पन्न सेवाएं, मुंबई प्रोद्योगिकी एवं दूरस्थ अधिगम विभाग (दूरभाष: 0135-2524332 (कार्यालय), मो: +91 945665523, ईमेल: harish@iirs.gov.in), एडुसैट स्टूडियो निदेशक तथा श्री जनार्दन विश्वकर्मा एवं श्री अशोक घिल्डियाल (दूरभाष: 0135-2524130, ईमेल: edusat2004@gmail.com और dtp@iirs.gov.in) से संपर्क कर सकते हैं। अथवा संस्थान की वेबसाइट <http://www.iirs.gov.in/EDUSAT-News> देख सकते हैं।

In case if you need any further information about the programme, please feel free to contact- **Dr. Sarnam Singh**, Course Director ([email:sarnam@iirs.gov.in](mailto:sarnam@iirs.gov.in)), **Dr. Hitendra Padalia**, Course Coordinator (Ph. 0135-2524176, M-9411193962 or email- hitendra@iirs.gov.in) or **Dr. Poonam S. Tiwari**, Programme Coordinator IIRS Outreach Programme (Ph. 0135-2524115 or email- poonam@iirs.gov.in) or **Dr. Harish Kamatak**, Head, Geoweb Services, IT & Distance Learning Department (Ph.. 0135-2524332 (off.)), email: harish@iirs.gov.in, EDUSAT Studio/Control Room [Shri Janardan Vishwakarma & Shri Ashok Ghildiyal] Ph.: 0135-2524130, email: edusat2004@gmail.com or dtp@iirs.gov.in or visit IIRS website <http://www.iirs.gov.in/Edusat-News> for further details.

With regards and best wishes,

Yours sincerely,

(A. Senthil Kumar)

Encl: Course Schedule

Dr. Namdev V. Telore
Co-ordinator
IIRS Outreach Programme, Dehradun
Centre I.S.B. Mahavidyalaya, Aundh, Dist. Satara

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IRS Outreach Programme

The IRS outreach programme, which started in 2007 with 12 universities/ institutions has now grown substantially. Currently, 470 universities / institutions spread across India covering 30 States and 2 Union Territories are networked with IRS. The beneficiaries of the programme may include:

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

Feedback Mechanism

IRS has conducted six workshops in 2007, 2009, 2010, 2013, 2014, 2015 and 2016 to take feedback from participating institutions to improve the quality of future courses.



Sixth IRS outreach programme feedback session during IRS User Interaction Meet (UIM)-2016

Awards

IRS 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).



Dr. Narndev V. Telere
Co-ordinator
IRS Outreach Programme Dehradun

About IRS

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.

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

Contact Details

Dr. Sansan Singh
Course Director
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Dr. Himendra Prasad
Course Coordinator
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Email: himendra@iirs.gov.in

IRS DLP Team

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Dr. Premam S. Thevar
Tel: 0135-2524115; email: premam@iirs.gov.in

Mr. Jeyarajan Vishwakarma
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Mr. Ashok Ghildiyal
Tel: 0135-2524130; email: ashok@iirs.gov.in

Indian Institute of Remote Sensing,
Indian Space Research Organisation
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Mahavidyalaya, Aundh (Satara)

Nineteenth IRS Outreach Programme



Remote Sensing and GIS Applications in Carbon Forestry

February 16 – March 10, 2017



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

Forests cover approximately one third of the Earth's land surface. These have a tremendous potential to store and cycle atmospheric carbon and therefore provide an effective way to mitigate climate change. To meet the measuring and monitoring (M&M) requirements of carbon forestry project activities, it is critical to establish repeatable, objective-based, and accurate methods for estimating forest carbon pools and fluxes over large areas. Remote sensing technologies are particularly suited for mapping and monitoring of forest cover, deforestation, degradation, regrowth, carbon stock and carbon sequestration. This course will provide an overview of the latest advances in satellite and terrestrial based remote sensing and GIS technologies to support carbon forestry. The course is therefore of special interest for the foresters/professionals/researchers and students interested in learning utility of these modern technologies in the context of forest carbon monitoring (e.g. REDD+).

IIRS has successfully conducted 18 outreach programme so far with participation of over 33,000 participants from 470 Institutions/ Universities spread across India.

Curriculum

- Global carbon cycle & climate change: An overview;
- Forest-based strategies for mitigating climate change;
- Global Earth observation initiatives for carbon forestry;
- Spectral signature of vegetation and factors affecting spectral response;
- Application of satellite remote sensing in mapping and monitoring of forest cover and land use;
- Application of satellite remote sensing in mapping and monitoring of forest carbon degradation;
- Application of satellite data in forest sampling design for biomass/carbon quantification;
- Application of optical remote sensing in forest biomass/carbon estimation;
- Application of high resolution data for forest biomass/carbon inventory;
- Application of LIDAR in mapping of forest structure and biomass/carbon estimation;
- Application of microwave remote sensing in forest biomass/carbon estimation;
- Application of eddy covariance technique in carbon flux measurement and modelling;

[Signature]
Dr. Namdev V. Telore
Co-ordinator

18 Outreach Program via Outreach
Course R.S. Bh
Director of Outreach, IIRS, Dehra Dun



- Application of satellite remote sensing for near real time forest fire assessment and monitoring;
- Application of satellite remote sensing in forest biomass burning and carbon emission monitoring;
- Application of Geoweb portals and services in forestry studies.

Target Participants

The course is designed for professionals engaged in forest and agro-forestry resource management, planning, REDD projects and students & researchers of Forestry, Ecology and Environmental 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 using A-VIEW software.

Course Study Material

Course study materials like lecture slides, video recorded lectures, open source software & handouts of demonstrations, etc. will be made available through IIRS ftp link. Video lectures will also be uploaded on YouTube Channel (<http://www.youtube.com/user/edusat2004>).

Course Fee

There is no course fee.

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 has to register online through registration page by selecting his/her organization as nodal center.

[Signature]
PRINCIPAL

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Mahavidyalaya, Aundh(Satara)

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 and is conducted with due technical support from Amrita Virtual Interactive E-learning World (A-VIEW).

Programme Reception

Programme can be received through Internet connectivity of 2Mbps or better. Following hardware and software set-up is required at user end:

Hardware Requirements :

- High-end Computer/Laptop (Windows OS);
- Good quality web camera ;
- Headphone with Microphone;
- Speakers ;
- Large Display Screen (Projector or TV) .

Software and Internet Requirements

- Desktop based: A-VIEW software (free to download from www.aview.in or IIRS ftp link: <ftp://ftp.iirs.gov.in>)
- Online live access through <http://live.iirs.gov.in> with free registration.

Connectivity & Other configurations:

- NKN or any other high speed internet facility (preferably without firewall, with minimum of 2 Mbps bandwidth)
- Network requirements. Port 80 and RTMP (port 1935) protocol should be unblocked from user's computer and Firewall.

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

Award of Certificate

Working Professionals: Based on 70% attendance and submission of assignments.

Students: Based 70% attendance and online examination.