

IIRS Outreach Programme



Remote Sensing Applications in Agricultural Water Management

August 03 – August 07, 2020



Organised by

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

www.iirs.gov.in

About IIRS

The Indian Institute of Remote Sensing (IIRS) is a constituent unit of Indian Space Research Organisation (ISRO), Department of Space, Govt. of India. Since its establishment in 1966, IIRS is a key player for training and capacity building in geospatial technology and its applications through training, education and research in Southeast Asia. The training, education and capacity building programmes of the Institute are designed to meet the requirements of Professionals at working levels, fresh graduates, researchers, academia, and decision makers. IIRS is also one of the most sought after Institute for conducting specially designed courses for the officers from Central and State Government Ministries and stakeholder departments for the effective utilization of Earth Observation (EO) data. IIRS is also empaneled under Indian Technical and Economic Cooperation (ITEC) programme of Ministry of External Affairs, Government of India providing short term regular and special courses to international participants from ITEC member countries since 2001.



IIRS Main Building

IIRS hosts headquarters of Centre for Space Science and Technology Education in Asia and the Pacific (CSSTEAP), affiliated to the United Nations and provides support in conducting the Remote Sensing and GIS training and education programmes. IIRS also plays a key role in the activities of Indian Society of Remote Sensing (ISRS), which is one of the largest non-governmental Scientific Societies in the country. To widen its outreach, IIRS has started live and interactive Distance Learning Programme (DLP) since 2007. IIRS has also launched e-learning course on Remote Sensing and Geo-information Science since August, 2014.

IIRS Outreach Programme

IIRS has setup a state-of-art studio facility and control room to broadcast live and interactive classroom sessions and practical demonstrations through its Distance Learning Center. The high definition video quality can be broadcast to its user for better quality transmission. The IIRS outreach programme, which started in 2007 with 12 universities/ institutions has now grown substantially. Currently, 1800+ Network institutions spread across India are networked with IIRS.

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About the Course

Agriculture has been a vital sector and back bone of Indian rural economy. In agriculture, water is a scarce and indispensable resource for the achieving food security, sustainable ecosystems as well as maintained hydrological cycle. The changes in land use have accelerated in recent years. The estimation of water for agricultural use needs to be updated frequently, which is time-consuming and cost-ineffective with traditional field based techniques.

In present context, Earth Observation (EO) satellites operated in optical/thermal and microwave domains with frequent revisit and improved spatial resolution providing periodic monitoring of crop information such as irrigated crop area, crop condition, phenology, evapotranspiration, water stress and soil moisture for informed decision making on water management. Furthermore, availability of new airborne sensors and unmanned aerial vehicle (UAV) supported earth observation and their combination with process based models/ground based instrumentation i.e. eddy flux tower, large aperture scintillometer, lysimeter, Bowen ratio energy balance etc. are facilitating the development of new data processing techniques as well as their integration to develop precision irrigation systems and geospatial crop water accounting.

Course Content

- Concept and fundamentals of agricultural water management & role of EO in water management
- Remote sensing of irrigated crop area mapping and irrigation crop water requirement
- Remote sensing of regional crop evapotranspiration estimation
- Satellite remote sensing of soil moisture and global products
- UAV and advanced remote sensing for agricultural water management

Target Participants

The candidates who want to participate in the course should be a student of final year undergraduate course or postgraduate course (any year). Technical/ Scientific Staff of Central/ State Government/Faculty/researchers at university/institutions are also eligible to apply for this course. Applications of participants have to be duly sponsored by university/institute and forwarded through coordinators from respective centres.

Course Study Material

Course study materials like lecture pdf, video recorded lectures, open source software & handouts of demonstrations, etc. will be made available through e-class.

Link : <https://eclass.iirs.gov.in/login>

Course Fee: NIL

There is no course fee for live and interactive course

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 organisations/ 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.

Course Funding & Technical Support

The programme is sponsored by Indian Space Research Organization, 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 is class room following computer hardware will be required

- Desktop computer with web camera microphone & output speaker 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 organisations/ 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 (<https://elearning.iirs.gov.in/edusatregistration/student>) by selecting his/her organisation as nodal centre.

Award of Certificate

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

There are limited number of seats.
Registration will be done on first come first serve basis