



AKSHAYA INSTITUTE OF TECHNOLOGY
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Recognized by Govt. of Karnataka Obalapura Post, Lingapura,
Koratagere Road, Tumakuru - 572 106, Karnataka
**DEPARTMENT OF AGRICULTURAL ENGINEERING
AND SMART AGRITECH**



ONLINE TRAINING REPORT

ON

“RECENT TRENDS IN ECOLOGICAL MODELLING & SIMULATION”

Organized

By

**Indian Institute of Remote Sensing (IIRS), ISRO, Department of Space, Government of
India, Dehradun**

**Date of Training: 19th May 2025 to 23rd May 2025 (Batch I) and
26th May 2025 to 30th May 2025 (Batch II)**

**Venue: Indian Institute of Remote Sensing (IIRS), ISRO, Department of Space,
Government of India, Dehradun**

ONLINE TRAINING REPORT
ON
“RECENT TRENDS IN ECOLOGICAL MODELLING & SIMULATION”

1. Introduction

Students of 6th Semester from Agricultural Engineering and Smart Agri-Tech were participated in an online training programme on “**Recent Trends in Ecological Modelling & Simulation**”, as a part of their **course work in Remote Sensing and GIS**. The training was organized by the **Indian Institute of Remote Sensing (IIRS), ISRO, Department of Space, Government of India**, Dehradun. The programme was conducted from **19th May 2025 to 23rd May 2025 (Batch I) and 26th May 2025 to 30th May 2025 (Batch II)** in online mode.

2. Objectives of the Training

The training aimed to enhance students’ understanding of ecological processes, modelling techniques and simulation approaches using geospatial technologies, which are essential for sustainable natural resource management and precision agriculture.

The main objectives of the online training programme were:

- To introduce students to fundamental and advanced concepts of ecological modelling
- To understand the role of Remote Sensing and GIS in ecological studies
- To familiarize students with simulation techniques for ecosystem analysis
- To provide insights into recent trends, tools and applications in ecological modelling
- To enhance analytical skills for environmental monitoring, land use planning and climate-related studies.

3. Course Content and Technical Sessions

The training programme covered a wide range of topics delivered through expert lectures, demonstrations and interactive discussions. The major topics included:

- Introduction to Ecological Modelling and Simulation
- Concepts of Ecosystems, Biodiversity and Ecological Processes
- Role of Remote Sensing and GIS in Ecological Modelling
- Spatial and Temporal Data Analysis for ecological studies
- Ecosystem Productivity and Carbon Cycle Modelling
- Climate Change Impact Assessment using models
- Land Use / Land Cover (LULC) dynamics and ecological implications
- Watershed and Landscape Level Modelling

- Use of geospatial datasets, satellite data and modelling frameworks
- Case studies related to agriculture, forestry, water resources and environmental management

4. Learning Outcomes

After successful completion of the training, students were able to:

- Understand the principles and importance of ecological modelling
- Apply Remote Sensing and GIS tools in ecological and environmental analysis
- Analyze ecosystem dynamics and simulate ecological processes
- Gain awareness of current research trends and applications in ecological modelling
- Relate modelling techniques to agricultural sustainability and smart farming practices
- Improve problem-solving and analytical skills for environmental decision-making

5. Benefits to Students

- Exposure to ISRO–IIRS academic and research ecosystem
- Enhanced knowledge beyond syllabus requirements
- Improved understanding of interdisciplinary applications of Remote Sensing, GIS and ecology
- Useful foundation for higher studies, research and competitive examinations
- Certification from IIRS, ISRO, adding academic value to students’ profiles

6. Conclusion

The online training programme on “Recent Trends in Ecological Modelling & Simulation” organized by IIRS, ISRO was highly informative and beneficial. It successfully bridged the gap between theoretical concepts and practical applications of ecological modelling using geospatial technologies. The programme significantly contributed to strengthening students’ knowledge in Remote Sensing, GIS, ecological analysis and environmental sustainability, making it highly relevant for Agricultural Engineering and Smart Agri-Tech disciplines. Overall, the training was a valuable learning experience and greatly supported the academic objectives of the course.

7. Faculty Coordinator

1. Dr. Chethan B. J. Assistant Professor, Department of Agricultural Engineering.

8. Photography (as to be attached)

1. Students List (Batch I)



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DEPARTMENT OF AGRICULTURAL ENGINEERING AND SMART AGRITECH

Congratulations on the successful completion of the online training course on 'Recent Trends in Ecological Modelling & Simulation,' conducted by the Indian Institute of Remote Sensing (IIRS), ISRO, Department of Space, Government of India from May 19 to May 23, 2025.

 Chandana G 6 th Semester (Smart Agritech)	 Navya B R 6 th semester (Agricultural Engineering)	 Spandana M 6 th semester (Agricultural Engineering)	 Rakshitha S N 6 th semester (Agricultural Engineering)
 Deekshitha G S 6 th semester (Agricultural Engineering)	 Sudha T 6 th semester (Agricultural Engineering)	 Anusha C K 6 th semester (Agricultural Engineering)	 Likhitha T V 6 th semester (Agricultural Engineering)

Best wishes for your continued success and growth — from the Coordinator, faculties, Head of the Department, Principal and Management

2. Students List (Batch II)



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DEPARTMENT OF AGRICULTURAL ENGINEERING AND SMART AGRITECH

Congratulations on the successful completion of the online training course on "Geospatial technology for modelling of Urban Environment", conducted by the Indian Institute of Remote Sensing (IIRS), ISRO, Department of Space, Government of India from May 26 to May 30, 2025

 Milana K 6 th Sem (Smart Agritech)	 Bhavyashree Y N 6 th Sem (Agri. Engg.)	 Channabasava 6 th Sem (Agri. Engg.)	 Ambika N 6 th Sem (Agri. Engg.)
 Haridhar T S 6 th Sem (Smart Agritech)	 Amith Singh Laddin 6 th Sem (Smart Agritech)	 Muhammad Rafiuddin 6 th Sem (Smart Agritech)	 Sandeep B S 6 th Sem (Smart Agritech)

Best wishes for your continued success and growth — from the Coordinator, faculties, Head of the Department, Principal and Management

Chethan. B-J.

Dr. Chethan B J

Assistant Professor (Coordinator)
Department of Agricultural Engineering



Dr. Vikas L

Associate Professor and Head
Department of Agricultural Engineering



Dr. Chandrashekar

Assistant Professor and Head
Department of Smart Agri-Tech