UNNAT BHARAT ABHIYAN

(A Movement for Progressive India)

Report
On

Regional Farmers Awareness Workshop
on
"Importance of Weather Forecasting for Sustainable Agriculture"

From Uttarakhand & West Uttar Pradesh Region

February 08, 2025

(Sponsored by Ministry of Earth Sciences, Govt. of India, New Delhi)

Organic Farming

Water Management

Renewable Energy

Artisans, Industries & Livelihood

Basic Amenities

Convergence

Organized by

Gramin Krishi Mausam Sewa (GKMS) Project
Agrometeorological Field Unit Roorkee

&

Supported by

Regional Coordinating Institute (RCI)

Unnat Bharat Abhiyan 2.0
Indian Institute of Technology Roorkee
Roorkee-24767 (Uttarakhand)
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Introduction

A one-day awareness workshop on **"Importance of Weather Forecasting for Sustainable Agriculture"** successfully organized on **February 8, 2025** at Room No. 103, APJ Abdul Kalam Block, IIT Roorkee, organized by **Gramin Krishi Mausam Seva (GKMS) Project** of the India Meteorological Department & supported by the **Regional Coordinating Institute (RCI), Unnat Bharat Abhiyan (UBA), IIT Roorkee**. Event aimed to enhance awareness regarding the role of weather forecasting in agricultural sustainability.

The workshop was specifically designed for **Coordinators of Participating Institutions (PIs) from Uttarakhand and West Uttar Pradesh** and **farmers from Haridwar, Dehradun, and Pauri Garhwal districts**. The initiative sought to empower stakeholders with knowledge of weather-based agricultural advisories to improve productivity, mitigate climate-related risks, and promote sustainable farming practices.

Inaugural Session:

In the inaugural session, Prof. Ashish Pandey, Coordinator, RCI, UBA, IIT Roorkee, welcomed the participants and emphasized the need to provide accurate weather information to farmers to help them efficiently plan their agricultural activities and reduce crop losses. He highlighted the initiative of developing Mausam Mitras, who will further disseminate meteorological information within their communities. He elaborated on the significant role that real-time weather forecasting can play in mitigating risks associated with unpredictable climatic conditions. Prof. Pandey emphasized that technology-driven weather predictions can assist in optimizing irrigation schedules, selecting suitable crops, and managing pest control measures effectively. He also pointed out that IIT Roorkee is committed to integrating scientific research with grassroots agricultural needs, ensuring that small and marginal farmers have access to reliable and user-friendly meteorological data. Additionally, he encouraged collaboration between academia, research institutions, and farmers to facilitate the seamless exchange of knowledge and technological advancements. His address underlined the importance of adopting a multi-disciplinary approach to address the challenges posed by climate change to Indian agriculture.

In the workshop, Dr. Arvind Srivastava, Scientist-D of Regional Meteorological Centre Chennai, India Meteorological Department said that India's agriculture mainly depends on the weather and with correct weather forecast, farmers can increase their crop productivity and income. He also informed that the India Meteorological Department is continuously working in this direction and there is a plan to install automatic weather stations in different parts of the country so that accurate weather forecast can be made. He said our goal is to make agriculture sustainable.

Dr. K. K. Singh, former Head of the Department of Agricultural Advisory Services, India Meteorological Department, New Delhi, emphasized the need to make weather services more modern. He said that it is very important to use radar technology to increase the accuracy of weather data.

Dr. Soumya Bandopadhyay, Director, Mahanbolis Crop Forecast Center, New Delhi, in his address said that they are also working on the forecast of sudden floods. In this context, a web portal and application have been developed, through which information about untimely floods can be obtained.

Professor K K Pant, Director, IIT Roorkee said that many research works related to climate and weather are going on in the institute. Apart from this, earthquake and water related research are undergoing in specific departments of this field. He also mentioned that they are planning to work on the principle of “Land to Lab” so that practical solutions from the laboratory can be implemented in the agriculture sector.

At the end of the workshop, the Mausam Mitras associated with the project were felicitated. The programme was conducted by Meteorological Observer Alok Shukla and vote of thanks was given by research scholar Rotash Kumar. 120 Coordinators from Participatory Institutes and students and farmers were present in this workshop.

The program of the inaugural function and technical session for the workshop is attached as **Annexure – I.**

A list of participants of the workshop is given in **Annexure – 2**.

The photo gallery of the workshop is attached as **Annexure – 3.**

Technical Session

The esteemed speakers were as follows:

- Dr. Soumya Bandopadhyay, Director of the Mahabolis Crop Forecast Center Padma Shri Bharat Bhushan tyagi
- Dr. K.K. Singh, former head of the Agricultural Advisory Division at the India Meteorological Department, New Delhi
- Dr. Arvind Srivastava, Scientist-D at the Regional Meteorological Center, Chennai
- Dr. R.P. Pandey, Division Head, Environmental Hydrology Division, NIH

After the inaugural session, a comprehensive technical session was organized, featuring insightful presentations from three distinguished experts: Dr. Soumya Bandopadhyay, Dr. K.K. Singh, and Dr. Arvind Srivastava. Their discussions focused on critical aspects of meteorology, climate forecasting, and sustainable agricultural practices.

Dr. Soumya Bandopadhyay, Director of the Mahabolis Crop Forecast Center, highlighted the recurring nature of droughts in India and the significant losses they cause to agriculture and related sectors. He emphasized the collaborative efforts of the India Meteorological Department (IMD), the Indian Council of Agricultural Research (ICAR), and the Indian Space Research Organization (ISRO) in addressing these challenges. Dr. Bandopadhyay explained that various indicators are used to assess drought conditions, and an advanced agricultural decision support system has been developed. This system allows farmers to input relevant data and receive real-time information about drought conditions. He stressed the need for collective efforts in refining the predictive model, urging researchers and stakeholders to contribute valuable data that would enhance the accuracy and effectiveness of the system. By improving these models, more precise and timely solutions can be provided to farmers, ultimately mitigating the adverse effects of droughts.

Dr. K.K. Singh, former head of the Agricultural Advisory Division at the India Meteorological Department, New Delhi, elaborated on the advancements in weather forecasting. He pointed out that earlier, meteorologists could provide weather forecasts only at the state level, but technological progress has enabled block-level forecasting, which is significantly more precise and beneficial for local farmers. He emphasized the need to extend forecasting capabilities beyond the current five-day window to enhance agricultural planning. Furthermore, Dr. Singh discussed the role of radar technology in improving real-time weather predictions. He noted that with the installation of approximately 50 radars across the country, meteorologists can now offer "nowcasting"—short-term weather forecasts up to 2.5 hours in advance. Efforts are ongoing to expand the radar network, ensuring broader and more accurate coverage for weather predictions.

Dr. Arvind Srivastava, Scientist-D at the Regional Meteorological Center, Chennai, underscored the importance of sustainable farming practices, particularly crop rotation. He explained that crop rotation naturally addresses several agricultural challenges, including soil degradation, pest infestations, and nutrient depletion. By strategically alternating crops, farmers can enhance soil fertility and improve overall yield sustainability. Dr. Srivastava also acknowledged the limitations of current weather forecasting methods and emphasized the need for further improvements in predictive accuracy. He reiterated the ultimate goal of meteorological research and forecasting: to support farmers with reliable and timely information that aids in decision-making. By strengthening the link between meteorological insights and agricultural practices, the farming community can be better equipped to handle climatic variations and uncertainties.

The session concluded with an interactive discussion where the experts addressed queries from the audience, providing deeper insights into weather forecasting, drought management, and sustainable agriculture. The speakers emphasized the need for ongoing research, technological advancements, and farmer participation in data collection to further enhance agricultural resilience and productivity.

Annexure-I

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Regional Awareness Workshop
on
"Importance of Weather Forecasting for Sustainable Agriculture"

Organized by
Gramin Krishi Mausam Seva (GKMS) Project, Department of WRD&M, IIT Roorkee
Supported by
Regional Coordinating Institute (RCI), Unnat Bharat Abhiyan (UBA), IIT Roorkee

Date: February 08, 2025 Venue: APJ Abdul Kalam Block, IIT Roorkee

Minute-to-Minute Programme of the Inaugural Session

Time	Programme
10:30 – 11:00 hrs	Registration
Inaugural Session (11:00 – 11:55 hrs)	
11:00 – 11:04 hrs	Welcome of the dignitaries and lightning of the Lamp
11:05 – 11:07 hrs	Kulgeet
11:07 – 11:11 hrs	Welcome address & Introduction of the Workshop by Prof. Ashish Pandey, Coordinator, RCI-UBA, IIT Roorkee
11:11 – 11:16 hrs	Address by Dr. Arvind K Srivastava, Scientist-D, IMD, RMC, Chennai
11:16 – 11:21 hrs	Address by Dr. K. K. Singh, Former Head, AASD, IMD, New Delhi
11:21 – 11:26 hrs	Address by Dr. Soumya Bandopadhyay, Director, MNCFC, MoA&FW, New Delhi
11:26 – 11:35 hrs	Felicitation of 'Mausam Mitra'
11:35 – 11:45 hrs	
11:35 – 11:45 hrs	Address by Prof. K. K. Pant, Director, IIT Roorkee
11:45 – 11:50 hrs	Presentation of mementos to the dignitaries
11:50 – 11:53 hrs	Vote of thanks by Rotash Kumar, JRF, GKMS Project
11:53 – 11:55 hrs	National Anthem
12:00 – 13:00 hrs	Technical Session
13:00 – 14:00 hrs	Panel Discussion
14:00 – 15:00 hrs	Lunch Break
15:00-16:30 hrs	Agrometeorological Observatory Visit, IIT Roorkee

Annexure-I

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

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Supported by
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Date: February 08, 2025 Venue: APJ Abdul Kalam Block, IIT Roorkee

Programme of the Technical Session

Time (hrs)	Programme
Technical Session	
12:00 – 12:30	Presentation by Dr. Soumya Bandopadhyay, Director, MNCFC, MoA&FW
12:20 - 12:45	Presentation by Dr. K. K. Singh, Former Head, AASD, IMD, New Delhi
12:45 - 13:00	Presentation by Dr. Arvind Srivastava, Scientist-D, IMD, RMC, Chennai
13:00 - 14:00	**Panel Discussion**: **Chairperson**: Dr Soumya Bandopadhyay, Director, MNCFC, MoA&FW **Panelists:** Prof Ashish Pandey, Coordinator, RCI-UBA, IIT Roorkee; Dr K K Singh, Former Head, AASD, IMD, New Delhi; Dr Arvind Srivastava, Scientist-D, IMD, RMC, Chennai; Shri Ravi Kiran Saini, CEO, Bhu - Amrit Farmers Producer Company
14:00 - 15:00	Lunch
15:00 – 16:00	Agrometeorological Observatory Visit , IIT Roorkee

Annexure-II

List of Participants

Sr. No	Name of Participants	Institute Name/ Address
1	Vijay Kumar	IFTM University, Moradabad
2	Ashu	Shri Ram College Muzaffarnagar
3	Dr.Pooja Jain	SGRRU
4	Dr Amit saini	Quantum university
5	Ashish Upadhyay	TULAS INSTITUTE, Dehradun
6	Dr Sandeep Sirohi	Hariom Saraswati PG College Dhanauri
7	DIVYANSHU BHATT	Meerut Institute Of Technology, Meerut (U.P.)
8	Mr. Vivek Kumar	Meerut Institute of Technology Meerut
9	Vivek Kumar	Meerut Institute of Technology Meerut
10	Prof. (Dr.) Krishan Pal	Motherhood University Roorkee
11	P S Sharma	DIT University, Dehradun
12	Anjali Rani	SRGC MZN
13	Sumit Rana	Meerut Institute of Technology, Meerut
14	Dr Ravindra Kumar	Hariom Saraswati PG College, Dhanauri, Haridwar
15	Prof.Devendra Singh	JBIT College of Applied Sciences sankarpur Dehradun
16	Rachit Jain	Shakumbhari Institute of Higher Education and Technology
17	Khushboo Singhal	shakumbhari institute of higher education and technology
18	Dr. Naresh Kumar	Shakumbhari institute
19	Santosh kumar	S.I.H.E.T Roorkee
20	Dr.Sulekha	IFTM University Moradabad, Uttar Pradesh
21	Rajendra Prasad	Uttaranchal University, Dehradun
22	Mr.Somendra Singh	Six Sigma Institute of Technology, US Nagar Uttarakhand
23	Abhinav Bhatnagar	Haridwar University
24	Dr. Gaurav Nandan	IIMT ENGINEERING COLLEGE, MEERUT
25	Dr. Bhanu Prakash Vellanki	IIT Roorkee
26	Dr. Shivangi Negi	Tulaâ€™s Institute Dehradun
27	Dr.Rekha Dhanai	Tula's institute
28	Sandeep Kumar gotam	Tulsa Institute, Dehradun
29	Dr Lalit Goyal	Tula's Institute Dehradun Uttarakhand
30	Pankaj Singh Negi	Tula's Institute
31	Dr Kawendra Kumar	Bhagwant college of Education
32	SACHIN KUMAR	MIET, Meerut
33	DR. MADHU BALA SHARMA	MIET, Meerut
34	Prof.P.S.Rana	Bhagwant Global University Kotdwar
35	Dr. Mohd. Irfan	Chaman Lal Mahavidhyalaya Landhora Haridwar
36	Reema Vikal	Vinayak Vidyapeeth Modipuram Meerut
37	Dhairya Bhardwaj	Uttaranchal University, Dehradun , Uttarakhand
38	VIVEK ARYA	Shakambhari Institute of Higher Education & Technology

39	Santosh kumar	S.I.H.E.T Roorkee
40	Shri Ravi Kiran Saini	Bhgawanpure
41	Shri Vishal Saini	Khanpur
42	Shri Vishal Saini	Khanpur
43	Shri Manmohan Singh	Khanpur
44	Dr Satish Kumar Shastri	Laksar
45	Shri Monu Saini	Laksar
46	Shri Jaipal Saini	Narsen
47	Shri Vicky	Narsen
48	राजेश कुमार	डाडा जलालपुर
49	विनय कुमार	डाडा जलालपुर
50	विनोद कुमार	डाडा जलालपुर
51	ओमप्रकाश आर्य	डाडा जलालपुर
52	VIKKI CHAUDHARY	NARSEN
53	JAYVEER SINGH	NARSEN
54	Shri Jaipal Saini	Narsen, Haridwar
55	Dr Satish Kumar Shastri	Laksar, Haridwar
56	Shri Ravi Kiran Saini	Bhagwanpur, Haridwar
57	Shri Kalu Ram Saini	Bhagwanpur Saini, Roorkee, Haridwar
58	Shri Monu Saini	Laksar, Haridwar
59	Shri Vishal Saini	Giddawali Klan, Khanpur
60	Shri Aditya Raj	Shastr Shah, Roorkee
61	Shri Johny Saini	Shastr Shah, Roorkee
62	Shri Manoj Giri	Dwarikhal, Pauri
63	Shri Gavar Singh	Dugadda, Pauri
64	Shri Ashish Dabral Ji	Dwarikhal, Pauri
65	Shri Rajbhadur Saini ji	Bhagwanpur
66	Shri Gaurav Ji	Nanhedi Anandpur, Roorkee, Haridwar
67	Shri Surya Partap ji	Gaddarjuda, Narsen, Haridwar
68	Shri Shyam Parshad sharma ji	Laldhang, Bahadrabad
69	Vickey Ji Narsen	Narsen, Haridwar
70	Shri Prem Ji	Gadhaurona, Narsen, Haridwar
71	Shri Birjveer Singh Ji	COER University
72	Ashu	Shri Ram College Muzaffarnagar
73	Dr.Pooja Jain	SGRRU
74	Ashish Upadhyay	TULAS INSTITUTE
75	Dr Sandeep Sirohi	Hariom Saraswati PG College Dhanauri
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78	Vivek Kumar	Meerut Institute of Technology Meerut
79	Prof. (Dr.) Krishan Pal	Motherhood University Roorke
80	P S Sharma	DIT University, Dehradun
81	Anjali Rani	SRGC MZN

82	Sumit Rana	Meerut Institute of Technology, Meerut
83	Dr Ravindra Kumar	Hariom Saraswati, Dhanauri, Haridwar
84	Prof.Devendra Singh	JBIT College sankarpur Dehradun
85	Rachit Jain	Shakambhari Institute
86	Khushboo Singhal	SHAKAMBHARI INSTITUTE
87	Dr. Naresh Kumar	Shakmbhari institute
88	Santosh kumar	S.I.H.E.T Roorkee
89	Rajendra Prasad	Uttaranchal University, Dehradun
90	Mr.Somendra Singh	Six Sigma Institute of Technology Rudrapur
91	Abhinav Bhatnagar	Haridwar University
92	Dr. Gaurav Nandan	IIMT ENGINEERING COLLEGE, MEERUT
93	Amit yadav	Civil Department, IIT Roorkee
94	Dr. Shivangi Negi	Tulaâ€™s Institute Dehradun
95	Dr.Rekha Dhanai	Tula's institute
96	Sandeep Kumar gotam	Tulsa Institute, Dehradun
97	Dr Lalit Goyal	Tula's Institute Dehradun Uttarakhand
98	Pankaj Singh Negi	Tula's Institute
99	Dr Kawendra Kumar	Bhagwant college of Education
100	Dr. Honey	MIET
101	Harish Kumar	MIET
102	Prof.P.S.Rana	Bhagwant Global University Kotdwar
103	Dr. Mohd. Irfan	Chaman Lal Landhora Haridwar
104	Rajendra Prasad	Uttaranchal University, Dehradun
105	Mr.Somendra Singh	Six Sigma Institute of Technology Rudrapur
106	Priyanka	COER
107	Kangana	COER
108	Murad	COER
109	Niharika	COER
110	Priya	Coer
111	Diya	Coer
112	Ujjawal	Coer
113	Devansh	Coer
114	Devesh	Coer
115	Geeta	Laldhang
116	Shanti	Laldhang
117	Uikash Kumar	Godkhahea
118	Dr. KK Singh	Delhi
119	Ishita Shrivastav	Muzaffarnagar

Annexure-III

Glimpses of Inaugural Session:

Glimpses of The Technical Session:

Glimpses of The Panel Discussion

Media Coverage

मौसम सेवा को और आधुनिक बनाने की आवश्यकता : सिंह

रुड़की, संवाददाता। भारत मौसम विभाग के क्षेत्रीय मौसम केंद्र चेन्नई के वैज्ञानिक डॉ. अरविंद श्रीवास्तव ने कहा कि भारत की कृषि मौसम पर आधारित है। कृषि में मौसम पूर्वानुमान की मदद से किसान अपनी आय में वृद्धि कर सकते हैं। आईआईटी में शनिवार को मौसम पूर्वानुमान विषय पर आयोजित कार्यशाला में उन्होंने कहा कि भारत मौसम विभाग इस क्षेत्र में आगे भी काम कर रहा है और देश के कई हिस्सों में ऑटोमेटिक वेदर स्टेशन लगाने की योजना भी है जिससे मौसम का सटीक पूर्वानुमान संभव हो सकेगा।

आईआईटी के जल संसाधन विकास एवं प्रबंधन विभाग में मौसम पूर्वानुमान विषय पर क्षेत्रीय कार्यशाला का आयोजन किया गया। कृषि सलाहकार सेवा विभाग भारत मौसम विभाग नई दिल्ली के पूर्व विभागाध्यक्ष डॉ. केके सिंह ने कहा कि मौसम सेवा को और आधुनिक बनाने की आवश्यकता है, जिससे मौसम के डेटा की शुद्धता और अधिक प्राप्त हो सके, इसके लिए राडार टेक्नोलॉजी का भी उपयोग करने की आवश्यकता है।

मौसम के पूर्वानुमान से किसान बढ़ा सकते हैं आय

रुड़की। आईआईटी रुड़की के जल संसाधन विकास एवं प्रबंधन विभाग के ग्रामीण कृषि मौसम सेवा परियोजना द्वारा सतत कृषि के लिए मौसम पूर्वानुमान का महत्व विषय पर क्षेत्रीय कार्यशाला का आयोजन किया गया। कार्यशाला में आए भारत मौसम विभाग के क्षेत्रीय मौसम केंद्र चेन्नई के वैज्ञानिक-डी डॉ. अरविंद श्रीवास्तव ने कहा भारत की कृषि मौसम पर आधारित है।

मौसम पूर्वानुमान की मदद से किसान अपनी आय में वृद्धि कर सकते हैं। उन्होंने आगे कहा कि भारत मौसम विभाग इस क्षेत्र में आगे भी काम कर रहा है और देश के कई हिस्सों में ऑटोमेटिक वेदर स्टेशन लगाने की योजना भी है। इससे मौसम का सटीक पूर्वानुमान संभव हो सकेगा। परियोजना के नोडल अधिकारी प्रो. आशीष पांडेय ने कहा कि कार्यक्रम का उद्देश्य ज्यादा से ज्यादा किसानों से जुड़कर उन तक मौसम की जानकारी पहुंचाना है।

आईआईटी में कार्यशाला में मंचासीन अतिथि। स्रोत : संस्थान

उन्होंने बताया कि परियोजना द्वारा हम जागरूक किसानों को मौसम मित्र बनाते हैं जो मौसम की जानकारी आगे प्रसारित करते हैं। कृषि सलाहकार सेवा विभाग, भारत मौसम विभाग नई दिल्ली के पूर्व विभागाध्यक्ष डॉ. केके सिंह ने कहा कि

आईआईटी में मौसम के पूर्वानुमान के महत्व पर कार्यशाला का आयोजन

मौसम सेवा को और आधुनिक बनाने की आवश्यकता है जिससे मौसम के डेटा की शुद्धता और अधिक प्राप्त हो सके।

डॉ. सौम्य बंदोपाध्याय एवं आईआईटी निदेशक प्रो. केके पंत ने कहा कि जलवायु व मौसम संबंधी विभिन्न क्षेत्रों में कई विभागों में कार्य हो रहे हैं। इसका सभी को लाभ होगा। परियोजना से जुड़े मौसम मित्रों को भी सम्मानित किया गया। संचालन मौसम प्रेक्षक आलोक शुक्ल ने व धन्यवाद ज्ञापन शोध छात्र रोताश कुमार ने किया। कार्यशाला में 160 किसानों व छात्र-छात्राओं ने प्रतिभाग किया। संवाद