



Lr. No: T-980120/10/2023-NWA/1293-1343

Dated : 29 February 2024

To

All the Central & State Implementing Agencies of NHP (As per list enclosed)

**Sub:** Training Program on 'Hydrological Applications of Microwave Remote Sensing' during 18-22 March 2024 under National Hydrology Project- Nomination of participants - Reg

Sir/Madam,

National Water Academy, Central Water Commission, Pune, is organizing a training program on '**Hydrological Applications of Microwave Remote Sensing**' under the National Hydrology Project (NHP) of DoWR, RD & GR, MoJS, Govt. of India, from **18<sup>th</sup> to 22<sup>nd</sup> March 2024**, in physical mode at its campus in Pune. Information brochure of the training program is enclosed for ready reference.

The program is intended for officers belonging to the Central and State Implementing Agencies (IAs) of NHP who have some basic understanding of the concepts of remote sensing. There is no course fee for attending the program. Lodging and boarding will be provided at NWA guest house on a payment basis.

Accordingly, it is requested to kindly nominate 3-4 officers from your agency/organization for participation in the aforementioned training program. Nominated officers may also be asked to fill out this form (<https://forms.gle/U9NP7pDY7zkbYwt57>) by 14.03.2024. The final list of accepted nominations will be displayed on the NWA website on 15.03.2024.

This issues with the approval of Chief Engineer, NWA, CWC, Pune.

Yours Sincerely,

(Chaitanya K S)

Dy. Director & Course Coordinator

Copy for kind information to:

- 1) Senior Joint Commissioner-I, NPMU-NHP, DoWR, RD & GR, MoJS, New Delhi with a request to announce the program on MIS of NHP
- 2) Director, RDC-I Dte, CWC, New Delhi
- 3) Director, Training Dte., CWC, New Delhi with a request to seek nominations of CWC Officials







संख्या: टी-980120/10/2023-राजअ/ 1293-1343

दिनांक : 29 फरवरी 2024

प्रति,

राष्ट्रीय जलविज्ञान परियोजना की सभी केंद्रीय / राज्य कार्यान्वयन एजेंसिया (संलग्न सूची के अनुसार)

विषय : 18 - 22 मार्च 2024 के दौरान राष्ट्रीय जल विज्ञान परियोजना (एनएचपी) के तहत 'Hydrological Applications of Microwave Remote Sensing' पर प्रशिक्षण कार्यक्रम - नामांकन के लिए अनुरोध - संबंधित

महोदय / महोदया,

18 - 22 मार्च 2024 के दौरान के राष्ट्रीय जल विज्ञान परियोजना (एनएचपी) जल संसाधन, नदी विकास और गंगा संरक्षण विभाग, जल शक्ति मंत्रालय, भारत सरकार के तहत राष्ट्रीय जल अकादमी, केंद्रीय जल आयोग, पुणे में 'Hydrological Applications of Microwave Remote Sensing' पर प्रशिक्षण कार्यक्रम का आयोजन भौतिक मोड में कर रहा है। प्रशिक्षण कार्यक्रम की सूचना विवरणिका त्वरित संदर्भ के लिए संलग्न है।

यह कार्यक्रम राष्ट्रीय जल विज्ञान परियोजना की केंद्रीय और राज्य कार्यान्वयन एजेंसियों (आईएस) से संबंधित अधिकारियों के लिए है, जिन्हें रिमोट सेंसिंग की अवधारणाओं की कुछ बुनियादी समझ है। कार्यक्रम में भाग लेने के लिए कोई पाठ्यक्रम शुल्क नहीं है। भुगतान के आधार पर एनडब्ल्यूए गेस्ट हाउस में आवास और भोजन उपलब्ध कराया जाएगा।

तदनुसार, अनुरोध है कि उपरोक्त प्रशिक्षण कार्यक्रम में भाग लेने के लिए कृपया अपनी एजेंसी/संगठन से 3-4 अधिकारियों को नामित करें। नामांकित अधिकारियों को यह फॉर्म (<https://forms.gle/U9NP7pDY7zkbYwt57>) 14.03.2024 तक अवश्य भरने के लिए कहा जा सकता है। स्वीकृत नामांकन की अंतिम सूची 15.03.2024 को राष्ट्रीय जल अकादमी की वेबसाइट पर प्रदर्शित की जाएगी।

यह मुख्य अभियंता, एनडब्ल्यूए, सीडब्ल्यूसी, पुणे के अनुमोदन से जारी किया गया है।

भवदीय

*K. S. Chaturvedi*  
(चैतन्य के एस) 29/2/24

उप निदेशक एवं कार्यक्रम समन्वयक

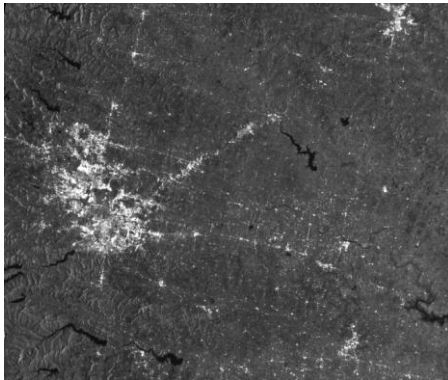
प्रतिलिपी जानकारी के लिए:

- 1) वरिष्ठ संयुक्त आयुक्त-1, एनपीएमयू - राष्ट्रीय जल विज्ञान परियोजना, जल संसाधन, नदी विकास और गंगा संरक्षण विभाग, जल शक्ति मंत्रालय, नई दिल्ली - राष्ट्रीय जल विज्ञान परियोजना के एमआईएस पर कार्यक्रम की घोषणा करने के अनुरोध के साथ
- 2) निदेशक, नदी डेटा संकलन निदेशालय (RDC-I Dte), के.ज.आ., नई दिल्ली
- 3) निदेशक, प्रशिक्षण निदेशालय (Training Dte), के.ज.आ., नई दिल्ली, के.ज.आ. अधिकारियों के नामांकन मांगने के अनुरोध के साथ





**Government of India  
Ministry of Jal Shakti  
Department of Water Resources,  
River Development & Ganga Rejuvenation**



**Training Program  
on  
'Hydrological Applications of Microwave  
Remote Sensing'  
(under National Hydrology Project)  
18-22 March 2024**



**Organized by  
NATIONAL WATER ACADEMY  
CENTRAL WATER COMMISSION, PUNE**

***INTRODUCTION & BACKGROUND***

Microwave remote sensing offers several advantages in comparison to optical remote sensing, such as all-weather capability, day and night observations, penetration of vegetation and topsoil cover, and a markedly different view of the earth's surface. Microwave Synthetic Aperture Radar (SAR) systems offer high-resolution imaging capabilities, and they can provide detailed information about the earth's surface features. SAR is being widely used for applications such as disaster monitoring, land cover mapping, and environmental monitoring.

Microwave remote sensing has numerous applications in hydrology, providing valuable information about various aspects of the hydrological cycle. Some of the key applications include soil moisture monitoring, flood monitoring and mapping, snow cover monitoring, glacier monitoring, river and lake water level monitoring, etc. Monitoring various hydrological parameters at a synoptic scale on a regular basis will contribute to improved water resource management.

The objective of this training program is to introduce participants to the basics of microwave remote sensing, satellite microwave remote sensing data access, processing, and utilization for various applications in the water resources sector.

***PROGRAM FORMAT***

The program will be held in person at the National Water Academy (NWA) campus in Pune.

***DURATION***

18 – 22 March 2024 (five days)

***TARGET GROUP***

This training program is meant for participants from Central and State Implementing Agencies (IAs) of NHP.

## **COVERAGE OF TOPICS**

- Introduction to Microwave Remote Sensing
- Basics of Synthetic Aperture Radar (SAR) technology– Sensor Perspective & Target Interaction
- SAR data specifications and Processing
- Basics of SAR data Applications in Water Resources Sector – Soil moisture retrieval, Water Bodies Extraction, Reservoir Sedimentation studies, Inventory & Monitoring of Glacial Lakes, Flood Inundation mapping, Crop Area Mapping and Monitoring, Morphological studies, Coastal and Shoreline Applications etc.
- Advanced Applications of MW Remote Sensing & Future Outlook

## **RESOURCE PERSONS**

Resource persons from DoS/ISRO units will act as guest faculty members for various sessions.

## **LOCATION**

National Water Academy is located on the south-western side of the Pune city on Pune-Sinhagad Road between Nanded Phata and Kirkatwadi villages. It is 12 Kms from Swargate Bus Stand, 18 Kms from Pune Station and 29 Kms from Pune Airport.

[Click here for directions from Pune Airport to NWA](#)

[Click here for directions from Pune Railway Station to NWA](#)

## **LOCAL HOSPITALITY AND WEATHER**

NWA has a self-contained residential campus, and all out-station participants would be provided with accommodation in the NWA Hostels which are comfortable & fully furnished (viz. television with cable connection, refrigerator, micro-oven, tea maker, intercom etc.). Meals are

available (self-service dining) in Canteen/Mess which is in the same residential campus. There is no program fee. However, participants are required to pay for lodging and boarding charges which are nominal.

During the month of March, normally the weather is quite pleasant, and the average temperature of Pune may be around 21°C to 35° C

## **PARTICIPATION**

Nominated participants may fill in the Google registration form using the link given below on or before 13.03.2024 without failure (in addition to registration on NHP MIS)

<https://forms.gle/U9NP7pDY7zkbYwt57>

The List of accepted nominations would be uploaded on NWA website by 15.03.2024. (<https://nwa.mah.nic.in/upcoming.htm>)

## **CONTACT**

For sending nominations or for any information on this program, please contact:

### **Chaitanya K S**

Deputy Director & Course Coordinator

National Water Academy

Central Water Commission

Khadakwasla, Sinhagad Road

Pune – 411 024; Tel: 020 – 24380392 Extn 114

Mob:9910771794 E-mail: [nwa.mah@nic.in](mailto:nwa.mah@nic.in) / [deputydirector1-nwa@gov.in](mailto:deputydirector1-nwa@gov.in)