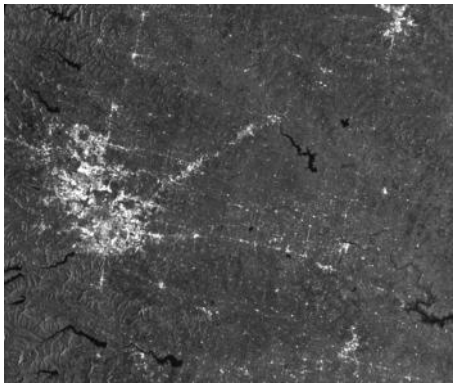
Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Water Commission

Training Program on
'Hydrological Applications of Microwave Remote Sensing'
(07 - 11 December 2026)



Organized by

NATIONAL WATER ACADEMY

CENTRAL WATER COMMISSION, PUNE

INTRODUCTION & LEARNING OBJECTIVES

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.

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
- Advanced Applications of MW Remote Sensing & Future Outlook

PROGRAM FORMAT

The program will be held in person at the NWA campus in Pune.

TARGET GROUP

Water Resource Professionals from Central and State Government departments/organizations, Central/State PSUs, and all other interested stakeholders. It is desirable that participants possess a basic understanding of Remote Sensing and GIS technologies.

Participants are required to bring their own laptops for completion of hands-on sessions.

PROGRAM FEE

There is no program fee for participants from Central and State Govt. departments. Charges for participants from other agencies are as follows:

Category	Description	Fee per participant
A	Central/State Government/Departments including their autonomous bodies	Nil
B	'Not for Profit' Organizations/authorities/ bodies of Central and State governments (if they certify that they are not for profit)	Nil
C	Recognized academic institutions, NGOs	1500/-
D	Central and State PSUs	10000/-
E	Private Companies, individuals	15000/-

• *Discounts applicable: (a) 50% for PSUs of MoJS i.e. WAPCOS & NPCC (no group discount); (b) For others – 20% discount for 3-4 participants; 30% discount for 5 or more participants from the same organization.*

LOCATION

National Water Academy is located on the south-western side of the Pune city on Pune-Sinhgad 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 on twin sharing basis. Hostel rooms are comfortable and 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 on the same residential campus. Participants (except for CWC officers) are required to pay for lodging and boarding charges, which are nominal. During the month of December, normally the weather is cool and sunny, with temperatures ranging between 10°C to 30° C

PARTICIPATION

The nomination of the officers fitting the target profile may be sent to the Course Director latest by 03.12.2026. Nominated officer may also fill in the online registration form: https://forms.gle/Wr11BKFzH5fFckkn7

The list of accepted nominations will be displayed on the NWA website https://www.nwapune.gov.in/ongoingevents.jsp on 04.12.2026.

CONTACT

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

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