ICAR Sponsored Winter School
on
Recent Advances in Abiotic Stress Management for Enhancing Productivity, Quality and Farmer's Income

(January 28 – February 17, 2026)

Important Dates:

Receipt of applications: December 24, 2025
Intimation to selected candidates: December 27, 2025
Confirmation by selected candidates: December 30, 2025

Organized by

ICAR-National Institute of Abiotic Stress Management

Baramati (Pune), Maharashtra, India-413115; Website: niam.res.in

Background

Abiotic stresses, exacerbated by climate change and land degradation, pose serious threats to global food and nutrition security. These stresses, arising from atmospheric, water, and edaphic factors, can reduce crop productivity by up to 50% and cause post-harvest losses of about 25%. Their increasing frequency and intensity under changing climatic scenarios directly impact crop quality, overall production, and farmers' profitability. Addressing these challenges requires innovative technologies, improved crop, animal and fishery based management practices, climate-resilient varieties, and integrated decision support tools. Emphasis must be placed on sustainable agricultural intensification through effective adaptation and mitigation measures, including crop diversification. Strengthening agricultural resilience will require sustained research and extension efforts.

The present course is designed to equip researchers, academicians, and extension personnel with updated knowledge and skills in the sphere of "Abiotic Stress Management," focusing on recent advancements and their practical applicability for enhancing productivity, reducing postharvest losses, and improving farmers' income in stress-prone regions. The curriculum has been structured to provide hands-on exposure to climate-resilient technologies, practices, and strategies for managing abiotic stresses, enabling participants to contribute effectively to transforming and reorienting agricultural development under emerging climate realities. This programme aims to bridge knowledge gaps, enhance technical competencies, and promote adoption-ready crop, animal, and engineering-based interventions suited to manage abiotic stresses in diverse agroecological conditions.

Course Content

- **Abiotic stresses:** Comprehensive coverage of major abiotic stresses impacting agriculture, with emphasis on innovative mitigation and adaptation strategies for crops, livestock, and fisheries. Climate-resilient solutions tailored to boost crop yields, enhance quality, and support farmer incomes in scarcity zones.
- **Soil, water and environment management:** Deep insights into soil-water-plant relationships, state of art crop modelling, water productivity functions, stimulants and sustainable practices for abiotic stress management; the food-water-energy-carbon nexus; reclamation of degraded lands; carbon sequestration; agro-waste utilization and environmental indicators.
- **Abiotic stress resilient crop and animal production systems:** Climate-smart integrated farming systems; conservation agriculture and machinery; organic farming; agroforestry; integrated crop residue, tillage, and nutrient management systems; climate-smart hydroponics and farm pond-based aquaculture systems.
- **Horticulture and postharvest management:** A forward-looking approach to horticultural advancement, addressing cultivation, processing, and marketing strategies; protected horticulture; secondary and tertiary value addition techniques.

- **Alternative crops:** Exploring cultivation, production and value addition of unexplored alternative crops and halophytes, such as, dragon fruit, quinoa, chia, mushrooms, medicinal and aromatic plants for improving yield, production quality and farmers' incomes under scarcity zones.
- **Novel tools and approaches for monitoring, assessing and managing abiotic stresses:** Microbial, metagenomic, biotechnological and nano technological tools for stress alleviation; molecular breeding, genome editing and related approaches for climate-resilient crops; plant phenomics for screening and trait identification; and drones, remote sensing, AI/ML and statistical tools for effective abiotic stress monitoring and assessment.

About ICAR-NIASM

- ICAR-National Institute of Abiotic Stress Management (NIASM) was established in 2009 as Deemed to be University of its kind, focusing on cutting multidisciplinary research in the area of abiotic stresses and providing policy support for their management in agriculture through mitigation and adaptation technologies.
- **Mission:** Managing abiotic stresses for sustainable agriculture.
- **Mandate:**
  - Basic and strategic research to manage abiotic stresses in crops, livestock and fisheries.
  - Repository of information on abiotic and biotic stresses.
  - Adaptation and mitigation strategies and policies.
  - Building sustainable agriculture in multi-stressed agro- ecosystems.
  - Serve as Center of Academic Excellence in managing multiple stresses in agriculture.

Eligibility

- The applicant should be working in a position not below the rank of Scientist/Assistant Professor/Subject Matter Specialists or Equivalent with specialization of Agriculture, Horticulture, Agricultural Engineering, Animal/ Fisheries Sciences and allied disciplines (ICAR, SAUs, KVK, Universities/Institutes, etc). A maximum of 25 participants will be selected for this course based on their qualification, experience, area of work and as per ICAR guidelines.

Selection Procedure

- Final selection will be made on the basis of merit and on a first come, first served basis, upon receipt of the application duly forwarded by the competent authority. Selected candidates will be notified via email within one week after the last date for receiving applications to which they should promptly reply with firm acceptance and travel plan.

Boarding and Lodging

- The selected participants will be provided free boarding and lodging in the institute guesthouse. All participants will be reimbursed for the to and fro travel fare for the journey to NIASM, Baramati via the shortest route. The payment will be made as per the entitled class of travel, but restricted to the maximum of AC-II tier train fare (as per actuals). Local participants are not eligible for boarding and lodging, however, they will be provided lunch and inter-session tea. No DA will be paid to participants.

How to Apply? Registration and Application

- **Download and Fill the Application Form:** Interested participants should submit the duly filled Google form for registration and application. Scan the QR codes for application form and Google form given below. Duly filled in application form may kindly be sent on mail: niasmws28@gmail.com

Application Form

Google Form

- **Making the Online Payment:** Pay the training/registration fee of Rs 50/- using the following details:
  UPI ID: **icarniasmbmt@sbi** or scanning QR Code or Pay to A/c

SCAN & PAY

Pay using account details:
ICAR UNIT NIASM BARAMATI,
A/c No. 30862846914,
SBI Baramati Branch,
IFSC Code: SBIN0000321
(Save the payment proof/receipt as a screenshot or PDF format).

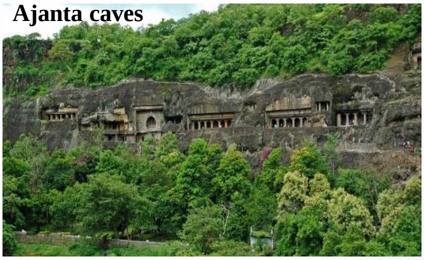
Location, Weather Conditions and How to Reach

Baramati has a pleasant weather and is well connected by road, rail (Pune and Daund Jn), and air (Pune). Baramati is located 105 km from Pune, Maharashtra. Daund is nearest railway junction (45 km). The temperature during the training period will be around 26-32°C (day) and 18-22°C (night). Please refer institute website http://niam.res.in/contact-us to reach ICAR-NIASM campus.

Weekend Excursions

Shri Shirdi Sai Baba Temple

Lonavala



Ajanta caves

Ellora caves

Mahabaleshwar Hill Station

For a refreshing break on weekends and a taste of Maharashtra's diverse offerings, several exciting weekend excursions are easily accessible from Baramati. Mahabaleshwar (Approx. 3-4 hours drive); Lonavala and Khandala (Approx. 2-3 hours drive); Bhimashankar (Approx. 4-5 hours drive); Ajanta-Ellora caves and Grishneshwar Jyotirlinga (Approx. 5-6 hours drive) and Shirdi Sai Baba Temple (Approx. 4 hours drive). These destinations offer a blend of natural beauty, historical significance, spiritual solace, and cultural immersion, providing a memorable and enriching experience for all trainees.

Patron

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