IAEA
International Atomic Energy Agency
Atoms for Peace and Development

Third Winter School on Ocean Acidification and Multiple Stressors

IAEA Marine Environment Laboratories, Monaco

24 November - 5 December 2025

Ref. No.: EVT2405356

Information Sheet

Introduction

Ocean acidification is a global environmental stressor that threatens marine life and the livelihoods of coastal communities. Ocean acidification is caused by increasing atmospheric carbon dioxide being absorbed by the ocean, resulting in changes to seawater carbonate chemistry, including a drop in pH. Due to global concerns about its consequences, ocean acidification is included in international policies such as Target 3 of UN Sustainable Development Goal (SDG) 14 and Target 8 of the Global Biodiversity Framework (GBF).

The IAEA's Ocean Acidification International Coordination Centre (OA-ICC) supports IAEA Member States to minimize and adapt to OA and report towards SDG 14.3 and the GBF, with a strong focus on building capacity to study ocean acidification and related stressors and promoting international collaboration and coordination.

Ocean acidification is not happening in isolation, but in combination with other human-driven pressures, including pollution, warming, and oxygen loss. The impact of multiple ocean stressors on marine life and ecosystem function is not well understood, yet this information is crucial to inform adaptation

strategies that might minimize negative effects on organisms, ecosystems, and associated socioeconomic benefits.

The **Third Winter School on Ocean Acidification and Multiple Stressors** is part of the capacity building program of the OA-ICC. This two-week training course will provide participating scientists with a thorough understanding about key concepts and experimental design used to study the impacts of ocean acidification in the context of additional stressors.

The Winter School is organized by the IAEA OA-ICC in partnership with the Prince Albert II of Monaco Foundation through the OACIS Initiative (Ocean Acidification and other ocean Changes – Impacts and Solutions).

Objectives

The aim of the Winter School is to train early-career scientists who already have experience researching ocean acidification on how to study acidification in the context of other co-occurring stressors. Through lectures and practical exercises in the laboratory, the students will gain understanding of key concepts in multiple-stressor research (e.g., What is a stressor? What is a mode of action? What is an interaction?), purposeful experimental design, and analysis of complex datasets. During the course, participants will collaborate on a joint laboratory experiment to elucidate the effects of three simultaneous drivers on marine organisms, with the objective to publish the results in a collective article after the training.

Target Audience

The course is open to 10-12 trainees. Priority will be given to early-career scientists with experience in marine environmental change with a focus on ocean acidification; a background in biological sciences is preferred. At least one publication in the field of marine environmental change is required.

Working Language

English

Expected Outputs

Increased capacity to study the impact of ocean acidification in combination with other environmental stressors on marine organisms and increased collaboration and networking among participating scientists. Increased engagement of trainees with international networks such as the Global Ocean Acidification Observing Network (GOA-ON; www.goa-on.org). Participants will also work on personal

science projects, developing strategies for their own research and a data-based project using resources of the OA-ICC.

Structure

The training will include lectures and hands-on experiments in smaller groups (the level will be adapted to the knowledge of the selected participants). Subjects to be covered include theoretical concepts of multiple stressor research; how to identify relevant research questions; experimental design and methods for measuring organism responses to multiple stressors, including nuclear and isotopic techniques; and data analysis, processing, and modeling.

The course will use resources and tools developed by the Changing Ocean Biological Systems (COBS) project of the Scientific Committee on Oceanic Research (SCOR) on multiple stressors, such as the MEDDLE simulator allowing to perform virtual multiple-stressor experiments.

Participation and Registration

All persons wishing to participate in the event have to be designated by an IAEA Member State or should be members of organizations that have been invited to attend.

In order to be designated by an IAEA Member State, participants are requested to send the **Participation Form (Form A)** to their competent national authority (e.g. Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority) for onward transmission to the IAEA by **15 September 2025**. Participants who are members of an organization invited to attend are requested to send the **Participation Form (Form A)** through their organization to the IAEA by the above deadline.

Selected participants will be informed in due course on the procedures to be followed with regard to administrative and financial matters.

Participants are hereby informed that the personal data they submit will be processed in line with the Agency's Personal Data and Privacy Policy and is collected solely for the purpose(s) of reviewing and assessing the application and to complete logistical arrangements where required. The IAEA may also use the contact details of Applicants to inform them of the IAEA's scientific and technical publications, or the latest employment opportunities and current open vacancies at the IAEA. These secondary purposes are consistent with the IAEA's mandate.

Expenditures and Grants

No registration fee is charged to participants.

The IAEA is generally not in a position to bear the travel and other costs of participants in the event. The IAEA has, however, limited funds at its disposal to help meet the cost of attendance of certain participants. Upon specific request, such assistance may be offered to normally one participant per

country, provided that, in the IAEA's view, the participant will make an important contribution to the event.

The application for financial support should be made using the **Grant Application Form (Form C),** which has to be stamped, signed and submitted by the competent national authority to the IAEA together with the **Participation Form (Form A)** by **15 September 2025**.

Venue

The event will be held at the IAEA Marine Environment Laboratories in Monaco.

Participants must make their own travel and accommodation arrangements. The closest airport is Nice, France.

Visas

Participants who require a visa to enter France should submit the necessary application as soon as possible to the nearest diplomatic or consular representative of France.

Additional Information

The participants who have been designated by the relevant authorities of an IAEA Member State and have been selected by the IAEA will be informed by **19 September 2025**.

The course is funded through the IAEA and co-sponsored by the Prince Albert II of Monaco Foundation.

Additional Requirements

Participants should have a university degree in marine chemistry, biology, oceanography or a related scientific field, and should be currently involved in or planning to study the ecological impact of multiple stressors, including ocean acidification. Experience in R is strongly encouraged.

Selection will be based on merit and interest. Applications should include:

* A motivation letter with a short description of the candidate's research interests and how the course would benefit the applicant's current or future research on ocean acidification and multiple stressors (max one A4 page)

* CV with publication list

IAEA Contacts

Scientific Secretary:

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Email: C.Galdino@iaea.org

Subsequent correspondence on scientific matters should be sent to the Scientific Secretary and correspondence on other matters related to the event to the Administrative Secretary.

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Participation Form

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To be completed by the participant and sent to the competent national authority (e.g. Ministry of Foreign Affairs, Permanent Mission to the IAEA, or National Atomic Energy Authority) of his/her country for subsequent transmission to the International Atomic Energy Agency (IAEA) either by email to: Official.Mail@iaea.org or by fax to: +43 1 26007 (no hard copies needed). Please also send a copy by email to the Scientific Secretary L.Hansson@iaea.org and to the Administrative Secretary C.Galdino@iaea.org.

Deadline for receipt by IAEA through official channels: 15 September 2025

Family name(s): (same as in passport)	First name(s): (same as in passport)	Mr/Ms
Institution:		
Full address:		
Tel. (Fax):		
Email:		
Nationality:	Representing following Member State/non-Member State/entity or invited organization:	

Participants are hereby informed that the personal data they submit will be processed in line with the Agency's Personal Data and Privacy Policy and is collected solely for the purpose(s) of reviewing and assessing the application and to complete logistical arrangements where required. The IAEA may also use the contact details of Applicants to inform them of the IAEA's scientific and technical publications, or the latest employment opportunities and current open vacancies at the IAEA. These secondary purposes are consistent with the IAEA's mandate.

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Family name(s): (same as in passport)	First name(s): (same as in passport)	Mr/Ms:
Mailing address:	Tel.:	
	Fax:	
	Email:	
Date of birth (yy/mm/dd):	Nationality:	

1. Education (post-secondary):

Name and place of institution	Field of study	Diploma or Degree	Years attended from	to

2. Recent employment record (starting with your present post):

Name and place of employer/ organization	Title of your position	Type of work	Years worked from	to

3. Description of work performed over the last three years:

4. Institute's/Member State's programme in field of event:

Date: **Signature of applicant: _____**

Date: **Name, signature and stamp of Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority _____**