

IOC Circular Letter No 3057
(Available in English only)

IOC/VH/BA/ON/ah
12 September 2025

- To : GLOSS National Focal Points for Latin America and Caribbean (LAC) Member States
ICG/CARIBE-EWS Tsunami National Contacts (TNC)
ICG/CARIBE-EWS National Tsunami Warning Centres (NTWCs)
ICG/CARIBE-EWS Tsunami Warning Focal Points (TWFP)
- C.c. : Official National Coordinating Bodies for liaison with IOC
Permanent Delegates/Observer Missions to UNESCO and
National Commissions for UNESCO of ICG/CARIBE-EWS Member States
IOC Chair and Vice-Chairs

Subject: Training course on the general principles of installation and maintenance of sea level stations and the use of the data, Bridgetown, Barbados, 17–21 November 2025

Coastal sea level gauges (e.g., tide gauges used for port operations, tidal measurements, and monitoring sea level variations due to seasonal and climate variability) are also used for tsunami warning. Most importantly, they can be used to confirm tsunami arrival and wave heights at particular coastlines. Sea level data are especially important to estimate expected tsunami wave heights and to upgrade/downgrade/cancel the warnings. Coastal tide gauges can also be effectively used to verify numerical forecast models and for cataloguing tsunami events, even small ones that do not cause injury or damage and otherwise may not be noted.

As demonstrated during the 8 February 2025 M7.6 Northern Honduras earthquake, there is an urgent need to repair and deploy additional coastal tide gauges within known coverage gaps, such as in the case of Western Caribbean, to improve the tsunami forecast and warning effectiveness and support tsunami warning operations.

In recognition of these needs as described above, I am pleased to inform you that the Intergovernmental Oceanographic Commission (IOC), in cooperation with the International Centre for ENC's (IC-ENC), National Oceanography Centre of UK (NOC) and National Oceanic and Atmospheric Administration of USA (NOAA) will be organizing for oceanographic and hydrographic institutions of the Caribbean and its Adjacent Regions a technical training course on sea level and tides. The training will provide participants with information on equipment for collecting sea level observations, station operation and maintenance, and the use of data to support maritime trade applications as well as to contribute to early warning systems, including for tsunamis, and climate

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change applications. The training will be held in Bridgetown, Barbados, from 17 to 21 November 2025 with participants expected to travel on the 16th and 22nd of November 2025.

This training course is targeting individuals who are or will actively be involved in conducting water level observations and data analyst such as technicians, surveyors, hydrographers and entry level oceanographers. No prior knowledge on tides is necessary. This training course is not intended for individuals who already have multiple years (3 years or more) of experience in conducting tidal survey, analysing water level data, or work as administrators who do not work in the field or with water level data on a routine basis. The training course will be conducted in English as previous course held in Costa Rica in 2023 was in Spanish language.

You are invited to refer to the attached documents, which contain relevant information on the course. In addition, you are invited to nominate a maximum of one participant from your country, in accordance with the participant profile specified in Annex 1. Nomination of participants and acceptance to take part in the training must be made on the attached forms (Annex 3). Completed forms should be emailed to: nos.coops.training@noaa.gov and copied to o.necmioglu@unesco.org and a.haidar@unesco.org.

Please ensure that electronic submissions are duly approved by your nominating authority. The deadline for receipt of applications is 6 October 2025. Participants will be selected as applications are received, with preference given to those received by the deadline. Those selected will be informed directly by IC-ENC and/or IOC.

Should you require any further information on the workshop, please do not hesitate to contact Peter Stone (nos.coops.training@noaa.gov) or Angela Hibbert (anhi@noc.ac.uk), with copy to Ocal Necmioglu (o.necmioglu@unesco.org) and Angelos Haidar (a.haidar@unesco.org).

With the assurances of my highest consideration, I remain,

Yours sincerely,

[signature]

Vidar Helgesen
Executive Secretary

Enclosures (4): 1/ General Information Note
 2/ Provisional Programme
 3/ Student Information Form
 4/ Logistical Note

GENERAL INFORMATION FOR PARTICIPANTS NOMINATED TO ATTEND TIDES TRAINING COURSE

This training course is targeting individuals who are or will actively be involved in conducting water level observations and data analyst such as technicians, surveyors, hydrographers and entry level oceanographers. No prior knowledge on tides is necessary. This training course is not intended for individuals who already have multiple years (3 years or more) of experience in conducting tidal survey, analysing water level data, or work as administrators who do not work in the field or with water level data on a routine basis. Training participants should have skills with computers and possess some knowledge of water level data processing requirements, basic knowledge on oceanographic and tidal concepts, and should hold a permanent position with a national or regional agency. Participants will be expected to participate in one day of working in the field visiting a water level station and conducting basic survey exercises.

The course will be taught in English.

Annex 2 contains the draft agenda, which lists the topics that will be covered. Please note that the final agenda may change slightly as the date of the training approaches.

Course Sponsorship

Funding for participant travel, hotel and meals is being made available by the International Centre for ENC's (IC-ENC) and Intergovernmental Oceanographic Commission (IOC).

The Tides Training Course will be hosted by the Coastal Zone Management Unit of Barbados.

Coordination and facilitation of the course is being arranged by the National Oceanography Centre of UK (NOC) and United States National Oceanic and Atmospheric Administration (NOAA), Center for Operational Oceanographic Products and Services.

Since IOC and IHO are providing funding, some participants will be funded by one and the others by the other. For the purpose of course registration, please indicate the name and requested background information of the nominated participant on Annex 3. We will follow up with detailed funding and logistics to organize your travel within one month of the training date.

The dress for the course will be casual with the exception of the first day of the training when a group photo will be taken which entails business attire. For the field trip, sun and rain protection are encouraged.

Questions and inquiries may be sent to Mr. Peter Stone (nos.coops.training@noaa.gov) or Ms. Angela Hibbert (anhi@noc.ac.uk), copied to Ocal Necmioglu (o.necmioglu@unesco.org) and Angelos Haidar (a.haidar@unesco.org).

TIDES TRAINING COURSE
17–21 November 2025
Courtyard By Marriot Hotel, Bridgetown, Barbados

16 November 2025, Sunday

- Fly to Bridgetown Grantley Adams International Airport, Christ Church, Barbados
- Transfer to Courtyard By Marriot Hotel

Monday, 17/11/2025

- Opening ceremony
- Trainer and delegate introductions
- Oceanographic Terms and Definitions (types of sea level variability etc)
- Tide theory and important Tidal cycles
- Practical examples – identify features of a sea level record (tidal cycles etc)
- Water Level measurement technologies – altimetry versus tide gauge
- Anatomy of a modern tide gauge and technical aspects of maintenance

Tuesday, 18/11/2025

- Connecting WL data to the land, maintaining station datum
- Classroom theory on Geodetic Leveling and GNSS
- GNSS-IR and VLM
- Overview of Caribe-EWS. Tsunami and storm surge monitoring, detection, product dissemination
- Our experience of tsunamis
- Country reports

Wednesday, 19/11/2025

- Full day at water level station field site
 - Tide station hardware/ construction
 - Troubleshooting hardware issues
 - Benchmark types and installation
 - Basics of leveling
 - Field site data and metadata collection and management

Thursday, 20/11/2025

- Water level data quality control and processing
- Practical QC exercise
- Water Level datum definition and analysis
- Use of water level data for marine navigation – IHO?
- S-100 Product Specifications overview – IHO?

Friday, 21/11/2025 (half day)

- Harmonic analysis and tidal prediction
- International water level data centers for tsunamis, sea level monitoring, coastal hazards, research
- Dissemination of water level data for tsunamis
- Presentations and closing ceremony

22 November 2025, Saturday

- Transfer to Bridgetown Grantley Adams International Airport, Christ Church, Barbados
- Return home

TIDES TRAINING COURSE
17–21 November 2025
Courtyard By Marriot Hotel
Bridgetown, Barbados

APPLICATION FORM

Application Due Date: **06 October 2025**

Email: Peter Stone at: nos.coops.training@noaa.gov

Copied to: Bernardo Aliaga (b.aliaga@unesco.org), Öcal Necmioğlu (o.necmioglu@unesco.org)
and Angelos Haidar (a.haidar@unesco.org)

Please type or write in block letters in English:

1. PERSONAL INFORMATION

NAME	
TITLE	<input type="checkbox"/> DR. <input type="checkbox"/> PROF. <input type="checkbox"/> MR. <input type="checkbox"/> MS. <input type="checkbox"/> OTHER
SEX	<input type="checkbox"/> MALE <input type="checkbox"/> FEMALE
BIRTHDAY (DD-MM-YYYY)	
NATIONALITY	
HOME ADDRESS (in full)	
TELEPHONE NUMBER	
FAX NUMBER	
EMAIL ADDRESS	

2. PROFESSIONAL BACKGROUND

ORGANIZATION	
POSITION	
ADDRESS (in full)	
TELEPHONE NUMBER	
FAX NUMBER	
EMAIL ADDRESS	

3. EDUCATIONAL BACKGROUND

LEVEL	INSTITUTION	DEGREE	YEAR GRADUATED
UNDERGRADUATE			
MASTER			
DOCTORAL			
POST DOCTORAL			

4. MOST RECENT TRAININGS ATTENDED

TITLE	ORGANIZER/SPONSOR	DATES

5. JOB/DUTY DESCRIPTION

SHORT STATEMENT CONCERNING NORMAL DUTIES	
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6. OTHERS

MEAL RESTRICTION	
DO YOU HAVE A VALID PASSPORT?	<input type="checkbox"/> Yes <input type="checkbox"/> No PASSPORT NUMBER WILL NEED TO BE PROVIDED ON ACCEPTANCE

DATE: _____ SIGNATURE APPLICANT: _____

DATE: _____ NAME/SIGNATURE SUPERVISOR: _____

DATE: _____ NAME/SIGNATURE
IOC GLOSS FOCAL POINT or TNC: _____

Logistical Note

Contacts

The Regional Sea Level Observing System Training Course for the Caribbean and Adjacent Regions is being hosted by the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organisation (UNESCO-IOC), International Centre for ENC's (IC-ENC) and the Coastal Zone Management Unit (CZMU), Barbados 17-21 November 2025 in Barbados. Associate partners providing technical and logistical support for the training are the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE EWS) Working Group 2: Tsunami Detection, Analysis and Forecasting, the United States National Oceanic and Atmospheric Administration National (NOAA), the United Kingdom National Oceanography Centre (NOC), Independent Researchers and the Barbados Meteorological Services (BMS).

The principal local coordinator is:

Ms. Alison Brome

Programme Officer, Tsunamis and Other Coastal Hazards, UNESCO-IOC Caribbean Tsunami Information Centre (CTIC)

Email: a.brome@unesco.org

Cell phone/WhatsApp: +1 (246) 243-7626

Language

The training will be conducted in English.

The official language spoken in Barbados is English.

Venue and Accommodation

The Workshop will be convened at **Courtyard By Marriot Hotel**, Barbados.

Accommodation, meals (breakfast and dinner), and airport-hotel transfers will be supplied for overseas participants and trainers. Coffee breaks, lunch and site visit transportation are being provided for all workshop participants and trainers. UNESCO/IOC and IC-ENC will cover the cost of these expenses in an all-inclusive arrangement with the Courtyard By Marriot Hotel.

Visa, Arrival, Immigration and Customs Requirements

Entry Visas are required for specific countries. Please see the country list below and at <https://www.foreign.gov.bb/wp-content/uploads/2022/08/Updated-visa-list-August-2022.pdf> and notify the UNESCO-IOC Local Coordinator Ms. Alison Brome (a.brome@unesco.org) promptly if you require an entry visa to attend the training. Ms. Brome will provide the necessary guidance and facilitation. For visa requirements participants should visit https://immigration.gov.bb/pages/Visa_Requirements.aspx to prepare the necessary documentation and information. The visa requirements for ICG/CARIBE EWS Member States are as follows:

Country	Visa Requirements	Country	Visa Requirements
Antigua & Barbuda	No Visa Required	Haiti	Visa Required except for Diplomats and Official Passport Holders permanent residents of UK, USA, Canada Schengen Countries & Green card holders
Bahamas	No Visa Required	Honduras	No Visa Required
Belize	No Visa Required	Jamaica	No Visa Required
Brazil	No Visa required	Mexico	No Visa Required
Canada	No Visa Required	Netherlands (Aruba, Bonaire, Curaçao, Saba, Sint Eustatius, Sint Maarten)	No Visa Required
Colombia	No Visa Required	Nicaragua	No Visa Required
Costa Rica	No Visa Required	Panama	No Visa Required
Cuba	No Visa Required	St. Kitts & Nevis	No Visa Required
Dominica	No Visa Required	St. Lucia	No Visa Required
		St. Vincent & The Grenadines	No Visa Required
Dominican Republic	Visa Required	Suriname	No Visa Required
France (Guadeloupe, Martinique, Saint Barthelemy, Saint Martin)	No Visa Required	Trinidad & Tobago	No Visa Required
Grenada	No Visa Required	United Kingdom (Anguilla, Bermuda, British Virgin Islands, Cayman Islands, Montserrat, Turks and Caicos)	No Visa Required
Guatemala	No Visa required	United States Dependencies (Puerto Rico, Us Virgin Islands)	No Visa Required
Guyana	No Visa Required	Venezuela	No Visa Required

UNESCO-IOC will inform the local authorities about your participation in the meeting. By special communication UNESCO-IOC will ask you to provide your travel information to considerably accelerate your entrance formalities to Barbados.

You will arrive at the Grantley Adams International Airport (BGI) in Barbados. In order to accelerate the entry process, travellers are encouraged to complete the online Immigration and Customs Form which will be available 72 hours prior to your arrival at <https://www.travelform.gov.bb/en>. If you are unable to complete the online form, you will also be able to input the required information at the kiosks at the entrance to the arrivals hall.

Transportation

UNESCO-IOC will organize transportation of participants from the airport to the hotel. The drivers will have signs with your names and photographs. The distance is about 14 km and it will take around 20 to 40 minutes for rides to get to destination, depending on traffic.

In the unfortunate event that you have missed the UNESCO/IOC supplied transportation and have failed to reach the UNESCO-IOC Local Coordinator, please use only the official registered taxis which are available from the kiosk outside of the arrivals hall at the airport. The fee to the hotel is approximately USD \$55 - \$70 per person. Additionally, public transportation is available from outside the airport at a fee of USD\$1.75 one way.

For general transportation around the island, there are several options. For taxi service, it is recommended that you use registered taxis which can be arranged at the hotel front-desk. The fees for taxi services are available at <https://barbadosdigital.com/references/current-taxi-fare-rates-in-barbados>.

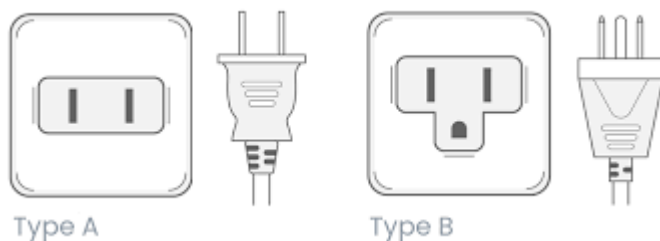
There is also an online taxi service in Barbados called "Pickup Barbados" which you can download online for free. Fees on the app varies depending on your travel options. The app works similarly to UBER.

Public transportation is available from the hotel to various parts of the island at a fee of approximately USD\$1.75 one-way. Additional information on routes and schedules can be found at <https://ta.gov.bb/Routes/>

Currency

Barbados uses Barbadian dollars (BDS) as its currency. 1 American Dollar (USD) corresponds to about 2 BDS. You can easily obtain the cash you need using your credit or debit cards at many ATM's in Barbados. Please consider that the use of US money is also very common in Barbados. You can pay nearly everywhere with US dollars, except for very small businesses or when you must pay only small amounts. Also, when you pay in USD you can get the exchange in BDS, and you can use them to pay smaller transactions. It might even not be necessary to use any cash for the participation in the meeting as the use of credit or debit cards is very common in Barbados except for small businesses. Changing cash from other currencies other than US Dollars (e.g. Euro) is generally only offered at banks.

Voltage and plugs



In Barbados, the standard voltage is 115V at a frequency of 50Hz. The associated plug types are Type A and Type B. Type A has two flat parallel pins, while Type B has two flat parallel pins and a grounding pin.

Additional Information Shopping

The hotel is located on the South Coast of the island. Along this coast, there are several shopping and places of interest within walking distance and a bus or taxi ride away such as:

- Sheraton Shopping Centre, Sargeant's Village, Christ Church
- Worthing Square, Worthing, Christ Church
- Quayside Centre, Rockley, Christ Church
- Lanterns Mall, Hastings, Christ Church
- Bridgetown, St. Michael (Capital City)
- Harrison Cave CHUKKA, Welchman Hall, St. Thomas
- Limegrove Shopping Centre, Holetown, St. James
- Oistins Fish Fry (every Friday night)
- Additional activities are identified at <https://www.visitbarbados.org/>

Climate in Barbados

Barbados has a warm, tropical climate year-round with average daytime temperatures ranging from 24°C to 29°C (75°F to 85°F). The island experiences distinct wet and dry seasons, with the dry season (December to May) generally having slightly cooler temperatures and less rain than the wet season.