



INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
COMMISSION Océanographique Intergouvernementale
COMISIÓN OCEANOGRÁFICA INTERGUBERNAMENTAL
МЕЖПРАВИТЕЛЬСТВЕННАЯ ОКЕАНОГРАФИЧЕСКАЯ КОМИССИЯ

اللجنة الدولية الحكومية لعلوم المحيطات

政府间海洋学委员会

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IOC Circular Letter N° 2898
(Available in English and Spanish)

IOC/VR/BA/ah
15 July 2022

To : ICG/PTWS Tsunami Warning Focal Points (TWFP) and Tsunami National Contacts (TNC) of Colombia, Ecuador, Peru and Chile

Cc : Official National Coordinating Body in Colombia, Ecuador, Peru and Chile for liaison with the IOC
Permanent Delegates/Observer Missions to UNESCO of IOC Member States
Permanent Observers to ICG/PTWS
ICG/PTWS Chair and Vice-Chairs

Subject: IOC and VLIZ-SHOA Workshop for National Tsunami Warning Centres in the Southeast Pacific, Valparaiso, Chile, 27 September–1 October 2022

Within the framework of the Intergovernmental Coordination Group for the Pacific Tsunami Warning and Mitigation System (ICG/PTWS), the Intergovernmental Oceanographic Commission (IOC) of UNESCO, The Flanders Marine Institute (VLIZ), and the Hydrographic and Oceanographic Service of the Chilean Navy (SHOA) are organizing in Valparaiso, Chile, from 27 September to 1 October 2022, a training course entitled “*Sea Level Data Sharing: Tools for an effective Regional Emergency Response*”. Due to funding restrictions, the course is intended only for staff from National Tsunami Warning Centres’ of Chile, Colombia, Ecuador and Peru.

The Tsunami National Centres in the recipient countries of this letter are invited to nominate a National Tsunami Warning Center operator/technician/decision taker to participate in this training course. The identified person should be the one responsible for conducting/supporting the maintenance/installation of the sea level station(s) in your country or be responsible for the management, processing and analysis of sea level data during tsunami related emergencies. All attendants nominated by each country should hold a permanent position within a national agency.

The 15-January tsunami event triggered by the eruption of Hunga Tonga – Hunga Ha’apai volcano near Tonga travelled across the whole Pacific Ocean, affecting nearly all coastal communities, some of them with far bigger tsunami waves than expected. The volcanic origin of this tsunami presented unprecedented challenges to most National Tsunami Warning Centres, which Standard Operating Procedures (SOP) are more generally adapted to seismic tsunamis.

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For some National Tsunami Warning Centres like the Pacific Tsunami Warning Center (PTWC) and SHOA, the operational capability to visualize sea level data from all tide gauges across the Pacific allowed a real time monitoring of the tsunami's advance and recorded waves amplitudes. This was made possible by the contribution of sea level data from the stations of the IOC Member States through the *IOC Sea Level Station Monitoring Facility* [website](#) maintained and operated by the Flanders Marine Institute (VLIZ). Nonetheless, some countries still have room to expand their presence on this valuable website.

In this context, the aim of this training course is to cover tide gauge sensor and telemetry technologies, tsunami waves data processing and analysis as well as data formats and transfer protocols to enable real time data sharing from the stations located in Chile, Colombia, Ecuador and Peru with the IOC Sea Level Station Monitoring Facility website.

The trainers from VLIZ will be Prof. Francisco Hernández and Prof. Bart Vanhoorne and from PTWC Dr Stuart Weinstein, PTWC Deputy Director. Participants in the course should present a written and oral report on the status of sea level network operations of their institution.

Thanks to a financial contribution from IOC, funding is available to support the participation of two participants from each of four participating countries, covering airfare and accommodation expenses. All candidates should complete and submit the application form attached to this Circular Letter (attention: fbravo@shoa.cl with copy to: b.aliaga@unesco.org and jmatus@shoa.cl) by 30 July 2022 at the latest, duly endorsed by his/her supervisor and Tsunami National Contact (TNC).

The workshop will take place at the Hydrographic and Oceanographic Service of the Chilean Navy (SHOA) and accommodation will be secured in the nearby area, where special rates have been secured and will include breakfast. Transportation airport-hotel-airport as well as coffee breaks and lunches will also be provided to all participants by SHOA.

With the assurances of my highest consideration, I remain,

Yours sincerely,

[signed]

Vladimir Ryabinin
Executive Secretary

Enclosures (2): Application Form
 Preliminary Agenda

IOC-VLIZ/SHOA
WORKSHOP FOR TSUNAMI WARNING CENTRES
“Sea Level Data Sharing: Tools for an effective Regional Emergency Response”
September 27–October 1, 2022
Valparaiso, Chile

APPLICATION FORM

Application Due Date: July 15, 2022
Email: fbravo@shoa.cl
Cc: b.aliaga@unesco.org; jmatus@shoa.cl

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. FUNDING

DO YOU REQUIRE TRAVEL FUNDING	<input type="checkbox"/> Yes, Full Funding (Hotel and Air Transportation) <input type="checkbox"/> Yes, Partial Funding _____ <input type="checkbox"/> No, Self-funded
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6. OTHERS

ENGLISH LANGUAGE PROFICIENCY	<input type="checkbox"/> Excellent <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Poor
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 TNC: _____

IOC-VLIZ/SHOA
WORKSHOP FOR TSUNAMI WARNING CENTERS
“Sea Level Data Sharing: Tools for an effective Regional Emergency Response”
September 27–October 1, 2022
Valparaiso, Chile

Preliminary Agenda

Day 1: Setting the scene - Morning Session

09:00 – 10:00

Attendants and Speakers Registration

10:00 – 10:30

Welcome speeches by SHOA – VLZ – UNESCO

10:30 – 10:45

Logistics information

(Transports – Lunch schedules – WiFi – COVID regulations – Earthquake/Tsunami general indications)

10:45 – 11:15

Presentations: who is who, aspirations.

Attendants brief presentation
Workshop Staff Presentation and Expectations

11:15 – 11:30

Coffee Break

11:30 – 13:00

Overview of data systems and tools

IOC sea level monitoring facility

Tools from PTWC: Tide Tools

13:00 – 13:45

Tsunami Analysis Tools: PTWC’s Tonga Experience

13:45 – 14:45

Lunch

Day 1: Setting the scene - Afternoon Session

15:00 – 15:45

Tsunami Analysis Tools: Chile’s Tonga Experience

Importance of shared sea level data for real life emergencies

What brings us together in this workshop

15:45 – 16:00

Coffee Break

16:00 -16:45

Getting data in the IOC sea level facility

(This part should be prepared with questionnaires)

Maintaining station metadata

Data transfer and formats: GTS, FTP, BGAN

16:45 – 17:30

Using data

Webservices

New interfaces

Plans for the future: Geo-Inquire, Digital twin

Day 2: Hands on Experience - Morning Session

09:00 – 09:30

Tide Gauge Data Network Design: Chile

Data Redundancy

09:30 – 10:15

***Data Sharing Strategies: VLIZ's Experience
and***

Proposed Solutions

10:15 – 10:30

Coffee Break

10:30 – 11:15

Data Sharing Formats and Strategies: Chile's Experience

11:15 – 11:45

Data Sharing Formats and Strategies: Colombia

11:45 – 12:00

Coffee Break

12:00 – 12:30

Data Sharing Formats and Strategies: Ecuador

12:30 – 13:00

Data Sharing Formats and Strategies: Peru

13:00 – 13:45

Data Sharing Formats and Strategies: VLIZ Analysis General Overview
Presentation based on information supplied by attendants by previous survey

13:45 – 14:45

Lunch

Day 2: Hands on Experience - Afternoon Session

15:00 – 15:45

Tsunami Analysis Tools

Tsunami warning tools

Tsunami data analysis: Tsunami Height or Tsunami Amplitudes

15:45 – 16:00

Coffee Break

16:00 – 16:30

Overview of Tide Gauge Hardware: PTWC's experience

Structure / Sensors

Telemetry options/Power options

Data Formats

16:30 – 17:00

Overview of Tide Gauge Hardware: SHOA's experience

Structure / Sensors

Telemetry options/Power options

17:00 – 17:30

Overview of Low Cost Tide Gauge Hardware: VLIZ

Day 3: Hands on Experience – Morning Session

09:00 – 09:30

Sensor Integration and data format design

09:30 – 10:15

Telemetry options and data format constraints

10:15 – 10:30

Coffee Break

10:30 – 11:15

Data transfer redundancy

11:15 – 11:45

Data transfer practical work: Setting up proper data format

11:45 – 12:00

Coffee Break

12:00 – 12:30

Data transfer practical work: Practical Test Part I

12:30 – 13:00

Data transfer practical work: Practical Test Part II

13:00 – 13:45

Data transfer practical work: Practical Test Part III

13:45 – 14:45

Lunch

Day 3: Hands on Experience - Afternoon Session

15:00 – 15:45

Data Transfer Test GTS: Colombia

15:45 – 16:00

Coffee Break

16:00 -16:45

Data Transfer Test GTS: Ecuador

16:45 – 17:30

Data Transfer Test GTS: Peru

Day 4: Hands on Experience – Morning Session

09:00 – 09:30

Data Transfer Test: Webservices Peru

09:30 – 10:15

Data Transfer Test: Webservices Ecuador

10:15 – 10:30

Coffee Break

10:30 – 11:15

Data Transfer Test: Webservices Colombia

11:15 – 11:45

Data validation at Sea Level Data Facility Website

11:45 – 12:00

Coffee Break

12:00 – 12:30

Final Round Table

Results achieved

Work to Do

12:30 – 13:00

Closing Ceremony

13:00 –

Lunch