



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

UNESCO – 7 Place de Fontenoy - 75352 Paris Cedex 07 SP, France
<http://ioc.unesco.org> - fax: +33 (0)1 45 68 58 12 - contact phone: +33 (0)1 45 68 39 83/84
E-mail: w.watson-wright@unesco.org

IOC Circular Letter No. 2521
(Available in English only)

IOC/WWW/BA/LK/ss
28 April 2014

To: ICG/PTWS Tsunami National Contacts (TNC) and Tsunami Warning Focal Points (TWFP) for: Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama and Peru

cc: Official National Coordinating Body for liaison with the IOC and Permanent Delegates/Observer Missions to UNESCO for Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru
UNESCO Offices in Guatemala, Lima, Mexico, Quito, San Jose and Santiago de Chile
Pacific Tsunami Warning Center (PTWC)
International Tsunami Information Center (ITIC)
Permanent Observers to ICG/PTWS
ECHO Offices for Latin-America
IOC Officers and ICG/PTWS Officers

Subject: **Invitation to Regional Training: “ICG/PTWS Pacific Tsunami Warning Center (PTWC) New Enhanced Tsunami Products”, 2-4 June 2014, Guayaquil, Ecuador**

The Pacific Ocean and its adjacent seas is the largest, most diverse and most prone to tsunamis of all the Earth's oceans. Pacific nations must be prepared to face the dangers of tsunami from distant, regional and local sources.

Over the last 10+ years, with improvements in data quality, quantity, and real-time availability, PTWC's response time has dropped significantly from an hour to less than 10 minutes for distant events. At the same time, our scientific understanding has increased from earthquake and tsunami experiences since 26 December 2004 and better techniques have been developed to quickly characterize the earthquake and numerically model the tsunami. This in turn has led to significant improvements in the ability of the warning centre to accurately forecast coastal wave height and impact, and to provide timely advice to support local tsunami warning decision-making.

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Chairperson

Dr Sang-Kyung BYUN
Principal Research Scientist
Climate Change & Coastal Disaster
Research Dept.
Korea Institute of Ocean Science
and Technology (KIOST)
787 Haeanlo
Ansan 426-744
REPUBLIC OF KOREA

Executive Secretary

Dr Wendy WATSON-WRIGHT
Intergovernmental Oceanographic
Commission — UNESCO
7 Place de Fontenoy
75352 Paris Cedex 07 SP
FRANCE

Vice-Chairpersons

Prof. Peter M. HAUGAN
Director, Geophysical Institute
University of Bergen
Allegaten 70
5007 Bergen
NORWAY

Dr Atanas PALAZOV
Director, Institute of Oceanology – Varna
Bulgarian Academy of Sciences
P.O. Box 152
Varna 9000
BULGARIA

Capt. Frederico Antonio SARAIVA
NOGUEIRA
Directorate of Hydrography
and Navigation
Rue Barão de Jacaguai, s/n°
Ponta da Armação
Niterói, Rio de Janeiro
CEP 24.048-900
BRAZIL

Prof. Yutaka MICHIDA
University of Tokyo
Member of National Committee for IOC
Kashinoha 5-1-5
Kashiwa 277-8564
Chiba
JAPAN

Prof. Adoté Blim BLIVI
Chef de Recherche
Head of CGILE
Ministère de l'Enseignement
Supérieur et de la Recherche
University of Lomé,
B.P. 1515
Lomé 228
TOGO

At its 25th session, the Intergovernmental Coordination Group for the Pacific Ocean Tsunami Warning and Mitigation System (ICG/PTWS-XXV, Vladivostok, Russian Federation, 9-11 September 2013), Member States approved the start of the PTWC Enhanced Products on 1st October 2014. These products, the first large-scale modifications in decades, fundamentally change the way in which countries assess their national tsunami threats. The PTWC will cease providing Warnings and Watches, and instead issue tsunami wave forecasts. Public text products will continue to be issued, but the additional graphical and statistical products will only be sent to designated PTWS Tsunami Warning Focal Points.

This three-day training will focus on the explanation and use of the PTWC New Enhanced Tsunami Forecast Products by National Tsunami Warning Centres (NTWC) and to support public safety actions by Emergency Response Agencies. Topics will cover warning centre and emergency response standard operating procedures and their challenges, and the methodologies, limitations, and interpretation of the PTWC Enhanced Products.

To assist in preparing countries for the changeover to the PTWC Enhanced Products, we are pleased to invite some Member States to nominate up to two candidates to participate in this regional training. One candidate should be from the tsunami warning authority while the other one can be either from the seismology agency involved with tsunami monitoring and warning, the National Disaster Management Office (NDMO), or a second senior staff from the NTWC. Nominations should be endorsed by and submitted through the country's Tsunami National Contact (TNC).

This training will be conducted in English, with simultaneous Spanish translation (provisional agenda attached).

The training is being organized by the International Tsunami Information Center (Hawaii) and the Pacific Tsunami Warning Center (PTWC), in collaboration with the IOC/ICG/PTWS Secretariat, with the support of the United States Agency for International Development/Office of Foreign Disaster Assistance USAID/OFDA, UNESCO, the Permanent Commission for the South East Pacific (CPPS by its acronym in Spanish) and the Government of Ecuador through its Navy Oceanographic Institute (INOCAR), that has kindly agreed to host the training.

Some funding is available for supporting attendance at the training, but full or partial self-funding by countries is welcome with no limitation. Selected candidates receiving support from the organizers will be provided with a round trip air ticket through the most economical route, and/or local transport, lodging and meals. The selection criteria of the candidates who receive funding are: a) members of the country's NTWC, Seismological agency or NDMO; and b) responsible for tsunami warning and emergency response operations, and/or for their country's tsunami Standard Operating Procedures (SOPs).

Please forward the attached form duly completed by each nominee, along with a CV, by email to Bernardo Aliaga (b.aliaga@unesco.org), ICG/PTWS Technical Secretary, with copy to Laura Kong (laura.kong@noaa.gov), Director, International Tsunami Information Center, by Monday 5 May 2014. Selected candidates will be notified by Wednesday 7 May 2014.

Yours sincerely,

[signed]

Wendy Watson-Wright
Executive Secretary, IOC

Enclosures (2):
Provisional Agenda
Application Form

ANNEX I

**UNESCO – IOC / NOAA INTERNATIONAL TSUNAMI INFORMATION CENTER (ITIC)
ITIC TRAINING PROGRAMME INTERNATIONAL**

**Regional Training: Latin American Countries (ITP-LAC)
ICG/PTWS Pacific Tsunami Warning Center (PTWC) New Enhanced Tsunami Products
2-4 June 2014, Guayaquil, Ecuador**

Trainers

Bernardo Aliaga, Technical Secretary, ICG/PTWS and ICG/CARIBE-EWS, IOC Tsunami Unit
Nicolas Arcos, Technical Information Specialist-Tsunamis, ITIC, Hawaii, USA
Dr. Laura Kong, Director, ITIC, Hawaii, USA
Dr. Charles McCreery, Director, PTWC, Hawaii, USA

Training Overview

The 3-day training will cover the explanation and use of the PTWC New Enhanced Tsunami Forecast Products by National Tsunami Warning Centers and Emergency Response Agencies. Topics will cover the end-to-end warning process, warning center and emergency response standard operating procedures and their challenges, advanced topics in warning operations, and the methodologies, limitations, and interpretation of the PTWC Enhanced Products. Over the last 10+ years, with improvements in data quality, quantity, and real-time availability, PTWC's response time has dropped significantly from an hour to < 10 minutes for distant events. At the same time, with each great earthquake and tsunami since 26 December 2004 helping to increase scientific understanding, better techniques have been developed to quickly characterize the earthquake and numerically model the tsunami. This in turn has led to significant improvements in a warning center's ability to accurately forecast coastal wave height and impact, and an ability to provide timely advice to support local tsunami warning decision-making. At the ICG/PTWS-XXV (September 2013), Member States approved the start of the PTWC Enhanced Products on October 1, 2014. These products, the first large-scale modifications in decades, fundamentally change the way in which countries assess their national tsunami threats. The PTWC will cease providing Warnings and Watches, and instead issue tsunami wave forecasts. Public text products will continue to be issued, but the additional graphical and statistical products will only be sent to designated PTWS Tsunami Warning Focal Points.

PROVISIONAL AGENDA

| Session | Topic |
|---------|--|
| | DAY 1: Tsunami Warning and Response – Requirements, PTWC SOPs, Country Readiness |
| 1 | ICG/PTWS-XXV Outcomes, specifically for the PTWS Enhanced Products |
| 2 | Responding Rapidly and Effectively: Tsunami Warning and Emergency Response Requirements and Timeline-driven SOPs |
| 3 | What will Tsunami Warning Centers (TWCs) provide to Tsunami Emergency Response (TER) agencies? TWC Operations Challenges and Limitations in real-time Monitoring, Detection, |
| 4 | What do TERs want from TWCs? TER Operations Challenges and Limitations in Alerting, Evacuation, and Safe-to-Return (All-Clear) |
| 5 | Country SOPs using PTWC Enhanced Products |
| | DAY 2: PTWC SOPs, TWC Operations – Advanced Topics, Enhanced Products |
| 1 | Pacific Tsunami Warning Center (PTWC) SOPs |
| 2 | TWC Operations: Real-time Earthquake Detection and Fast Source Characterization, W-Phase Centroid Moment Tensors – Techniques, Use, and Limitations |
| 3 | TWC Operations: Travel Time and Wave Forecasting - Techniques, Use and Limitations |
| 4 | PTWC Enhanced Products - Why, What, When and How to Use, Uncertainties, Limitations |
| 5 | PTWC Enhanced Products - Explanation of Each Product: Text, Forecast Polygon Map, Graphical Deep-Ocean Energy, Coastal Forecast, Forecast Tables, KMZ file |
| 6 | PTWC Enhanced Products - Guidance on use for National Warnings and Evacuation – Land and Marine Threats and Public Safety |
| | DAY 3: Tsunami Hazard Scenarios, Table Top Exercise |
| 1 | PTWC Enhanced Products - Regional and Local Tsunami Hazard Scenarios |
| 2 | Tsunami Table Top Exercise - Local Tsunami Scenario |
| 3 | Summary Discussion: Country Readiness for PTWS Enhanced Products. |

ANNEX II

**UNESCO/IOC – NOAA International Tsunami Information Center
ITIC TRAINING PROGRAMME (ITP) – INTERNATIONAL**

“ICG/PTWS Pacific Tsunami Warning Center (PTWC) New Enhanced Tsunami Products”, 2-4 June 2014, Guayaquil, Ecuador

APPLICATION FORM

Please type or write in BLOCK letters in English

Please return by 5 May 2014 to

E-MAIL: b.aliaga@unesco.org; laura.kong@noaa.gov

1. PERSONAL INFORMATION

| | |
|---------------------|---|
| NAME | |
| TITLE | <input type="checkbox"/> DR. <input type="checkbox"/> PROF. <input type="checkbox"/> MR. <input type="checkbox"/> MS. <input type="checkbox"/> others _____ |
| SEX | <input type="checkbox"/> MALE <input type="checkbox"/> FEMALE |
| NATIONALITY | |
| HOME ADDRESS | |
| TELEPHONE NUMBER | |
| FAX NUMBER | |
| EMAIL ADDRESS | |

2. PROFESSIONAL BACKGROUND

| | |
|-------------------------|--|
| OFFICE/ ORGANIZATION | |
| POSITION | |
| ADDRESS | |
| TELEPHONE NUMBER | |
| FAX NUMBER | |
| EMAIL ADDRESS | |

3. EDUCATIONAL BACKGROUND

| LEVEL | SCHOOL | DEGREE | YEAR GRADUATED |
|------------------|--------|--------|-------------------|
| COLLEGE | | | |
| MASTER | | | |
| DOCTORAL | | | |
| POST DOCTORAL | | | |

4. TSUNAMI-RELATED TRAININGS ATTENDED

| TITLE OR SUBJECT | CONDUCTED BY | DATES |
|------------------|--------------|-------|
| | | |
| | | |
| | | |

5. OTHER RELATED TSUNAMI-RELATED JOB EXPERIENCE

| OFFICE / ORGANIZATION JOB DESCRIPTION | POSITION | DATES |
|--|----------|-------|
| | | |
| | | |
| | | |

6. TRAVEL INFORMATION

| | |
|---------------------------------------|--|
| NAME ON PASSPORT | |
| PASSPORT COUNTRY | |
| PASSPORT NUMBER | |
| BIRTHDAY (DD-MM-YYYY) | |
| DATE OF ISSUE | |
| PLACE OF ISSUE | |
| EXPIRY DATE | |
| COUNTRY OF BIRTH | |
| COUNTRY OF CITIZENSHIP | |
| NAME OF NEAREST INTERNATIONAL AIRPORT | |

7. OTHER

| | |
|-------------------------------|--|
| ENGLISH LANGUAGE PROFICIENCY | <input type="checkbox"/> Excellent <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Poor |
| DO YOU REQUIRE TRAVEL FUNDING | <input type="checkbox"/> Yes, Full Funding <input type="checkbox"/> Yes, Partial Funding, Amount USD _____. <input type="checkbox"/> No, Self-funded |

Statement of Interest:

Why are you interested in attending this Training?

After the Training, where and how will the experience gained in the Training will be used?

Please also submit separately your Curriculum Vitae (CV).

PRINTED NAME OR SIGNATURE

DATE: _____

ENDORSED BY TSUNAMI NATIONAL CONTACT:

Printed Name

Signature

Organization

DATE