



United Nations
Educational, Scientific and
Cultural Organization



Intergovernmental
Oceanographic
Commission



PacWave20

Exercise Pacific Wave 2020 (PacWave20)

PTWS Task Team on PacWave20 Exercise
Co-Chairs

Emilio Talavera. Nicaragua INETER
Laura Kong, ITIC

PTWS TSPs (PTWC, NWPTAC, SCSTAC, CATAC)
SEP Regional WG

October 2020

Task Team on PacWave20 Members

Co-chairs

Laura Kong – ITIC, USA

Emilio Talavera – INETER, Nicaragua

Members:

- Jo Guard, New Zealand
- Chip McCreery – USA
- Anthony Blake - SWP – SPC SOPAC
- Silvia Chacon CA-PAC
- David Coetzee - WG 3 Chair
- Viviana Dionicio, Colombia
- Ji Min Lee, Republic of Korea
- Yuelong Miao, Australia
- Jerome Aucan, France-New Caledonia
- Viacheslav Gusiakov, Russian Federation
- Ryosuke Sakakibara, JMA
- Robert Greenwood, Bureau of Meteorology Australia
- Carlos Zuniga, SHOA, Chile
- Wilfried Strauch, INETER, Nicaragua

PacWave20 ToR highlights – Aims, Objectives

(ICG/PTWS-XXVIII.1, April 2019)

Aim:

The aim PacWave20 is to test PTWS tsunami service provider arrangements, country preparedness arrangements and operational procedures to respond and recover from a destructive tsunami.

Objectives

- a. Test communications from the PTWS Tsunami Service Providers to Tsunami Warning Focal Points and National Tsunami Warning Centres of Member States.
- b. Test national communication and cooperation, and readiness within the country.
- c. Test regional communication and cooperation between Member States.
- d. Support the development of tsunami procedures and products by the Central America Tsunami Advisory Center (CATAC)

PacWave20 ToR highlights – Dates, Conduct

(ICG/PTWS-XXVIII.1, April 2019)

Dates:

Take place in the months of September through to November 2020 to support International Disaster Risk Reduction Day (13 October) and World Tsunami Awareness Day (5 November).

Conduct:

- Be conducted as a series of regional exercises organized through the PTWS Regional Working Groups where applicable, with support from the PTWS TSPs and ITIC, involving all PTWS countries as part of the regular biennial Pacific Wave exercise conducted since 2006.
([TsuCAT v4 \(2019-20\)](#) avail for scenario planning, PTWC products)
- Be conducted to include one live communications test from the PTWS TSPs to Member States on 5 November 2020.

PacWave20 ToR highlights – Conduct

(ICG/PTWS-XXVIII.1, April 2019)

Conduct:

Include exercise activities over and above a table top exercise.

Possible exercise variations include:

- Consider conducting in real time during the daytime working hours with full staffing, or simulating minimal staff during night time or weekend hours
- Consider testing country capability to carry out their warning and response responsibilities for the situation where one or more PTWS TSPs is not able to provide guidance in a timely manner.
- Consider conducting the exercise down to the community level, including where possible including an extensive public awareness campaign.
- Consider the Sendai Framework for Disaster Risk Reduction (SFDRR) 2015–2030 seven global targets and four priorities for action, World Tsunami Awareness Day and/or the UN Decade of Ocean Science for Sustainable Development in designing the exercise.

PTWS Steering Committee decision (June 2020)

Because of the COVID-19 pandemic, which began in December and likely will continue for the remainder of 2020, Member States have generally been unable to dedicate sufficient planning and preparation resources to plan or conduct of Exercise Pacific Wave 2020 (PacWave20) in the manner outlined in Rec PTWS-XXVII.1 (April 2019)

The PTWS SC reiterated the difficulty of conducting PacWave20 as planned given the current COVID-19 global situation, and **recommended** that PacWave20 only tests Objectives a. and d. Accordingly, the PacWave20 will consist of :



- **Objective a. Communication test on November 5, 2020**
- **Objective d. CATAC regional exercise**
- Other activities are encouraged but are at the discretion of the country.

- **PacWave20 website**
www.pacwave.info

- **PacWave20 website**

Intergovernmental Oceanographic Commission
Technical Series

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EXERCISE PACIFIC WAVE 2020
**A Pacific-wide Tsunami Service
Provider Communications Exercise**
5 November 2020

Volume 1 **Exercise Manual**

UNESCO

[illegible]

NWPPAC Enhanced Products (For Member States of the Western Area of Responsibility only)
 ODC Circular Letter No. 2702, Statement of issuance of environmental NWPPAC Enhanced Products on 29 December 2017, including Users Guide (13 Dec 2017, [PDF](#), 124 KB)
 ODC Circular Letter No. 2703, Statement of issuance of NWPPAC enhanced products as from 28 February 2019 (24 Jan 2019, [PDF](#), 270 KB)
 NWPPAC Enhanced Products Area of Service, Jan 2019
 NWPPAC Enhanced Products Users' Guide for the Northwest Pacific Tsunami Advisory Center (NWPPAC), Enhanced Products for the Pacific Tsunami Warning System (ODC TS 142, Jan 2019, [PDF](#), 1.1 MB)

SCSTAC Enhanced Products (For Member States of the South China Sea region only)
 ODC Circular Letter No. 2706, Statement of trail operations of the South China Sea Tsunami Advisory Center (SCSTAC) on 29 December 2018 (13 Dec 2018, [PDF](#), 124 KB)
 ODC Circular Letter No. 2777, Full operation of the South China Sea Tsunami Advisory Center (SCSTAC) on 15 November 2019 (16 September 2019, [PDF](#), 98 KB)
 SCSTAC ADG product information (15 November 2019, [PDF](#), 1.8 MB)
 SCSTAC ADG product information (15 November 2019, [PDF](#), 1.8 MB)
 Tsunami Warning and Mitigation System (Jan 2019, Sept 2019, [PDF](#), 1.8 MB)

PTWC Enhanced Products (Web Site)
 User's Guide for the PTWC Enhanced Products for the PTWS (ODC TS 105 rev. Aug 2014)
 ODC Circular Letter No. 1404 (2014) (Full resolution, [PDF](#), 4.4 MB)
 ODC Circular Letter No. 1405 (2014) (Full resolution, [PDF](#), 4.4 MB)
 ODC Circular Letter No. 1406 (2014) (Full resolution, [PDF](#), 4.4 MB)
 ODC Circular Letter No. 1407 (2014) (Full resolution, [PDF](#), 4.4 MB)

Previous Pacific Exercise Exercises
 Exercise Pacific Wave 2017, Summary Report, ([PDF](#), 2.7 MB)
 Exercise Pacific Wave 2017, Summary Report, final draft, January 2018, ([PDF](#), 1.2 MB)
 Exercise Pacific Wave 2016, Summary Report - Decade of Reflection, (PPT, 3.2 MB, [PDF](#) 2.9 MB)

Other Publications
 National Tsunami Warning focal Point (TWFF) and National Tsunami Warning Center (NTWC) Information
 Definitions (ODC Executive Council, July 2014) ([PDF](#), 53 KB)
 Updating information on National Tsunami Warning Centres (NTWC) and National Tsunami Warning Focal Points (TWFF) for the PTWS region according to new definitions (23 January 2015) ([PDF](#), 352 KB)
 ODC TS 2563 Annex, NTWC/NWPPAC Notification Form (H/2012, Dec 2012)

Pacificive Support information - past PacificWave exercises
 Tsunami Travel Time Maps (HTPLs)
 Historical Tsunami Maps (HTMLs)

PacificWave2020 Exercise Evaluation Form (Exercise Manual, plus Tsunami Ready question)
 Exercise manual online 1 December 2020, at https://www.surveymonkey.com/p/pacificwave2020_eval/ (open until November 2020)
 For reference, fileable PDF-format is available, [English](#) ([PDF](#), 1.1 MB)

For help with any difficulty submitting online, you may submit the Evaluation PDF
 by email to PacificWaveTeam@tsunamivillage.org
 Laura King, TCTE, laura.king@moaa.gov
 Tereza Salazar, Nicaragua INETER, emilio.salazar@ineter.gob.ni

Exercise format – Objective a.

- **ONE (1) LIVE Communications Test**
- **0000 UTC, 5 November 2020**
- **PTWS TSP to MS TWFP / NTWC**
- **Usual communication methods**

PTWC

ZCZC
WEP440 PHEB 050000
TSUPAC

TEST... DUMMY MESSAGE FOR PACWAVE20 EXERCISE...TEST
NWS PACIFIC TSUNAMI WARNING CENTER ENA BEACH HI
0000 UTC WED NOV 05 2020

...THIS MESSAGE IS FOR TEST PURPOSES ONLY...
...TEST PACWAVE20 TSUNAMI EXERCISE TEST...

THIS IS A TEST. THIS MESSAGE IS BEING ISSUED AS A PART OF THE
PACWAVE20 TSUNAMI EXERCISE. ITS PURPOSE IS TO TEST
COMMUNICATIONS BETWEEN THE PACIFIC TSUNAMI WARNING CENTER
AND THE TSUNAMI WARNING FOCAL POINTS AND NATIONAL TSUNAMI
WARNING CENTERS OF THE COUNTRIES AND TERRITORIES THAT MAKE
UP THE UNESCO-IOC PACIFIC TSUNAMI WARNING AND MITIGATION
SYSTEM. THE MESSAGE IS BEING SENT OVER

- THE WMO GLOBAL TELECOMMUNICATIONS SYSTEM
- THE AERONAUTICAL FIXED TELECOMMUNICATIONS NETWORK
- THE EMERGENCY MANAGERS WEATHER INFORMATION NETWORK
- EMAIL
- TELEFAX
- AND OTHER SYSTEMS

THIS IS A TEST. PLEASE NOTE THE TIME AND MEANS OF
ARRIVAL OF THIS MESSAGE FOR REPORTING IN THE POST-EXERCISE
EVALUATION.

THIS IS A TEST. GUIDANCE FOR THE EXERCISE CAN BE FOUND IN
THE PACWAVE20 EXERCISE MANUAL LOCATED ON THE WEB AT

WWW.PACWAVE.INFO

THIS IS A TEST. DO NOT TAKE ANY ACTIONS BASED UPON THIS TEST
MESSAGE OTHER THAN THOSE RELATED TO THE PACWAVE20 EXERCISE.

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NWPTAC

NWPTA COMMUNICATIONS TEST FOR EXERCISE PACIFIC WAVE 20
ISSUED BY NWPTAC(JMA)
ISSUED AT 0000Z 05 NOV 2020
PART 01 OF 01 PARTS

THIS IS A TEST MESSAGE FOR EXERCISE PACIFIC WAVE 20.
THIS MESSAGE IS FOR TEST PURPOSES ONLY.

THIS TEST MESSAGE HAS BEEN SENT TO EACH RECIPIENT ORGANIZATION
IN ORDER TO TEST RECEIPT OF NWPTAC MESSAGES AS PART OF EXERCISE
PACIFIC WAVE (PACWAVE)20.

YOUR ACTION IS REQUIRED
PLEASE TAKE NOTE OF THE TIME YOU RECEIVE THIS MESSAGE AND THE METHOD(S)
BY WHICH YOU RECEIVE THIS MESSAGE AND REPORT BACK THROUGH THE EXERCISE
PACWAVE POST-EXERCISE ONLINE EVALUATION SURVEY BY 21 DECEMBER 2020.

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SCSTAC

WESS31 BABJ 050600

TEST PACWAVE20 TSUNAMI EXERCISE **TEST**

ISSUED BY SOUTH CHINA SEA TSUNAMI ADVISORY CENTER (SCSTAC)
ISSUED AT 0600Z 05 NOV 2020

THIS IS A COMMUNICATION TEST BULLETIN FOR PACWAVE20 TSUNAMI EXERCISE.

THIS IS A TEST TO VERIFY COMMUNICATION LINKS AND DETERMINE
TRANSMISSION TIMES INVOLVED IN THE DISSEMINATION OF OPERATIONAL
TSUNAMI ADVICE PRODUCTS FROM THE SOUTH CHINA SEA TSUNAMI ADVISORY
CENTER TO DESIGNATED 24-HOUR TSUNAMI WARNING FOCAL POINTS OF THE SOUTH
CHINA SEA TSUNAMI WARNING SYSTEM.

THIS TEST MESSAGE IS SENT BY GTS, FAX AND EMAIL.

RECIPIENTS ARE REQUESTED TO PLEASE RESPOND BACK TO ICG PTWS TASK TEAM
ON PACWAVE20. GUIDANCE FOR THE EXERCISE CAN BE FOUND IN
THE PACWAVE20 EXERCISE MANUAL LOCATED AT

WWW.PACWAVE.INFO

PLEASE RESPOND BEFORE THE DUE DATE SPECIFIED IN THE EXERCISE MANUAL.

THANK YOU FOR YOUR PARTICIPATION IN THIS COMMUNICATION TEST

NNNN

CATAC

PRUEBA DE COMUNICACIONES CATAC PARA EL EJERCICIO PACIFIC WAVE 20
EMITIDO POR CATAC (DNETER)
EMITIDO A LAS 0000Z 05 NOV 2020

ESTE ES UN MENSAJE DE PRUEBA PARA EL EJERCICIO PACIFIC WAVE 20.
ESTE MENSAJE ES PARA PRUEBAS ÚNICAMENTE.

ESTE MENSAJE DE PRUEBA SE HA ENVIADO A CADA ORGANIZACIÓN BENEFICIARIO
PARA PROBAR LA RECEPCIÓN DE MENSAJES CATAC COMO PARTE DEL EJERCICIO
PACIFIC WAVE (PACWAVE) 20.

SE REQUIERE SU ACCIÓN.
TENGA EN CUENTA LA HORA EN QUE RECIBE ESTE MENSAJE Y EL (LOS) MÉTODO (S)
POR EL CUAL USTED RECIBE ESTE MENSAJE E INFORME A TRAVÉS DE LA
ENCUESTA DE EVALUACIÓN EN LÍNEA POST-EJERCICIO DE PACWAVE20 A PARTIR
DEL 21 DE DICIEMBRE DE 2020.

Exercise format – PTWC Comm Test

– Communication Methods

- GTS with header
WEPA40 PHEB
- AFTN, Email, FAX

The PTWC Dummy Message for the PacWave20 Exercise will be transmitted on November 5, 2020 at 0000 UTC. It will go by the same methods and to all the same recipients as the PTWC tsunami bulletins and regular communication tests, but will not go to the tsunami.gov website.

ZCZC
WEPA40 PHEB 050000
TSUPAC

TEST... DUMMY MESSAGE FOR PACWAVE20 EXERCISE...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
0000 UTC WED NOV 05 2020

...THIS MESSAGE IS FOR TEST PURPOSES ONLY...
...TEST PACWAVE20 TSUNAMI EXERCISE TEST...

THIS IS A TEST. THIS MESSAGE IS BEING ISSUED AS A PART OF THE PACWAVE20 TSUNAMI EXERCISE. ITS PURPOSE IS TO TEST COMMUNICATIONS BETWEEN THE PACIFIC TSUNAMI WARNING CENTER AND THE TSUNAMI WARNING FOCAL POINTS AND NATIONAL TSUNAMI WARNING CENTERS OF THE COUNTRIES AND TERRITORIES THAT MAKE UP THE UNESCO-IOC PACIFIC TSUNAMI WARNING AND MITIGATION SYSTEM. THE MESSAGE IS BEING SENT OVER

- THE WMO GLOBAL TELECOMMUNICATIONS SYSTEM
- THE AERONAUTICAL FIXED TELECOMMUNICATIONS NETWORK
- THE EMERGENCY MANAGERS WEATHER INFORMATION NETWORK
- EMAIL
- TELEFAX
- AND OTHER SYSTEMS

THIS IS A TEST. PLEASE NOTE THE TIME AND MEANS OF ARRIVAL OF THIS MESSAGE FOR REPORTING IN THE POST-EXERCISE EVALUATION.

THIS IS A TEST. GUIDANCE FOR THE EXERCISE CAN BE FOUND IN THE PACWAVE20 EXERCISE MANUAL LOCATED ON THE WEB AT

WWW.PACWAVE.INFO

THIS IS A TEST. DO NOT TAKE ANY ACTIONS BASED UPON THIS TEST MESSAGE OTHER THAN THOSE RELATED TO THE PACWAVE20 EXERCISE.

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Dummy Exercise Message

Exercise format – NWPTAC Comm Test

– Communication Methods

- GTS with header
WEPA40 RJTD
- Email
- Fax

- China, Federated States of
Micronesia, French
Polynesia, Indonesia, Palau,
Papua New Guinea,
Philippines, Republic of
Korea, Russian Federation,
Solomon Islands

NWPTA COMMUNICATIONS TEST FOR EXERCISE PACIFIC WAVE 20
ISSUED BY NWPTAC(JMA)
ISSUED AT 0000Z 05 NOV 2020
PART 01 OF 01 PARTS

THIS IS A TEST MESSAGE FOR EXERCISE PACIFIC WAVE 20.
THIS MESSAGE IS FOR TEST PURPOSES ONLY.

THIS TEST MESSAGE HAS BEEN SENT TO EACH RECIPIENT ORGANIZATION
IN ORDER TO TEST RECEIPT OF NWPTAC MESSAGES AS PART OF EXERCISE
PACIFIC WAVE (PACWAVE)20.

YOUR ACTION IS REQUIRED
PLEASE TAKE NOTE OF THE TIME YOU RECEIVE THIS MESSAGE AND THE METHOD(S)
BY WHICH YOU RECEIVE THIS MESSAGE AND REPORT BACK THROUGH THE EXERCISE
PACWAVE POST-EXERCISE ONLINE EVALUATION SURVEY BY 21 DECEMBER 2020.
=

Exercise Dummy Message

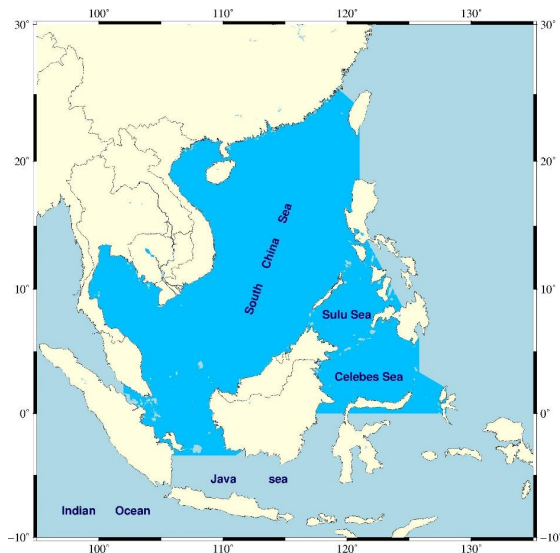
Exercise format – SCSTAC Comm Test

– SCSTAC Communication Methods

- GTS with header WESS31 BABJ
- Email, Fax

1.2 AREA OF SERVICE

The SCS Tsunami advisory products are issued when SCSTAC detects a major earthquake with moment magnitude 6.0 or greater in its Area of Service (AoS) (see [Figure 1](#), hereinafter referred to as “the SCS region”), which consists of the main body of the SCS, the Sulu Sea and the Celebes Sea. For major earthquakes that occur outside the SCS region but may pose threat to it, SCSTAC might issue tsunami advisory products by following the epicentre information identified by PTWC or NWPTAC.



[Figure 1](#). SCSTAC Area of Service (AoS).

WESS31 BABJ 050600

TEST PACWAVE20 TSUNAMI EXERCISE **TEST**

ISSUED BY SOUTH CHINA SEA TSUNAMI ADVISORY CENTER (SCSTAC)

ISSUED AT 0600Z 05 NOV 2020

THIS IS A COMMUNICATION TEST BULLETIN FOR PACWAVE20 TSUNAMI EXERCISE.

THIS IS A TEST TO VERIFY COMMUNICATION LINKS AND DETERMINE TRANSMISSION TIMES INVOLVED IN THE DISSEMINATION OF OPERATIONAL TSUNAMI ADVICE PRODUCTS FROM THE SOUTH CHINA SEA TSUNAMI ADVISORY CENTER TO DESIGNATED 24-HOUR TSUNAMI WARNING FOCAL POINTS OF THE SOUTH CHINA SEA TSUNAMI WARNING SYSTEM.

THIS TEST MESSAGE IS SENT BY GTS, FAX AND EMAIL.

RECIPIENTS ARE REQUESTED TO PLEASE RESPOND BACK TO ICG PTWS TASK TEAM ON PACWAVE20. GUIDANCE FOR THE EXERCISE CAN BE FOUND IN

THE PACWAVE20 EXERCISE MANUAL LOCATED AT

WWW.PACWAVE.INFO

PLEASE RESPOND BEFORE THE DUE DATE SPECIFIED IN THE EXERCISE MANUAL.

THANK YOU FOR YOUR PARTICIPATION IN THIS COMMUNICATION TEST

NNNN

SCSTAC Exercise Dummy Msg

Exercise format – CATAC Comm Test

– CATAC Communication Method

- Email

2. ÁREA DE SERVICIO Y MONITOREO Y CRITERIOS DE EMISIÓN.

CATAC tiene como objetivo apoyar a los países de América Central en la prevención y mitigación de desastres por tsunamis. Por lo tanto, las áreas de servicio (AS) para las cuales CATAC emite productos son las costas de los países de América Central y de las islas de estos países en el Océano Pacífico (Área de Servicio del Pacífico, AS-P) y en el Mar Caribe (Área de Servicio del Caribe, AS-C), ver figura 1.

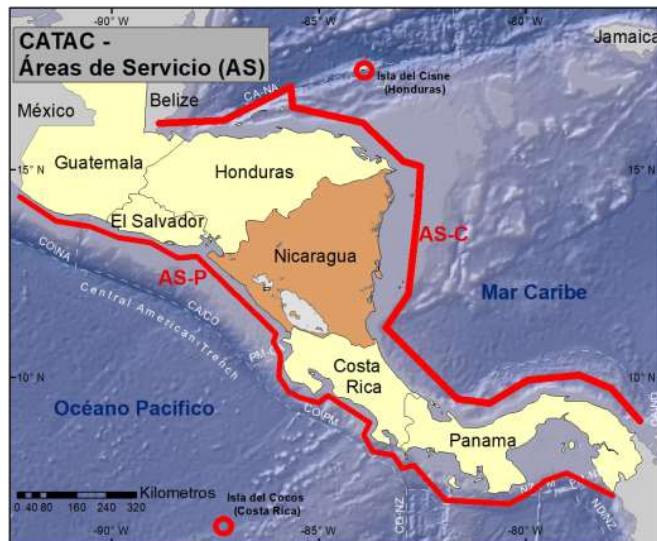


Figura 3. CATAC – Áreas de Servicio para el Océano Pacífico (AS-P) y el Mar Caribe (AS-C)

PRUEBA DE COMUNICACIONES CATAC PARA EL EJERCICIO PACIFIC WAVE 20
EMITIDO POR CATAC (INETER)
EMITIDO A LAS 0000Z 05 NOV 2020

ESTE ES UN MENSAJE DE PRUEBA PARA EL EJERCICIO PACIFIC WAVE 20.
ESTE MENSAJE ES PARA PRUEBAS ÚNICAMENTE.

ESTE MENSAJE DE PRUEBA SE HA ENVIADO A CADA ORGANIZACIÓN BENEFICIARIO
PARA PROBAR LA RECEPCIÓN DE MENSAJES CATAC COMO PARTE DEL EJERCICIO
PACIFIC WAVE (PACWAVE) 20.

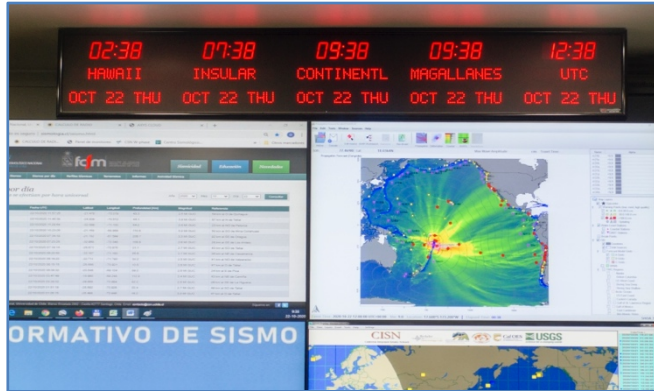
SE REQUIERE SU ACCIÓN.
TENGA EN CUENTA LA HORA EN QUE RECIBE ESTE MENSAJE Y EL (LOS) MÉTODO (S)
POR EL CUAL USTED RECIBE ESTE MENSAJE E INFORME A TRAVÉS DE LA
ENCUESTA DE EVALUACIÓN EN LÍNEA POST-EJERCICIO DE PACWAVE20 A PARTIR
DEL 21 DE DICIEMBRE DE 2020.

CATAC Exercise Dummy Msg

PTWS Regional Exercises – Objective c.

- SEP Regional Exercise – 22 October 2020
- CATAC Regional Exercise – 11 November 2020

SEP Regional Exercise – 22 Oct 2020



- Involving TWC Chile, Colombia, Ecuador, Peru
- PTWC played by Peru
- M8.8 north of Tonga
- 0900, lasting 6 hrs, simulating bulletins, monitoring of sea level / DART stations
- Improve regional coordination procedures.

GTATPS – CHILE



GTATPS – COLOMBIA



GTATPS – ECUADOR

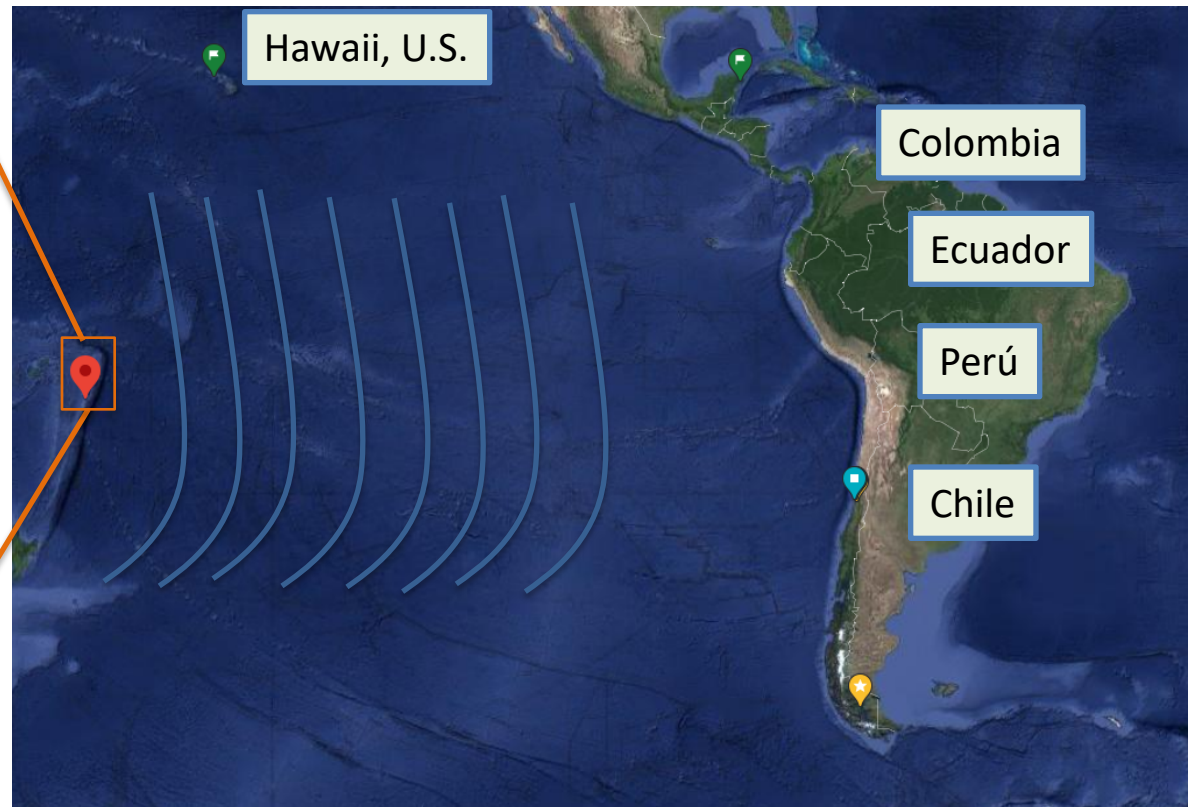


GTAPS - PERU



SEP Regional Exercise – 22 Oct 2020

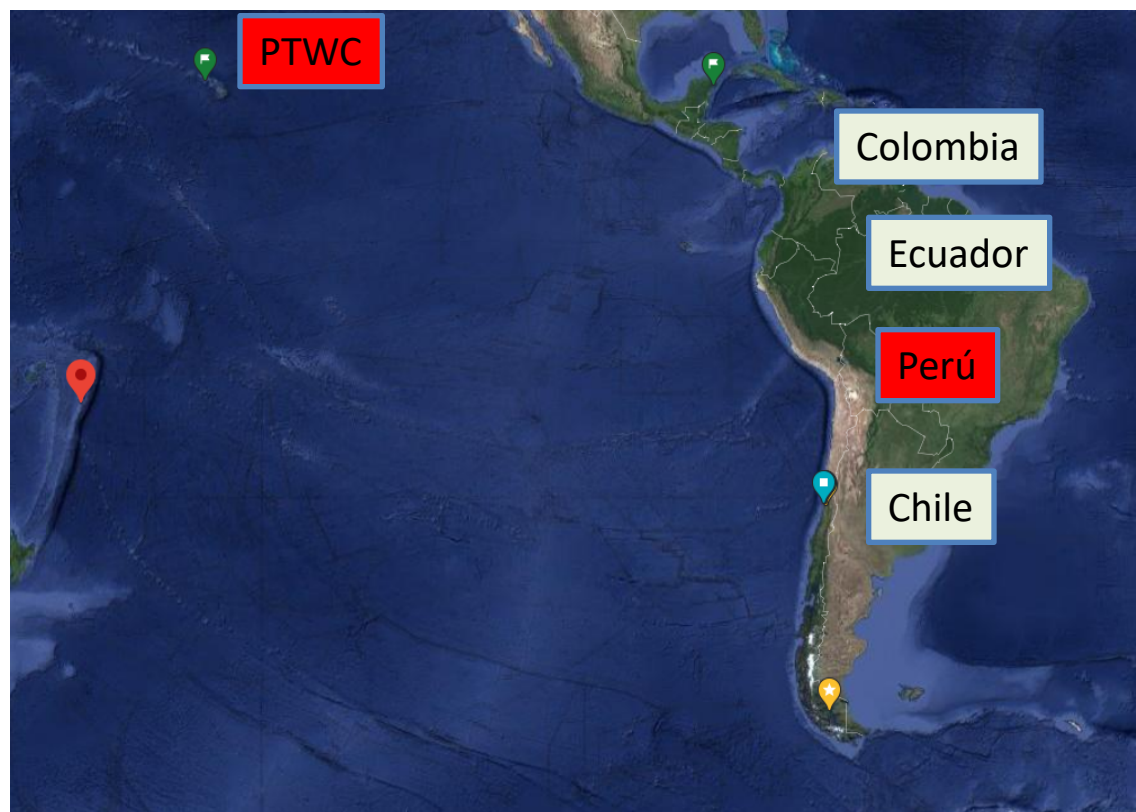
- **Epicenter Earthquake 9.0 Mw:**
445 km N of Nukualofa, Tonga



SEP Regional Exercise – 22 Oct 2020

- **Epicenter Earthquake 9.0 Mw:**
445 km N of Nukualofa, Tonga

- 1) **New Scenario.**
(México and Perú)
- 2) **All SEP countries**
affected.



SEP Regional Exercise – 22 Oct 2020

– Some considerations:

- 1) Perú played the role of PTWC.
- 2) PTWC sent a total of 10 Messages.
- 3) Length of Exercise was divided in two:
 - **Real Time:** First Hour (to make it as real as possible and check SOPs) 12:00 – 13:00 UTC.
 - **Compressed Time:** 13:00 – 18:21 UTC.
(20 min.= 01hr.)

SEP Regional Exercise – 22 Oct 2020

Length of Exercise was divided in two:

Tabla para emisión de boletines en tiempo real y diferido para el III Ejercicio Regional.

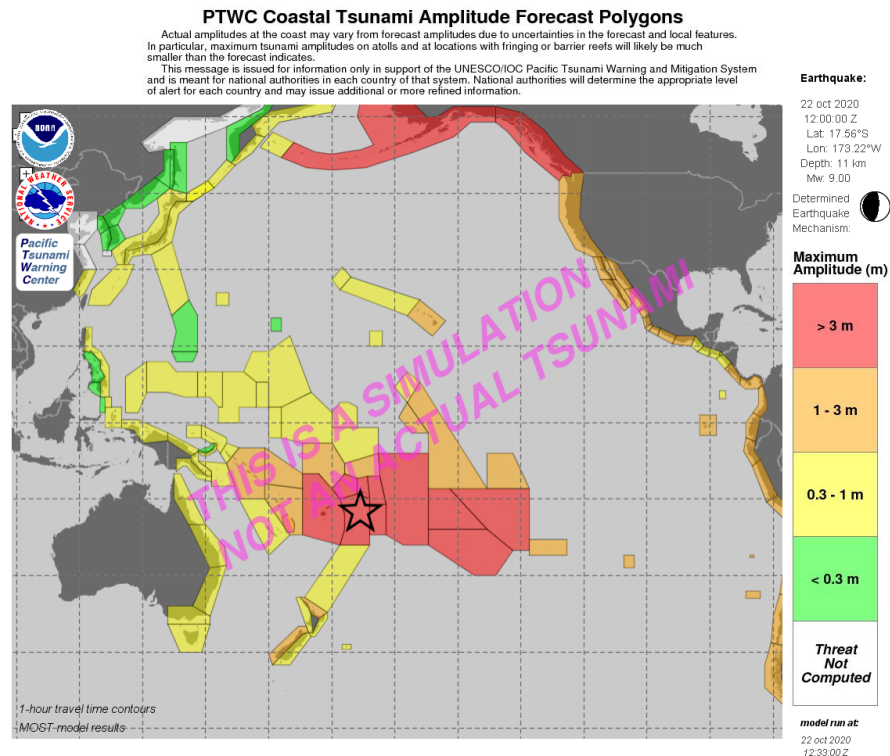
Fecha real	Nº real	Tiempo real (UTC)	Fecha diferida	Tiempo diferido (UTC)	Nº (dif)	Tipo de mensaje (TYP)	Tipo de envío
22-oct		12:00	22-oct	TIEMPO REAL	12:00	Ocurrencia de evento sísmico	
22-oct	1	12:06	22-oct		12:06	1 TI	txt
22-oct	2	12:15	22-oct		12:15	2 TMMU	txt
22-oct	3	12:25	22-oct		12:25	3 TMR	txt
22-oct	4	12:35	22-oct		12:35	4 TMP	txt, png, kmz
22-oct	5	13:00	22-oct		13:00	5 TM	txt
22-oct	6	14:00	22-oct	TIEMPO COMPRIMIDO	13:20		
22-oct	7	15:00	22-oct		13:40	6 TM	txt

PTWC	Pacific Tsunami Warning Center
TI	PTWC Initial Text Message
TMMU	PTWC Tsunami Threat Message Magnitude Update
TMR	PTWC Tsunami Threat Message Regional
TMP	PTWC Tsunami Threat Message Pacific
TM	PTWC Tsunami Threat Message
TL	PTWC Last Message for this Event

SEP Regional Exercise – 22 Oct 2020

Use of Tsunami Coastal Assessment Tool (TsuCAT)

- Exercise tool that allow countries to choose their own scenario and conduct their own exercises using the PTWC public text and enhanced graphical products.



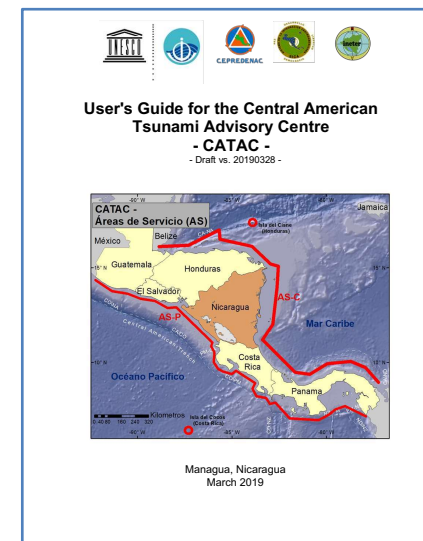
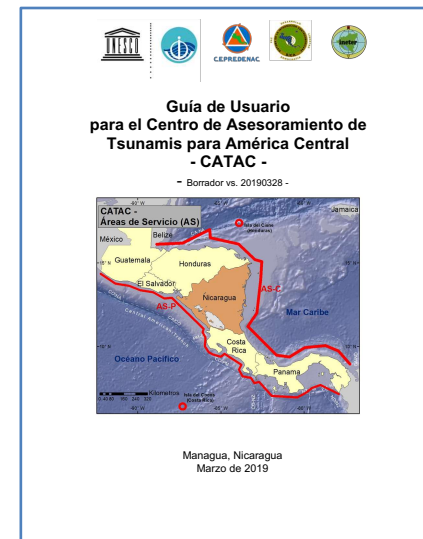
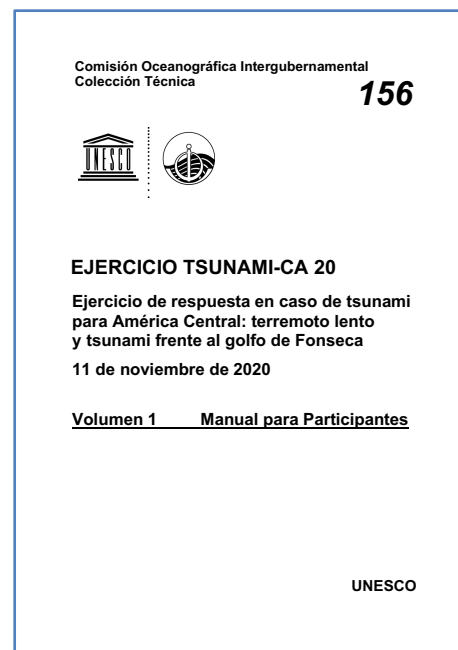
SEP Regional Exercise – 22 Oct 2020

– Total Messages sent by the end of the Exercise:

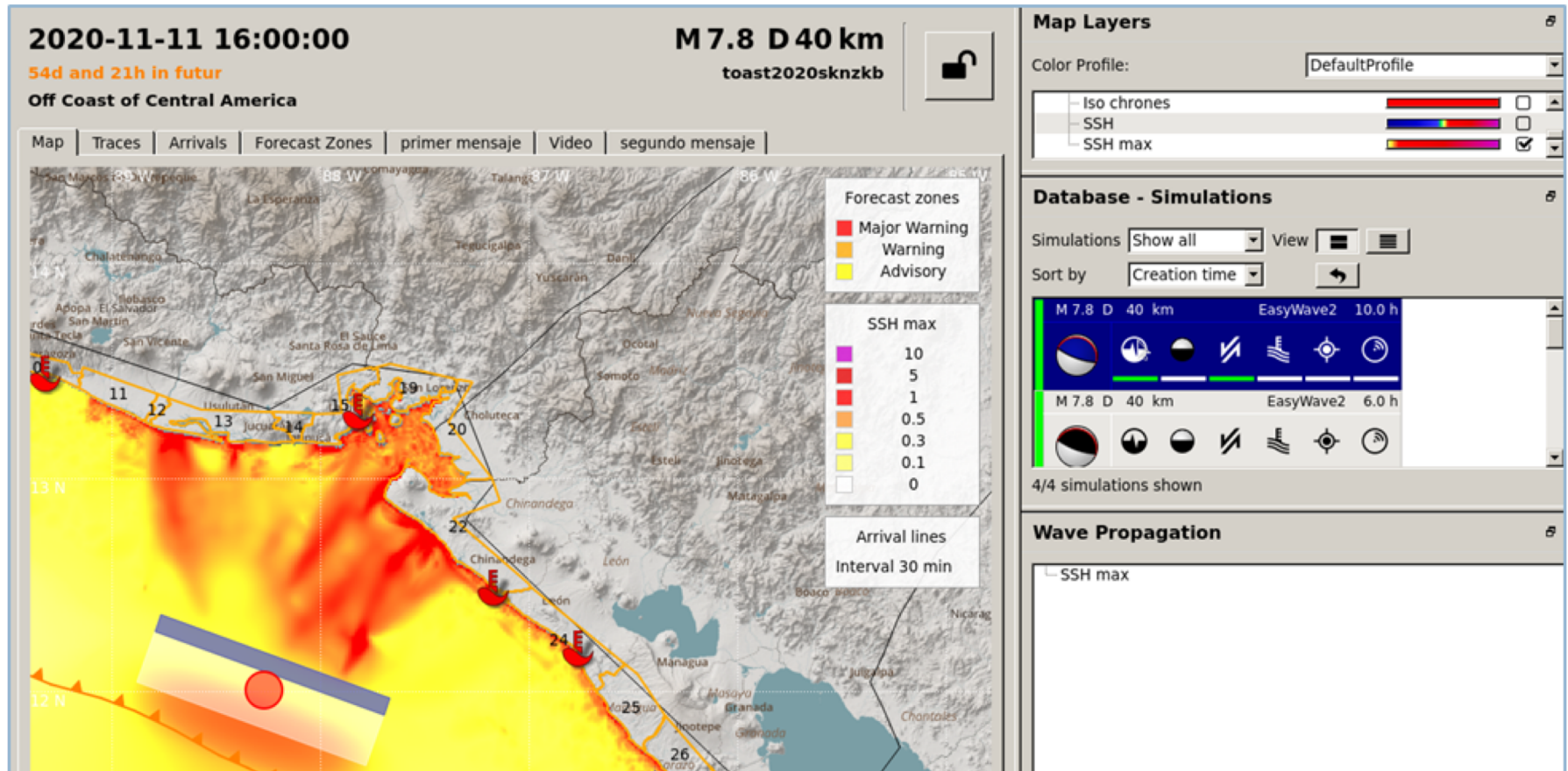
- 1) Colombia: 09
- 2) Ecuador: 08
- 3) Perú: 11
- 4) Chile: 19

CATAC Regional Exercise – 11 Nov 2020

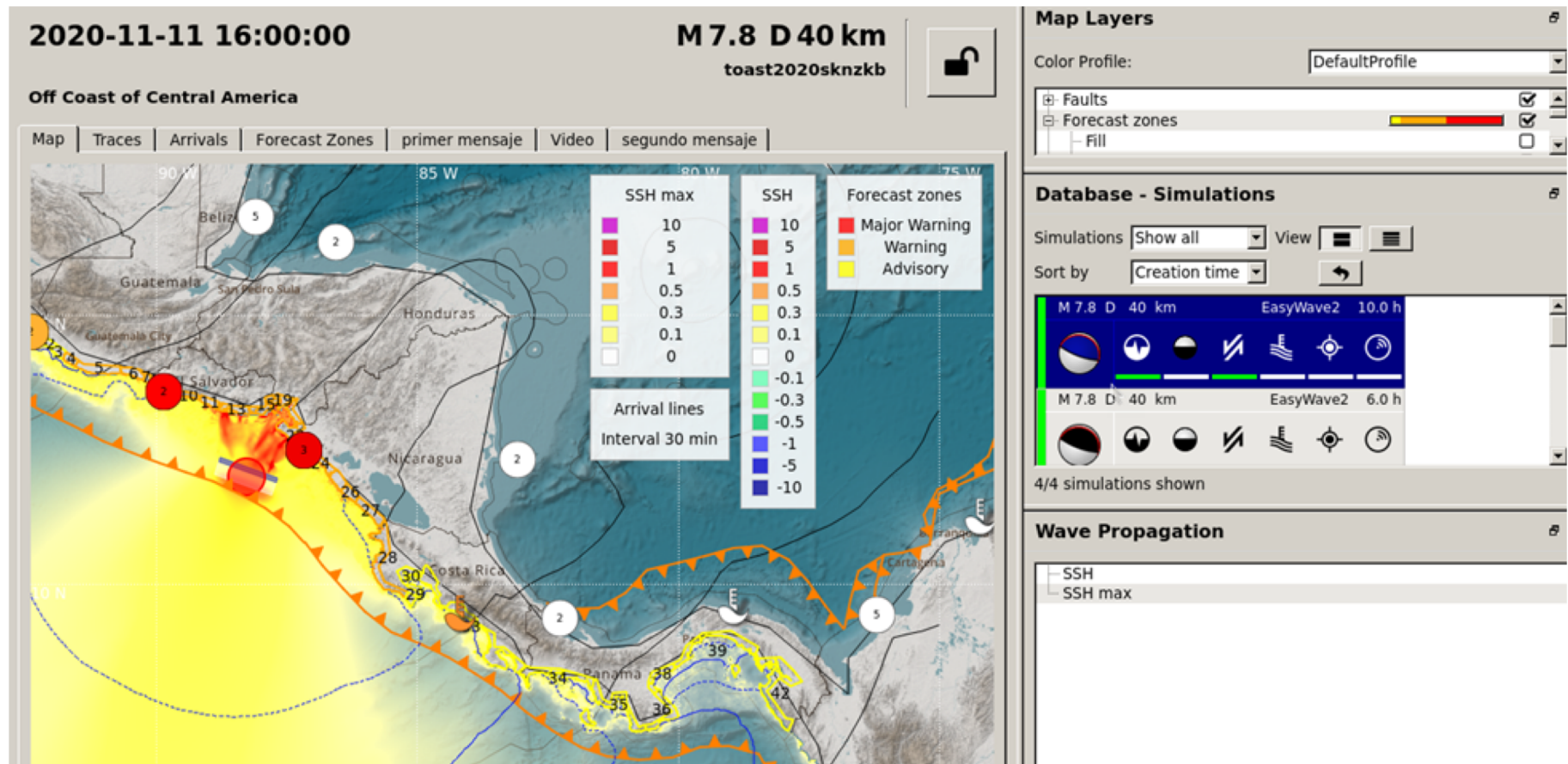
- Hosted by Nicaragua INETER
- Pacific and Caribbean coasts of Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panama
- 2nd Regional Exercise. Build from 1st Regional Exercise, 19 August 2019
- Further develop service and products



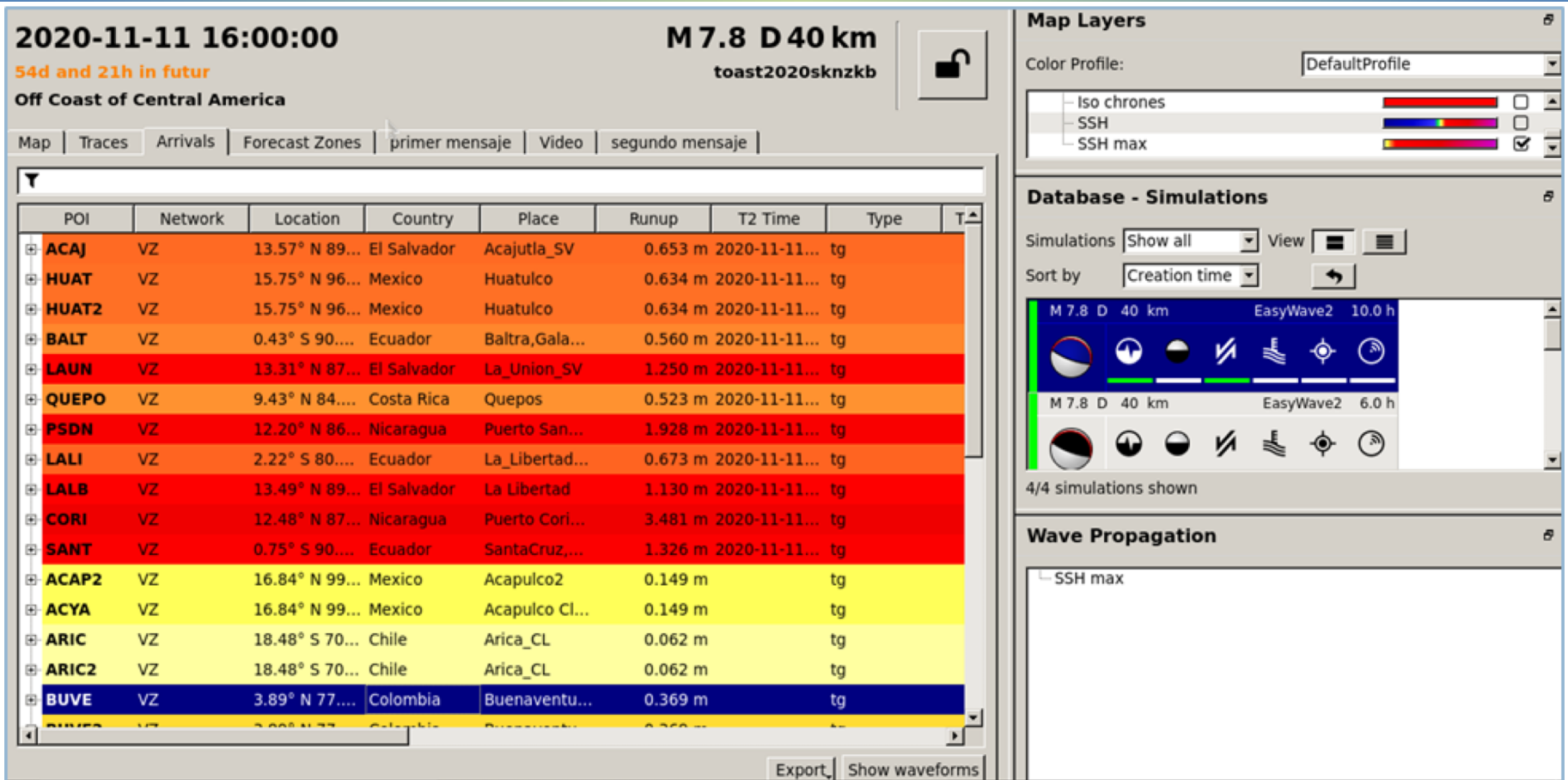
CATAC TSUNAMI-CA-20 EXERCISE on Tsunami Response for Central America: Slow Earthquake and tsunami off the Gulf of Fonseca, November 11, 2020



Interface of TOAST/SeisComP module at CATAC to visualice the máximo amplitudes of the tsunami



Interface of TOAST/SeisComP module at CATAC to visualice the zones of tsunami impact prediction



TOAST/SeisComP interface to display the list of predicted arrivals and tsunami amplitudes at sea gauge stations

Time line

	Initial automatic determination	Manual determination	Determination with Moment Tensor
Date/time	11/11/2020 10:00:00	11/11/2020 10:03:00	11/11/2020 10:07:00
Location	12.01 N 88.27 O (Epicentro)	12.01 N 88.27 O	12.01 N 88.27 O (Centroide)
Depth	40 km	40 km	40 km
Magnitude	5.3	6.8	7.8
Predicted Tsunami	None	Small possibility of a local destructive tsunami	El Salvador, Honduras, Nicaragua and Costa Rica,
Máximum height of predicted tsunami	-	-	4–5 m in El Salvador, Honduras and Nicaragua

Post-Exercise Evaluation Form

- Complete online by 21 December 2020
- Available from 1 November 2020
- https://www.surveymonkey.com/r/pacwave20_eval
- Please note: ONE form per country

EXERCISE PACIFIC WAVE 2020 (PacWave20) Post-Exercise Evaluation Form

INSTRUCTIONS

Prior to completing this Online Survey, please read these instructions carefully.

Post-Exercise Evaluation Forms are to be completed by each participating agency and forwarded to the country Exercise Pacific Wave 2020 National Contact, or the country Tsunami National Contact (TNC). The National Contact will compile the country Post-Exercise Evaluation Form and complete and submit this online no later than 21 December 2020.

Note: Only ONE (1) on-line evaluation form is to be completed per country. The PacWave20 National Contact, TNC, or Tsunami Warning Focal Point (TWFP) should compile sub-jurisdiction evaluations into one country evaluation to submit.

If you have difficulty submitting your evaluation online, you may submit your Country Evaluation Form by email to Pacific Wave 2020 Task Team Chairs:

- Laura Kong (email: laura.kong@noaa.gov), or
- Emilio Talavera (email: emilio.talavera@gf.inetier.gob.ni)

EXERCISE PACIFIC WAVE 2020
Instructions on how to Complete this Post-Exercise Evaluation Form

STEP	WHO COMPLETES THIS STEP?	DESCRIPTION
1	Each participating Agency/Country	Decide if your agency/country will include additional evaluation questions for each objective. Country/agency evaluation questions can be added at the end of each section. However, do NOT change the reference numbers to the questions.
2	Each participating Agency/Country	Print this form and mark your evaluation answers on it. Answer questions only for the Objectives (activities) that your country participated in. Due to the COVID-19 pandemic, countries may not have conducted national or regional exercises, and therefore Objectives b) and c) would not have been addressed. Objective 1 (a) is the only requirement for PacWave20. Objective 4 (d) is required for those countries participating in the CATAAC regional exercise.
3	Each participating Agency/Country	<ul style="list-style-type: none"> • Answer each statement with either Y (Yes), N (No). • Comments should be used to explain/expand upon your Yes or No answer. • Write your comments on the page following the evaluation questions. Note the question number in the left column and write your comments alongside.
4	Each participating Agency/Country	Send completed agency evaluation form to country PacWave20 National Contact so

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CONTACT DETAILS

* Agency

* Country

* Contact Name

* Contact Position

* Contact Phone

* Contact Mobile

* Contact E-mail

EXERCISE PACIFIC WAVE 2020 (PacWave20) Post-Exercise Evaluation Form

OBJECTIVE 1 (Objective a)

Test communications from the approved and developing Tsunami Service Providers (PTWC, NWPTAC, SCSTAC, CATAAC) to Member States/Countries.

1.1 Did your country Tsunami Warning Focal Point receive the PTWC, NWPTAC, SCSTAC, and/or CATAAC Exercise Dummy message?

☐ Yes
☐ No

Comments

1.2 If yes, please select which Tsunami Service Provider you received the Exercise Dummy message from:

☐ PTWC
☐ NWPTAC
☐ SCSTAC
☐ CATAAC

Comments

1.3 If you received an Exercise Dummy message, when did you receive the message(s)? Please state the time in

EXERCISE PACIFIC WAVE 2020 (PacWave20) Post-Exercise Evaluation Form

OBJECTIVE 3 (Objective c)

To test regional communication and cooperation.

3.1 Did your country engage in communication and cooperation with other countries in the region for PacWave20?

☐ Yes
☐ No

If yes, please list countries.

3.2 What types of cooperation were conducted?

☐ Data sharing (seismic, sea level, etc.)
☐ Event information sharing
☐ Alert coordination (levels, dissemination)
☐ Joint PacWave20 exercise
☐ Other (Please specify)

3.3 Did the National Tsunami Warning Center (NTWC) provide information to your country?

☐ Yes
☐ No

If Yes, please list countries.

4.1 Information provided in the Central America Tsunami Advisory Center (CATAAC) messages was understood by and useful to the National Tsunami Warning Centre (NTWC)/National Disaster Management Office (NDMO)?

☐ Yes
☐ No
☐ Not Applicable

Comments

4.2 Threat information in CATAAC products was understood and useful.

	Yes	No	Not Applicable
Text products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Graphical products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please comment as necessary.

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OBJECTIVE 4 (Objective d). (available in Spanish in online version)

Evaluate the format and content of the Central America Tsunami Advisory Centre (CATAAC) Products (if applicable for your country).

4.1 Information provided in the Central America Tsunami Advisory Center (CATAAC) messages was understood by and useful to the National Tsunami Warning Centre (NTWC)/National Disaster Management Office (NDMO)?

☐ Yes
☐ No
☐ Not Applicable

Comments

4.2 Threat information in CATAAC products was understood and useful.

	Yes	No	Not Applicable
Text products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Graphical products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please comment as necessary.

PacWave20 engagement - Member State actions

- **Communications Test Message, 5 Nov 2020-
Receive and note**
- **CATAC Regional Exercise, 11 Nov 2020 –
Continue development of services and products**
- **Other Regional and National Exercises**
 - **At discretion of country, PacWave20 Terms of Reference**
 - **Conduct 1 September to 30 November 2020**
- **Online Post-Exercise Evaluation Form –
Complete and submit online by 21 Dec 2020**

Questions?

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United Nations
Educational, Scientific and
Cultural Organization



Intergovernmental
Oceanographic
Commission