

7.2 Exercise Pacific Wave PacWave 2022



Margarita Martinez, SENAPRED, Chile
Emilio Talavera, INETER, Nicaragua

Co-Chairs, Task Team on PacWave22

Summary of Activities: 2021-2023



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- ❑ Update the Exercise Manual
- ❑ Conduct two Informational Webinars: English and Spanish
- ❑ Coordination of follow up meetings (10)
- ❑ Create separate evaluation forms and corresponding links: Live TSP Communications Test and Post National/Regional Exercises.
- ❑ Endorse the PacWave22 Exercise: September-November 2022
- ❑ Promote timely submission of surveys (Deadline 10 of February).
- ❑ Elaborate the draft report of PacWave22: Annex II



Aim and Objectives



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Test PTWS TSP arrangements, country preparedness arrangements and operational procedures to respond to and recover from a destructive tsunami

1. Test communications from PTWS Tsunami Service Providers (TSP) to the Tsunami Warning Focal Points (TWFP) and National Tsunami Warning Centres (NTWC) of the Member States concerned.
2. Test national communication and cooperation, and readiness within each of the participating countries.
3. Test regional communication and cooperation between Member States of the tsunami warning system.
4. Support the development of tsunami procedures and products by the Central America Tsunami Advisory Centre (CATAC), a potential new TSP (pending endorsement of full functionality by IOC governing bodies)



Evaluations



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- Tsunami Service Provider communications test.
 - The live communication implemented at 0000 on 13 of October 2022.

- Regional/National exercises:
 - Countries chose a date for the execution of their exercises. At the same time, the implementation of regional exercises was promoted.



TSP Communication Test - 26 countries



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- Australia
- Brunei Darussalam
- Chile
- Colombia
- Cook Islands
- Ecuador
- El Salvador
- Fiji
- France (French Polinesia)
- Guatemala
- Hong Kong, China
- Japan
- Malaysia
- Mexico
- France (New Caledonia)
- New Zealand
- Nicaragua
- Papua New Guinea
- Perú
- Philippines
- Republic of Korea
- Russian Federation
- Samoa
- Singapore
- Solomon Island
- United Kingdom
- United States



Regional/National Exercises - 19 countries



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- Australia
- Chile
- China
- Colombia
- Costa Rica
- Ecuador
- El Salvador
- Fiji
- France (French Polynesia)
- Hong Kong, China
- Japan
- Mexico
- France (New Caledonia)
- New Zealand
- Palau
- Panamá
- Perú
- Russian Federation
- Solomon Island
- Tonga
- Thailand

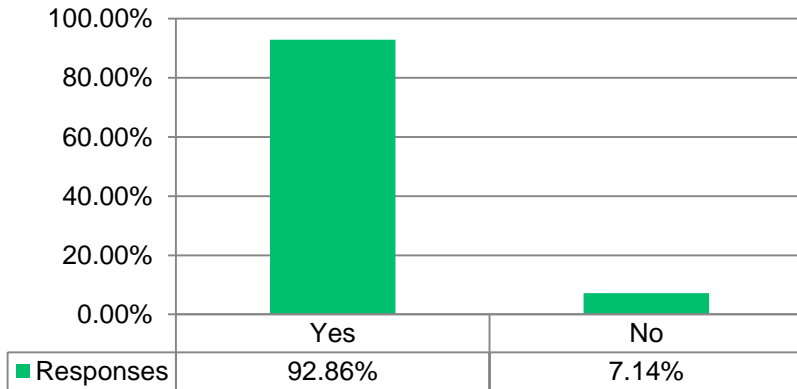


TSP Communication Test: Results

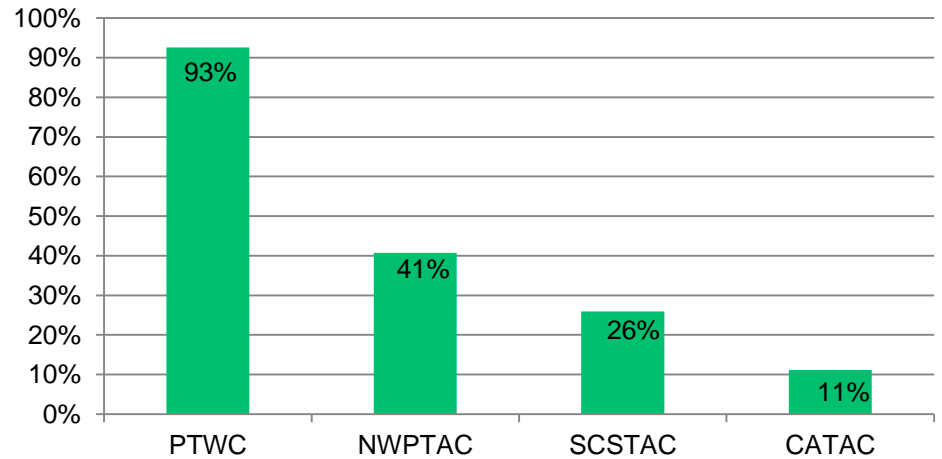


- Objective 1: Test communications from the approved and developing Tsunami Service Providers (PTWC, NWPTAC, SCSTAC, CATAAC) to Member States/Countries.

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



Tsunami Service Provider



TSP Communication Test: Results



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- **Objective 1: Test communications from the approved and developing Tsunami Service Providers (PTWC, NWPTAC, SCSTAC, CATAC) to Member States/Countries.**
 - Email was the most common method to receive the Dummy message (89%).
 - Followed by: Fax (48%) - GTS (44%) - AFTN (15%)
 - No reports for EMWIN.
 - 19% responded other methods (i.e.: AISR is AFTN replacement, WA)



Regional/National Exercises: Results

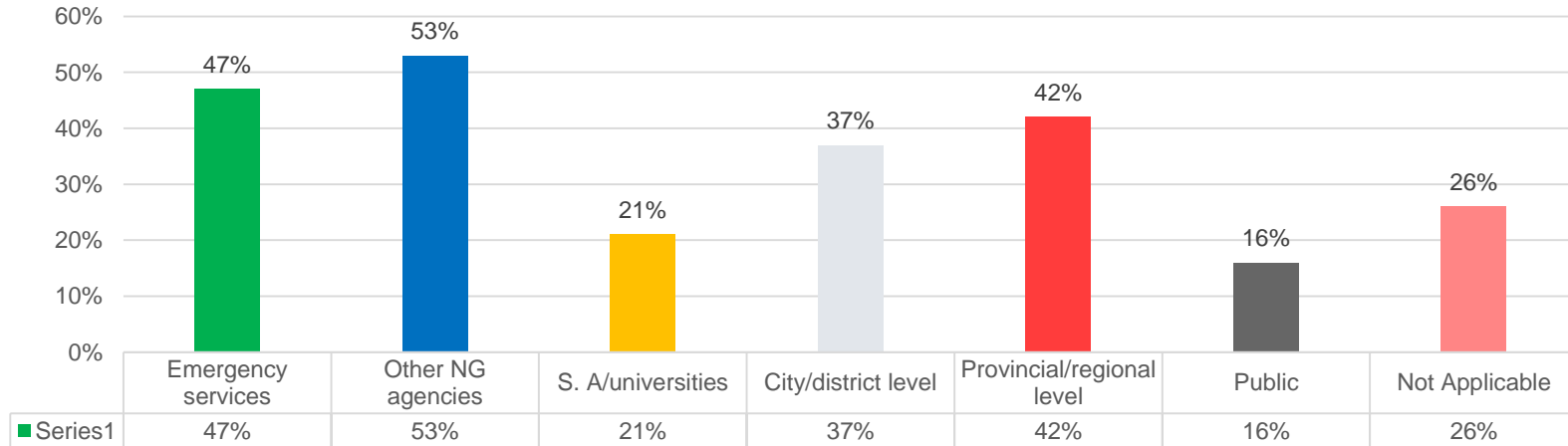


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- **Objective 2: To test national communication and cooperation, and readiness within the country.**

Objective 2a: To test national communication and cooperation within the country.

2.1 The warning was disseminated to:



2.2 What time was warning sent to the agency or agencies or Public listed in Q2.1?



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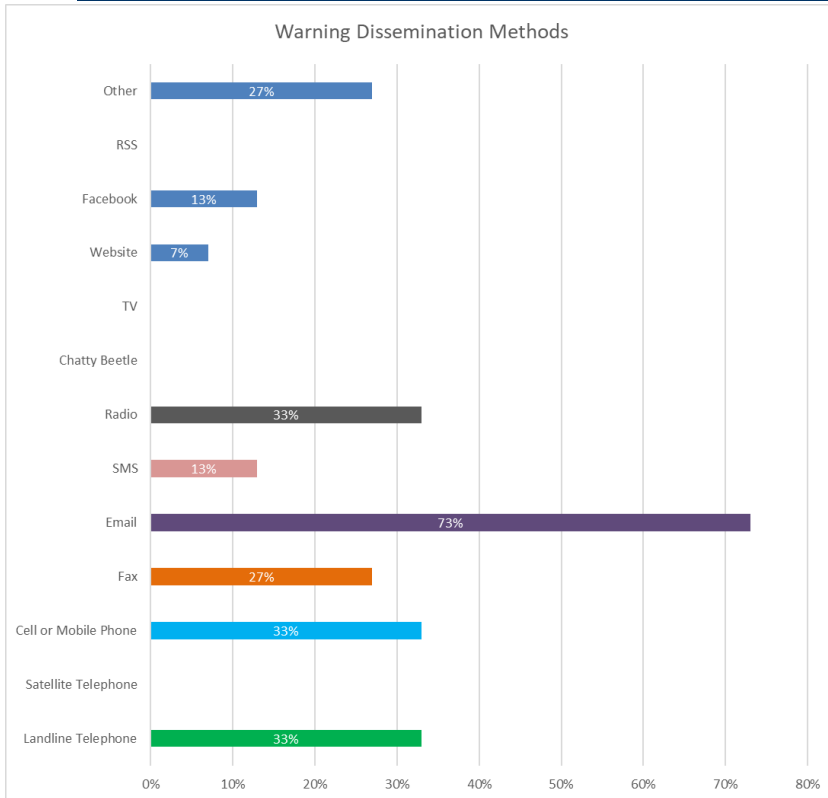
	Country	Day	Time
1	Chile	20 of October 2022	14:23 UTC
2	China	04 of November 2022	02:00 UTC
3	Colombia	27 of October 2022	14:24 UTC
4	Costa Rica	13 of October 2022	00:00 UTC
5	Ecuador	27 of October 2022	14:15 UTC
6	El Salvador	22 of November 2022	15:55 UTC
7	Fiji	09 of November 2022	23.20 UTC
8	Hong Kong, China	11 of November 2022	01:05UTC
9	Mexico	[No info]	10 minutes after alert
10	New Caledonia	21 of November 2022	21:31 UTC
11	New Zealand	PacWave 22 was developed over five dates: <ul style="list-style-type: none"> • 24 October 2022 • 27 October 2022 • 31 October 2022 • 01 November 2022 • 08 November 2022 	20:09 UTC
12	Perú	12 October	19:00 UTC
13	Russian Federation	[No info]	00:02 UTC
14	Solomon Islands	10 of November 2022	23:20UTC
15	Tonga	09 of November 2022	[No info]



2.3 How did you send the warning to emergency, national, science, and local government agencies in Q2.1?



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Most used:

- Email
- Landline telephone
- Mobile phone
- Radio
- Fax



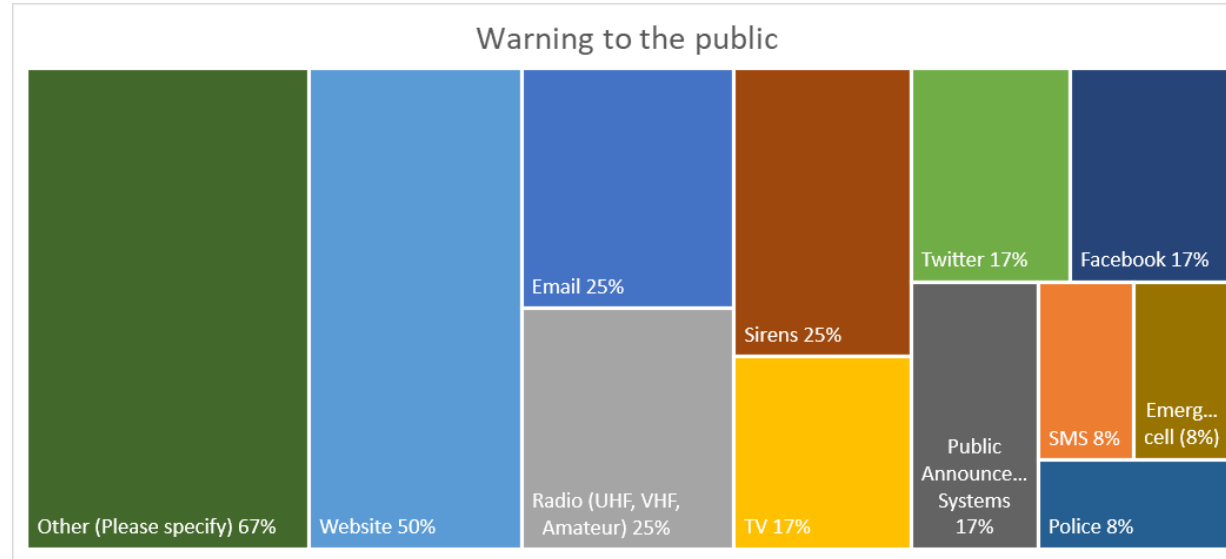
2.4 How did you send the warning to the Public?



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Most used:

- Other (Wechat, Weibo, WhatsApp, Telegram, Town screen)
- Website
- Radio, Email and Sirens



Methods and Messages: Feedback from Agencies



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- ❑ **100%** Methods timely appropriate



- ❑ **93%** Accurate and clear



- ❑ **80%** Positive feedback



Objective 2b: To test national readiness within the country.



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- ❑ NTWC/NDMO has an activation and response process (standard operating procedures) in place for the receipt of tsunami warnings
- ❑ NTWC/NDMO knows its specific response role in the event of a tsunami
- ❑ NTWC/NDMO has, prior to the exercise, engaged in tsunami response planning

100%

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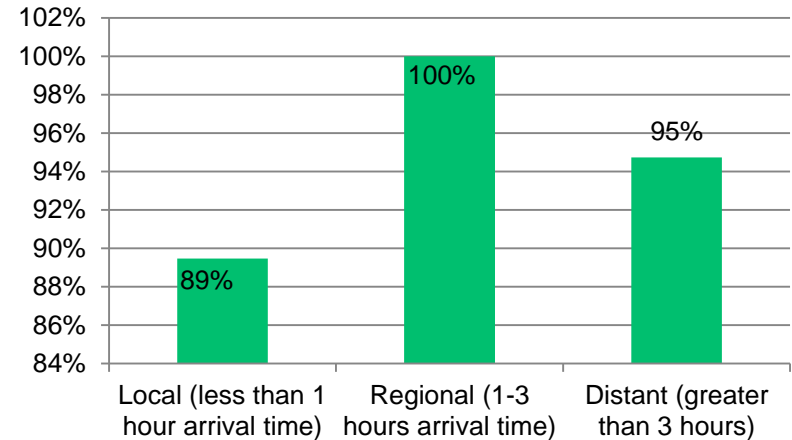
NTWC/NDMO

- ❑ **84%** - has undertaken activities to increase its capacity and capability to support a national tsunami response.
- ❑ **100%** - has an appropriate management structure identified and documented to support tsunami response.
- ❑ **53%** has a national tsunami mass coastal evacuation plan
- ❑ **95%** arrangements to assemble the in-country disaster management group relevant to decision-making on tsunami warning and response were in place before the exercise



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2.16 A country tsunami emergency response plan (standard operating procedures) for tsunamis exists?



Tsunami Preparedness



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- **95%** indicated that tsunami-related public education and awareness materials have been developed and disseminated in their country.
- **37%** indicated the existence of tsunami-related curriculum programmes are in place for all levels of education.
- Most of the countries (**74%**) indicated that tsunami-vulnerable communities don't have elements of tsunami preparedness, such as evacuation maps, signage, assembly points for evacuation.



PacWave22 Report:



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- ❑ **Objective 3: To test regional communication and cooperation.**
 - 63% indicated that their countries engaged in communication and cooperation with other countries in the region for PacWave22.
 - 50% indicated that the NTWC communicated with other countries during the event.
 - Only 11% indicated that the NDMO communicated with other countries during the event.



PacWave22 Report: Overall assessment



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- 100% of countries indicated that stakeholder agencies have a better understanding of the goals, responsibilities, and roles in case of tsunami emergencies.
- 94% of countries indicated that gaps in capability and capacity have been identified.
- 63% of countries indicated the community have a better understanding of their tsunami risk and are better prepared for tsunami events
- 41% of countries indicated that news media participated and covered the exercise



PacWave22: PICS Regional Exercise



PacWave22

- PacWave22-PICT involved 18 PICTs and was a first of its kind for this region.

- The scenario was based on the 15 January 2022 HTHH event. Almost 80 persons from PICTs national stakeholders (National Tsunami Warning Centres - NTWC - and National Disaster Management Offices - NDMO) tested sharing event information through multiple informal communications modes:
 - WhatsApp (86 messages),
 - electronic mail listserv (63 messages),
 - HF Radio (6 PICTs involved).



PacWave22: PICS Regional Exercise



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- The HTHH PTWC interim products were found useful by all participants. Some comments and requests were shared by PICTs :
 - Scaled forecast heights are useful for issuing warning, upgrade, downgrade and cancellation.
 - Explore the viability to have more forecast points in the text bulletin, especially for PICTs with many islands.
 - Request PTWC to conduct a broader assessment for their first bulletin (TTT: 6h instead of 3h) to include those countries and territories located *far* from the source.



PacWave22: PICS Regional Exercise

The exercise highlighted the need to keep building regional cooperation and direct links between PICT NTWC and/or NDMO.

- Guidelines will be developed for the use of non-traditional methods like WhatsApp as unofficial communication channel for exercises and tsunami warning operations; noting the need to distinguish from the official and shared content for operations (must consider the establishment of a task team lead by FP and supported by SB).
- The PTWS Secretariat will facilitate monthly testing of non-traditional communication systems as HF radio, WhatsApp, satellite phones between countries
- MS will continue exploring options related to communication strategies in order to enhance the national tsunami warning systems



PacWave22 Task Team Members

- ❑ Mr Emilio Talavera, Nicaragua, Co-Chair
emilio.talavera@gf.ineter.gob.ni ;
emilio.talavera@ineter.gob.ni
- ❑ Ms Margarita Martinez, Chile, Co-Chair
- ❑ Dr Charles McCreery, PTWC, USA
charles.mccreery@noaa.gov
- ❑ Dr Laura Kong, ITIC, USA laura.kong@noaa.gov
- ❑ David Coetzee, New Zealand
david.coetzee@nema.govt.nz
- ❑ Mr Lianda Zhao, China zld@nmefc.cn
- ❑ Jorge Matus, SHOA, Chile jmatus@shoa.cl
- ❑ Carolina Henríquez, Chile chenriquez@shoa.cl
- ❑ Laura González, Colombia
l.gonzalez@dimar.mil.co
- ❑ Jo Guard, New Zealand
- ❑ Silvia Chacon, Costa Rica, CA-PAC Chair
- ❑ Jasón Pérez, Colombia
contaminacion.marina@cco.gov.co
- ❑ Anthony Jamelot, French Polynesia
jamelot@labogeo.pf
- ❑ Céline Barre, France celine.barre@gouv.nc
- ❑ Francois Schindele, France
francois.schindele@gmail.com
- ❑ Rodolfo Alvarado, Guatemala
ralvarado@insivumeh.gob.gt
- ❑ Yuji Nishimae, Japan nishimae@met.kishou.go.jp ;
nishimae-yxmbtjh20vw@outlook.com
- ❑ Jorge Rodriguez, Panama
jfrodriquez@pancanal.com
- ❑ Eric Chichaco, Panama echichaco@yahoo.com ;
eric.chichacor@up.ac.pa
- ❑ Carolina Hincapie, ITIC, USA
carolina.hincapie@noaa.gov
- ❑ Sara Mitchell, New Zealand
sara.mitchell@nema.govt.nz

