

PacWave22-PICT Regional Exercise Report

9 November 2022
18 Pacific island countries and territories
conducted a 2-hour live regional exercise



PacWave22-PICT regional exercise manual



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Carolina Hincapie-Cardenas (ITIC)
Jiuta Korovulavula (UNESCO/IOC)

PacWave22-PICT Regional Exercise



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1. Exercise Overview and Objectives
2. Exercise Observations and Feedback
3. Post-Exercise outcomes
4. Discussions / Recommendations

1. Exercise Overview and Objectives

Objectives



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- **IOC Circular Letter 2908** (*issued on 27 September 2022*) announcing exercise
 - Date, Time, Length: 2300 UTC 9 Nov - 0100 UTC 10 Nov 2022, 2 hours
 - Format: Live Table Top Exercise
 - Scenario: HTHH Volcanic Eruption and Tsunami (15 January 2022)

Exercise Objectives:

1. *Test the HTHH PTWC Interim Procedures and PTWS Products (IOC Circular Letter 2902), and whether the HTHH PTWS products are interpreted by PICT Member States accurately and in a timely manner, and*
2. *Test regional communication and cooperation between PICT Member States, and the value of information sharing in facilitating national tsunami alert decision-making.*

1. Exercise Overview and Objectives

Planning

- **PacWave22 PICT Regional Exercise** accepted by end of July 2022 (PTWS Regional Working Group PICT)
- **IOC Circular Letter 2908** (*issued on 27 September 2022*) announcing exercise
- Regional exercise **webinar** on 2 November 2022
- Regional exercise **conducted** on 9 November 2022
- **Cold Wash meeting** on 16 November 2022
- **PacWave22-PICT Regional Post-Exercise Evaluation Form** - 21 Dec 2022

Reminder

- **PacWave22-PICT Regional Post-Exercise Evaluation Form - 21 Dec, 2022**
https://www.surveymonkey.com/r/PacWave22_PICTs
8 answers / 18 participants (44%)
[P.N.G, Samoa, Tokelau, Fiji, Solomon Islands, French Polynesia, Australia, New Caledonia]
- Evaluation form is still open. Reminder sent by e-mail on January 18, 2023.
- Everybody agree to finally close the PICT regional evaluation form by the **end of February** ?

1. Exercise Overview and Objectives

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- **PacWave22-PICT Regional Post-Exercise Evaluation Form** - 21 Dec 2022 44%
- **PacWave22-PICT report** (**work in progress** will be attached as an annex to the final PacWave22 Summary Report)
 - PICT group or members are welcome to review this report, any volunteers ?

2. Exercise Observations and Feedback Participation

- **18 Pacific Island Countries and Territories**
(15 Players, 3 Observers)
- Total participants : ~ 80 persons
- **2 Controllers**
Anthony Jamelot, CPPT/PF
Jiuta Korovulavula, IOC
- **4 External Observers**
Laura Kong, Carolina Hincapie, ITIC
Bernardo Aliaga, IOC
Chip McCreery, PTWC

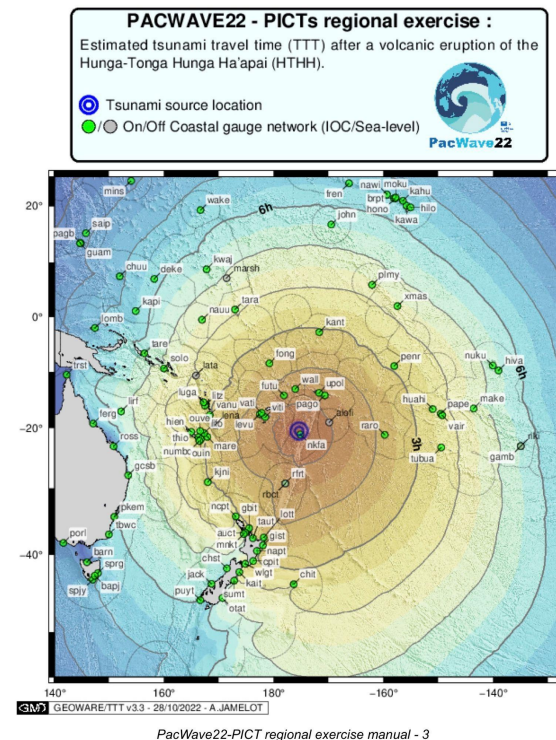
8. Exercise Participants (last update: Nov 2, 2022)

Territories/ Islands	Territory Code	Participant	Observer
	2-letters		
American Samoa, USA	AS	Yes	
Australia	AU	Yes	
Cook Islands	CK	Yes	
Fiji	FJ	Yes	
French Polynesia, France	PF	Yes	
Kiribati	KI	No	Yes
Marshall Islands	MH		
Micronesia	FM		
Nauru	NR	Yes	
New Caledonia, France	NC	Yes	
New Zealand	NZ		
Niue	NU	No	Yes
Norfolk Island, Australia	NF		
Palau	PW		
Papua New Guinea	PG	Yes	
Pitcairn Islands	PN		
Samoa	WS	Yes	
Solomon Islands	SB	Yes	
Timor-Leste	TL	Yes	
Tokelau	TK	Yes	
Tonga, Kingdom of	TO	Yes	
Tuvalu	TV	No	Yes
Vanuatu	VU	Yes	
Wallis and Futuna, France	WF	Yes	

2. Exercise Observations and Feedback

Conduct and Format

- **3 Communication methods:** Dedicated E-mail Listserv, PacWave22-PICT WhatsApp group chat, HF Radio
- **Conduct**
 - Controllers simulated 4 PTWC bulletin injects sent by e-mail using a Listserv and notified via WhatsApp group too
 - All information was immediately shared (no delay or review), 5 mails were not distributed because sent from an unregistered email into Listserv.
 - HF Radio communication tests between Players



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2. Exercise Observations and Feedback

Cold Wash and Debrief - 16 November 2022



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- **Exercise communication review and Debrief notes (ITIC) available :**
<https://oceanexpert.org/event/3691#documents>

- **Discussion and main feedback from Cold Wash Participants**

Objective 1 :

- PTWC products good. Capture event. Scaled forecast heights useful for issuing warning,
- Noted PTWC only has main cities, but there are many other for some extended territories that need information . Could we increase ETA location ?
- Simple, easy to use. ETA useful
- For 1st msg, only deal and forecast for 3 hrs travel time regions. Request to extend first bulletin to report (forecast and ETA) to 6 hrs (not 3 hrs).

2. Exercise Observations and Feedback

Cold Wash and Debrief - 16 November 2022



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Objective 2 :

- Tonga, NC, Fiji all agreed on high value of HF Radio and want to continue checking and testing so that it is a regular comm method for Tsunami Info by countries. Will be good to list the frequencies that work in the Region.
- Realistic exercise since had only 2 in office, which is the normal case for a real event • Prefer WhatsApp – simple, good interaction between others • Email more detail but also more formal – had a delay

2. Exercise Observations and Feedback

Cold Wash and Debrief - 16 November 2022



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<https://oceanexpert.org/event/3691#documents>
- **Discussion and main feedback from Cold Wash Participants**

Objective 2 :

- Countries and Observers were unanimous that Info Sharing was valuable.
- Also want to continue to test such sharing between tsunami stakeholders as INFORMAL.
- Countries highlighted the unique value of HF radio (housed in differing agencies within country and not tsunami-specific), as along with Satellite Phone (essential and critical, but expensive), it was the only comms that worked post-HTHH.

2. Exercise Observations and Feedback

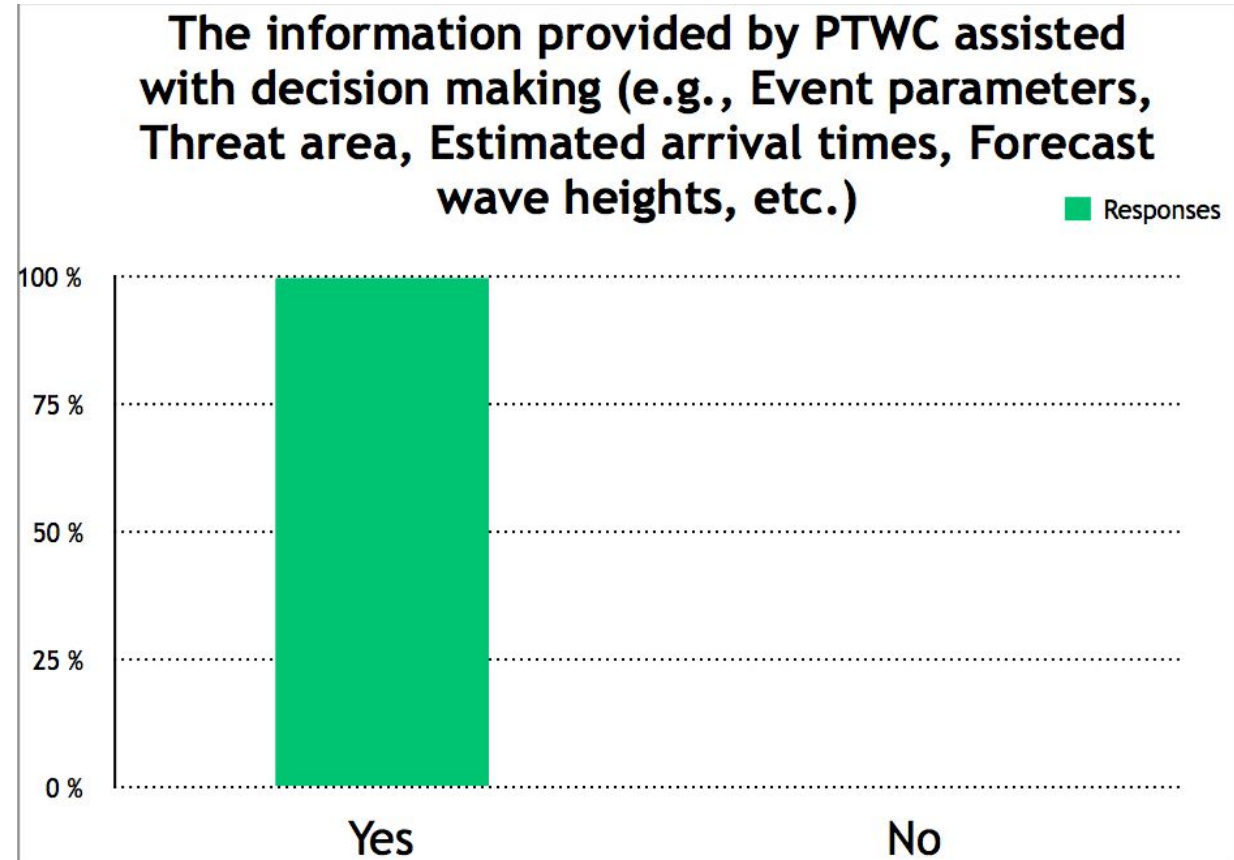
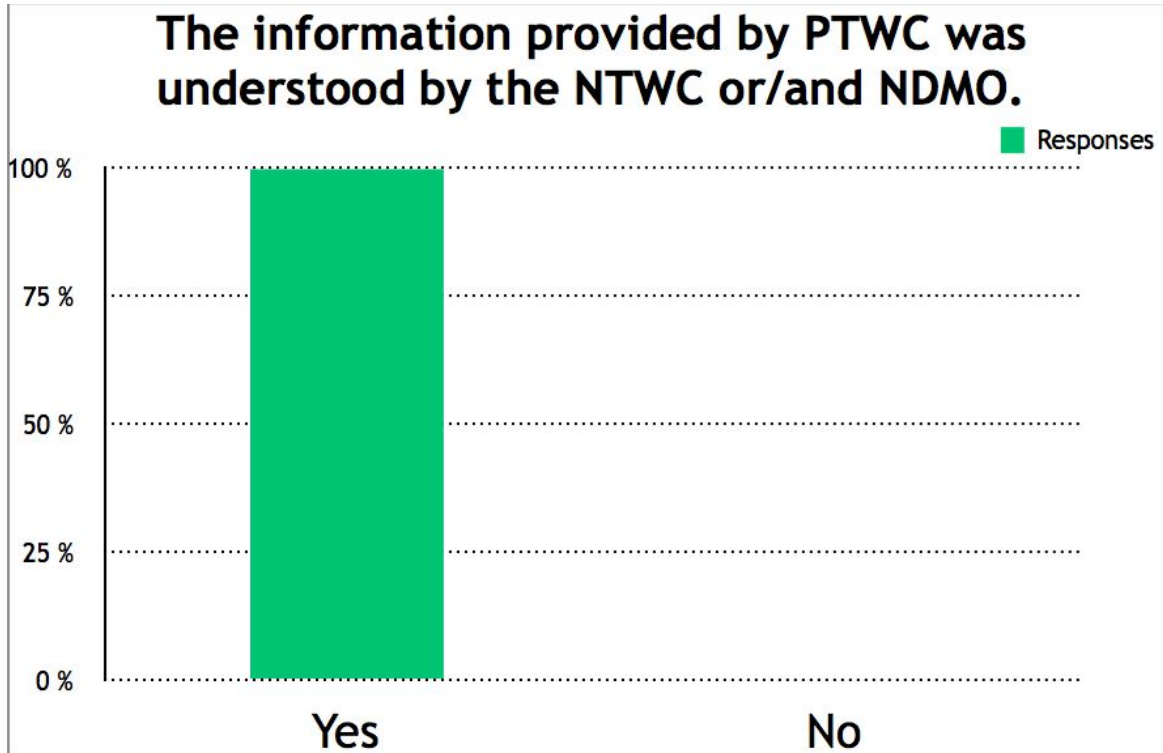
Review of Evaluation Form (8/18 participants ~ 44% < 50%)



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Objective 1 : HTHH interim products evaluation



2. Exercise Observations and Feedback

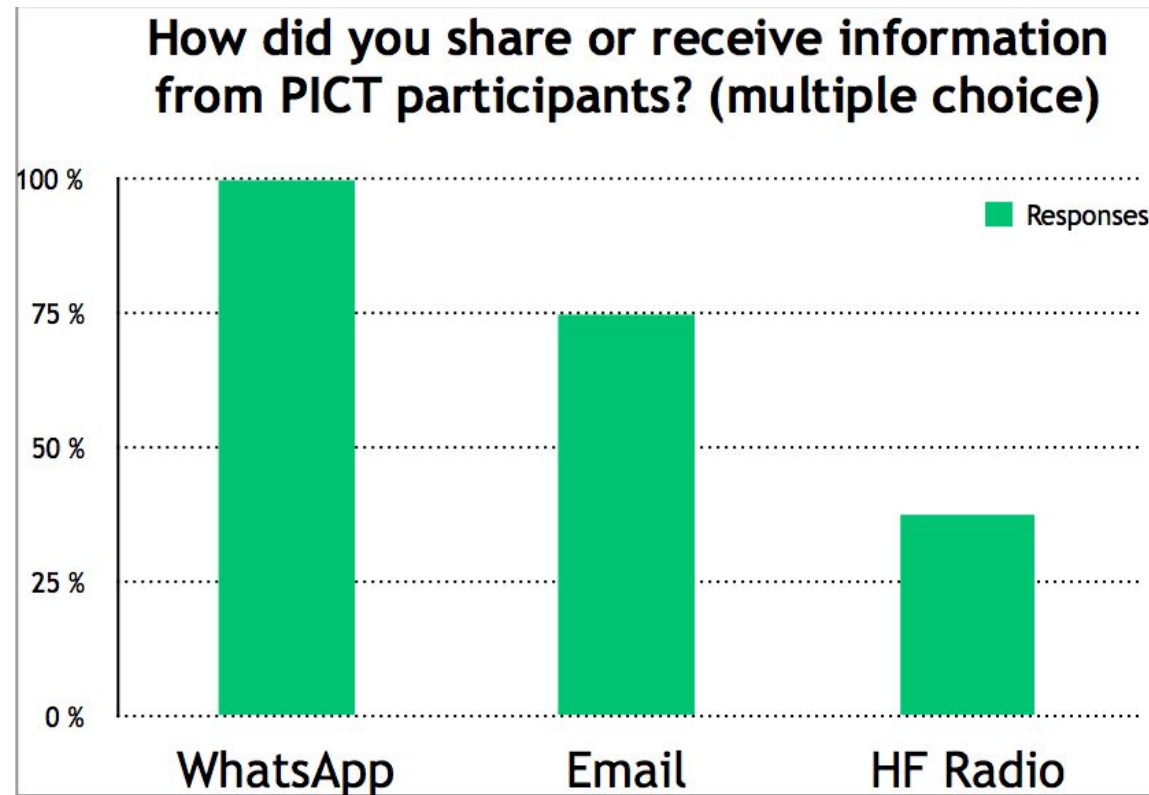
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Objective 2 : Alternative tsunami informal communication mode between regional duty officers



2. Exercise Observations and Feedback

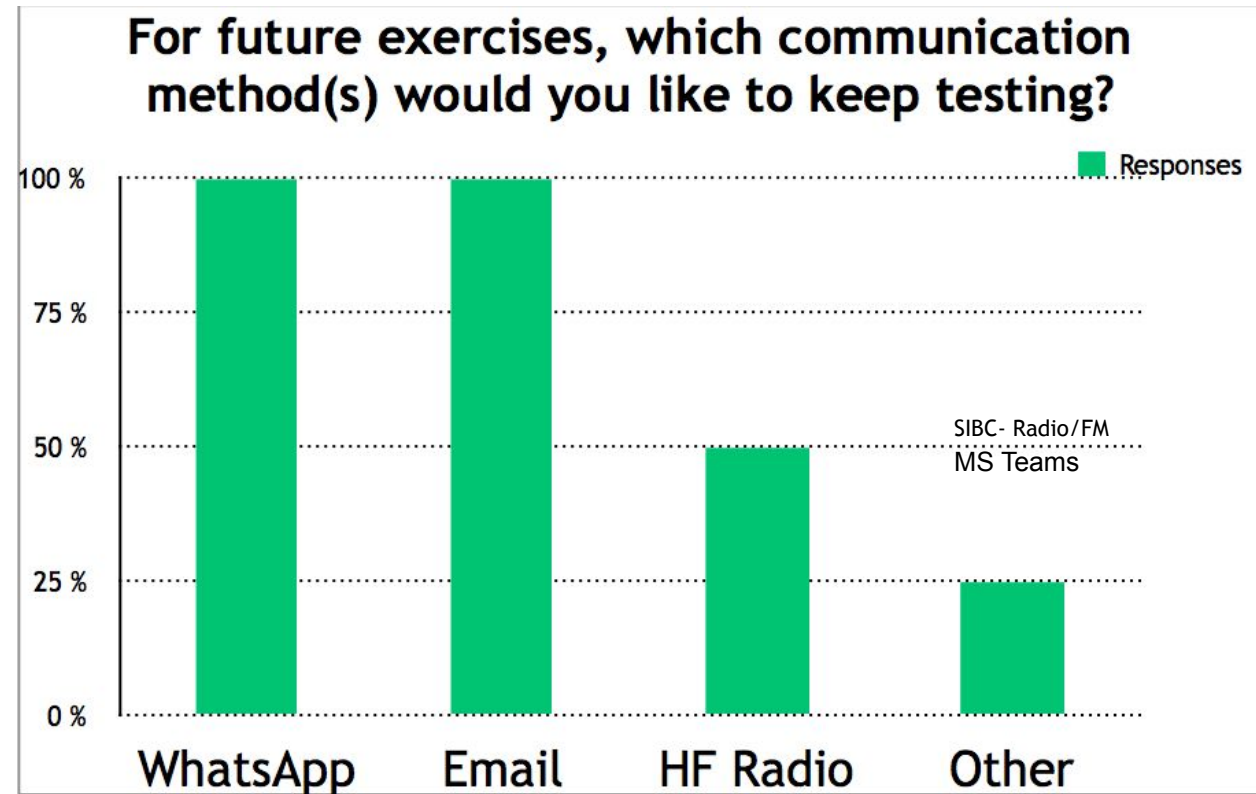
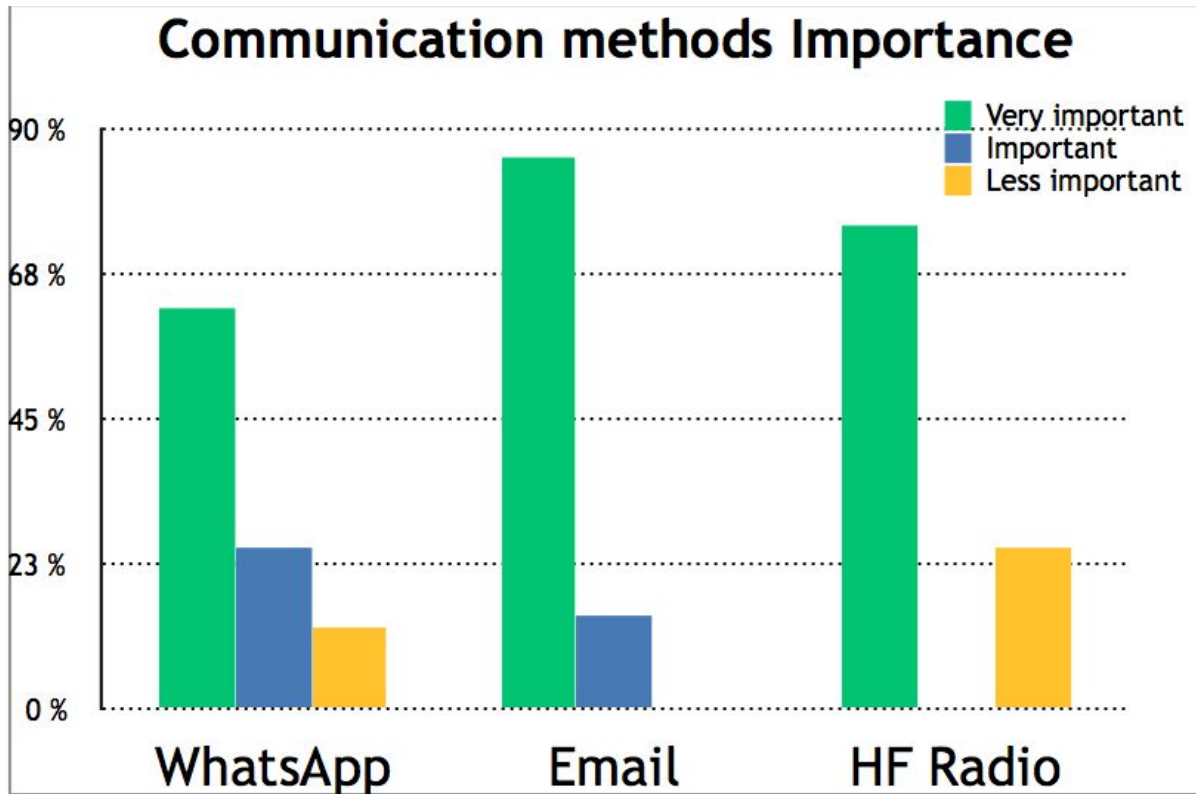
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Objective 2 : Alternative tsunami informal communication mode between regional duty officers



3. Post-exercise outcomes

Regional dedicated WhatsApp group for tsunami duty officers

- **HF Radio WhatsApp group still active**
- **The remaining informal WhatsApp group - PacWave22-PICT**
 - **11/11/2022** : Tonga earthquake Mw 7.3
 - **22/11/2022** : Solomon earthquake Mw 7.0
 - **31/01/2023** : Vanuatu's East EPI sub-marine volcano event (2 days ago).
 - **Do we keep this group alive ?**
- **Any WG-PICT recommendations ?**
 - Do we continue to work on developing a real-time cooperation and information sharing among tsunami stakeholders of the region ?
 - If yes, do we need to define a dedicated TaskTeam ?
 - Go for Regional PacWave24 ? Any new objectives ?

4. Discussions and recommendations

Any WG-PICT recommendations



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- Do we keep the actual informal WhatsApp group of the exercise ?
- Rename WhasApp group and update the list of members (duty officer/scientist) only) ?
- Do we continue to work on developing a real-time cooperation and information sharing among tsunami stakeholders of the region ?
If yes, do we need to define a dedicated TaskTeam ? (Guidelines for alert context informal communication between NTWCs, ...)
- Let's go for Regional PacWave24 ? Any new objectives (a dedicated web sharing platform, ...) ?

4. Discussions and recommendations

Any WG-PICT recommendations



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- Proposal :
 - A PICT TaskTeam for regional tsunami exercise and informal communication between tsunami stakeholders.
 - Participate to prepare and coordinate the next PICT Regional exercise
 - Maintain a list of contact of NTWC/NDMO interested in sharing quick information over the 3 communications modes.
 - Think of communication guidelines
 - Look for another mode
 - ...



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Thank you

Reminders



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- **Pacwave22 Live TSP Communications Test Form - 13 Oct, 2022**
https://www.surveymonkey.com/r/pacwave22_comm
10 PICT / 29 responses
[P.N.G, Tonga, Solomon Islands, Fiji, Cook Islands, Australia, New Caledonia, French Polynesia, United States, Samoa]
- **PacWave22 Post-Exercise Evaluation Form - 21 Dec, 2022**
https://www.surveymonkey.com/r/pacwave22_eval
8 PICT / 21 responses
[Solomon Islands, Tonga, Fiji, French Polynesia, Australia, New Caledonia, New Zealand, Palau]
- **PacWave22-PICT Regional Post-Exercise Evaluation Form - 21 Dec, 2022**
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8 / 18 participants
[P.N.G, Samoa, Tokelau, Fiji, Solomon Islands, French Polynesia, Australia, New Caledonia]

1. Dedicated E-mail listserv (hosted by ITIC):

- **63 messages exchanged** - 2255 UTC 09 Nov to 0126 UTC 10 Nov 2022
- Messages sent by controllers : 7
- **Messages sharing information : 18**
- *Acknowledgement receipt : 38*
- Messages held : 5 (3 from AU, 2 from TO) - mails sent from unregistered address to the Listserv.
- AS, CK, FJ, NC, NR, NU, PF, PG, SB, TO, WF, WS, Controller

First tsunami information shared by mail at OT+20 min (Wed Nov 9 23:20 UTC) from Fiji,
Early Tonga messages were held at the beginning because sent from an unregistered email address.

2. WhatsApp group - PacWave22-PICT

- **89 messages exchanged** - 2255 UTC 09 Nov to 0100 UTC 10 Nov 2022
 - Messages sent by controllers : 11
 - **Test messages** sharing event/tsunami information : **26**
 - **Medias** sharing event/tsunami information : **19**
 - Acknowledgment receipt : 5
 - Other medias (Audio, Office pictures, ...) : 8
 - Communication issue : 10
 - HF Radio check : 10 (At the beginning only)
 - AU, FJ, NC, NR, PF, PG, TO, WF, WS, Controller
- A total of 45 relevant information shared**

First information shared by Tonga 9 min after the Origin time at (Wed Nov 9 23:09 UTC)

Annex : Exercise review

General review of communication methods



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3. HF Radio :

- Communication test to define best frequency
- A dedicated WhatsApp Group has been created during the exercise to facilitate the technical HF Radio exchange.
- TO, FJ, NC, NR