

# RESULTS OF THE SURVEY CONTENT, METHODOLOGY AND ISSUES

2025 UNESCO-IOC ICG/PTWS National Report on Capacity Assessment of Tsunami Preparedness

**SURVEY INFORMATION AND QUESTIONS**

Background information on the Tsunami Preparedness Capacity Assessment in the Pacific Ocean is provided in the online survey. The survey is based on the IOC Letter 24.113 as provided as an Annex to the CL-3027. Below is an overall description of the survey. The list of the survey is also provided together with the set of survey questions prepared for this assessment. The list of the survey is also provided in Spanish. Responses will be accepted in English and Spanish. The questions of the survey are provided both in English and Spanish, responses will be accepted in English. While the questions of the survey are provided both in English and Spanish, responses will be accepted only in English, to better facilitate the analysis and evaluation of the survey data and results. We thank you in advance for your kind understanding on this matter.

The Tsunami National Contacts (TNCs) are requested to coordinate the completion of the online survey with other national stakeholders involved in end-to-end tsunami early warning and mitigation when it is possible. Considering the importance of this survey, all Member States are requested to complete the survey by 04 de marzo 2025 EOB (UTC).

Part	Topic of the Survey	Stakeholder Inputs
I	<b>Basic Information:</b> TNC/NTWC/PTWP contact details	Tsunami National Contact
II	<b>Risk Assessment &amp; Reduction:</b> Hazard assessment, Risk Assessment, Policies, Plans, Guidelines	Inputs to be obtained from Management Office and agency responsible for Assessment in the Country
III	<b>Detection, Warning and Dissemination</b>	Inputs to be obtained from Tsunami Warning Center agency responsible for dissemination of tsunami within the country.
IV	<b>Public Awareness, Preparedness &amp; Response:</b> SOPs, Evaluation, Tsunami exercises, Public Awareness	Inputs to be obtained from Management Office responsible for preparedness, at National Contact Point (TRFP), if agencies responsible for other similar in
V	<b>Tsunami Ready Recognition Programme (TRRP)</b>	Tsunami Ready
VI	<b>Narrative:</b> Important recent developments and summary of future plans.	Tsunami National Contact

Responses to this survey need to be coordinated, compiled, and submitted by each Member State. The survey has six (6) distinct parts, as presented below. Each part requires information of different stakeholders based on their national responsibility in the end-to-end system complete of Alerta de Tsunami y Sistema de Mitigación.

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**INFORMACIÓN Y PREGUNTAS DE LA ENCUESTA**

Los antecedentes sobre la evaluación de Capacidad de Preparación ante Tsunami en el Océano Pacífico son entregados por la carta circular de la COI 24.113 según lo dispuesto como Anexo a la CL-3027. A continuación, se encuentra una descripción general de la encuesta entregada, junto a el conjunto de preguntas preparadas para esta evaluación. Mientras que las preguntas son entregadas tanto en inglés como español, las respuestas serán requeridas sólo en inglés, con el fin de facilitar el análisis y la evaluación de los datos y resultados de la encuesta. Agradecemos de antemano su comprensión sobre esta disposición.

Los Contactos Nacionales de Tsunami (CNT) deberán coordinar la respuesta del cuestionario en línea, bajo consulta de los órganos involucrados en los procesos de alerta temprana y mitigación en su país. Considerando la importancia de esta encuesta, los Estados Miembros deberán completarla hasta el 04 de marzo 2025 (UTC).

Parte	Tema de la encuesta	Aportes de los órganos involucrados
I	<b>Información Básica:</b> Datos de contacto	Contacto Nacional de Tsunami
II	<b>Evaluación y Reducción de Riesgo:</b> Evaluación de la Amenaza, Evaluación del Riesgo, Políticas, Planes, Directrices	Aportes obtenidos desde la Oficina de Manejo de Emergencias y/o cualquier otra agencia responsable de la evaluación de Amenaza/Riesgo en el país.
III	<b>Detección, Aviso y Difusión</b>	Aportes obtenidos desde el Centro Nacional de Tsunami y/o cualquier otra agencia responsable de la generación y difusión de alerta temprana de Tsunami al interior del país.
IV	<b>Concientización Pública, Preparación y Respuesta:</b> Procedimientos Operativos Estándar (SOP) por sus siglas en inglés), Evacuación, Ejercicios de Tsunami, Concientización Pública	Aportes de la Oficina de Manejo de Emergencias y/u otras agencias responsables de la concientización del público, preparación y respuesta en el país.
V	<b>Programa de Reconocimiento Tsunami</b>	Aportes obtenidos del Contacto Nacional de Tsunami, Punto Focal Tsunami Ready (PFTR por sus siglas en inglés) si está identificado y/u otras agencias responsables del Programa de Reconocimiento Tsunami Ready u otra iniciativa similar en el país.
VI	<b>Desarrollos recientes importantes y resúmenes de planes futuros.</b>	Contacto Nacional de Tsunami

Las respuestas a esta encuesta deben ser coordinadas, compiladas y enviadas por el Contacto Nacional de Tsunami (CNT) de cada Estado Miembro. La encuesta consta de seis (6) partes distintas tal como se presenta a continuación. Cada parte requiere información de diversos organismos involucrados, basado en su responsabilidad nacional en el sistema completo de Alerta de Tsunami y Sistema de Mitigación.

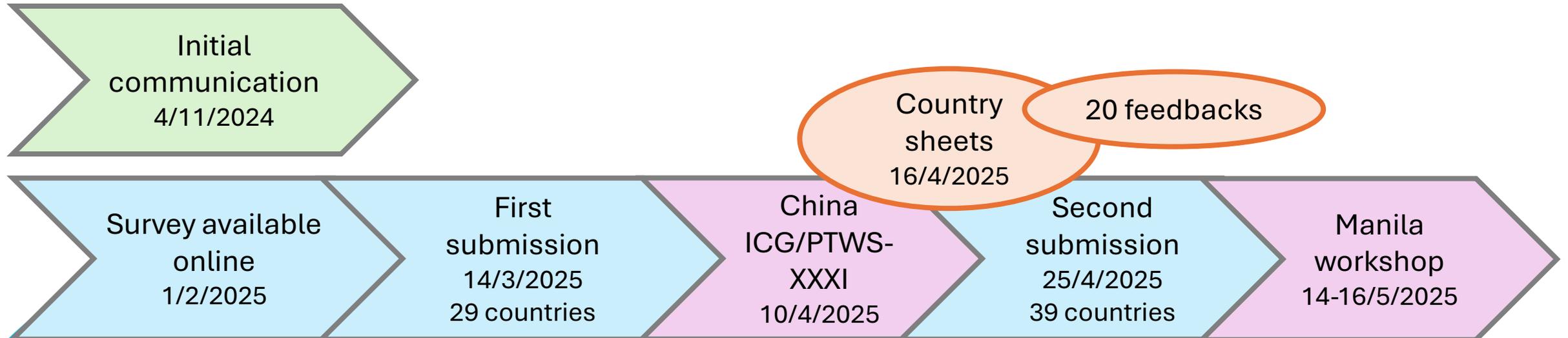
# CONTENT OF THE SURVEY

- Six parts – 100+ questions
  - **PART I:** basic information (questions 1 to 3)
  - **PART II:** risk assessment and reduction (questions 4 to 8)
  - **PART III:** detection, warning, and dissemination (questions 9 to 10)
  - **PART IV:** public awareness, preparedness, and response (questions 11 to 13)
  - **PART V:** Tsunami Ready Recognition Programme (questions 14 to 15)
  - **PART VI:** narrative with each section requiring input from different stakeholders based on their national responsibility in the end-to-end tsunami warning and mitigation system (questions 16 to 18)
- Inputs from responsible stakeholders: TWFP, NTWC, DMO, Science, NGO...
- Available both in English and Spanish



# METHODOLOGY

- First survey driven in the Pacific Ocean, compared to Indian Ocean (2005, 2018, 2024)
- 2018 capacity assessment of IOTWMS endorsed by UNESCO-IOC:
  - a national technical online survey questionnaire covering all aspects of the end-to-end tsunami warning and mitigation system
  - a survey analysis
  - a validation consultation workshop
  - endorsement by the UNESCO-IOC Intergovernmental Coordination Group (ICG) for the Pacific Tsunami Warning and Mitigation System (PTWS)

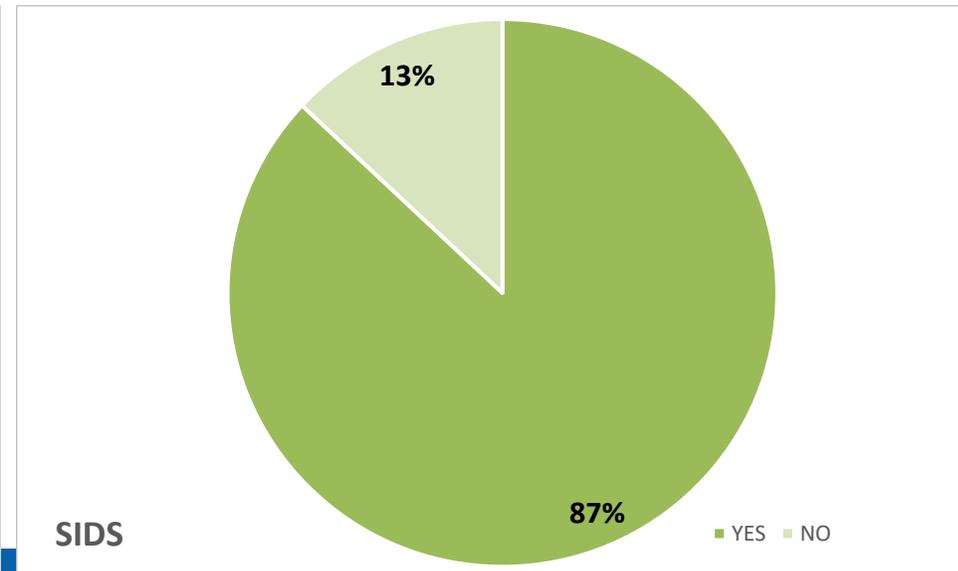
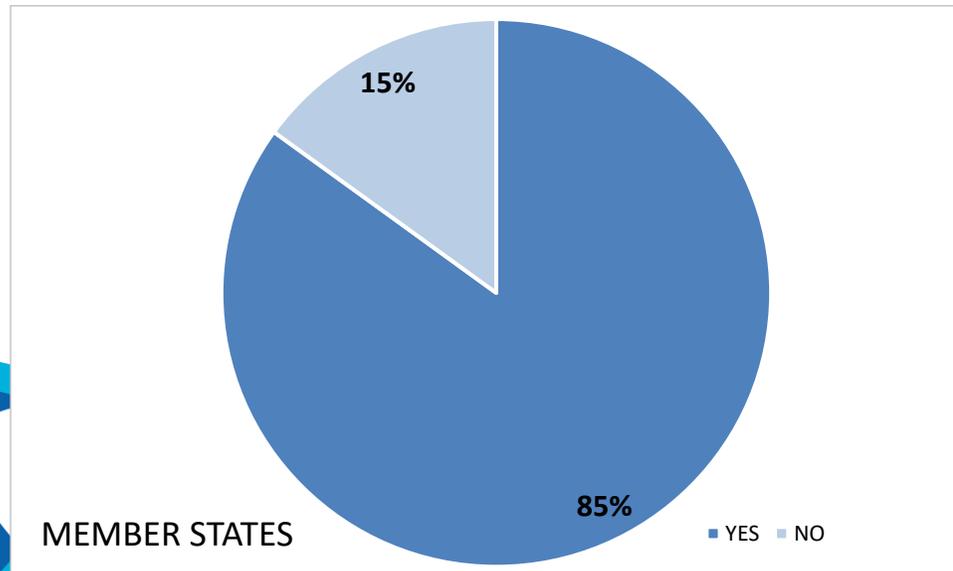


# PARTICIPATION RATE

**85%** - 39 of the 46 member states surveyed answered

**87%** - 14 of the 16 SIDS

Australia, Brunei Darussalam, Canada, Chile, China, Colombia, Cook Islands (SIDS), Costa Rica, Ecuador, El Salvador, Federated States of Micronesia (SIDS), Fiji (SIDS), French Polynesia (France), Guatemala, Honduras, Indonesia, Japan, Kiribati (SIDS), Malaysia, Mexico, Nauru (SIDS), New Zealand, Nicaragua, Niue (SIDS), Palau (SIDS), Papua New Guinea (SIDS), Peru, Philippines, Republic of Korea, Russian Federation, Singapore (SIDS), Solomon Islands (SIDS), Thailand, Timor-Leste (SIDS), Tonga (SIDS), Tuvalu (SIDS), United States of America, Vanuatu (SIDS), Viet Nam



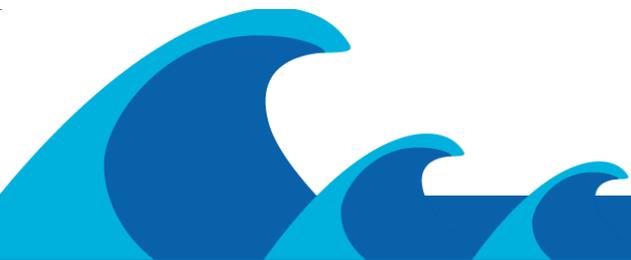
# PARTICIPATION RATE PER REGION

**86%** - CENTRAL AMERICAN PACIFIC COAST – Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua

**100%** - SOUTHEAST PACIFIC – Chile, Colombia, Ecuador, Peru

**89%** - SOUTH CHINA SEA - Brunei Darussalam, China, Indonesia, Malaysia, Philippines, Singapore (SIDS), Thailand, Viet Nam

**86%** - PACIFIC ISLAND COUNTRIES AND TERRITORIES - Cook Islands (SIDS), Federated States of Micronesia (SIDS), Fiji (SIDS), Kiribati (SIDS), Nauru (SIDS), Niue (SIDS), Palau (SIDS), Papua New Guinea (SIDS), Solomon Islands (SIDS), Tonga (SIDS), Tuvalu (SIDS), Vanuatu (SIDS)



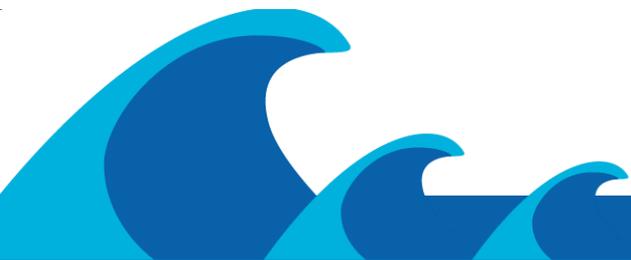
# ISSUES ABOUT RESULTS



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Topic	Partially answered		Skipped		Miscellaneous	
	Q / Total	%	Q / Total	%	Q / Total	%
Risk assessment and reduction	5 Q / 30	17%	13 Q / 30	43%	-	-
Detection, warning, and dissemination	2 Q / 32	6%	14 Q / 32	44%	7 Q / 32	22%
Public awareness, preparedness, and response	4 Q / 22	18%	9 Q / 22	41%	1 Q / 22	5%
Tsunami Ready Recognition Programme	-	-	6 Q / 20	30%	5 Q / 20	25%



# ISSUES ABOUT RESULTS

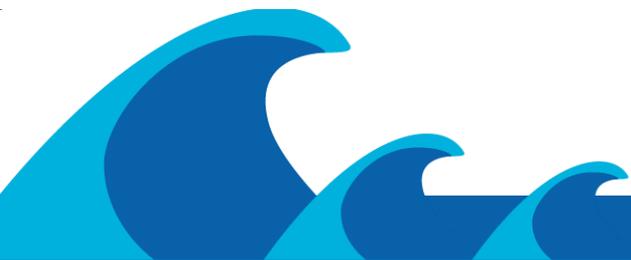
## QUESTIONS PARTIALLY ANSWERED



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4h) For each of the data types listed, were these data used? Publicly available?	3 countries	
5l) On a scale of 1 (No capacity) to 5 (Very good) what capacity does your country have to give training and/or consultancy on tsunami risk assessment to other countries?	1 country	
7a) Does your country have a national, local and community level tsunami disaster risk reduction plans?	14 countries	
8a) Does your country have national tsunami DRR guidelines?	1 country	
8b) Does your country have local tsunami DRR guidelines?	1 country	
10b) For each Disaster Management Office listed below, which communication methods for emergency response are available?	4 countries	
Does your SOP address this aspect of tsunami emergency response?	2 countries	
12a) Does your country have the following evacuation infrastructure?	1 country	
12e) What kind of tsunami exercises activities have been undertaken in your country and how many times during the inter-sessional (between ICG Meetings) period?	2 countries	
13a) What kind of activities have been tested during your country tsunami exercise, and how many times during the inter-sessional (between ICG Meetings) period?	1 country	
13e) Do you undertake the following tsunami awareness activities?	4 countries	



# ISSUES ABOUT RESULTS

## QUESTIONS SKIPPED (1/3)



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4g) Which coastal areas have been mapped for tsunami hazard?	1 country	
4j) On a scale of 1 (Very poor) to 5 (Very good), please rate your country's capability to undertake tsunami hazard assessment	1 country	
4k) On a scale of 1 (Not a priority) to 5 (Essential), what is the priority level in your country to improve capacity in the following areas of tsunami hazard assessment?	1 country	
4l) On a scale of 1 (No capacity) to 5 (Very good), what capacity does your country have to give training and/or consultancy on tsunami hazard assessment to other countries?	1 country	
5f) Which coastal areas have been tsunami risk mapped?	1 country	
5g) How many Cities / Municipalities / Regencies are at risk from tsunami?	1 country	
5j) On a scale of 1 (Very poor) to 5 (Very good), please rate your country's capability to undertake tsunami risk assessment	1 country	
5k) On a scale of 1 (Not a priority) to 5 (Essential), what is the priority level of your country to improve capacity in the following areas of tsunami risk assessment?	1 country	
5l) On a scale of 1 (No capacity) to 5 (Very good) what capacity does your country have to give training and/or consultancy on tsunami risk assessment to other countries?	1 country	
6b) Does your country have local tsunami policies?	2 countries	
7a) Does your country have a national, local and community level tsunami disaster risk reduction plans?	1 country	
8a) Does your country have national tsunami DRR guidelines?	1 country	
8b) Does your country have local tsunami DRR guidelines?	1 country	
9i) Is national seismic data shared in real time?	1 country	
9j) Does your organisation have access to GNSS data (Global Navigation Satellite System) data?	1 country	
9k) Is the list of broadband seismometers operated by your country listed accurately in the IRIS database ( <a href="https://ds.iris.edu/mda/">https://ds.iris.edu/mda/</a> )?	9 countries	
9l) When compared to the IRIS database ( <a href="https://ds.iris.edu/mda/">https://ds.iris.edu/mda/</a> ) have you decommissioned or added broadband seismometers operated by your country.	7 countries	



# ISSUES ABOUT RESULTS

## QUESTIONS SKIPPED (2/3)



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9o) Is the list of sea level stations, including tsunameters, operated by your country listed accurately in the IOC Sea Level Station Monitoring Facility ( <a href="https://www.ioc-sealevelmonitoring.org/map.php">https://www.ioc-sealevelmonitoring.org/map.php</a> ) website?	4 countries	
9p) When compared to the IOC Sea Level Station Monitoring Facility, have you decommissioned or added sea level stations, including tsunameters, operated by your country.	11 countries	
9s) Does the organisation have the capability for tsunami modelling to support generation of threat forecasts?	1 country	
9u) What are the threshold or criteria (for example sea levels, magnitude) for declaring a potential national tsunami emergency, watch, alert, advisory or warning?	1 country	
9v) What actions were taken by your country's National Tsunami Warning Centre (NTWC) and/or Tsunami Warning Focal Point (TWFP) in response to earthquake events and messages issued by the PTWS TSPs during the inter-sessional period?	2 countries	
9z) Since 2020, were there any major enhancements in your national warning SOPs and alerting?	1 country	
10b) For each Disaster Management Office listed below, which communication methods for emergency response are available?	1 country	
10c) How is the warning situation terminated?	1 country	
10d) What website is used for display of national threat status during events? Please provide the URL.	2 countries	
10e) Does your country's national tsunami warning system utilize the Common Alert Protocol (CAP) for the dissemination of warnings?	2 countries	
Is support required to develop HR for this aspect of tsunami emergency response?	1 country	
Does your SOP address this aspect of tsunami emergency response?	1 country	
Is support required to develop/improve this aspect of tsunami emergency response in your SOP?	1 country	
Is support required to develop Human Resources in this aspect of tsunami emergency response?	1 country	
Is support required to develop infrastructure for this aspect of tsunami emergency response?	1 country	
11c) Would your country be willing to share your SOPs with the ITIC and other countries?	1 country	
12b) Is your evacuation infrastructure integrated in the evacuation plan?	1 country	
12d) At what levels were the exercises conducted during the inter-sessional (between ICG meetings) period?	1 country	
13g) Can your country offer support to other Member States to develop or enhance public awareness in their country?	1 country	

# ISSUES ABOUT RESULTS

## QUESTIONS SKIPPED (3/3)



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Commission

14c) What number of villages, cities/districts and provinces/state levels in your country are at risk to tsunami?	3 countries	
14e) Which institution(s) should be involved in the implementation of TRRP or similar national initiative?	2 countries	
14f) Are any communities (for example, villages, cities, districts, provinces, or states) in your country currently working towards implementing or interested in implementing the UNESCO-IOC TRRP or similar national initiative?	2 countries	
14g) Have any communities in your country achieved recognition through UNESCO-IOC TRRP or similar national initiative?	1 country	
15b) Is there national capacity to train the community on identifying and estimating the number of people that live in the tsunami hazard zone?	6 countries	
15m) Which of the following challenges inhibit the implementation of TRRP or similar national initiatives in your country?	1 country	



# ISSUES ABOUT RESULTS

## MISCELLANEOUS



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9b) Does your country utilise the data provided by the PTWS Tsunami Service Providers (TSPs) for the Threat Assessments of your country's coastline to determine national threats or does it undertake its own threat assessments?	Need some precisions about how TSP data are used as a backup
9j) Does your organisation have access to GNSS data (Global Navigation Satellite System) data? & 9q) What other observing networks are operated by your country and used for tsunami early warning? (Q75)	Need consolidation – 9j: 21 countries have access to GNSS data / 9q: only 7 countries declare it as observing networks
9k) Is the list of broadband seismometers operated by your country listed accurately in the IRIS database ( <a href="https://ds.iris.edu/mda/">https://ds.iris.edu/mda/</a> )? 9l) When compared to the IRIS database ( <a href="https://ds.iris.edu/mda/">https://ds.iris.edu/mda/</a> ) have you decommissioned or added broadband seismometers operated by your country.	Many inconsistencies in the answers to these two questions, requiring clarification and changes for the final report
9o) Is the list of sea level stations, including tsunameters, operated by your country listed accurately in the IOC Sea Level Station Monitoring Facility ( <a href="https://www.ioc-sealevelmonitoring.org/map.php">https://www.ioc-sealevelmonitoring.org/map.php</a> ) website? 9p) When compared to the IOC Sea Level Station Monitoring Facility, have you decommissioned or added sea level stations, including tsunameters, operated by your country.	Many inconsistencies in the answers to these two questions, requiring clarification and changes for the final report
12d) At what levels were the exercises conducted during the inter-sessional (between ICG meetings) period?	Need some precisions about what is N/A answer, 4 countries answered this, does it mean that they do not conduct any type of exercises?
14a) Does your country have an interest to participate in the UNESCO-IOC TRRP? 14d) Does your country have a National Tsunami Ready Board (NTRB)? 14f) Are any communities in your country currently working towards implementing or interested in implementing the UNESCO-IOC TRRP or similar national initiative? 14g) Have any communities in your country achieved recognition through UNESCO-IOC TRRP or similar national initiative? (Q119)	Incoherences in the answers for several countries, which checked NO to 14a and YES to 14d, 14f & 14g



# SOME POSSIBLE IMPROVEMENTS

**Since the questionnaire is very long, support the respondent as much as possible by limiting confusion, errors, and doubts**

- Be clearer in the formulation of questions according to expectations
- Add the definition of certain concepts (Recommendation ICG/PTWS XXXI)
- Improve the survey monkey form matrix
  - Guide the person filling out by blocking certain questions based on the answers, to avoid errors
  - Block access to the following questions if they are not fully completed
  - Establish a logic in the filling
  - Strive to have the same order for the answers when they are similar in several questions
  - Allow certain combinations for less confusion (Example: question 9b)
  - Rationalize the N/A and Other
  - Construct similar questions in the same way (Example: question 5b should have a N/A proposition as for question 4b)
  - Allow only numbers when the question ask for a percentage or a quantitative answer (Example: question 5f, 5g on risk map)