National Reports will be posted to the ICG/PTWS-XXX website without TWFP contact details

**NATIONAL REPORT**
**Submitted by Colombia**

## BASIC INFORMATION

### 1. ICG/PTWS Tsunami National Contact (TNC)

*The person designated by a Member State to an Intergovernmental Coordination Group (ICG) to represent his/her country in the coordination of international tsunami warning and mitigation activities. The person is part of the main stakeholders of the national tsunami warning and mitigation system. The person may be the Tsunami Warning Focal Point, from the national disaster management organization, from a technical or scientific institution, or from another agency with tsunami warning and mitigation responsibilities.*

**Name:** Capitán de Navío (C) Juan Camilo Forero Hauzeur
**Title:** Executive Secretary of the Colombian Ocean Commission
**Organization:** Colombian Ocean Commission
**Postal Address**: Cra. 86 #51-66, Edificio WBC World Business Center Oficina No. 306 – Bogotá D.C.
**E-mail Address:**
**Telephone Number:**
**Fax Number:** +
**Cellular Telephone Number:**

### 2. ICG/PTWS Tsunami Warning Focal Point (TWFP)

*A 24 x 7 point of contact (office, operational unit or position, not a person) officially designated by the NTWC or the government to receive and disseminate tsunami information from an ICG Tsunami Service Provider according to established National Standard Operating Procedures. The TWFP may or not be the NTWC.*

TWFP Agency name:
*(if different from NTWC agency)*
TWFP Agency Contact or Officer in Charge *(if different from NTWC Agency):*
Name:
Position:
Telephone Number:
Email Address:
Postal Address:

**TWFP 24x7 point of contact** (office, operational unit or position**, not a person**):

**Name:** Vicealmirante John Fabio Giraldo Gallo
**Position:** Director-General Maritime
**Responsible Organization:** General Maritime Directorate.
**E-mail Address:**
**Telephone Number:**
**Cellular Telephone Number:**

**National Tsunami Warning Centre (if different from the above)**
*A centre officially designated by the government to monitor and issue tsunami warnings and other related statements within their country according to established National Standard Operating Procedures.*

NTWC Agency Name:
NTWC Agency Contact or Officer in Charge (person):
Name:
Position:
Telephone Number:
Email address:
Postal Address:

**3. Tsunami Advisor(s), if applicable**
*(Person, Committee or Agency managing Tsunami Mitigation in country)*

Name:
Title:
Postal Address:
E-mail Address:
Emergency Telephone Number:
Emergency Fax Number:
Emergency Cellular Telephone Number:

**4. Tsunami Standard Operating Procedures for a Local Tsunami (when a local tsunami hazard exists)**

In Colombia there is a National Tsunami Detection and Warning System (SNDAT), made up of the Colombian Geological Service (SGC), the National Unit for Disaster Risk Management (UNGRD) and the Directorate General for Maritime Affairs (DIMAR).

The responsibility of these entities is established and articulated in the SNDAT protocol.

The National Tsunami Detection and Warning Protocol (SNDAT), version 2022, aims to provide the National Disaster Risk Management System with an instrument that allows it to coordinate actions, unify information and issue warnings in the event of seismic events, volcanic eruptions in the Pacific, Caribbean or Atlantic basin with the potential to generate a tsunami and reports of disturbances in the sea level in the Pacific or Colombian Caribbean associated with a tsunami of unknown source, which may affect the coastal and insular zones of the Pacific and Caribbean of Colombia.

For felt earthquakes, emphasis is placed on socializing with the community the concept of PERSONAL ALERT, which consists in that, upon perception of ANY of the natural signals of a tsunami, the community should evacuate without waiting for an official order, going to the meeting points or areas of lesser exposure. The community can perceive the natural signs of a tsunami as follows:

ALERTA PERSONAL.

SENTIR

Un sismo fuerte que dificulta a las personas permanecer en pie o caminar.

OBSERVAR

Un aumento o retroceso repentino del nivel del mar.

ESCUCHAR

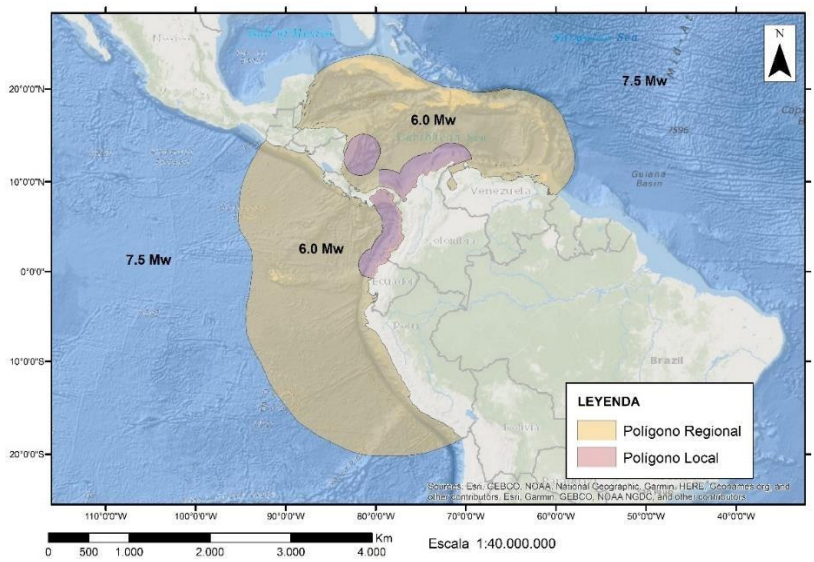
Un ruido extraño o fuerte que viene del mar.

Si se percibe cualquiera de las condiciones anteriores, las personas no deben esperar una orden oficial de evacuación, se deben dirigir de inmediato a los puntos de encuentro o zonas de menor exposición (zonas altas y/o alejadas de la costa).

Residents, visitors and the community in general in coastal areas should be aware of their responsibility for their own safety in the face of the possibility that they may be affected by a tsunami.

For the application of this protocol, the following regions are considered according to the type of tsunami, as well as the seismic magnitude thresholds for the activation and issuance of bulletins by SNDAT:

POLÍGONOS Y UMBRALES DE ACTIVACIÓN DEL SNDAT




Once DIMAR-CNAT receives the seismic information from the official sources, it proceeds with the evaluation of the event in order to issue a tsunami status, which is described below:

| STATUS | GENERAL CHARACTERISTICS | ACTIONS REQUIRED |
|---|---|---|
| **INFORMATIVE** | Event that does not require any preventive action by the SNGRD. | Disseminate information on the non-existence of danger to the SNDAT, SNGRD and the community in general. |
| **MONITORING** | Event of regional or distant origin that is being evaluated in order to determine whether or not there is a danger to the Colombian coast. | Disseminate information to SNDAT, SNGRD and the community in general indicating that the assessment of the event is ongoing. A new bulletin should be expected. |
| **WARNING** | An event of local, regional or distant origin capable of producing strong currents or tsunami waves that may cause flooding and pose a hazard to people at sea or near the coast. | Disseminate information to SNDAT, SNGRD and the community in general indicating the likelihood of strong currents or tsunami waves that could cause flooding and pose a danger to people at sea or near the coast. ORDER THE TOTAL CLOSURE OF LOW TIDE AREAS, BEACHES, JETTIES, PIERS AND TOURIST JETTIES AND DISPLACEMENT TO LESS EXPOSED AREAS (HIGH AREAS AND/OR AWAY FROM THE COAST). BAN ON ACTIVITIES AT SEA AND SPECIFIC MEASURES FOR MARITIME TRAFFIC, PORTS, DOCKS AND PIERS. Activation of National Crisis Room. The UNGRD will |

| | | |
|---|---|---|
| | | establish the Crisis Room communication link with the SNDAT entities. |
| **ALERT** | It is declared when there is a high probability of a tsunami accompanied by strong and widespread flooding along the Colombian coast. | Disseminate information to SNDAT, SNGRD and the community in general indicating the high probability of a tsunami accompanied by strong and widespread flooding on the Colombian coasts ORDER THE EVACUATION OF THE AREAS THAT COULD BE AFFECTED, TO LESS EXPOSED SITES. PROHIBITION OF ACTIVITIES AT SEA, TOTAL CLOSURE OF BEACHES, JETTIES AND LOW TIDE AREAS. SPECIFIC MEASURES FOR MARITIME TRAFFIC, PORTS, HARBOURS, PIERS AND WHARFS. Activation of National Crisis Room. The UNGRD will establish the Crisis Room communication link with the SNDAT entities. |
| **CANCELLATION** | It is declared when, according to DIMAR-CNAT assessment, it is determined that NO further tsunami waves will arrive. It | Inform authorities and the general public that NO further tsunami waves will arrive. Precautionary and evacuation orders that have been issued should be maintained until further notice from local authorities. |
| **STATUS** | **GENERAL CHARACTERISTICS** | **ACTIONS REQUIRED** |
| | is generated after the state of WARNING or ALERT. | |

From the bulletin generated by DIMAR-CNAT in which the status of the event is issued, the UNGRD issues the information for the operational entities and the population in general, including recommendations and actions according to the status. Based on this information, each municipality takes the corresponding actions.

## 5. Tsunami Standard Operating Procedures for a Distant Tsunami (when a distant tsunami hazard exists)

This process is described in section 4.

*For each situation, please provide the following:*

- *What organization identifies and characterizes tsunamigenic events?*

**Colombian Geological Survey (SGC)**

For earthquakes that may generate a tsunami of local origin, its function is to detect the seismic event by determining the parameters (location, magnitude, depth, instrumental intensity and focal mechanism).

For earthquakes that may generate a tsunami of regional and distant origin, its function is to take the information from international sources (location, magnitude and depth) and communicate to the SNDAT entities.

The SGC activates the SNDAT from the evaluation of the parameters of the earthquake and monitors the event, updating the event information for earthquakes of local or regional origin with a magnitude equal to or greater than 6.0 and for distant earthquakes with a magnitude equal to or greater than 7.5.

Issue bulletins to all SNDAT entities and to the community in general.

**General Maritime Directorate, National Tsunami Warning Centre (DIMAR - CNAT)**

Receive and analyse seismic information, PTWC (Tsunami Service Provider for the Pacific Ocean Basin and Caribbean Sea) bulletins, sea level information and other inputs necessary to assess the possibility of the generation or propagation of a tsunami in Colombia.

Declare the status of the tsunami event (Informational, Watch, Warning, Alert) and recommendations for action within the scope of its competencies.

Issue technical tsunami information bulletins to SNDAT.

Through its Harbour Master's Offices and Traffic Control and Maritime Surveillance Stations (ECTVM), disseminate tsunami information to ports, docks, piers, wharfs and vessels.

- *What is the threshold or criteria for declaring a potential tsunami emergency?*

For earthquakes of local or regional origin, the SNDAT is activated with a magnitude equal to or greater than 6.0 and for distant earthquakes with a magnitude equal to or greater than 7.5.

The criteria for determining a possible emergency are based on the analysis and evaluation carried out by DIMAR-CNAT to declare a state of: Warning or Alert (also defined in numeral 4).

- *What organization acts on the information provided by the agency responsible for characterizing the potential tsunami threat?*

Based on the information issued by DIMAR-CNAT as TWFP in the technical bulletins of threat assessment, the National Unit for Disaster Risk Management informs and activates the National Disaster Risk Management System according to the mechanisms established for this purpose. Additionally, the UNGRD issues situational reports and official press releases to all entities of the system and to the community.

- *How is the tsunami information (warning, public safety action, etc) disseminated within country? Who is it disseminated to?*

In terms of issuing tsunami warnings, it operates as defined in the actions of the National Tsunami Warning Detection Protocol, according to the bulletins issued by DIMAR as TWF, the National Unit for Disaster Risk Management (UNGRD) generates the warning information through two instances.

1. **Communications Advisory Office:** Generates alerts via social networks and email, this information is public and is sent to the media.

2. **National Crisis Room - Strategic Analysis Room:** It generates situation bulletins addressed to the Territorial Risk Management Councils, entities of the National Disaster Management Committee and the different internal areas of the UNGRD that support emergency response, in operational, technical, managerial, administrative, legal and other areas. Information is also sent to the directory of entities included in the protocol.

   In parallel, communications are established via (VHF-HT), cellular/satellite telephony and instant messaging, with both national and territorial operational entities for the dissemination of the alert, mainly through the Military Forces, Police and National Relief.

   Once the alert has been issued, territorial entities issue and execute the necessary restriction, protection and evacuation orders, in accordance with their local protocols and response strategies.

- *How is the emergency situation terminated?*

When DIMAR-CNAT determines that no more tsunami waves will arrive, a "cancellation" bulletin is generated informing that the tsunami threat has passed. This bulletin is issued to SNDAT entities. Based on this bulletin, the UNGRD issues a situation report for territorial entities to initiate Damage Assessment and Needs Analysis (DANA) actions. Evacuation orders that have been issued should be

maintained until the local authorities so indicate, bearing in mind that the floods generated by a tsunami will behave differently in each territory. The end of the warning will give way to damage assessment and needs analysis by local authorities and response actions.

- *For Distant Tsunami Procedures:*

*What actions were taken in response to tsunami bulletins issued by PTWC, NWPTAC, and/or SCSTAC during the intersessional period?*

During the period 2021 to 2023 the SNDAT was activated for the following events and the following actions were implemented:

2022-01-12 earthquake magnitude 6.2 Corinth, Nicaragua, Colombia issued a bulletin declaring INFORMATIVE status (No tsunami threat).

- 2022-01-15 Erupción volcánica Hunga Tonga-Hunga Ha'apai, Colombia emitió un boletín especial.

- 2022-02-22 magnitude 6.2 earthquake near Nueva Concepción, Guatemala, Colombia issued a bulletin declaring an INFORMATIVE status (No tsunami threat).

- 2022-03-26 magnitude 6.0 earthquake off Ecuador, Colombia issued a bulletin declaring INFORMATIVE status (No tsunami threat).

- 2022-04-21 magnitude 6.8 earthquake off the coast of Nicaragua, Colombia issued a bulletin declaring INFORMATIVE status (No tsunami threat).

- 2022-09-10 magnitude 7.7 earthquake New Guinea, Colombia issued a bulletin declaring INFORMATIVE status (No tsunami threat).

- 2022-09-10 magnitude 7.6 earthquake near Michoacan, Mexico, Colombia issued a bulletin declaring INFORMATIVE status (No tsunami threat).

- 2022-10-16 magnitude 6.7 earthquake off the coast of Central America, Colombia issued a bulletin declaring an INFORMATIVE status (No tsunami threat).

- 2022-10-20 magnitude 6.9 earthquake south of Panama, Colombia issued a bulletin declaring an INFORMATIVE status (No tsunami threat).

- 2022-11-11 magnitude 7.5 earthquake in the Tonga region, Colombia issued a bulletin declaring INFORMATIVE status (No tsunami threat).

- 2023-01-09 magnitude 7.6 earthquake in Palau Palau Tinimbar, Indonesia, Colombia issued a bulletin declaring INFORMATIVE status (No tsunami threat).

- 2023-03-18 magnitude 6.8 earthquake in Ecuador, Colombia issued a bulletin declaring INFORMATIVE status (No tsunami threat).

- 2023-04-04 magnitude 6.6 earthquake south of Panama, Colombia issued a bulletin declaring INFORMATIVE status (No tsunami threat).

- 2023-05-10 magnitude 7.6 earthquake at Neiafu, Tonga, Colombia issued a bulletin declaring INFORMATIVE status (No tsunami threat).

- 2023-05-18 magnitude 7.7 earthquake in Loyalty Islands, New Caledonia, Colombia issued a bulletin declaring INFORMATIVE status (No tsunami threat).

## 6. National Sea Level Network

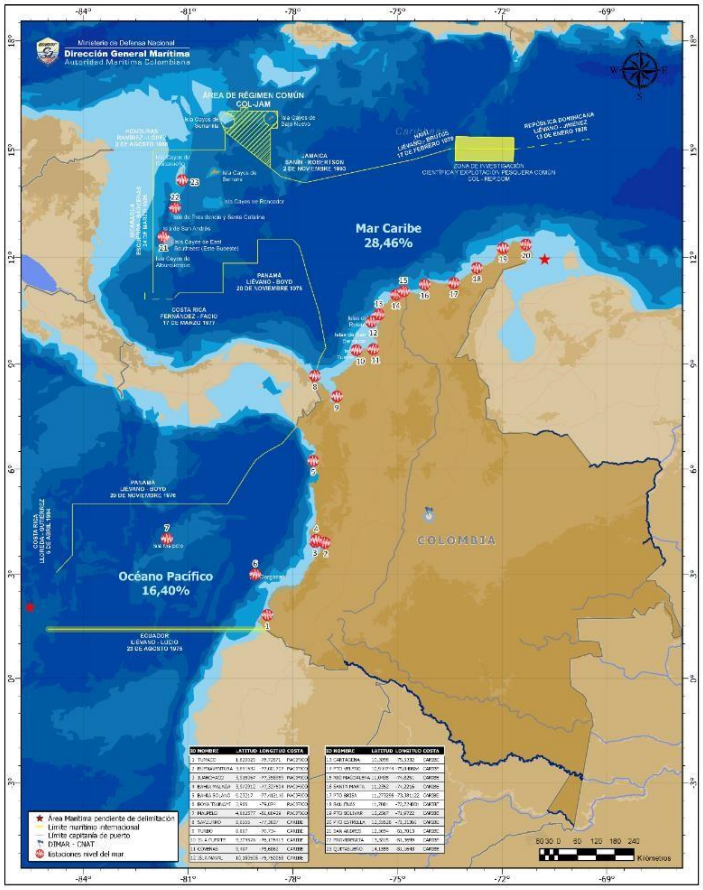
*Please include a table with position and description of stations/sensors, and a map.*

DIMAR has the following network of sea level monitoring stations for the Pacific.

| Location | Latitude [GG°MM'SS"] | Longitude [GGG°MM'SS"] | Sensor Type | Recording Interval | Transmission Interval |
|---|---|---|---|---|---|
| Bahía Málaga | 3°58'21" N | 77°19' 39" W | OTT/ 2 Radar | 1 min | 2 min |
| Bahía Solano | 06°13'58.36"N | 77°24'43.68"W | OTT/ Burbujeo Radar | 1 min | 2 min |
| Buenaventura | 3°53'31.2"N | 77°4'44.4"W | OTT/ Burbujeo Radar | 1 min | 2 min |
| Juanchaco | 03°54'54.36"N | 77°21'32.7"W | OTT/ 2 Radar | 1 min | 2 min |
| Malpelo | 04°00'33"N | 81°36'33"W | OTT/ 2 Radar | 1 min | 5 min |
| Tumaco | 01°49'12"N | 78°43'43.32"W | OTT/ Radar | 1 min | 2 min |
| Candelilla de la Mar | 1°28'30.93"N | 78°50'45.33"W | 2 Radar | 1 min | 2 min |

Tsunami detection buoy

| Location | Latitude [GG°MM'SS"] | Longitude [GGG°MM'SS"] | Sensor Type | Recording Interval | Transmission Interval |
|---|---|---|---|---|---|
| 73 MN de la Costa de Tumaco | 02°59'50.072" N | 79°03'43.219"W | Sonardyne / BPR | 15 minutos | 3 horas |




## 7. Information on Tsunami occurrences

*Please include sea level observations, pictures, wave arrival descriptions, public, media, or other responses to warnings, lessons learned, etc.*

There were no tsunamis affecting the Colombian Pacific coast during the period.

## 8. Web sites (URLs) of national tsunami-related web sites

- General Maritime Directorate (DIMAR) https://www.dimar.mil.co
  https://www.dimar.mil.co/tsunami
- Unidad Nacional para la Gestión del Riesgo de Desastres (UNGRD) https://portal.gestiondelriesgo.gov.co/
- Servicio Geológico Colombiano (SGC) https://www.sgc.gov.co/

**9. Summary plans of future tsunami warning and mitigation system improvements.**
*This information will be used to aid the development of the PTWS Medium Term Strategy and the PTWS Implementation Plan.*

**a.** Support the development of tsunami response protocols in the coastal municipalities of the Colombian Pacific.

**b.** Implementation of the results obtained in the framework of the SATREPS project in agreement with the Government of Japan and other governmental entities of the country associated with this project.

**c.** Tsunami hazard awareness and education campaign targeting Pacific coast communities.

## NATIONAL PROGRAMMES AND ACTIVITIES INFORMATION

### 11. EXECUTIVE SUMMARY

*Brief statement of no more than one page addressing all items discussed in the Narrative section of the National Report (below)*

Several advances have been made in national plans and efforts to improve the Tsunami Warning System, including the updating of the national tsunami detection and warning protocol and the introduction of improvements to the Standard Operating Procedures for Event Response. A number of exercises have also been conducted that have contributed to improving tsunami event detection and assessment processes, as well as incorporating lessons learned into national work plans.

### 12. NARRATIVE

*Detailed description of innovations or modifications to National tsunami warnings procedures or operations since last National Report, tsunami research projects, tsunami mitigation activities and best practices (especially in preparedness and emergency management), tsunami exercises, as well as public education programmes or other measures taken to heighten awareness of the tsunami hazard and risk.*

In 2022, the entities of the National Tsunami Detection and Warning System updated the national tsunami detection and warning protocol, which included procedures for the issuance of tsunami information generated by volcanic eruptions and the issuance of information in the event of sea level disturbances that may be associated with tsunami events of unknown source.

In addition, through the National Tsunami Warning Centre - CNAT, improvements have been made to the Standard Operating Procedures for Tsunami Event Response, which have allowed the optimisation of the processes for the evaluation of tsunami events.

Similarly, the first regional exercise was organised and led in conjunction with INOCAR, and the organisation of the Pacific Wave 22 exercise was led at the local level.

In accordance with the commitment established in the National Tsunami Warning Protocol, an unannounced simulation was carried out in June 2023 for the first half of the year.

The UNGRD held internal training sessions on the National Tsunami Warning Protocol for radio operators and analysts of the National Crisis Room in conjunction with the Sub-Directorate for Risk Awareness.

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