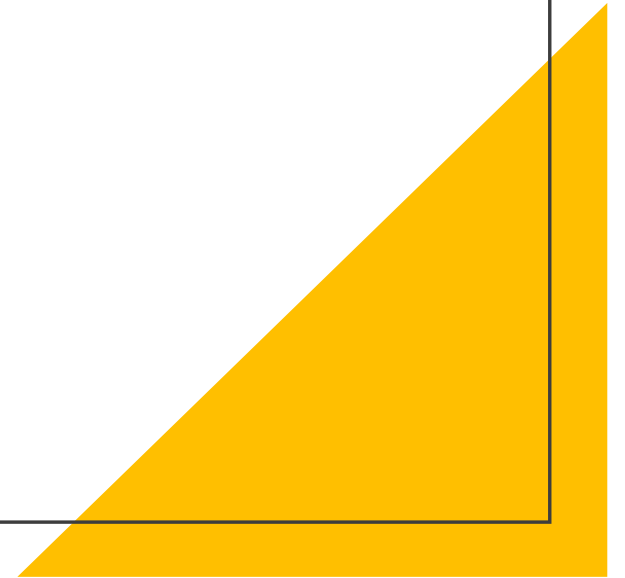


TSUNAMI READY PROGRAMME IN NEAM REGION

Cecilia Valbonesi – University of Florence – INGV
Co - chair WG4 NTWS



TSUNAMI READY PROGRAMME IN NEAM REGION

Countries involved:

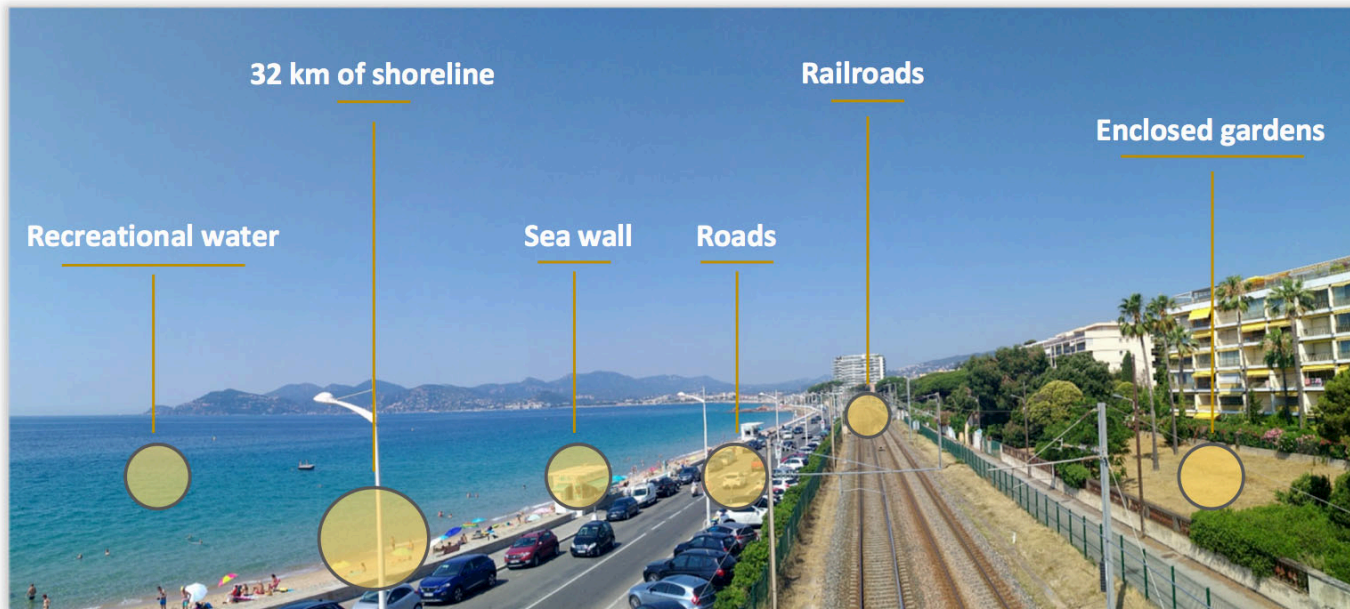
- Spain: Chipiona
- France: Cannes
- Italy: Minturno, Palmi, Marzamemi

Cannes – local context

1. For the past year, awareness-raising activities (public meeting, meeting in schools) have been carried out locally, in particular in collaboration with CENALT and DGSCGC.
2. Discussions within the national Tsunami working group have led to recommendations that have been validated at the national level.
3. A scientific partnership with the University Paul-Valéry Montpellier 3, has enabled the design of standardised evacuation plans and tsunami signage according to a method already deployed in the French West Indies (Caribbean sea)

"The taking into account of the Tsunami hazard in Cannes is part of a strong political will initiated since 2015 for a concerted management of natural risks and a better awareness of citizens".

City of Cannes evacuation challenges in case of tsunami alert ...



... some keys to success

Knowing who to evacuate, to where and along what route

Providing early warning to the population

Disseminate a good knowledge of the tsunami risk to the population and local stakeholders.

Conducting exercises

[... Tsunami Ready Recognition](#)

Cannes – work achieved

Mapping of the area to be evacuated and quantification of the main issues in this area (population, critical infrastructures, etc.)

Identification of horizontal refuge sites and evacuation routes according to a scientific protocol adapted from work carried out in the Caribbean

Mapping of evacuation plans according to a standardised graphic chart

Choice of signage to be installed along evacuation routes (*Population-based surveys*)

Drafting of preventive information documents for residents, merchants and boaters

Drafting and signing of a **“Tsunami Charter”** between the city and sea professionals (beach professionals, nautical and fishing activities) in November 2019.



Extract of an evacuation plan - Cannes, 2020



Official presentation of the « Tsunami Charter »



Tested signage (ground paint), august 2020



Information and public survey stand, august 2020



The retained signage

Cannes – work in progress

Improving early warning to populations

The city of Cannes is well equipped with several facilities to provide an emergency population warning

civil defence sirens

Loudspeakers

Automatic SMS alerts

Other ways (billboards, mobile speakers, etc)

Work is being carried out within the framework of the scientific partnership on :

Testing the audibility of sirens

Mapping audibility for different weather scenarios

Carry out surveys among local and tourist populations to assess knowledge of warning vectors and instructions and then adapt them.



Cannes – work in progress 2021

- ❑ Testing optimised pedestrian evacuation routes during evacuation drills;
- ❑ Install citywide tsunami evacuation signs;
- ❑ Disseminating an interactive version of the evacuation maps to the general public and adding automated calculation tools;
- ❑ Test the standard operating procedures and disseminate preventive information documents to as many people as possible
- ❑ Extend the signature of the "**Tsunami Charter**" in 2021 with the hoteliers and kiosks located along the waterfront.
- ❑ To share the knowledge gained from this experience with ICG/NEAMTWS members to contribute to the drafting of the Tsunami Ready recognition.

For more information, please contact :

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MUNICIPALITY OF MINTURNO



TSUNAMI READY INDICATORS Date of evaluation: NOVEMBER 2020

Stage of achievement		Initial stage	Medium stage	Final stage
I EVALUATION (EVA)				
1	Eva-1. Have designated and mapped tsunami hazard zones.	Identified and mapped according to what defined for the <i>TABLE TOP</i> drill held in Latina on 2019.	It will be required the redefinition, according to DEM (Digital elevation model) of the territory, verification and integration of areas that have not been included. <i>Involvement of higher authorities (INGV, ISPRA, Lazio Region).</i>	December 2020
2	Eva-2. To develop and initial estimate of the number of people that live in the tsunami hazard zone.	Subdivision of the territory exposed to risk according to census areas. Request to the Registry Office the production of data, divided according to age groups.	Dividing by age groups, resident families and individual members. Identification of the disabled by providing a suitable rescue device in case of exposure to risk. <i>Self-financed with internal resources.</i>	December 2020

TSUNAMI READY Date of evaluation: NOVEMBER 2020				
INDICATORS				
Stage of achievement		Initial stage	Medium stage	Final stage
II				
MITIGATION (MIT)				
3	Mit-1. Have a public display of tsunami information.	<p>Study and collection of examples of sign.</p> <p>Study of graphic symbolism, vertical and horizontal, indicating the escape routes and the limit of the danger zone.</p>	<p>Evaluation and individuation, according to new hazard maps, of the positioning points for the signage along the greatest influx routes.</p>	<p>5 panels dim. 3,00x2,00 to be placed at the beginning Appia, Formia side, and Appia Garignano area, -P.zza Luigi Ranieri, -P.zza Monte d'Oro beginning Lungomare, -P.zza Monte d'Argento end Lungomare. n°1 variable message luminous Piazzale Sieci.</p> <p>n. 30 signs of horizontal street exodus for the following streets: via N. Manfredi, via del Golfo di Gaeta, via Don a. Pecorini, via Filippo Merola, n°2 on piazzale Sieci, via M. Bisegna, via G. Capolino, via dell'Impero, via Roma, via G. Marconi, via I. Balbo, via San reparata, via Pietro Fedele, via Spiritiera n°12 for vertical exodus: via Monte d'Oro, via Lungomare, Via Cristoforo Colombo JUNE 2021</p>
4	Mit-2. To develop a list of available economic, infrastructural, political and social resources to reduce tsunami risk at the community level.	<p>Involvement of the competent Assessors, definition of the Local Board, preparatory and organizational meetings with Authorities.</p>	<p>Creation, in the PEG (Executive plan of gestion), of a chapter dedicated to the Tsunami Ready program, in order to assure funds.</p> <p>Remodulation of parking lots near the escape routes in order to facilitate their use and security.</p> <p>Involvement of the City Council in the planning and programming of Tsunami Ready activities.</p>	<p>March 2021</p>

TSUNAMI INDICATORS

READY Date of evaluation: NOVEMBER 2020

Stage of achievement

Initial stage

Medium stage

Final stage

III

PREPAREDNESS (PREP)

5	Prep-1. Produce easily understood tsunami evacuation maps as determined to be appropriate by local authorities in collaboration with communities.	Producing maps of the census sectors, indicating how to evacuate and the reference structures of the area to which they belong.	Maps of the sector will report useful information for evacuation. They will be distributed to families and placed in the hallways of the buildings. The presence of numerous vacation homes in the area suggests to provide a multilingual copy, in a position clearly visible.	August 2021
6	Prep-2. Develop and distribute outreach and public education materials.	Cataloguing of documentation useful for the production of texts, images and graphics-	Create educational broadcasts through multimedia and social networks and brochures with different content to be distributed to school groups, to resident population and tourists. Develop web systems (web-site of the municipality, references and links from sites that advertise events and activities in the area), through App municipal with different messages.	March 2021

TSUNAMI READY INDICATORS

Date of evaluation: NOVEMBER 2020

Stage of achievement	Initial stage	Medium stage	Final stage
III PREPAREDNESS (PREP)			
7 Prep-3. Hold at least three outreach or educational activities <u>annually</u>.	<p>Already carried out at some schools in the area when the Municipal Emergency Plan was communicate to the citizenship.</p>	<p>Plan an educational event with the population through the <i>Io non Rischio</i> project. Organize a meeting in schools. Organize a drill.</p>	<p>May 2021</p>
8 Prep-4: Conduct a biannual tsunami community exercise.	<p>Two alert simulations will be carried out with and without the involvement of the population.</p>	<p>Repeat the simulation with an evacuation of the bathhouse, of school groups and relevant structures of the territory.</p> <p>The activation of the warning systems will be followed by a suitable test of operation.</p>	<p>June 2021</p>

TSUNAMI INDICATORS

READY Date of evaluation: NOVEMBER 2020

Stage of achievement

Initial stage

Medium stage

Final stage

IV

RESPONSE (RESP)

9

Resp-1. Address tsunami hazards in the community's emergency operations plan (EOP).

Prepared in the Emergency Plan approved in 2017.

Redefinition phase following the dictates of the Tsunami Ready, following the directives given by the "INDICATIONS FOR THE UPDATE OF CIVIL PROTECTION PLANNING FOR MAREMOTE RISK" Pursuant to December 2020 the Directive of the President of the Council of Ministers of 17 February 2017.

10

Resp-2. Commit to supporting the emergency operations center (EOC) during a tsunami incident if an EOC is opened and activated.

Already prepared and verified the effectiveness with the TABLE TOP exercise in Latina on 2019.

Updating of contacts and activation procedures.

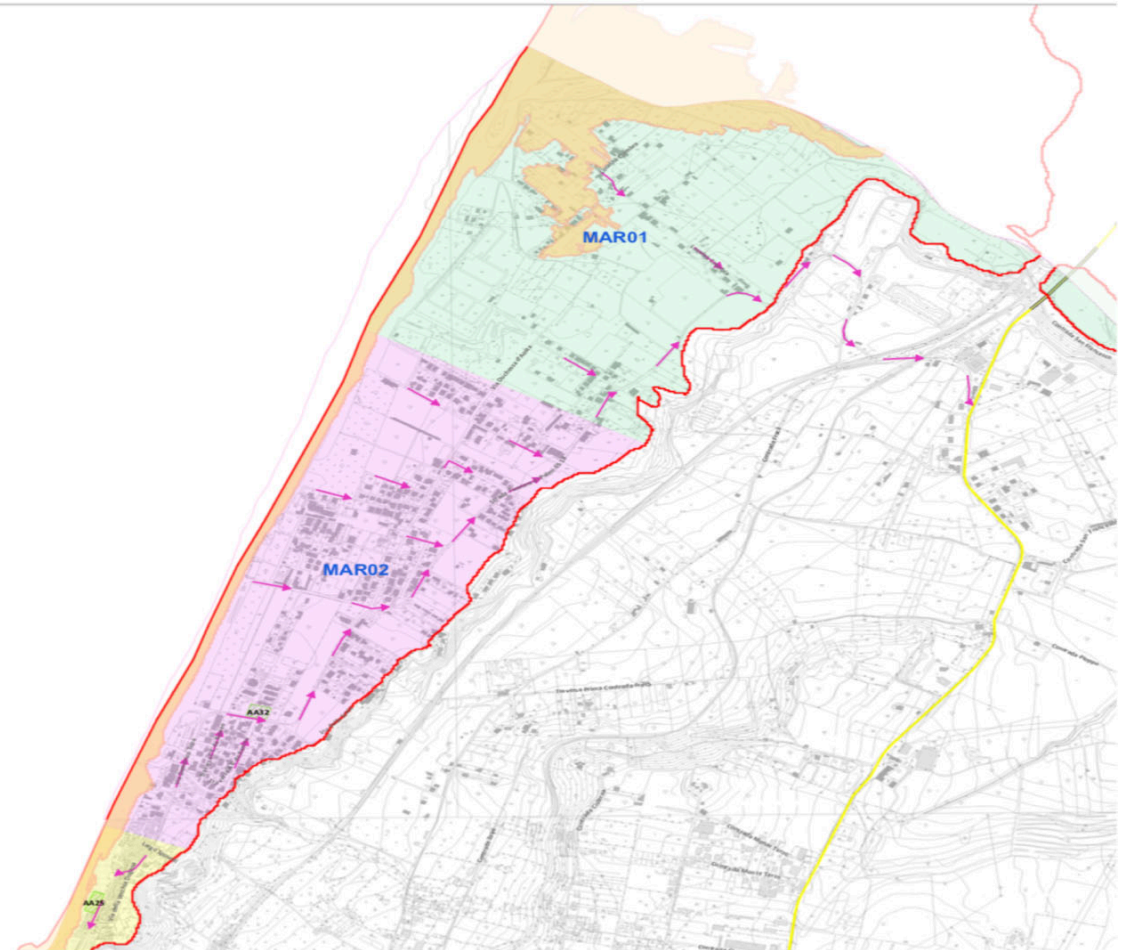
July 2021

TSUNAMI READY INDICATORS

Date of evaluation: NOVEMBER 2020

Stage of achievement	Initial stage	Medium stage	Final stage
<p>11</p> <p>Resp-3. Have redundant and reliable means for a 24-hour warning point (and EOC if activated) to receive official tsunami threats.</p>	<p>Identified the following channels: mayor's cell and Resp PC, institutional mail, Tel/Fax Operating Room</p>	<p>Synchronize the Radio system of the Operative Room.</p>	<p>January 2021</p>
<p>12</p> <p>Resp-4. Have redundant and reliable means for 24-hour warning point and/or EOC to disseminate official tsunami alerts to the public.</p>	<p>Study and evaluation of technologies, feasibility and costs of an alert systems. An App responsible for the dissemination of information and alerts is under construction.</p>	<p>Going on the study of an App for the diffusion of useful information and the signal from the alert in case of danger.</p> <p>Evaluation of the use of sirens.</p> <p>Launching of the system of multiple sending telephone calls.</p> <p>Creation of pre-recorded messages.</p>	<p>January 2021</p>

MUNICIPALITY OF PALMI





REGULATORY FRAMEWORK

- As we have seen, Minturno is one of the municipalities that is becoming a T.R. pilot project.
- A very fundamental aspect discussed among all NEAM Countries, involved in the development of the T.R. program, is the impact of national administrative procedures on the timing of project development.
- In Italy, we have a very complex administrative procedure. For example, in order to start the T.R. pilot project in Minturno we needed two fundamental steps:



Prot. N.°
Riposta al Foglio del
N.°

Presidenza del Consiglio dei Ministri
DIPARTIMENTO PROTEZIONE CIVILE
Prot. n° EME/0049053
del 15/09/2020
----- USCITA -----

INDIRIZZI IN ALLEGATO

OGGETTO: Progetto pilota Tsunami Ready.

Nell'ambito delle attività della Convezione B2 (2019-2021) tra il DPC e l'INGV (WP3 Tsunami Task4 - obiettivo 2), è previsto che il Centro di Allerta Tsunami dell'INGV, in collaborazione con il Dipartimento di Scienze Giuridiche dell'Università degli Studi di Firenze, effettui uno studio dell'applicabilità del programma "Tsunami Ready" all'ordinamento italiano.

Il programma "Tsunami Ready" nasce nel 2001 in ambito internazionale, con lo scopo di sviluppare una maggiore consapevolezza del rischio tsunami ed una più efficiente gestione dello stesso da parte delle comunità costiere, chiamate ad assumere un ruolo attivo nella definizione e nell'attuazione delle misure di salvaguardia della popolazione.

Gli indicatori principali identificati nelle linee guida dell'UNESCO come requisiti affinché una comunità venga riconosciuta "Tsunami Ready", comprendono essenzialmente le iniziative di preparazione, mitigazione e risposta operativa in caso di allerta tsunami e al verificarsi di un evento reale. Il requisito principale è pertanto connesso alle attività di aggiornamento della pianificazione comunale di protezione civile per questo specifico rischio, secondo quanto previsto dalle "Indicazioni alle componenti ed alle Strutture operative del Servizio nazionale di protezione civile per l'aggiornamento delle pianificazioni di protezione civile per il rischio maremoto" del Capo del Dipartimento della Protezione Civile del 2 ottobre 2018.

L'INGV e il Dipartimento hanno individuato alcuni tra i comuni costieri di codeste Regioni, quali siti utili per verificare l'applicabilità, alla realtà italiana, del progetto pilota in argomento. Nello specifico, la proposta riguarda Marzamemi (Comune di Pachino - Siracusa), Palmi (Reggio Calabria) e Minturno (Latina).

Acquisito il parere di codeste Regioni in merito all'iniziativa, seguiranno alla presente nota successive comunicazioni di carattere organizzativo, per dare l'avvio alle specifiche attività.

IL DIRETTORE DELL'UFFICIO

IL CAPO DEL DIPARTIMENTO

Antonio Borselli

Foglio n. 2

INDIRIZZI

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Regione Lazio - Agenzia regionale di protezione civile
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p.c. Istituto Nazionale di Geofisica e Vulcanologia
aoi.roma@pec.ingv.it

PRESIDENZA DEL CONSIGLIO DEI MINISTRI - DIPARTIMENTO DELLA PROTEZIONE CIVILE



AGENZIA REGIONALE DI PROTEZIONE CIVILE
IL DIRETTORE

Spett.le
Dott. Angelo Borrelli
Capo Dipartimento di protezione Civile
protezionecivile@pec.governo.it

e, p.c. Dott. Alessandro Amato - INGV
aao.roma@pec.ingv.it

OGGETTO: Progetto Pilota Tsunami Ready

In relazione alla vostra nota EME/0049053 del 15 settembre us, si comunica che questa Agenzia è favorevole all'inserimento del Comune di Minturno all'interno del Progetto Pilota Tsunami Ready.

Peraltro questa Agenzia ha già effettuato lo scorso ottobre una esercitazione per Posti di Comando in collaborazione con la Prefettura di Latina, codesto Dipartimento e l'INGV, nella quale il Comune di Minturno ha partecipato e svolto quanto richiesto dalla EXCON creata appositamente.

Si comunica che per ogni ulteriore comunicazione in merito al Progetto si può fare riferimento ad Antonio Colombi (acolumbi@regione.lazio.it - 0651685004).

Il Responsabile del Procedimento

Antonio Colombi

Il Direttore
Carmelo Tulumello

THE IOC/UNESCO SENT A CIRCULAR LETTER (2821) TO MEMBER STATES IN ORDER TO:

1. SOLICITATE THEM TO ACTIVATE TSUNAMI READY PILOT PROJECTS IN THEIR COSTAL AREA
2. NOMINATE MEMBERS OF THE NEW GROUP OF T.R. IN WG4

THIS WOULD PERHAPS NOT ELIMINATE THE BUROCRACY PROBLEM BUT COULD ENCOURAGE MANY MUNICIPALITIES TO BECOME TSUNAMI READY.



INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
COMMISSION OCÉANOGRAPHIQUE INTERGOUVERNEMENTALE
COMISIÓN OCEANOGRÁFICA INTERGOVERNAMENTAL
МЕЖПРАВИТЕЛЬСТВЕННАЯ ОКЕАНОГРАФИЧЕСКАЯ КОМИССИЯ
اللجنة الدولية الحكومية لعلوم المحيطات
政府间海洋学委员会

UNESCO - 7 Place de Fontenay - 75352 Paris Cedex 07 SP, France
http://loc.unesco.org - contact phone: +33 (0)1 45 68 03 18
E-mail: v.ryabinin@unesco.org

IOC Circular Letter No 2821
(Available in English and French)

IOC/VR/BA/DCS/eb
7 December 2020

To: ICG/NEAMTWS Tsunami National Contacts (TNCs)
ICG/NEAMTWS Tsunami Warning Focal Points (TWFPs)

Cc: National Coordinating Bodies for liaison with IOC in Member States
Permanent Delegations/Observer Missions to UNESCO and
National Commissions for UNESCO in IOC Member States¹ of the ICG/NEAMTWS
ICG/NEAMTWS Steering Committee
ICG/NEAMTWS Chair and Vice-Chairs

**Subject: Tsunami Ready Programme in the North-Eastern Atlantic, the
Mediterranean and Connected Seas Tsunami Early Warning and
Mitigation Systems (ICG/NEAMTWS): Nomination of Experts and
Expression of Interest to Pilot Community Tsunami Ready**

Since 2017, on the recommendation of the Working Group on Tsunamis and Other Hazards Related to Sea-Level Warning and Mitigation Systems (TOWS-WG-X), which coordinates the development of the regional tsunami warning systems, related regional Intergovernmental Coordinating Groups have been considering adapting the CARIBE-EWS Tsunami Ready guidelines with a view to developing harmonized consistent global preparedness guidelines for communities. CARIBE-EWS Tsunami Ready community based performance recognition programme were first adapted and piloted in the Pacific and Indian Ocean. Tsunami Ready programme is getting more visibility through the promotion of tsunami awareness in communities and among authorities through communication and tsunami wave exercises, training, information, and community preparedness and recognition programmes.

Consequently, the Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North-Eastern Atlantic, the Mediterranean and Connected Seas (ICG/NEAMTWS) recommended at its 14th session in 2017 to focus on tsunami education, awareness and preparedness, and to explore the adaptation of community preparedness and

¹ Albania, Algeria, Belgium, Bulgaria, Cabo Verde, Croatia, Cyprus, Denmark, Egypt, Estonia, Finland, France, Georgia, Germany, Greece, Iceland, Ireland, Israel, Italy, Lebanon, Libya, Malta, Mauritania, Monaco, Montenegro, Morocco, Netherlands, Norway, Poland, Portugal, Romania, Russian Federation, Slovenia, Spain, Sweden, Syria, Tunisia, Turkey, Ukraine, and United Kingdom

Chairperson	Vice-Chairpersons		
Mr Ariel Hernan TROISI Technical Secretary Navy Hydrographic Service Av. Montet de Oca 2124 C1270ABV Buenos Aires ARGENTINA	Mr Monika BREUCH-MORITZ de Secretariat of German IOC Section Federal Maritime and Hydrographic Agency Bernhard-Nochke Str. 78 20359 Hamburg GERMANY	Mr Frederico Antonio SARAVIA NOSUEIRA Navy Captain (Ret) Directorate of Hydrography and Navigation Rua Barao de Jacaqui S/N 24040-000 Ilhéus BRAZIL	Dr Karim HILMI Head of Oceanography Department Institut National de Recherche Halieutique (INRH) 02, Boulevard Sidi Abdennahmane Ain Diab 20180 Carablanca MOROCCO
Executive Secretary Dr Vladimir RYABININ Intergovernmental Oceanographic Commission — UNESCO 7 Place de Fontenay 75352 Paris Cedex 07 SP FRANCE	Dr Alexander FROLOV Assistant to the President National Research Center "Kurchatov Institute" Akademika Kurchatova pl., 1 123182 Moscow RUSSIAN FEDERATION	Dr Satheesh Chandra SHENOI Former Director Indian National Centre for Ocean Information Services (INCOIS) Pragati Nagar, Nizampet P.O. 500060 Hyderabad INDIA	

- 2 -

recognition programmes such as Tsunami Ready* in the NEAM region, including Tsunami Hazard and Tsunami Evacuation Maps, Plans, and Procedures (TEMPP).

The recent significant tsunami triggered by an earthquake of magnitude 7.0 Mw hitting the island of Samos (Greece) and the Aegean coast of the Izmir region (Turkey) on 30 October 2020, shed light – once again – on the complexity of warning for locally generated tsunamis of rapid onset which challenge the ability of local authorities and communities at risk to take early action. This event is a renewed pressing call after the wake-up call on 20 July 2017, following the Bodrum (Turkey)-Kos (Greece) tsunami, to increase tsunami preparedness and readiness at the community level.

The recent online session of [ICG/NEAMTWS Working Groups and Task Teams](#) held on 24–26 November 2020, appreciated and welcomed the steps taken by some cities in France (Cannes), Italy (Minturno, Palmi and Marzamemi-Pachino municipalities) and Spain (Chipiona, Province of Cadiz) to spearhead the Tsunami Ready recognition processes. Participants to the meeting agreed to form a dedicated Group on Community Tsunami Ready within Working Group 4 on Public Awareness, Preparedness and Mitigation which will report to ICG/NEAMTWS at its next session in November 2021.

Pursuant to this latest development, I am pleased, on behalf of the Chairperson of the ICG/NEAMTWS, to invite Tsunami National Contacts (TNCs) to nominate experts to this new Group on Community Tsunami Ready established within Working Group 4 on Public Awareness, Preparedness and Mitigation (WG4) to coordinate, develop and recommend strategies, actions and an implementation plan for Community Tsunami Ready under ICG/NEAMTWS.

I would also like to take this opportunity to request Member States to communicate their interest in piloting Tsunami Ready in their country.

The names, positions and email of experts and interests to pilot Tsunami Ready should be communicated by email to Mr Denis Chang Seng, ICG/NEAMTWS Technical Secretary, at d.changseng@unesco.org by 8 January 2021.

With the assurances of my highest consideration, I remain,

Yours sincerely,

[signed]

Vladimir Ryabinin
Executive Secretary

***Tsunami Ready** is a voluntary community recognition programme that promotes tsunami hazard preparedness as an active collaboration among federal, state/territorial and local emergency management agencies, community leaders and the public. The main goal of the programme is to improve public safety before, during and after tsunami emergencies. It aims to do this by establishing guidelines for a standard level of capability to mitigate, prepare for and respond to tsunamis, working with communities to help them meet the guidelines and ultimately become recognized as Tsunami Ready. To this date, there are 26 UNESCO-IOC Tsunami Ready recognised communities in 18 countries and territories in the Caribbean, Pacific region and the Indian Ocean region.