Intergovernmental Oceanographic Commission
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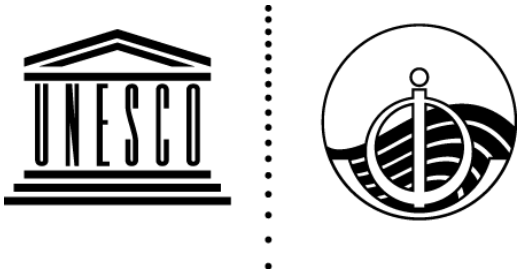
114



EXERCISE NEAMWAVE 14

A Tsunami Warning and Communication Exercise for the North-Eastern Atlantic, the Mediterranean, and Connected Seas Region

28–30 October 2014

Volume I — Manual

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1. INTRODUCTION

Regional and national tsunami warning systems in every ocean must maintain a high level of readiness so that all the actions relevant to the public's safety can be provided effectively and efficiently during fast-onset and rapidly-evolving natural disasters involving marine inundation of coastal areas. Because of the relative infrequency of tsunamis, but knowing that tsunamis can have widespread impact across oceans and seas, the Intergovernmental Oceanographic Commission (IOC) of United Nations Educational, Scientific and Cultural Organization (UNESCO) and its Member States (MS) have been advocating through their Intergovernmental Coordination Groups (ICGs) for the regular conduct of tsunami exercises. To maintain a high state of operational readiness, National Tsunami Warning Centres (NTWCs) and Civil Protection Agencies (CPA) must regularly practice their emergency response procedures in order to ensure that vital communication links work seamlessly, and that agencies and response personnel know the roles that they will need to play during a real event.

2. SCOPE AND OBJECTIVES OF NEAMWAVE 14

The first tsunami warning and communication exercise for the North-eastern Atlantic, the Mediterranean, and Connected Seas Region (NEAMWave 12) was conducted on 27 and 28 November 2012 (IOC/2012/TS/103 Vol.1 + Vol.2.). During the Tenth session of the Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North Eastern Atlantic, the Mediterranean and Connected Seas (ICG/NEAMTWS-X/3s) held from 19 to 21 November 2013 in Rome, Italy, and following the success of the first tsunami exercise, it was decided to conduct a second exercise called NEAMWave 14 in the fourth quarter of 2014 to test the readiness of the system, to maximise the participation of the Member States to the exercise and particularly to improve the participation of the respective Civil Protection Agencies (CPA).

Since NEAMWave 12, the NEAMTWS started its operational phase. Today, there are three operational Candidates Tsunami Watch Providers (CTWPs) run by three countries: CENALT (CENtre d'Alerte aux Tsunamis) for France, KOERI (Kandilli Observatory and Earthquake Research Institute) for Turkey, and NOA (National Observatory of Athens) for Greece.

There is also one pre-operational centre run by Portugal (IPMA).

For NEAMWave14, it is hoped that a higher level of participation from national emergency managers and civil protection agencies will be achieved and so they are encouraged to actively participate in the exercise, in cooperation with the respective Tsunami Warning Focal Point and relative National Tsunami Warning Centre (TWFP/NTWC).

An active participation of the CPA of a Member State would consist of:

- Receiving the alert messages from the respective TWFP/NTWC;
- Simulating the consequent operational actions, if possible.

The simulation of the consequent operational actions could be organized by the CPA in different ways, characterized by the different level of efforts needed. Section 3.2.2 describes a full range of possible options, ranging from a very low level commitment (enough to be part of NEAMWave 14 and useful to launch the national initiatives in the field of building a national capacity to respond to tsunami events) to a full and comprehensive participation. Whatever level of commitment the CPA decides to put in place, its participation would mean that the relative Member State is activating the so-called Phase B of the exercise (refer to section 3.2 for details on the exercise phases).

In addition, a Phase C will be implemented during NEAMWave 14. This phase will simulate a request for international assistance through the Civil Protection Mechanism of the European Union and the Emergency Response Coordination Centre (ERCC) operating within the European Commission's Humanitarian Aid and Civil Protection department (ECHO).

It was also decided to conduct NEAMWave 14 based on scenario events in Black Sea, Mediterranean and North-East Atlantic. A total of four scenarios will be used in order to interest all Member States of NEAMTWS (Tsunami Early Warning and Mitigation System in the North-Eastern Atlantic, the Mediterranean and Connected Seas). Each CTWP would be responsible for a single scenario and each NEAMTWS Member State will be able to choose either to participate in all or a selection of these scenarios.

To facilitate the participation of a Member State in more than one scenario, they will be conducted consecutively in half-day sessions for different regions of interest, thus avoiding overlapping.

The objectives proposed for NEAMWave 14 are:

1. Validate and evaluate the Candidate Tsunami Watch Providers (CTWPs) dissemination process of issuing Tsunami Messages in the NEAM (North-Eastern Atlantic, the Mediterranean and Connected Seas) region, also utilizing new communication technologies adopted during NEAMWave 12 (see section 3.3 for details);

2. Validate and evaluate the procedures for countries to receive the Tsunami Messages issued by the CTWP through their National Tsunami Warning Centres (NTWCs), or the country Tsunami Warning Focal Points (TWFPs), or the country Tsunami National Contacts (TNCs);

3. Test the dissemination of the warning messages to the relevant agencies that are responsible for emergency response (CPA);

4. Assess the organizational decision making process about public warnings and evacuations thus raising awareness of/launching/contributing to the development of a national policy to tackle the tsunami risk;

5. Identify best practices (to be shared), criticalities (to be addressed by the programme in the future activities), and room for improvements in the entire process (including the procedures already tested between CTWPs and TWFPs/NTWCs and also the heterogeneous panorama of national capacities to handle the tsunami risk);

6. Test procedure for international assistance between the European Commission (EC) and the participants.

Within the above framework, each country is invited to develop its own specific objectives for the exercise.

3. DESCRIPTION OF NEAMWAVE 14

3.1 GENERAL CONCEPTS

NEAMWave 14 will be performed using 4 different reference scenarios, two for the Mediterranean (CENALT and NOA scenarios, for the western and eastern parts of the basin respectively), one for the Black Sea (KOERI scenario), and one for the North East Atlantic (IPMA scenario).

For each scenario 2 phases of the exercise will be performed, so called Phases A and B. For the Eastern Mediterranean scenario only, there will be an additional exercise phase, Phase C.

Phase A is the simulation of the first step of the early warning process in case of a tsunamigenic seismic event. This phase takes place at international level. It consists of the detection of the event and the timely provision of the related alert messages by the responsible scientific institutions (the so-called Candidate Tsunami Watch Providers: CENALT, NOA, KOERI, IPMA) to the tsunami watch recipients, i.e. all NEAMTWS Member States which decided to participate in the considered scenario of NEAMWave 14 as well as the Emergency Response Coordination Centre of the European Commission. As regards the NEAMTWS Member States, the alert messages will be received by the designated Tsunami Warning Focal Point and related National Tsunami Warning Centre (see ANNEX I for the updated list of NTWCs, TWFPs, TNCs).

Phase B is the following step of the NEAMWave 14 exercise, consisting of the exercise activities performed at national level, once the Tsunami Warning Focal Point and related National Tsunami Warning Centre (TWFP/NTWC) of the Member State have received the alert messages. In this second step of the exercise, the Tsunami Warning Focal Point of the National Tsunami Warning Centre (TWFP/NTWC) forwards the alert messages, possibly customizing them, to the national Civil Protection Agency (CPA), which, in turn, may choose to further forward the alert to the local level (choosing test sites, if involvement of the entire national territory is too challenging). The national CPA, at its discretion, may also choose to extend the exercise by implementing further exercise activities within the national emergency response system. Some examples of possible additional activities are described in section 3.2.2, and further details are given in ANNEX III.

Phase C is the last step of NEAMWave 14, which will be performed only for one out of the four scenarios, i.e. the Eastern Mediterranean scenario (launched by NOA). During phase A, the Emergency Response Coordination Centre of the European Commission will receive the alert messages from the CTWP. So ERCC will receive a request for international assistance from an affected country. Based on this request, the ERCC will activate, during the last day, i.e. the 30 October in the morning, the procedures of the Union Civil Protection Mechanism, meaning that the provision of international assistance to the affected countries (to cope with the first response to the exercise disaster) will be simulated. Phase C will be planned as a drill exercise by testing the procedure for international assistance between the European Commission and NEAMTWS Member States participating in this part of the exercise.

Phase C will be conducted on the 30 October since, in a real situation, it is unlikely that a request for international assistance is sent before having at least preliminary information at national level regarding the damage scenario. If the earthquake is simulated in the afternoon of the 29 October, it is reasonable that the following morning the national CPA could ask for international assistance, specifying its needs.

The following table synthesizes the overall organization of NEAMWave 14 in term of timing of the 4 different scenarios. As explained in the previous paragraphs, the timing has been planned in order to make it possible for each Member State to participate in as many scenarios as have been decided at national level.

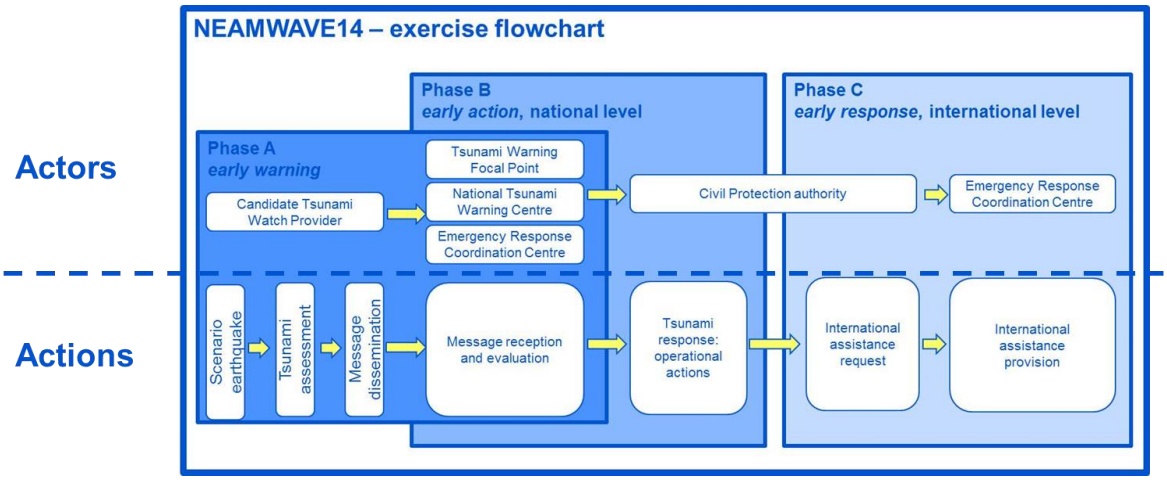
	28/10/2014		29/10/2014		30/10/2014
	MORNING	AFTERNOON	MORNING	AFTERNOON	MORNING
Western Mediterranean scenario (CENALT)	Phase A and B				
Black Sea scenario (KOERI)		Phase A and B			
North East Atlantic scenario (IPMA)			Phase A and B		
Eastern Mediterranean scenario (NOA)				Phase A and B	Phase C

Table–1. Timing of the 4 different scenarios for NEAMWAVE 14

3.2 EXERCISE PHASES DESCRIPTION

NEAMWave 14 will consist of three different and consequent parts (Phases A, B and C). Phase A is performed for all the 4 scenarios. Phase B can be performed for all the four scenarios, pending the participation of the Member State CPA. Phase C will be performed only for the Eastern Mediterranean scenario.

The following chart represents the overall organization of NEAMWave 14, in term of exercise phases. A full description of each phase is given in the following sections, as well as details on the advantages of participating in the different exercise phases.



Figure–1.Flowchart of the Exercise NEAMWave 14

3.2.1 Phase A

Phase A (early warning): It is the simulation of the occurrence of a submarine earthquake and consequent tsunami detected by the Candidate Tsunami Watch Providers (CTWPs) which will produce and disseminate an alert message to the tsunami watch recipients.

The Candidate Tsunami Watch Providers are those scientific institutions which, in the framework of the NEAMTWS programme, are in charge of the monitoring and dissemination of alert messages related to tsunamigenic seismic events in the North-Eastern Atlantic, the Mediterranean and connected seas. Nowadays, 3 CTWPs are operational: CENALT (France), KOERI (Turkey) and NOA (Greece) while one is pre-operational: IPMA (Portugal).

Tsunami watch recipients are all NEAMTWS Member States which have appointed a Tsunami Warning Focal Point and related National Tsunami Warning Centre (TWFP/NTWC) and/or a Tsunami National Contact (TNC). During NEAMWave 14, all the TWFP/NTWC/TNC of those NEAMTWS Member States which have already subscribed for the services of a CTWP will receive the relative alert messages in Phase A. Furthermore, only for the duration of the exercise, the same messages will be received also by the TWFP/NTWC/TNC of those NEAMTWS Member States which have applied to participate in the exercise but which did not formally subscribe for the services of any CTWP yet (see following sections for details on the application procedure). For these countries, the exercise might be a good opportunity to ask for their subscription to the CTWPs' lists of recipients[1].

In NEAMWave 14, the Emergency Response Coordination Centre of the European Commission will also be a tsunami watch recipient. Therefore, the alert messages generated by the CTWPs in Phase A will also be disseminated to the appointed contact details of the ERCC.

This phase of the exercise will be planned as a drill (or Command Post Exercise, in EU language) exercise with a time frame element focusing on the functional requirements of NTWCs that have declared their operational or pre-operational status as CTWP.

3.2.2 Phase B

Phase B (early action, national level): This phase takes place as soon as the message produced in Phase A has been received by the TWFP/NTWC/TNC. In this phase, the simulation continues at national level, with the early warning being provided by the TWFP/NTWC/TNC to the national Civil Protection Agencies (CPA) and, possibly, the simulation of the relative operational actions.

Phase B may be conducted at different levels, meaning that the Member State's TWFP/NTWC/TNC and CPA may cooperate with each other and decide to perform one of the following types of exercises at national level, where the level of requested effort increases going down the list (refer to ANNEX III for further details on each of the listed exercise types):

- Orientation seminar/exercise

The orientation seminar is an overview or introduction. Its purpose is to familiarize participants with roles, plans, procedures, or equipment. For the purpose of NEAMWave 14, an orientation seminar could be used as an opportunity to introduce the national stakeholders to the NEAMTWS programme, in general, in a country in which the CPA has

[1] To do so only an email message from the TNC of a country is needed to be sent to the IOC Secretariat (neamtws-secretariat@unesco.org) specifying to which CTWP services the country wants to subscribe.

never previously been directly involved in the programme's activities. This kind of exercise would provide an opportunity to raise awareness among the national emergency operations centre(s) and response officials regarding the NEAMTWS programme, and it would pave the way for starting the essential coordination process needed between them and the NTWC for setting up an effective end-to-end warning system at national level.

A different example of an orientation exercise would be to involve the national stakeholders required to assess the feasibility of using a national operation centre that is already performing an emergency response function for other risks in order to respond to a tsunami event. The aim would be to identify the upgrades/adaptation eventually needed to tackle this particular type of risk.

The main motivation for an orientation exercise is the need to provide stakeholders with an overview of authorities, strategies, plans, policies, procedures, protocols, and resources needed (i.e. to be set up) or already available at country level for responding to a tsunami.

- Drill exercise

In a drill exercise, staff physically handle specific equipment or perform a specific procedure or single operation. A drill usually focuses on a single organization, facility or agency such as a national emergency operation centre, hotel, school or village. The exercise usually has a time frame element and is used to test procedures. Performance is evaluated in isolation. A drill is a subset of a full-scale exercise. Within the European Union Civil Protection Mechanism these types of exercises are called "command post exercises".

At national level, the NTWC/TWFP/TNC could coordinate with the respective CPA in order to conduct NEAMWave 14 Phase B as a drill exercise. This would mean organizing the transmission of the alert messages received by the NTWC/TWFP/TNC to the national CPA which, in some cases, could also decide to involve local civil protection authorities through the dissemination of the alert also at local level. This last part of the drill exercise could be performed with a subset of local civil protection authorities, used as pilot test sites.

A drill exercise as Phase B within NEAMWave 14 could be fruitfully conducted in order to test, for example, already existing alert procedures at national level in a tsunami scenario. Indeed, Member States are usually equipped and familiar with alert procedures for other (more frequent) risks, such as floods, forest fires, earthquakes. Those procedures could be tested in NEAMWave 14 in order to verify how and if they could be adapted to treat also the alerting process in the case of a tsunami.

- Table-top exercise

A table-top exercise may also be referred to as a ''discussion exercise''. Participants are presented with a situation or problem that they are required to discuss and for which they formulate the appropriate response or solution. Normally, the exercise requires no simulation other than a scenario and/or prewritten exercise injects. An exercise controller or moderator introduces a simulated scenario to participants and, as the exercise advances (in time), exercise problems and activities (injects) are further introduced. This type of exercise is used to practise problem-solving and coordination of services with or without time pressures. There is no deployment or actual use of equipment or resources.

A table-top exercise simulates an emergency situation in an informal, stress-free environment. The participants, usually people at a decision-making level, gather around a table to discuss general problems and procedures in the context of an emergency scenario.

- Functional exercise

A functional exercise may also be referred to as an ‘‘operational’’ or a ‘‘tactical’’ exercise. It takes place in an operational environment and requires participants to actually perform the functions of their roles. A normally complex response activity is simulated, which may require multiple activities to carry out the response. It lacks only the people "on the ground" to create a full-scale exercise.

Participants interact within a simulated environment through an exercise control group which provides prewritten injects and respond to questions and tasks developing out of the exercise.

Functional exercises normally involve multi-agency participation (real or simulated) and can focus on one or more geographical areas. Commonly, they involve the testing of Standard Operating Procedures (SOP) and internal/external communications between organizations.

- Full-scale exercise

A full-scale exercise may also be referred to as a ’’practical’’ or ‘‘field’’ exercise. It includes the movement or deployment of people and resources to provide a physical response ‘‘on the ground’’ to a simulated situation. These exercises are typically used to test all aspects of a country's warning and emergency management systems and processes, and to the extent that is practical, using actual centres and communications methods.

Full-scale exercises are the largest, most costly, most time-consuming and most complex to plan, conduct and evaluate. For that reason, a NEAMTWS Member State may be motivated to conduct a full-scale exercise as Phase B of NEAMWave 14, in case a full-scale exercise was already planned to be conducted at national level. In this case, NEAMWave 14 could provide a useful reference scenario for it, and could provide added value to the national field exercise since it would be performed also in the framework of an international coordination process.

In conclusion, each NEAMTWS Member State could choose to perform its NEAMWave 14 Phase B as one of the types of exercises listed above, within its discretion. The main objective is to test the national early warning action in the case of a tsunami event. Whatever is the level of development of the national early warning and response system with respect to tsunami events, the different types of exercise provide a good opportunity to implement an appropriate Phase B for all the situations: From the simple orientation exercise if the Member State has not yet started to implement its tsunami emergency managing system and needs to engage the national stakeholder into this process and/or raise awareness among the national decision makers at politics/policy level, up to the complex full-scale exercise if the Member State wishes to couple its planned exercise initiatives with NEAMWave 14 through a range of intermediate options, as described above.

3.2.3 Phase C

Phase C (early response, international level): Phase C of the NEAMWave 14 exercise will be performed only for the Eastern Mediterranean scenario (launched by NOA). Messages produced in Phase A will have been received by the Emergency Response Coordination Centre (ERCC) of the European Commission in the afternoon of 29 October. Then, the simulation continues in the morning on 30 October at international level with the activation procedures of the Union Civil Protection Mechanism (UCPM). As previously explained, Phase C will be conducted on 30 of October in order to simulate a real situation. Indeed, once a country is hit by a big disaster, before asking for international assistance, it will need to work out the damage scenario (stricken areas, number of casualties, homeless, …) in

order to ask for effective international assistance, i.e. a well-defined list of needs (equipment, personnel, goods,…) to manage the ongoing situation.

ERCC will be responsible for planning and conduct this command post exercise (drill) in order to test the procedure for provision of international assistance through the Union Civil Protection Mechanism to those affected countries which request it. This means that the NEAMTWS Member States, which will take part in the Eastern Mediterranean scenario during the afternoon of 29 October, will also have the possibility to continue the simulation the following morning, sending out a request for international assistance to the ERCC.

In this context, the NEAMTWS Member States will be able to submit requests for assistance to the ERCC (see ANNEX V for the relative template) and participating states of the UCPM will be able to offer different assets in response, including assets that will be registered in the European Emergency Response Capacity (Voluntary Pool). Thus, the selection and deployment procedures of assets registered in the Voluntary Pool will also be tested. This phase of the exercise will end with the notification to the ERCC of the acceptance of the international assistance by the requesting countries.

Some guidelines for participating in Phase C – Union Civil Protection Mechanism are provided in ANNEX IV.

3.3 EXERCISE COMMUNICATION CHANNELS

During the exercise, messages will be transmitted through different ways: email, fax, Global Telecommunication System (GTS), and SMS. All those technologies are used in a redundancy way, i.e. all messages will be sent through all technologies. For further details on messages transmission technologies, please refer to the *Communication Test Exercise Manual ICG/NEAMTWS* downloadable from:
http://neamtic.ioc-unesco.org/index.php/neamwave14.

Before the exercise, you must be sure that all technologies you will use are synchronised. To do so, you can connect all your digital devices (computers, fax …) to a single computer server. Then, this server needs to use a NTP server (Network Time Protocol) which can be found in each country.

When subscribing to a scenario, you must enquire what are the technologies used by the CTWP managing your chosen scenario for this exercise.

Each CTWP will send the tsunami warning messages to all the countries already registered into its recipients list and also to those counties which, even if not registered to the services of the specific CTWP, nevertheless decided to participate to the NEAMWave 14 scenario proposed by it.

Each country wishing to participate to NEAMWave 14, regardless of whether it is already registered or not into the CTWP recipients list, has to fill in the exercise application form (ANNEX II). This is a requirement since within the application form some additional information is to be provided in order to better plan all the phases of the exercise.

- **Email**

All messages will be sent to the email address officially sent to IOC, i.e. email of TNC and/or TWFP.

The participation of other national or international agencies as observers is encouraged, and, in that case, they should provide the contacts in a standard format to the IOC Secretariat, using the application form provided in ANNEX **II**. Their number should be limited for operational reasons.

Priority will be given to messages sent to TNC and/or TWFP.

- **Fax**

To verify the authority of the message provider, all CTWP should be sure that the number appears clearly in the top of fax emission.

- **GTS**

GTS messages are received by all Tsunami Watch Recipients (TWRs) with that capacity.

You must be careful because messages sent through GTS cannot be selected. It means that you will receive all messages related to the 4 scenarios during the exercise regardless of the scenario which you have subscribed. Of course, you will have to report only for the scenario(s) you have subscribed.

To avoid confusion, please refer to the calendar given in Table–1. to know exactly which day your chosen scenario will take place and do not take into account messages received the other days.

- **SMS**

This new technology can be used for the exercise. If the CTWP that you choose will use this technology, you will find a description of this type of messages in his scenario. Nevertheless, each CTWP will follow the same sms format that is briefly described here below.

For all the sms tsunami warning messages, the character limit is 160 (7-bit characters), including spaces using English alphabet with capital letters (for further details, refer to section 3.2.4 of the *Third Enlarged Communication Test Exercise (CTE3). Evaluation Report* [(IOC/TS/2013/116, under preparation]).

However, two major issues were identified and analysed. For the delivery of the SMS messages, the message provider used a web service to which it is already subscribed for disseminating earthquake information messages. The first issue identified is that not all cell phone carriers are compatible with all web services. The second issue had to do with identification of the sender, not all cell phone carriers support alphanumeric values, while not all web services support numeric values.

Tsunami warning sms messages should be written according to the following instructions:

1. The first group of writing characters is always the same:
   "*TEST*TSUNAMI EXERCISE MSG;"

2. NEAMTWS + Name of the CTWP, e.g. "NEAMTWS-NOA";

3. The highest level of alert mentioned in the tsunami warning message,
   followed by colon, i.e. "WATCH:"

4. The complete list of countries interested by the mentioned level of alert separated by spaces. Countries are to be mentioned using the 2 writing characters code of the "ISO Standard Country Codes". Gaza Strip has no code in the "ISO Standard Country Codes" (http://www.nationsonline.org/oneworld/country_code_list.htm), therefore it will be used the following abbreviation: GZ. A semicolon at the end of the list.

5. Step 4 has to be repeated for the list of countries under tsunami advisory ("ADVISORY:")

6. Time; date; earthquake magnitude; location; earthquake depth;

7. Last group of writing characters is always the same: “*TEST*”

IMPORTANT

It is highly recommendable to avoid multiple messages for the same communication, nevertheless, if one only sms 160 (7-bit) characters is not enough to compile the entire message content, more than one message will be sent out, adding at the end of each message “(CONTINUES)”, and at the beginning of the following “(CONTINUED)”. At the end of the last message it has to be added also “END OF MSG; *TEST*”.

Example of sms message (reference sample message follows here below):

One message of 155 writing characters:

*TEST*TSUNAMI EXERCISE MSG;NEAMTWS-NOA;WATCH:AL EG GR IL IT LB LY TR;ADVISORY:CY GZ SY; 1408Z 29OCT2014;EQ Mw8.5;W CRETE GREECE;35.20N;23.20E;22.5KM*TEST*

Reference sample message:

TSUNAMI EXERCISE MESSAGE NUMBER 001
NEAM NOA HL-NTWC CANDIDATE TSUNAMI WATCH PROVIDER
ISSUED AT 1408Z 29 OCT 2014
... TSUNAMI WATCH ...
THIS ALERT APPLIES TO
ALBANIA...EGYPT...GREECE...ISRAEL...ITALY...LEBANON...LIBYA...TURKEY
... TSUNAMI ADVISORY ...
THIS ALERT APPLIES TO CYPRUS...GAZA STRIP...SYRIA
... TSUNAMI INFORMATION ...
THIS ALERT APPLIES TO BELGIUM ... EGYPT ... FRANCE ... GERMANY ... GREECE ... ISRAEL ... ITALY ... LEBANON ... PORTUGAL ... SPAIN ... SWEDEN ... TURKEY ...
IOC (UNESCO) .... MIC (EUROPEAN COMMISSION)

THIS MESSAGE IS ISSUED AS ADVICE TO GOVERNMENT AGENCIES. ONLY NATIONAL AND LOCAL GOVERNMENT AGENCIES HAVE THE AUTHORITY TO MAKE DECISIONS REGARDING THE OFFICIAL STATE OF ALERT IN THEIR AREA AND ANY ACTIONS TO BE TAKEN IN RESPONSE.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS
ORIGIN TIME - 1400 UTC WED OCT 29 2014
COORDINATES - 35.20 NORTH 23.20 EAST
DEPTH - 22.5 KM
LOCATION - WESTERN CRETE, GREECE
MAGNITUDE - 8.5 ML

IMPORTANT

To avoid errors during NEAMWave 14 and, specifically, to guarantee that contact details are updated, you have to fill out completely and correctly the application form available in ANNEX II.

4. EXERCISE SCENARIOS

This chapter of the manual provides an extract of the key features of each of the four exercise scenarios foreseen for NEAMWave 14. The complete, in depth descriptions of each scenario are provided in the four attachments disseminated together with this manual. In this

way, each Member State can have a quick overview of all the scenarios foreseen in NEAMWave 14 and, at the same time, will be able to gain a better awareness of those scenarios in which it intends to participate.

A tsunami scenario used for testing the alert message dissemination and response measures is a set of data corresponding to a hypothetical tsunami event. A brief historical and tectonic description of the scenario is also provided. As, for the time being, only earthquake-induced events are considered, a tsunami scenario is composed of:

- Earthquake data (location and magnitude);
- Arrival times of the tsunami at points, the so called “forecast points” (points of interest along the coasts);
- Estimated tsunami wave heights at points of interest for the entire domain (calculated but not to be included in the scenario as a numerical value);
- Coastal hazards levels according to the levels agreed by the ICG/NEAMTWS;
- Information messages and material corresponding to the stages in time of a tsunami event.

Earthquake data comprises a moment magnitude value, and a hypocentre (i.e. location coordinates in latitude, longitude, and depth). Additionally, a time stamp is required, which will correspond to the simulated earthquake's occurrence time.

Tsunami Forecast Points (TFPs) are chosen by individual Member States and agreed with designated CTWPs. They may correspond to important coastal cities or populations, and/or to the locations of tide-gauges (also referred to as sea-level gauges or mareographs). In addition, some NTWCs may be able also to forecast tsunami wave heights at the forecast points in order to decide on the level of tsunami threat. In the NEAM region, the level of threat for a given country or region is defined in terms of its distance to the earthquake source and not by the estimated tsunami arrival time, as happens in the Pacific region.

Estimated Tsunami Arrival Times (ETAs) for a country’s forecast points that meet the criteria will be listed in the tsunami alert messages issued by the CTWPs.

For the selection of TFPs, the following criteria have been used:

- Locations of ports, shipyards, marinas, oil refineries, coastal airports, tourist destinations, densely populated beaches, and existing tide-gauge stations.
- At least one point for each administrative division has been selected. If the administrative division has a coast on more than one sea, additional forecast points could be selected.
- Priority is given to the existing tide-gauge stations. No limits are applied to the number of tide-gauge stations per administrative division.

Tsunami Arrival Times at Tsunami Forecast Points are given as follows:

- Arrival of the first wave exceeding an absolute deviation of the current sea level by more than 10 cm in hours, minutes, and seconds after the rupture time (time stamp of the earthquake).
- Estimated wave heights calculated as water level exceeding mean current sea level.

All times provided are given in Universal Time Coordinated (UTC).

Together with the exercise scenarios, all the tsunami alert messages are provided in the related documents, so as to allow Member States to plan their respective exercise's Phase B, i.e. the national exercise activities to be performed with reference to a specific NEAMWave 14 scenario.

Specific details of the tsunami messages to be used by the CTWPs are provided in the document *NEAMTWS Interim Operational Users Guide for the Tsunami Early Warning and Mitigation System in the North-eastern Atlantic, the Mediterranean and Connected Seas*, (Version 1.9, draft)

Moreover, Section 4 of the document *Reducing and managing the risk of tsunamis* (IOC/2011/MG/57 Rev.2) provides the architecture of the "Tsunami Early Warning through NEAMTWS".

A short summary on the content and the composition of the tsunami messages is provided in ANNEX XI. However, exercise participants are encouraged to read the documentation above.

In conclusion, the following key features are included in all the scenario descriptions:

- The basic earthquake assumed to cause the event (location, magnitude and origin time).
- A set of three plots describing the basic characteristics of the tsunami wave propagation:
    - An isochrone chart with arrival time iso-lines.
    - A wave energy plot with maximum tsunami-induced sea level elevation for the entire domain.
    - A map indicating coastal hazard levels according to the agreed levels.
- Complete set of information bulletin to be disseminated during the exercise.
- A brief time-line explaining the Standard Operational Procedures (SOP) applied by the CTWP in case of a potential tsunami event.

The scenarios contain also a list of (preliminary) forecast points, where arrival times and wave heights are given. Forecast points should be chosen such that they correspond to a well-defined geographical location at the coast. Thus, wave heights given correspond to a water level above ground at the shore. Consequently, the arrival times correspond to arrival of the wave at the shore.

It is important to note that since no real-world data set is used, the scenario data will comprise a certain level of ambiguity. This is not considered to be a problem, as long as the scenario is broadly consistent with common observations. In order to achieve this consistency, modelling would be applied to derive the scenario data.

5. PARTICIPATION

Each NEAMTWS Member State is invited to participate in the Exercise NEAMWave 14. Participation levels may be different because it is up to each Member State to freely decide if and how to be part of the exercise.

Each NEAMTWS Member State can choose to participate in one, two, three or even four scenarios, since all of them will take place in different half-days, as already explained, therefore avoiding overlapping. The participation in the different scenarios should be decided

on the basis of the Member State's interest in the relative scenario play (i.e. geographical area of interest).

For each scenario chosen, the Member State has to specify which of the two (or three, with respect to the Eastern Mediterranean scenario) phases will see its involvement. To participate in NEAMWave 14, the minimum involvement requested for each chosen scenario is Phase A. However, as already mentioned, the main aim of the exercise is to have CPA involved as much as possible, together with the respective tsunami watch recipients (Tsunami Warning Focal Points/National Tsunami Warning Centres). Therefore, it is strongly recommended to implement also Phase B, at least in one of the chosen scenarios.

In conclusion, there will be four scenarios in NEAMWave 14, in which each CTWP would be responsible for a single scenario and each NEAMTWS Member State will be able to choose either to participate to all or only to a selection of these scenarios. The choice will be made according to the national strategy with regard to the participation to the Exercise NEAMWave 14.

The level of commitment of each Member State is decided at national level and will be reflected on the application form filled by the Member States and send to the UNESCO Secretariat at the email address specified on the form itself before the 1 of September 2014. The application form to participate in the Exercise NEAMWave 14 is provided in ANNEX II.

Alongside this manual, 4 documents are disseminated, each one providing details on the 4 scenarios foreseen for NEAMWave 14. In each scenario description, all the information described in Section 4 is included, allowing each Member State to decide upon its participation in the exercise.

6. DESCRIPTION OF ROLES

6.1 NEAMWAVE 14 EXERCISE TEAM

An Exercise Team has been established by the TT–TE (Task Team on Tsunami Exercise) for NEAMWave 14 with the following members: current Co-chairs of TT–TE and TT–CTE (Task Team on Communication Test Exercise) and previous Co-chairs of TT–CTTE (Task Team on Tsunami and Communication Test Exercises), Chairperson of NEAMTWS, current and previous Co-chairs of Working Group 1 (Hazard Assessment and Modelling) and Working Group 4 (Public Awareness, Preparedness and Mitigation), and members of the IOC Secretariat. A representative of the Emergency Response Coordination Centre of the European Commission is also participating to the activities of the Exercise Team, specially focusing on exercise Phase C (described in the following paragraph; see also ANNEX IV for additional background information on the Union Civil Protection Mechanism).

The Exercise Team is responsible for planning, conducting and evaluating the NEAMWave 14 exercise and will be coordinated by the Co-chairs of TT–TE.

During NEAMWave 14, a helpdesk team will be in charge of the good progress of the exercise. It can be contacted by phone (+ 33 (0)1 45.68.39.52) and email (neamwave14.helpdesk@unesco.org).

6.2 NATIONAL EXERCISE TEAMS

Each participant Member State is encouraged to appoint its own in-country Exercise Planning Team and Exercise Planning Coordinator to develop the exercise further and to tailor it to its own requirements. The Exercise Planning Team should have representatives from all national TWFPs and each major participating agency, but should be kept to a

manageable size. Planning Team members are generally not exercise players. Instead, due to their high-level involvement, members are ideal for roles such as National Exercise Director (NED) and/or evaluator positions during an exercise within their own agency. Moreover, if exercises are taken down to the provincial or community level, each should have its own Planning Team.

6.3 NATIONAL CONTACT FOR THE EXERCISE

For NEAMWave 14, the National Contact for Exercise (NCE) is the Tsunami National Contact (TNC) by default, unless communicated otherwise to the IOC. The NCE will ensure that the commitment of participating Member States is fully coordinated. Planning of the conduct of the exercise will be communicated to the NCE. The NCE will be expected to confirm the accuracy of existing tsunami-warning arrangements within the Member State, including the identification of the operational point(s) of contact for the dissemination of tsunami warnings from the NTWC. The NCE will also be responsible for coordinating input for the exercise evaluation. Details are given in ANNEX III.

6.4 EXERCISE OBSERVERS

International observers are welcomed, particularly those from the other three UNESCO/IOC Tsunami Warning Systems.

Member States are also encouraged to add national observers so that they could validate internal procedures or support for the national part.

7. CONDUCT OF NEAMWAVE 14

7.1 START OF NEAMWAVE 14

The start of the exercise will be controlled by the CTWPs in accordance with the schedule presented in Section 3.1.

7.2 EXERCISE CONTROL

Each in-country/agency Exercise Director uses the Master Schedule of Events List (MSEL) to control the exercise. He/she ensures that any problems are rectified to keep the exercise flowing. The Exercise Director can modify the flow of the exercise to make sure objectives are met. The National Exercise Director may be assisted by appointed Exercise Control staff with a range of responsibilities in order to keep the exercise running. In such a case, they need to stay in contact with the National Exercise Director throughout the exercise.

7.3 REAL EVENTS DURING THE EXERCISE

In the case of a real event occurring during the exercise, CTWPs and TWFPs/CPAs will give full priority to the event and a decision will be made by CTWPs whether to continue or cease their participation in the exercise. Smaller earthquakes (M < 4) should, in principle, not be a reason to terminate the exercise. Nevertheless, individual Member States may suspend or terminate the exercise for their own reasons.

7.4 MASTER SCHEDULE OF EVENTS LIST (MSEL)

The Master Schedule of Events List is a detailed sequence of events used by the National Exercise Director/Agency Exercise Coordinators and by the Exercise Control Staff where applicable, to ensure that the exercise runs smoothly. It is also known as a running sheet,

programme, script or main event list. MSEL for each of the scenarios to be considered by NEAMWave 14 can be found in the Scenarios provided at NEAMTIC website (http://neamtic.ioc-unesco.org/index.php/neamwave14).

An example of such MSEL follows.

DATE (dd/mm/yyy)	TIME (UTC)	EVENT	NOTES
	T0 - 30 min	Exercise briefing	At the discretion of each MS.
	T0	**The tsunamigenic earthquake occurs**	
	T0 + 5 min	Depending on the earthquake magnitude and epicentral distance to your country, the earthquake may be felt and even moderate to large destruction may occur. This situation can be taken into consideration in the exercise development.	
	T0 + 10 min	Tsunami Watch Message #1	This first message is based only on earthquake information. At this time, there is no confirmation that a tsunami has occurred. However, given the magnitude and location of the scenario, and also historical knowledge, it is very likely that a tsunami may have occurred.
	T0 + 20 min	Tsunami Watch Message #2	This message contains the confirmation of the occurrence of a tsunami by tide-gauge observations.
	T0 + 40 min	Tsunami Watch Message #3	This message contains additional information on the tsunami observation by tide-gauges.
	T0 + 90 min	End of Tsunami Alert Message	This message marks the end of the exercise messages, but it cannot be considered as an "All-clear" message.
	T0 + 120 min	Exercise briefing	At the discretion of each MS.

Table–2. Example of Master Schedule of Event List (MSEL)

7.5 END OF NEAMWAVE 14

The last message provided by the CTWP for NEAMWave 14 is an "End of Tsunami Alert Message". This type of message is issued by a CTWP when observations, modelling and historical records show that the disturbances due to the tsunami wave subsided. This must not be confused with an "All Clear" message that can only by given by local authorities that have a more detailed description of the situation (please refer *NEAMTWS Interim*

Operational Users Guide for the Tsunami Early Warning and Mitigation System in the North-eastern Atlantic, the Mediterranean and Connected Seas, Version 1.9, draft).

Since the NEAMWave 14 must have a limited time-span, the sequence of messages needs to be ended, even before all coastal areas are relieved from the tsunami waves predicted by the scenario. Please keep in mind that in a true event, this message would likely be sent many hours after.

Finishing the exercise is a controlled activity. The in-country/agency National Exercise Director stops the exercise at a pre-planned time (e.g., this could be the END OF TSUNAMI message).

8. EVALUATION OF NEAMWAVE 14

8.1 GENERAL CONCEPTS

The goal of exercise evaluation is to validate strengths and identify opportunities for improvement within the participating organizations. This is to be accomplished by collating supporting data, analysing the data to compare effectiveness against requirements, and determining what changes need to be made by participating organisations, as well as the NEAMTWS as a coordinating group to support effective tsunami warning and decision making.

Evaluation of this exercise should focus on the adequacy of plans, policies, procedures, assessment capabilities, communication, resources and inter-agency/inter-jurisdictional relationships that support effective tsunami warning and decision-making at all levels of government. Participants that choose to include additional objectives, for example by exercising public warning and/or response plans, can expand the evaluation form accordingly. The evaluation of such additional objectives is recommended; however, it will be for the use of the particular participating agency only, and is not required for the NEAMWave 14 Evaluation Report.

The evaluation tool aims to inform and facilitate individual participant country evaluations as well as the NEAMWave 14 Evaluation Report.

It is recommended that objective exercise observers be appointed at all exercise points to support the collection of NEAMWave 14-related data. Observers are to be guided by the exercise objectives and the information required in the Exercise Evaluation Forms. In completing evaluation forms, participating organizations must have the ability to note areas for improvement and the actions that they plan to take without concern that the information carries political or operational risks. Thus, the official Exercise Evaluation Form is designated as “For Official Use Only” and will be restricted for use by the Exercise Task Team for the sole purpose of compilation of the NEAMWave 14 Evaluation Report. Some participant countries may, however, decide at their own discretion to share their individual evaluation outcomes with the public.

8.2 HOT-DEBRIEF

An immediate hot-debrief should be provided for all players and staff to capture information and feedback while it is still fresh in their minds. Specifically for Phase B, for health and safety purposes in functional exercises, it should be ensured that all of the participants and staff are accounted for before releasing people from the exercise.

A suggested format for hot-debrief is to have a short break of about 10 minutes after the end of the exercise, followed by the initial feedback given by the National Exercise Director /

Agency Exercise Coordinator. After this, exercise players would provide their round-table feedback followed by the observers' feedback.

8.3 COLD-DEBRIEF

A cold-debrief is a more formal debrief held typically within 3 weeks following the exercise, before the exercise evaluation report is finalized. It could provide all the relevant people with a forum to exchange views and discuss the draft evaluation report.

The cold-debrief process should address the following questions:

- What happened during the exercise?
- What went well?
- What needs improvement?
- What plans, procedures or training programmes need amendment?
- What follow-up is required, including identifying any capability gaps for future capacity building?
- Was the exercise realistic?
- How could the exercise have been improved?

The debriefing process should remain focused on evaluating the exercise's effectiveness: Issues, successes and problems. It is important to note that personal criticism of individual participants at the meeting must not be allowed.

8.4 EVALUATION REPORTS

For Phase A, CTWP and TWFP/NTWCs actively participating in NEAMWave 14 are required to submit a detailed evaluation report to the TT–TE within 30 days after the Exercise. Exercise evaluation forms for CTWPs are provided in ANNEX VI to help to structure the agenda, and improve and focus the debrief session. A similar template is available in ANNEX VII for other Phase A participants.

Participants of Phase B (TWFP/NTWCs and CPAs) are required to provide their individual report to the TT–TE within 30 days after the exercise. For the participants of Phase B, an evaluation guideline and template is provided in ANNEX VIII.

Phase C evaluation will be completed by the ERCC and participating CPA within 30 days after NEAMWave 14. A template is provided in ANNEX IX.

8.5 FINAL EVALUATION REPORT

The NEAMWave 14 Exercise Team co-ordinated by the Co-chairs of TT–TE will be responsible for the compilation, evaluation, and assessment of all the reports provided by the participants and will submit a full report to the IOC Secretariat within 90 days after the Exercise. The report will include the following:

- Exercise description.
- Post-Exercise Evaluation Summary and Findings.
- Identification of Best Practices or Strengths.
- Identification of Areas for Improvement.
- Recommendations on Plans of Action for Improvement.

The Evaluation Report of NEAMWave 14 (IOC/TS/2014/114 Vol.2) will be submitted to the ICG/NEAMTWS and IOC, and posted to the NEAMWave14 website (http://neamtic.ioc-unesco.org/neamwave14).

8.6 VALIDATION

The final stage of the exercise process is to determine whether or not the exercise has met its objectives. NEAMWave 14 validation compares the performance of the NEAMTWS, Member States, and/or agencies, and participants during the exercise against performance expected. After validation, NEAMTWS Member States, or agencies may need to change or develop new plans, procedures, and training programmes. Exercise outcomes may be retested in future tsunami exercises, or new exercises written to meet newly identified needs.

9. MEDIA ARRANGEMENTS

Experience in conducting disaster response exercises with simulated events shows that exists a potential for the public or media to interpret the exercise as a real event. Taking this into consideration, procedures should be set up by all participating entities to address public or media concerns, involving this exercise in case of misinterpretation by media or the public.

The UNESCO Bureau of Public Information will issue an international Media Advisory before the development of the NEAMWave 14 providing details of the exercise.

ICG/NEAMTWS Member States should consider issuing one or two exercise press releases to their respective country's media. Member States' press releases will give adequate alert to their country's population and give their local media time to conduct interviews and documentaries with participating exercise organizations in advance of the exercise.

A second Member State press release, one week before the exercise, in conjunction with the UNESCO release, would provide a more detailed description of exercise activities to take place within that country.

ANNEX VII contains a sample press release in English that can be customized and translated into their national language(s) by the Member States.

ANNEX I

UPDATED LISTS OF NTWC, TWFP, TNC

	Nominated TNCs and TWFPs	
MEMBER STATE	TNC	TWFP
BELGIUM	**Centre gouvernemental de coordination et de crise (CGCCR)**	**Centre gouvernemental de coordination et de crise (CGCCR)**
BULGARIA	**Bulgarian Institute of Oceanology (BAS)**	**Bulgarian Institute of Oceanology (BAS)**
CABO VERDE	**Instituto Nacional de Meteorologia e Geofísica (INMG)**	**Instituto Nacional de Meteorologia e Geofísica (INMG)**
CROATIA	Institute of Oceanography and Fisheries	**National Protection and Rescue Centre (NPRC)**
CYPRUS	Oceanography Center, University of Cyprus (OC)	Oceanography Center, University of Cyprus (OC)
DENMARK	**Danish Meteorological Institute**	**Danish Meteorological Institute**
EGYPT		**National Research Institute of Astronomy and Geophysics (NRIAG)**
	National Institute of Oceanography and Fisheries (NIOF)	
ESTONIA	Estonian Marine Institute, University of Tartu (EMI)	Estonian Marine Institute, University of Tartu (EMI)
FINLAND	**Finnish Meteorological Institute (FMI) Head of Group, Oceanographic Services**	**Monitoring Center for Natural Disasters, Finnish Meteorological Institute (FMI)** **Government Situation Center Finland, Prime minister's office**
FRANCE	**Ministère de l'Intérieur, Direction générale de la sécurité civile et de la gestion des crises, sous-direction de la planification et de la gestion des crises**	**CENALT**
GERMANY	**Federal Maritime and Hydrographic Agency (BSH)**	Deutscher Wetterdienst (DWD) Federal Maritime and Hydrographic Agency (BSH)
GREECE	**Institute of Geodynamics - National Observatory of Athens (NOA)**	**Institute of Geodynamics - National Observatory of Athens (NOA)**
IRELAND	Geological Survey of Ireland (GSI)	

	Nominated TNCs and TWFPs	
MEMBER STATE	TNC	TWFP
ISRAEL	**Israel Oceanographic & Limnological Research (IOLR)**	**Geophysical Institute of Israel (GII), Seismological Division**
ITALY	**Italian Department of Civil Protection**	**Istituto Nazionale di Geofisica e Vulcanologia (INGV)**
LEBANON	**National Center for Geophysical Research – CNRS (NCGR)**	**National Center for Geophysical Research – CNRS (NCGR)**
MALTA	Civil Protection Department	Civil Protection Department
MONACO	**Centre Scientifique de Monaco (CSM)** **Chargé de mission**	**Corps des Sapeurs-Pompiers de Monaco (SPMC)**
NETHERLANDS	Ministry of Foreign Affairs Director of the Climate, Energy, Environment and Water Department Alternate: P.S.H Brandt – Sr. Policy Advisor	Royal Netherlands Meteorological Institute (KNMI)
NORWAY		Directorate for Civil Protection and Emergency Planning (DSB)
POLAND		National Centre for Coordination of Rescue Operations and Protection of Population, National Headquarters of the State Fire Service (KG PSP).
PORTUGAL	**Instituto de Meteorologia (IM)**	**Instituto de Meteorologia (IM)** **National Authority for Civil Protection**
ROMANIA	**National Institute for Earth Physics (NIEP)**	**National Institute for Earth Physics (NIEP)**
RUSSIAN FEDERATION	**Director General** **State Institute Research and Production Association "Typhoon"**	**Director General** **State Institute Research and Production Association "Typhoon"**
SLOVENIA	Environmental Agency of the Republic of Slovenia (EARS)	
SPAIN	**Instituto Español de Oceanografía (IEO)**	**Dirección General de Protección Civil y Emergencias (DGPCE)**
SWEDEN	**Swedish Civil Contingencies Agency (MSB)**	**Swedish Meteorological and Hydrological Institute (SMHI)**
SYRIA	**Syrian Wireless Organization (SWO), Ministry of Telecommunication and Technology**	**Syrian Wireless Organization (SWO), Ministry of Telecommunication and Technology**

	Nominated TNCs and TWFPs	
MEMBER STATE	TNC	TWFP
TURKEY	**Kandilli Observatory and Earthquake Research Institute (KOERI)**	**Head of the Earthquake Department, Office of Prime Ministry – Disaster and Emergency Management of Response (DEMP)** **Kandilli Observatory and Earthquake Research Institute (KOERI)**
UKRAINE	Marine Hydrophysical Institute, National Academy of Sciences of Ukraine (MHI) *†	
UNITED KINGDOM	**National Oceanographic Centre (NOC)**	**Humanitarian Operations, Department for International Development (DFID)**

Table I–1. Updated list of TNCs and TWFPs

NATIONAL TSUNAMI WARNING CENTRE	
MEMBER STATE	NATIONAL TSUNAMI WARNING CENTRE
FRANCE	**Centre d'Alerte aux Tsunamis (CENALT)**
GREECE	**Institute of Geodynamics - National Observatory of Athens (NOA)**
ITALY	**Istituto Nazionale di Geofisica e Vulcanologia (INGV)** **Italian Department of Civil Protection (DPC)**
PORTUGAL	**Instituto de Meteorologia (IM)**
TURKEY	**Kandilli Observatory and Earthquake Research Institute (KOERI)**

Table I–2. Updated list of NTWCs

Bold: All information provided

* Official form not provided

† Validation needed through either the Permanent Delegate to UNESCO, the Head of the UNESCO National Commission or the Minister of Foreign Affairs.

ANNEX II

APPLICATION FORM TO PARTICIPATE IN NEAMWAVE 14 EXERCISE

Please, fill in the following form and send it back to inform IOC Secretariat (neamtws-secretariat@unesco.org) through your Tsunami National Contacts (TNCs) no later than 1st September 2014. Please fill points that are not already know by IOC or ones who have recently changed.

COUNTRY:	
National Tsunami Warning Centre (*Provide these only if IOC official contacts need to be updated*)	Institution: Address: Email addresses to receive the exercise messages: Mobile to receive the exercise messages (sms): Fax numbers to receive the exercise messages: GTS contact details to receive the exercise messages: Landline:
Tsunami Warning Focal Point (*Provide these only if IOC official contacts need to be updated*)	Name: Surname: Email address to receive the exercise messages: Landline: Mobile to receive the exercise messages (sms): Fax:
Tsunami National Contact = National Contact for the Exercise (*Provide these only if IOC official contacts need to be updated*)	Name: Surname: Email address to receive the exercise messages: Landline: Mobile to receive the exercise messages (sms): Fax:
Civil Protection Agency (CPA)	Institution: Address: Email addresses to receive the exercise messages: Mobile to receive the exercise messages (sms): Fax numbers to receive the exercise messages: GTS contact details to receive the exercise messages: Landline:

COUNTRY:	
CPA contact point[2]= National Exercise Director	Name: Surname: Email address to receive the exercise messages: Landline: Mobile to receive the exercise messages (sms): Fax:
Observers[3] :	Institution: Name: Surname: Email address to receive the exercise messages: Landline: Mobile to receive the exercise messages (sms): Fax:
Exercise scenarios[4] *(Please select exercise scenarios in which the Member State will take part, for each one ticking the exercise phases which will be implemented)*	
Black Sea Scenario	**28/10/2014, morning** **Participation to this scenario** (yes/no): …… **Phase A:** the participation to this phase is by default, once the Country chooses to participate in NEAMWave14 **Phase B** (yes/no; type of exercise to be implemented at national scale[5]): ……
Western Mediterranean Scenario	**28/10/2014, afternoon** **Participation to this scenario** (yes/no): …… **Phase A:** the participation to this phase is by default, once the Country chooses to participate in NEAMWave14 **Phase B** (yes/no; type of exercise to be implemented at national scale[3]): ……

[2] Please, be aware that this person will receive all the alert messages of NEAMWave14 exercise, thus being responsible for their timely dissemination according to the internal procedures and to the national decisions in term of operational activities to be performed in NEAMWave14.

[3] Suggestion is to have two observers maximum per institution.

[4] The participating Member States can change the proposed scenarios according to their own needs and objectives. They are encouraged to develop the exercise further and tailor it to its own requirements.

[5] E.g.; orientation exercise, drill exercise, table top exercise, functional exercise, full scale exercise (refer to Section 3.3.2 for further details)

COUNTRY:	
North East Atlantic Scenario	**29/10/2014, morning** **Participation to this scenario** (yes/no): …… **Phase A:** the participation to this phase is by default, once the Country chooses to participate in NEAMWave14 **Phase B** (yes/no; type of exercise to be implemented at national scale[3]): ……
Eastern Mediterranean Scenario	**29/10/2014, afternoon** **Participation to this scenario** (yes/no): …… **Phase A:** the participation to this phase is by default, once the Country chooses to participate in NEAMWave14 **Phase B** (yes/no; type of exercise to be implemented at national scale[3]): …… **30/10/2014, morning** Phase C (please select the option): |__| Participation as affected Country which requires international assistance |__| Participation as Country offering international assistance |__| No participation
List of the forecast points for which expected arrival times and wave heights are requested to be included in the exercise scenario (coordinates)[6] (*Provide these only if IOC official coordinates provided to IOC need to be updated*)	

[6] If not listed here, Tsunami Forecast Points (TFPs) will be selected by CTWPs to ensure that no Member State is left out during a tsunami event. These TFPs will also be used during NEAMWave 14.

ANNEX III

USEFUL GUIDELINES FOR "PHASE B" DESIGN, PLAN, CONDUCTION

ORIENTATION EXERCISE

An orientation exercise may also be referred to as a ''walk through'', and can be conducted through a workshop. It puts people in a place where they would work during a tsunami response, or uses them as participants in a demonstration of an activity. This type of exercise is used to familiarise the players with the activity. It lays the foundation for a more comprehensive exercise programme. In an orientation exercise there is no time-frame element, which means that the workshop/demonstration activities are not constrained by the timeframe of the NEAMWave 14 exercise. The orientation exercise could be performed after the exercise, making use of the NEAMWave 14 material (e.g. exercise manual, exercise scenarios) to conduct the demonstration/workshop planned at national level.

Orientation exercises are generally used when:

- No previous exercise related to tsunami has been conducted.
- No recent real tsunami events have occurred.
- There is a need to bring together organizations (government, NGOs, private sector) in developing emergency response planning, problem solving, SOPs, and resource integration.
- A new plan has been developed that requires testing.
- There are new procedures.
- There is new staff or a new leadership.
- There is a new facility.
- There is a new risk.
- Staff training is required.

An example of an orientation exercise would be setting up a mock welfare centre to take in tsunami evacuees, and walking staff through how the centre is organized.

Another motivation for an orientation exercise may be because there is a need to provide stakeholders with an overview of authorities, strategies, plans, policies, procedures, protocols, and resources needed (i.e. to be set up) or already available at Country level for responding to a tsunami. This kind of exercise would provide an opportunity to raise awareness among the national emergency operations centre(s) and response officials regarding the NEAMTWS programme and it would pave the way for starting the essential coordination process needed between them and the NTWC for setting up an effective end-to-end warning system at national level.

DRILL EXERCISE

In a drill exercise, staff physically handle specific equipment or perform a specific procedure or single operation. A drill usually focuses on a single organization, facility or agency such as a national emergency operation centre, hotel, school or village. The exercise usually has a time-frame element and is used to test procedures. Performance is evaluated in isolation. A drill is a subset of a full-scale exercise.

A drill exercise is used to:

- Assess equipment capabilities.
- Test response time.
- Train personnel.
- Assess interagency cooperation.
- Verify resource and staffing capabilities.

An example of a drill exercise would be activating an Emergency Operations Centre (EOC), testing the relative procedures and all the communications technologies foreseen for the activation of those procedures (e.g. email, telephone, radios) in a tsunami exercise.

In NEAMWave14, Phase A will be conducted as a Drill Exercise, meaning the ability to send multiple consecutive tsunami messages by the CTWPs will be tested.

At national level, the NTWC/TWFP/TNC could coordinate with the respective Civil Protection Agencies (CPA) in order to conduct NEAMWave 14 Phase B as a drill exercise. This would mean organizing the transmission of the alert messages received by the NTWC/TWFP/TNC to the national CPA which, in some cases, could also decide to involve local civil protection authorities through the dissemination of the alert at local level. This last part of the drill exercise could also be performed with a subset of local civil protection authorities used as pilot test sites.

A drill exercise as Phase B within NEAMWave 14 could be fruitfully conducted in order to test, for example, already existing alert procedures at national level in a tsunami scenario. Indeed, Member States are usually equipped and familiar with alert procedures for other (more frequent) risks, such as floods, forest fires, earthquakes. Those procedures could be tested in NEAMWave 14 in order to verify whether and how they could be adapted to deal with the alert process in the case of a tsunami.

TABLETOP EXERCISE

A tabletop exercise may also be referred to as a ‘‘discussion exercise’’, or ‘‘DISCEX’’. Participants are presented with a situation or problem that they are required to discuss and for which they formulate the appropriate response or solution. Normally, the exercise requires no simulation other than a scenario and/or prewritten exercise injects. An exercise controller or moderator introduces a simulated scenario to participants and, as the exercise advances (in time), exercise problems and activities (injects) are further introduced. This type of exercise is used to practice problem-solving and coordination of services with or without time pressures. There is no deployment or actual use of equipment or resources.

Tabletop exercises should be used to:

- Practice group problem solving.
- Promote familiarity with plans.
- Assess plan coverage for a specific case study.
- Assess plan coverage for a specific risk area.
- Examine staffing contingencies.
- Test group message interpretation.
- Assess interagency or interdepartmental coordination.
- Observe information sharing.
- Train personnel (usually staff with equal status or functions).

An example of a tabletop exercise may involve participants discussing their response to a tsunami threat to a particular area, where the only injects are tsunami messages from the CTWPs, as foreseen in NEAMWave 14.

FUNCTIONAL EXERCISE

A functional exercise may also be referred to as an ‘‘operational’’ or a ‘‘tactical’’ exercise. It takes place in an operational environment and requires participants to actually perform the functions of their roles.

A response activity is simulated which is usually complex and may require multiple activities to be carried out. It lacks only the people "on the ground" to create a full-scale exercise.

Participants interact within a simulated environment through an exercise control group which provides prewritten injects and respond to questions and tasks developing out of the exercise.

Functional exercises normally involve multi-agency participation (real or simulated) and can focus on one or more geographical areas. Commonly, they involve the testing of Standard Operating Procedures (SOP) and internal/external communications between organizations.

This type of exercise is used to practice multiple emergency functions e.g. direction and control, resource management and communications. It is particularly useful to:

- Evaluate a function.
- Evaluate or test physical facilities use.
- Reinforce or test established policies and procedures.
- Assess preparedness.
- Test infrequently-used resources.
- Measure resource adequacy.
- Support policy formulation.

An example of a functional exercise would be a multi-agency response to a potentially devastating tsunami, where evacuation of a coastal community is required. Messages and injects are provided by exercise control and are handled by the participants in the way described in appropriate plans and procedures. Outcomes are generated that would be expected in a real situation.

FULL-SCALE EXERCISE

A full-scale exercise may also be referred to as a ’’practical’’ or ‘‘field’’ exercise. It includes the movement or deployment of people and resources to provide a physical response ‘‘on the ground’’ to a simulated situation. It may be considered to be the climax of a progressive exercise programme. It can be ‘‘ground’’ focused only or may include the higher-level response structures. It can be simple (single agency) or complex (multi agency, multi-levels of government from national to local).

These exercises are typically used to test all aspects of a country's warning and emergency management systems and processes, and to the extent practical, using actual centres and communications methods. They are useful to:

- Assess and improve an operational activity.
- Assess and improve interagency cooperation.
- Assess negotiation procedures.
- Test resource and personnel allocation.

- Manage the public and media.
- Assess personnel and equipment locations.
- Test equipment capabilities.

Full-scale exercises are the largest, most costly, most time-consuming and most complex to plan, conduct and evaluate.

An example of a full-scale exercise would be a post-impact tsunami response with volunteers representing 'victims' and the emergency services using real rescue equipment at the scene. Coordinated, multi-agency response to the event is exercised. Actual field mobilization and deployment of response personnel is involved.

ANNEX IV

GUIDELINES FOR PARTICIPATING IN PHASE C– UNION CIVIL PROTECTION MECHANISM

Member States who want to participate in Phase C must inform the IOC Secretariat (neamtws-secretariat@unesco.org) within the same timeframe as other phases, which means before the 1st September 2014. Please fill in the form given in ANNEX II, especially the CPA part, if you are not an EU Member State or if some information has changed recently.

Civil Protection at European level is based on a system of cooperation between the Commission and 32 national CPA. Cooperation covers the areas of prevention, preparedness and response to disasters.

This cooperation among 32 Participating States has been established in 2001 and has been reinforced in 2013 with the adoption of the Council Decision on the Union Civil Protection Mechanism (hereinafter: the Mechanism).

The national CPAs participating in the Mechanism are the 28 Member States of the European Union, plus Norway, Iceland, Liechtenstein and the Former Yugoslav Republic of Macedonia. Usually, in EU Member States, civil protection is attributed to the Ministry of Interior (e.g. Germany, France), but could also fall under the remit of the Ministry of Defence (e.g. Sweden) or is directly attached to the Prime Minister's (e.g. Italy) Office, depending on how the national disaster management system is organized.

Within the Mechanism, prevention is mainly related to activities in risk assessment, risk mapping and capacity mapping. Preparedness aims at better preparing national CPA to face disasters that can affect the country and also to provide assistance to an affected country requesting for international assistance. Preparedness activities include early warning systems, training and exercise programmes. Response covers all activities aimed at facilitating the coordination of the assistance that is provided by the national CPA on a voluntary basis through the Mechanism. Response activities also include the deployment of European civil protection teams, the definition of EU response plans, the deployment of assets from the voluntary pool (European Emergency Response Capacity) and the co-financing of the transport of the assistance.

In order to facilitate the coordination of the response through the Mechanism, the Participating States decided to create the Emergency Response Coordination Centre (ERCC), which is the operational heart of the Mechanism. The ERCC has also become the coordination platform within DG ECHO. It will also play an important role in supporting coordination in case of the activation of the solidarity clause and of multi-sectorial crises.

As the operational heart of the Mechanism, the ERCC´s key role is to monitor ongoing and emerging disasters in real-time, to provide timely and reliable information and to facilitate the coordination of assistance provided by the Participating States when a formal request for assistance from the affected country or from an International Organization has been received.

Any country not member of the Union Civil Protection Mechanism can participate to phase C by sending a request for international assistance to the ERCC that will then be able to "activate" the Union Civil Protection Mechanism. It will then receive the communication from the ERCC of the civil protection assistance, which has been offered by the European Countries that are participating to the Union Civil Protection Mechanism.

A Country not participating to the Union Civil Protection Mechanism, may decide to inform the ERCC of the assistance that it intends to provide to the affected country but not participating to the Union Civil Protection Mechanism, has no obligation to do so.

In order to fulfil its tasks, the ERCC is operational on a 24/7 basis. Its duty officers are monitoring the situation in the world using several detection and alert systems, mainly developed in collaboration with the Joint Research Centre (JRC), and are supported in the analysis of an event by a scientific and analytical team based in Ispra, Italy, at the JRC facilities, as well as by the ECHO technical assistants (TAs) in the field.

When the ERCC receives a request for assistance, ERCC rapidly analyses the request, identifying possible needs and informs accordingly the Participating States through the Common Emergency Communication and Information System (CECIS). On the basis of the information posted in CECIS those Participating States willing to help, reply specifying what they can offer to match the identified needs. The ERCC duty officers are then in a position to contact the affected country to inform of the offers and to seek a formal acceptance.

In the meantime, the ERCC may form a European Civil Protection Team (EUCPT) composed of trained and experienced civil protection experts nominated by the Participating States and selected by the ERCC. Once the EUCPT is deployed on site, it becomes the eyes and ears of the ERCC and therefore of the Participating States, allowing to fine tune needs, to seek acceptance of the offers and to facilitate the coordination of the incoming assistance with the national authorities and the other international actors on site.

Usually Participating States are offering in-kind assistance such as shelter, water purification tablets or generators and deploying specialized teams performing specific functions such as search and rescue, primary and secondary health care or water purification.

In many cases, the so-called civil protection modules are deployed. Those teams and the equipment they use comply with pre-defined standards and can perform specific tasks.

ANNEX V

TEMPLATE FOR REQUESTING INTERNATIONAL ASSISTANCE TO THE EUROPEAN MECHANISM OF CIVIL PROTECTION

EXERCISE EXERCISE EXERCISE EXERCISE EXERCISE EXERCISE

Date:

TEMPLATE

REQUEST FOR INTERNATIONAL ASSISTANCE TO THE EUROPEAN MECHANISM OF CIVIL PROTECTION

(MODULES[7], TEAMS, ITEMS, MAPPING SERVICE)

1. NAME of the requesting authority and CONTACTS details:

2. Brief description of the emergency and its magnitude[8]
   a. What are the problems? i.e. affected population and infrastructures,...
   b. Ongoing response
   c. International teams already in the country.

3. Safety and security (Specific hazards):

4. Type of requested assistance (please specify as far as possible[9]):

5. Intended use of the assistance (e.g. place and duration of deployment)

6. National authorities acting as focal point for international assistance:

7. GPS coordinates of the location of entry points and of base of operation (if available):

[7] Modules (17+1): High capacity pumping; water purification; medium urban search and rescue; heavy urban search and rescue; aerial forest fire fighting module using helicopters; aerial forest fire fighting module using airplanes; advanced medical post; advanced medical post with surgery; field hospital; medical aerial evacuation of disaster victims; emergency temporary shelter; chemical, biological, radiological and nuclear detection and sampling (CBRN); search and rescue in CBRN conditions; ground forest firefighting; ground forest firefighting using vehicles; flood containment; flood rescue using boats; technical assistance support teams.

Please refer to the documents downloadable from the following link for a detailed description of the European Civil Protection Modules:
http://ec.europa.eu/echo/policies/disaster_response/modules_en.htm.

[8] Preferably in the form of a situation map.

[9] E.g. 4 heavy USAR teams; winterized tents for ca 10.000 displaced people; 5 water pumps with capacity for at least 1000m^3/hour.

8. Availability of host nation support[10:]

Commodity /service	YES		NO
	Free of charge		
	YES	NO	
Food			
Drinking water			
Fuel			
Accommodation			
In-Country transport			
Medical support			
Liaison officer			
Interpreters			

Additional remarks:

9. The Host Nation will:

	YES	NO
Waive any visa and/or immigration requirements		
Issue any visa and/or immigration documents		
Accept regulated professions: doctors/nurses/paramedics/ engineers/others (quote)		
Exempt equipment/goods of the modules/teams from all customs duties, taxes, tariffs, fees, and from all export and import restrictions		
Provide temporary authorisation to the assisting module(s)/team(s) to legally operate on our territory, including rights to open bank accounts, enter into contract and leases, acquire and dispose of property and instigate legal proceedings		
Provide security services in case of need and/or upon a request of assisting module(s)/team(s)		

Stamp and Signature:

EXERCISE EXERCISE EXERCISE EXERCISE EXERCISE EXERCISE

[10] "Host Nation Support" implies all actions undertaken in the preparedness phase and the disaster response management by a Participating State in the Civil Protection Mechanism (PS) receiving or sending assistance, or the Commission, in order to remove as much as possible any foreseeable obstacle to international assistance so as to ensure that disaster response operations proceed smoothly.

ANNEX VI

PHASE A EVALUATION QUESTIONNAIRE
FOR CANDIDATE TSUNAMI WATCH PROVIDERS

Please note that all times should be provided in Universal Time (UTC) in HH:MM:SS format. Please copy and paste confirmation sheets from the fax machine (if available), and a copy of the messages distributed by email, fax and GTS. Please verify that the time-stamp information is visible on the documents, if applicable. Preferably the e-mail message text appended to this report should be copied directly from the mail-box server in order to provide all the details on timing and routing.

COUNTRY:					
INSTITUTION:					
Provide T0 Time:					
Provide times of delivery for each message and communication technology:					
		E-MAIL	**FAX**	**GTS**	**SMS**
#1	***time stamp***				
#2[(1)]	***time stamp***				
Provide a detailed story of all activities starting from T0 and TN (end of the exercise). Did you receive any error messages or observed any problems? If yes, describe them for all dissemination technologies and addresses concerned.					
Describe the operational service to deliver the e-mail messages.					
Describe the operational service to deliver the fax messages.					
Describe the operational service to deliver the GTS messages.					
Describe briefly the preparation made in your agency for the Communication Test Exercise					
Describe briefly the procedures taken during the exercise, before time zero, and after time zero.					
Did you synchronize the PC before distributing the email messages? If yes, describe briefly the procedure used.					
Did you synchronize the fax machine before sending the messages? If yes, describe briefly the procedure used.					
Did you find the exercise useful in assessing the readiness of your agency to distribute tsunami related messages?					

Do you have any comments on the exercise, including the exercise manual and/or information received related to the exercise?
Have you and/or your institution been contacted by media concerning the exercise before/during/after the exercise? Please provide brief information if applicable.
[(1)] *Insert rows as adequate*

ANNEX VII

EVALUATION QUESTIONNAIRE
FOR TSUNAMI WATCH RECIPIENTS (TWR)

Please note that all times should be provided in Universal Time (UTC) in HH:MM:SS format, where applicable. Please copy and paste into this questionnaire e-mail, fax and GTS messages received for each delivery.

COUNTRY:				
INSTITUTION:				
Provide the time stamps of the messages received through each communication technology:				
E-MAIL	**FAX**	**GTS**	**SMS**	
Provide times of message delivery for each communication technology(1)				
Primary E-MAIL	**Alternate E-MAIL**	**Primary FAX**	**Alternate FAX**	**GTS**
[type e-mail address]	*[type e-mail address]*	*[type fax number]*	*[type fax number]*	
Message Header:	*[type the header of the message here]*			
[type time in UTC HH:MM:SS format]	*[type time in UTC HH:MM:SS format]*	*[type time in UTC HH:MM:SS format]*	*[type time in UTC HH:MM:SS format]*	*[type time in UTC HH:MM:SS format]*
Provide times for each communication technology when the message is read and understood by the operator(1)				
Primary E-MAIL	**Alternate E-MAIL**	**Primary FAX**	**Alternate FAX**	**GTS**
[type e-mail address]	*[type e-mail address]*	*[type fax number]*	*[type fax number]*	
[type time in UTC HH:MM:SS format]	*[type time in UTC HH:MM:SS format]*	*[type time in UTC HH:MM:SS format]*	*[type time in UTC HH:MM:SS format]*	*[type time in UTC HH:MM:SS format]*
Was the provider e-mail address as expected?				
Was the e-mail message complete as expected? If not, report the differences.				
Was the provider fax number as expected?				
Was the fax message complete as expected? If not, report the differences.				
Was the GTS message complete as expected? If not, report the differences.				

Did the operator that received the messages understood its content and knew how to respond to it?
Describe briefly the preparation made in your agency for the Communication Test Exercise.
Did you synchronize the PC before distributing the email messages? If yes, describe briefly the procedure used.
Did you synchronize the fax machine before receiving the messages? If yes, describe briefly the procedure used.
Did you find the exercise useful in confirmation communication contacts and delays?
Do you have any comments on the exercise, including the exercise manual and/or information received related to the exercise?
Do you have any suggestions for the next exercises?
Have you and/or your institution been contacted by media concerning the exercise before/during/after the exercise? Please provide brief information if applicable.
(1) Repeat the lines below corresponding to the times as necessary to accommodate all messages received

ANNEX VIII

PHASE B EVALUATION GUIDANCE AND QUESTIONNAIRE FOR CIVIL PROTECTION AUTHORITIES AND EMERGENCY MANAGEMENT ORGANIZATIONS (CPA/EMO)

The level at which the NEAMWave 14 is developed at the national level is to discretion of each Member State and it is expected to meet specific national requirements and objectives. Furthermore, the alerting of people at risk is a responsibility of each MS Emergency Management Organization. Taking this into consideration, a template for the Phase B evaluation is provided here below.

The guidance manual for CPA within the NEAM region, prepared by the ICG/NEAMTWS, *Reducing and managing the risk of tsunamis* (IOC/2011/MG/57 REV.2), provides an overview of these topics, as well as the core warning architecture and functions of the system, and may serve as a useful reference in the evaluation process.

As an output of the Exercise, CPA may want to assess their understanding of the consequences of the tsunami hazard to their population and its supporting assets. For this topic, the guidance manual describes the procedures for assessing a community's vulnerability – its potential for loss and damage in the event of a credible tsunami scenario. The evaluation might consider the quality and relevance of pre-event hazard and vulnerability mapping and its application in evacuation planning – the demarcation of evacuation zones, priorities for evacuation, location of safe refuges, signage, etc. The exercise might highlight possible shortcomings in knowledge and preparedness in these areas. Community awareness and understanding of tsunami warnings, and the level of preparedness to respond quickly and in an orderly manner to an emergency are further areas for possible evaluation that are described in the guidance manual.

COUNTRY:	
Institution:	
Type of part B implemented (if you organized an orientation seminar, go directly to question No. 30):	
Orientation seminar	*Please, provide a description of it*[11]
Drill (command post exercise)	*Please, provide the participants list (institutions).*
Table top exercise	*Please, provide the participants list (institutions).*
Functional exercise	*Please, provide the participants list (institutions).*
Full scale exercise	*Please, provide the participants list (institutions).*

1.	What are the communication channels used between the NTWC/TNC/TWFP and the national CPA/EMO? (If applicable)
2.	Were there any problems identified in these channels?

[11] Please specify participants, agenda, key messages identified during the seminar, plan of action for future activities.

YES	
NO	

Please specify (If applicable):

3. What are the procedures to transmit the alert messages between the NTWC/TNC/TWFP and the national CPA/EMO? (If applicable)

4. Was the original message customized by the NTWC (changed, edited, translated or modified) to facilitate its interpretation by national CPA/EMO? If so, please attach the customized messages.

5. How was this procedure performed?

Automatically		Manually	

6. Are there procedures in place to adequately provide time-stamps of alert messages?

7. Were there any particular preparations done for NEAMWave14 by the NTWC/TNC/TWFP and the national CPA/EMO?

YES		NO	

If yes, precise (*Please, provide a description of it, specifying participants, agenda, key messages identified, plan of action, tasks sharing,…).*:

8. Was the exercise considered useful to validate and assess the dissemination of the warning messages to the relevant agencies that are responsible for emergency response?

YES		NO	

If yes, please specify:

9. Were the messages received by the national CPA/EMO adequately understood?

YES		NO	

If no, please explain:

10. Was the message received by the national CPA/EMO considered appropriate to make an adequate evaluation of the warning situation?

YES		NO	

If no, please specify:

What improvements could be suggested?			
11. What are the procedures, if any, to receive and process the tsunami at the national CPA/EMO, including those for alerting the public?			
Are there levels of alert defined?			
YES		NO	
If yes, please specify:			
12. Which are the national agencies at national, regional and local level that are involved in the process of alerting the public?			
13. What are the communication channels used between the national CPA/EMO and the other agencies involved?			
Are these channels adequate?			
YES		NO	
If no, please specify:			
How vulnerable are these channels estimated to be in case the earthquake also affects your country? (If applicable)			
14. Can a time-line be estimated from the message reception till the alert message is sent down the chain?			
YES		NO	
If yes, please specify:			
15. Was any participant agency (or other) contacted by the media in relation to NEAMWave14 exercise?			
YES	*(please specify)*	NO	
16. Did any participant agency (or other) contact the media in relation to NEAMWave14 exercise?			
YES	*(please specify)*	NO	
17. Are there procedures in place to regulate the relationship with the media in case of a tsunami warning?			
YES		NO	
If yes, please specify:			

18. Are there evacuation plans established at the local level?			
YES		NO	
If yes, please specify if these plans are established for the entire country's coast or for test areas (specify for which one):			
19. Did the exercise contribute to the improvement or the development of planning related to public warnings and other response activities required for an event of this nature?			
20. General comments on the exercise:			
21. Do you have any suggestion for the next exercises?			

ANNEX IX

PHASE C EVALUATION QUESTIONNAIRE
FOR CIVIL PROTECTION AUTHORITIES

Please note that all times should be provided in Universal Time in HH:MM:SS format, where applicable.

22.	**COUNTRY**	
23.	**DEPARTMENT**	
24.	Did you take part in Phase C requesting assistance? If not, please continue from question No 29.	
For countries requesting assistance		
25.	Did you find difficult/complex the compilation of the request assistance template?	
26.	Was there a need to resubmit the request due to e.g. vagueness? If yes, did the ERCC provide you with guidelines in short time?	
27.	How much time did you need to compile the request?	
28.	Did you find the process of accepting the offers burdensome, complex or not efficient enough? Please explain why.	
For countries offering assistance		
29.	Did the Request for Assistance contain all elements that you need in order to make a decision to offer in-kind assistance? If not, what was missing?	
30.	Had the ERCC transmitted all relevant info effectively to you in a timely manner?	
31.	Was the ERCC ready to provide you with additional information if and when needed?	
32.	Was the procedure of activation of assets in Voluntary Pool clear cut and easy to follow?	

33.	Did you find the process of offering assistance burdensome, complex or not efficient enough? Please explain why.
For all countries participating in Phase C	
34.	Did you find the exercise useful in terms of communication and procedures?
35.	Do you have any comments on Phase C, including in the exercise manual and/or information received related to the exercise?
36.	Do you have any suggestions for next similar exercises?
37.	Have you and/or your institution been contacted by media concerning the exercise before/during/after the exercise? Please provide brief information if applicable.

ANNEX X

SAMPLE PRESS RELEASE

USE AGENCY HEADER HERE

Contact: (insert name)
(insert phone number)
(insert email address)

FOR IMMEDIATE RELEASE
(insert date)

NEAMWave14

TSUNAMI EXERCISE IN THE NORTH-EASTERN ATLANTIC, THE MEDITERRANEAN AND CONNECTED SEAS TO BE CONDUCTED XXXX, XX, 2014

(Insert country name) will join other countries in the North-Eastern Atlantic, Mediterranean and Connected Seas (the NEAM region) as a participant in a tsunami response exercise on XXXX XX, 2014. The purpose of this exercise is to evaluate local tsunami response plans, increase tsunami preparedness, and improve coordination throughout the region.

Regional and national tsunami warning systems in every ocean must maintain a high level of readiness so that all the actions relevant to the public's safety can be provided effectively and efficiently during fast-onset and rapidly-evolving natural disasters such as tsunamis. To maintain a high state of operational readiness, National Tsunami Warning Centres (NTWCs) and Civil Protection Agencies must regularly practice their emergency response procedures to ensure that vital communication links work seamlessly, and that agencies and response personnel know the roles that they will need to play during an actual event. This important exercise will test the current procedures of the Tsunami Warning System and help identify operational strengths and weaknesses in each country.

The exercise, called NEAMWave 14, will simulate a widespread Tsunami Watch situation throughout the NEAM region which requires implementation of local tsunami response plans. It is the second such international exercise in this region after NEAMWave 12. The exercise will (insert "include" or "not include") public notification. (Maybe specify here the level of the exercise, table-top, functional ...).

The exercise will simulate a major earthquake and tsunami generated XXXXXX at XX:XX (UTC or local time) on XXXXX XX, 2014. Exercise participants will be provided with a Manual which describes the scenario and contains the tsunami messages that will be broadcast in real-time by the Candidate Tsunami Watch Provider XXXXXX.

[Insert paragraph tailored for specific Member State, such as if the centre is a CTWP or TWR. It could identify participating agencies and specific plans. It could describe current early warning program, past tsunami (and or earthquake) exercises (or Communication Testes if any), ongoing mitigation and public education programs, etc. It could describe tsunami threat, history of tsunami hazards, if any.]

If any real tsunami threat occurs during the time period of the exercise, the exercise will be terminated.

The exercise is sponsored by the Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North-Eastern Atlantic, the Mediterranean and Connected Seas (ICG/NEAMTWS) of the IOC of UNESCO. (Include other international organizations, EU? MIC? Caribbean ICG?).

- See www.XXXXX for more information on the ICG/NEAMTWS and see www.XXXXX for more information on the NEAMWave 14 exercise. Insert additional state/ emergency response URLs and other national/international participating organizations.

ANNEX XI

CONCEPTS ON THE COMPOSITION OF TSUNAMI MESSAGES

As part of their Standard Operating Procedures (SOP) for responding to potentially tsunamigenic events, the CTWPs calculate expected tsunami arrival times (ETA) to various, pre- determined Coastal Forecast Points. These forecast points are chosen by countries in consultation with CTWPs. They may correspond to important coastal cities, and/or to the locations of sea level gauges. CTWPs (and/or NTWCs) may be able also to forecast tsunami wave heights at the forecast points in order to decide on the level of tsunamigenic threat.

The level of threat for a given country or region is defined in terms of its distance to the earthquake source and not by the estimated tsunami arrival time, as is the case in the Pacific. When a country is in a “Watch” or “Advisory” status, the ETAs for its forecast points that meet the criteria will be listed in the tsunami bulletins issued by the CTWPs.

Decision matrix for the North-eastern Atlantic						
Depth (km)	**Epicentre location**	**Earthquake magnitude (M_W)**	**Tsunami potential**	**Type of tsunami message**		
				Local	**Regional**	**Ocean-wide**
<100	Offshore or close to the coast (≤ 40 km inland)	5.5 – 6.5	Weak potential for a destructive local tsunami	Advisory	Information	Information
	Offshore or close to the coast (≤ 100 km inland)	6.5 – 7.0	Potential for a destructive local tsunami	Advisory	Information	Information
		7.0 – 7.5	Potential for a destructive local tsunami	Watch	Advisory	Information
		7.5 – 7.9	Potential for a destructive regional tsunami	Watch	Watch	Advisory
		≥ 7.9	Potential for a destructive ocean-wide tsunami	Watch	Watch	Watch
≥ 100	Offshore or inland (≤ 100 km)	≥ 5.5	No tsunami potential	Information	Information	Information

No message if the earthquake is localised inland beyond 100 km distance; no message if M_w < 6.5 and distance to the coast > 40 km; no message if M_w < 5.5.

Table XI–1. Provisional decision matrix for the North-eastern Atlantic showing tsunami message categories related to detected earthquake depth, location and magnitude.

Decision matrix for the Mediterranean						
Depth (km)	**Epicentre location**	**Earthquake magnitude (M_W)**	**Tsunami potential**	**Type of tsunami message**		
				Local	**Regional**	**Basin-wide**
< 100	Offshore or close to the coast (≤ 40 km inland)	5.5 – 6.0	Weak potential for a local destructive tsunami	Advisory	Information	Information
		6.0 – 6.5	Potential for a destructive local tsunami	Watch	Advisory	Information
	Offshore or close to the coast (≤ 100 km inland)	6.5 – 7.0	Potential for a destructive regional tsunami	Watch	Watch	Advisory
		≥ 7.0	Potential for a destructive basin-wide tsunami	Watch	Watch	Watch
≥ 100	Offshore or inland (≤ 100 km)	≥ 5.5	No tsunami potential	Information	Information	Information

No message if the earthquake is localised inland beyond 100 km distance; no message if M_w < 6.5 and distance to the coast > 40 km; no message if M_w < 5.5.

Table XI–2. Provisional decision matrix for the Mediterranean showing tsunami message categoriesrelated to detected earthquake depth, location and magnitude.

Bulletins from a CTWP informing about a tsunami event (including downgrading or cancellation messages) are of two types. Each shows the Areas Affected (AA) by country or country forecast zone, and each is accompanied by an Authority Statement (AS) and an Evaluation Statement (ES).

- A Tsunami Watch message is issued by the CTWP whenever the seismic information or/and sea-level data indicate that any part of the NEAM coastline may be impacted by a tsunami with a wave height greater than 0.5 m, and/or when tsunami run-up is expected to be higher than 1 metre. A Tsunami Watch is the highest severity level of a tsunami alert message and it must be considered that the tsunami waves, if generated, pose a real threat to exposed coastal populations and may be damaging.

- A Tsunami Advisory message is issued by the CTWP whenever the seismic information or/and sea-level data indicate that any part of the NEAM coastline may be impacted by a tsunami with a wave height from 0.2 to 0.5 m, and/or when tsunami run-up is expected to be less than 1 metre.

Initial Tsunami Watch and Tsunami Advisory messages are based solely on seismic data received from detection networks by the CTWP(s). Supplementary, follow-up messages based on tide-gauge data as well as seismic data may confirm the generation of a tsunami. Or, depending on the sea-level data received by the CTWP, they may downgrade or cancel the Tsunami Watch or Tsunami Advisory message. A list of the 10 possible message type lines is shown below.

. TSUNAMI WATCH ...
... TSUNAMI WATCH ONGOING ...
... TSUNAMI WATCH CANCELLATION ...
... END OF TSUNAMI WATCH ...
… TSUNAMI ADVISORY …
… TSUNAMI ADVISORY ONGOING …
… TSUNAMI ADVISORY CANCELLATION …
… END OF TSUNAMI ADVISORY …
… TSUNAMI INFORMATION …
… TSUNAMI COMMUNICATION TEST

Table XI–3. All 10 possible messages type lines

The estimated Tsunami Arrival Times (ETAs) received by the TWFP should be used with caution by the NTWC. All times given are in UTC (Coordinated Universal Time) and it is the task of the NTWC to convert these to local time as required. ETA will be provided only for Coastal Forecast Points, with the forecast point locations ordered in terms of ETA. If or when tsunami wave data become available – usually after the issue of the initial alert message – the CTWP will report wave measurements at key coastal and deep ocean sea-level gauges. Each measurement includes the name and coordinates of the gauge, the time of the measurement, the maximum observed height of the wave in metres (the height relative to normal sea-level) and, if available, the period of the wave in minutes.

Two other types of message may be issued by the CTWP:

- A Tsunami Information message to advise on the occurrence of a major earthquake in the NEAM region but with an evaluation that there is no tsunami threat; and, usually at unannounced times.

- A Tsunami Communication Test message to identify possible delays in disseminating tsunami messages by different methods of transmission, e.g., GTS, Internet, etc.; to test the operation of the system by requiring a response; and to keep CTWP and NTWC operations personnel familiar with the procedures for handling tsunami message traffic.

A tsunami message may include Tsunami Information, Tsunami Advisory and Tsunami Watch together, depending on the distribution of the tsunami wave heights in the region of interest and/or distribution of the countries subscribed to the message services of CTWP.

ANNEX XII

LIST OF ACRONYMS

AA	Areas Affected
AS	Authority Statement
CECIS	Common Emergency Communication and Information System
CENALT	CENtre d'ALerte aux Tsunamis
CPA	Civil Protection Agency/Authority
CTE	Communication Test Exercise
CTWP	Candidate Tsunami Watch Provider
EC	European Commission
ECHO	European Commission's Humanitarian Aid and Civil Protection department (
EMO	Emergency Measures Organization
EOC	Emergency Operations Centre
EPC	Exercise Planning Coordinator
EPT	Exercise Planning Team
ERCC	Emergency Response and Coordination Centre
ES	Evaluation Statement
ETA	Expected time of Tsunami Arrival
EUCPT	European Civil Protection Team
GTS	Global Telecommunication System
ICG	Intergovernmental Coordination Group
IOC	Intergovernmental Oceanographic Commission of UNESCO
IPMA	Instituto Português do Mar e da Atmosfera
KOERI	Kandilli Observatory and Earthquake Research Institute
MS	Member States
MSEL	Master Schedule of Events List

NCE	National Contact for the Exercise
NEAMTWS	Tsunami Early Warning and Mitigation System in the North-eastern Atlantic, the Mediterranean and Connected Seas
NED	National Exercise Director
NOA	National Observatory of Athens
NTP	NTP server (Network Time Protocol
NTWC	National Tsunami Warning Centre
PS	Participating State
SOP	Standard Operating Procedures
TFP	Tsunami Forecast Point
TNC	Tsunami National Contact
TT–CTE	Task Team on Communication Test Exercise
TT–TE	Task Team on Tsunami Exercises
TWFP	Tsunami Warning Focal Point
TWP	Tsunami Watch Provider
TWR	Tsunami Watch Recipients
UCPM	Union Civil Protection Mechanism
UNESCO	United Nations Educational, Scientific and Cultural Organization
UTC	Coordinated Universal Time

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