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ICG/NEAMTWS
TSUNAMI EXERCISE



NEAMWave

NEAMWave23

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

6 - 7 November 2023

Coordinated by Task Team on Tsunami Exercise ICG/NEAMTWS

co-chairs: **Ceren Ozer Sozdinler (Turkiye)**

Marinos Charalampakis (Greece)

*Quarterly Meeting of IOC-UNESCO DG ECHO CoastWAVE Project
ONLINE, 30 May 2023*



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What is NEAMWave

- Regular tsunami exercise in **NEAM** (North-eastern Atlantic, the Mediterranean and Connected Seas) **region** between:
 - Message Providers (Tsunami Service Providers-**TSPs**) and
 - Message Receivers (Tsunami Warning Focal Points (TWFPs), Tsunami National Contacts (TNC), Civil Protection Agencies (CPAs) and Emergency Response Coordination Center (ERCC))
- ... within the coordination of UNESCO/IOC Intergovernmental Coordination Group (ICG) in three phases as: **Phase A**, **Phase B** and **Phase C**.
- TSPs of NEAMTWS ⇨ CENALT, INGV, IPMA, KOERI, NOA



Scope of NEAMWave

PHASE A

TSPs To maintain a high state of operational readiness and to test their communicational channels among message recipients in NEAM region

PHASE B

National Tsunami Warning Centres (NTWCs) and Civil Protection Agencies (CPAs)to practice their emergency response procedures in order to ensure that (i) vital communication links work seamlessly, and that (ii) agencies and response personnel know the roles that they will need to play during a real event.

PHASE C

Emergency Response Coordination Center (ERCC) to practice their emergency response procedures in order to provide international assistance upon request.



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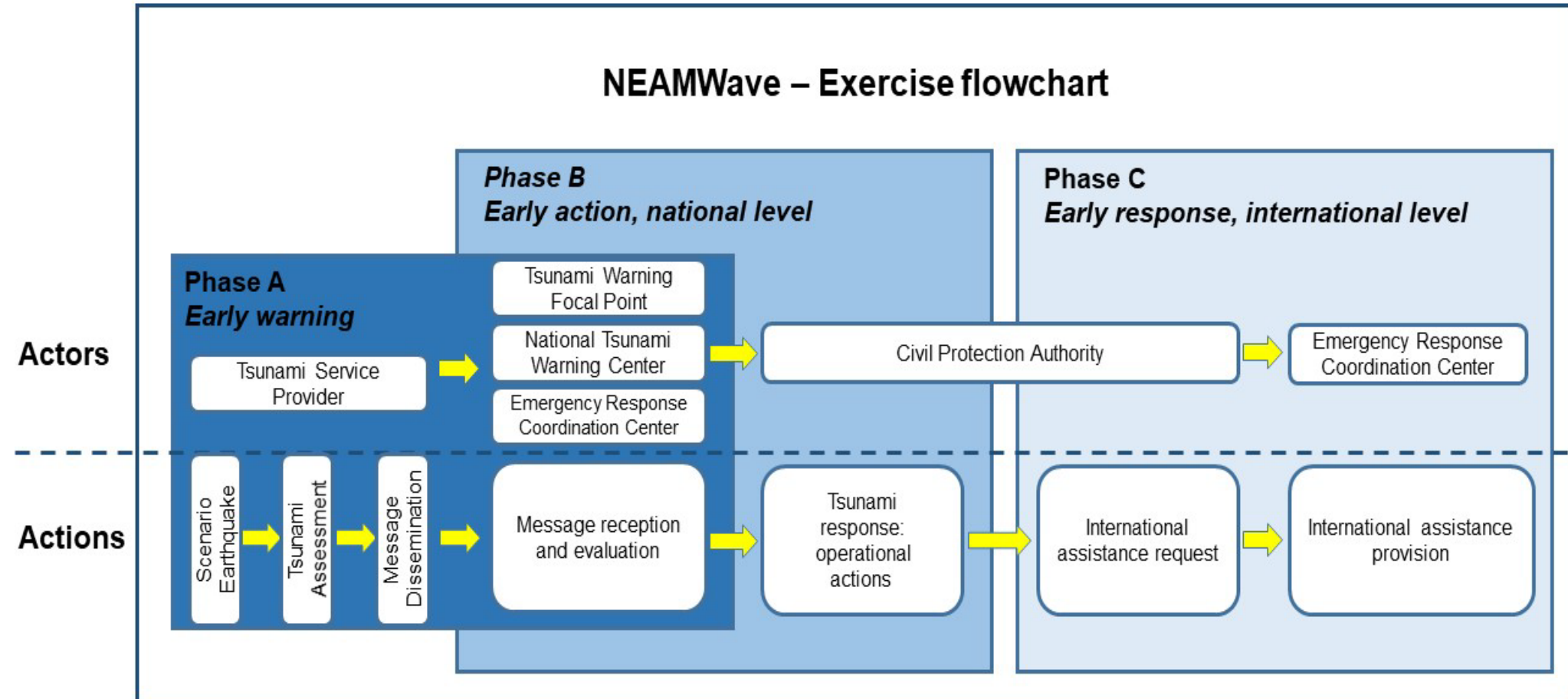
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NEAMWave flow chart

NEAMWave – Exercise flowchart





NEAMWave participants

TSPs

Detection of event; issuing and dissemination of the alert messages

TWFP/NTWC

Confirmation of the Tsunami Messages' receipt and forwarding to national CPA,

CPA

National decision making process for response actions and public warnings and evacuations

CPA

Request of international assistance

ERCC

Provide international assistance upon request of the affected countries



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Phase B & C: Tsunami Alert Message Reception

Phase B



Phase C





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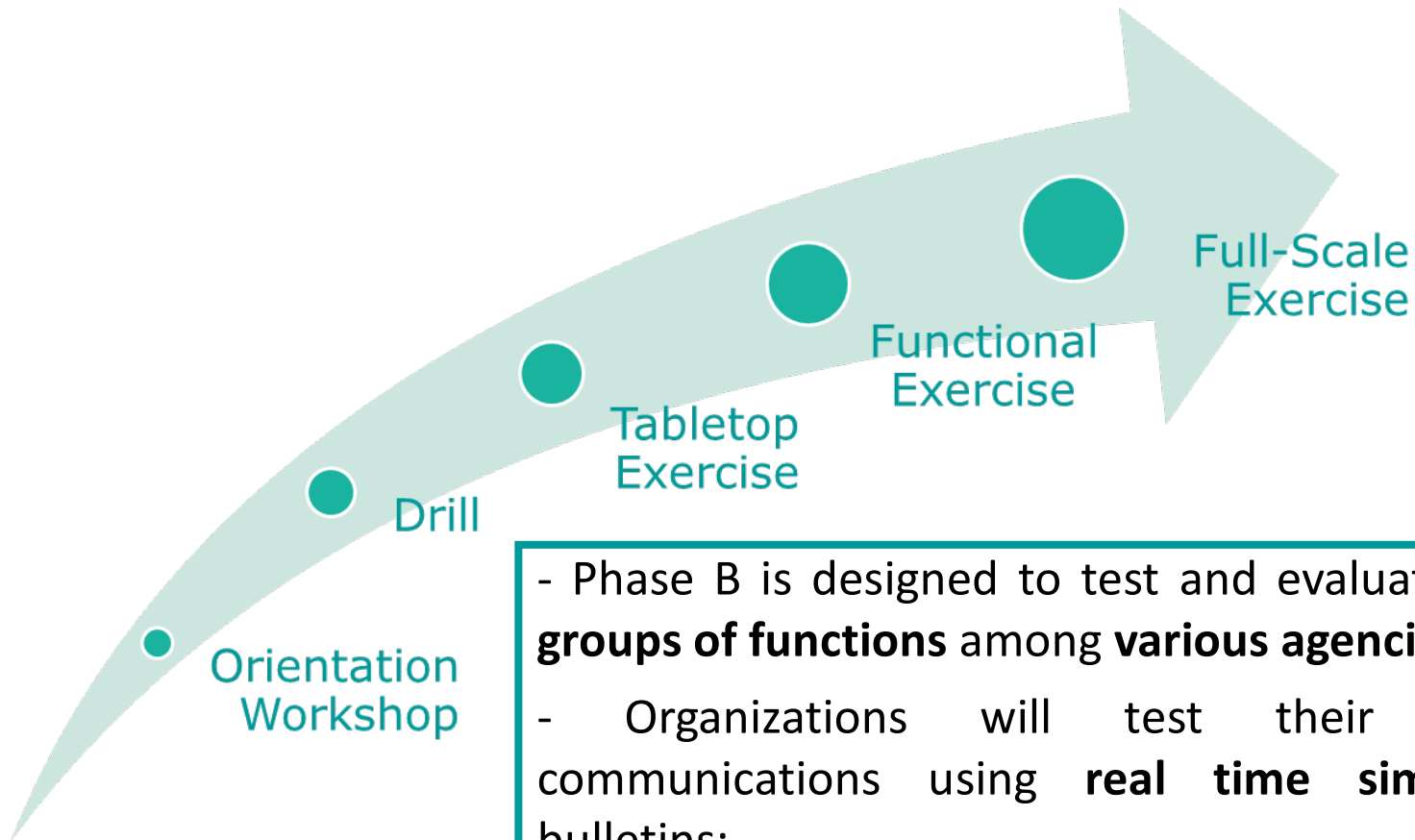
NEAMWave

Focusing on Phase B...

Why is it important to implement Phase B?

- To move from an early warning approach towards an early action and response one
- To develop an end-to-end management system of tsunami events (regional, national, local level)
- To raise awareness of launching and contributing to the development of a national policy to tackle the tsunami risk.

Focusing on Phase B...



- Phase B is designed to test and evaluate interdependent **groups of functions** among **various agencies**;
- Organizations will test their internal/external communications using **real time simulation** tsunami bulletins;
- Phase B exercises **command and control activities** at locations such as emergency command centers, command posts,...



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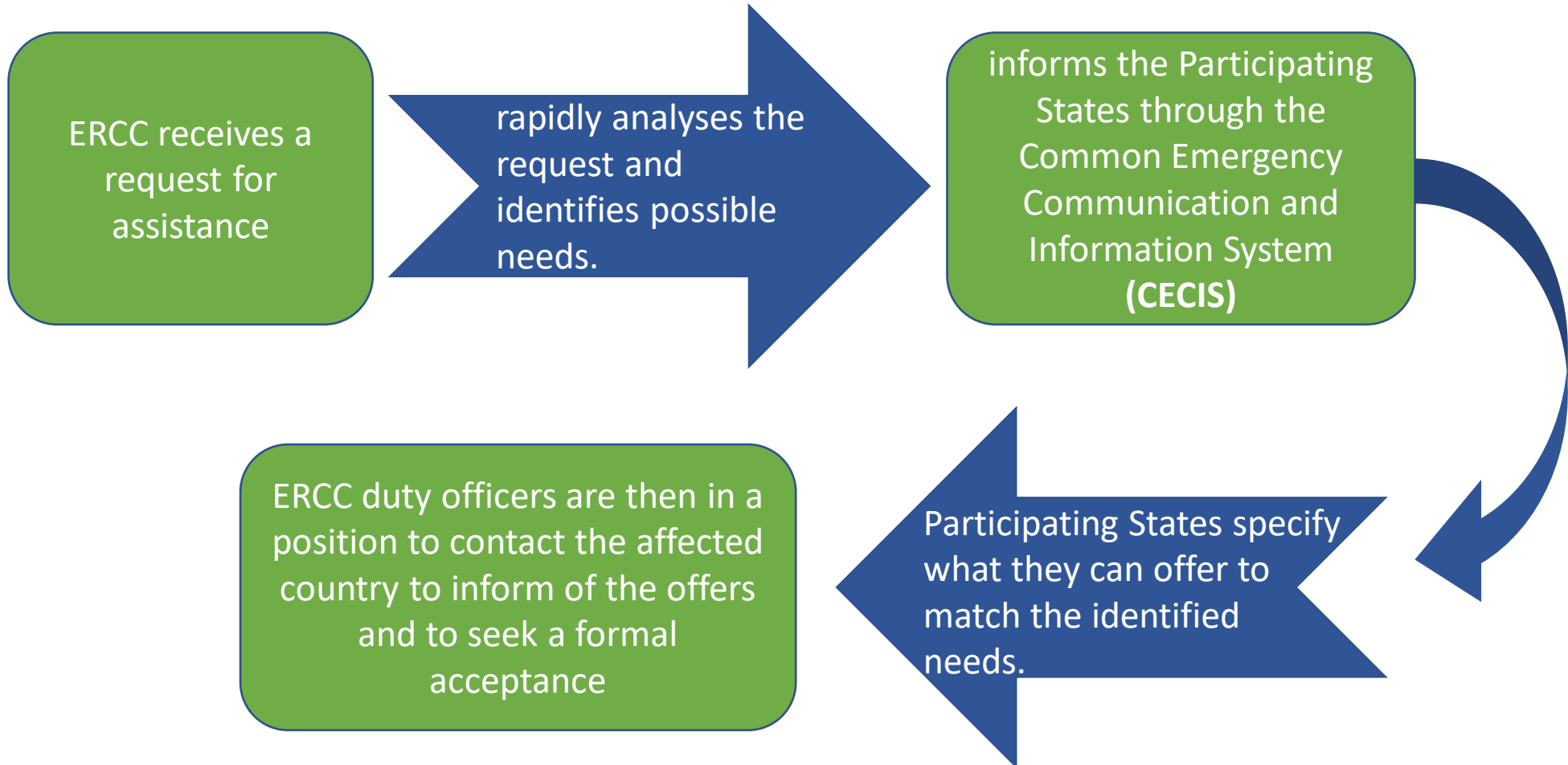
Focusing on Phase C...

Why is it important to implement Phase C?

- To test procedures for international assistance between the European Commission and participating Member States
- The ERCC receives:
 - ✓ request for international assistance from any of the affected Member States according to the scenario.
 - ✓ request to offer assistance from any of the Member States that are not affected and can provide help.
- The requests for assistance activate the Union Civil Protection Mechanism (UCPM).



Focusing on Phase C...





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Objectives (1/2)

NEAMWave objectives:

- Validate and evaluate the Tsunami Service Provider (TSP) dissemination process of issuing Tsunami Messages in the NEAM region.
- Validate and evaluate the procedures for countries to receive the Tsunami Messages issued by the TSP through their National Tsunami Warning Centres (NTWC), the country Tsunami Warning Focal Points (TWFP) or the country Tsunami National Contacts (TNC).
- Test the dissemination of the warning messages to the relevant agencies that are responsible for emergency response (CPA).
- Assess the organizational decision-making process about public warnings and evacuations thus raising awareness of launching and contributing to the development of a national policy to tackle the tsunami risk.



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Objectives (2/2)

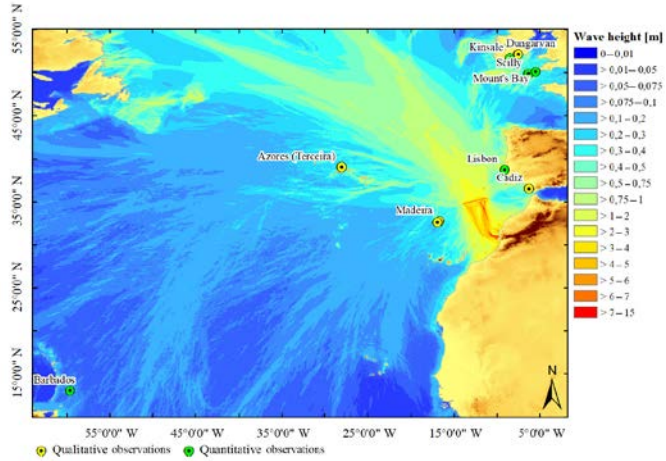
NEAMWave objectives:

- Identify best practices (to be shared), criticalities (to be addressed by the program in the future activities) and room for improvements in the entire process (including the procedures already tested between TSPs and TWFPs/NTWCs and also the heterogeneous panorama of national capacities to handle tsunami risk).
- Test procedures for international assistance between the European Commission and participating Member States
- **Potential Participation of CoastWAVE project countries in NEAMWave Exercise**

Strengthening the Resilience of Coastal Communities in the North East Atlantic, Mediterranean Region to the Impact of Tsunamis and Other Sea Level-Related Coastal Hazards

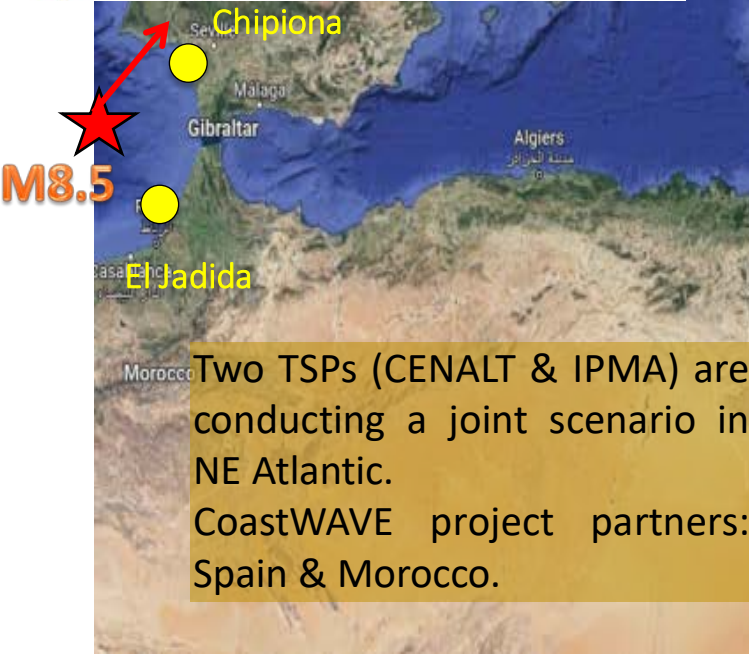
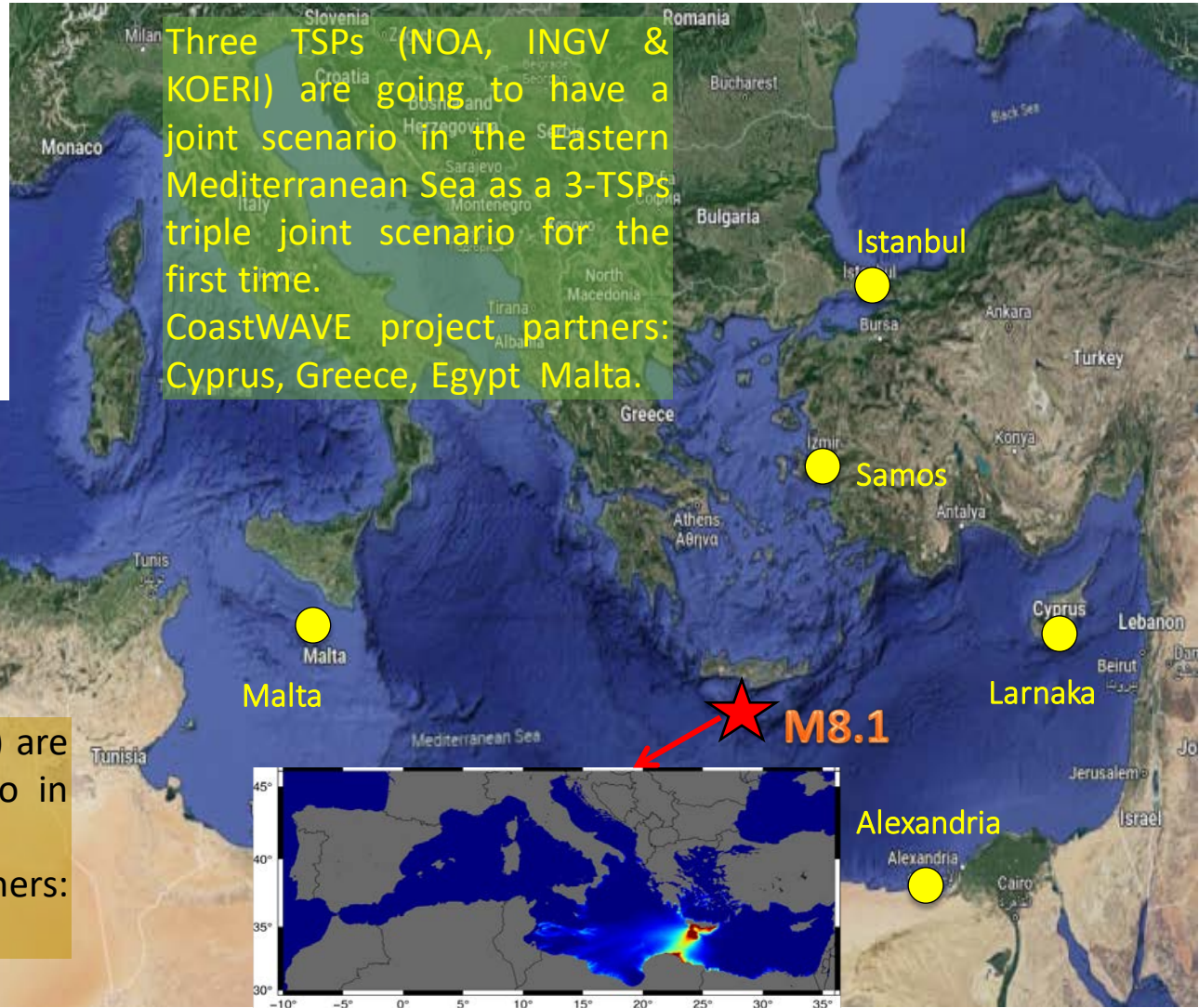
Component 1: Adapt Global **Tsunami Ready Standards and Guidelines** and pilot Tsunami Ready within the framework of the **ICG/NEAMTWS**

NEAMWave23 Scenarios



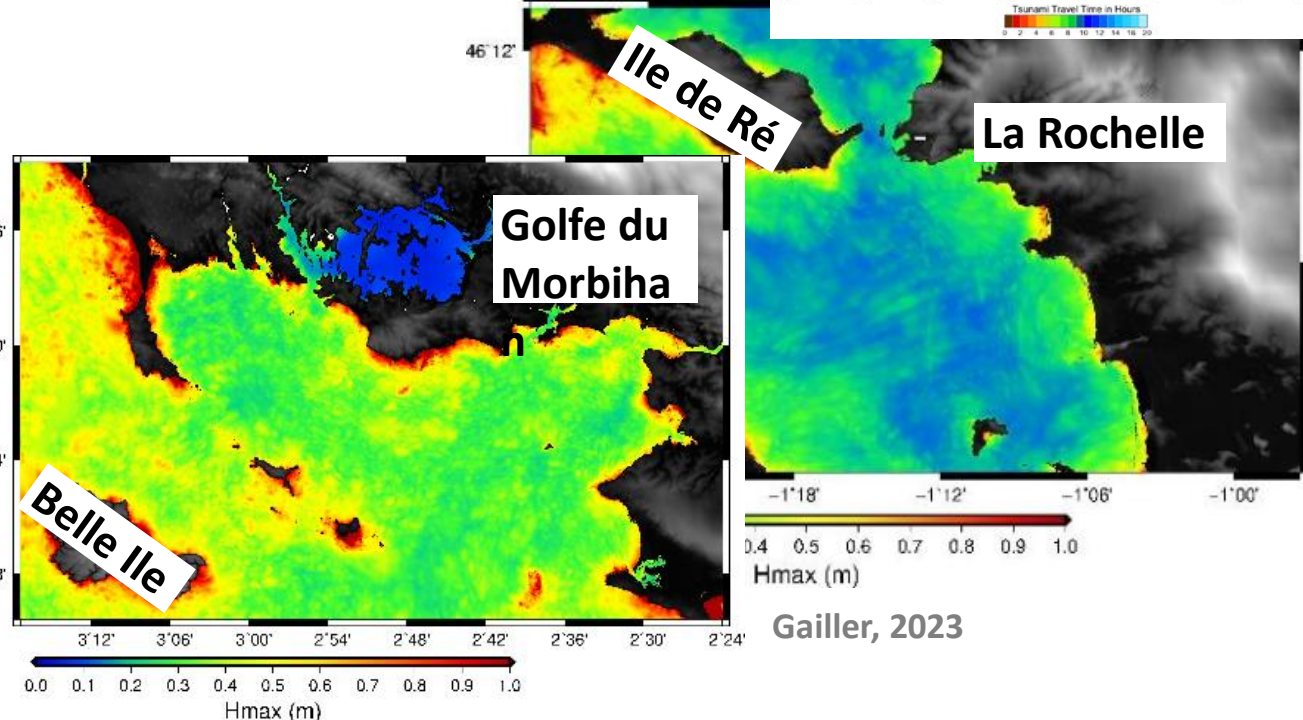
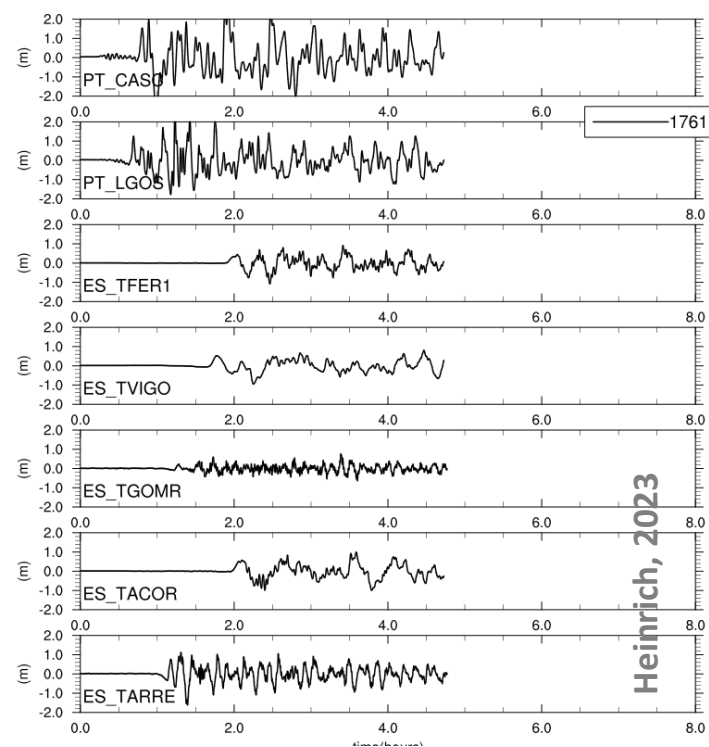
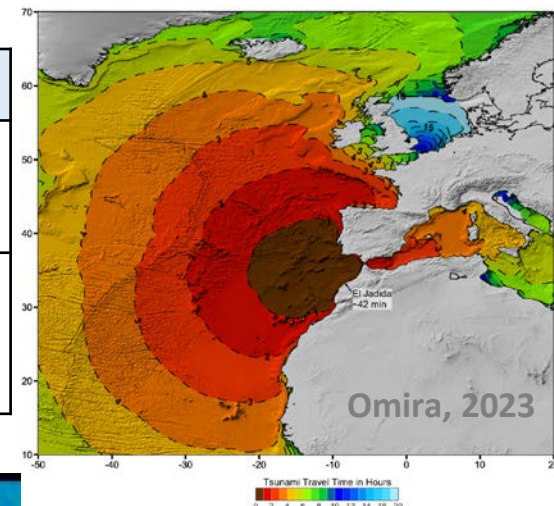
Three TSPs (NOA, INGV & KOERI) are going to have a joint scenario in the Eastern Mediterranean Sea as a 3-TSPs triple joint scenario for the first time.

CoastWAVE project partners: Cyprus, Greece, Egypt Malta.



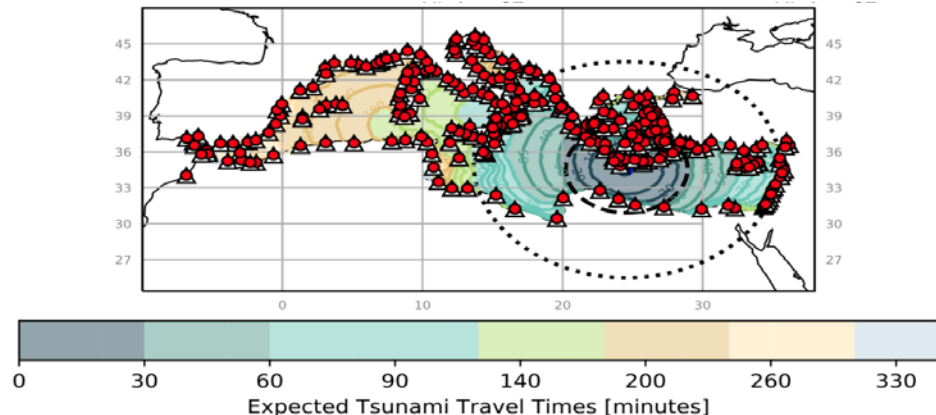
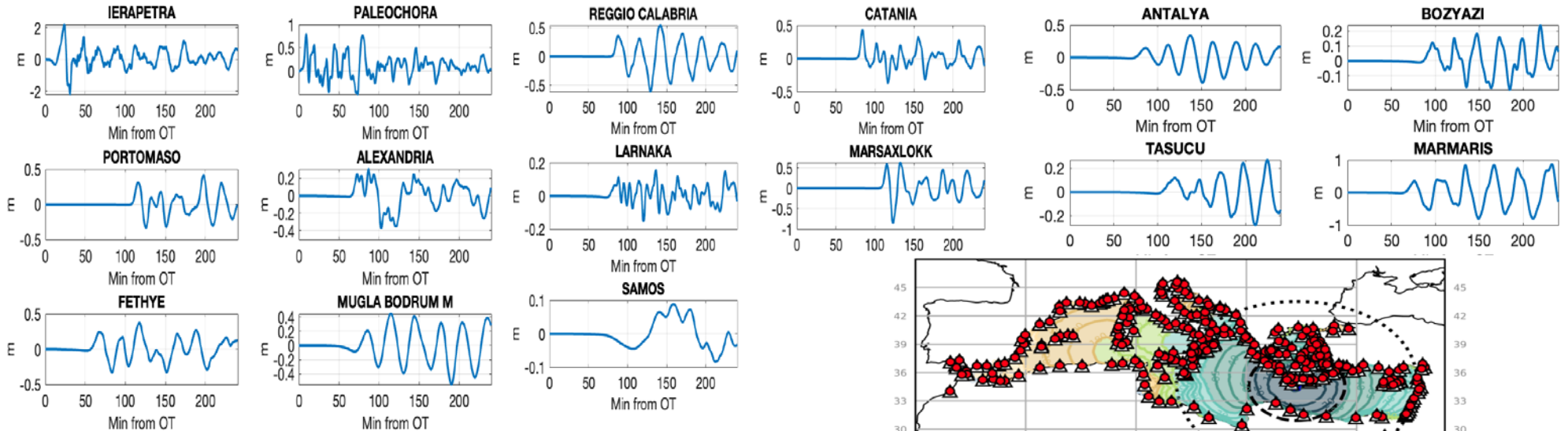
NEAMWave23 Scenarios

Date & Time	Scenario	Mag.	Region	TSPs
6 November 2023 08:00 UTC (time tbc)	1761 earthquake	8.5	North-Eastern Atlantic	IPMA – CENALT
7 November 2023 08:00 UTC (time tbc)	Hellenic Arc	8.1	Eastern Mediterranean	INGV – NOA – KOERI



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Recommendation

TSUNAMI READY INDICATORS	
I	ASSESSMENT (ASSESS)
1	ASSESS-1. Tsunami hazard zones are mapped and designated.
2	ASSESS-2. The number of people at risk in the tsunami hazard zone is estimated.
3	ASSESS-3. Economic, infrastructural, political, and social resources are identified.
II	PREPAREDNESS (PREP)
4	PREP-1. Easily understood tsunami evacuation maps are approved.
5	PREP-2. Tsunami information including signage is publicly displayed.
6	PREP-3. Outreach and public awareness and education resources are available and distributed.
7	PREP-4. Outreach or educational activities are held at least three times a year.
8	PREP-5: A community tsunami exercise is conducted at least every two years.
III	RESPONSE (RESP)
9	RESP-1. A community tsunami emergency response plan is approved.
10	RESP-2. The capacity to manage emergency response operations during a tsunami is in place.
11	RESP-3. Redundant and reliable means to timely receive 24-hour official tsunami alerts are in place.
12	RESP-4. Redundant and reliable means to timely disseminate 24-hour official tsunami alerts to the public are in place.

- The CoastWAVE project aims to improve the preparedness and response of coastal communities to tsunami events. As part of this project, the participating counties are expected to take part in Phase B, which involves conducting a local exercise using the NEAMWave23 scenario. By participating in Phase B, the counties can test their tsunami warning systems, emergency plans and public awareness campaigns.



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Implementation

- Participation in NEAMWave23, by implementing one of the following options:
 - i. Have a functional/full-scale exercise, on the day of NEAMWave23, with the scenario provided;
 - ii. Have a functional/full-scale exercise, on a different date, with the scenario provided for NEAMWave23;
 - iii. Have an orientation seminar/table-top exercise, on the day of NEAMWave23, with the scenario provided.



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Timeline of NEAMWave23

Prepara-
tion of
scenarios;
discus-
sions with
TSPs

Prepara-
tion of
exercise
manual

Submission
of
NEAMWave
23
subscribers;
sharing the
exercise
actors' lists
with TSPs

March

April

May

June

Sept.

Oct.

6-7 Nov.

Submis-
sion of
scenarios
by TSPs

Distribu-
tion of
exercise
manual;
meeting
with CPAs
through
ERCC

Final
prepara-
tions by
TT-TE &
the IOC
Secreta-
riat



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Challenges

- Follow the broader schedule, timeline and “rules” of NEAMWave exercises.
- Comply with the proposed dates of NEAMWave23.
- Make use of the specific earthquake scenarios that will be provided by the TSPs.
- Bridging the gap between the national Tsunami Warning Focal Point that will receive the tsunami warning messages of the NW23 and the local emergency managers of the CW community that they should receive the messages and conduct the exercise at a local level.



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Benefits

- Contributing to fulfilling the indicator on Preparedness (PREP-5) concerning the UNESCO/IOC Tsunami Ready Recognition Programme.
- Exercising parts of the response, or simulating an entire end-to-end warning and evacuation scenario.
- Maintaining operational readiness of response agencies, staff familiarity and efficiency for the real event.
- Testing communication policies, reviewing agency Standard Operating Procedures, and promoting emergency preparedness.
- Tsunami exercises and drills are excellent ways in which to increase tsunami preparedness and awareness of coastal communities.



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Thank you for your attention!

*Quarterly Meeting of IOC-UNESCO DG ECHO CoastWAVE Project
ONLINE, 30 May 2023*



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Types of Phase B Exercises

Orientation Workshop:

- This type of exercise can be conducted through a workshop.
- It is used to familiarise the players with the activity.
- There is no time-frame element; the orientation workshop could be performed after the exercise, making use of the NEAMWave23 material (i.e. Exercise manual, exercise scenarios) to conduct the workshop planned at national level.
- An example of an orientation exercise would be setting up a welfare centre to take in tsunami evacuees, and briefing to the staff about how the centre is organized.
- 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



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Types of Phase B Exercises

Drill:

- 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, a hotel, a school or a village.
- The exercise usually has a time-frame element and is used to test procedures.
- A drill is a subset of a full-scale exercise.
- 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 (i.e. Email, telephone, radios) in a tsunami exercise.
- In NEAMWave23, Phase A will be conducted as a drill exercise; the ability to send multiple consecutive tsunami messages by the TSPs will be tested.



Types of Phase B Exercises

Table-top Exercise:

- May also be referred to as a “discussion exercise”, or “DISCEX”.
- Participants face with a situation or problem that they are required to discuss and they formulate the appropriate response or solution.
- An exercise controller or moderator introduces a simulated scenario (prewritten exercise) to participants and, as the exercise advances (in time), exercise problems and activities 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.
- An example of a table top exercise may cover the participants discussing their response to a tsunami threat to a particular area, where the only input are tsunami messages from the TSPs.



Types of Phase B Exercises

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.
- Participants interact within a simulated environment through an exercise control group which provides prewritten actions 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.
- It lacks only the people "on the ground" to create a full-scale exercise
- An example would be a multi-agency response to a potentially devastating tsunami, where evacuation of a coastal community is required. Messages and actions are provided by exercise control group and are handled by the participants in the way described in appropriate plans and procedures.



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Types of Phase B Exercises

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 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).
- Typically used to test all aspects of a country's warning and emergency management systems and processes; they are 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.
- An example: a post-impact tsunami response with volunteers representing 'victims' and the emergency services using real rescue equipment at the scene. Multi-agency response to the event is played. Actual field mobilization and deployment of response personnel are also involved.