ICG NEAMTWS

Tsunami Ready Implementation in NEAM region

Ignacio Aguirre Ayerbe - *ICG/NEAMTWS TOWS WG TT- DMP*

Denis Chang Seng - *Technical Secretary TOWS TT - DMP*
Marinos Charalampakis - *ICG/NEAMTWS TOWS WG TT- DMP*
Elena Daskalaki – *ICG/NEAMTWS TT - TR*

UNESCO IOC / TOWS WG XVII Meeting
Task Team on Disaster Management and Preparedness (TT-DMP)
19 – 20 February 2024. Sendai, Japan

United Nations Educational, Scientific and Cultural Organization

Intergovernmental Oceanographic Commission

INDEX

North-Eastern Atlantic, Mediterranean and connected seas Tsunami Information Centre

NEAMTIC

unesco

Intergovernmental Oceanographic Commission

Tsunami Ready

ICG NEAMTWS TASK TEAM ON TSUNAMI READY

Nov. 2020

ICG-NEAMTWS-WGs / TTs
24-26 Nov. 2020 (link)

WG4 proposed to set up a **dedicated Group on Tsunami Ready** within WG4 to start coordinating and implementing Tsunami Ready

IOC Circular Letter No 2821
7 Dec. 2020

Draft Plan of Action

Nov. 2021

ICG/NEAMTWS
XVII Session
24 - 26 Nov. 2021
(online)

The ICG/NEAMTWS decides to formally establish a **Task Team on Tsunami Ready** with **Terms of Reference** in Appendix 5

ICG-NEAMTWS XVII Decisions and recommendations (Working Document 23 Nov 2021)

Jan. 2022

ICG/NEAMTWS
XVII Session
Establishment of intersessional WGs and TTs

Establishment of the NEAMTWS **TT on TR** and appointment of **new cochairs**

ICG-NEAMTWS XVII Session Report.

April 2022

ICG/NEAMTWS
Steering Committee
8-12 April 2022
(online)

Establishment of **First TT-TR Plan of Action (PoA)** (requested during ICG/NEAMTWS XVII 2021

Approved TT-TR Plan of Action 2022

IOC UNESCO DG ECHO CoastWAVE project

IOC UNESCO DG ECHO CoastWAVE Project

unesco Intergovernmental Oceanographic Commission

Funded by European Union Civil Protection and Humanitarian Aid

2021 2030 United Nations Decade of Ocean Science for Sustainable Development

08/ 2021

IOC-UNESCO project begins (without partners)

09/ 2022

Contracts with institutions of Member States

CoastWAVE activities

06/ 2024

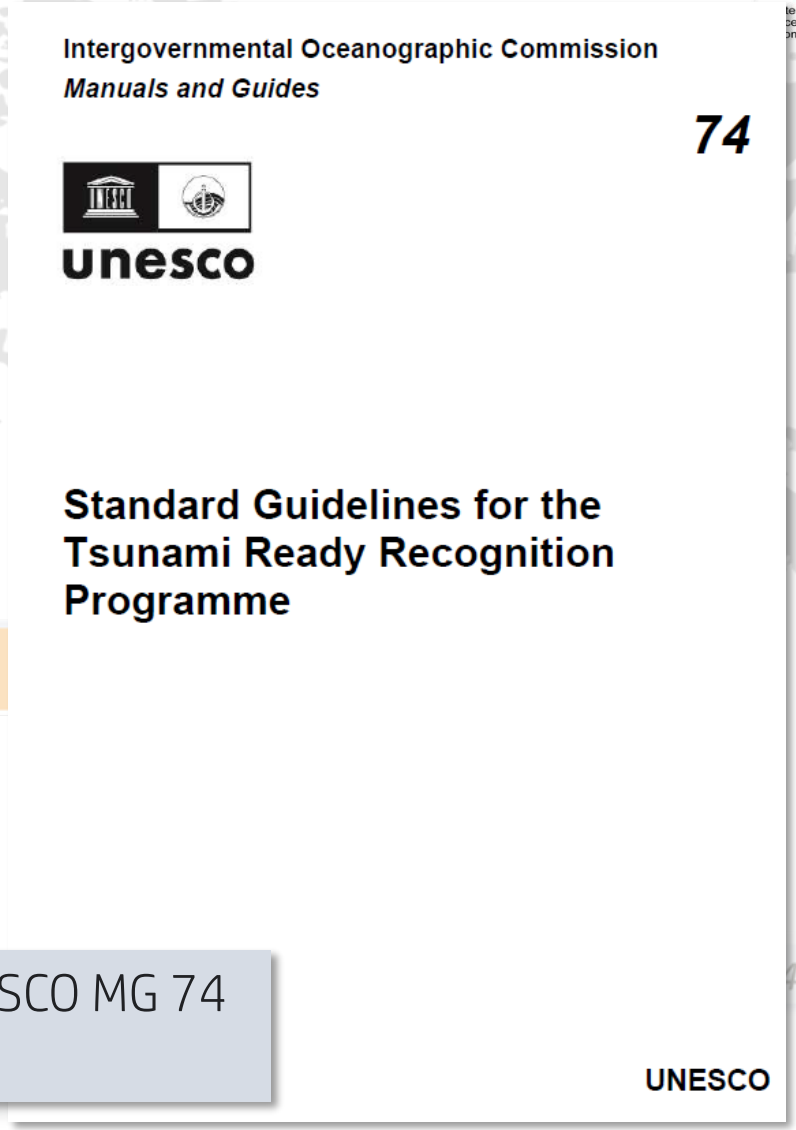
Project End

End 2024

CoastWAVE II

IOC UNESCO DG ECHO CoastWAVE project

- Component 1 - Adapt Global Tsunami Ready standards and guidelines and pilot Tsunami Ready within the framework of the ICG/NEAMTWS.
- Component 2 - Supply and install tsunami detection and alerting equipment in selected NEAMTWS countries.
- Component 3 - Evaluate the effectiveness, compatibility, performance and benefits of the "Inexpensive Device for Sea Level" (IDSL) network in NEAMTWS countries and secure its sustainability.



Adoption with appreciation of IOC UNESCO MG 74

ICG NEAMTWS XVIII Session Feb. 2024, Paris.

11 Countries
15 Communities

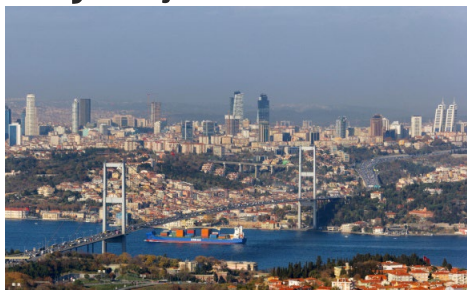
...more coming!

Chipiona

El Jadida

Loulé

Büyükçekmece



Cannes

Marzamemi

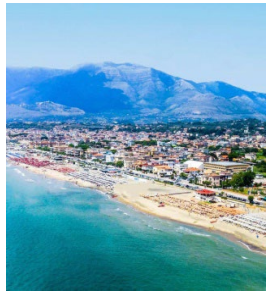
Otranto

Marsaxlokk

Israel

Palmi

Minturno



Stromboli

Larnaca

Samos

Alexandria

11 Countries
15 Communities

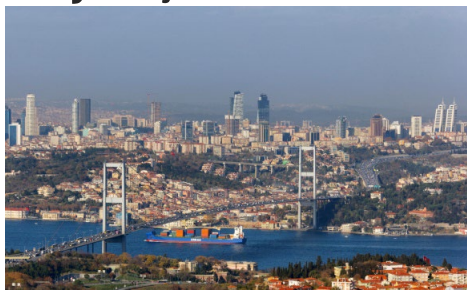
...more coming!

Chipiona

El Jadida

Loulé

Büyükçekmece



Cannes

Marzamemi

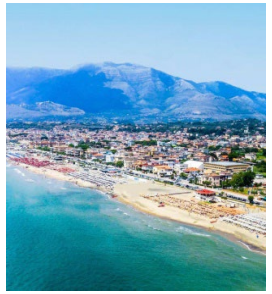
Otranto

Marsaxlokk

Israel

Palmi

Minturno



Stromboli

Larnaca

Samos

Alexandria

TRRP IMPLEMENTATION NEAM REGION

11 Countries
15 Communities

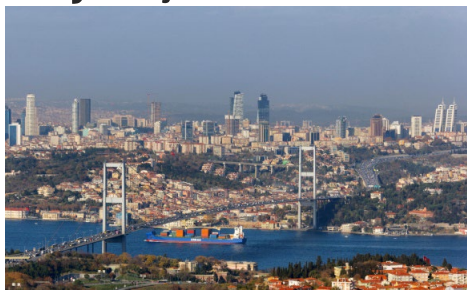
...more coming!

Chipiona

El Jadida

Loulé

Büyükçekmece



Cannes

Marzamemi

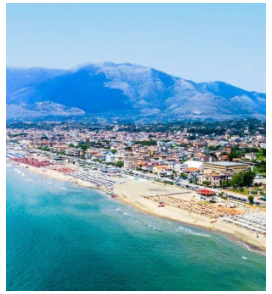
Otranto

Marsaxlokk

Israel

Palmi

Minturno



Stromboli

Larnaca

Samos

Alexandria

TRRP IMPLEMENTATION NEAM REGION

11 Countries
15 Communities

...more coming!

Chipiona

El Jadida

Loulé

Büyükçekmece

Cannes

Marzamemi

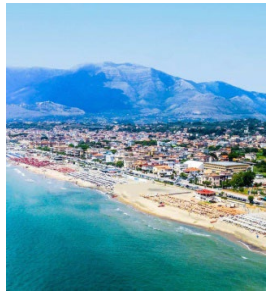
Otranto

Marsaxlokk

Israel

Palmi

Minturno



Stromboli

Larnaca

Samos

Alexandria

United Nations Educational, Scientific and Cultural Organization

Intergovernmental Oceanographic Commission

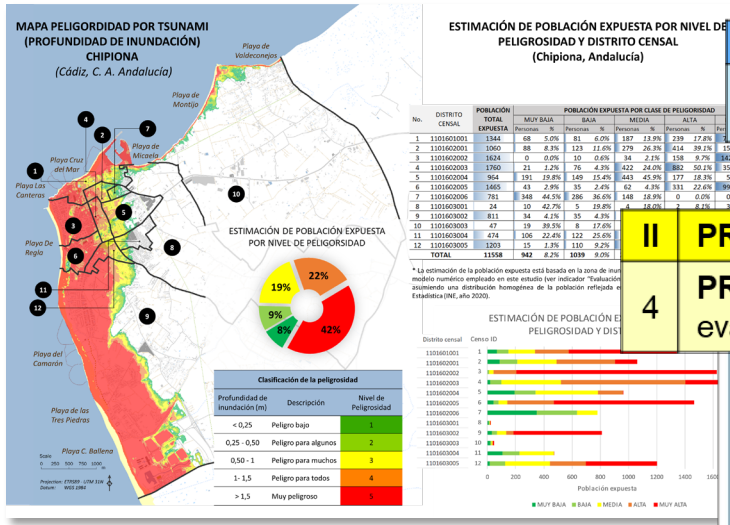
11 Countries and 15 communities (7 countries under IOC-UNESCO EU DG-ECHO CoastWAVE Project)

- Atlantic: El Jadida (Morocco); Loulé (Portugal); Chipiona (Spain).
- Central/Western Mediterranean: Cannes (France); Marzamemi-Pachino, Minturno, Palmi, Stromboli volcano, Otranto (Italy); Marsaxlokk (Malta).
- Eastern Mediterranean: Buyukçekmece (Turkey), Samos (Greece), Larnaca (Cyprus), Israel, Alexandria (Egypt).

Cannes Municipality - FRANCE

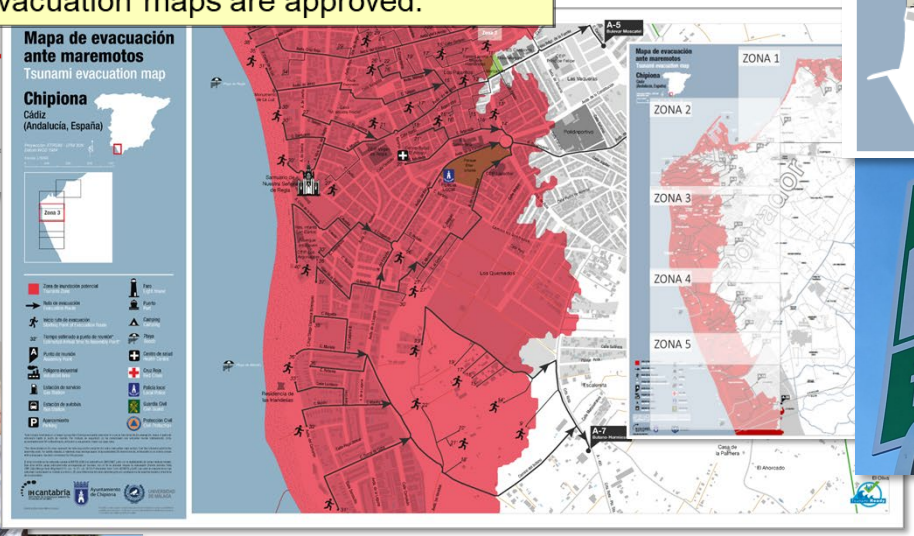
- January 19, 2024: **First Community in NEAM region to obtain the Recognition for UNESCO-IOC Tsunami TRRP**.
- The municipality's actions, including hazard assessments, evacuation mapping, drills, and exercises, align with the UNESCO Tsunami Ready **12 key indicators**, demonstrating unwavering commitment to tsunami preparedness and community resilience.

Some examples...



I	ASSESSMENT (ASSESS)
2	**ASSESS-2**. The number of people at risk in the tsunami hazard zone is estimated.

II	PREPAREDNESS (PREP)
4	**PREP-1**. Easily understood tsunami evacuation maps are approved.



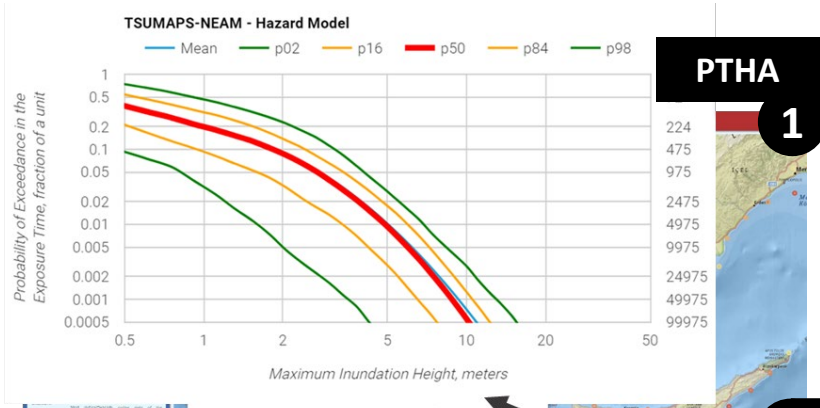
Community-based Tsunami Evacuation maps

Technical & participatory approaches (Co-design)

II	PREPAREDNESS (PREP)
8	**PREP-5**: A community tsunami exercise is conducted at least every two years.

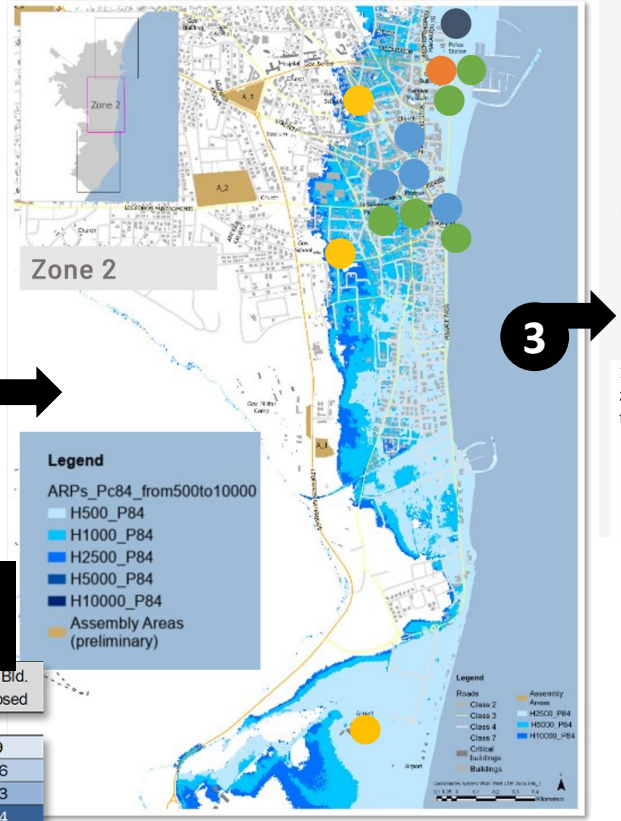
[IOC UNESCO Video link]

Some examples... From PTHA to Evacuation Planning

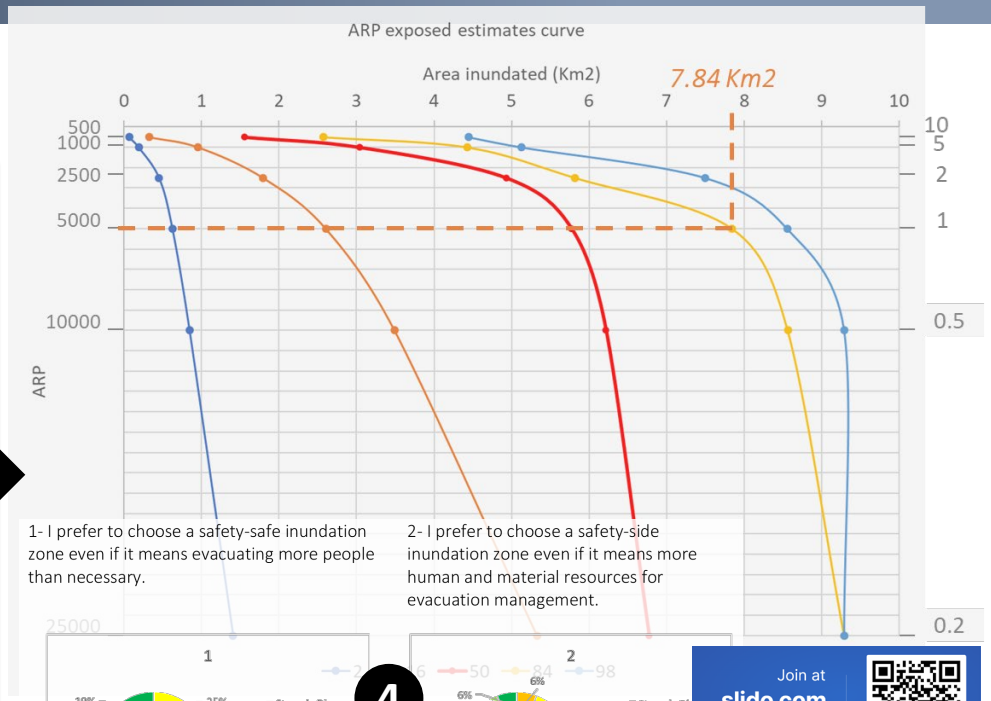


PTHA 1

ANALYSIS TO FACILITATE DECISION MAKING 2

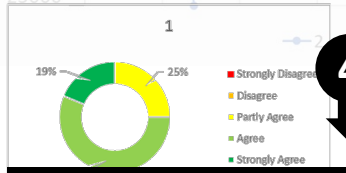


3

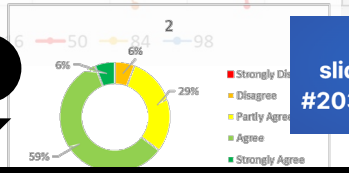


1- I prefer to choose a safety-safe inundation zone even if it means evacuating more people than necessary.

2- I prefer to choose a safety-side inundation zone even if it means more human and material resources for evacuation management.



4



Join at slido.com #2031 505

Decision adopted by the national authorities

5

Multi-stakeholder development of evacuation maps based on PTHA and Evacuation models

		probability (%)	probability (%)	Area (km²)	Max Inun. depth (m)	Population Exposed	Crit. Bld. Exposed
P50	500	0.2	10	1.56	2.64	736	9
P50	1000	0.1	5	3.04	3.1	1976	16
P50	2500	0.04	2	4.93	3.8	4946	33
P50	5000	0.02	1	5.77	4.1	6202	34
P50	10000	0.01	0.5	6.22	4.3	7435	35
P84	500	0.2	10	2.57	3	1474	13
P84	1000	0.1	5	4.43	3.6	4198	30
P84	2500	0.04	2	5.82	4.2	6265	34
P84	5000	0.02	1	7.84	4.5	10597	51
P84	10000	0.01	0.5	8.56	4.9	11320	77
P98	500	0.2	10	4.45	3.7	4190	30
P98	1000	0.1	5	5.13	4.1	5360	33
P98	2500	0.04	2	7.49	4.4	9623	46
P98	5000	0.02	1	8.55	4.8	11303	77
P98	10000	0.01	0.5	9.29	5	11562	86

3 Main challenges found in TRRP implementation

GENERAL BARRIERS

- Difficulty in incorporating some stakeholders (**tourism**, **commerce**, etc.) because they feel that recognizing and acting on the tsunami risk may **damage their business**, due to international and sectoral competition.
- Difficulties to get **local officials** to accept the signage because it materializes the tsunami risk (especially for municipalities oriented towards the **tourism economy**).
- Reluctance from local authorities to officially endorse the evacuation plan because they are worried about **legal liabilities** in case of human losses during the evacuation.
- **General populations' lack of knowledge** and **education** about coastal hazards and especially tsunamis. Some coastal communities may **underestimate** the tsunami risk. Distress and fear among exposed population may also contribute to this underestimation.
- Difficulties in **public awareness due to special conditions** (summer time, temporary population etc.).

3 Main challenges found in TRRP implementation

INSTITUTIONAL, ORGANIZATIONAL, TECHNOLOGICAL BARRIERS

- Establishment of **NTRB** / establishment of the TRLC.
- Existing national Governance structures imply the **integration** of local tsunami emergency plans, this may slow down the process, depending on the political will of each community etc.
- Institutional Coordination **between different organizations** at all spatial scales and administrative divisions.
- **Dependency on only one mean of dissemination** for alerting the population.
- International signage is not always easily acceptable by local decision makers - Need for adapting the **tsunami signage** and facilitating its integrations into the urban environment (and fear...).
- **Financial, technical, human resources,** and **time demands** for the implementation of TRRP.
- Maintenance **alerting devices** (human and financial demands).
- Sustainability of TRRR. **Continuous support** by scientific and distaster/emergency experts.

RECOMM. REFLECTED DURING ICG/NEAMTWS XVIII TASK TEAM ON TSUNAMI READY

- **To strengthen the promotion of the IOC-UNESCO TRRP among key stakeholders in the NEAM region.** One annual event (online workshop) for the promotion and explanation of the TRRP in NEAM region, for a wide audience, especially representatives of municipalities from all NEAM countries, civil protection officials from all levels, and institutions that can provide support to meet all TRRP requirements.
- To **promote new proposals of candidates for the IOC-UNESCO TRRP**. Suggestion is to contact the MS TNCs on a regular basis (e.g., annually).
- To **identify critical points,** based on the pioneering progress in the implementation of the TRRP in the NEAM region, **explore possible solutions,** and suggest (if necessary) some **flexibility** for a better adaptation to particularities within NEAM both at the regional rand local level.

4 Recommendations ICG NEAMTWS TRRP

United Nations Educational, Scientific and Cultural Organization | Intergovernmental Oceanographic Commission

RECOMM. REFLECTED DURING ICG/NEAMTWS XVIII TASK TEAM ON TSUNAMI READY

- To strength **interaction between ICG/NEAMTWS TT-TR, Inter ICG TT-DMP, Tsunami Ready Coalition and other ICGs**. This can be done by ICG/NEAMTWS TT-TR representatives to be invited to, at least as observers, Inter ICG TOWS TT DMP meetings.
- To interact with other ICGs to follow up the preparation of guidelines for **critical infrastructures** from tsunami impacts.
- To **explore ways,** in cooperation with the Inter ICG TT-DMP, **to recognize communities applying** National Tsunami Programmes and **initiatives similar to IOC-UNESCO TRRP**.
- To **translate MG74** into other languages (currently in English, Spanish, French and Arabic) and newly developed tsunami related brochures into other languages (currently in English).
- To **standardize procedures** for managing **review of TRRP applications**, including use of a common language (English).
- To conduct a **Survey Questionnaire** following IOC-UNESCO TRRP certification, to receive feedback from implementers. Explore other ICG examples in this regard.

Thank you!

ICG NEAMTWS

Tsunami Ready Implementation in NEAM region

Ignacio Aguirre Ayerbe - *ICG/NEAMTWS TOWS WG TT- DMP*

Denis Chang Seng - *Technical Secretary TOWS TT - DMP*
Marinos Charalampakis - *ICG/NEAMTWS TOWS WG TT- DMP*
Elena Daskalaki – *ICG/NEAMTWS TT - TR*

UNESCO IOC / TOWS WG XVII Meeting
Task Team on Disaster Management and Preparedness (TT-DMP)
19 – 20 February 2024. Sendai, Japan