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Key Achievements, Challenges and Opportunities on the Implementation of IOC/DG ECHO CoastWAVE Project and Tsunami Ready Recognition Programme of UNESCO in NEAM Region

Funded by European Union Humanitarian Aid

IOC-UNESCO/DG ECHO COASTWAVE PROJECT PROGRESS SUMMARY ON COMPONENT 2 AND 3

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UNESCO TEAM: BERNARDO ALIAGA ROSSEL, DENIS CHANG SENG, DERYA VENNIN, ANZHELA DANILOVA

February 5, 2024, Paris

Project Components

1

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

2

Component 2: Supply and install tsunami detection and alerting equipment in selected NEAMTWS countries

3

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.

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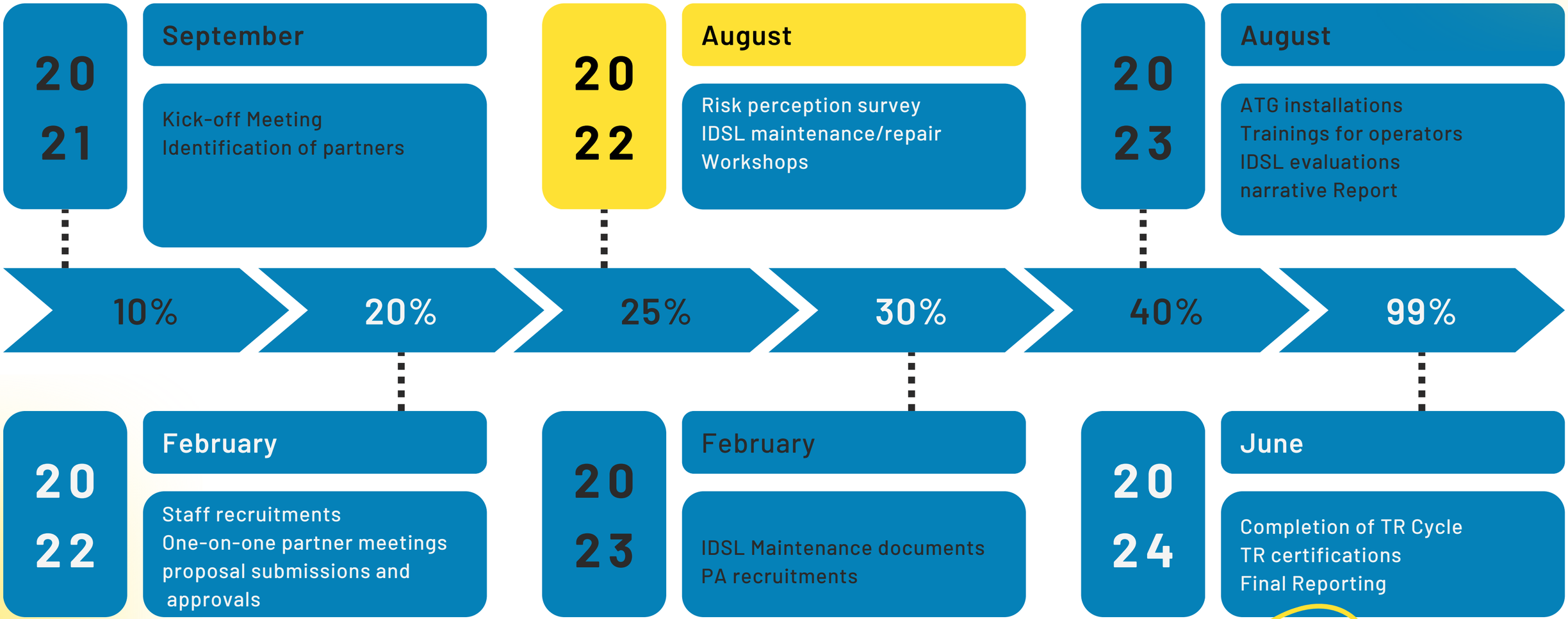
PLANING TIMELINE

KEY ACTIVITIES

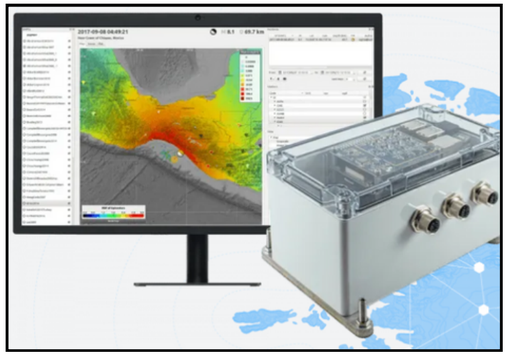


COMPONENT 2: SUPPLY AND INSTALL TSUNAMI DETECTION AND ALERTING EQUIPMENT IN SELECTED NEAMTWS COUNTRIES

Expected Outcome : Improved access to near real time seismic and/or sea level detection and alerting systems to provide early warning of rapid onset sea level-related hazards in selected coastal communities in Cyprus, Egypt, Morocco and Spain

	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 3 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.

Seismograms



Affordable gauges

Long range sirens

Information panel

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1. Identify local partners to operate and maintain the system and find optimum locations

- Partners identified the operating agencies responsible for handling and maintaining the systems .
- Performed site surveys

operating agencies with local partners in El Jadida

El Jadida site survey and the location for affordable gauges

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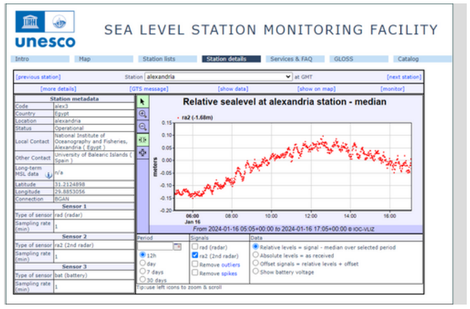
Expected Outcome : Improved access to near real time seismic and/or sea level detection and alerting systems to provide early warning of rapid onset sea level-related hazards in selected coastal communities in Cyprus, Egypt, Morocco and Spain

2. Design, installation and commissioning of the tsunami detection and alerting systems

- designed, procured and installed 3 Affordable Tide Gauges (ATG) in Morocco, Cyprus and Egypt by Universitat de les Illes Balears and Spanish Institute of Oceanography.

ATG setup

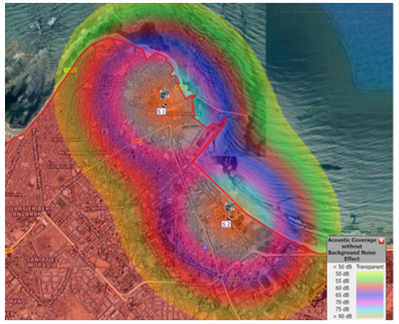
- sent the data to the IOC data service



data of the gauge in Alexandria

- provided user guide

- awarded contracts to install and commission sirens for Spain, and Morocco. negotiating for Cyprus and Egypt



map of acoustic simulation map for sirens, El Jadida, Morocco -

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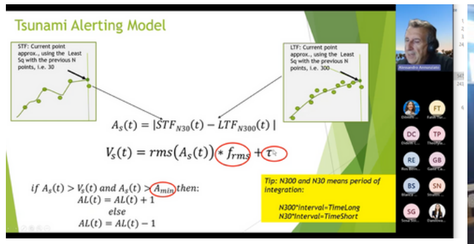
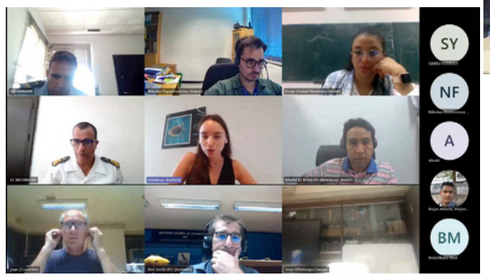
Expected Outcome : Improved access to near real time seismic and/or sea level detection and alerting systems to provide early warning of rapid onset sea level-related hazards in selected coastal communities in Cyprus, Egypt, Morocco and Spain

3. Conduct training courses for local operators on the operation and maintenance of the tsunami detection and alerting system

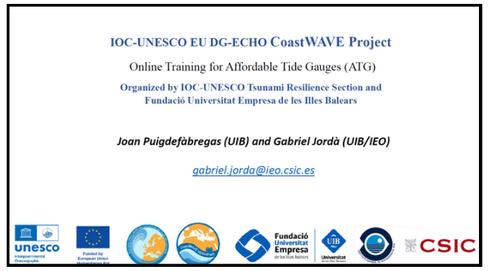
- Provided online and on-site trainings and user guide for ATGs and IDSLs



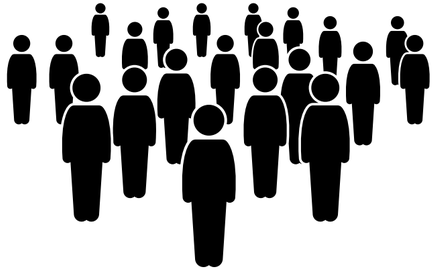


online training for IDSLs and ATGs

On-site trainings/installation by University of Balearic Islands



User guides



- **A total of 32 people participated. Post surveys revealed the need of more trainings**

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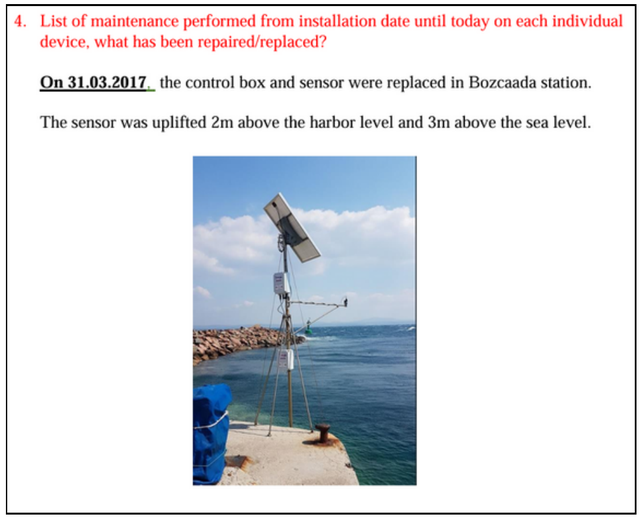
COMPONENT 3: EVALUATE THE EFFECTIVENESS, COMPATIBILITY, PERFORMANCE AND BENEFITS OF THE "INEXPENSIVE DEVICE FOR SEA LEVEL" (IDSL) NETWORK IN NEAMTWS COUNTRIES AND SECURE ITS SUSTAINABILITY

Expected Outcome : Enhanced longer Term Sustainability of the Inexpensive Device for Sea Level (IDSL) network to provide early warning of rapid onset sea level-related hazards in NEAMTWS countries

1. Conduct assessment of maintenance and support requirements for IDSL systems in consultation with JRC

- submitted reports on the status of IDSLs
- assessed the maintenance requirement in consultation with EC- JRC and with the project partners.



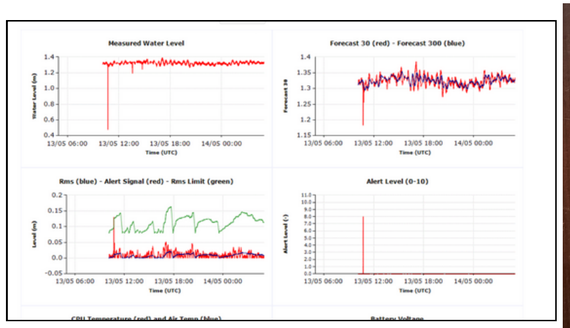
4. List of maintenance performed from installation date until today on each individual device, what has been repaired/replaced?

On 31.03.2017, the control box and sensor were replaced in Bozcaada station.

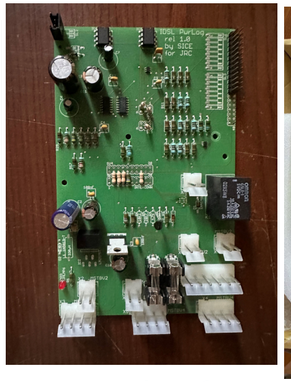
The sensor was uplifted 2m above the harbor level and 3m above the sea level.

example from the maintenance report of Turkiye

- identified the essential spare parts and maintenance tools to IDSL system operators were .
- provided 45 essentital spare parts with the support of the partners
- provided online support for 4 devices



measurements from Bozcaada station after online support



examples of spare parts sent

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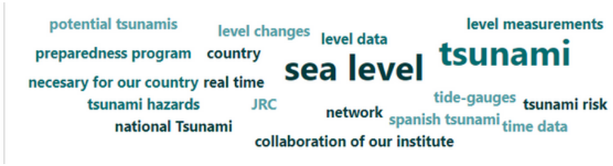
Expected Outcome : Enhanced longer Term Sustainability of the Inexpensive Device for Sea Level (IDSL) network to provide early warning of rapid onset sea level-related hazards in NEAMTWS countries

2. Conduct an evaluation of the effectiveness and compatibility of IDSL stations

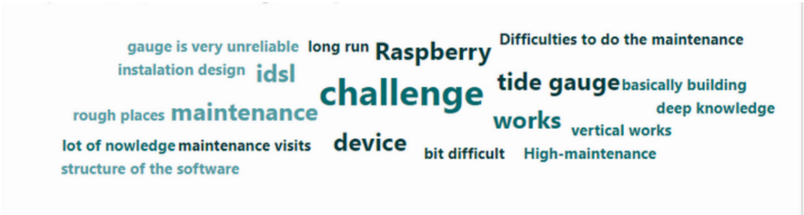
- distributed an evaluation survey to local operators

.

- *Why did you install IDSLs?*



- *Are there any specific challenges you face in operating or maintaining IDSL?*



- *feedback or suggestions for enhancing operator experience or makeing your job easier*

- established a contract with a senior consultant to technically evaluate the devices

  calibration and validation, data quality, accuracy and precision, long term stability, compliance with standards

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Expected Outcome : Enhanced longer Term Sustainability of the Inexpensive Device for Sea Level (IDSL) network to provide early warning of rapid onset sea level-related hazards in NEAMTWS countries

3. Develop an IDSL maintenance programme and associated budget for IDSL stations in NEAMTWS countries in accordance with the findings and recommendations of the evaluation survey for implementation under a possible Phase 2 project

- prepared a maintenance programme and associated budget for IDSL stations and circulated to the operators.

3.4 Estimation of the overall running cost for IDSL

Considering the cost for 10 years, the following table can be considered related to one IDSL.

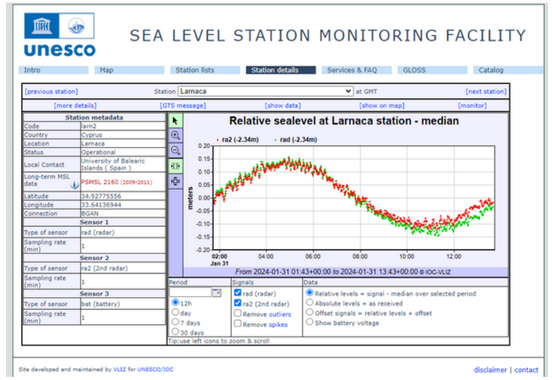
Cost of IDSL device	1	2500-3000
Installation costs	1	2500
Maintenance package	1	1150
Replacing material (10 years)	1	1490
Periodic Maintenance visits (1 every 2 year)	3	3000
Total		**10640-11140**
Yearly cost		**1064-1114**

In case of more frequent visits (1 per year) the cost could be increased by 3000 euro for a total of 13640-14140 euro and 1364-1414 per year.

4. Modify IDSL network to ensure compatibility with the UNESCO IOC Sea Level Station Monitoring Facility

- Collaborated with the VLIZ Sea-level Monitoring Facility and JRC for the smooth transition of the data to the VLIZ.

- added new gauges in El Jadida, Alexandria and Larnaca to the facility and become available online for all users.



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Thank you for your attention.

coastwaveproject

CoastWave_IOC

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Key Achievements, Challenges and Opportunities on the Implementation of IOC/DG ECHO CoastWAVE Project and Tsunami Ready Recognition Programme in NEAM Region

COMMUNICATION AND VISIBILITY ACTIVITIES

PRESENTER: ANZHELA DANILOVA

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February 5, 2024

Tsunami Ready

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KANDILLI OBSERVATORY AND EARTHQUAKE RESEARCH INSTITUTE 1868

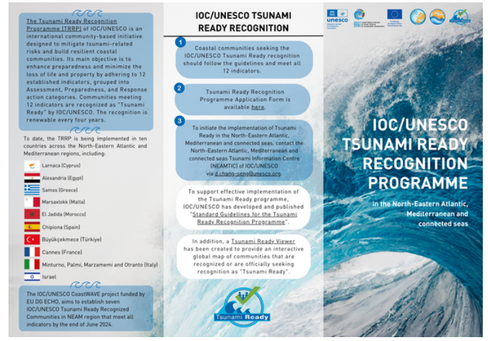
IH cantabria INSTITUTO DE HIDRÁULICA AMBIENTAL UNIVERSIDAD DE CANTABRIA

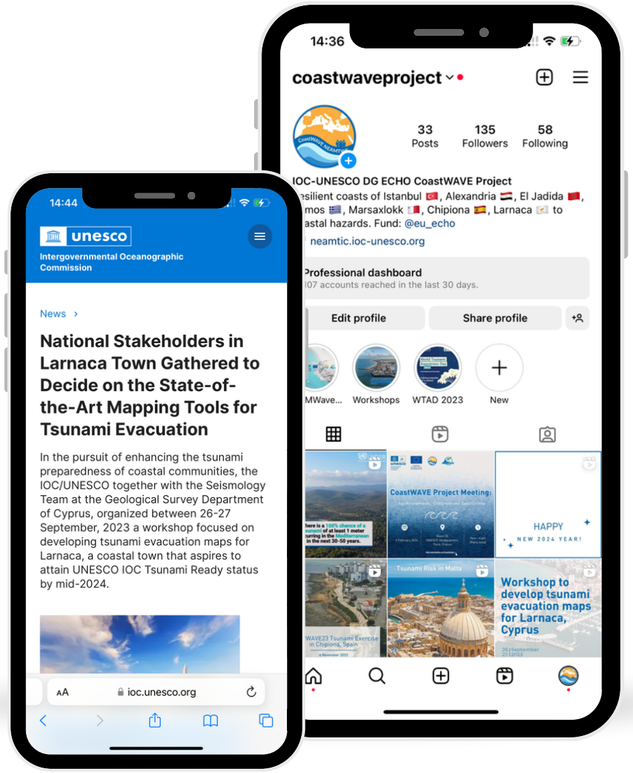
ODTÜ METU

COMMUNICATION AND VISIBILITY

1. IOC/UNESCO website: **ioc.unesco.org**
2. IOC/Tsunami website
3. NEAMTIC website
4. CoastWAVE Project accounts on social media:

- Instagram **@coastwaveproject**
- Twitter **@CoastWave_IOC**





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Event campaigns

42 posts

Workshops & training summary

27 posts

Commemoration of events

5 posts

Important announcements

2 posts

Educational & informational materials

13 posts

83 posts in total

Thank you.

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Hands-on Exercise on Challenges of TR Implementation:

- To help in assessing potential risks to the implementation of TR in NEAM, to address these risks before they escalate.

- to understand the resource requirements, whether they are financial, human, or technological. This information is essential for effective resource allocation and planning for the next phases.

- to learn from experiences, adapt strategies, and enhance their capabilities for future projects.

- to discuss with the group on the challenges and categorize them based on groupings (operational, organizational, technical, regulatory and compliance etc.)

- provide valuable learning opportunities for the project team.

Catergorization of Challenges

1. Operational Challenges:
   - Difficulties in translating plans into actionable steps.
   - Resource constraints, including human resources, time, and budget limitations.
   - Lack of adequate training for the team members involved in the implementation.

1. Organizational Challenges:
   - Resistance to change within the organization.
   - Poor communication and coordination among different departments or teams.

3. Cultural Challenges:
   - Misalignment with the organizational culture.
   - Employee mindset and resistance to new processes or systems.

4. Regulatory and Compliance Challenges:
   - Adherence to legal and regulatory requirements.
   - Ensuring compliance with standards and guidelines.

Hands-on Exercise:

- **Create groups of 5/6 person and select a representative/spokesperson (5min)**

Hands-on Exercise:

- **Create groups of 5/6 person and select a representative/spokesperson (5min)**

- **Discuss with the group on the challenges and categorize them based on groupings (operational, organizational, technical, regulatory and compliance etc.) (10-15min)**

Hands-on Exercise:

- Create groups of 5/6 person and select a representative/spokesperson (5min)
- Discuss with the group on the challenges and categorize them based on groupings (operational, organizational, technical, regulatory and compliance etc.) (10-15min)
- Prioritize them wrt. impact/ urgency (10-15min)

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- Think about the root causes of these challenges (10-15min)

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- Create groups of 5/6 person and select a representative/spokesperson (5min)
- Discuss with the group on the challenges and categorize them based on groupings (operational, organizational, technical, regulatory and compliance etc.) (10-15min)
- Prioritize them wrt. impact/ urgency (10-15min)
- Think about the root causes of these challenges (10-15min)
- Find solutions for high impact/high urgent challenges (15-20min)