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TouMaLi Side Events

TouMaLi 2025: Project Insights and Forward Paths on Sustainable Tourism, Waste Solutions and Litter Prevention

Hammam Sousse, 27th November 2025

Topic 3 – Board Overview

Topic 3: Mapping Coastal Pollution for Preventing Marine Litter

- What are the most effective methodologies and tools for mapping and monitoring marine litter in Mediterranean regions?
- How can geospatial technologies and citizen science initiatives be used to identify pollution hotspots and trace sources of plastic leakage?
- In what ways can mapping and monitoring data be used to inform targeted actions, policy development, and the design of EPR systems for marine litter prevention?
- What are the challenges and gaps in current coastal pollution monitoring efforts, and how can these be addressed to ensure the sustainability of future initiatives?

Topic 3 - Main Findings

Topic 3: Mapping Coastal Pollution for Preventing Marine Litter

- Tools selected according to monitoring purpose, for example general pollution, bathing water quality, biodiversity and ecosystem protection.
- Programmes differ between countries depending on ecological risks and institutional capacities.

Morocco

- Monitoring for beach use, bathing water, and pollution across 3500 km of coast.
- Sampling of beach sand and coastal water with laboratory analysis, low quality beaches closed for swimming.
- Microplastic testing supported by Ministry of Environment laboratories.

Topic 3 - Main Findings

Topic 3: Mapping Coastal Pollution for Preventing Marine Litter

Syria

- Institute dedicated to coastal pollution monitoring.
- Sampling from surface layers to deeper sediments, recognising deeper contamination from wastewater discharge.
- Need for continuous year round monitoring on public beaches.
- Detailed analysis of microplastics and heavy metals in sand, water, and fish.
- Interest in stronger links between research institutions and implementers.

Topic 3 - Main Findings

Topic 3: Mapping Coastal Pollution for Preventing Marine Litter

Egypt

- UNEP and MAP methodologies underpin monitoring practice.
- Macrolitter monitoring is most frequent given its lower cost.
- Collection of structured metadata during field missions.
- Submerged marine litter monitoring initiated recently with positive preliminary results.
- Microlitter monitoring started last year.
- Floating macrolitter tracked only in three designated hotspots.
- Geospatial tools mainly used by universities and research centres.

Topic 3 - Main Findings

Topic 3: Mapping Coastal Pollution for Preventing Marine Litter

Role of NGOs and Academia

- Academic work focused on specific regions or study topics.
- Civil society contributions limited to clean up campaigns without systematic monitoring.

Topic 3 - Main Findings

Topic 3: Mapping Coastal Pollution for Preventing Marine Litter

Gaps and Needs for Scaling Up

- Establishment of a consolidated multi year regional database covering Morocco to Syria.
- Strengthening consistent monitoring frameworks and accredited laboratory networks.
- Broader adoption of remote sensing tools for shoreline debris detection, floating debris mapping, and temporal change assessment.
- Use of satellite based observations, drone surveys, aerial imagery, and machine learning classification for identifying macro scale litter trends.

Topic 3 - Main Findings

Topic 3: Mapping Coastal Pollution for Preventing Marine Litter

Gaps and Needs for Scaling Up

- Development of modelling tools for forecasting pollutant transport, accumulation zones, and seasonal variations.
- Integration of hydrodynamic modelling, wind and current data, and spatial analytics for predicting hotspots and planning interventions.
- Better coordination among research institutions, national authorities, and implementing organisations.

Topic 3 – Way forward

Topic 3: Mapping Coastal Pollution for Preventing Marine Litter

- Develop regional modelling systems for projecting litter movement, accumulation zones and seasonal patterns.
- Improve coordination between governments, research institutions, NGOs and practitioners for continuous monitoring rather than isolated studies.
- Introduce long term monitoring programmes on public beaches and high risk areas to ensure consistent data flow.

Topic 3 – Way forward

Topic 3: Mapping Coastal Pollution for Preventing Marine Litter

- Establish a unified regional database that compiles multi year measurements from all countries.
- Standardise monitoring methods so data from Morocco, Syria, Egypt and others can be directly compared.
- Strengthen accredited laboratory capacity for microplastics, heavy metals and sediment analysis.
- Expand use of remote sensing tools including satellite imagery, drone surveys and automated image recognition.

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Thank you for your attention!