

Collection of plastics from the environment and their potential usage: Mapping actions in Greece

**Kikaki A., Kastanidi E., Pagou, K.,
Karageorgis A.**

Institute of Oceanography

Hellenic Centre for Marine Research

7th Group of Senior Officials - GSO
BLUEMED WG remote meeting
10 December 2020



Actions recorded for the period 2018-2020



✓ Beach & Underwater **Clean-ups**

✓ **Education**

✓ Marine Litter Collection **Stations**

✓ **Circular Economy**

✓ **Plastic Free Islands Initiatives**



#PLASTICFREEGREECE



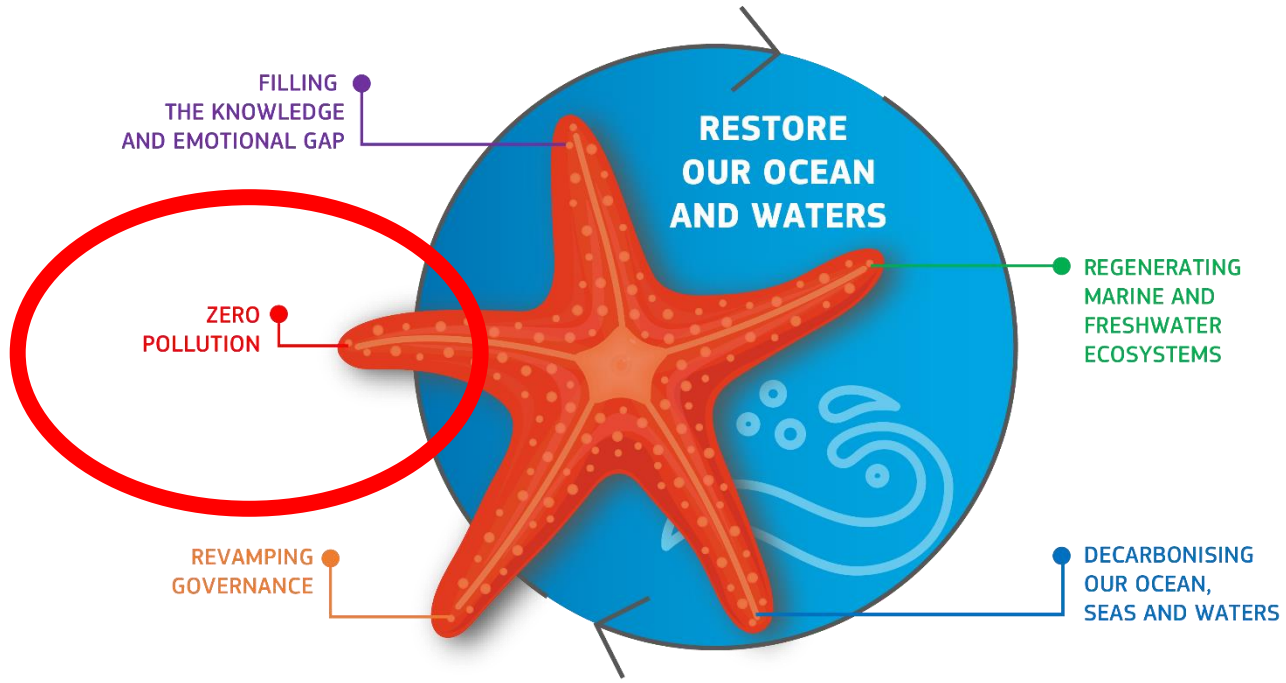
Data (non-exhaustive) were collected from the Internet as well as by personal communication with Clean-Ups Organizers



BLUEMED PILOT – Greek Hub

- The data were collected as part of the actions of the Greek hub to combat plastic pollution in Greece
- Mapping activities concentrated on recording data of public actions of beach and underwater waste removal and the identification of innovative opportunities for re-using collected waste
- The extent of these actions show the importance of these citizen's activities in addressing the plastic pollution problems.
- The actions have been categorised into **Beach clean-ups** (waste collection), **Waste quantification** (i.e., weighing), **Waste classification** aiming to connect these actions with the MSFD protocols

A contribution to: 'Mission Starfish 2030: Restore our Ocean and Waters'



Facts

- The EU coastline is 68,000 km long
- Almost half of the EU population lives less than 50 km from the sea. In 2011, 206 million people, or 41 % of the EU population, lived in Europe's coastal regions (Eurostat).
- Greece's coastline measures 13,676 km (the longest within EU 27 countries, second after Norway, followed by the UK)
- Greek sovereign land includes 6,000 islands and islets scattered in the Aegean and Ionian Seas, of which 227 islands are inhabited.



✓ **Beach Clean Ups/Classification:**

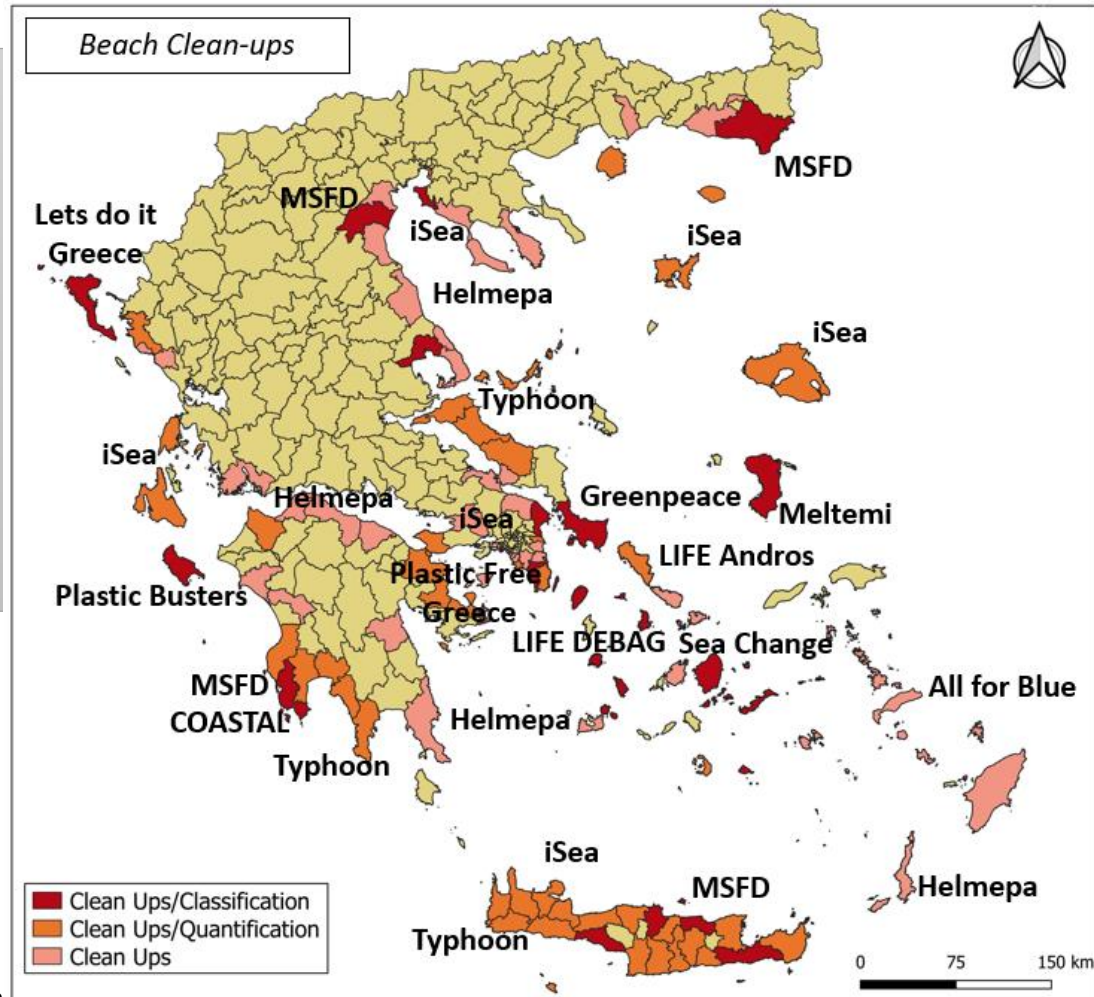
Classification of Plastic Types in Collected Marine Litter

✓ **Beach Clean Ups/Quantification:**

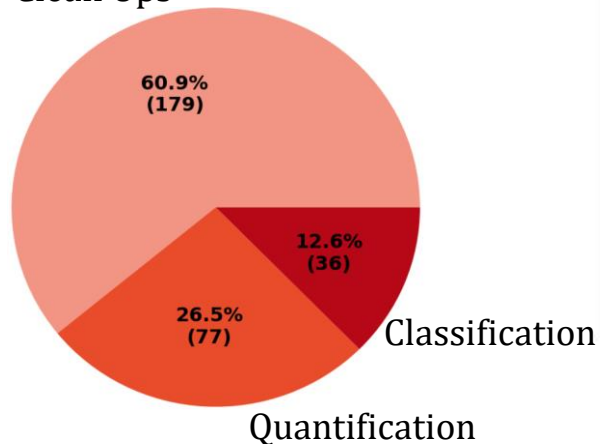
Volume/Weight of Collected Marine Litter

✓ **Beach Clean Ups:**

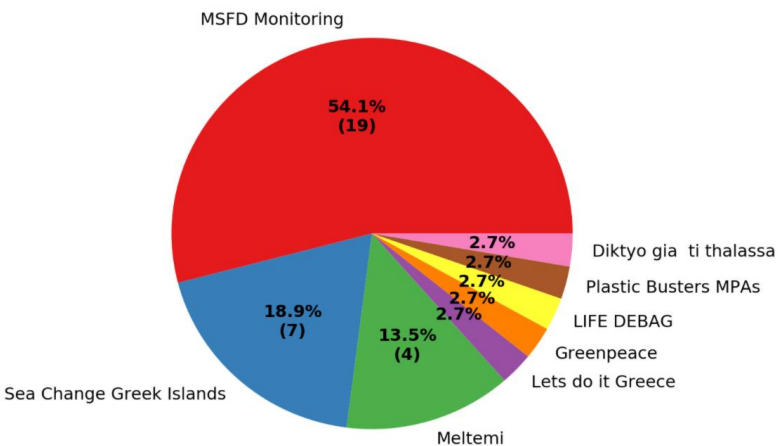
Marine Litter Collection only



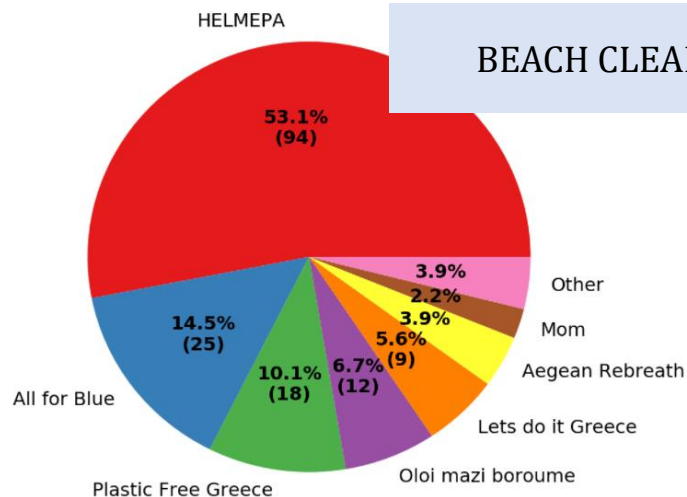
Clean Ups



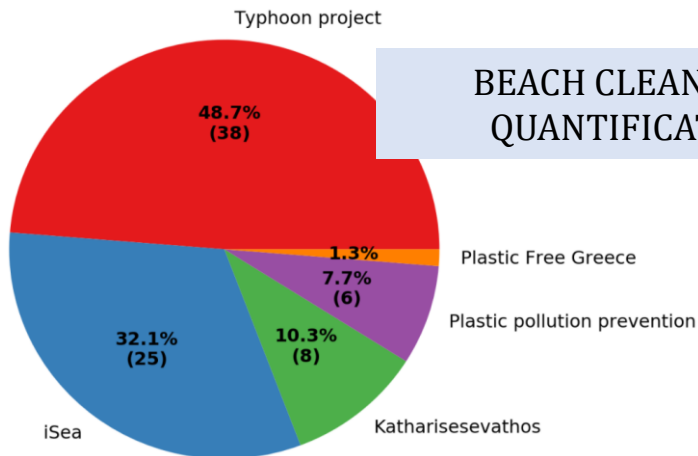
BEACH CLEAN UPS/ CLASSIFICATION



BEACH CLEAN UPS



BEACH CLEAN UPS/ QUANTIFICATION



✓ **Underwater Clean Ups/**
Classification:

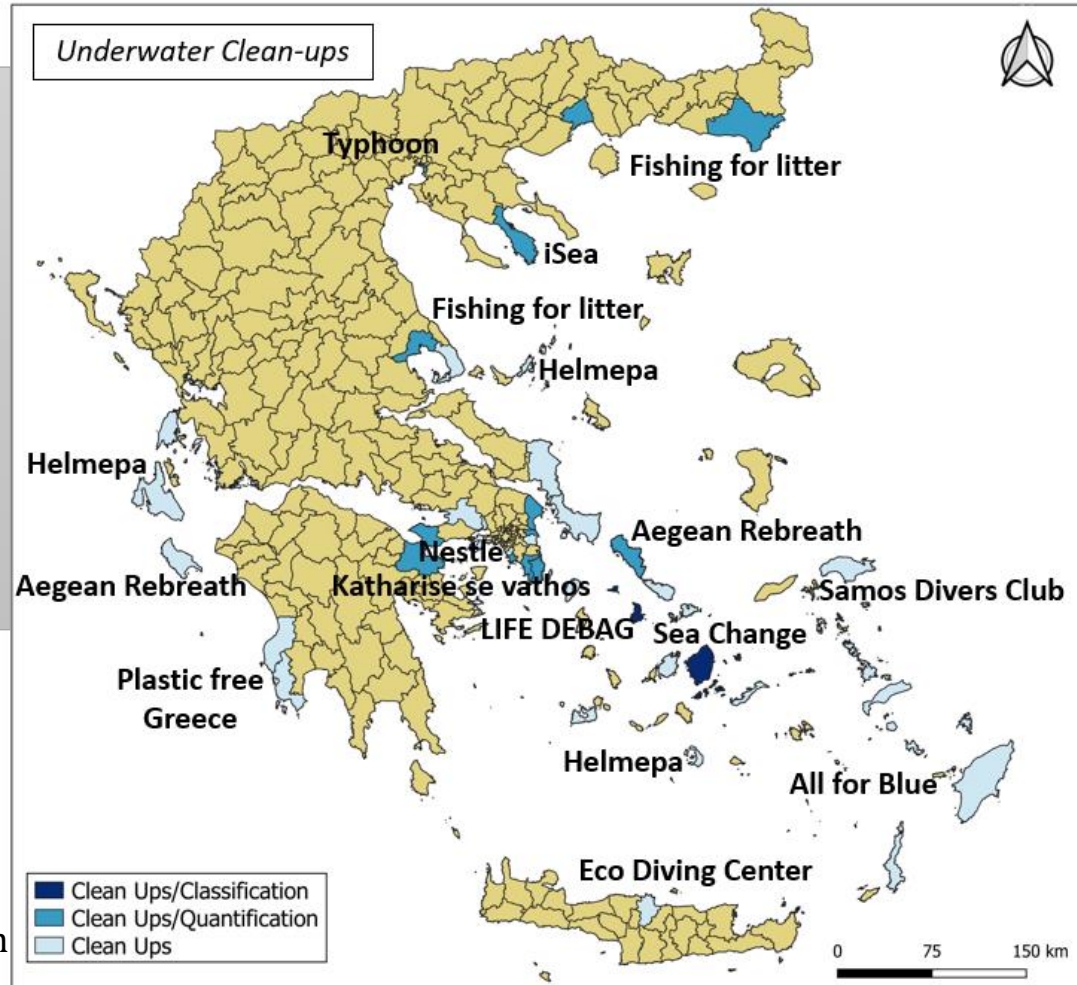
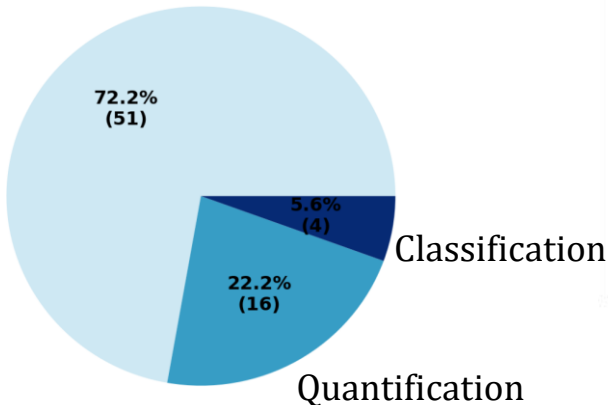
Classification of Plastic Types in
Collected Marine Litter

✓ **Underwater Clean Ups/**
Quantification:

Volume/Weight of Collected Marine
Litter

✓ **Underwater Clean Ups:**
Marine Litter Collection only

Clean Ups

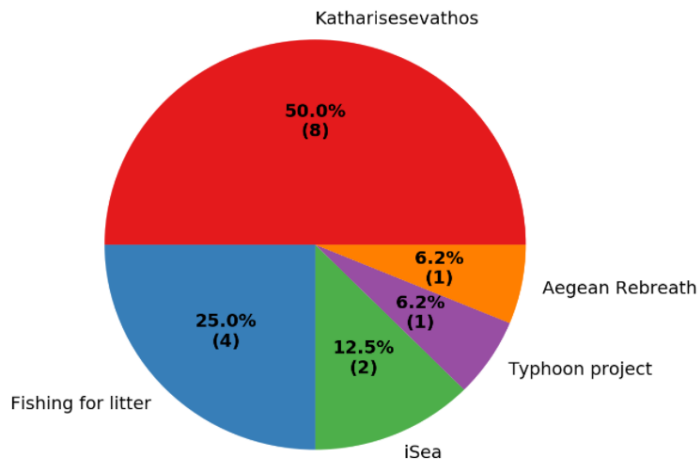


For **Underwater Clean Ups/Classification:**

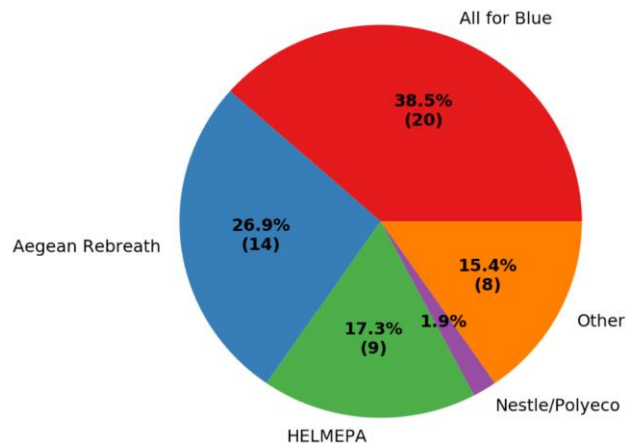
- ✓ Sea Change Greek Islands
- ✓ LIFE DEBAG

➡ Significant Contribution of **Local Diving Centers/Clubs** to Underwater Clean up Activities!

UNDERWATER CLEAN UPS/ QUANTIFICATION



UNDERWATER CLEAN UPS



Marine Litter **Stations**
(Aegean Rebreath)

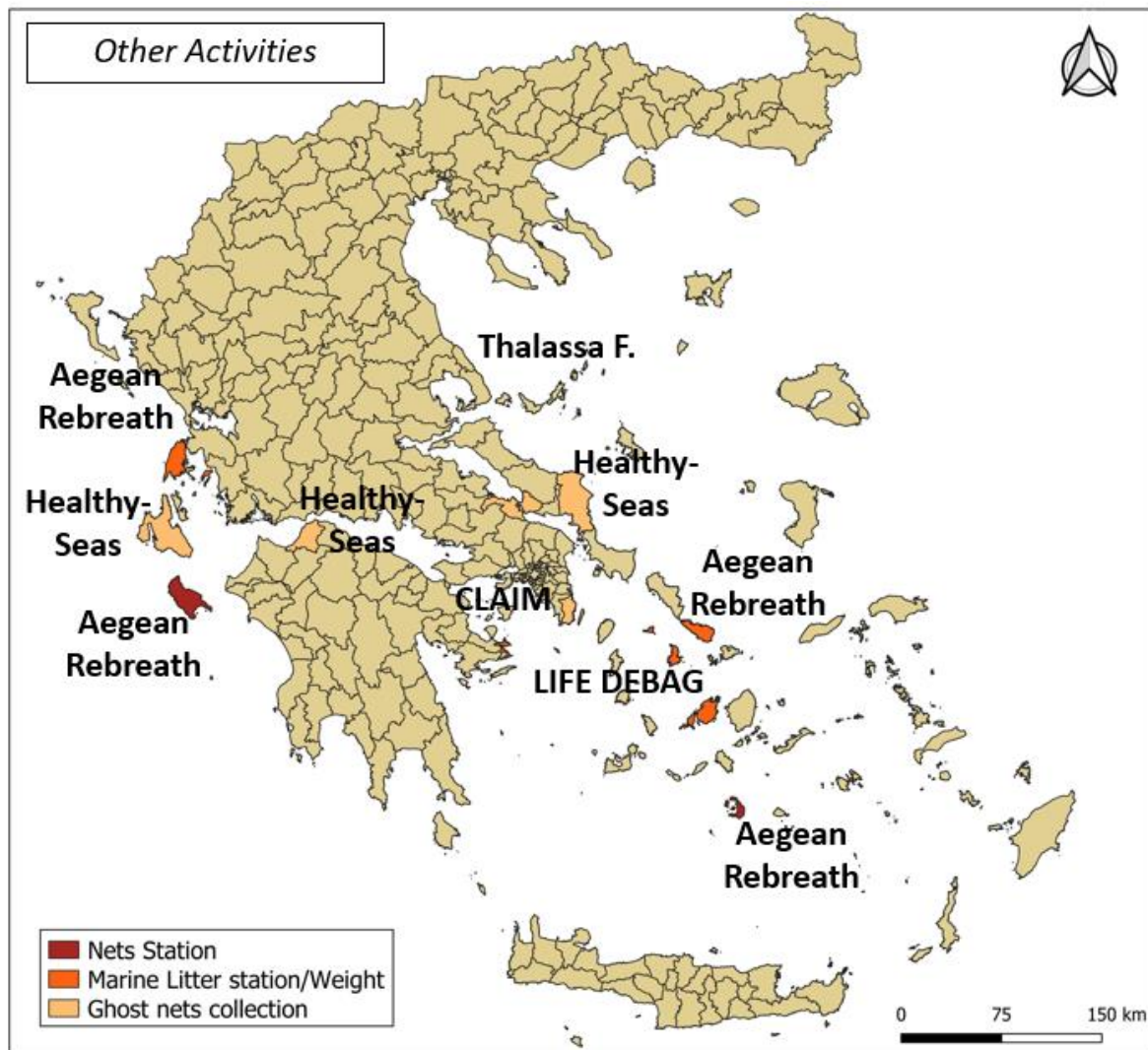
Ghost Nets Collection
(Healthy-Seas/Enaleia)

CLAIM Station
(Kifisos River)

Plastic Free Islands
Paros (Common Seas)
Donousa (Laskaridis F.)

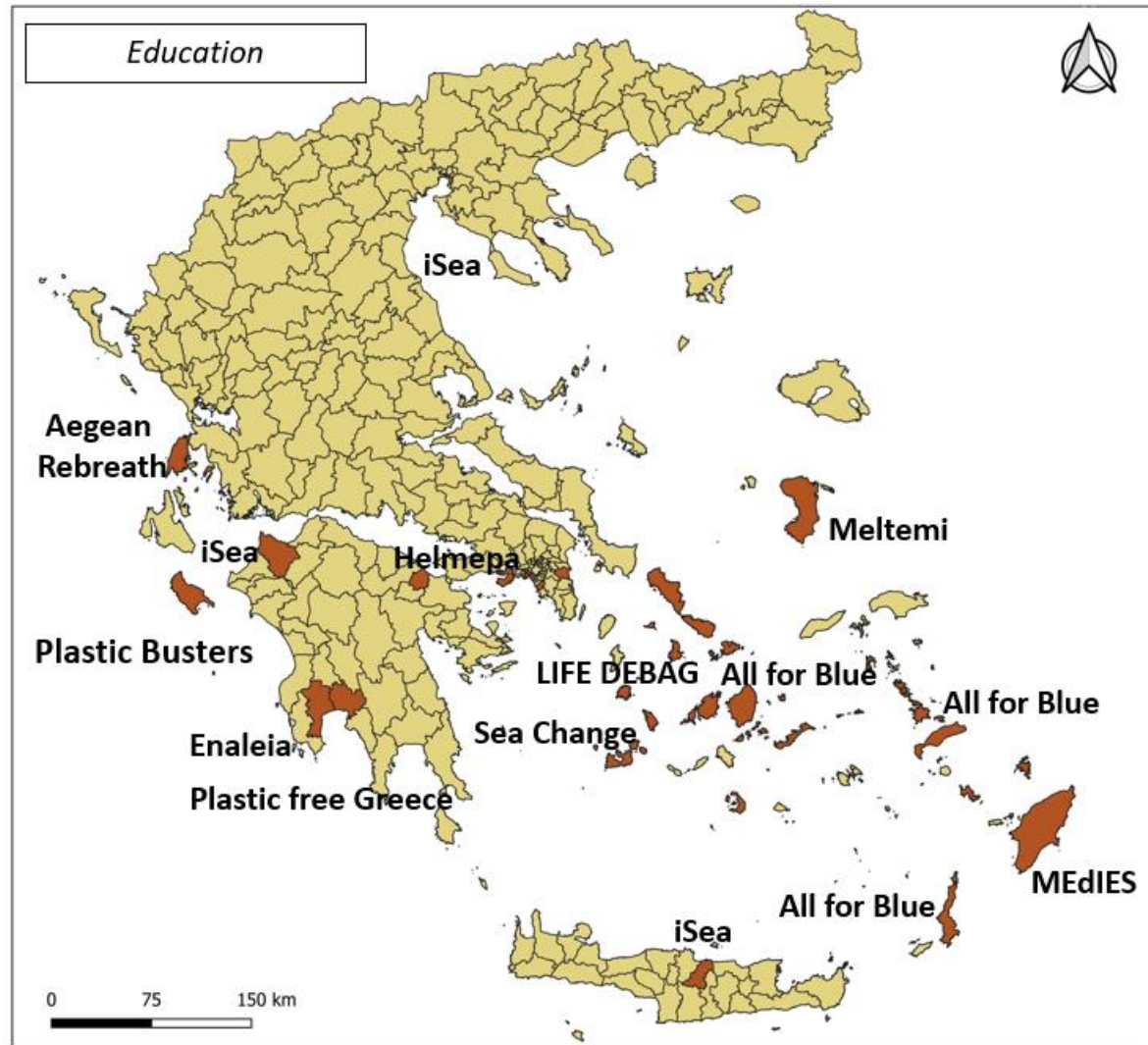
Plastic-Bag Free Islands
Alonnisos (Thalassa F.)
Skiathos (Thalassa F.)
Syros (LIFE DEBAG)

➡ Greece aims to **ban**
Single-Use Plastics by
July 2021!



Participants:

- ✓ Volunteers/
Citizens
- ✓ Students
- ✓ Divers
- ✓ Fishermen



Circular Economy

- ✓ **BlueCycle project:** Marine Litter use (Aegean Rebreath Stations) for **pellet/thread** generation
- ✓ **Siros Island: Collection stations** (clothes, plastics, cooking oil, nets) and reuse for **glass/jewelry** etc. generation
- ✓ **Healthy-Seas/Aquafil:** Transformation of nylon waste (fishing nets) into **first grade nylon (socks, carpets)**
- ✓ **Zero Waste Lab** (Coca-Cola): Reuse of marine litter by 3D Printing
- ✓ **Relak** zero waste Thessaloniki: Use of PC motherboards for **jewelry** production
- ✓ **Anaskela:** **Towels** from plastic bottles collected in Falassarna beach
- ✓ **LIFE18 –IP CEI** project for Circular economy implementation in Athens, Thessaloniki and Tinos, Santorini, Paros and Alonnisos Islands



So far ...

✓ More than **500 tonnes** of Marine Litter have been collected in Greece

Top Marine Beach Litter Items in Greek Coasts

1. Cigarettes
2. Microplastics
3. Plastic Bottle caps
4. Plastic Straws
5. Paper pieces
6. Plastic Bottles
7. Single-Use Plastic Glasses
8. Styrofoam
9. Plastic Bags
10. Glass Bottles





We thank S. Kordella, A. Venetsanopoulou & N. Streftaris for fruitful discussions. We also thank E. Kaberi for sharing MSFD Metadata, C. Triantafyllou for sharing Helmepa Metadata and A. Stamatis for sharing Lets do it Greece Metadata.