

## First Training on Ecohydrology “ECOTRAIN” in North Africa

### Ecology and biodiversity of anthropized lagoons under climate changes effects

**October 08<sup>th</sup> – 09<sup>th</sup>, 2024 (In person)**

**INSTM, La Goulette Center, Tunisia**

#### ***Goals of the training session on Ecology and Biodiversity of anthropized lagoons under climate changes effects***

The training course aims to build capacities and to enhance knowledges on ecohydrological principles and natural based solutions in anthropized lagoon ecosystem as a transdisciplinary, scientific approach to achieve water quality and biodiversity monitoring, and sustainable development of activities. Ghar El Melh, situated in the Northeast of Tunisia and labelled UNESCO demosite since 2022, which is suffering from an accelerated degradation of environmental conditions: beaches retreat, water quality deterioration, marine submersion and biodiversity decrease, was chosen as a case study for this training.

#### ***Ecology and Biodiversity Training main steps***

##### **Step 1: Field campaigns and data collection**

- Presentation of the lagoon ecosystems with particular attention to the Ghar El Melh lagoon: basic notion, potential and vulnerability
- Preparation and achievement of field campaigns
- Field visit of the OMELI observatory, wetlands and natural based solutions of Ghar El Melh system.

##### **Step 2: Planktonic, benthic and epiphytic Microalgae: analysis and interpretation**

Being the basis of trophic web, able to produce oxygen and others secondary components that can be harmful, phytoplankton conditions the life of their consumers. Thus, phytoplankton represents a major compartment in the aquatic ecosystem, in environmental quality (oxygen), food (fish and seafood), well-being (health, beauty), industrial resource, etc. This training will be the occasion to meet these amazing micro-organisms and to know more about them.

### **Step 3: Benthic macrofauna and ichthyological fauna of the lagoon systems**

Studies on benthic macrofauna and ichthyological fauna in lagoons is crucial for understanding the ecological dynamics of these aquatic ecosystems.

Benthic macrofauna play key roles of trophic web and their presence, diversity, and abundance can be indicators of environmental health and water quality of lagoons.

Ichthyological Fauna are critical components of lagoon ecosystems, serving as predators and prey, and influencing nutrient distribution through their feeding and excretion activities. This resource is very important in the balance and sustainability of the exploitation of the lagoons

Finally, both benthic macrofauna and ichthyological fauna are sensitive to changes in water quality, pollution, habitat destruction, and climate change. By studying these communities, we can assess the impact of environmental stressors on lagoon ecosystems.

### **Step 4: Identification and stock assessment of shellfish species**

Through macrofauna analysis, malacological assemblages are defined and make it possible to inventory edible and inedible species. Thus, the assessment of stocks of edible shellfish makes it possible to define the species with exploitable potential in the lagoon. The methodological process will be initiated (counting and measurement, Data acquisition and analysis).

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**Target group:** The target candidates for this training course are young scientists working in the environmental, water and agricultural sector, institutions, non-governmental conservation organizations, protected areas authorities, central and local government.

The detailed agenda will be sent later to selected candidates.

**Important dates:** *25 September 2024* deadline of the applications for the training course.

**Application:** CV & Motivation letter to be sent to Dr. Afef Fathalli Email: [afef.fathalli@instm.rnrt.tn](mailto:afef.fathalli@instm.rnrt.tn)