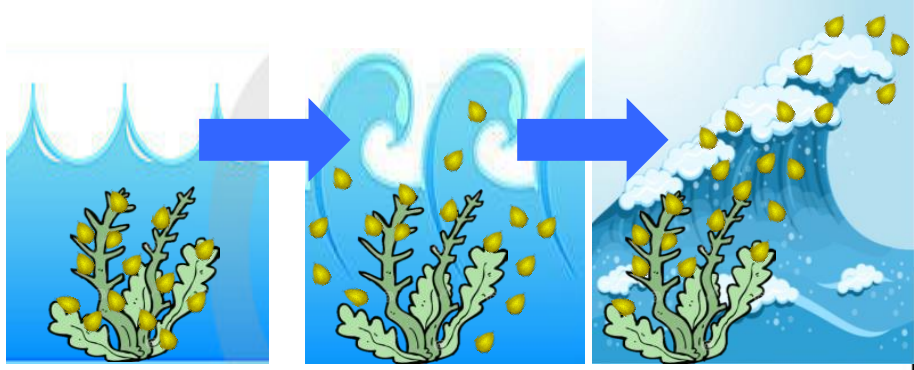
SHAREMED
First Capitalisation Workshop

Designing the future system of observing systems to assess and address threats to the Mediterranean marine ecosystem - State-of-the-art, needs and future direction

Webinar: 14-15th December, 2020

Mariachiara Chiantore
M3-HABs



Project name: M3-HABs

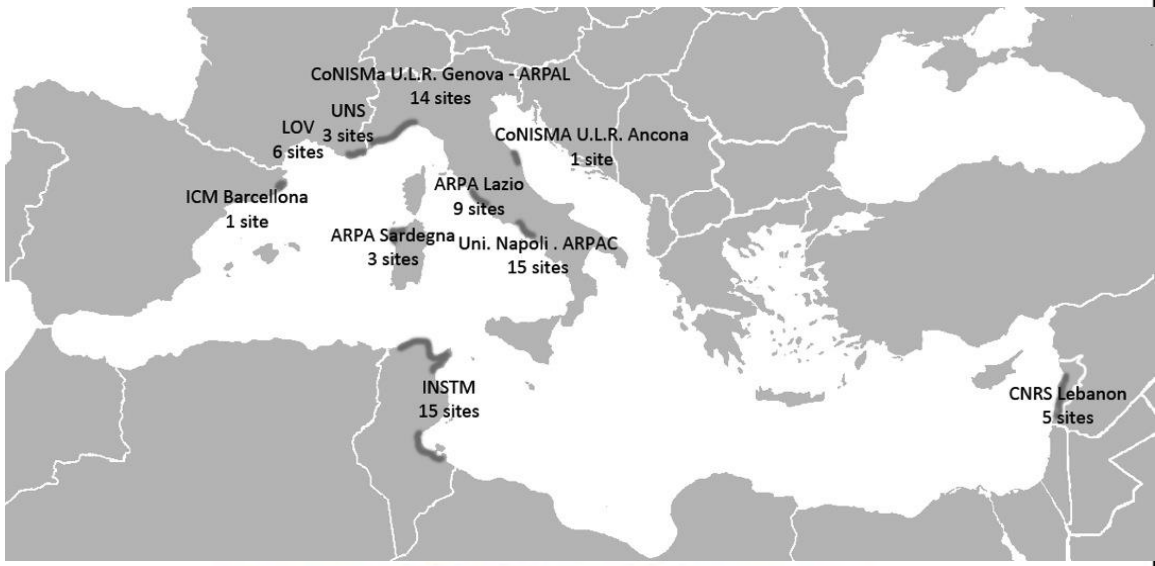
Project coordinator: Mariachiara Chiantore – CoNISMa (Italy)

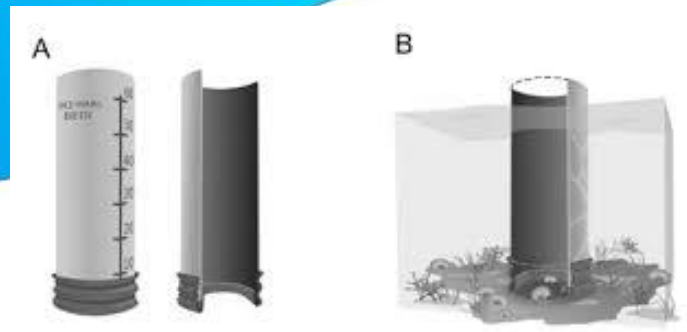
Project duration: 24 months

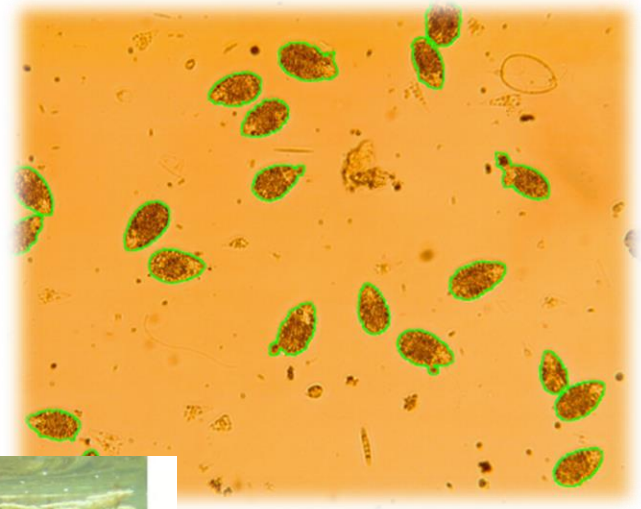
Funding authority: ENPI-CBCMED

Geographic extension: Mediterranean

Countries involved: Italy, France, Lebanon, Tunisia



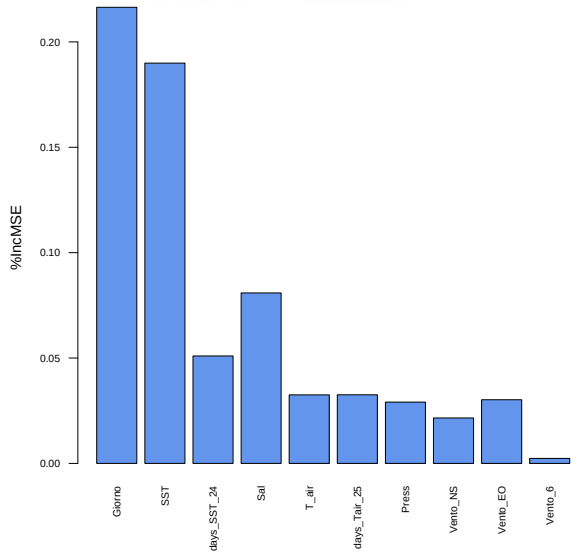




❑ **Threats addressed**: Benthic Harmful Algal Blooms (B-HABs)

❑ **Contribution provided**:

1. Monitoring protocols
2. New monitoring tools (artificial substrates/BEDI)
3. Automated cell counting device
4. Modeling approach development
5. Guidelines
6. Networking
7. Capitalization (summer schools/students' grants)
8. Awareness rising



❑ **Data/products provided by the project**:

- **Cell densities and environmental data** collected at **11** sites, across 5 Countries
- At week intervals along the **summer/autumn** period in **2 years**
- **Automated cell counting system**
- **Predictive model for a pilot area**

❑ **Gaps still to be filled**:

- **Limited knowledge on the small scale spatial variability**

- *Ostreopsis* monitoring is in force in Italy in the framework of the MSD (implemented by regional ARPA) and at regional level in France and Spain

- **Main bottlenecks that required to be addressed**:

1. **Substrate specificity** in triggering bloom occurrence
2. Potential little **comparability in sample collection and cell counting procedures**
3. **Low coordination across countries** at institutional level
4. **Spatial scale** (extremely variable phenomenon at the small and large spatial scale)

- **The project addressed**:

1. **New sampling devices**, potentially overtaking substrate specificities
2. **Agreed sampling protocols** in order to overcome little comparability of monitoring data
3. Agreement on **environmental variables** to be taken into account in a modelling approach
4. **Early warning**: automated counting & modelling

- A more integrated approach at Mediterranean governance level is envisaged to support early warning and reliable assessment of links between bloom occurrence and environmental conditions/global change related triggers

- Main take home messages:

1. **Large scale studies allow for deeper understanding basin related processes**, but **small scale variability is not properly evaluated** and understood
2. ***Ostreopsis* blooms can be modelled**, but a deep understanding of the regional features is required as well as, of course, long time series
3. **Early warning can be enhanced**, by way of automated counting systems that reduce sample processing and modelling approaches