

Roundtable 1: Identification of the main threats to the Mediterranean marine ecosystems, and how such threats are monitored: which are the bottlenecks?

Location: online meeting
15 December 2020



**Mediterranean
Action Plan**
Barcelona
Convention

1. What are the monitoring priorities and observations needed for the correct protection of the marine environment? And the bottlenecks?

Bottlenecks

- The Mediterranean environment should be under **permanent review**;
- **A comprehensive ocean observing system**;
- **A quantitative understanding of ocean ecosystems and their functioning**;
- **Innovative knowledge and technologies to support reliable and cost-effective monitoring and assessment of the state of marine environment**;
- **Advanced modeling and forecasting techniques**;
- **Enhanced scientific collaboration and partnerships**;
- Integration of **socio-economic research and data** with existing physical and biological research;
- Addressing the emerging and priority issues such as new mandatory **priority and emerging contaminants; ocean acidification; sea level rise; use of nature-based solutions**;
- **Closer and better interaction between the research communities and the governmental bodies**;
- Durable institutions and mandate, rather than segmented projects approaches;

Strengthen use of unprecedented achievements in science and technology for implementation of IMAP of UNEP/MAP as a basis for Mediterranean countries for harmonized and common assessment of marine and coastal environment;

- Identify the most relevant innovative knowledge and technologies that are of utmost importance for reliable and cost-effective monitoring and assessment with a focus on:
 - ✓ Promotion of inter-disciplinary research;
 - ✓ Mapping of all components of the Mediterranean marine environment including anthropologic pressures across time scales, relying on IMAP indicators and their interrelation with SDGs;
 - ✓ Improvement of the assessment criteria to support integrated GES assessment;
 - ✓ Strengthening of optimal monitoring practices nationally and sub-regionally applicable;
 - ✓ The application of observing and remote techniques to strengthen the optimal real-time IMAP based monitoring practices nationally and sub-regionally applicable and improve forecasts of the state of marine environment;

1. What are the monitoring priorities and observations needed for the correct protection of the marine environment? And the bottlenecks?

Strengthen use of unprecedented achievements in science and technology for implementation of IMAP of UNEP/MAP as a basis for Mediterranean countries for harmonized and common assessment of marine and coastal environment (CONT):

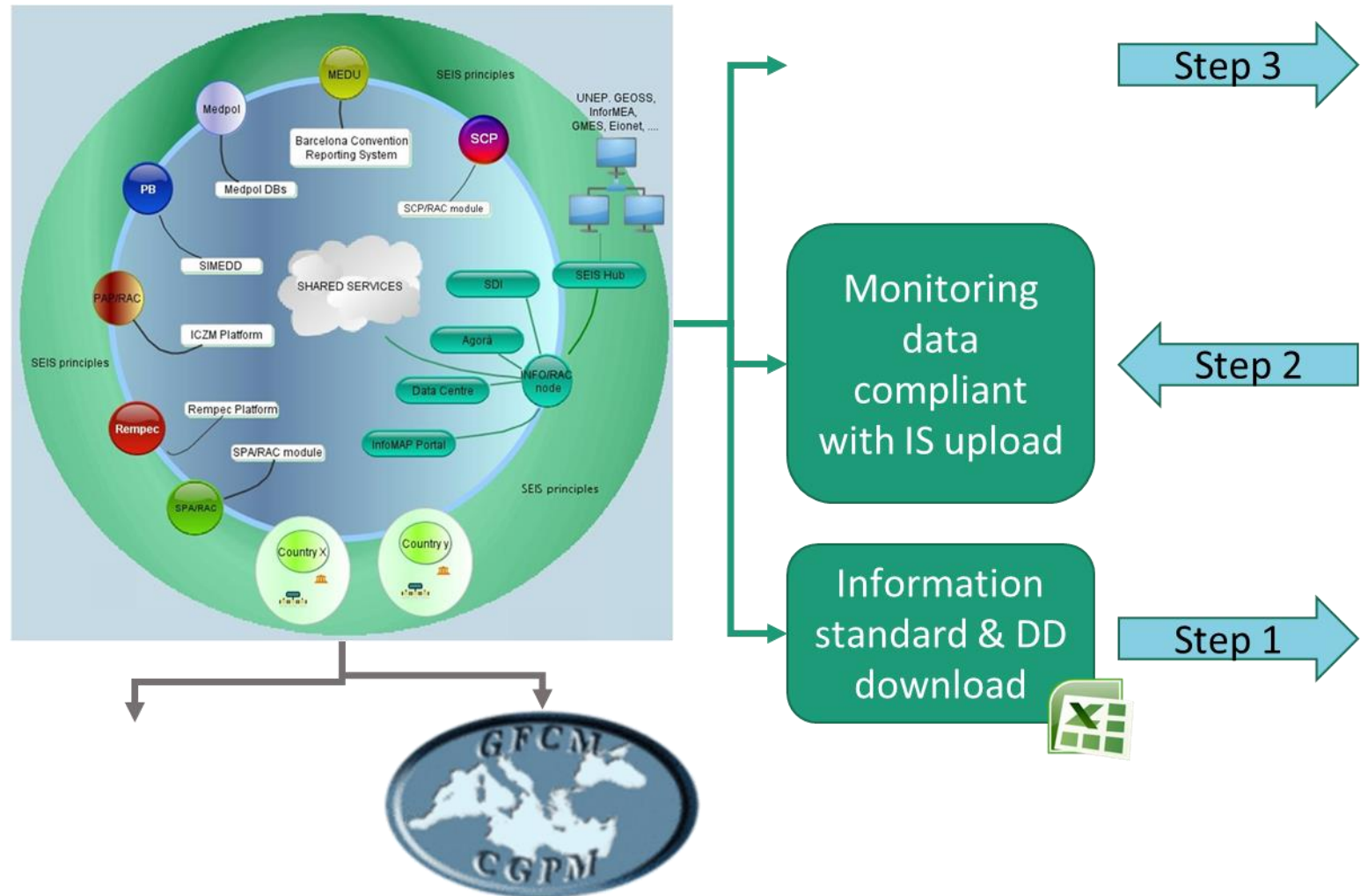
- ✓ The application of observing, modeling and remote techniques to strengthen the optimal real-time IMAP based monitoring practices nationally and sub-regionally applicable and improve forecasts of the state of marine environment;
- ✓ Integration of observations in existing models;
- ✓ Structuring the assessment of the land-based pressures in conjunction with their impacts on the oceans; linking all relevant flows from source, upstream, to the area of impact in the ocean ecosystem, downstream;

Enhance partnerships and support transfer of ocean knowledge for science-based management of Mediterranean Sea :

- Acknowledging and promoting the Integrated Monitoring and Assessment Programme of UNEP/MAP as a basis for Mediterranean countries to progress towards harmonized assessment of marine and coastal environment, including implementation and reporting on SDG 14 implementation;
- Focusing on strengthening of the national capacities related to monitoring and data analysis;
- Identifying optimal modalities to enforce interdisciplinary, transdisciplinary and/or cross-sectoral partnerships necessary;
- Ensure ambitious transformation towards optimal partnerships by relying on the following approaches:
 - ✓ Mobilize scientific networks to support science-policy interface;
 - ✓ Connect many existing initiatives, efforts, actors, resources and tools for marine science in the Mediterranean and beyond;
 - ✓ Strengthen synergies; avoid fragmentation;

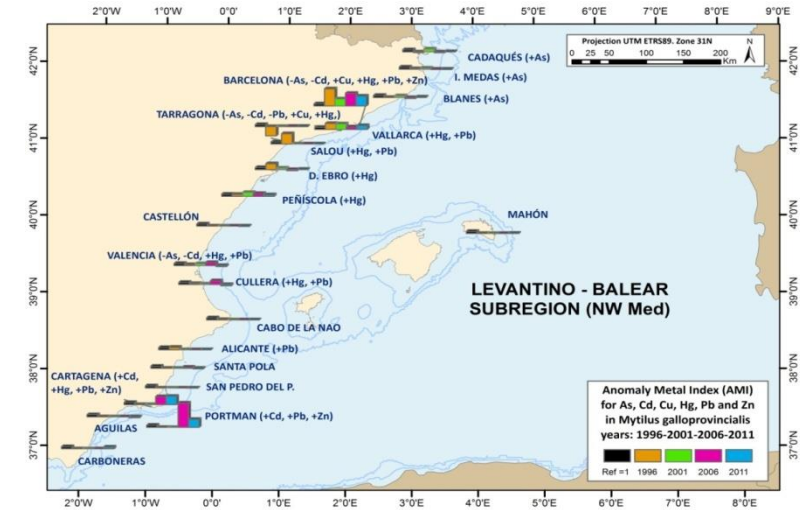
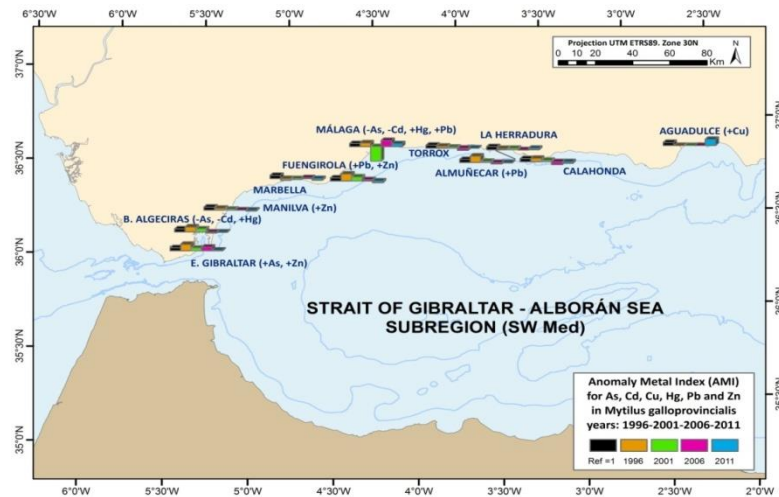
2. The heterogeneous landscape related to data and information sharing systems - more coordination and dialogue

- Upgrade IMAP Info System into a regional platform/node to facilitate sharing of data, information, marine scientific research outputs, marine and digital technologies and knowledge
- ✓ Use of an open-source software technology;
- ✓ Interrelations of diverse platforms that provide increased access to sustained ocean monitoring, observing and forecasting tools;
- ✓ Share of scientific and technical capabilities to provide equitable access to ocean knowledge through an open access data portal for all ocean data systems;
- ✓ Access to training, education and ocean literacy content and best practices related to research, observations, and data.



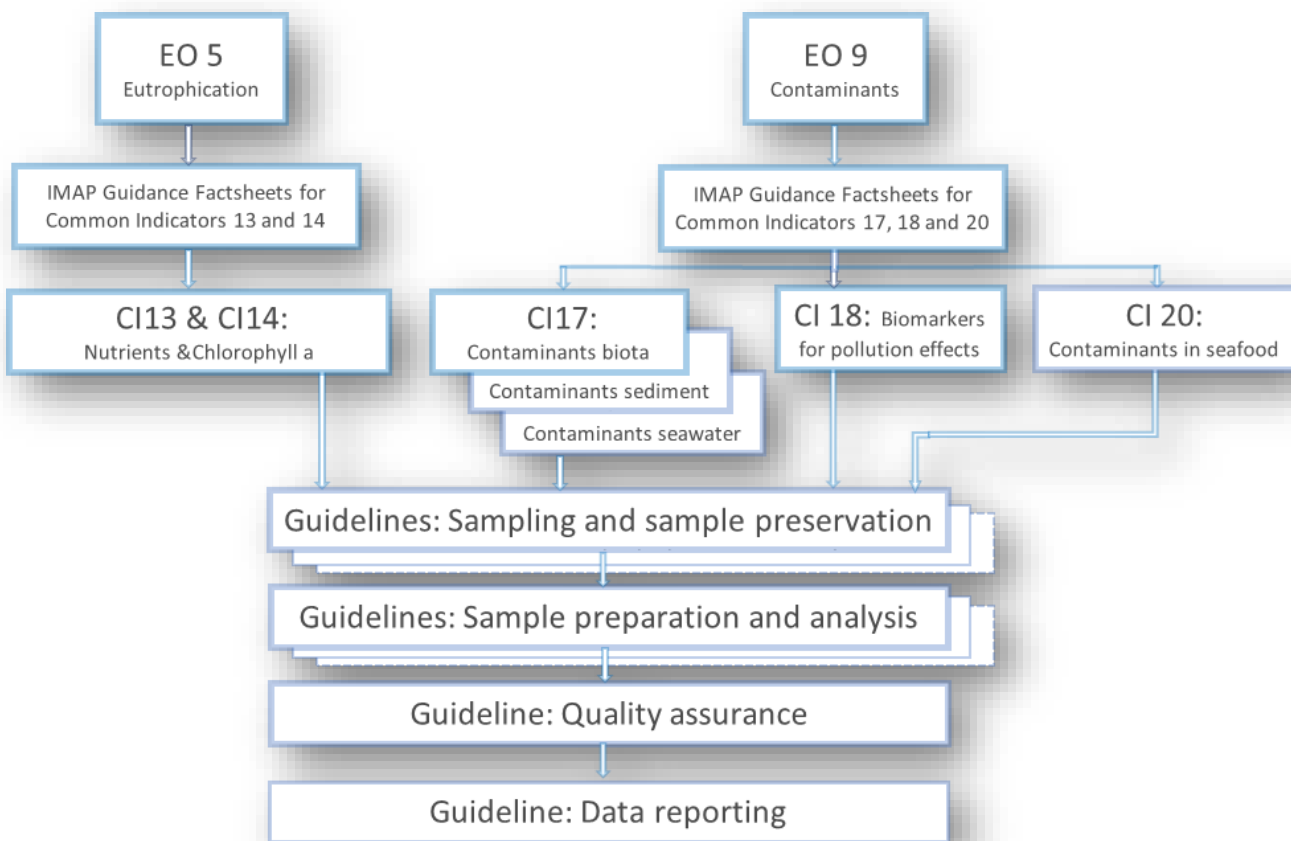
2. The heterogeneous landscape related to data and information sharing systems - more coordination and dialogue

MEDPOL - IMAP



EU MSFD

3. Confidence of current observations



Laboratory
Quality Assurance
- QA/QC



- ✓ Production of Certified Reference Materials (CRMs)
- ✓ Interlaboratory Comparisons (ILC)/Proficiency Tests (PT)
- ✓ Training in good laboratory practice (GLP)
 - Trace Element Analysis
 - Organic Contaminant Analysis
- ✓ Development and provision of Reference Methods

4. Main Threats: Lessons learned from Barcelona Convention

Quality Status Report for the Mediterranean (2017 MED QSR), <https://www.medqsr.org/>

- The holistic and innovative assessment product of the Good Environmental Status of Mediterranean Sea and coast;

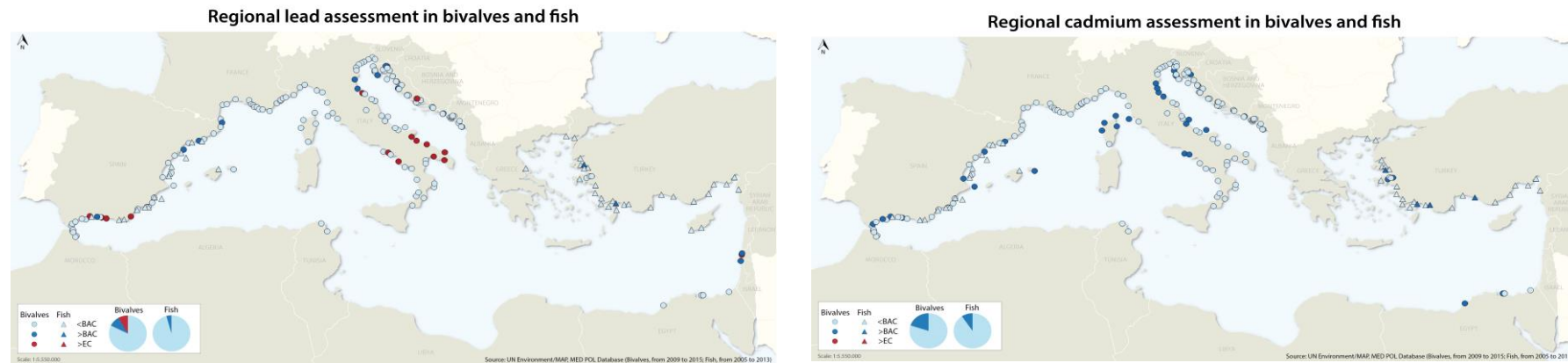
The Report on the State of the Environment and Development (SoED), <https://planbleu.org/soed/>

- Presents a comprehensive and updated assessment of the interactions between the environment and development in the Mediterranean region;

4. Main threats: Concentration of key harmful contaminants (CI17)

Continue monitoring and reporting to MEDPOL data base

- The latest available datasets continue to indicate lower level of historical pollutants and contaminants; known hotspots remain
- The availability of sufficient synchronized datasets for state assessment and assessment criteria needs to be improved



Level of pollution effects of key contaminants (CI18)

Review the long-term strategy for ecosystem toxic effects

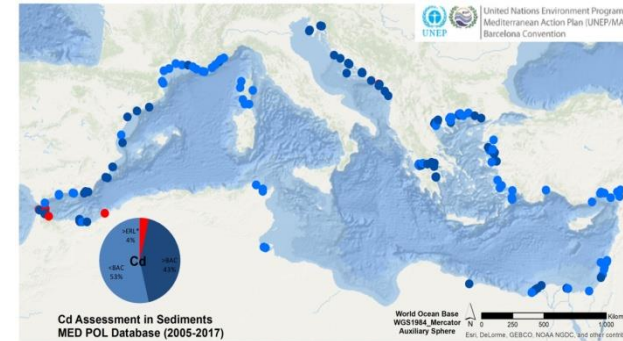
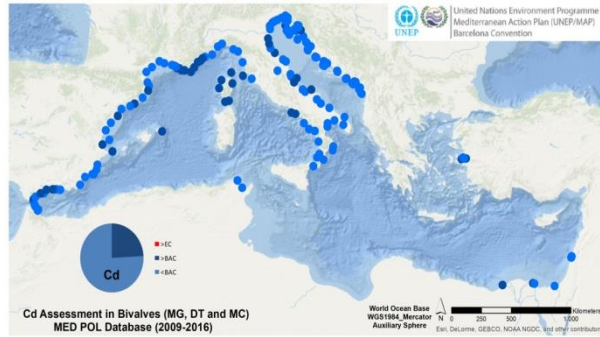
- Biological effects monitoring tools are still in a research phase for biomarker techniques
- Review of the scope of the biological effects monitoring programmes needed

Regular monitoring and reporting of quality assured data for CI17 to MED POL data base need to continue while regular monitoring and reporting for CI 18 need to be established

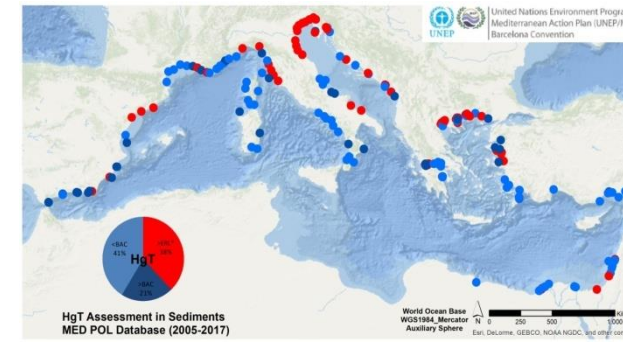
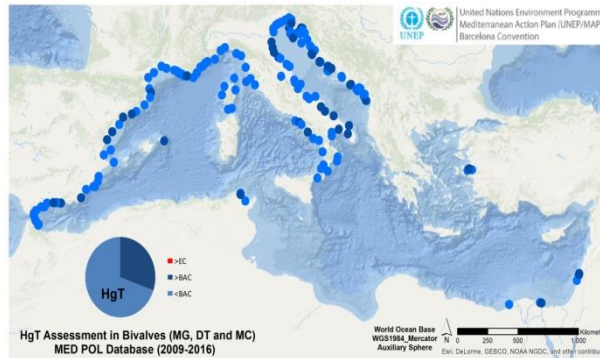
4. Main Threats: Updated Thematic Assessments

Results EO9:

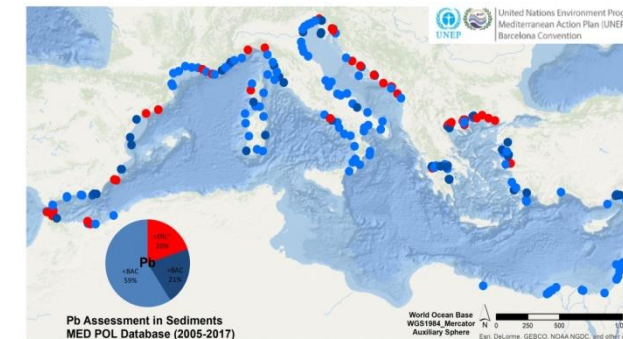
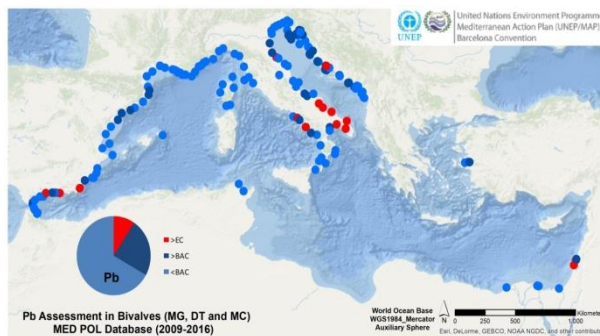
Cd



Hg



Pb

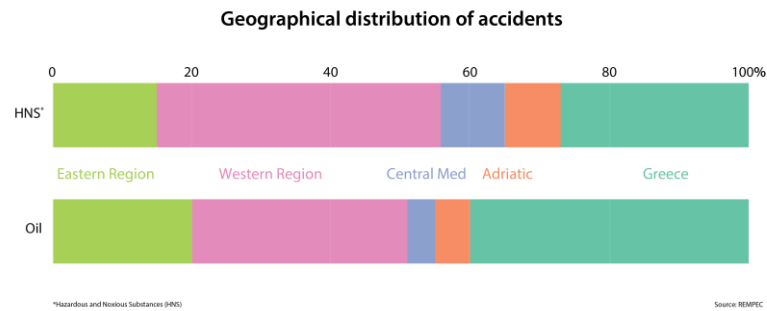


4. Main threats: Concentration of key harmful contaminants (CI17)

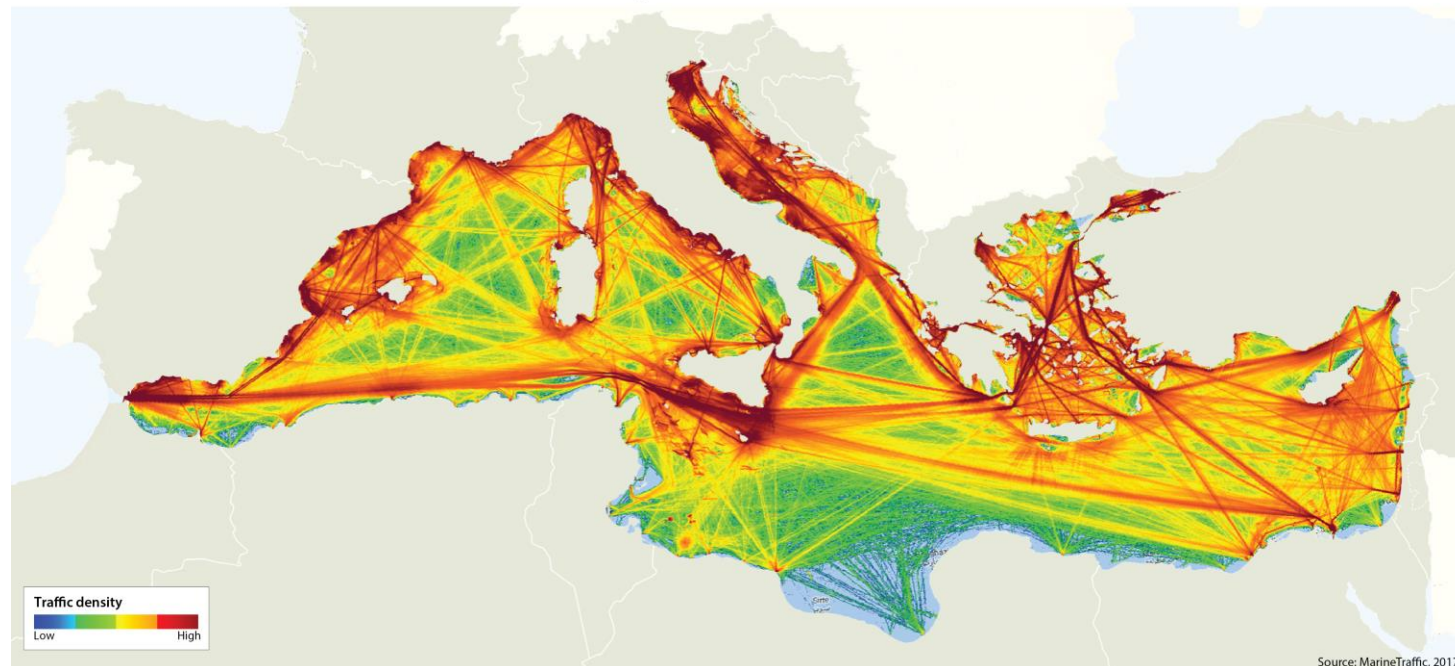
Occurrence, origin (where possible), extent of acute pollution events (e.g. slicks from oil, oil products and hazardous substances), and their impact on biota affected by this pollution (CI19)

Mediterranean Alerts and Accidents Database is a prerequisite to monitor CI19

- A significant downward trend in accidental pollution from ships
- Chronic sources (illicit discharges) of pollution are the principal target for pollution reduction



Density of maritime traffic



Jelena Knezevic

Monitoring and Assessment Officer
Mediterranean Pollution Assessment and
Control Programme (MED POL)

**UN Environment/Mediterranean Action
Plan**
Barcelona Convention Secretariat

