



## MAP STRUCTURE

20 Mediterranean Countries & EU  
*Contracting Parties (CPs)*

to the

*BARCELONA CONVENTION*

accompanied by

6 Protocols

MAP being the First Regional Seas Programme of UNEP comprises

- MED POL Programme
- 6 Regional Activity Centers (RACs)
- Mediterranean Commission on Sustainable Development (MCSD)

coordinated by MEDU



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## Barcelona System

### *Barcelona Convention*

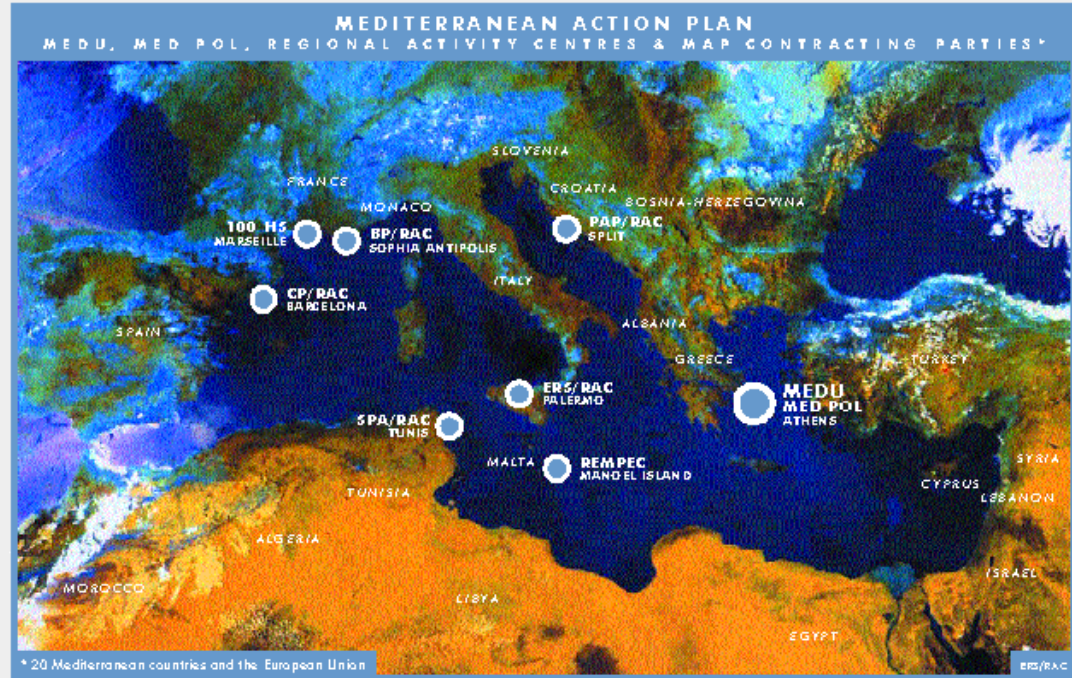
for the Protection of the Marine Environment  
and the Coastal regions of the Mediterranean -- 1976  
Amended -- 1995

#### *Six protocols*

- **Dumping Protocol** : Protocol for the Prevention and Elimination of Pollution in the Mediterranean Sea by Dumping from Ships and Aircraft or Incineration at Sea (1976, as amended in 1995)
- **Emergency Protocol**: Protocol Concerning Cooperation in Combating pollution of the Mediterranean Sea by Oil and other Harmful Substances in Cases of Emergency (1976)
- Protocol Concerning Cooperation in Preventing Pollution from Ships and, in Cases of Emergency, Combating Pollution of the Mediterranean Sea (signed in 2002)
- **LBS Protol**: Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities (1980, as amended in 1996)
- **SPA and Biodiversity Protocol**: Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean (1995, replacing the 1982 SPA Protocol)
- **Offshore Protocol**: Protocol for the Protection of the Mediterranean Sea against Pollution resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil (1994)
- **Hazardous Wastes Protocol**: Protocol on the Prevention of Pollution of the Mediterranean Sea By Transboundary Movements of hazardous Wastes and their Disposal (1996)

- REMPEC Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea
- BP/RAC Blue Plan Regional Activity Centre
- PAP/RAC Priority Actions Programme Regional Activity Centre
- SPA/RAC Specially Protected Areas Regional Activity Centre
- ERS/RAC Environment Remote Sensing Regional Activity Centre
- CP/RAC Cleaner Production Regional Activity Centre

Each RAC offers its own environmental and developmental expertise for the benefit of the Mediterranean community through its implementation of MAP activities





## Mediterranean Commission on Sustainable Development *MCS D*

An advisory body to MAP since 1995  
to promote  
sustainable development in the Mediterranean basin  
in areas such as  
tourism, trade, industry and urban management

**Goals:** - to identify/evaluate the major economic, ecological and social problems set out in Agenda MED 21 and to make appropriate proposals to the CPs - to rationalise the intergovernmental decision-making capacity in the Mediterranean basin





**MED POL** assists Mediterranean countries

in the formulation and implementation of pollution monitoring programmes and pollution control measures and

in drafting of action plans aiming to reduce and ultimately eliminate pollution from land-based sources

**MED POL** carries out capacity-building programmes related to

- data quality assurance
- provision of equipment
- training for the analysis and interpretation of the data
- training for managerial aspects

**MED POL** is also responsible with the follow up of the implementation of LBS, Dumping and Hazardous Wastes Protocols by the Mediterranean countries



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## MED POL Cooperation Network

- National Focal Points
- Marine Science Institutes/Laboratories
- Regional Experts
- International Organizations
- NGOs



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### **MED POL-Phase I (1975-1980)**

- Developed the capacities of the participants laboratories/countries
- Assisted countries for the formulation of research and monitoring programmes

### **MED POL-Phase II (1981-1995)**

- Established National Monitoring Programmes
- Established a full Data Quality Assurance programme with MEL/IAEA
- Achieved a data bank of chemical contaminants

### **MED POL-Phase III (1996-2005)**

- Enhanced a more objective-oriented monitoring for the management of Mediterranean coastal waters and sensitive areas by the harmonization of its components (assessment and control)
- Initiated a new action-oriented programme based on LBS Protocol called the *Strategic Action Programme (SAP)* which primarily aims to achieve an intensive reduction of pollution at source





## **MED POL (Phase III) is a diverse programme for pollution assessment and control in the Mediterranean**

### **assessment component supported by**

- **trend monitoring of pollutants**
- **biological effects monitoring**

### **control component supported by**

- **compliance monitoring**

### **assistance component provided for**

- **data quality assurance**
- **provision of equipment**
- **training for the analysis and interpretation of the data**
- **training for managerial aspects**
- **design of the monitoring programme**
- **provision of fellowships/ support to regional workshops..**
- **research on emerging issues**

**all of the components are harmonized within National Monitoring Programmes of the Countries**





## UNEP/MAP assistance provided for MED POL Phase III Monitoring Activities (2001)

### DQA activities

- 2 training courses on the methodology of TM and OC analysis
- 1 group training course on biomarkers and 2 individual training
- 2 new intercomparison samples distributed to all MED POL labs.
- several QA missions to the labs
- purchase of equipment (5 new GC/Cs to MED POL labs)

### Direct assistance

- more than 200,000 USD provided for capacity building / implementation of the monitoring programmes

### Research/capacity building projects

- 4 airborne pollution projects with the guidance of WMO

### Fellowships

- participation of 12 scientists to regional conferences and workshops



## MED POL Phase III

### Trend Monitoring Programme

#### Implemented at four levels

- Trend monitoring of **contaminants in coastal and reference areas**
- Trend monitoring of **pollutants in "hot spots" areas**
- Trend monitoring of **loads** from point and non-point sources of pollution
- Trend monitoring of **biological effects** of contaminants

## Criteria for Trend Monitoring

### MED POL III

	Coastal / Reference	Hot Spots	Loads	Bio- effects
Param.	Trace M. Organic C. (BOP)	Trace M. Organic C. (BOP)	Q, pH, T, HM, BOD, COD, TP, TN, FC etc	DNAx, EROD, MT, LMS
Samp. Frequ.	1/year	1/year	4-12/year 52/year	2-4/year
Matrix	BIO, SED (SW)	BIO, SED (SW)	WAT, EFF AIR	BIO
Species	MG MB	MG MB		MG MB

## Trend Monitoring Strategy

### MED POL III

- consistent implementation of the pre-set criteria
- long-term, continuous monitoring w/o temporal gaps
- monitoring at the same geo-referenced stations
- site-specific monitoring and assessments
- biota sampling at the pre-spawning period and sed/bio sampling at stable hydrographic conditions

## MED POL Phase III Trend Monitoring Network

- Ongoing monitoring programmes  
(7+5 draft) (bio-effects: 5+3 RAMOGE)
- Participating institutes  
(21 for TM, OC) (12 bio-effects)
- Monitoring stations  
(100 bio, 140 sed) (57 biomarkers)



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Country	Draft	Finalized	Institutes
Albania		1999	2
Algeria	2001		
Bosnia-Herzegovina			
Croatia		2000	4
Cyprus		1999	2
Egypt			
France			
Greece		2000	12
Israel			
Italy			
Lebanon	2002		
Libya			
Malta	2001		
Monaco	2001		
Morocco			
Spain			
Slovenia		1999	2
Syria	2000		
Tunisia		2001	2
Turkey		2000	1



## Novelties to MED POL III

- Eutrophication monitoring
- Co-operation with international organizations for the estimation of loads of land-based pollutants to the coastal waters of Mediterranean
- Re-structuring the database

# Eutrophication Monitoring

- **Short term strategy** A set of mandatory parameters be adopted for each affected coastal area related to their back lying catchment areas

- Dec 2001
- May 2002
- 2003

Proposed mandatory parameters	
Temperature	Dissolved Oxygen
pH	DIP, TP*
Transparency	DIN, TN*
Salinity	Si
Chlorophyll-a	Phytoplankton abundance and species composition*

- **Medium term strategy** A database of historical records of events for a better assessment of the ecosystem quality
- **Long term strategy** A possibility to develop/test a new indicator system on sensitive biological communities

Monitoring of Mediterranean Marine Eutrophication: Strategy, Parameters and Indicators (Draft), Dec.2001





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## Co-operation regarding LBS load estimates

Need for making overall assessments of loads  
at regional and sub-regional scales in the  
Mediterranean

MAP/MED POL co-operation with  
international organizations and programmes

WMO, EMEP, IOC



## Re-structuring the database

Need for a functional database to store and manage data, present the results, prepare the necessary outputs for the end-users, be accessed through internet