

MedWaves 46

THE MEDITERRANEAN ACTION PLAN MAGAZINE

THE MAP IN JOHANNESBURG

THE MAP AND THE EUROMED PARTNERSHIP

"MAMA" WILL OBSERVE THE SEA

DESALINATION?

INSERT THE NEW PREVENTION AND EMERGENCY PROTOCOL

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> DRAWING LESSONS FROM THE WORLD SUMMIT ON SUSTAINABLE DEVELOPMENT



LUCIEN CHABASON
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Regardless of what one may think of the development and outcome of the Earth Summit, and if one might regret the lack of quantified objectives in the Action Plan in particular, the texts adopted at the Johannesburg Conference are extremely important as far as sustainable development policy is concerned. They represent the consensus reached by the members of the United Nations and, as such, they deserve to be read, examined and translated into implementation strategies at the regional level. There is nothing that prevents one being more ambitious, more specific or more committed, quite the contrary.

At the Mediterranean level, the Mediterranean Action Plan (MAP) foresaw the events by launching the preparation of the Regional Strategy for Sustainable Development, which will be the focus of MAP bodies over the coming three years.

One major issue arises in the preparation of this Strategy in view of the path followed at Johannesburg. It is a fact that in the United Nations Millennium Declaration, a substantial part of the Agenda was devoted to social issues such as access to drinking water, energy, education, and health –in short, the criteria for viable human development. In this context, the concept of sustainable development in Mediterranean countries can no longer be confined to a perception of development that is conveyed mainly by experts in protection of the environment and management of natural resources, a kind of re-formulation of the idea of eco-development. Henceforward, there will have to be a more global and integrated approach to development in all its components. This is a major challenge for the MAP and should be reflected in the Mediterranean Strategy for Sustainable Development, proposed and endorsed as a Type II initiative.

The MAP will find in the Johannesburg Action Plan many elements to strengthen its action.

For example, the growing importance accorded to sustainable management of oceans, seas and coastal zones, and the need for effective governance open to civil society.

In Johannesburg, at a parallel event that brought together the actors involved, including NGOs, economic circles and local authority networks, alongside country representatives, the Mediterranean Region was able to explain its way of working and its vision of sustainable development. This event afforded an ideal opportunity to assess the results achieved in past years and to prepare for the future.

We believe that the spirit of regional cooperation that prevails in the Mediterranean, in all circumstances, is the prerequisite for a positive response to the objectives set in the Johannesburg Action Plan.

> THE MEDITERRANEAN PRESENCE IN JOHANNESBURG

The Mediterranean was represented at the Johannesburg Summit by all Mediterranean countries at high political level, by a large number of Non-Governmental Organisations (NGOs) and Inter-Governmental Organisations (IGOs), as well as by the Mediterranean Action Plan (MAP).

A number of events focusing on the Mediterranean were organised during the World Summit on Sustainable Development.

The major one was entitled “The Mediterranean Eco-Region: the first firm steps towards Sustainability”. This event, held on 2nd September in the Water Dome, was co-organised and supported by Monaco, Greece and the Mediterranean Information Office for Environment, Culture and Sustainable Development (MIO-ECSDE) and further sponsored by MAP and the Commission of the European Union DG Environment.

The event was opened by Prince Albert of Monaco and the Deputy Minister for the Environment of Greece, Rodoula Zisi, who also presented the Declaration of Athens adopted at the July 2002 Ministerial Meeting of the Euro-Mediterranean Environment Ministers.

Minister Bernard Fautrier, of Monaco, current President of the Bureau of the Contracting Parties to the Barcelona Convention, presented the Declaration of the Mediterranean Ministers adopted by the MAP Contracting Parties in Monaco in November 2001.

The NGO declarations were highlighted on behalf of the Mediterranean NGOs by Emad Adly, Chairman of RAED (Arab Network for Environment and Development).

The Minister for the Environment and Land Planning of Tunisia, Mohamed Ennabli of Tunisia, and the MAP Coordinator, Lucien Chabason, elaborated respectively, on the “Agenda MED 21” and the Mediterranean Commission for Sustainable Development (MCSDE).

The meeting was addressed by the representatives of the European Environment Council, UNEP, and inter-

ventions were made by the Secretary of State for Sustainable Development of France, Tokia Saifi; the Minister of Agriculture, Natural Resources and Environment of Cyprus; Costas Themistokleous and the Minister of Environmental Protection and Physical Planning of Croatia, Bozo Kovacevic.

Interventions were also made by the Local Initiatives and Enterprises represented respectively by Folch from the City of Barcelona and MedCities and by F. Kaisin of Suez (World Business Council for Sustainable Development).

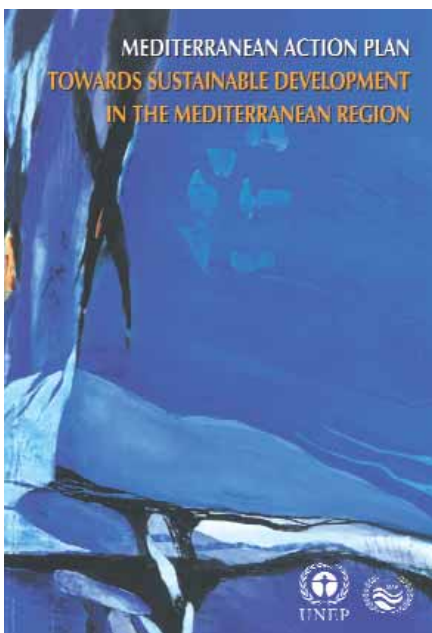
Ministers from Malta, Serbia and Montenegro; Ambassadors, Parliamentarians, NGOs and other major groups participated. M. Scoullou, Chairman of MIO-ECSDE, coordinated the meeting.

Documentation and publications on the Mediterranean

A high number of documentation on the Mediterranean was available and distributed, including a booklet describing the main steps taken in the region from Rio to Johannesburg, which was produced by MIO-ECSDE with the support of MAP and the EU.

The MAP presented its series of thematic publications, each one focussing on a key field of MAP activity.

In addition, a EU-Mediterranean Consultation took place in the Sandton Center. It was called by the EU Troika (Danish Presidency, Greek up-coming Presidency and the European Commission) in order to inform the non-EU members on the key points of the EU positions and receive input on any priorities or concerns. Four countries (Cyprus, Croatia, Egypt and Yugoslavia) were represented there by their Ministers.





The Mediterranean countries asked for a higher attention to their problems by the EU while confirming their confidence and support to EU initiatives.

After the conference, the presentation of the Educational Package on Water in the Mediterranean and the launch of the Type II Initiative under the title MEDIES (Mediterranean Education Initiative for Environment and Sustainability) took place, led by MIO-ECSDE, Greece and MAP with the participation of many Mediterranean countries, UNESCO, and several NGOs.

This Initiative aims to produce in all Mediterranean languages educational material on water and waste management and create a network of environmental educators throughout the Mediterranean.

The series of events also included the launch of the Euro-Mediterranean Water and Poverty Facility (WPF). The launching of this Type II Initiative led by Egypt, Greece and Global Water Partnership Mediterranean (GWP-Med) took place in the WaterDome on September 2nd. The Chairman of GWP-Med, M. Scoullos, explained the objectives and operational goals of this Initiative, which has already been placed under the EU Water Initiative.

The Minister of Water Resources and Irrigation of Egypt, Mahmoud Abu Zeid, Chairman of the World Water Council, the Minister of Foreign Affairs of Greece, George Papandreou, and Carsten Stauer, Under Secretary of State, Ministry of Foreign Affairs of Denmark, representing the EU's Presidency, emphasised the importance of the undertaking.



PRESENTATION OF THE EDUCATIONAL PACKAGE "WATER IN THE MEDITERRANEAN" AND LAUNCHING OF THE MEDIES TYPE II INITIATIVE:

From left to right: Minister Ennabli, Tunisia; Ftouhi, Morocco; Adly, RAED; Chabason, UNEP/MAP; Scoullos, MIO-ECSDE; Catley-Carlson, GWP; Prince Albert of Monaco; Deputy Minister Zisi, Greece; Vandeweerd, UNEP, on behalf of Dr. Klaus Töpfer, Executive Director of UNEP.

Among the high-ranking representatives participating in this panel chaired by Margaret Catley-Carson, Chairperson of Global Water Partnership (GWP), were Mohamed Ennabli, Minister for the Environment and Land Planning of Tunisia; Stephen Lintner, Senior Advisor at the Environment Department of the World Bank; Helen Mountford, Counsellor at the Environment Directorate of OECD; Lucien Chabason, Coordinator of UNEP / MAP; Youssef Nouri, co-Chairman, MIO-ECSDE; Raymond Van Ermen, Executive Secretary of EPE; Khaled Abu Zeid, Senior Water Expert, CEDARE, and Bowdin King, International Campaigns Coordinator at ICLEI.

One of the positive outcomes of Johannesburg was the fact that the EU

agreed for the Mediterranean to be the third in sequence area after sub-Saharan Africa and the NIS to receive particular attention within the framework of the EU Water Initiative.

President of the European Commission, Romano Prodi, Commissioner Wallström and Greek Foreign Affairs Minister Papandreou confirmed this during the official launching of the EU Water Initiative on September 3rd in the WaterDome.

Finally, the Greek Minister Papandreou presented to the UN Secretary General Kofi Annan the Ministerial Declarations of Monaco and Athens as well as those of the region's NGOs as an input to the Political Declaration.

MICHAEL SCOULLOS
CHAIRMAN OF MIO-ECSDE

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> THE MEDITERRANEAN, COMMITTED TO SUSTAINABLE DEVELOPMENT

Minister Bernard Fautrier, of Monaco, President of the Bureau of the Contracting Parties to the Barcelona Convention, presented at the WaterDome the Mediterranean Declaration for the World Summit on Sustainable Development.

“The Mediterranean countries and the European Commission met in my country, Monaco, from 14 to 17 November last year on the occasion of the Meeting of the Contracting Parties to the Barcelona Convention.

*The Meeting, which was of a high level in political terms, since of the 21 Contracting Parties, 17 were represented by their Ministers responsible for the environment or cooperation, adopted a **Mediterranean Declaration for the Johannesburg Summit.***

As Monaco has the honour of presiding over the Bureau of the Contracting Parties to the Barcelona Convention in 2002 and 2003, it is with great pleasure that I will now briefly review the Declaration.”

Key aspects for Sustainable Development

“We wished to emphasize aspects in the Declaration which appear to us to be fundamental for sustainable development in the Mediterranean eco-region and which may be grouped under four points:

***Firstly,** social development and, in this context, the need to narrow the income gap between countries of the North and South, as well as between the rich and the poor within each country. To combat poverty effectively, it is also necessary to promote gender equality, particularly in the South, and to gain a better understanding of the migration of populations. Social development, especially in the South, clearly involves appropriate education, information and communication strategies.*

***Secondly,** managing natural resources and combating pollution, with particular reference to the marine and coastal environment. This includes the need for the integrated management of water resources and the establishment of sustainable tourism. It should be recalled that one-third of global tourism is concentrated in the Mediterranean. It is also necessary to take into account natural and technological risks, adopt energy policies that promote the use of solar and wind power in particular (for which there are plentiful resources in the Mediterranean) and finally to develop clean industrial production.*

***Thirdly,** the above two aspects cannot be successfully implemented without the existence of an appropriate institutional framework for good governance based on effective and decentralized participative processes. This evidently involves the acceptance of international legal instruments and the appropriate use of Mediterranean structures. In this respect, the decision to formulate a Mediterranean Sustainable Development Strategy, which has been entrusted to the Mediterranean Commission on Sustainable Development, should be a fundamental element of such governance. But all this will also have to permeate through to the local level, particularly through local Agenda 21s.*

***Finally,** the need for greater cooperation, partnership and financing mechanisms. This involves promoting the transfer of environmentally friendly technologies, the pooling of scientific knowledge, a liberalization of trade and capital flows that is compatible with environmental conservation and social harmony and, of course, the development of public assistance, alongside direct foreign investment and clean development mechanisms, as envisaged in the Framework Convention on Climate Change.*

All of the above should lead to innovative solidarity mechanisms, resulting in an authentic and effective Mediterranean partnership.”

Strategy for Sustainable Development

“For the implementation of these principles, Mediterranean countries have undertaken to formulate or revise their sustainable development strategies and carry out the necessary budgetary and institutional reforms to promote the activities of the MCSD (the decision to entrust the MCSD with the formulation of the Mediterranean strategy is a clear indication of this political will) and, finally, to develop information, monitoring and evaluation systems for the state of the environment and sustainable development in the region.

These are the major points of the Declaration which is, I believe, fully illustrative of our will to develop our own Mediterranean identity.”

> MAP AND THE EURO-MEDITERRANEAN PARTNERSHIP IN ATHENS DECLARATION



A. DEMERPOULOS

The 2nd Euro-Mediterranean Ministerial Conference on the Environment, held in Athens on 10 July 2002, referred to the relevance of close synergy between the Euro-Mediterranean Partnership and the Mediterranean Action Plan.

The following are extracts of the main references made to this synergy in the Athens Declaration adopted by the Euro-Mediterranean Ministerial Conference:

> *Noting that the Valencia Action Plan adopted by the Foreign Ministers foresees sustainable development with a high degree of environmental protection; refers to the launching of a sustainability impact assessment to ensure that the establishment of the Free Trade Area and Environmental protection are mutually supportive; welcomes the intention of the Athens Environmental Ministerial Conference to adopt a strategic framework for the environmental integration process in the perspective of sustainable development; asks for capacity building in “synergy with other programmes such as the Mediterranean Action Plan and the Mediterranean Commission for Sustainable Development” and urges*

the Ministers of Environment to promote in Athens a joint approach to the Johannesburg World Summit on Sustainable Development;

> *Welcoming the commitment made by the Contracting Parties to the Barcelona Convention at the 12th Conference of the Parties in Monaco (14–17/11/2001) to work towards strengthening the links between the Euro-Mediterranean Partnership and the Mediterranean Action Plan (MAP) and the invitation made to those Contracting Parties concerned to take full account of the decisions and recommendations of the Contracting Parties when elaborating and making requests for support from European Community programmes;*

> *Noting with concern that the environmental trends set out in the Report on the State and Pressures of the Marine and Coastal Mediterranean Environment, jointly prepared by*

the European Environment Agency (EEA) and Mediterranean Action Programme, are, despite improvements in some sectors, not yet compatible with sustainable development.

The Athens Declaration, in its section entitled “A Sustainable Development Objective for the Euro-Mediterranean Partnership”, adopted, among others:

> *Strengthen coherence and secure synergies between SMAP policy (Short and Medium-term Priority Environmental Action Programme), the Euro-Mediterranean Environment Programme, legal instruments and multi-lateral programmes in the region, such as MAP and the Mediterranean Environment Technical Assistance Programme (METAP);*

The section on Environmental Integration within the Euro-Mediterranean Partnership states that:



>> MAP AND THE EURO-MEDITERRANEAN PARTNERSHIP IN ATHENS DECLARATION

The Conference stresses the need for mutual supportiveness between trade and environmental protection. It welcomes the endorsement of the Sustainability Impact Assessment of the Euro-Mediterranean Free Trade Area in the Action Plan adopted by the Valencia Ministerial Conference, and the agreement to launch the SIA by the end of 2002. Broad consultation of all stakeholders during the study and on the results will be essential. The Conference considers that the continuing work of the Mediterranean Commission on Sustainable Development on trade and environment can provide valuable inputs for those consultations.

Under the section on Synergies with Other Organisations, Programmes and Donors, the Athens Declaration states that:

The Conference attaches particular importance to strengthening ties between the Partnership and the Mediterranean Action Plan including the Mediterranean Commission for Sustainable Development. To this end it:

> Welcomes the intention of the Commission and the MAP Co-ordinating Unit to hold regular dialogues on policy development, on the progress and results of programmes and projects and on possible areas of cooperation in order to promote co-ordination, coherence and complementarity in their assistance to the region,

> Takes note of the MAP "Report on its experience in promoting integration of environmental concerns into sustainable development" as well as its "Orientation paper identifying goals and capacities and improving

cooperation and synergies". As a consequence of these reports, the Commission and the MAP Coordinating Unit are invited to pursue further work on synergies.

> Calls on the Euro-Mediterranean Committee to invite the MAP Co-ordinating Unit to make occasional presentations to the Committee, in particular following Conferences of the Parties, on the implications of MAP's work and of the decisions and recommendations of the Contracting Parties to the Barcelona Convention for the progress of the Partnership,

> Invites the Commission to update the Contracting Parties of the Barcelona Convention regularly on progress in the EMP,

> Urges the further involvement of the MAP Regional Activity Centres in relevant capacity building efforts under the Partnership,

> Invites MAP to contribute fully to the Euro-Mediterranean Strategy for Environmental Integration,

> Invites the Commission and the MAP Co-ordinating Unit to explore ways and means of using the Euro-Mediterranean Partnership to encourage those of the 12 Partners who so wish, to implement the instruments and recommendations of the Barcelona Convention.

In its section on Sustainable Development Strategy in the Mediterranean, the Athens Declaration states that:

1. The Conference considers that the appropriate context to deal with a regional sustainable development strategy in the Mediterranean is the Barcelona Convention / MAP context; this is the context that addresses the

Mediterranean as an ecoregion and it has the mandate to promote sustainable development after the amendment of the Convention and the establishment of the MCSD in 1995. Related work within the EMP must be seen as an input to the sustainable development objective of the region.

The Conference welcomes the work recently launched within the Mediterranean Commission for Sustainable Development, which brings together governments, regional and local authorities and civil society representatives. This work aims at completing a Mediterranean Strategy for Sustainable Development by 2004 for adoption by the 14th Conference of the Parties of the Barcelona Convention. The Conference welcomes the Blue Plan / MAP's intention to prepare a Report on Environment and Development in the Mediterranean as an input to this Strategy with the technical support of the EEA.

The Conference considers that environmental integration within the Euro-Mediterranean Partnership and mutual supportiveness between environment and trade policies in implementing the Euro-Mediterranean Free Trade Area will be major contributions to the implementation of the Mediterranean Strategy for Sustainable Development.

In the section "Towards the World Summit on Sustainable Development", the Athens Declaration states that:

[...] the Conference welcomes and fully supports the Mediterranean Declaration for the Johannesburg Summit adopted by the 12th Conference of the Parties of the Barcelona Convention.

> THE NEW PREVENTION AND EMERGENCY PROTOCOL



The original Protocol concerning Cooperation in Combating Pollution of the Mediterranean Sea by Oil and Other Harmful Substances in Cases of Emergency (Emergency Protocol), adopted in 1976, focused primarily on preparedness for, response to and international co-operation in dealing with accidental marine pollution.

A Regional Centre, known as the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC) was established in Malta in 1976 to facilitate its implementation.

By the beginning of the 1990s the process of building national and regional capacities for dealing with accidental marine pollution has gained a steady momentum and the focus gradually started shifting towards prevention of pollution from ships.

This aspect of the problem was recognised as becoming more and more important since all statistics indicated that operational pollution from ships has been responsible for the major part of the input of oils and other harmful substances into world oceans.

As part of the process of revising the original “Barcelona system” (the Barcelona Convention and its Protocols) the Mediterranean Action Plan Phase II was adopted in June 1995. Two of its components deal specifically with the prevention of pollution of the marine environment from ships and with accidental marine pollution respectively.

In order to reflect these new strategic orientations, the revision of the Emergency Protocol aimed at addressing the prevention of marine pollution, as well as at updating the text of the Protocol, was carried out between 1998 and 2002.

In November 2001 the Contracting Parties (twenty Mediterranean countries and the European Community) decided to replace the original Emergency Protocol with a new Protocol concerning Cooperation in Preventing Pollution from Ships and, in Cases of Emergency, Combating Pollution of the Mediterranean Sea, which was adopted in Malta on 25 January 2002 by a Conference of Plenipotentiaries.

The new Protocol, known as the “Prevention and Emergency Protocol” covers prevention, preparedness and response to marine pollution from sea-based sources.

The text was modernized and harmonized with the texts of relevant International Maritime Organisation (IMO) legal instruments, also taking into account the developments within the European Union regarding the implementation of international standards on maritime safety and prevention of pollution from ships.

Minimizing and eventually eliminating chronic pollution of the Mediterranean Sea by illegal operational discharges from ships is a new challenge in the forthcoming period. The adoption of the new Prevention and Emergency Protocol gave REMPEC the necessary legal basis to concentrate its efforts on tackling this issue. Its translation into practical actions is expected to significantly reduce pollution from maritime transport related activities in the Mediterranean basin.

>> See insert with the text of the Protocol Concerning Cooperation in Preventing Pollution from Ships and, in Cases of Emergency, Combating Pollution of the Mediterranean Sea.

REGIONAL MARINE POLLUTION EMERGENCY CENTRE FOR THE MEDITERRANEAN SEA (REMPEC)

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> “MAMA” WILL OBSERVE THE SEA AND PREDICT CLIMATE CH

The “Mediterranean network to Assess and upgrade Monitoring and forecasting Activity” (MAMA) is the first MedGOOS (Global Oceanic Observing System) project, running since 2001 under European Union funds. Twenty-eight institutes from Mediterranean countries, the MAP, the Intergovernmental Oceanographic Commission and EuroGOOS are participants.

In 1991 UNESCO's Intergovernmental Oceanographic Commission (IOC) created the Global Ocean Observing System (GOOS). This is a permanent, global system for the observation, modelling and analysis of marine and ocean data.

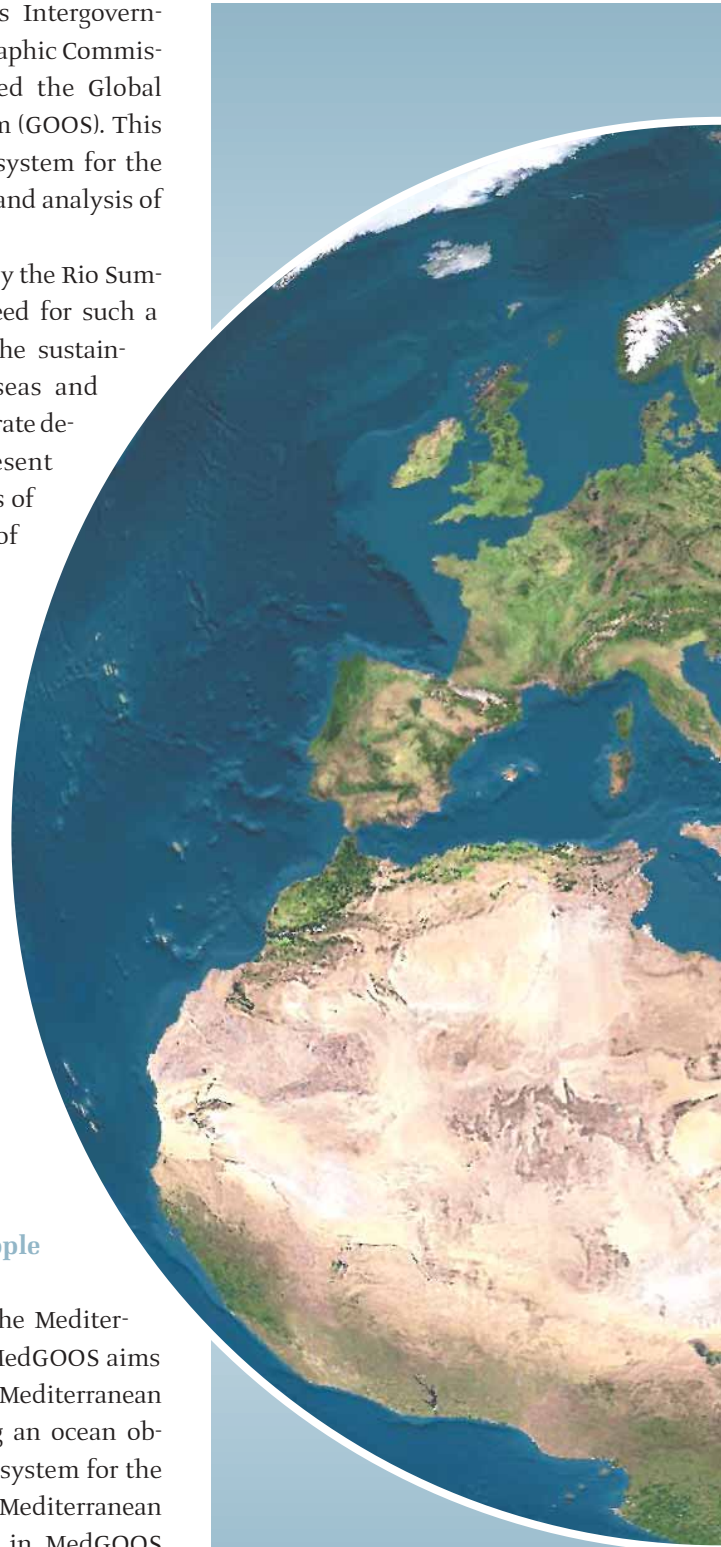
Agenda 21, adopted by the Rio Summit, pointed out the need for such a system to strengthen the sustainable management of seas and oceans, through an accurate description of their present state as well as forecasts of the future conditions of the sea.

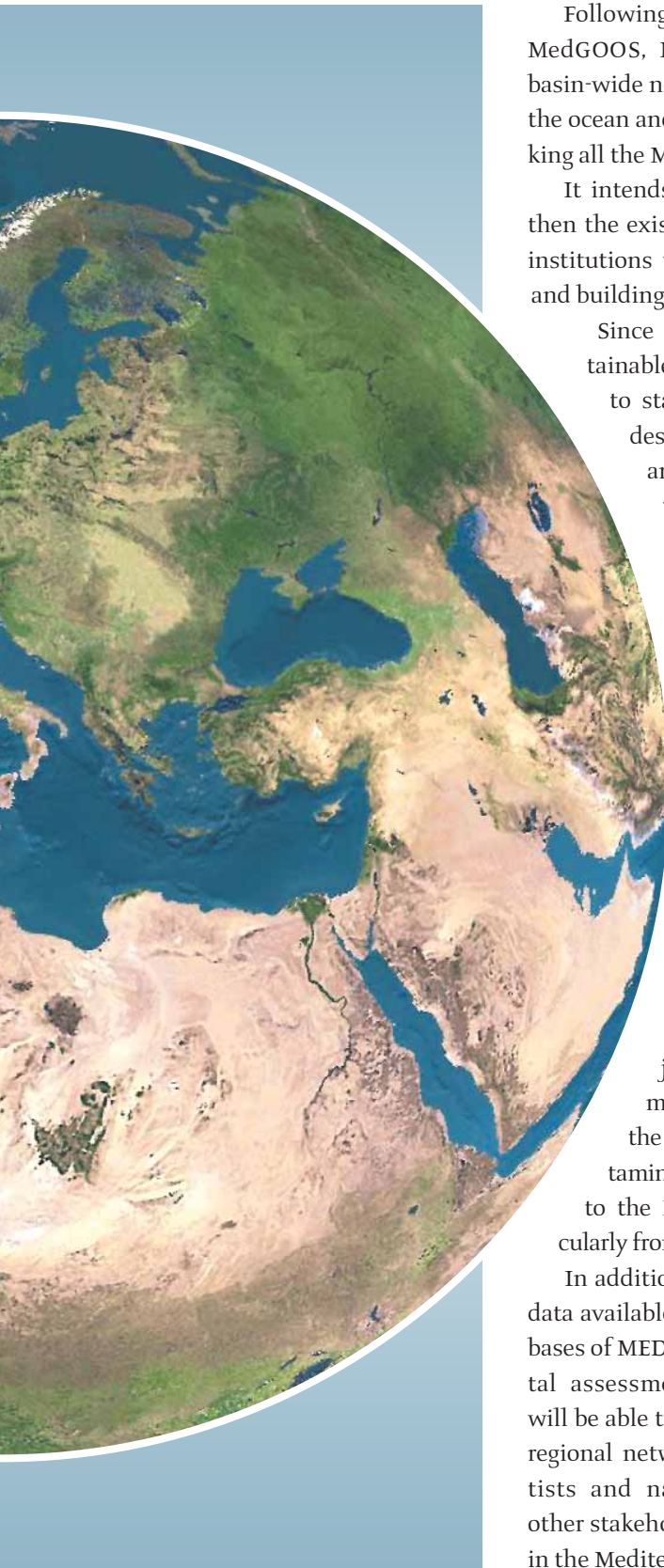
This is an important contribution to predict climate change.

Global Ocean Observing Systems are planned and carried out regionally. EuroGOOS was set up in 1994 by 14 European agencies, increasing to 30 in 2001. The Mediterranean was included in its regional task groups.

All countries are involved and all coastal people will benefit

The IOC launched the Mediterranean GOOS in 1997. MedGOOS aims to guide and assist the Mediterranean countries in developing an ocean observing and forecasting system for the Mediterranean. All the Mediterranean countries are involved in MedGOOS and this is expected to bring equal benefits and opportunities to all the coastal peoples of the region.





Following closely the objective of MedGOOS, MAMA aims to build a basin-wide network for observation of the ocean and forecast of changes, linking all the Mediterranean countries.

It intends to broaden and strengthen the existing network of national institutions through identifying gaps and building up expertise.

Since the focus is on the sustainable use of the coastal zone, to start off with, MAMA will design a scientifically sound and cost-effective observation and forecasting system for the coast.

This will then be included in a basin-wide system and, thus, the foundations will be set for its operation.

The MAP will provide valuable information

The Mediterranean Action Plan (MAP) is an active partner of MAMA, and will provide the project with a wealth of information on pollution loads, the levels and trends of contaminants, and potential threats to the Mediterranean Sea, particularly from land-based sources.

In addition to the large amount of data available in the reports and databases of MED POL, MAP's environmental assessment component, MAMA will be able to profit from the existing regional network of institutes, scientists and national authorities and other stakeholders collaborating with in the Mediterranean Action Plan.

A strong contribution to assessing and understanding coastal interactions

Once under way, this basin-wide system is expected to contribute greatly to all the related environmental assessment programmes operating in the region, providing a better and complete understanding of coastal interactions in the Mediterranean through important additional information and data, hopefully leading to improved coastal management in the region.

MARIA CAPARIS
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> DESALINATION?.. YES, BUT...

Over the period 1950–1990, the worldwide consumption of water tripled. Every second of every day Earth's population increases by 2.3 people. This means that the number of water consumers is increasing by 150 per minute, 9,000 per hour, 216,000 per day or 28,800,000 per year. Where will the additional water required to meet the needs of the ever-increasing number of consumers be found?

Temporary droughts have consequences that may be particularly severe for the water resources of the Mediterranean region. During the last few decades, most Mediterranean countries have experienced long-term droughts, e.g. 1980–85 in Morocco; 1982–83 in Greece, Spain, Southerly Italy and Tunisia; 1985–89 in Tunisia; 1988–90 in Greece; 1988–92 in Mediterranean France; 1989–91 in Cyprus; 1990–95 in Spain and Morocco; 1993–95 in Tunisia; 1995–2000 in Cyprus and Israel; the list being far from exhaustive.

Meanwhile, present and future water needs in the Mediterranean are steadily increasing. It is estimated that by the year 2010 water demands will have increased by 32 % at least for the Southern and Eastern countries. These needs can be covered only if non-conventional resources, such as water recycling and desalination are utilized.

As a result, the need for desalting seawater is becoming more and more pressing in many parts of the Mediterranean. The first desalination plant established in Marsa Alam, Egypt, with a production capacity of 500 m³/day.

The situation, by country

In **Spain**, and in particular the Grand Canary, the first seawater plants used Multi-Stage Flash (MSF) distillation techniques which were followed by several Reverse Osmosis (RO) plants. Today, the seawater desalination plants in Spain have the largest production capacity in the Mediterranean region (648,980 m³/day), covering 33.18 % of the region's total by the end of 1999. The main users of the desalted water are the municipalities and tourist complexes using 580,060 m³/day i.e.

89.38 % of the total. About 7.5 % is used for other purposes, such as irrigation and in military installations, while only about 3 % is used by electrical power stations and industry.

Libya is the second country in terms of production capacity of seawater desalination plants in the Mediterranean covering 30 % of the total. The first seawater desalination plant was established in Port Brega in 1965 with a capacity of about 750 m³/day. In the early '70s, the capacity of desalination plants in Libya was of more than 10,000 m³/day, and by the end of 1999 the total capacity of desalination plants was in the range of more than half a million cubic meters per day.

Italy is the country where most of the produced desalination water (about 60 %) is used by the industry. Although desalination technology began being applied on an extensive basis, in the '70s, only in the early '90s did this technology, mainly Vapour Compression (VC) distillation, begin to be applied by the municipalities, mostly in the south and particularly in Sicily. Originally, MSF was the main technology used for industrial and power purposes. The production capacity of seawater desalination plants in Italy is 18.1 % of the total for the Mediterranean region.

Malta was the first Mediterranean country where in 1983 the largest RO plant was set up to produce potable water with a capacity of 20,000 m³/day. The water production from desalination in Malta is 123,868 m³/day, that represents 6.3 % of the total for the Mediterranean region. The basic technology applied is RO, accounting for 94.1 % of its total desalted water production. This water is solely intended for human consumption. The capacity of the MSF



plants is only 4,200 m³/day and the water produced is used by power plants.

Until 1997 the only desalination units in **Cyprus** were those used in electrical power stations and they applied the MSF technology. It was in 1997 when the first large desalination plant of the RO type with a production capacity of 20,000 m³/day began to operate. The capacity of this plant doubled in 1998, while another RO plant with a capacity of 40,000 m³/day was scheduled to be operational in the beginning of 2001. The total production capacity of seawater desalination plants in Cyprus today is 46,561 i.e. 2.38 % of the total of the region.

Algeria is the country where seawater desalination is used basically by industry (94.58 % of the total desalination capacity of 100,739 m³/day). The process applied in Algeria is mainly MSF (about 72 %) or VC (about 27 %). There are no RO desalination plants in Algeria to produce water for human consumption.

In **Lebanon**, 100 % of the desalted water produced is used in electrical power units. There are no RO plants in Lebanon and the basic technology used is VC.

The only desalination plant on the Mediterranean coast of **Israel** is in Ashdod. It is of the Multi-Effect (ME) type and has a production capacity of 17,032 m³/day.

In **Tunisia**, desalination is a recent practice and is restricted to two small plants, one RO and one VC with a very small capacity of 500 m³/day.

On the Mediterranean coast of **Morocco** there are only two MSF plants with a total production capacity of 6,000 m³/day used by industry. In 1995, one RO plant was established, with a capacity of 7,800 m³/day intended for human consumption.

Seawater desalination in **Greece** is restricted to a number of industries and power stations, while very small units, mainly of VC technology, exist in the Aegean Islands.

There are only a very small number of seawater desalination plants in the Mediterranean coast of **Egypt** with a total production capacity of 20,860 m³/day i.e. about 1 % of the total Mediterranean capacity. The main technology used is MSF (about 59 %) and is applied in electrical power stations.

Seawater desalination is a continuous and steadily growing activity in the Mediterranean. The total production capacity of all types of plants, which was 25,160 m³/day in 1970, increased to 455,000 m³/day by 1979, doubled by 1989, and more than doubled by 1999, reaching a total capacity of 1,955,686 m³/day.

The impact

Among the impacts of a desalination plant on the environment are those limited to the construction phase and those related to its operational phase. These impacts cover a wide range of aspects, including the change of land-



>> DESALINATION?.. YES, BUT...

use, visual and acoustic disturbance, emissions into water and atmosphere, and the damages caused to the recipient environment.

Construction and operation activities could have a variety of coastal zone impacts related to air quality, water quality, marine life, disturbance of relevant ecosystems (sand-dunes, sea-grass beds and other important habitats by the pipeline routes), dredging and disposal of dredged material, noise, interference with public access and recreational activities.

Different technologies, but one common element

Despite the fact that different technologies have been developed for desalination, the common element in all of these desalination processes is the removal of dissolved minerals (including but not limited to salt) from seawater.

The result is then a stream of water (concentrate), which has a chemical composition similar to the source water, but with concentrations 1.2–3.0 times higher, combined with chemicals used during post and pre-treatment processes. A variety of chemicals and additives are used in desalination, to control the formation of mineral scale and biological growth that would otherwise interfere with the process.

The constituents of the by-product water, discharged from desalination plants, depend largely on the quality of the intake water, the quality of water produced and the desalination technology used. However, the desalination plants' discharges are not only the con-

centrate, the disinfectants and de-fouling agents, but also warm water and aqueous effluents such as rejected distillate and ejector condensates.

Seawater desalination is a unique process, as there is a mutual interaction between desalination plant and the adjacent marine environment. A clean marine environment is a prerequisite for clean water production. On the other hand, the effluent and emissions produced by the plant are affecting the marine environment.

The basic seawater desalination processes, the MSF and RO, differ in the type of their impacts. In the case of MSF the main impact is heat, thermal effluents and metals like Cu and Zn, while in the case of RO it is the high salinity of the concentrate (1.2 to 3 times higher than the feed water).

During pre-treatment, treatment and post-treatment in the desalination process a number of chemicals i.e. anti-scalants, disinfectants, anticorrosion and antifoaming additives, are added. A part of these chemicals or their by-products may be discharged along with the concentrate. Their addition should be controlled, so as to avoid having an impact on the marine environment.

Although seawater desalination is a steadily growing industry in many Mediterranean countries, there are still very few studies on the impacts of this activity on the marine environment.

The impact of a desalination plant on marine macrobenthos in the coastal waters of the Dhekelia area, Cyprus, is one of the few studies being conducted in the Mediterranean. It appears that

the brine discharges result in an evident increase in salinity in an area of 200-meter-radius from the point of discharge. Noticeable changes on the macrobenthos were observed in the vicinity of the concentrate discharge. Effect on the algal growth has also been observed in the vicinity of the Tigne RO desalination plant in Malta.

During the very recent years there has been a trend for constructing very large desalination plants of the RO type. Having in mind the continuous improvement in desalination with a conversion ratio of about 70 %, the concentrates of about three times higher salinity than the feed water, should be properly disposed.

Dredged material from the construction and installation of lengthy submarine intake and outake pipes, must be dumped, according to the specific provisions of the Dumping Protocol. According to the provisions of the Land Based Sources (LBS) Protocol, the concentrate from desalination plants should be regulated prior to its discharge into the marine environment and metal discharge, i.e. copper from desalination plants, should be eliminated.

In other words, desalination activities should continue to be developed there where no other options are available, but at the same time such activities should be categorized as industrial activities and therefore properly tackled from a technical and legal point of view by all Mediterranean countries.

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> ECOCINEMA FESTIVAL AWARDS ENVIRONMENTAL FILMS



Over 50 films from 17 countries were screened in the second EcoCinema Festival, held on the Greek island of Zakynthos. Three prizes and four special mentions were awarded.

This is the first-ever international cinema festival that awards films by theme: all about the environment. MAP supported the event.

For the second consecutive year, the International Environmental Film Festival *EcoCinema 2002* (4–8 September) took place in Zakynthos, seat of the first National Marine Park in Greece.

The international jury awarded three prizes

Down to Earth, by Shoshana Perry, USA, won the first prize. This 52-minute documentary follows a number of US individuals from different communities that share a commitment to Nature conservation and against cutting-off human beings from their natural environment. The Greek Ministry of Culture sponsored the 7,000 Euro prize.

Life in Ebb and Flow, by Marc van Fucht, Netherlands. The 52-minute film reflects the need to overcome the effects of activities such as fishing, drilling, export / import fleet of ships and tourism in the context of the dilemma of how to protect the environment while preserving economic development. The Mediterranean Action Plan (MAP) sponsored the 5,000 Euro prize.

Raptor Forest, by Panos Papadopoulos and Akis Kersanides, Greece. This 34-minute film aims to familiarise viewers, by means of images, with the various forms of life in the forest of Dadia, Greece, a country that, together with Spain, still host the black vulture. The 3,000 Euro prize was sponsored by Media Desk Hellas.

Aftershocks: The Rough Guide to Democracy, by Rakesh Sharma, India, won the special mention for raising the public's environmental awareness. This 66-minute film shows the story of a government-controlled mining company that used quake damage in two villages as an excuse to start mining and displace their inhabitants. The film engages in the debate *environment vs. development*.

Dust Games, by Martin Marecek, Czech Republic, won the special mention for the best TV report. This 86-minute film is a live report of the protests of peoples against international institutions considered as key promoters of globalisation.



Two more special mentions were awarded to films that, though not directly dealing with environmental issues, do contribute to raising environmental awareness. These are: **On the Edge of Time – Male domains in the Caucasus**, by Stefan Tolz, from Germany, and **Odyssey – A journey of Passion**, by Nikos Alevras, from Greece.

The festival included daily press conferences.

The EcoCinema Festival is financed by its own non-profit organisation, the Interdisciplinary Institute for Environmental Research, the Zakynthos National Marine Park as well as State and European Union funding.

ECOCINEMA (INTERNATIONAL ENVIRONMENTAL FILM FESTIVAL)

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> MAP: STATE OF THE ART INFORMATION

> The new MAP Series of Publications

> The MAP Legal Framework



For the Mediterranean Action Plan, the World Summit on Sustainable Development in Johannesburg was a good opportunity for providing updated information on its key fields of activity.

The MAP produced a series of thematic publications (brochures and leaflets). These publications intend to provide mainly the wide public with the state of the art information about the MAP commitment towards sustainable development in each of its main sectors.

The series covers a wide range of themes, varying from the revision of MAP's legal framework to safeguarding biodiversity. It includes information on ways to reduce pollution from land-based sources, to protect the Mediterranean against maritime accidents and illegal discharges from ships, to proceed with cleaner production in the industrial sector, and to achieve a sound coastal management.

It also presents a balance of MAP's achievements over the decade from Rio to Johannesburg, with a view on sustainable development in the region.

> The MAP and sustainable development



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> The MAP and cleaner production



> The MAP and maritime accidents and illegal discharges from ships



> The MAP and the Strategic Action Programme for land-based pollution reduction



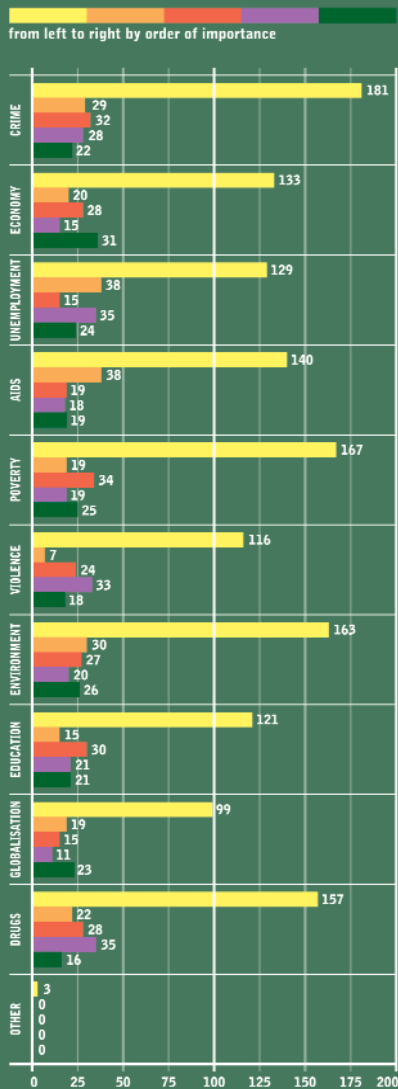
> The MAP and coastal zone management





> YOUNG PEOPLE ARE CONCERNED, BUT NOT PROPERLY INFORMED

Which of the following problems do you rate as the most important globally?



IN A SURVEY AMONG YOUNG PEOPLE IN GREECE, ABOUT 79 % EXPRESSED CONCERN ABOUT THE ENVIRONMENT BUT A 54 % CLAIMED THAT THEY WERE NOT PROPERLY INFORMED. SCHOOL, THE RADIO, TELEVISION, HIGHER EDUCATION AND THE INTERNET ARE THE SUGGESTED MEANS OF ENVIRONMENTAL EDUCATION.

This result, among others, derives from a survey on the environment and sustainable development which was conducted by New York College, Athens, in collaboration with the Greek Non-Governmental Organization Environmental Perception, among 440 New York College students (231 males and 209 females) mostly aged between 18 to 23 years old.

According to the survey, a large percentage requires additional environmental education and they consider as the most important environmental problems: forest depletion, air pollution and the depletion of the ozone layer. However, the majority is not aware of the protective function of the ozone layer.

The results of the survey show that young people are sensitised by present environmental problems; they consider, in their majority, that the environment is being constantly degraded. However, they do not appear to have a clear knowledge of processes such as the greenhouse effect as well as many of those caused by human intervention on the environment.

Their willingness to introduce environmental practices in their lives is limited, with a simultaneous indication of lack of information by organisations as well as of necessary facilities (i.e. recycling) in addition to the absence of systematic education on environmental matters.

According to the survey, environment is ranked third in the list of global problems after violence / criminality and poverty.

For Greece it is ranked seventh after unemployment, economy, education, violence / criminality, drugs and poverty.

The most important global problems that young people face today have been ranked appropriately by the majority of the students by order of importance as: criminality, poverty, environment, AIDS, economy, unemployment, education and violence, according to the survey.

Consumers are ranked third on the list of factors responsible for the present environmental conditions, right after government and industry. At the same time, about 73 % believe that the environment is being continuously depleted and they consider responsible industry and automobiles, in this order.

When asked if they would pay more for certain commodities in order for environmental measures to be taken, 70 % replied positively.

The use of alternative means of transportation excluding automobiles is circumstantial and their participation in volunteer programs of environmental nature is small and membership of young people in environmental groups is almost non-existent.

A large percentage (70 %) has knowledge of the sources of air pollution. However they were not able to rank the electricity production sources in their country by volume of production and a high percentage (22 %) could not identify these. Half of the students consulted do not know which sources of energy are considered renewable.

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{ MAP ONLINE }



THE NEW MAP WEBSITE...

The MAP website has been re-designed and re-structured in order to provide quick, easy access to information on the key MAP components and fields of activities.

This information has been grouped in five main sections, each one presenting background and details on one specific aspect, through different sub-sections, to facilitate your research.

The new MAP website is currently accessible at www.unepmap.gr and will soon be available also at www.unepmap.org.

This is a summary of what each section offers:



MAP!.. WHAT MAP?..

MAP is the Mediterranean Action Plan. MAP is an effort involving 20 countries bordering the Mediterranean sea, as well as the European Union. Through MAP, they are determined to meet the challenges of environmental degradation in

the sea, coastal areas and inland and to link sustainable resource management with development, in order to protect the Mediterranean region and contribute to an improved Mediterranean quality of life. Nothing more, nothing less!

FORMALLY SPEAKING

MAP is supported by a legal framework taking in a Barcelona Convention and six Protocols addressing specific environmental themes. This legal structure, known as the Barcelona system, consolidates the commitment of Mediterranean states and the EU to the MAP endeavour. This system has proved itself flexible to being updated when necessary, in line with world trends and advances in scientific knowledge and understanding. MAP's legal instruments interact with global

legal agreements such as the Convention on Biological Diversity. They also take account of recent developments in international environmental law such as the Polluter Pays Principle and the Precautionary Principle and that of Public Participation and Access to Information. Additionally, they intersect with other sub-regional agreements such as the one between Greece and Italy on the Protection of the Marine Environment of the Ionian Sea and its Coastal Zones.

THE NETWORKS

MAP's regional influence is very much a product of its close interaction with a bevy of organisations, both inter-governmental (IGOs) and non-governmental (NGOs). These partners share the MAP commitment to the welfare of the

Mediterranean region and its people and help MAP reach out to its wide target audience.

The Global Environment Facility (GEF) is currently among the MAP main supporters.

THE KIOSK

This section provides you with news on ongoing MAP activities, calendars of key MAP meetings and of non-MAP events related to the Mediterranean, access to the contents of

the MAP Magazine MedWaves, to MAP publications, and to a detailed list of direct links to further information on the environment and sustainable development by topic and source.

e-DOCUMENTS

This is the MAP Library and Documentation Centre, which manages a specialised collection of books, journals, newsletters, technical reports, and meeting documents on marine pollution, environmental management, sustainable development, coastal management and environmental policy and law as they relate to the Mediterranean Sea. The Library and Documentation Centre offers assistance and reference services to the Mediterranean scientific, professional and student community

as well as to the media and wider public. Here on our web page you will find a listing of our MAP Meeting documents, many of which are in PDF format for easy downloading. They date back to 1975 and key meetings can be found in English, French, Spanish and Arabic. You will find our MIS Reports, increasingly available in PDF format, or from us on request. You may search by subject or keywords for key library holdings, related Internet sites worth a visit and the e-mails of relevant bodies.



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> PROTOCOL CONCERNING COOPERATION IN PREVENTING POLLUTION FROM SHIPS AND, IN CASES OF EMERGENCY, COMBATING POLLUTION OF THE MEDITERRANEAN SEA



The Contracting Parties to the present Protocol,

BEING PARTIES to the Convention for the Protection of the Mediterranean Sea against Pollution, adopted at Barcelona on 16 February 1976 and amended on 10 June 1995,

DESIROUS of implementing Articles 6 and 9 of the said Convention,

RECOGNIZING that grave pollution of the sea by oil and hazardous and noxious substances or a threat thereof in the Mediterranean Sea Area involves a danger for the coastal States and the marine environment,

CONSIDERING that the cooperation of all the coastal States of the Mediterranean Sea is called for to prevent pollution from ships and to respond to pollution incidents, irrespective of their origin,

ACKNOWLEDGING the role of the International Maritime Organization and the importance of cooperating within the framework of this Organization, in particular in promoting the adoption and the development of international rules and standards to prevent, reduce and control pollution of the marine environment from ships,

EMPHASIZING the efforts made by the Mediterranean coastal States for the implementation of these international rules and standards,

ACKNOWLEDGING also the contribution of the European Community to the implementation of international standards as regards maritime safety and the prevention of pollution from ships,

RECOGNIZING also the importance of cooperation in the Mediterranean Sea Area in promoting the effective implementation of international regulations to prevent, reduce and control pollution of the marine environment from ships,

RECOGNIZING further the importance of prompt and effective action at the national, subregional and regional levels in taking emergency measures to deal with pollution of the marine environment or a threat thereof,

APPLYING the precautionary principle, the polluter pays principle and the method of environmental impact assessment, and utilizing the best available techniques and the best environmental practices, as provided for in Article 4 of the Convention,

BEARING IN MIND the relevant provisions of the United Nations Convention on the Law of the Sea, done at Montego Bay on 10 December 1982, which is in force and to which many Mediterranean coastal States and the European Community are Parties,

TAKING INTO ACCOUNT the international conventions dealing in particular with maritime safety, the prevention of pollution from ships, preparedness for and response to pollution incidents, and liability and compensation for pollution damage,

WISHING to further develop mutual assistance and cooperation in preventing and combating pollution,

HAVE AGREED as follows:

>> PROTOCOL CONCERNING COOPERATION IN PREVENTING POLLUTION FROM SHIPS AND, IN CASES OF EMERGENCY, COMBATING POLLUTION OF THE MEDITERRANEAN SEA

Article 1: DEFINITIONS

For the purpose of this Protocol:

- (a) "Convention" means the Convention for the Protection of the Mediterranean Sea against Pollution, adopted at Barcelona on 16 February 1976 and amended on 10 June 1995;
- (b) "Pollution incident" means an occurrence or series of occurrences having the same origin, which results or may result in a discharge of oil and/or hazardous and noxious substances and which poses or may pose a threat to the marine environment, or to the coastline or related interests of one or more States, and which requires emergency action or other immediate response;
- (c) "Hazardous and noxious substances" means any substance other than oil which, if introduced into the marine environment, is likely to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea;
- (d) "Related interests" means the interests of a coastal State directly affected or threatened and concerning, among others:
 - (i) maritime activities in coastal areas, in ports or estuaries, including fishing activities;
 - (ii) the historical and tourist appeal of the area in question, including water sports and recreation;
 - (iii) the health of the coastal population;
 - (iv) the cultural, aesthetic, scientific and educational value of the area;
 - (v) the conservation of biological diversity and the sustainable use of marine and coastal biological resources;
- (e) "International regulations" means regulations aimed at preventing, reducing and controlling pollution of the marine environment from ships as adopted, at the global level and in conformity with international law, under the aegis of United Nations specialized agencies, and in particular of the International Maritime Organization;
- (f) "Regional Centre" means the "Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea" (REMPEC), established by Resolution 7 adopted by the Conference of Plenipotentiaries of the Coastal States of the Mediterranean Region on the Protection of the Mediterranean Sea at Barcelona on 9 February 1976, which is administered by the International Maritime Organization and the United Nations Environment Programme, and the objectives and functions of which are defined by the Contracting Parties to the Convention.

Article 2: PROTOCOL AREA

The area to which the Protocol applies shall be the Mediterranean Sea Area as defined in Article 1 of the Convention.

Article 3: GENERAL PROVISIONS

1. The Parties shall cooperate:
 - (a) to implement international regulations to prevent, reduce and control pollution of the marine environment from ships; and
 - (b) to take all necessary measures in cases of pollution incidents.
2. In cooperating, the Parties should take into account as appropriate the participation of local authorities, non-governmental organizations and socio-economic actors.
3. Each Party shall apply this Protocol without prejudice to the sovereignty or the jurisdiction of other Parties or other States. Any measures taken by a Party to apply this Protocol shall be in accordance with international law.



Article 4: CONTINGENCY PLANS AND OTHER MEANS OF PREVENTING AND COMBATING POLLUTION INCIDENTS

1. The Parties shall endeavour to maintain and promote, either individually or through bilateral or multilateral cooperation, contingency plans and other means of preventing and combating pollution incidents. These means shall include, in particular, equipment, ships, aircraft and personnel prepared for operations in cases of emergency, the enactment, as appropriate, of relevant legislation, the development or strengthening of the capability to respond to a pollution incident and the designation of a national authority or authorities responsible for the implementation of this Protocol.
2. The Parties shall also take measures in conformity with international law to prevent the pollution of the Mediterranean Sea Area from ships in order to ensure the effective implementation in that Area of the relevant international conventions in their capacity as flag State, port State and coastal State, and their applicable legislation. They shall develop their national capacity as regards the implementation of those international conventions and may cooperate for their effective implementation through bilateral or multilateral agreements.
3. The Parties shall inform the Regional Centre every two years of the measures taken for the implementation of this Article. The Regional Centre shall present a report to the Parties on the basis of the information received.

Article 5: MONITORING

The Parties shall develop and apply, either individually or through bilateral or multilateral cooperation, monitoring activities covering the Mediterranean Sea Area in order to prevent, detect and combat pollution, and to ensure compliance with the applicable international regulations.

Article 6: COOPERATION IN RECOVERY OPERATIONS

In case of release or loss overboard of hazardous and noxious substances in packaged form, including those in freight containers, portable tanks, road and rail vehicles and shipborne barges, the Parties shall cooperate as far as practicable in the salvage of these packages and the recovery of such substances so as to prevent or reduce the danger to the marine and coastal environment.

Article 7: DISSEMINATION AND EXCHANGE OF INFORMATION

1. Each Party undertakes to disseminate to the other Parties information concerning:
 - (a) the competent national organization or authorities responsible for combating pollution of the sea by oil and hazardous and noxious substances;
 - (b) the competent national authorities responsible for receiving reports of pollution of the sea by oil and hazardous and noxious substances and for dealing with matters concerning measures of assistance between Parties;
 - (c) the national authorities entitled to act on behalf of the State in regard to measures of mutual assistance and cooperation between Parties;
 - (d) the national organization or authorities responsible for the implementation of paragraph 2 of Article 4, in particular those responsible for the implementation of the international conventions concerned and other relevant applicable regulations, those responsible for port reception facilities and those responsible for the monitoring of discharges which are illegal under MARPOL 73/78;
 - (e) its regulations and other matters which have a direct bearing on preparedness for and response to pollution of the sea by oil and hazardous and noxious substances;
 - (f) new ways in which pollution of the sea by oil and hazardous and noxious substances may be avoided, new measures for combating pollution, new developments in the technology of conducting monitoring and the development of research programmes.

>> PROTOCOL CONCERNING COOPERATION IN PREVENTING POLLUTION FROM SHIPS AND, IN CASES OF EMERGENCY, COMBATING POLLUTION OF THE MEDITERRANEAN SEA

2. The Parties which have agreed to exchange information directly shall communicate such information to the Regional Centre. The latter shall communicate this information to the other Parties and, on a basis of reciprocity, to coastal States of the Mediterranean Sea Area which are not Parties to this Protocol.
3. Parties concluding bilateral or multilateral agreements within the framework of this Protocol shall inform the Regional Centre of such agreements, which shall communicate them to the other Parties.

Article 8: COMMUNICATION OF INFORMATION AND REPORTS CONCERNING POLLUTION INCIDENTS

The Parties undertake to coordinate the utilization of the means of communication at their disposal in order to ensure, with the necessary speed and reliability, the reception, transmission and dissemination of all reports and urgent information concerning pollution incidents. The Regional Centre shall have the necessary means of communication to enable it to participate in this coordinated effort and, in particular, to fulfil the functions assigned to it by paragraph 2 of Article 12.

Article 9: REPORTING PROCEDURE

1. Each Party shall issue instructions to masters or other persons having charge of ships flying its flag and to the pilots of aircraft registered in its territory to report by the most rapid and adequate channels in the circumstances, following reporting procedures to the extent required by, and in accordance with, the applicable provisions of the relevant international agreements, to the nearest coastal State and to this Party:
 - (a) all incidents which result or may result in a discharge of oil or hazardous and noxious substances;
 - (b) the presence, characteristics and extent of spillages of oil or hazardous and noxious substances, including hazardous and noxious substances in packaged form, observed at sea which pose or are likely to pose a threat to the marine environment or to the coast or related interests of one or more of the Parties.
2. Without prejudice to the provisions of Article 20 of the Protocol, each Party shall take appropriate measures with a view to ensuring that the master of every ship sailing in its territorial waters complies with the obligations under (a) and (b) of paragraph 1 and may request assistance from the Regional Centre in this respect. It shall inform the International Maritime Organization of the measures taken.
3. Each Party shall also issue instructions to persons having charge of sea ports or handling facilities under its jurisdiction to report to it, in accordance with applicable laws, all incidents which result or may result in a discharge of oil or hazardous and noxious substances.
4. In accordance with the relevant provisions of the 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, each Party shall issue instructions to persons having charge of offshore units under its jurisdiction to report to it by the most rapid and adequate channels in the circumstances, following reporting procedures it has prescribed, all incidents which result or may result in a discharge of oil or hazardous and noxious substances.
5. In paragraphs 1, 3 and 4 of this Article, the term "incident" means an incident meeting the conditions described therein, whether or not it is a pollution incident.
6. The information collected in accordance with paragraphs 1, 3 and 4 shall be communicated to the Regional Centre in the case of a pollution incident.
7. The information collected in accordance with paragraphs 1, 3 and 4 shall be immediately communicated to the other Parties likely to be affected by a pollution incident:
 - (a) by the Party which has received the information, preferably directly or through the Regional Centre; or
 - (b) by the Regional Centre.



In case of direct communication between Parties, these shall inform the Regional Centre of the measures taken, and the Centre shall communicate them to the other Parties.

8. The Parties shall use a mutually agreed standard form proposed by the Regional Centre for the reporting of pollution incidents as required under paragraphs 6 and 7 of this Article.
9. In consequence of the application of the provisions of paragraph 7, the Parties are not bound by the obligation laid down in Article 9, paragraph 2, of the Convention.

Article 10: OPERATIONAL MEASURES

1. Any Party faced with a pollution incident shall:
 - (a) make the necessary assessments of the nature, extent and possible consequences of the pollution incident or, as the case may be, the type and approximate quantity of oil or hazardous and noxious substances and the direction and speed of drift of the spillage;
 - (b) take every practicable measure to prevent, reduce and, to the fullest possible extent, eliminate the effects of the pollution incident;
 - (c) immediately inform all Parties likely to be affected by the pollution incident of these assessments and of any action which it has taken or intends to take, and simultaneously provide the same information to the Regional Centre, which shall communicate it to all other Parties;
 - (d) continue to observe the situation for as long as possible and report thereon in accordance with Article 9.
2. Where action is taken to combat pollution originating from a ship, all possible measures shall be taken to safeguard:
 - (a) human lives;
 - (b) the ship itself; in doing so, damage to the environment in general shall be prevented or minimized.
 Any Party which takes such action shall inform the International Maritime Organization either directly or through the Regional Centre.

Article 11: EMERGENCY MEASURES ON BOARD SHIPS, ON OFFSHORE INSTALLATIONS AND IN PORTS

1. Each Party shall take the necessary steps to ensure that ships flying its flag have on board a pollution emergency plan as required by, and in accordance with, the relevant international regulations.
2. Each Party shall require masters of ships flying its flag, in case of a pollution incident, to follow the procedures described in the shipboard emergency plan and in particular to provide the proper authorities, at their request, with such detailed information about the ship and its cargo as is relevant to actions taken in pursuance of Article 9, and to cooperate with these authorities.
3. Without prejudice to the provisions of Article 20 of the Protocol, each Party shall take appropriate measures with a view to ensuring that the master of every ship sailing in its territorial waters complies with the obligation under paragraph 2 and may request assistance from the Regional Centre in this respect. It shall inform the International Maritime Organization of the measures taken.
4. Each Party shall require that authorities or operators in charge of sea ports and handling facilities under its jurisdiction as it deems appropriate have pollution emergency plans or similar arrangements that are coordinated with the national system established in accordance with Article 4 and approved in accordance with procedures established by the competent national authority.
5. Each Party shall require operators in charge of offshore installations under its jurisdiction to have a contingency plan to combat any pollution incident, which is coordinated with the national system established in accordance with Article 4 and in accordance with the procedures established by the competent national authority.

>> PROTOCOL CONCERNING COOPERATION IN PREVENTING POLLUTION FROM SHIPS AND, IN CASES OF EMERGENCY, COMBATING POLLUTION OF THE MEDITERRANEAN SEA

Article 12: ASSISTANCE

1. Any Party requiring assistance to deal with a pollution incident may call for assistance from other Parties, either directly or through the Regional Centre, starting with the Parties which appear likely to be affected by the pollution. This assistance may comprise, in particular, expert advice and the supply to or placing at the disposal of the Party concerned of the required specialized personnel, products, equipment and nautical facilities. Parties so requested shall use their best endeavours to render this assistance.
2. Where the Parties engaged in an operation to combat pollution cannot agree on the organization of the operation, the Regional Centre may, with the approval of all the Parties involved, coordinate the activity of the facilities put into operation by these Parties.
3. In accordance with applicable international agreements, each Party shall take the necessary legal and administrative measures to facilitate:
 - (a) the arrival and utilization in and departure from its territory of ships, aircraft and other modes of transport engaged in responding to a pollution incident or transporting personnel, cargoes, materials and equipment required to deal with such an incident; and
 - (b) the expeditious movement into, through and out of its territory of the personnel, cargoes, materials and equipment referred to in subparagraph (a).

Article 13: REIMBURSEMENT OF COSTS OF ASSISTANCE

1. Unless an agreement concerning the financial arrangements governing actions of Parties to deal with pollution incidents has been concluded on a bilateral or multilateral basis prior to the pollution incident, Parties shall bear the costs of their respective action in dealing with pollution in accordance with paragraph 2.
2. (a) If the action was taken by one Party at the express request of another Party, the requesting Party shall reimburse to the assisting Party the costs of its action. If the request is cancelled, the requesting Party shall bear the costs already incurred or committed by the assisting Party;
 - (b) if the action was taken by a Party on its own initiative, that Party shall bear the cost of its action;
 - (c) the principles laid down in subparagraphs (a) and (b) above shall apply unless the Parties concerned otherwise agree in any individual case.
3. Unless otherwise agreed, the costs of the action taken by a Party at the request of another Party shall be fairly calculated according to the law and current practice of the assisting Party concerning the reimbursement of such costs.
4. The Party requesting assistance and the assisting Party shall, where appropriate, cooperate in concluding any action in response to a compensation claim. To that end, they shall give due consideration to existing legal regimes. Where the action thus concluded does not permit full compensation for expenses incurred in the assistance operation, the Party requesting assistance may ask the assisting Party to waive reimbursement of the expenses exceeding the sums compensated or to reduce the costs which have been calculated in accordance with paragraph 3. It may also request a postponement of the reimbursement of such costs. In considering such a request, assisting Parties shall give due consideration to the needs of developing countries.
5. The provisions of this Article shall not be interpreted as in any way prejudicing the rights of Parties to recover from third parties the costs of actions taken to deal with pollution incidents under other applicable provisions and rules of national and international law applicable to one or to the other Party involved in the assistance.



Article 14: PORT RECEPTION FACILITIES

1. The Parties shall individually, bilaterally or multilaterally take all necessary steps to ensure that reception facilities meeting the needs of ships are available in their ports and terminals. They shall ensure that these facilities are used efficiently without causing undue delay to ships.
The Parties are invited to explore ways and means to charge reasonable costs for the use of these facilities.
2. The Parties shall also ensure the provision of adequate reception facilities for pleasure craft.
3. The Parties shall take all the necessary steps to ensure that reception facilities operate efficiently to limit any impact of their discharges to the marine environment.
4. The Parties shall take the necessary steps to provide ships using their ports with updated information relevant to the obligations arising from MARPOL 73/78 and from their legislation applicable in this field.

Article 15: ENVIRONMENTAL RISKS OF MARITIME TRAFFIC

In conformity with generally accepted international rules and standards and the global mandate of the International Maritime Organization, the Parties shall individually, bilaterally or multilaterally take the necessary steps to assess the environmental risks of the recognized routes used in maritime traffic and shall take the appropriate measures aimed at reducing the risks of accidents or the environmental consequences thereof.

Article 16: RECEPTION OF SHIPS IN DISTRESS IN PORTS AND PLACES OF REFUGE

The Parties shall define national, subregional or regional strategies concerning reception in places of refuge, including ports, of ships in distress presenting a threat to the marine environment. They shall cooperate to this end and inform the Regional Centre of the measures they have adopted.

Article 17: SUBREGIONAL AGREEMENTS

The Parties may negotiate, develop and maintain appropriate bilateral or multilateral subregional agreements in order to facilitate the implementation of this Protocol, or part of it. Upon request of the interested Parties, the Regional Centre shall assist them, within the framework of its functions, in the process of developing and implementing these subregional agreements.

Article 18: MEETINGS

1. Ordinary meetings of the Parties to this Protocol shall be held in conjunction with ordinary meetings of the Contracting Parties to the Convention, held pursuant to Article 18 of the Convention. The Parties to this Protocol may also hold extraordinary meetings as provided in Article 18 of the Convention.
2. It shall be the function of the meetings of the Parties to this Protocol, in particular:
 - (a) to examine and discuss reports from the Regional Centre on the implementation of this Protocol, and particularly of its Articles 4, 7 and 16;
 - (b) to formulate and adopt strategies, action plans and programmes for the implementation of this Protocol;
 - (c) to keep under review and consider the efficacy of these strategies, action plans and programmes, and the need to adopt any new strategies, action plans and programmes and to develop measures to that effect;
 - (d) to discharge such other functions as may be appropriate for the implementation of this Protocol.

Article 19: RELATIONSHIP WITH THE CONVENTION

1. The provisions of the Convention relating to any protocol shall apply with respect to the present Protocol.
2. The rules of procedure and the financial rules adopted pursuant to Article 24 of the Convention shall apply with respect to this Protocol, unless the Parties agree otherwise.

>> PROTOCOL CONCERNING COOPERATION IN PREVENTING POLLUTION FROM SHIPS AND, IN CASES OF EMERGENCY, COMBATING POLLUTION OF THE MEDITERRANEAN SEA



FINAL PROVISIONS

Article 20: EFFECT OF THE PROTOCOL ON DOMESTIC LEGISLATION

In implementing the provisions of this Protocol, the right of Parties to adopt relevant stricter domestic measures or other measures in conformity with international law, in the matters covered by this Protocol, shall not be affected.

Article 21: RELATIONS WITH THIRD PARTIES

The Parties shall, where appropriate, invite States that are not Parties to the Protocol and international organizations to cooperate in the implementation of the Protocol.

Article 22: SIGNATURE

This Protocol shall be open for signature at Valletta, Malta, on 25 January 2002 and in Madrid from 26 January 2002 to 25 January 2003 by any Contracting Party to the Convention.

Article 23: RATIFICATION, ACCEPTANCE OR APPROVAL

This Protocol shall be subject to ratification, acceptance or approval. The instruments of ratification, acceptance or approval shall be deposited with the Government of Spain, which will assume the functions of Depositary.

Article 24: ACCESSION

As from 26 January 2003, this Protocol shall be open for accession by any Party to the Convention.

Article 25: ENTRY INTO FORCE

1. This Protocol shall enter into force on the thirtieth day following the deposit of the sixth instrument of ratification, acceptance, approval or accession.
2. From the date of its entry into force, this Protocol shall replace the Protocol concerning Cooperation in Combating Pollution of the Mediterranean Sea by Oil and other Harmful Substances in Cases of Emergency of 1976 in the relations between the Parties to both instruments.

IN WITNESS WHEREOF, the undersigned, being duly authorized thereto, have signed this Protocol.

DONE at Valletta, Malta, on 25 January 2002, in a single copy in the Arabic, English, French and Spanish languages, the four texts being equally authentic.



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