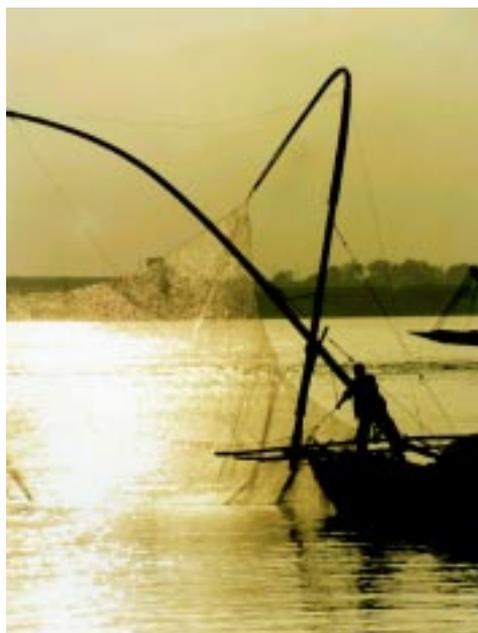


# Regional Seas

Strategies for Sustainable Development



UNEP/HU ZONG HUU



UNEP/SHOUKYA UTSUKA

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## A time to act

Since the 1960s when Jacques-Yves Cousteau first raised the alarm over the deteriorating condition of the marine environment, most of us have come to realize what's at stake: our fisheries – a primary source of food for many of us – our holiday beaches, our treasured coral reefs and species-rich coastal wetlands, even our health.

More recently scientists have cautioned us that the very survival of life on Earth may be vulnerable to our unwitting assaults on the atmosphere with 'greenhouse' gases and ozone-depleting chemicals, on the land with our bulldozers and chainsaws, on our fellow creatures with pesticides, driftnets and asphalt.

Even our oceans, the great environmental buffers that keep conditions for life (temperature, atmospheric gases, water and nutrient cycles) on an even keel are threatened. The forces in play are enormous, and could bring about fundamental changes in our environment so rapidly that life would have little time to adapt. Deserts could form in the great plains, the world's foodbaskets. The great ocean and air currents could re-route, turning Switzerland into Siberia or Argentina into the Sahara. Entire temperature zones could shift hundreds of kilometres in a few decades. Island chains and coastal plains could disappear altogether.



QING DAO BEACH, CHINA. UNEP/WANG JIAN MIN

### Coastal encounters

Seven out of 10 people around the globe live within 80 km of the shoreline. Almost half the world's cities with a population of over one million are sited near tide-washed river mouths. Coastal zones provide all but 10 percent of the world's fishing catch, and the beach is the favourite playground for a large segment of humanity. The continental shelves are the ocean's most biologically productive regions.

But the coast is also where our activities have the greatest and most immediate effect; where developers clear mangroves and flush silt and sediment into previously clear waters, where urban and industrial wastes pollute estuaries; where tourists crowd around the very coral reefs where fish are harvested with dynamite or poison.

### Growing threats

Globalization has intensified many of the threats to marine life. Ships remain the cheapest form of long-haul transport for goods in bulk, so thousands of tankers ply the world's oil routes, with regular spills and discharges that can clog holiday beaches, killing off wildlife and destroying local tourist and fishing economies for months if not years. Invasive species are transported in the holds and ballast waters of ships, threatening biodiversity around the globe by preying upon or out-competing native species of animals and plants.

## On the global agenda

Coastal and marine problems were for long treated as purely local or national issues. With the rise of environmental awareness over the last 50 years they began to move up the global agenda. The 1972 United Nations Conference on the Human Environment expressly underlined the “vital importance for humanity of the seas and all the living organisms which the oceans support”. The Rio Earth Summit of 1992 embodied a new concern with sustainable development. Agenda 21, the international blueprint for the environment and development community in the new millennium, devoted Chapter 17 to the oceans and coastal areas. The 1992 Convention on Biological Diversity and the 1992 United Nations Framework Convention on Climate Change put marine activities in a new perspective, in which global and regional questions were closely linked.

## UNEP's Regional Seas

The Governing Council of the United Nations Environment Programme endorsed the regional approach to controlling marine pollution several times before UNEP started its Regional Seas Programme in 1974. In its first major regional activity, UNEP brought together a task force of scientists and officials to shape a plan of action for the Mediterranean, adopted in its final form at Barcelona in February, 1975.

Since then, 13 regional Action Plans have been established under UNEP auspices: the Black Sea, Caribbean, East Africa, East Asia, the ROPME Sea Area (Kuwait region), Mediterranean, North-East Pacific, North-West Pacific, Red Sea and Gulf of Aden, South Asia, South-East Pacific, South Pacific, and West and Central Africa. Plans for the South-West Atlantic are in development and similar independent agreements are in place in the Antarctic, Arctic, Baltic, Caspian and North-East Atlantic. Altogether, more than 140 countries participate in at least one regional Action Plan.

### Environment: a unifying cause

Environmental protection has proven to be a profoundly unifying issue. In region after region, from the Mediterranean to Kuwait to the North-West Pacific, the pattern is repeated: countries that agree on little else can meet at the same table to discuss how to protect their marine and coastal environment.

Perhaps just as remarkable have been the broad-based partnerships forged between dozens of international agencies, often with additional support from the private sector and non-governmental organizations. Twelve of the Regional Seas and partner programmes are underpinned by conventions with their respective protocols.

These regional agreements have been extraordinarily effective in engaging governments in protecting the environment. Unlike the global environmental conventions, these regional conventions and Action Plans are comprehensive, covering issues ranging from chemical wastes and coastal development to the conservation of marine animals and ecosystems. Their limited geographic focus enables them to channel the energies of a wide range of interest groups into solving what are, after all, a series of interlinked problems.

### Key issues

Some of the priority issues that are being addressed by the Regional Seas agreements include:

**Ecosystems and biodiversity.** Coral reefs are among the most productive and diverse of all natural ecosystems. Recent decades have been catastrophic for them, however: some 10% of the world's reefs may already have been degraded beyond recovery, and another 30% are in decline. Meanwhile biologically rich coastal wetlands, including mangrove forests and salt marshes, are favourite sites for dredging and filling by industry, farmers and home builders. Sea turtles and marine mammals such as seals, manatees and small whales are at particular risk.

**Living resources.** Fish, molluscs, and crustaceans are major food sources for subsistence communities around the world. But overharvesting combined with pollution and other environmental stresses have caused fish stocks around the world to collapse. Some 70% of major fish stocks are estimated to be overexploited or in danger of being so.

**Land-based sources of pollution.** Municipal, industrial and agricultural wastes and run-off account for as much as 80% of all marine pollution. Sewage and waste water, persistent organic pollutants (including pesticides), heavy metals, oils, nutrients and sediments – whether brought by rivers or discharged directly into coastal waters – take a severe toll on human health and well-being as well as on coastal ecosystems. The result is more carcinogens in seafood, more closed beaches, more red tides, more beached carcasses of seabirds, fish and even marine mammals. To better address this world-wide problem, governments established the Global Plan of Action on Land-based Sources of Pollution in 1995 (see page 7).

**Shipping and sea-based pollution.** Some 20% of sea pollution comes from the deliberate dumping of oil and other wastes from ships, from accidental spills and offshore oil drilling, and the steady drip-drip of hydrocarbons from ship engines.

**Coastal development.** Heavy population pressure on the coasts is causing more and more of the natural environment to be paved over or converted into ports, tourist beaches, and new communities. Coastal development often entails dredging up bottom sediments, reshaping the shoreline and thus local currents. The wholesale cutting of mangrove forests and other habitat leads to erosion and sedimentation.

**Vulnerability of small islands.** Environmental pressures take a particular toll on small island states, whose size and isolation make them vulnerable to extinctions, habitat loss, and sea-level rise. The 40-plus small island developing States and territories recognized by the United Nations all participate in the Regional Seas, while the Caribbean and South Pacific are dominated by small island countries.

**Marine mammals.** Many species of whales, seals and dolphins are threatened world-wide. Hundreds of thousands of dolphins and whales die each year in fishing nets. Coastal development and herbicides destroy the habitat of manatees and dugongs. Marine otters are hunted for their pelts or killed by people who see them as competitors for fish and sea urchins. Growing public concern in the early 1980s led UNEP and the Food and Agriculture Organization of the UN to draw up a Global Plan of Action for Marine Mammals, and since then several Regional Seas have incorporated marine mammal conservation into their Action Plans and protocols.



COMMON DOLPHIN. UNEP/ANDREW DRAKE

## How Action Plans work

Action Plans are adopted by member governments in order to establish a comprehensive strategy and framework for protecting the natural environment and promote sustainable development. In 12 of the regional programmes, the Parties have also adopted a legally-binding convention setting out what governments must do to implement the Action Plan. Most conventions have added protocols, which are separate but linked legal agreements addressing specific issues – such as protected areas or land-based pollution – in more detail.

An Action Plan outlines the strategy and substance of the programme, based on the region's particular environmental challenges as well as its socio-economic and political situation, and is usually made up of the following parts:

**Environmental assessment.** Monitoring and assessment activities provide a scientific basis for setting regional priorities and policies. Regional institutions and experts participate in a programme to determine the causes of environmental problems as well as their magnitude and impact on the region. These may include scientific baseline studies; research and monitoring of the sources, levels and effects of marine pollutants; ecosystem studies; and studies of coastal and marine activities. Assessments are also made of the social and economic factors that relate to environmental degradation and the status and effectiveness of national environmental legislation.

**Environmental management.** Each regional programme includes a wide range of environmental management activities such as cooperative projects on training in Environmental Impact Assessment; management of coastal lagoons, estuaries and mangrove ecosystems; control of industrial, agricultural and domestic wastes; formulation of contingency plans for dealing with pollution emergencies; etc.

**Environmental legislation.** An umbrella convention most often provides the legal framework for an Action Plan. It also expresses the political will and legal commitment of the Governments to tackle their common environmental problems, acting both together and individually. Conventions are put into practice 'on-the-ground' through protocols dealing with specific problems – oil spills, response to emergencies, land-based pollution, and conservation of wildlife and habitats, for example. In some regions the convention has emerged as the centrepiece of the programme.

**Institutional arrangements.** Governments agree upon an organization to act as the permanent or interim secretariat of the Action Plan, usually called the Regional Coordinating Unit (RCU). Governments also decide how often to hold intergovernmental meetings to review progress, approve new activities and discuss the budget.

**Financial arrangements.** UNEP, together with selected United Nations and other organizations, provides "seed money" or catalytic financing in the early stages of the regional programmes. Ultimately, the Governments of the region are expected to assume financial responsibility. Government financing may be channelled through regional trust funds administered by the organization responsible for secretariat functions of the Action Plan (often initially UNEP, later the RCU or a new independent regional organization).



UNEP/KURT ADAMS

## The way forward

Throughout the quarter century of the Regional Seas Programme, the results and experience of the early Action Plans helped to fine-tune the approach. Fresh and innovative ideas were used to adapt the basic Action Plan model to particular regional contexts. The Programme grew in scope and imagination as well as in size.

Today, a new framework for international action is emerging, and is reflected in all the Regional Seas. It encompasses rather than replaces the former programme elements of science, management and law. Its main components are:

- **biodiversity conservation:** by which activities to protect marine species and habitats are drawn within the expanding sphere of influence of the Convention on Biological Diversity and its partner conventions;
- **land-based activities:** aimed at tackling the main sources of environmental degradation at their source, within the framework of the Global Programme of Action (GPA) for the Protection of the Marine Environment from Land-based Activities, and
- **integrated coastal management:** pursuing sustainable development of the coastal zone and utilization of marine resources according to principles developed by regional programmes, and now brought together by UNEP as Guidelines for Integrated Coastal Area Management (ICAM).

### A time for revitalization

Over the next few years, UNEP and the Regional Seas secretariats will work together to energize all of the regional programmes through a five-part strategy:

**Strengthen UNEP's contribution to the Regional Seas.** UNEP recognizes the valuable role that the Regional Seas Programme plays in delivering UNEP's own programme to the regions, and is committed to channelling support and financial resources more effectively to the regional conventions and Action Plans. It directly supports the secretariat function for several of the Action Plans, and has contributed financial resources as well. For example, UNEP has provided financial support to the African Regional Seas Programmes in support of the Conference of Parties' meeting (Nairobi and Abidjan Conventions) and to the Regional Seas Coral Reef Assessment project. UNEP has also provided funding to the World Conservation Monitoring Centre (WCMC) to extend technical support to programmes in Eastern Africa, the Wider Caribbean, South-East Pacific and East Asia for reports on the regional status of coral reefs.

**Promote horizontal ties among Regional Seas Action Plans.** The sharing of experiences, best practices, and lessons learned can provide an invaluable form of cooperation. For example, some of the more mature Regional Seas conventions have developed considerable expertise in the management of coastal and marine areas and could provide technical cooperation and assistance to the newer and less developed conventions.

On the basis the example set by towns and cities around the world, a practical – and creative – move towards increased collaboration for Regional Seas could be the practice of “twinning”. The first Regional Seas twinning arrangement was signed in May 2000 between the Helsinki Commission for Baltic Marine Environment Protection and UNEP's Regional Seas Programme for the Eastern African Region. It seeks to strengthen efforts by East African countries to protect the western part of the Indian Ocean.



FISH FARM. UNEP/YOSHIAKI KAWACHI



BRINGING IN THE NETS. UNEP/AS DUNCAN

**Carry out the Global International Waters Assessment (GIWA).** GIWA is a four-year global initiative led by UNEP and executed by Kalmar University in Sweden. The Assessment will focus on the root causes of environmental degradation in 66 international marine, freshwater and groundwater sites around the world.

GIWA is urgently needed because the challenges facing international waters often fail to attract national funding. Financed by the Global Environment Facility, GIWA aims to provide the most objective and comprehensive assessment of transboundary water problems ever made. This will result in an information base that can be used for finding solutions and for setting global priorities for on-the-ground action.

**Collaborate with the Global Programme of Action (GPA) for the Protection of the Marine Environment from Land-based Activities.** The 1995 GPA was established to strengthen regional and national efforts to tackle perhaps the most important threat to Regional Seas: the flow of chemicals, human wastes, and other materials into the sea via air, rivers and coastal activities. It targets pollution from entire catchment areas, taking in sources such as agriculture, forestry, aquaculture and tourism.

The goals of the GPA, whose secretariat is based in The Hague and administered by UNEP, can be realized in large part through the activities of the Regional Seas Programmes, while the GPA can help to promote greater support for activities and coordination at the regional level.

**Exploit synergies with global conventions and agreements.** The Regional Seas Programmes and Action Plans can provide the appropriate level for the implementation of many global instruments, in particular those dealing with the protection of the marine environment. They can also ensure proper coordination between regional and global conventions and serve as a vehicle for gathering information.

Key partners can include the International Coral Reef Initiative (ICRI), the Convention on Biological Diversity, the Global Plan of Action for Marine Mammals, the Climate Change Convention, the United Nations Convention on the Law of the Sea, and many others.



SHIP-GENERATED POLLUTION IS OF PARTICULAR CONCERN IN ALL THE REGIONAL SEAS. UNEP/TOPHAM

## Full speed ahead

As we enter the second decade following the Rio Earth Summit, the Regional Seas Programmes have compared their experience, identifying several problems of particular concern to all of them and the actions needed to tackle them:

**Pollution resulting from municipal wastewater**, requiring action to counter the prohibitive cost of treatment plants by the use of low cost, effective technologies to manage water in developing countries.

**Ship-generated marine pollution**, calling for greater investment in construction of port reception facilities for wastes from ships.

**Impacts on coastal ecosystems of increasing urbanization and development**, best addressed by capacity building in support of integrated coastal management.

**Exploitation and depletion of living marine resources including fisheries**, calling for promotion of ecosystem-based management of marine and coastal resources.

**The need for more accurate scientific and technical information**, to be met through better monitoring, reporting and assessment for the marine environment; and

**The increasingly multi-sectoral nature of environmental problems**, which can be efficiently addressed by providing assistance to countries of each region to develop their own comprehensive national plans for the protection and sustainable development of the marine and coastal environment.

The Regional Seas Programme offers a technical, scientific, legal and institutional framework for tackling these challenges. Today, with the revitalization of the Programme and UNEP's added support, the Regional Seas offer a regional mechanism that is already in place and ready to address global environmental challenges of the 21st century.

## New strategic directions

In the wake of the 2002 World Summit on Sustainable Development the Regional Seas Programme is undergoing a major strategic shift.

The regional programmes were originally conceived to protect and conserve the marine and coastal environment. Changing socio-economic values, dynamic processes and human needs have led us to realign our focus in the direction of 'sustainable development' endorsed by the nations of the globe at the World Summit.

This evolution is both natural and necessary. The concept of sustainable development has gained universal acceptance as the only viable and feasible way to halt environmental degradation and deterioration of the quality of human life. Our strong and unwavering respect for the environment must be an integral part of, and catalyst for, the processes of social and economic development rather than an obstacle to them.

Other Regional Seas may well now follow the example of the Mediterranean Action Plan in establishing Sustainable Development Commissions as central instruments of their strategic medium- and long-term planning. Their activities relating to eco-tourism, non-polluting industries, transport, energy, agriculture and, above all, the eradication of poverty and the improvement of the human quality of life, must nevertheless be carried out while preserving the remaining intact environments and rehabilitating damaged ecosystems.

In early 2002 the Regional Seas Conventions and Action Plans identified their major concerns as (1) land-based activities threatening the marine environment, (2) ship-generated marine pollution, (3) the impacts of urbanization and coastal development, (4) conservation of living marine resources and coastal ecosystems, and (5) the necessity to monitor and assess the quality of the marine environment and to manage the coastal zone in a comprehensive and integrated way.

The Regional Seas Programmes offer an effective platform on which to address these priorities and improve the implementation of global conventions and programmes related to oceans and seacoasts and the catchment areas affecting them. Attaining these goals will only be possible through a new alliance between integrated coastal zone management and sustainable development.



SUSTAINABLE COASTAL DEVELOPMENT OFFERS HOPE TO NEW GENERATIONS DEPENDANT ON MARINE RESOURCES.  
UNEP/MICHAEL E. WIDENER

# THE REGIONAL SEAS

## Mediterranean

The virtually enclosed miniature ocean called the Mediterranean has honoured its reputation as the “cradle of civilization” by also becoming the cradle of the Regional Seas Programme.

The Mediterranean's was the first Action Plan (MAP). It was adopted in 1975 by the Mediterranean States and the European Community and quickly followed by the Barcelona Convention and a succession of landmark protocols. Since then, regional cooperation has been a key element of the Mediterranean model, and we have welcomed the involvement of several United Nations agencies and numerous grassroots organizations.

A quarter-century has seen our Athens headquarters supplemented by six regional activity centres, revision of our Action Plan and Convention to reflect the emphasis on sustainable development and biodiversity conservation, biennial meetings of our Contracting Parties to review progress and reset our compass, and the setting up of the Mediterranean Commission on Sustainable Development (MCSD) with a pioneering structure and mandate.

But we have a long way to go, and much to accomplish.

First, we need our Convention, as revised in 1995, to be ratified as rapidly as possible by all parties. This will signal our strong commitment to sustainable development.

At the same time, we need to further advance in our efforts to protect our environment. For this, we already hold two key tools:

The first tool is our Strategic Action Programme (SAP), a 25-year phased plan to reduce land-based pollution, which represents up to 80% of the harm done to our sea. Sustained political and financial support and effective implementation will help us advance on this front. The other tool is the new Emergency



CAP DE CREUS, A SPECIALLY PROTECTED AREA OF MEDITERRANEAN IMPORTANCE. HUMBERTO DA CRUZ

Protocol. Nearly 30% by volume of all international sea-borne trade originates or is directed to the Mediterranean ports or passes through this sea, while some 28% of the world's sea-borne oil traffic transits the Mediterranean. The Protocol will contribute to the safety of maritime traffic by making prevention one of its cornerstones.

Added to these activities is a long list of emerging priorities: protection of our 46,000 km coastline from the impact of unrestrained development; expansion of our network of protected areas for the sake of our biodiversity; implementation of the MAP Reporting System as a measure of each country's progress in reducing pollution; increased engagement of the countries in the MCSD, and the setting-up of a Regional Strategy to address such issues as tourism, free trade, coastal zones management, and information management.

In support of all of these endeavours, we must not lose sight of what some feel is the paramount role and duty of the MAP: to ensure the involvement of civil society – of *all* of us – in this important work, through energetic campaigns of public awareness and participation.

We have the honour of being 'Mediterraneans' – a collection of peoples and nations connected throughout recorded history by a single shared value: our magnificent, unifying, blessed and troubled sea. We have a remarkable opportunity to build on this history, and like oarsmen on the sea's ancient galleys, we must continue to pull together in pursuit of our common good.

*Lucien Chabason, Coordinator,  
Mediterranean Action Plan*

## Red Sea and Gulf of Aden

Our waters have been used for thousands of years for fishing and trading, and to transport religious pilgrims. Today the people of the region share these same waters with oil tankers, cargo ships and tourist boats, representing potentially serious risks to our relatively pristine marine ecosystems. Coastal populations are increasing, posing new and growing threats to the environment if this growth is not managed properly. Climate change and sea level rise, once considered distant threats, are an approaching danger for low-lying areas.

Our extensive and very beautiful coral reefs are inhabited by many species which occur nowhere else in the world. Today these reefs are attracting tourists in ever-increasing numbers, but if this growth industry is not well managed we are in danger of losing a priceless resource.

Many of the countries sharing the sea lack the resources needed to carry out their own comprehensive environmental management programmes. Only by joining hands could we hope to protect our shared heritage. This is why ours was one of the first Regional Seas Programmes to get off the ground with the adoption of the Jeddah Convention and the original Action Plan in 1982.

Our next two milestones were the formal launch in 1995 of PERSGA, the regional organization for the conservation of the environment of the Red Sea and Gulf of Aden, and the launch in 1999 of our Strategic Action Programme (SAP) in cooperation with the Global Environment Facility and its implementing agencies, the United Nations Development Programme, the United Nations Environment Programme and the World Bank, and with support from the Islamic Development Bank.

The SAP has generated important new insights into our treasured environment. But there is still much to do and limited resources. So, as our regional programme enters its third decade, we will focus our energies in three directions: land-based pollution, navigation and port improvements, and monitoring.

With the help of the Coordinating Unit of UNEP's Global Programme of Action (GPA), we will begin pilot activities to implement our new Protocol for the Control of Land-based Sources of Pollution and its related Action Plan.

We will work to have our region declared a 'Special Area' according to MARPOL 73-78, the establishment and provision of adequate number of port reception facilities. In cooperation with the International Maritime Organization (IMO) and the private sector we will identify which ports need improvement and





PERSGA

seek financing through a public and private sector partnership of oil and shipping companies and port authorities.

Also, we will put into place a regional pollution monitoring programme to analyze contamination in seawater, sediments and indicator organisms. Working with our neighbour, the Mediterranean Action Plan, we will first assess the needs of member countries, and then establish or upgrade the needed laboratories, initiate standard practices, train personnel and secure sustainable financing.

Such intensive capacity building will leave a great legacy. It will allow many of our people to realize their inherent talents and develop their scientific skills. In return they will help us to fill the remaining gaps in our knowledge of our beautiful and fragile sea.

Finally, PERSGA is preparing for a renewed emphasis on sustainable development of the Red Sea and Gulf of Aden toward reduction of poverty and attainment of healthier coastal communities through its new millennium goals.

*Nizar Tawfiq, Secretary General, PERSGA*

## ROPME Sea Area (Kuwait region)

The ROPME Sea Area (RSA) is endowed with valuable natural resources and a great biodiversity of plant and animal species. The wetlands, waterfowl, mangroves, fish, marine mammals, turtles, corals and other forms of life are treasures of the region. Its dugong population is second in global importance only to Australia's. There are some 20 species of dolphin and whale, all the five subtropical species of turtles, and more than 1000 species of fish, most of which are endemic and have a high commercial value.

Our marine waters are shallow and virtually landlocked, experiencing extremes of salinity and temperature. Evaporation is high, precipitation is poor and freshwater supply is decreasing.

The risk of oil pollution is one of the highest anywhere, mainly due to the concentration of offshore installations, tanker terminals,



petrochemical industries and the huge volume of oil transported by ships. The offshore installations are located in the inner sea area, a critically balanced ecosystem with higher levels of pollutants, salinity and temperature. The establishment of reception facilities for oily wastes and other wastes is of high priority, as is the protection of water quality in the vicinity of water intakes.

For the past three decades the Region has witnessed one of the world's highest rates of economic growth. The rise in industrialization together with high population growth and rapid urbanization have resulted in ever-greater impacts from land-based sources of pollution on the region's coastal waters. To take advantage of access to the sea for transportation and water, almost all development projects have been established on the coasts, where they release their effluents into the most productive areas of the marine environment. Municipal sewage, industrial wastes, dredging and reclamation activities are permanent features of many parts of the coast.

The draining of the Marshlands of Mesopotamia has posed serious threats to the wildlife and to the ecological balance of vast areas, affecting water quality and the spawning grounds of shrimp and migratory species of fish. Successive satellite images depict the transformation of a one-time haven for migratory birds and a major fisheries resource into an arid, barren land.

In April 1978, the eight Governments of the Region adopted the Kuwait Convention and Action Plan, making us one of the first Regional Seas. The Plan mainly covers programme activities relating to oil pollution, industrial wastes, sewage and marine resources. Projects range over coastal area management, fisheries, public health, land-based activities, sea-based pollution, biodiversity, oceanography, marine emergencies, GIS and remote sensing, environmental awareness and capacity building.

Milestones include the creation in 1979 of the Regional Organization for the Protection of the Marine Environment (ROPME), the establishment in 1982 of the Marine Emergency Mutual Aid Centre (MEMAC), and the adoption of four protocols addressing marine emergencies, hazardous wastes, land-based activities and sea-based pollution.

The concept of environmentally sound and sustainable development has been promoted by ROPME since its establishment. To this effect, many programmes have been prepared and successfully implemented. Our State of the Marine Environment Report bears witness to how seriously our Member States are taking the protection of their marine environment.

*Dr Abdul Rahman Al-Awadi,  
Executive Secretary of ROPME*



ROPME

## Wider Caribbean

The Wider Caribbean showcases a myriad of cultures and environments. The natural beauty of its 28 island and continental countries encompasses both tropical and sub-tropical ecosystems, from coral reefs to mangrove forests to seagrass beds, each with its unique wildlife.

Protecting these treasures demands that coastal economies be sustainable, allowing growth while protecting the region's natural resources.

Caribbean creativity and a passion for nature have combined to produce the Caribbean Environment Programme (CEP), an unparalleled joint endeavour which embraces the region's diversity in its efforts to advance economic prosperity and environmental health.

Laying the groundwork for the CEP, the governments identified a number of pressing issues: land-based sources of municipal, industrial and agricultural wastes and run-off (which account for as much as 90% of all marine pollution); over-exploitation of resources such as fish, molluscs and crustaceans; increasing urbanization and coastal development as populations and economies expand; unsustainable agricultural and forestry practices (many say Central America's forest are disappearing faster than anywhere else in the world); and a profound need to strengthen government and institutional capacity to address environmental problems.

Although a part of UNEP, the CEP is governed by the Caribbean nations and territories under a programmatic framework – the Caribbean Action Plan – established in 1981. The Plan outlines programmes of assistance, institutional strengthening, and technical cooperation, and in 1983 led to the adoption of a legal framework – the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (Cartagena Convention) – which entered into force on 11 October 1986. The Convention is supplemented by three protocols on oil spills, specially protected areas and wildlife, and pollution from land-based sources and activities.

Today the activities of the CEP focus mainly on implementation of the protocols, on information management and exchange, and on environmental education and training.

Meanwhile, work is under way to reduce polluted run-off to the Caribbean Sea through workshops, production of guidelines and integrated management plans, control of sewage, and



A RIVER'S MOUTH, WHERE THE ENVIRONMENTAL IMPACTS OF SEA AND LAND MERGE. UNEP/STEPHEN DALLA COSTA

adoption of national contingency plans for marine emergencies. The region's network of parks and protected areas is continually being strengthened, and a small grants fund is providing assistance to marine protected areas.

So far CEP's mission of promoting regional cooperation for the protection and the development of the marine environment of the Wider Caribbean Region has met with some success. But there is a long way to go to achieve this vision, and we must continue to strengthen the region's environmental laws, networks, scientific and technological capacity and public outreach.

Our major constraint is financial, as the Caribbean countries are not always able to match their expressed support for the CEP with contributions to the Trust Fund. Perhaps our greatest challenge is to rally their commitment and political will, even as their budgets shrink and our all-too-frequent natural disasters interrupt their cash flow. If we are to maintain a sound institutional and financial base for the CEP, we have to convince our multilateral donors that the enthusiasm and dedication of the Caribbean nations to their environment, and to the programme that defends it, is unflagging.

*Nelson Andrade Colmenares, Coordinator,  
Caribbean Environment Programme*

## East Asian Seas

East Asia's astonishing variety of political, economic and social systems is matched by its environment: ship-crowded straits, island groups, wide gulfs, shallow estuaries – and some of the most heavily populated countries in the world where millions rely on fish for much of their protein.

The threats seem just as varied, and include erosion and siltation from land development, logging and mining, blast fishing in coral reefs, cutting and conversion of mangroves, overfishing, unimpeded development and disposal of untreated wastes.

The Action Plan was approved in 1981 stimulated by concerns on the effects and sources of marine pollution and was initially sub-regional, involving only five countries of ASEAN. Another five were welcomed in 1994, bringing to ten the number of countries ready to face up to East Asia's marine environmental challenges.

The Action Plan is steered from Bangkok by its coordinating body, COBSEA. The Regional Coordinating Unit (EAS/RCU) serves as Secretariat, and is in fact the lead agency of the United Nations for marine environmental matters in East Asia, responsible for coordinating the activities of governments, NGOs, UN and donor agencies, and individuals in caring for the region's marine environment.

The Action Plan encompasses assessment of the effects of human activities on the marine environment; control of coastal pollution; protection of mangroves, seagrasses and coral reefs; and waste management. Recently we have revised it to include, technology transfer and environmental governance. And we have worked with the Global Programme of Action for Land-based Activities (UNEP/GPA) to address pollution from land-based activities, and prepared a transboundary diagnostic analysis of the South China Sea.

Among the Regional Seas Programmes, East Asia has steered a unique course. There is no regional convention; instead the programme promotes compliance with existing environmental treaties and is based on member country goodwill.

We have put in place a ten-year plan that takes into account the Regional Action Plan for the GPA, the UNEP/GEF Project "Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand" and the work of the International Coral Reef Action Network. We are working to reduce habitat degradation and to promote the treatment and re-use of waste pouring into the sea. We are also seeking innovative ways to change people's behaviour and bring a halt to activities that destroy marine habitats.





FISHING AT DAWN. UNEP/VINCENT YEUNG

As we contemplate the coming decade, our overriding aim is to maximize Action Plan's benefits to all our member countries. Our favoured procedure is to work in close cooperation with our region's non-government and government organizations and the private sector. Our catchword, however, is *flexibility*; we must be willing to fine-tune and perhaps even change our course as circumstances dictate. For example, the condition of the marine environment may improve in some ways and worsen in others, our resources might be exploited in new and unforeseen ways, our monitoring programme might reveal some unhappy surprises, while accidents and catastrophes can occur at any moment.

As long as we stay alert and responsive, we can hope to minimize the damage to our marine environment, and perhaps even improve its prospects.

*Hugh Kirkman, Coordinator,  
East Asian Seas Regional Coordinating Unit*

## South-East Pacific

The South-East Pacific region spans the entire length of the Pacific coast of South America from Panama to Cape Horn, encompassing tropical, sub-tropical, temperate and subantarctic systems.

In spite of this astounding diversity, the region's five countries (Chile, Peru, Ecuador, Colombia and Panama) find themselves united by two overwhelming natural phenomena known as Large Marine Ecosystems: that dominated by the cold, nutrient-rich Humboldt Current – with the largest upwelling system in the world supporting one of the world's most productive fishing grounds – and that of the Eastern Equatorial Pacific.

Along our 16,000-km coastline, the benefits of these natural gifts are undermined by pollution and other forms of environmental degradation. Moreover, they are regularly disrupted by the El Niño-Southern Oscillation (ENSO) phenomenon, which originates in the equatorial Pacific producing dramatic upheavals in local, and ultimately global, conditions. El Niño influences everything from the weather to marine ecosystems to human livelihoods, and its enormous social and economic impacts are felt around the world.

In order to protect our rich marine and coastal environment, the South-East Pacific Action Plan was approved in 1981 together with its general legal framework, the Convention for the Protection of the Marine Environment and Coastal Zones of the South-East Pacific, or Lima Convention. The Action Plan is

carried out within the framework of inter-agency cooperation between the Permanent Commission for the South Pacific (CPPS) and UNEP, and some two dozen agencies, programmes and Convention Secretariats.

These regional instruments were designed to address the major environmental threats identified at that time: pollution – near cities, ports, industrial centres and shipping lanes – by sewage, minerals, food processing, wastes and oils. Subsequent protocols dealt with pollution from land-based sources, marine emergencies, marine protected areas and radioactivity.

When Agenda 21 and the conventions on biodiversity and climate change were transforming the international environmental landscape, the South-East Pacific region already had in place a regional mechanism of cooperation for their implementation, reinforced by the technical, scientific, legal and institutional groundwork laid by the South-East Pacific Action Plan.

As we look to the future, several priorities stand out. One is the full implementation of existing legal instruments, including the more recent protocols. Others are (1) to develop our transboundary pollution monitoring and control programme (2) to protect our threatened species, including marine mammals and turtles, and prevent the introduction of alien invasives; and (3) to pursue a strong programme of public education and awareness on behalf of our marine and coastal environment.

Given our vulnerability to the great oceanic phenomena of the southern Pacific, it is clear that we cannot fulfill the vision of our Action Plan working in isolation. We recently signed a historic agreement with our like-minded neighbour, the South Pacific Environment Programme (SPREP), to cooperate in the protection of a more extensive area of the Pacific. If new partners and adequate financing can be found, our efforts may eventually embrace the entire Pacific basin and its vulnerable coastal communities with a mantle of sound environmental protection and management.

*Ulises Munaylla Alarcón, Advisor,  
Plan of Action of the South East Pacific,  
Permanent Commission for the South Pacific (CPPS)*



GALAPAGOS, ECUADOR. IUCN/JIM THORSELL

## West and Central Africa

In May 2002, the Abidjan Convention held its 6<sup>th</sup> Conference of the Parties. Prime Minister N'Guessan of Côte d'Ivoire captured the region's mood in his address to the meeting when he said, " the constraints encountered in the implementation of the Abidjan Convention have been well documented, hence I do not wish to re-echo these. I have come here confident that these constraints will become things of the past, more particularly with the commissioning of the Regional Coordinating Unit (RCU) in Abidjan and the election of a new Bureau, a new strategic vision is in place, and we are ready to resume work. With the renewed resolve to provide the needed political, financial, human and logistical support the Abidjan Convention is poised to move into a new and productive era"

Our troubled region has seen terrible conflicts resulting in immense poverty. Furthermore in recent decades coastal ecosystems have suffered greatly from rapid development, improper use of resources and extensive pollution. Coastal erosion and floods are already particular problems, likely to be exacerbated by climate change. Crucial habitats are disappearing virtually everywhere, and human societies are both the perpetrators and victims of this destruction.

The Regional Seas Programme for West and Central Africa was forged in the early 1980s. The Action Plan and the Abidjan Convention were adopted by the Governments in 1981; the Convention entered into force in 1984; and soon projects on contingency planning, pollution, coastal erosion, environmental impact assessment, environmental legislation and marine mammals got under way.

A number of difficulties, including competing priorities and lack of resources, resulted in slow progress from 1985 to 1999. But today the Abidjan Convention is back on track, holding regular meetings and implementing its planned activities. Our coastal countries from Mauritania to Namibia continue to benefit enormously from their highly productive and diverse ecosystems. Rich fisheries, coastal tourism, industries and busy ports are economic mainstays.



LOGS COVER LAGOS LAGOON, NIGERIA. UNEP/KAYODE FAOSEK

Our regional partnership also lives on. Armed with renewed good will from the Contracting Parties, together with the opportunities presented through other initiatives such as the African Process for the Development and Management of the Coastal and Marine Resources and the New Partnership for Africa Development (NEPAD), we can finally begin to fulfill the promise of our potentially rich and prosperous region and its natural splendours.

The next step is to rekindle our hopes, and see how we can learn and benefit from the family of Regional Seas Programmes – particularly those well-developed, stable and enduring partner programmes such as OSPAR and HELCOM – and begin to contribute to them in return.

*Dixon Waruinge, Programme Officer,  
Regional Seas (Nairobi and Abidjan Conventions)*

## South Pacific

The sea has always been an intrinsic part of life for the people from the 22 island States and Territories of the Pacific. The Pacific Ocean provides food, transport, and a source of pride and identity for Pacific Islanders.

Our cultures have traditionally emphasized wise resource use and environmental stewardship, but industrialization, urban drift and rapid population growth threaten ecosystems that were once largely unspoiled. Habitats are being destroyed by logging and agriculture, the marine environment is being polluted from both land and sea-based sources, fish and wildlife are being over-harvested, invasive species are pushing out native biota, and climate-induced sea level rise threatens to drown our low-lying islands and coasts.

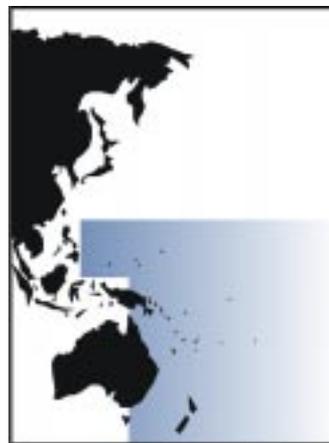
The South Pacific Regional Environment Programme (SPREP), now based in Apia, Samoa, was established in 1982 to confront these threats. SPREP is the primary regional organization concerned with environmental management in the Pacific, and serves as the Secretariat for three Conventions.

The 1986 Convention for the Protection of the Natural Resources and Environment of the South Pacific Region entered into force in 1990. The associated Action Plan, adopted by Members every four years identifies four broad priorities: nature conservation, pollution prevention, climate change and variability, and economic development. The 1976 Convention on the Conservation of Nature in the South Pacific (Apia Convention) came into force in 1990 and deals with protected areas, representative samples of natural ecosystems, geological formations, and sites of aesthetic, historic cultural or scientific value. The 1995 Convention to Ban the Importation into Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movement and Management of Hazardous Wastes within the South Pacific Region (Waigani Convention) entered into force in 2001.

As we look ahead, our priorities remain broadly the same as those identified in the 1986 Convention, maintenance of our unique environment to support the sustainable development of our islands for the benefit of current and future Pacific island communities. Two challenges stand out as particularly daunting, however. One is waste management, which has an enormous impact on the region's health and tourism potential. With few options for disposal, minimizing waste will be critical.

Climate change is an even greater problem. Our region must brace itself for more intense rainfall events and, over some areas, increased frequency and severity of tropical cyclones. Sea-level rise and associated impacts such as coral bleaching and loss of coastal habitats. Our only practical response is to develop appropriate, affordable, and cost-effective adaptation and response measures.

As we continue our pursuit of environmentally-sound sustainable development throughout the Pacific, we will pay particular attention to the challenges of trade liberalization, globalization, tourism development,





# Regional S



West to East: North-East Pacific South-East Pacific Wider  
Mediterranean Black Sea Eastern Africa Red Sea & Gulf of  
North-West Pacific South Pacific Partner programmes: A

# Seas



Caribbean Upper South-West Atlantic West & Central Africa  
of Aden ROPME Sea Area South Asian Seas East Asian Seas  
Arctic North-East Atlantic Baltic Caspian Antarctic



UNEP/STUART SHARP

population growth, and urbanization and settlement patterns. We are still developing appropriate policy and legal frameworks for action at national and regional levels. We are working particularly hard to strengthen environmental education and awareness-raising, so that all our people will be empowered to safeguard their natural resources, lifestyles and economic development.

*Tamari'i Tutangata, Director,  
South Pacific Regional Environment Programme (SPREP)*

## Eastern Africa

The great currents of the Indian Ocean bathe and nourish the coastline of our extensive region, which stretches from Somalia to the Republic of South Africa and seaward to the island states of the western Indian Ocean.

Our coastal environment features coral reefs along the narrow continental shelves and species-rich mangroves, which abound near river estuaries. Our ecosystems are known for their high biodiversity. Some 22% of the 52 tropical inshore fish families found here are endemic to the region, and five of the world's seven species of marine turtle nest on our beaches. Our heavily-fished coastal zone supplies commercially important oysters, crabs, shrimp and mullet to East African economies.

Compared to many regions, ours is largely in a pristine state, although it is increasingly threatened by a variety of human activities. These include rapid and unplanned urbanization, discharge of untreated municipal wastewater, industrial effluent in near shore waters and destructive fishing practices.

Eastern Africa joined the Regional Seas Programme in 1980, and five years later the countries of the region (Comoros, France/Reunion, Kenya,



Madagascar, Mauritius, Seychelles and United Republic of Tanzania) adopted the Nairobi Convention and Action Plan along with protocols on pollution emergencies and on protected areas and wildlife.

After a slow period when resources were scarce, the programme has again picked up pace. In 1996 the Convention entered into force. A year later the Regional Coordinating Unit was inaugurated in the Seychelles and Contracting Parties to the Convention held their first meeting. To date all nine East African countries have ratified the Convention and South Africa has asked to join.

The watchword for our programme is partnership. Our secretariat, based at UNEP offices in Nairobi, develops the workplan, and collaborates with the RCU and government appointed National Focal Points to oversee its implementation. The programme is based on the work of a multidisciplinary team of regional scientists and government experts from the nine participating countries. The Convention is an umbrella that brings together the region's governments, scientific institutions; national, regional and international agencies; regional institutions and national NGOs.

Our long-term work programme is organized around the themes of assessment, management, coordination and legal aspects, and includes specific activities on crosscutting topics such as information dissemination and emerging issues. The Nairobi Convention together with UNEP Global Programme of Action have prepared a programme on land-based sources of pollution in the West Indian Ocean, including a project with the Global Environment Facility that will result in a new protocol.

The 1998 severe coral reefs bleaching associated with the El Niño event was a sudden wake-up call. The partnership accepted the challenge implied by this event, and determined to reverse the dramatic degradation of our reefs and their associated ecosystems – mangroves and seagrass beds – from chronic pollution, erosion and marine emergencies.

This is to be our immediate priority, and we have undertaken a series of activities to assess the condition of these ecosystems, map shorelines changes, document land-based and sea-based sources of pollution, and develop management actions to address the causes of their degradation.

*Dixon Waruinge, Programme Officer,  
Regional Seas (Nairobi and Abidjan Conventions)*



GIANT TORTOISE OF ALDABRA ISLAND, SEYCHELLES, A WORLD HERITAGE SITE. IUCN/JIM THORSELL

## Black Sea

Our beautiful and productive sea is confronted with many environmental problems. The most significant of these is massive over-fertilization – largely from agricultural, domestic and industrial pollution – leading to excessive growth of algae and oxygen depletion (eutrophication). Other problems include pollution by oil spills, overfishing, and the introduction of exotic species.

Among those to suffer have been our famous sturgeon, our greatly appreciated dolphins, and of course our people whenever they fish, swim or simply comb our beaches.

Determined to confront these problems and inspired by the early Regional Seas Conventions, in April 1992 the six Black Sea countries signed the Convention for the Protection of the Black Sea against Pollution. The Bucharest Convention includes Protocols on land-based sources of pollution, dumping of waste, and emergency response in the case of accidents. The most recent addition is the Biodiversity and Landscape Conservation Protocol, signed in June 2002.

The countries immediately set up a Commission to implement the Convention, and then in 1993 founded the Black Sea Environmental Programme (BSEP) to provide a catalogue of practical actions, and in 1996 adopted a Strategic Action Plan for the Protection and Rehabilitation of the Black Sea.

During this early period (1993-1998), as part of two projects funded by the international community through the Global Environment Facility (GEF), the Black Sea countries worked to identify their environmental problems, draft National Action Plans, set up a network of institutions to implement the regional plan; build capacity in environmental management, and define projects to identify all major sources of waste water and toxic materials in coastal countries ('hot spot' analysis). From this work emerged a portfolio of 49 investment projects. Meanwhile, as the BSEP attracted further support from the European Union and several bilateral donors, its early achievements became the building blocks for an expanded regional endeavour.

The central and immediate aim of the BSEP is to reduce the discharge of nutrients and other toxic substances into the Sea to such levels as to permit ecosystems to recover to their 1960s state. The GEF



STURGEON FISHING, DANUBE DELTA. IUCN/LIZ HOPKINS

has now provided support for a project in 2002-2006 to develop the legal, policy and technical measures needed to do this.

By that time the early projects had confirmed that the most severe problem of the Black Sea is eutrophication caused by nutrients. But it revealed something else: about 30% of these nutrients are transported to the Sea through transboundary watercourses draining its wide water catchment basin. Restoring water quality of the sea would require more than cleaning up pollution sources along its coasts.

Then something amazing happened. The Danube riparian countries signed onto the cleanup effort as well, launching a similar project for the Danube basin and joining with the Black Sea countries to create the new Black Sea Danube River Basin Task Force. Operating under the leadership of the European Commission, the task force will produce a short list of environmental rehabilitation projects and approaches to financing them.

Those involved in this remarkable endeavour agree that a key to its success is broad stakeholder participation. The Programme plans to bring this about by facilitating collaboration between the industrial, agricultural and urban sectors; restoring critical habitats and wetlands; setting up small-scale demonstration projects, providing small grants to local initiatives and supporting public information and environmental education efforts.

The day is in sight when the people of the Black Sea and Danube River Basin will find themselves sharing and enjoying clean and fully restored river, sea and wetland environments.

*Sema ACAR, Project Coordinator,  
GEF Black Sea Ecosystem Recovery Project*

## North-West Pacific

Our vast region includes the People's Republic of China, Japan, the Russian Federation, the Republic of Korea and the Democratic Republic of Korea. It also features extensive coral reefs, mangrove forests and island ecosystems with their spectacular marine life and commercially important fishing grounds.

The North-West Pacific is among the most highly populated parts of the world, resulting in enormous pressures and demands on the environment. Its people are particularly dependant on the sea for their food and livelihoods. Yet their health – and the health of their environment – are under growing threat, mainly from land-based activities and sources of pollution. Coastal development, industry, transport, and activities such as land reclamation and intensive mariculture take an ever-greater toll on coastal ecosystems.

Chemical and industrial wastes, untreated municipal sewage, agricultural pesticides and nutrients in run-off cause widespread damage and stimulate eutrophication and harmful algal blooms (red tides). Added to these are oil pollution from wastewaters and accidental spills, atmospheric pollution and marine and coastal litter.

The countries of the region realized that by joining forces they could strike a wise balance between provision for human needs, use of resources, and economic development on one hand, and the protection, enhancement and sustainability of the environment on the other. They launched (1991) and formally adopted (1994) the Northwest Pacific Action Plan (NOWPAP).

The Plan focuses on the wise use, development and management of the coastal and marine environment in order to achieve the greatest long-term benefit for the human populations of the region while protecting human health and ecological integrity for future generations.

The plan incorporates six priority projects to be implemented through a network of Regional Activity Centres (RACs). Four of these are in operation and deal with information management, pollution monitoring, environmental assessment, and marine emergency preparedness and response.





JAPANESE CHILDREN FISHING. UNEP/HARUO OHNO

NOWPAP's Regional Coordinating Unit (RCU), co-hosted by Japan and the Republic of Korea, will serve as nerve centre and command post of the Action Plan's activities.

Ours is a young programme, so our priorities over the coming years are fairly basic: to set up a regional monitoring and assessment system; to develop a network of public outreach and environmental education; to put in place a contingency plan for oil and chemical spills; and to prepare a regional strategic plan to abate pollution from land-based activities (in accordance with UNEP-GPA); to set up regional programmes to protect marine and coastal biodiversity; and to initiate programmes for sustainable management of living marine resources based on the ecosystem approach.

And we intend that our ground-breaking programme will serve as a regional platform for the implementation of Multilateral Environmental Agreements and other global programmes and initiatives concerning the marine and coastal environment.

The adoption of our Action Plan was an extraordinary and historical moment. As work begins through the regional centres to implement the Action Plan, NOWPAP is well on its way to becoming one of the world's most remarkable examples of regional cooperation for the environment.

*Ellik Adler, Regional Seas Programme Coordinator, UNEP*

## South Asian Seas

Dramatic seasonal monsoons proclaim the exceptionally dynamic nature of our region's climate, geology and ocean currents. Our seas are rich in shallow tropical marine species, our estuaries are lined with extensive mangroves, and our islands are sheltered by magnificent coral reefs.

But if our environment is remarkable, our environmental problems are all too mundane: expanding human populations, oil transport across the Arabian Sea, heavy use of agricultural and industrial chemicals, harmful fishing practices, and ill-planned land use. These pressures have destroyed important habitat, driven many wildlife species near to extinction, and altogether compromised our peoples' future.

Like our counterparts in the other Regional Seas, we know we must learn to control the impact of development if we are to keep our fisheries sustainable, our environment healthy and our people thriving.

In addition, we have a particular problem with which our region is often identified: we risk losing an entire island nation to changing climate and rising seas. The Maldives, a collection of vulnerable coral islands that barely rise over two metres above sea level, could become uninhabitable within 50 years.

To address these critical problems, the South Asian Seas Action Plan was adopted in March 1995 and today enjoys the unqualified support of the region's five countries (Bangladesh, India, Maldives, Pakistan and Sri Lanka). The South Asia Cooperative Environment Programme (SACEP) has been privileged to participate in this work, and is now serving as the Action Plan secretariat.

Our plan focuses on integrated coastal zone management, oil-spill contingency planning, human resource development, and the environmental effects of land-based activities. We also have a programme on the integrated management of environmentally sensitive coastal and marine ecosystems. And although we do not yet have our own regional convention, we are working diligently to apply existing global environmental and maritime conventions to our region.



SACEP

This is an ambitious strategy, so we have had to decide where to best apply our energies and resources over the next few years.

At the top of our list of priorities is capacity-building to meet the threat of oil spills. After wide consultation we have planned a programme of seminars and training courses to help member countries become better able to implement the Regional Oil Contingency Plan and to develop their own national plans. We will also work with them to develop their port reception facilities under the MARPOL Convention and to set up a Regional Activity Centre to oversee this work.

Another focus will be our work with member countries on National Action Plans and pilot programmes to implement the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA). Our third immediate priority is environmental assessment and monitoring, including the data collection and management that this entails.

Along with the other regional programmes, we find ourselves confronted with the great challenges and opportunities offered by the new information technologies, and in this regard we will be working with UNEP's World Conservation Monitoring Centre to develop our own capacities as well as those of our member countries. If our environmental efforts are to succeed, this will probably be the key to our success.

Looking down the road, we feel that Regional Activity Centres will be the cornerstone of a successful programme. As such, our ultimate goal will be to set up such centres in each of our member countries, each dealing with with one of our action plan priorities, namely oil spill contingency planning, integrated coastal zone management, land-based sources, biodiversity, and assessment and monitoring.

*Prasantha Dias Abeyegunawardene, Deputy Director Programmes,  
South Asia Cooperative Environment Programme (SACEP)*

## North-East Pacific

The Central American coastline of the North-East Pacific hosts a variety of habitats including mangrove swamps, productive fishing grounds, and species-rich forests that extend to the water's edge. Millions of people depend on these ecosystems and their resources for food, construction materials and income from tourism-related industries.

Over 90% of the population of Central America lives on this drier Pacific side, and so it is here where the environmental pressures are the greatest. Forest clearance, over-exploitation of resources, expanding maritime trade, rapid development and political conflict are rampant. The result has been widespread loss of plant and animal species, degraded and eroded soils, destruction of biodiversity-rich mangrove areas and pollution of both coastal and inland waters.



Pollution from the land is made potentially even more damaging in the region because of the numerous sheltered bays and gulfs where the natural dispersal of oil and toxic chemicals is inhibited. The region is also an important shipping route for vessels sailing from Panama to Alaska, and much of the oil transported from Alaska to the east coast of America transits the Panama Canal or the Laguna de Chiriqui oil pipeline.

Moreover, the region still has a troubled legacy to overcome. In the 1980s, Central America was gripped by a profound political and economic crisis marked by an accumulated 18.3% decline of per capita gross domestic product. The end of the Cold War a decade ago may have ended the major conflicts afflicting the region, but its legacy of poverty endures.

These many problems present a formidable challenge which the countries of the region are determined to meet. In February 2002, history was made with the signature in La Antigua, Guatemala, of the Convention for Cooperation in the Protection and Sustainable Development of the Marine and Coastal Environment of the North-East Pacific.



BEACH CLEANUP IN COSTA RICA. UNEP/INGRID CAVANAGH

The governments also approved an Action Plan detailing how the countries concerned will improve the environment of the North-East Pacific for the benefit of people and wildlife. Key parts of the plan will include an assessment and crackdown on the high levels of sewage and other pollutants being discharged from cities into the Pacific Ocean, compromising the health of bathing waters and risking outbreaks of water-borne diseases such as cholera. Other priority issues include physical alteration and destruction of coastal ecosystems and habitats; overexploitation of fishery resources; and the effects of eutrophication. Yet another priority will be to assess the risks from oil pollution and evaluate the availability of clean-up equipment and personnel to deal with them.

The Action Plan's interim secretariat will seek financial support for its implementation and explore ways to work with their neighbour, the Caribbean Action Plan, which shares many members.

This new Convention and Action Plan mark an important step towards improving the health of the North-East Pacific environment and the lives of its people. It should also further heal the wounds of a troubled and insecure time.

As in other Regional Seas, the protection and sustainable management of the environment is proving an effective instrument for peace and cooperation.

*Jorge Illueca, United Nations Environment Programme*



TRADITIONAL FISHING IN BAHIA, NORTHERN BRAZIL. IUCN/JIM THORSELL

## Upper South-West Atlantic

The coast of South America is a rich natural environment of extraordinary natural beauty. The climate varies from subtropical to temperate, giving rise to a great variety of coastal habitats such as mangroves, dunes, estuaries, coral reefs and wetlands. These are fed and greatly influenced by the region's great inland water systems.

These differences in terrain are echoed in the many causes of environmental degradation: sewage, industrial effluents, careless use of agrochemical products, solid wastes, urban expansion, and activities related to the extraction, transport and storage of oil.

In 1980 UNEP's Governing Council decided to launch a programme for the marine and coastal environment of Argentina, Brazil and Uruguay. In 1997 UNEP reaffirmed its commitment to the implementation and strengthening of a programme for this region, focusing on projects and activities related directly to the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (UNEP/GPA).

In 1998, in cooperation with the UNEP/GPA Coordination Office, and the UNEP Regional Office for Latin America and the Caribbean (ROLAC), a Regional Programme of Action on Land-based Activities and a regional assessment for the Upper South-West Atlantic were prepared and endorsed by representatives of the three Governments. The first steps in implementing the programme, which covers the coast from Cape São Tomé in Brazil to the northern Peninsula Valdez in Argentina, are now under way.

In the meantime, UNEP has continued to support cooperation for the protection and management of the region's marine environment through ROLAC, the Marine Mammal Action Plan and international partnerships with, for example, the Global Environment Facility (GEF).

With a renewal of interest on the part of the three States and UNEP's continued support and commitment, we hope soon to see a fully developed programme for this magnificent and biologically rich coast.



*Jorge Illueca, United Nations Environment Programme*

## INDEPENDENT PARTNER PROGRAMMES

### Arctic

The Arctic is characterized by a harsh climate with extreme variation in light and temperature, short summers, extensive snow and ice cover in winter and large areas of permafrost. Its terrain varies from high mountains to flat plains, wide tundra and great expanses of sea, snow and ice. The plants and animals of the Arctic have adapted to these conditions, but this has rendered them in some cases more sensitive to increased human activities.

The lives of indigenous and other Arctic peoples are closely linked to local resources, particularly by their dependence on wildlife harvesting. However, a combination of several factors makes the Arctic and its inhabitants among the most exposed populations in the world. The biggest concerns today are the effects from long-range air and sea transport of contaminants and certain human activities such as interference with ancient animal migration routes, oil and chemical spills into the sea, and the unforeseen impacts from climate change causing the melting of the ice cover. Many of these impacts will take a very long time to reverse: the low temperatures mean slow chemical breakdown of contaminants, whereas populations of large mammals can be slow to recover.

The Arctic Council was established at Ottawa in 1996 to help improve international cooperation and consultation on Arctic issues, and to further the well-being of the inhabitants of the Arctic, particularly with regard to sustainable development and environmental protection. One focus of the Council is to oversee and coordinate the programmes established under the 1991 Arctic Environmental Protection Strategy. Among these programmes is the Protection of the Arctic Marine Environment (PAME), established in 1993.

PAME member countries include Canada, Denmark, Finland, Iceland, Norway, the Russian Federation, Sweden and the United States. Indigenous groups organizations, termed "Permanent Participants" also participate, as well as observer countries and organizations.

At its First Ministerial Meeting in 1998 the Arctic Council identified several priority tasks for PAME directed towards pollution prevention and control measures for the Arctic marine environment. PAME's role is to coordinate implementation of the regional programme of action for the protection of the Arctic



KAYAKER ON ICE.  
MMS ALASKA, DENNIS THURSTON

marine environment from land- and sea-based activities through coordinated action programmes and guidelines, complementing existing binding and non-binding arrangements.

PAME won't be doing all this alone, however, as close cooperation is maintained and expertise sought from the other working groups of the Arctic Council on Arctic-related issues such as monitoring and assessment; conservation of Arctic flora and fauna; emergency prevention, preparedness and response; and sustainable development.

Looking ahead, the central priority will remain to ensure the health and well-being of Arctic peoples, which includes protecting their environment from disruption and their food from accumulating contaminants. However, a new threat has begun to demand our attention. Scientists studying the Arctic and native peoples living there have both reported changes in the wind, temperature, ice, and currents of northern seas, i.e., the possible climate change effects. These shifting patterns are reflected in the plight of Arctic animals dependent on the quality of snow, the durability of the ice pack, and the reliability of food sources. Many of the species most affected are important natural resources for the region's human communities.

Discovering what has caused this environmental upheaval, and what it means to all of us is destined to become a major preoccupation of all those concerned with Arctic issues.

*Soffia Gudmundsdottir, Executive Secretary,  
Protection of the Arctic Marine Environment (PAME)*



## Antarctic

Antarctica is surrounded by a vast, unbroken and dynamic body of water known as the Southern Ocean, which constitutes about 15% of the world's total ocean surface. It is the only continent on Earth to be completely governed by its very own international agreement. The Antarctic Treaty was signed in 1959 by the 12 nations present in Antarctica at that time, who agreed to set aside their differences and work peacefully together to carry out scientific research. A further 31 nations signed the Treaty after it came into force in 1961, and it is still open to any member of the United Nations.

Since the first Consultative Meeting in Canberra in 1961, several measures have been adopted covering such areas as

exchange of information; interchange of scientific personnel; preservation of historic sites; protection of specific areas; conservation of fauna and flora; conduct of tourists; mineral resources; and emergency assistance.

Antarctica's resources have been harvested for about 200 years. In many cases the intense level of exploitation resulted in the severe depletion of harvested stocks, as was the case for fur and elephant seals in the 19th century, and whales and finfish in the 20th century. The resulting concern for the health of Antarctic ecosystems and its extraordinary marine and terrestrial life has kept environmental issues at the forefront ever since the Treaty was adopted.

In recent years there have been two milestones of particular relevance to the Regional Seas Programme. The first was the adoption of the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR), which came into force in 1982. The Convention was primarily a response to concerns raised in the mid-1970s that an increase in krill catches in the Southern Ocean could have a serious effect on populations of krill and other marine life; particularly on birds, seals and fish which depend on krill for food. The Convention defines a Commission and a Scientific Committee to work together to manage marine living resources in the Southern Ocean.

The second milestone was the signing in 1991 of the Protocol on Environmental Protection to the Antarctic Treaty, which, *inter alia*, establishes the Committee for Environmental Protection (CEP). The Protocol entered into force on 14 January 1998. Programmes which relate directly to the Protocol include monitoring of marine debris and its impact on marine animals including seals and seabirds, the CCAMLR Ecosystem Monitoring Programme (CEMP), and reduction of seabird by-catch in fisheries.



EMPEROR PENGUIN COUPLE AT ROSS ISLAND ANTARCTICA. UNEP/ERNEST DUEBENDORFER

In contrast to other multilateral fisheries conventions, CCAMLR is concerned not only with the regulation of fishing, but also has a mandate to conserve the ecosystem. This 'ecosystem approach', which considers the whole Southern Ocean to be a suite of interlinked systems, entails managing the resource while avoiding adverse effect on 'dependent and related species' and considering the status and health of the ecosystem

The importance of the continent for science, its mostly pristine environment, its remarkable marine life, and its abundant natural resources have ensured that environmental protection will always play a central role within the Antarctic Treaty system.

*Dr Denzil Miller, Executive Secretary,  
CCAMLR Secretariat*

## Baltic Sea

The Baltic is a young sea, and one of the world's most extraordinary for the beauty and variety of the marine environment and its surrounding landscapes. Since the last Ice Age these waters have at different times been a wide strait, a large bay, a lake and now an inland sea connected to the open ocean only by narrow straits. Water exchange with the open ocean is slow, and salinity varies considerably both between different waters and over time.

The Baltic is nevertheless home to many species of plants, animals and microorganisms in a great variety of different habitats. Most of these are at risk from human activity, and many Baltic fish populations are now thought to be dangerously low.

Among the main threats are eutrophication caused primarily by excess nitrogen and phosphorus in the water; pollution by hazardous substances including pesticides, heavy metals and industrial wastes;





ALGAL BLOOM IN THE BALTIC SEA. HELCOM

habitat destruction; the use of certain harmful fishing equipment, and the introduction of alien invasive species.

On 24 March 1974 the Baltic Sea States signed the Convention on the Protection of the Marine Environment of the Baltic Sea Area, known as the 1974 Helsinki Convention. This was a pioneering agreement on many fronts. It was the first regional agreement ever to cover all sources of pollution, whether from land, sea or air.

In its first two decades, the Convention oversaw considerable progress, including improvements in the sanitary conditions of previously polluted water, significant reductions in discharges of organochlorine compounds from industry and of lead emissions from land-transport, and rehabilitation of some formerly seriously endangered living species.

In 1992, a new Convention on the Protection of the Marine Environment of the Baltic Sea Area – more usually known as the Helsinki Convention – was signed by all the countries bordering on the Baltic Sea and by the European Economic Community. HELCOM is the governing body of the Convention.

Since 1992, more than 34 of the 132 serious pollution areas – so called hot spots – identified around the Baltic Sea have been cleaned up. Nevertheless, concentrations of PCBs and DDT remain much higher in the Baltic than in the North Sea or the open Atlantic Ocean. HELCOM put a Hazardous Substances Project team to work in 1998 to reduce discharges, emissions and losses of hazardous substances in the Baltic Sea drainage basin through 2020, and selected 42 hazardous substances for immediate priority action.

Crisscrossed by some of the busiest shipping routes in the world, the Baltic remains under permanent threat from maritime pollution incidents. In September 2001 nine Baltic countries and the EU launched an extensive package of measures – the HELCOM Copenhagen Declaration – to ensure the safety of navigation and a swift national and trans-national response to maritime pollution incidents.

For the foreseeable future, the focus of our work will be to limit discharges of nutrients and hazardous substances from land-based activities, prevent pollution by shipping, conserve natural habitats and biological diversity, and bring about the long-term restoration of the ecological balance of the Baltic Sea.

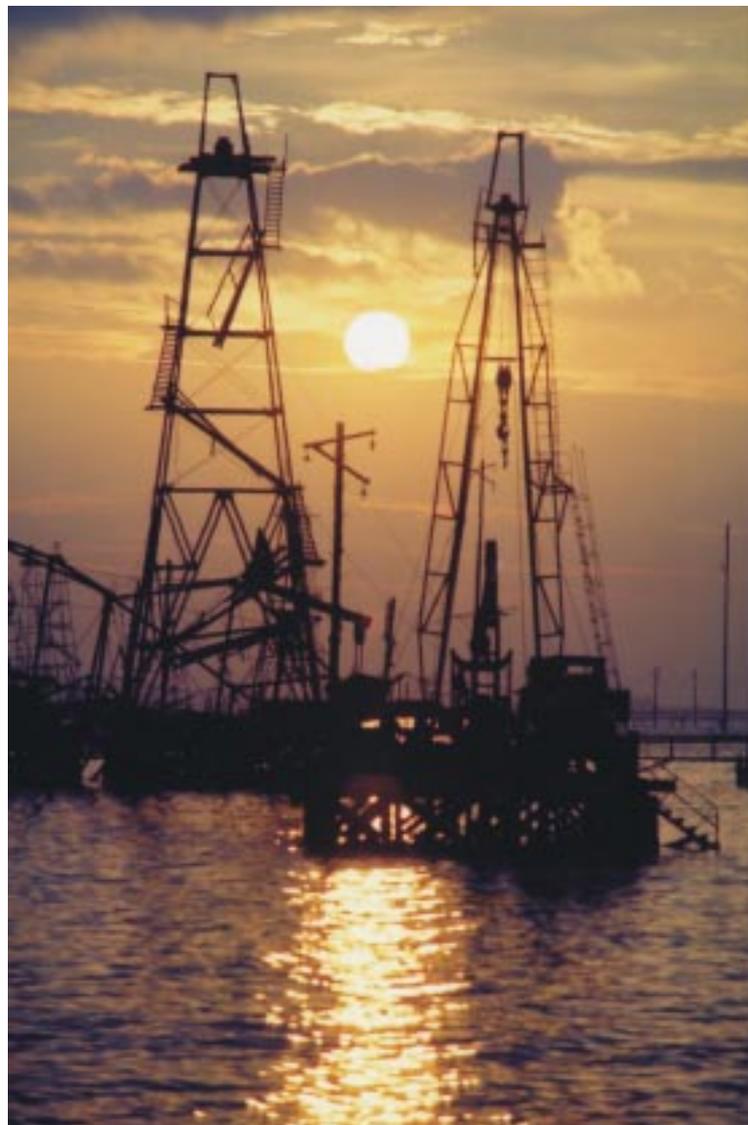
*Mieczyslaw S. Ostojki, Executive Secretary,  
Helsinki Commission (HELCOM)*

## Caspian Sea

The 1000 km-long Caspian Sea is the largest enclosed body of water on Earth. It is a remnant of the ancient ocean Tethys, which around 50 million years ago connected the Atlantic and Pacific, but today it has no connection to these oceans and its waters are only slightly saline. Some 130 large and small rivers feed into the Caspian, the largest being the Volga.

The long history and isolation of the Sea has left it with impressive biodiversity and more than 300 endemic species. It hosts 115 species of fish, including the famous sturgeons – a valuable economic resource for more than a century. The Caspian seal is one of only two freshwater seal species in the world (the other is from Lake Baikal). Extensive coastal wetlands offer a popular stop-off during migrations for a profusion of birdlife and the avid eco-tourists who gather to watch it.

The Caspian Sea region represents enormous economic potential for all these reasons and much more. Oil and gas production has been a feature here for more than 100 years, and recent discoveries of new reserves have heightened the interest of the petroleum industry while



A BAKU SUNSET, AZERBAIJAN. FARID KHAYRULIN

sounding an alarm over the potential environmental effects of further development. The Sea already suffers from an enormous burden of pollution from oil extraction and refining, offshore oil fields, radioactive wastes from nuclear power plants and huge volumes of untreated sewage and industrial waste introduced mainly by the Volga River. Concern over the threats to the sea's environmental health is tempered by a very encouraging sign: the establishment of the Caspian Environment Programme (CEP) in 1999 by five riparian countries in conjunction with the Global Environment Facility.

The CEP is an umbrella programme aimed at developing a regional dialogue for environmental protection in the Caspian region. Its initial stage included creation of a Steering Committee, a Programme Coordination Unit (PCU), several Caspian Regional Thematic Centres and community groups. Pride of place, of course, will belong to a framework Convention, already nearing completion. Following a thorough analysis of the region's environmental problems and their causes, a Strategic Action Plan, five National Action Plans and a portfolio of priority investment projects will complement the Convention.

These initial activities, now under way, give cause for hope. But we cannot underestimate the challenges that lie ahead. The enormous problems we face are rooted in the social, economic and political realities of the region: underdevelopment, lack of reliable data and information, scarce financial and economic resources, and conflicting political agendas. Although the CEP process is established, it is not yet sustainable and free of political influence. Too often environmental concerns are put on the back burner.

Looking ahead, we have to steel ourselves to occasional setbacks and commit ourselves to finishing what we've started. This means making sure the people living around and from the Caspian Sea and its enormous watershed feel a sense of collective responsibility and 'ownership' of their shared environment. We must forge a community where division has been the historical norm, and find exactly the right balance between the economic development and well being of the people and the health of their natural surroundings and resources.

*Timothy Turner, Programme Coordinator,  
Caspian Environment Programme*

## North-East Atlantic

The North-East Atlantic region stretches from the coast of Greenland eastward to the North Sea, and from the North Pole southward to the Straits of Gibraltar. Its habitats range from tidal mud flats to steep cliffs, from shallow estuaries to the deep seabed. Its ecosystems range from kelp forests to seagrass beds to deep coldwater coral reefs. The sea is rich in marine life, and the air above includes the East Atlantic Flyway, a migratory route for millions of birds who use the coasts for feeding and nesting.

We face threats through pollution, from the land, shipping and offshore installations, through pressures on fish stocks from overfishing, through coastal development and even through exploiting the seabed for sand and gravel.

The grounding of the Torrey Canyon in 1967, which released 117,000 tonnes of oil with disastrous consequences for the environment, was a pivotal point for international cooperation to combat marine pollution in the North-East Atlantic. The Oslo Convention was adopted in 1972 to prevent the dumping of hazardous substances at sea, and was soon followed by the Paris Convention (1974) dealing with land-based sources. These were merged and modernized by the 1992 Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention), which entered into force on 25 March 1998.



The new Convention included the 'precautionary principle'; the 'polluter pays principle'; best available techniques (BAT) and best environmental practice (BEP), including clean technology. Its Annexes deal with the prevention and elimination of pollution from land-based sources, by dumping or incineration and from offshore sources; and with assessment of the quality of the marine



ESHA NESS, SHETLAND © OSPAR COMMISSION

environment. The most recent Annex (1998) on the Protection and Conservation of Ecosystems and Biological Diversity of the Maritime Area entitles the OSPAR Commission to protect the marine environment of the North East Atlantic from all kinds of human activities.

The Convention's implementing body, the OSPAR Commission, brings together 15 countries, the European Union, and observers from 27 non-governmental organizations, representing both environmental groups and industry.

In 1998/99 the OSPAR Commission agreed five long-term strategies: the protection and conservation of ecosystems and biological diversity; the cessation of discharges of hazardous substances; progressive and substantial reductions in discharges of radioactive substances; combating eutrophication; and controlling offshore activities. These themes will determine the focus of our work over the next decade, during which time we will track their implementation through a Joint Assessment and Monitoring Programme (JAMP).

Our greatest recent accomplishment is the publication in 2000 of the first Quality Status Report (QSR 2000) for the entire North-East Atlantic. This holistic and integrated summary of the environmental status of the entire OSPAR area lays the groundwork for our future work under the strategies.

A Ministerial meeting of the OSPAR Commission in 2003 aims to adopt a statement on the ecosystem approach which will integrate these different approaches.

But this can't be the whole story. As the Torrey Canyon disaster taught us more than three decades ago, we have to expect the unexpected, and always be on the lookout for emerging new problems.

*Alan Simcock, Executive Secretary,  
OSPAR Commission*

## REGIONAL SEAS CONVENTIONS AND PROTOCOLS

<b>CONVENTIONS</b>
<b>Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean and its Protocols</b>
<b>Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment from Pollution</b>
<b>Convention for Cooperation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region</b>
<b>Convention for the Protection of the Marine Environment and Coastal Zones of the South-East Pacific</b>
<b>Regional Convention for the Conservation of the Red Sea and Gulf of Aden Environment</b>
<b>Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region</b>
<b>Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region</b>
<b>Convention for the Protection of the Natural Resources and Environment of the South Pacific Region</b>
<b>Convention on the Protection of the Black Sea against Pollution</b>
<b>Convention for Cooperation in the Protection and Sustainable Development of the Marine and Coastal Environment of the North-East Pacific</b>
<b>Convention on the Protection of the Marine Environment of the Baltic Sea Area<sup>1</sup></b>
<b>Convention for the Protection of the Marine Environment of the North-East Atlantic<sup>1</sup></b>

<sup>1</sup> Instead of protocols, the Helsinki Convention and the OSPAR Convention have related Annexes.

**PROTOCOLS, AGREEMENTS OR CONVENTION ANNEXES BY SUBJECT**

Pollution from Oil and Harmful Substances	Land-based Pollution	Specially Protected Areas & Wildlife	Radio-activity	Trans-boundary Movement of Wastes	Offshore Exploration and Exploitation	Dumping
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