

# Environmental Problems in the Enclosed Coastal Seas

## Introduction

Enclosed seas are important areas for human being, since they provide calm coastal areas that are suitable to develop cities, industries, and recreational activities. Coastal plains accommodate urban areas and industrial / commercial estate. Ports and harbors are often constructed so as to promote regional economic activities. Coastal waters become a ground for fisheries and aquaculture.

Such human activities, however, have effected adversely on the environment of the enclosed seas. Increased population and accompanied economic growth brought more pollution loads to the sea, and consequently the water quality of the enclosed seas has degraded. Reclamation from the sea has often been carried out to meet the increasing economic activities, and has decreased the seaweed beds, tidal flats, and natural beaches. Enclosed seas are vulnerably situated because of their features that are advantageous for human activities.

The approach to the environmental management of the enclosed seas has shifted from an initial emphasis on pollution control to the wider goal that includes the conservation of the biodiversity, restoring and ensuring the healthy hydrological cycle, conserving the well-balanced material cycle, ensuring opportunities for contact with nature and so forth.

Significant changes have also occurred in the environmental awareness of the public. Outstanding development has achieved in the whole range of environment-related technologies, as well. It will become more effective to conserve the environment of the enclosed seas to take unified and comprehensive measures considering the geographical, natural and socio-economic conditions in individual seas.

## International Marine Environment Projects

### < Environmental conservation projects >

#### Regional Seas Programme

The Regional Seas Programme was initiated by UNEP in 1974 as a global program implemented through regional components. Since then the Governing Council of UNEP has repeatedly endorsed a regional approach to the control of marine pollution and the management of marine and coastal resources and has requested the development of regional action plans.

The first regional program was adopted by the Mediterranean countries in 1975. Since then, 13 regional programs have been developed, including the most recent North-East Pacific Action Plan, which was adopted in 2002. Now more than 140 coastal States and Territories participate in the Regional Seas Programme.

Each regional program consists of a regional action plan, promoting regional cooperation in research, monitoring, pollution control and coastal and marine resource development. Furthermore, for some regions, conventions and specific protocols are established to provide a legal framework for cooperative regional and national actions.



- 1 . Mediterranean
- 2 . Red Sea & Gulf of Aden
- 3 . ROPME Sea Area ( Kuwait )
- 4 . Wider Caribbean
- 5 . East Asian Seas
- 6 . South-East Pacific
- 7 . West & Central Africa
- 8 . South Pacific
- 9 . Eastern Africa
- 10 . Black Sea
- 11 . North-West Pacific
- 12 . South Asian Seas
- 13 . North-East Pacific

The activities of the regional programs, such as pollution monitoring and joint research programs are sponsored by regional trust funds or from related international organizations. The data acquired from these programs are incorporated into the database of Global Environment Monitoring System (GEMS) of UNEP.

< Regional Seas covered in the Regional Seas Programme >

**Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities (GPA-LBA)**

GPA-LBA was adopted on November 1995 by 109 Governments and the European Commission at the Intergovernmental Conference in Washington D.C., with an overall aim to protect the marine environment and ensure sustainable use of marine resource through the prevention of marine pollution from land-based activities. During the Conference, the Washington Declaration was adopted to provide a legal framework for establishing national action plans and to regulate emission of 12 POPs. UNEP is responsible for the implementation of GPA-LBA. A GPA Coordination Office was established in Hague, and is currently involved in organizing various regional workshops.

< Marine monitoring projects >

**Global Investigation of Pollution in the Marine Environment (GIPME)**

GIPME was established in response to the recommendations of the United Nations Conference on the Human Environment held in Stockholm in 1972, as an international cooperative programme of scientific investigations on marine pollution. GIPME is co-sponsored by the Intergovernmental Oceanographic Commission (IOC), UNEP and the International Maritime Organization (IMO). The objectives of GIPME are: authoritative evaluations of the state of the marine environment at both regional and global levels; identification of the requirements for measures to prevent, or correct, marine pollution; and to provide procedures for assessing and improving compliance and surveillance monitoring of conditions and effects in the marine environment.

**Global Ocean Observing System (GOOS)**

GOOS is an international program with the primary goal of providing practical benefits to the society, through the sustained collection of ocean observations and the timely distribution of those data. GOOS is implemented through the support of IOC, WMO, UNEP and International Council of Scientific Unions (ICSU).

GOOS is comprised from I-GOOS (intergovernmental IOC-WMO-UNEP Committee), J-GOOS (The Joint Scientific and Technical Committee for GOOS) and GOOS Support Office. I-GOOS is responsible in the promotion, co-ordination, implementation and management aspect, and J-GOOS is responsible for the scientific and technical aspect of GOOS. The activities of GOOS is conducted through the utilization of existing marine observation systems.

**Integrated Global Ocean Services System (IGOSS)**

IGOSS collects and exchanges data on ocean temperature, salinity, sea level, and currents, and produces ocean-related products and services. It is coordinated jointly by the Intergovernmental Oceanographic Commission (IOC) of UNESCO and the World Meteorological Organization (WMO), and is carried out by national facilities and services provided by 125 participating member countries who share data for mutual benefit. IGOSS functions as an observation module for the Global Ocean Observing System (GOOS).

The IGOSS system consists of the following three components.

- IGOSS Observing System (IOS)

In IOS, naval ships, research vessels and merchant ships in the Ships of the Opportunity Programme (SOOP) along with fixed and floating buoys transmit oceanographic data such as subsurface temperature and salinity in near-real time.

- IGOSS Data Processing and Services System (IDPSS)

IDPSS consists of several types of national, specialized and world data centres for processing and disseminating data and data products.

- IGOSS Telecommunications Arrangements (ITA)

The backbone of ITA is the Global Telecommunication System (GTS) of the WMO. GTS enables free and open data exchange for all member states.

IGOSS consists of representatives from member states, the IGOSS Bureau, Joint Committee Chairman and Vice Chairman, and an IGOSS Operations Coordinator who is located at the IOC Secretariat in Paris, France.