



# REGIONAL SEAS

UNITED NATIONS ENVIRONMENT PROGRAMME

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## *Oil pollution control in the East African region*

*UNEP Regional Seas Reports and Studies No. 10*

*Prepared in co-operation with*



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INTERNATIONAL MARITIME ORGANIZATION

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PREFACE

The Regional Seas Programme was initiated by UNEP in 1974. 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 Regional Seas Programme at present includes ten regions 1/ and has over 120 coastal States participating in it. It is conceived as an action-oriented programme having concern not only for the consequences but also for the causes of environmental degradation and encompassing a comprehensive approach to combating environmental problems through the management of marine and coastal areas. Each regional action plan is formulated according to the needs of the region as perceived by the Governments concerned. It is designed to link assessment of the quality of the marine environment and the causes of its deterioration with activities for the management and development of the marine and coastal environment. The action plans promote the parallel development of regional legal agreements and of action-oriented programme activities.

Decision 8/13(C) of the eighth session of the Governing Council of UNEP called for the development of an action plan for the protection and development of the marine and coastal environment of the East African region. As a first activity in the region, UNEP organized in October and November 1981 a joint UNEP/UN/UNIDO/FAO/UNESCO/WHO/IMCO/IUCN exploratory mission which visited the eight States of the region 2/ in order to:

- assess each State's interest in participating in a future regional programme;
- consult with Governments with a view to identifying activities that may usefully be included as part of a comprehensive action plan;
- make a preliminary assessment of the environmental problems in the region, including the problems related to the environmentally sound management of marine and coastal natural resources and activities influencing the quality of the marine and coastal environment;
- collect available scientific data and information pertaining to the development and implementation of the action plan planned for the region; and
- identify national institutions that may participate in implementing an action plan once it is adopted.

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1/ Mediterranean, Kuwait Action Plan Region, West and Central Africa, Wider Caribbean, East Asian Seas, South-East Pacific, South-West Pacific, Red Sea and Gulf of Aden, East Africa and South-West Atlantic.

(ii)

The findings of the mission were used to prepare the following six sectorial reports:

- UN/UNESCO/UNEP: Marine and Coastal Area Development in the East African Region. UNEP Regional Seas Reports and Studies No. 6. UNEP 1982;
- UNIDO/UNEP: Industrial Sources of Marine and Coastal Pollution in the East African Region. UNEP Regional Seas Reports and Studies No. 7. UNEP 1982;
- FAO/UNEP: Marine Pollution in the East African Region. UNEP Regional Seas Reports and Studies No. 8. UNEP 1982;
- WHO/UNEP: Public Health Problems in the Coastal Zone of the East African Region. UNEP Regional Seas Reports and Studies No. 9. UNEP 1982;
- IMO/UNEP: Oil Pollution Control in the East African Region. UNEP Regional Seas Reports and Studies No. 10. UNEP 1982; and
- IUCN/UNEP: Conservation of Coastal and Marine Ecosystems and Living Resources of the East African Region. UNEP Regional Seas Reports and Studies No. 11. UNEP 1982.

The six sectorial reports prepared on the basis of the mission's findings were used by the UNEP secretariat in preparing a summary overview entitled:

- UNEP: Environmental Problems of the East African Region. UNEP Regional Seas Reports and Studies No. 12. UNEP 1982.

The overview and the six sectorial reports were used as the main working document and information documents for the UNEP Workshop on the Protection and Development of the East African Region (Mahé, Seychelles, 27 - 30 September 1982) attended by experts designated by the Governments of the East African region.

The Workshop:

- reviewed the environmental problems of the region;
- endorsed a draft action plan for the protection and development of the marine and coastal environment of the East African region;
- defined a priority programme of activities to be developed within the framework of the draft action plan; and
- recommended that the draft action plan, together with a draft regional convention for the protection and development of the marine and coastal environment of the East African region and protocols concerning (a) co-operation in combating pollution in cases of emergency, and (b) specially protected areas and endangered species, be submitted to a conference of plenipotentiaries of the Governments of the region with a view to their adoption (UNEP/WG.77/4). The conference is to be convened by UNEP in early 1984.

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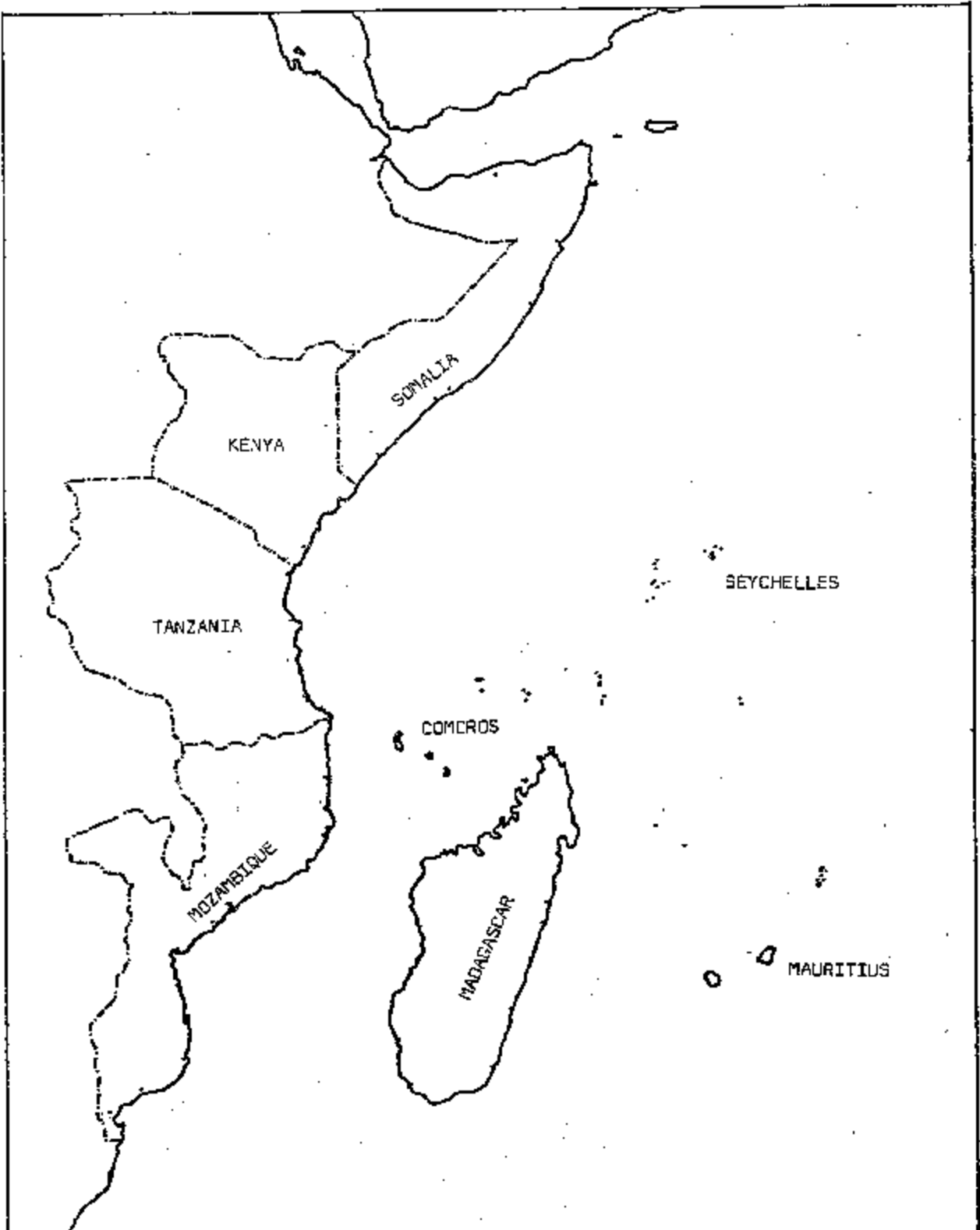
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## INTRODUCTION

1. This publication reviews the major sources of oil pollution in the East African region, the status of oil pollution control and the levels of preparedness in the region to combat oil pollution.
2. The scope of the survey comprises a brief outline of the background environmental parameters, relevant to the fate and effect of oil pollution, a preliminary identification of the major factors which account for the current levels of oil pollution being experienced by the countries of the region and a critical assessment of the existing regulatory and technical oil pollution prevention and control capability.
3. Most of the information contained in this publication was obtained by the author during his visit to the countries of the region. Supplementary information has been obtained from IMO and IOC/UNESCO. This document should be read in conjunction with the section on oil pollution in the UNEP Regional Seas Reports and Studies No. 8 "Marine Pollution in the East African Region".

## BACKGROUND ENVIRONMENTAL PARAMETERS

4. The East African region comprises the marine and coastal areas of the following States: Somalia, Kenya, Tanzania and Mozambique on the African mainland and the Indian Ocean Islands, Madagascar, Comoros, Mauritius and Seychelles. The area described is shown in figure 1.
5. The region consists of a large area of ocean between 2,000 metres to 3,000 metres deep in the Mozambique Channel and 3,000 metres to 5,000 metres to the east of Madagascar and in the northern area. Madagascar, the biggest Indian Ocean Island, covers a large area of the southern portion, whilst the 115 islands of Seychelles cover a wide area of the central region.
6. On the east coast of Africa, the continental shelf is for the most part narrow and poorly surveyed. The edge lies at comparatively shallow depths. In places there appears to be no shelf along straight stretches of coast. The average distance from the coast can be said to be around 10 to 15 miles. However, where there are indentations in the coast such as in Mozambique between latitudes 17°S and 21°S, the shelf widens to about 90 miles. Generally, the bottom is sandy with mud being dominant in the deeper water.
7. On the east and south-west coasts of Madagascar, the continental shelf is generally narrow, extending to an average of 25 miles. On the south and west coasts it widens to around 50 to 60 miles and on the extreme north-west coast to nearly 100 miles.



extensive continental shelf around the inner group of islands. Here again, the bottom is generally sandy. There are exceptions, however, such as in the Aldabra-Cosmoledo group of islands where there is no shelf at all and the coral reefs rise almost perpendicular from depths of up to 1,000 metres.

9. The African coastline is generally fringed with coral reefs from North Somalia to as far south as the Island of Inhaca in Maputo Bay. The coral is broken in places such as large river mouths and where the depth of water is too deep in the absence of a continental shelf. The islands of the Indian Ocean are all encircled by coral reefs with the exception of parts of Eastern Madagascar where deep water extends as far as the coast.

10. The currents in the area are shown in figures 2(a) - 2(e). It must be noted that only the average is shown. For greater details, refer to Admiralty Chart 5126.

11. On the East African Coast, the currents run parallel to the coast. Though these currents are mainly strong, they are concentrated into narrow flows of up to about 100 miles, beyond which the currents are often quite weak. To the north of 2°S, the Somali Current reverses in direction during the year following the monsoon winds of the area. Generally, this current flows NE during the SW monsoon at a strong rate of 4-5 knots, occasionally reaching 7 knots during the period June to September. It flows SW during the NE monsoon at a rate of 3-4 knots.

12. To the south of 2°S, there is very little variation in the northward-flowing East African Coast Current. It has no seasonal reversal of flow. This current extends to the region of Cap Delgado and is strongest in the SE monsoon - about 2 knots.

13. The Mozambique Current flows south along the coast of Mozambique from Cap Delgado southwards. This current is strongest - approximately 4 knots - in October to February. On this stretch of the coast, inshore counter-currents are common, especially in the vicinity of Banco de Sofala and Maputo Bay.

14. The South Equatorial Current flows westwards in the area 6°S to 20°S. Part of this current is diverted southwards as it approaches Madagascar. Between 6°S and 2°S the equatorial counter-currents flow eastwards.

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