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Scientific and Technical Co-operation  
for MED POL

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PROGRESS REPORT ON THE IMPLEMENTATION OF MED POL DURING 1986 AND 1987  
AND PROPOSED ACTIVITIES AND BUDGET FOR THE BIENNIUM 1988-1989

In co-operation with:



FAO



UNESCO



WHO



WMO



IAEA



IOC

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UNEP

Athens, 1987

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## INTRODUCTION

1. The present document was prepared for the Fifth Meeting of the Working Group by the secretariat, in close collaboration with the MED POL Co-operating Agencies (FAO, UNESCO, WHO, WMO, IAEA and IOC). The document contains in Section I information on the progress achieved in the implementation of MED POL during the period January 1986 - February 1987 and, in section II, proposed activities and budget requirements for the 1988-1989 biennium.

2. The Working Group is invited to review the contents of the document, to evaluate the achieved results described in section I of this document and to review and adopt the recommendations for the implementation of MED POL activities for the biennium 1988-1989 with their budgetary requirements proposed in section II, for their submission to the Contracting Parties at their next Meeting.

### I. ACTIVITIES IMPLEMENTED IN THE BIENNIUM 1986-1987

#### Monitoring

3. By the end of February 1987, the secretariat finalized and signed National Monitoring Programmes of ten States (Algeria, Cyprus, Egypt, Israel, Lebanon, Libya, Malta, Morocco, Syria and Yugoslavia). In addition, the description of two new programmes (France including Monaco and Spain) are at the secretariat and await finalization by the respective countries. Italy is expected to transmit its programme to the Unit during 1987. Action was taken by the secretariat in order to finalize agreements with Tunisia, Greece and Turkey through correspondence and personal contacts with the respective National Co-ordinators. The status of the national monitoring programmes is summarized in annex I. The national institutions and the scientists designated by their MED POL Co-ordinators to participate in the monitoring programme are listed in annex II.

4. Annex I also shows the countries that submitted monitoring data. It is worth noting that, among the countries that have not yet signed monitoring agreements, France transmitted data for the years 1983-1984 on basic chemical parameters, heavy metals and halogenated hydrocarbons in seawater samples; Spain transmitted data for the years 1981-1985 on basic chemical parameters, heavy metals and halogenated hydrocarbons in seawater, rivers, organisms and sediment samples. Italy sent to the Unit a summary of microbiological quality of national beaches (1982-1984) according to EEC standards.

5. As in the past, during 1986 the secretariat in close collaboration with the Co-operating Agencies provided assistance either in cash or in equipment and material, to the countries that had signed the monitoring agreement for a total of US \$ 340,300. The monitoring assistance was distributed as follows: Algeria: US \$ 40,000; Cyprus: US \$ 20,500; Egypt: US \$ 40,000; Israel: US \$ 38,000; Lebanon: US \$ 15,000; Libya: US \$ 50,000; Malta: US \$ 20,000; Morocco: US \$ 28,000; Syria: US \$ 40,000; Yugoslavia: US \$ 48,800. For some countries, as at February 1987, equipment and materials relative to the indicated amounts are still being purchased.

6. As to the implementation of the monitoring of the transport of pollutants through the atmosphere, in addition to the activities carried out by various research proposals under activity 'L' (see paras 50-53), during 1986, as recommended by the Fourth Ordinary Meeting of Contracting Parties (UNEP/IG.56/5, section III, F. 2, activity L) a pilot project on studying air pollutant depositions into the Mediterranean region and pollutant concentrations in air was initiated in the countries where institutions were designated by the respective National Co-ordinators (Algeria, Cyprus, Israel, Italy, Libya, Spain, Tunisia and Yugoslavia). In January 1987 a research institute from France was also designated.

7. The experts nominated for the pilot project were requested to prepare short reviews on national activities in studying and monitoring atmospheric transport and deposition of pollutants into the Mediterranean Sea as well as to submit programme proposals. As at February 1987, two reviews have been received but no project proposals made. In addition, the meteorological offices in the region were also invited to encourage the participation of meteorological institutions in the project.

8. During 1986-1987 three high-volume aerosol samplers and one precipitation collector were provided to four countries (Spain, Greece, Algeria and France) to further participation in the pilot project. One service visit was arranged and another one is being planned to assist in handling sampling equipment.

9. Twenty-six WMO Background Air Pollution Monitoring Network (BAPMON) stations are fully or partly operational in twelve countries in the region with sixteen stations reporting data on precipitation chemistry and three stations on concentrations of suspended particles.

10. A workshop is being held in November 1987 in Yugoslavia to review preliminary results of the pilot project and relevant research on airborne pollution in the Mediterranean region. National activities in the above field, detailed programme proposals and recommendations for future research and monitoring activities will also be considered.

11. As to the preparation of reporting forms for the monitoring data, provisions were made by all Co-operating Agencies, as appropriate, in order to cover the necessary parameters for which forms had not been prepared. The preparation of the missing forms is to be considered in the light of the considerable work ongoing since several years in other regions and organizations. In this connection, the ICES secretariat is also being contacted in order to investigate to what extent the ICES existing forms could be used, as they are or appropriately revised, for MED POL. In particular, the following reporting formats are being prepared: heavy metals, chlorinated hydrocarbons, petroleum hydrocarbons and nutrients in effluents; heavy metals in seawater and sediments; chlorinated hydrocarbons in sediments; microbial contaminants in shellfish; petroleum hydrocarbons in seawater, sediments, tar on beaches, pelagic tar, oil slicks; petroleum hydrocarbons in organisms, and standard physical and chemical parameters (TSO, chlorophyll, wind and currents). In addition, the reporting formats for observations of petroleum hydrocarbons had been prepared and included in the IOC Manuals and Guides used for MARPOLMON-P, covering dissolved/dispersed hydrocarbons, oil slicks, pelagic tar and tar on beaches. These formats are being reviewed and will be used after appropriate revision.

12. As a follow-up to the decisions of the Fourth Ordinary Meeting of the Contracting Parties (Genoa, 9-13 September 1985), the secretariat initiated the process of evaluation of the monitoring component of MED POL (UNEP/IG.56/5 section III, F.1(1)). This was achieved through a small consultation meeting with scientists, the Co-operating Agencies and the secretariat staff, held in Athens, 8-9 January 1987. The conclusions of the consultation were reviewed at the XX Meeting of the Inter-Agency Advisory Committee for MED POL, and were extensively used by the secretariat in the preparation of the recommendations for the 1988-1989 activities appearing in section II of this document.

13. In this connection, three small ad hoc meetings are being held in 1987 on organotin compounds (May/June 1987), organophosphorous compounds (October 1987) and floating/sinking litter (November 1987) in order to agree on the workplans for the implementation of small pilot projects. The pilot projects are considered necessary in order to obtain the relevant data and results which will enable the secretariat to prepare, in close consultation with the Co-operating Agencies, the assessments of pollution by organotin compounds, organophosphorous compounds and floating/sinking litter, requested for the implementation of the Land-based Sources Protocol (UNEP/WG.125/10, annex VIII). The secretariat considers this approach the most appropriate way to obtain data and results on the little known pollutants appearing in the annexes of the Land-based Sources Protocol for which assessments have to be prepared.

14. In the same framework, preparations have been already made to hold a small consultation in 1987 on the problems related to the analysis, processing, utilization and presentation of the monitoring data; in addition, a consultation meeting is being held in October/November 1987 to assess the results of monitoring the pollutants from land-based sources, including the effectiveness and presently used methodology and sampling strategies.

15. The recommendations relevant to the monitoring activities for 1988-1989 appearing in section II are submitted to the Working Group for review and adoption with the view to their transmittal to the Contracting Parties.

#### Land-based Sources Protocol

16. As a follow-up to the timetable of activities approved by the Meeting of Experts on the Technical Implementation of the Land-based Sources Protocol (Athens, 9-13 December 1985) and the Fourth Working Group Meeting, preparations were commenced for the implementation of the activities approved for 1986-1987.

17. The draft glossary of terms was revised and the first substantive edition is submitted as document UNEP/WG.160/Inf.3. The glossary is intended for general guidance on the interpretation of terms used in the Land-based Sources Protocol and its annexes, and revised versions will be prepared from time to time on the basis of comments received.

18. The assessments on the state of pollution of the Mediterranean Sea by (a) used lubricating oils, (b) mercury and mercury compounds and (c) cadmium and cadmium compounds, all including proposed measures for eventual adoption by the Contracting Parties, were completed and are submitted respectively as documents UNEP/WG.160/7, UNEP/WG.160/8 and UNEP/WG.160/9 (see also para 55).

19. A review of the proposed measures regarding microbial pollution of shellfish and shellfish-growing waters was held on the basis of results of studies carried out on the comparability of these with criteria already in force in various countries of the region (including the EEC criteria). Revised proposed measures are submitted in document UNEP/WG.160/10.

20. Some delays were encountered in completion of the questionnaire for the project on pollutants from land-based sources in the Mediterranean (MED POL X Bis), precluding their transmission in 1986. Draft questionnaires are now being completed and will be transmitted to National Co-ordinators for comments.

21. During the first two months of 1987, the necessary arrangements were made for the performance of the activities dealing with (a) evaluation of the benefits and limitations of submarine pipelines, (b) legislative measures regarding the discharge of wastes through submarine outfalls, (c) review of the various types of treatment for wastewaters, (d) identification and categorization of effluents requiring separate treatment and (e) revised guidelines for the discharge of liquid wastes into the Mediterranean. In view of the relationship existing between most of these activities, notwithstanding their separate description in the Land-based Sources Protocol, the activities are being undertaken in such a way as to minimize duplication, apart from taking already-existing work into account. For this purpose, also, arrangements were commenced with PAP/RAC for the study on the comparative efficiency of selected outfall structure in the Mediterranean to be continued within the framework of MED POL.

#### Research and Study Topics

22. Ninety-two research proposals were received for 1986. According to the subject, they were distributed for analysis to the Co-operating Agencies and, as a result, 148 projects including extensions of previous years' projects, were ongoing during 1986 with a total contribution of US \$ 261,800. At the same time, 33 projects were completed in 1986 and final reports are now expected.

23. The Fourth Working Group Meeting had set the deadline for submission of 1987 proposals at 15 September 1986. However, in response to requests from some National Co-ordinators, all the proposals received up to the end of the year were accepted for analysis. Sixty-seven research proposals were received by the Unit and distributed to the Co-operating Agencies for analysis, as appropriate. A full list of all ongoing projects including the 1987 projects still under negotiation and a list showing all the projects completed in 1986 are attached as annex III.

Activity A (Development and testing of sampling and analytical techniques for monitoring of marine pollutants)

Projects completed in 1986: 4  
Projects ongoing in 1986: 14  
1986 contribution: 34,500

24. Development of new Reference Methods was solicited from appropriate institutes. Projects on the development and/or revision of microbiological methodology were completed in 1986, others extended, and one new project accepted. The revision of the Reference Method on the determination of arsenic in marine organisms has been published. In addition, three methods on acute toxicity testing, one method on health-related monitoring, one method on statistical analysis and interpretation of microbiological data, and three on determination of pathogenic microorganisms are ready for printing.

25. There are also ongoing projects under this activity dealing with the determination of heavy metals, halogenated hydrocarbons and organophosphorous compounds in marine organisms. Three Reference Methods on acute toxicity testing, based on FAO Manual of Methods in Aquatic Environment Research, Part 10, are ready for printing.

26. GEMSI is assisting OCA/PAC in reviewing new Reference Methods, as appropriate.

27. An IAEA/FAO/UNEP Workshop on the determination of Hg, Cd and Pb in marine organisms and sediments took place in Monaco (3-6 November 1986) and an intercalibration exercise for the determination of petroleum hydrocarbons was organized by IOC and held in Barcelona, 13-17 October 1986.

Activity B (Development of reporting formats required according to the Dumping, Emergency and Land-based Sources Protocols)

Projects completed in 1986: -  
Projects ongoing in 1986: 1  
1986 contribution: 4,000

28. On the "opening" of this activity, one research project commenced in 1986, dealing with the development of approaches for the continuous assessment of pollution loads.

Activity C (Formulation of the scientific rationale for Mediterranean Environmental Quality Criteria)

Projects completed in 1986: -  
Projects ongoing in 1986: 5  
1986 contribution: 15,500

29. On the "opening" of this activity, research projects commenced in 1986, dealing with intercomparison studies on techniques for monitoring shellfish-growing waters and shellfish, studies related to environmental quality criteria of coastal waters, and development of models for the calculation of the environmental capacity of seawater in the Mediterranean.

Activity D (Epidemiological studies related to Environmental Quality Criteria)

Projects completed in 1986: 3  
Projects ongoing in 1986: 13  
1986 contribution: 13,000

30. In the part of the activity dealing with the correlation of coastal seawaters quality with health effects, the projects, dealing with (a) pathogenic fungi and (b) epidemiological studies among bathers, have been completed so far.

31. Other ongoing projects deal with the relationships between pathogenic bacteria or viruses and indicator organisms, viral pollution of seawater, and epidemiological studies regarding virus infections contacted from bathing.

32. A consultation meeting on microbial pollution in Mediterranean coastal areas and associated health effects is being held in Athens from 29 June to 3 July 1987. The meeting will review progress in ongoing research projects, and is expected to produce recommendations regarding the need, feasibility and methodology for monitoring specific pathogenic organisms (including viruses), apart from also producing a list of pathogenic organisms which will provide the final input towards the relative assessment document, scheduled for preparation during 1988/1989.

33. In the part of the activity dealing with mercury, the projects dealing with concentrations of total mercury, methylmercury and selenium in marine organisms have been completed. The other ongoing projects deal with the relationship between total mercury and methylmercury concentrations in various species of marine organisms, dietary surveys in selected populations to determine seafood consumption patterns, and human hair analysis in indicated sections of these sample populations.

34. A consultation meeting on health effects of methylmercury in the Mediterranean area was held in Athens from 15 to 19 September 1986. Progress in the whole sub-activity was reviewed, the necessary follow-up agreed upon, and the protocol for epidemiological studies finalized. Evidence was established that two of the main population groups at risk are (a) adult fishermen, and (b) pregnant women, particularly from fishing families. The summary report of the meeting is submitted as document UNEP/WG.160/Inf. 4.

Activity E (Guidelines and criteria for the application of the Land-based Sources Protocol)

Projects completed in 1986: -  
Projects ongoing in 1986: 2  
1986 contribution: 8,000

35. On the "opening" of this activity, research projects commenced dealing with design of submarine outfalls in the Mediterranean, and studies on used lubricating oils in effluents together with alternative means of disposal.



Activity F (Research on oceanographic processes)

Projects completed in 1986: -  
Projects ongoing in 1986: 16  
1986 contribution: 10,000

36. A review of Mediterranean oceanographic processes is in progress and it will be ready by mid 1987. The review includes the preparation of a bibliography which is expected to be ready for publication by mid 1987 in the MAP Technical Reports Series. The projects ongoing during 1986, also include hydrodynamic modeling of various Mediterranean regions.

Activity G (Research on the toxicity, persistence, bioaccumulation, carcinogenicity and mutagenicity)

Projects completed in 1986: 6  
Projects ongoing in 1986: 26  
1986 contribution: 57,500

37. The topics covered under this activity include the toxicity of oil and oil dispersants, the toxicity of heavy metals mainly mercury and cadmium, the toxicity of organosilicon compounds and the physiological and biochemical effects of PCBs and other pollutants to marine organisms.

38. At present ongoing projects under this activity cover such topics as:

- genotoxicity of mercury and cadmium;
- bioaccumulation of mercury and cadmium in various organs of organisms and in the trophic chain;
- the effect of heavy metals on various physiological and biochemical aspects;
- the toxicity of PCBs and organosphosphorous and other pesticides;
- the use of sea urchin gametes in toxicity testing.

39. Three Reference Methods on acute toxicity testing are ready for publication and the Reference Methods on sub-lethal toxicity are being developed (see annex IV).

Activity H (Eutrophication and concomitant plankton blooms)

Projects completed in 1986: 5  
Projects ongoing in 1986: 2  
1986 contribution: 6,000

40. The subjects dealt with under this activity include eutrophication problems in the port of Algiers, the lake of Tunis, Izmir bay and North and Central Adriatic. The two ongoing projects study the toxic dinoflagellates and the irregular blooms of macro- and micro-plankton.

41. Guidelines for the assessment of receiving capacity of waters for substances inducing eutrophication are being prepared. A meeting is being organized in Bologna, 2-6 March 1987, to adopt guidelines and suggest future course of activity.

Activity I (Pollution-induced ecosystems modifications)

Projects completed in 1986: 8  
Projects ongoing in 1986: 4  
1986 contribution: 11,000

42. Under this activity studies were made on the effects of pollution on various marine communities in some coastal areas in Greece, Yugoslavia, Turkey, France, Italy and Lebanon.

43. There are now four ongoing projects in Lebanon and Greece studying pollution effects on ichthyoplankton, zooplankton and benthos.

44. The two main conclusions of the Blanes (Spain) Meeting (7-11 October 1985) (UNEP/WG.160/Inf. 5) were that (a) the FAO Manual on the ecological assessment of pollution effects (prepared during MED POL - PHASE I) needed updating and (b) there was a need for training in methods of data analysis. The FAO Manual is now being revised and a training course is proposed to take place in 1988 on treatment and interpretation of biological effects data.

Activity J (Effects of thermal discharges on coastal organisms and ecosystems)

Projects completed in 1986: 2  
Projects ongoing in 1986: 1  
1986 contribution: 3,000

45. Two projects have been completed studying the effects of thermal pollution on marine communities in specific areas of Cyprus and Italy.

46. A new similar project has been initiated in 1986 in Algeria.

Activity K (Biogeochemical cycles of specific pollutants)

Projects completed in 1986: 5  
Projects ongoing in 1986: 13  
1986 contribution: 31,000

47. Projects have been completed under this activity dealing with the biogeochemical cycle of mercury and other heavy metals.

48. At present, the ongoing projects cover such aspects as mercury speciation, transformation of organic and inorganic mercury by bacteria, fate of organotin compounds and radionuclides in biota.

49. Projects on survival of pathogens were completed in 1986, and others were commenced. The results of this work will provide an input into the studies on efficiency of submarine outfall structures.

Activity L (Pollutant-transfer processes)

Projects completed in 1986: -  
Projects ongoing in 1986: 27  
1986 contribution: 34,300

50. Work is progressing through research projects which deal with pollutant-transfer processes at river/sea and air/sea interfaces, by sedimentation and through the straits. Development of sampling techniques of surface microlayer for petroleum is also progressing through research projects.

51. In June 1986 the national experts designated by the Governments to participate in the pilot project on transport of pollutants through the atmosphere were approached by WMO and asked to propose a workplan relative to the implementation of the project. Information on ongoing national activities was also requested.

52. A workshop on the subject is planned for the end of 1987 (see also para 10).

Jellyfish programme

Projects completed in 1986: -  
Projects ongoing in 1986: 24  
1986 contribution: 34,000

53. All the projects which were part of the jellyfish programme (1984-1986) are completing the work. A small workshop is being organized by the CIMAM, Trieste, in September 1987, during which final reports of the two-year programme will be presented. The secretariat intends to publish the final reports of the programme in the MAP Technical Reports Series. New projects covering the subject of jellyfish are being analysed and the ones which present a regional and not a local interest may be introduced in other research activities, according to the specific topics covered.

Environmental Quality Criteria

54. During 1986 the secretariat, in close collaboration with the Co-operating Agencies, continued to work on the preparation of environmental quality criteria, as part of the work programme for the implementation of the Land-based Sources Protocol (see also paras 18, 19).

55. In particular, the following assessments have been prepared and are submitted to the Working Group for analysis: assessment of the state of pollution in the Mediterranean Sea by used lubricating oils and proposed measures (UNEP/WG.160/7), assessment of the state of pollution in the Mediterranean Sea by mercury and mercury compounds and proposed measures (UNEP/WG.160/8), assessment of the state of pollution in the Mediterranean Sea by cadmium and cadmium compounds and proposed measures (UNEP/WG.160/9), assessment of the state of microbial pollution in the Mediterranean Sea and proposed measures for shellfish and shellfish-growing waters (UNEP/WG.160/10), assessment of the state of pollution by petroleum hydrocarbons in the Mediterranean Sea (UNEP/WG.160/11).

56. Efforts have been and are being made by the secretariat to assist all the countries who intend to apply environmental quality criteria. In particular, all the problems related to the application at national level of the criteria already recommended at the Genoa Meeting will be discussed under separate agenda item (see document UNEP/WG.160/4).

#### Reference Methods

57. Under the over-all co-ordination of the Ocean and Coastal Areas Programme Activity Centre (OCA/PAC) of UNEP, and in close collaboration with the Co-operating Agencies, the work continued on the preparation and updating of reference methods to be used in the monitoring activities. Some information is given in paras 24 and 25 (activity A) and the full list of the methods including their status of development appears in annex IV.

#### Data collection, analysis and dissemination

58. During 1986 and 1987 data were gathered from countries through their signed national monitoring agreements as well as from countries who had not signed monitoring agreements. In particular, France, Italy and Spain provided the Unit with data obtained through monitoring programmes (see para 3). In addition, data have been collected through research projects, and results are being presented in the MAP Technical Reports Series (see annex V). During 1986 the necessary computer programmes have been prepared at the Unit to achieve the proper processing of the expected data. All the data received have been entered into the data bank of the Unit after a preliminary control of their quality achieved through the results of the intercalibration exercises as well as through accurate analysis of each entry carried out by the competent Agencies. As in the past, the data bank of the Unit has been fully used in the preparation of the various assessments, as requested for the implementation of the Land-based Sources Protocol (UNEP/WG.160/7, UNEP/WG.160/8, UNEP/WG.160/9, UNEP/WG.160/10 and UNEP/WG.160/11).

59. As to the dissemination of data and results, extensive work has been carried out to enable the publishing of several issues of the MAP Technical Reports Series. All MED POL - PHASE I data results have been published and MED POL - PHASE II data results (monitoring and research) have started being processed and published (see annex V).

#### Intercalibration and quality control of data

60. In order to improve the quality and reliability of analytical data received through the monitoring activities, a survey of the laboratories participating in the mandatory intercalibration exercise was carried out in August 1986 in consultation with the MED POL National Co-ordinators with the aim of enlarging the participation coverage. In addition, individual requests for intercalibration samples were met according to the availability of samples.

61. A new intercalibration exercise was launched by IAEA in August 1986 covering trace metals and organochlorines in organisms with the participation of thirty-four laboratories from ten countries. Replies were expected by December 1986 and the results are at present being analysed (annex VI).

62. In order to make full use of the results of the various intercalibration exercises, contacts were continued with laboratories where the results had shown methodological problems (sampling and/or analysis). The intention of the secretariat is to continue to improve this link with the participating laboratories and to use, whenever needed, the training component of MED POL.

63. During the process of evaluation of the programme and the achievements of the monitoring component of MED POL - PHASE II initiated by the secretariat (see also para 12), it appeared evident that data quality assurance is one of the most important subjects - yet, at present, rather weak - for the success and meaningfulness of the whole component. The secretariat therefore proposes that any effort should be made to strengthen the intercalibration and quality assurance components during the biennium 1988-1989. The relevant recommendations are contained in section II.

#### Maintenance

64. Maintenance services of analytical instruments, organized in collaboration with IAEA's International Laboratory for Marine Radioactivity (ILMR) in Monaco, continued to be provided to the MED POL participating institutions in various countries. In addition to the regular and emergency service visits carried out by the maintenance engineer from ILMR for instruments provided through MED POL, other instruments used for the programme were serviced (annex VII). In addition to laboratory and field instruments, during 1986 the ILMR maintenance engineer was in charge of the maintenance of WANG computers provided to the SPA/RAC in Tunis, ROCC in Malta and PAP/RAC in Split.

#### Training and Fellowships

65. Assistance was directly provided to MED POL participants in the form of individual and group training, support for participation at MED POL meetings (workshops and intercalibration exercises) and travel grants for attendance at meetings related to the MED POL programme. The list of those who benefited from MAP support is given in annex VIII.

#### Co-ordination

66. Based on the decisions of the Contracting Parties or of their Bureau, as appropriate, and the guidance provided by the meetings of the Working Group, the overall co-ordination and organization of MED POL continued to be ensured by UNEP, through the Co-ordinating Unit for the Mediterranean Action Plan, as an integral part of UNEP's Oceans and Coastal Areas Programme Activity Centre (OCA/PAC).

67. The monitoring activities of MED POL are co-ordinated by the secretariat directly through contacts with the MED POL National Co-ordinators and with the participation of the relevant Co-operating Agencies (FAO, UNESCO, WHO, WMO, IAEA, IOC).

68. While the overall co-ordination of MED POL research activities rests with the secretariat, the relevant Co-operating Agencies are responsible for the technical implementation of research projects through direct contacts with the national research centres.

69. The active support of and close collaboration with the Co-operating Agencies remained an important factor contributing very significantly to the implementation of MED POL. In addition to the frequent ad hoc contacts between the secretariat and the Co-operating Agencies, two meetings of the Inter-Agency Advisory Committee (IAAC) for MED POL took place between 1986 and 1987, in order to ensure harmonious co-operation in the implementation of MED POL:

- XIX Meeting of IAAC (Athens, 13-17 January 1986): it reviewed the activities carried out during 1985 and the procedure for the implementation of all the actions recommended by the Third Meeting of the Working Group (May 1985), the Fourth Ordinary Meeting of the Contracting Parties (September 1985) and the Meeting of Experts of the Technical Implementation of the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-based Sources (December 1985).
- XX Meeting of IAAC (Athens, 12-16 January 1987): it reviewed the activities carried out in 1986, evaluated the programme and the results of the first years of MED POL - PHASE II and prepared a workplan and budget for 1988-1989 MED POL activities.

#### Summary Budget 1986-1987

70. The MED POL budget of expenditures for 1986-1987, approved by the Fourth Ordinary Meeting of the Contracting Parties, appears in annex IX.

## II. ACTIVITIES PROPOSED FOR THE BIENNIUM 1988-1989

### Preliminary evaluation of the MED POL - PHASE II programme

71. As stated in para 12, the secretariat initiated during 1986-1987 the evaluation of the MED POL - PHASE II programme in the light of the first five years of implementation. The process of evaluation is not concluded and will continue in 1987. However, the monitoring component was extensively analysed in its relation to objectives/achievements, and difficulties and weaknesses were identified.

72. The secretariat has conducted this evaluation through numerous discussions with scientists participating in the monitoring activities as well as MED POL National Co-ordinators in the course of meetings, country visits, personal contacts. Another important mechanism used was the regular meetings of the Inter-Agency Advisory Committee as well as the normal day-to-day collaboration with the Co-operating Agencies. This mechanism proved to be very effective considering that the Co-operating Agencies' staff are both in close contact with the scientists working in MED POL and, through their organizations, aware of other similar programmes in other regions with comparable aims and objectives. In addition, a small consultation meeting was held in January 1987 with experienced scientists during which the initial objectives of MED POL, the modalities for their implementation and the results so far achieved were thoroughly reviewed.

73. The overall approach adopted by the Contracting Parties at their second ordinary meeting in Cannes (UNEP/IG.23/11, annex V) is considered still adequate in its administrative and scientific aspects for the achievement of the general objectives of MED POL - PHASE II and therefore should be continued. In general terms, no changes are proposed in the mechanisms used for the co-ordination of the MED POL activities, including the role of, and the contacts with, the MED POL National Co-ordinators.

74. Closer contacts are proposed between institutions from different countries participating in the programme with the aim of stimulating collection and analysis of data and launching long-lasting scientific collaboration. An increase in the budget for direct assistance to the countries is also proposed in order to help more effectively their active participation in the programme and the production of data and results.

75. Considering the workplan for the implementation of the Land-based Sources Protocol (UNEP/WG.125/10, annex VII and VIII), it appeared that for some of the substances listed in the black list there are no data available in the Mediterranean to enable the preparation of pollution assessments. In addition, the secretariat feels that it would not be feasible to propose the monitoring of those substances in the framework of MED POL, mainly due to methodological difficulties. As a result, the secretariat proposes the starting of small pilot monitoring exercises using selected institutions to identify the appropriate methodology and start the collection of data. This will enable the preparation of pollution assessments and at the same time, at the end of the pilot exercises, the substances may be introduced in the MED POL programme as new parameters, if necessary.

76. Minor changes are proposed in the selection of parameters, mainly on the basis of the experience gained during the first five years of MED POL and of the requirements of the Land-based Sources Protocol implementation.

77. With the collection of more numerous data from the MED POL - PHASE II monitoring programmes, the secretariat considers data quality assurance as one of the most important topics to develop further, if the data gathered are to be processed and utilized. The quality of data is still relatively low because the existing mechanisms in MED POL are either insufficient or not fully utilized. It is therefore proposed to considerably expand this component by continuing the launching of intercalibration exercises for mandatory parameters, making full use of the training component, launching joint monitoring exercises and organizing between participating institutions exercises of intercomparisons of results of split samples, including sampling and analysis.

78. In view of its close relationship to the monitoring component, a preliminary evaluation was also made of the research component of MED POL - PHASE II, particularly on the best possible utilization of the limited funds allocated to this component. This evaluation has indicated that, at least during the biennium 1988-1989, no changes in the approved topics need be formally made. However, within the framework of the present structure, priority should be accorded to topics of specific relevance to the Mediterranean and not to those of more general relevance which are, or have already been the subject of independent study. Results of ongoing studies in other regions should also be used in support of the MED POL monitoring programme in order to avoid duplication of effort and ensure the best possible use of available resources.

79. What is described above in paragraphs 71-78 represents, in the view of the secretariat, the result of the preliminary evaluation of the MED POL programme. The above concepts, plus others which are still the same as utilized into the ongoing MED POL programme, are translated in the detailed activities and budget contained in the recommendations for the biennium 1988-1989 here below.

#### Recommendations

80. On the basis of the results of the evaluation of the first years of the MED POL - PHASE II programme which the secretariat started during 1986-1987, the following is proposed for the implementation of MED POL during the biennium 1988-1989:

#### 81. Monitoring (general)

- (a) continuation of negotiations with the MED POL National Co-ordinators in order to increase the contributions to MED POL - PHASE II through their MED POL National Monitoring Programmes or other monitoring programmes; specific efforts will be made to improve the presently still incomplete coverage of the Mediterranean and to achieve a more efficient and meaningful regular reporting on the obtained results;
- (b) continuation of contacts with national research centres designated as participants in the monitoring activities of MED POL - PHASE II in order to facilitate their participation in the programme;
- (c) continued support to the participants in MED POL through the common maintenance service, provision of equipment, training and fellowships to national research centres and scientists, at the request of, and in consultation with, MED POL National Co-ordinators in the States with signed National Monitoring Programmes;
- (d) sponsorship of the participation of Mediterranean scientists/experts in meetings organized by other bodies on subjects relevant to monitoring activities of MED POL including the IX ICSEM/IOC/UNEP Workshop on Marine Pollution;
- (e) stimulation of the creation of long-term relations between more developed institutes from the northern Mediterranean and institutes from the southern Mediterranean through joint projects and exchanges of visiting scientists in order to stimulate collection and analysis of data and launch a long-lasting scientific collaboration;
- (f) continue the evaluation of the monitoring component of the MED POL programme through:
  - a meeting of responsible investigators in monitoring programmes (1988);
  - ad hoc consultation meetings on monitoring (1988, 1989);
  - Inter-Agency Advisory Committees (1988, 1989);
  - meetings of the Working Group for Scientific and Technical Co-operation (1988, 1989).



82. Selection of parameters

On the basis of the experience gained during the first five years of implementation of the monitoring component of MED POL - PHASE II as well as the general objectives of MED POL and the specific needs of the Land-based Sources Protocol, the parameters agreed at the Second Meeting of the Contracting Parties (see annex X) are proposed to be continued with only minor changes, as follows:

(a) Parameters to be determined in effluents:

Priority parameters:

- Total mercury;
- Total cadmium;
- Total suspended solids;
- Total phosphorus;
- Total nitrogen;
- Faecal coliforms;
- Volume and characteristics of discharge.

Other parameters:

- Petroleum hydrocarbons;
- High molecular weight chlorinated hydrocarbons;
- Biochemical oxygen demand (BOD<sub>5</sub>);
- Chemical oxygen demand (COD);
  
- Detergent (anionic);
- Phenols (index);
- Total chromium;
- Selected radionuclides;
- Other pollutants known to be discharged in significant quantities.

b) Parameters to be determined in coastal waters:

Priority parameters:

- Total mercury in organisms;
- Organic mercury in organisms;
- High-molecular weight halogenated hydrocarbons in organisms;
- Faecal coliforms in recreational waters and edible bivalves;
- Basic oceanographic and meteorological parameters; in particular, standard physical and chemical parameters (salinity, oxygen, temperature, chlorophyll and wind).

Other parameters:

- Cadmium in organisms;
- Petroleum hydrocarbons in water and tar balls in water and seashores (survey after 5 years);
- Total arsenic in organisms;
- Radionuclides in organisms;
- Pathogens in bivalves.

c) Parameters to be determined in estuaries:

Priority parameters:

- Total mercury in organisms and suspended matter;
- Organic mercury in organisms;
- High-molecular weight halogenated hydrocarbons in water and organisms;
- Faecal coliforms in water and bivalves;
- Total phosphorus in water and suspended matter;
- Total nitrogen in water and suspended matter;
- Total suspended matter;
- Basic oceanographic and meteorological parameters; in particular, standard physical and chemical parameters (salinity, oxygen, temperature and chlorophyll).

Other parameters:

- Cadmium in organisms and suspended matter;
- Radionuclides in water and suspended matter;
- Oil residues in water and suspended matter;
- Pathogens in water;
- Phenols in water.

d) Parameters to be determined in reference areas:

The same parameters selected for coastal waters.

83. Pilot monitoring exercises

- (a) In addition to the parameters listed in paragraph 82, pilot studies for the determination of the levels in selected areas as well as the analytical method which could be recommended, should be either continued or launched as appropriate, for the following parameters:

- Pollutant transport into the Mediterranean sea through the atmosphere (ongoing since 1986);

- Organotin substances (1987);
- Organophosphorus substances (1987);
- Floating/sinking litter (1987);
- Polynuclear aromatic hydrocarbons in organisms (1988);

- (b) On the basis of the results of the pilot studies, recommendations will be presented to the Working Group for Scientific and Technical Co-operation for the possible introduction of the parameters in the National Monitoring Programmes.

#### 84. Land-based Sources Protocol

- (a) During the biennium 1988-1989 the corresponding activities listed in the approved indicative calendar for the implementation of the Land-based Sources Protocol (UNEP/WG.125/10, annexes VII and VIII), should be initiated or implemented, as appropriate.
- (b) Direct assistance should be provided to countries in order to facilitate the actual implementation of the protocol. The assistance should be provided mainly in terms of small equipment, visit of experts, local training, and cash, as appropriate.

#### 85. Research and study topics

- (a) During the 1988/1989 biennium the selection and funding of research proposals will follow the procedures endorsed by the Working Group for scientific and technical co-operation and approved by the Contracting Parties.
- (b) The already existing close link between the research and the monitoring components of MED POL should be further strengthened in order to make full use of the results of the research activities in the assessments of the state of pollution of the Mediterranean Sea.
- (c) In view of the limited funds allocated for research, during the biennium 1988-1989, the number of research proposals submitted should be limited as appropriate by giving priority to topics of specific relevance to the Mediterranean and not to those of more general relevance which are already the subject of study in other regions.
- (d) It is recommended to convene during the biennium 1988-1989 the following meetings:
- review meeting on activities relevant to oceanographic processes responsible for transfer and distribution of pollutants (activity 'F') (1988);
  - consultation meeting to discuss the reference methods on toxicity and review the progress of work (activity 'G') (1988);

- consultation meeting on epidemiological and related studies regarding environmental quality criteria (activity 'D') (1989);
- consultation meeting on programmes and measures in connection with Article 7 of the Land-based Sources Protocol (activity 'E') (1989).
- workshop on monitoring and assessment of the airborne pollution of the Mediterranean Sea (activity 'L') (1989);

86. Environmental quality criteria

- (a) Work should continue on the preparation of environmental quality criteria for the substances listed for 1988-1989 in the indicative workplan for the implementation of the Land-based Sources Protocol (UNEP/WG.125/10 annexes VII and VIII) in accordance with article 7(c) of the Land-based Sources Protocol.

87. Data collection

- (a) Continue to strengthen the computerized MED POL data bank by processing data reported to the secretariat through:
- official channels, through MED POL National Monitoring Programmes under agreements;
  - official channels, through ongoing monitoring programmes in countries with no agreement on National Monitoring Programme;
  - open scientific literature of high international standards;
  - regional and sub-regional research and monitoring programmes;
  - other sources of information, as appropriate.

88. Data quality assurance

- (a) In order to ensure a high quality and reliability of the data collected the following is recommended:
- formulation, review and amendment, as appropriate, of Reference Methods;
  - formulation of data reporting formats for all the monitoring parameters;
  - continuation of the regular intercalibration exercise of analytical techniques for priority parameters;
  - provision of standards and reference materials;
  - visits of experts to laboratories in order to work together with local scientists on sampling, analysis, quality assurance procedures, presentation and evaluation of results;

- intercomparison of results including sampling and analysis of split samples and expert assistance to laboratories for sampling, analysis, presentation and evaluation of results;
- assistance to countries for the preparation and designing of monitoring programmes;
- joint exercises on monitoring including intercomparison of sampling and analysis.

(b) In addition, the following specific activities are also recommended for implementation during the biennium:

- intercalibration and training course on determination of chlorinated hydrocarbons (1988);
- training course on treatment and interpretation of biological effects data (1988);
- intercalibration and training course on determination of organic mercury (1989);
- training course on analysis of physical oceanographic data and time-series (1989);
- intercalibration and training courses on determination of microbiological pollution (1988; 1989).

#### 89. Data processing, management and utilization

(a) The processing of the monitoring data should continue with the following objectives:

- to prepare maps (contouring if possible) of pollution in the Mediterranean, or its sub-regions;
- to prepare periodically reports on the overall state of marine pollution in the Mediterranean or its sub-regions;
- to prepare standard statistical and correlation analysis of available data;
- to prepare assessments of the state of pollution of the Mediterranean Sea with respect to particular pollutants;
- to help countries to prepare national reports on the state of marine pollution in the areas under their jurisdiction;
- to exchange processed data with other international bodies and organizations.

(b) Two small ad hoc consultation meetings will be held in 1988 and 1989 with scientists/experts to advise the secretariat in the implementation of the activities listed under (a).

90. Budget

The following budgetary requirements are proposed for 1988-1989 for the implementation of the activities proposed in the paragraphs above (80-89).

CHAPTER 3 - MED POL - MONITORING

	1988	1989
1. PERSONNEL <u>A/</u>		
(a) <u>Experts/Staff</u>		
- FAO Fishery Expert, P-5	12mm 67,000	12mm 68,000
- WHO Senior Scientist, P-5	12mm 75,000	12mm 76,000
- IAEA Maintenance Engineer, P-3	12mm 62,000	12mm 63,000
Sub-total 1(a)	204,000	207,000
(b) <u>Consultants</u>	15,000	35,000
Sub-total 1(b)	15,000	35,000
(c) <u>Administrative Support</u>		
- FAO Secretary, Athens, Local, G-4	12mm 14,000	12mm 15,000
- WHO Secretary, Athens, Local, G-4	12mm 15,000	12mm 16,000
- WHO Secretary, Copenh. Local, G-4	6mm 9,000	6mm 10,000
- IAEA Lab. Assist., Monaco Local, G-4	12mm 27,000	12mm 28,000
Sub-total 1(c)	65,000	69,000
Component total	284,000	311,000
2. TRAVEL <u>B/</u>		
- FAO	11,000	12,000
- UNESCO/IOC	5,500	6,000
- WHO	11,000	12,000
- WMO	7,500	8,000
- IAEA	22,000	24,000
Component Total	57,000	62,000

A/ Cost of UNEP staff involved in MED POL covered through Chapter I (Co-ordination) of MAP budget.

B/ Cost of travel of UNEP Staff related to MED POL covered through Chapter I (Co-ordination) of MAP budget.

	1988	1989
<b>3. SUBCONTRACTS</b>		
- Pilot project on monitoring of organo-phosphorus compounds, including selection of method and preparation of assessment and proposed measures	35,000	-
- Pilot project on monitoring of organotin compounds, including selection of method and preparation of assessment and proposed measures	35,000	-
- Pilot project on monitoring of persistent synthetic materials, including selection of method and and preparation of assessment and proposed measures	35,000	-
- Pilot project on monitoring of methods for carcinogenic, teratogenic or mutagenic substances, including selection of method and preparation of assessment and proposed measures	5,000	35,000
- Pilot project on monitoring of submarine outfalls and evaluation of their technical efficiency	20,000	-
- Preparation of draft annex IV to LBS Protocol on pollutants transported through the atmosphere	7,500	-
- Compilation of use of alternative products and processes	-	10,000
- Survey of products and installations causing pollution	-	10,000
- Intercalibration and training course on determination of microbiological pollution	15,000	15,000
- Intercalibration and training course on determination of chlorinated hydrocarbons	15,000	-
- Intercalibration and training course on determination of organic mercury	-	15,000

	1988	1989
- Training course on treatment and interpretation of biological effects data	15,000	-
- Training course on analysis of physical oceanographic data and time-series	-	15,000
- Purchase of standards and reference materials to be distributed to laboratories	20,000	25,000
- Joint exercises on monitoring and intercomparison of results including sampling and analysis of split samples and expert assistance to laboratories for sampling, analysis, presentation and evaluation of results	110,000	140,000
- Printing of IX ICSEM/IOC/UNEP Workshop proceedings	10,000	-
- Assistance through agreements for monitoring programmes	580,000	620,000
- Assistance to countries for the implementation of LBS protocol	45,000	105,000
Component total	947,000	990,000



	1988	1989
<p>4. MEETINGS/TRAINING/WORKSHOPS/FELLOWSHIPS</p> <p><u>Meetings:</u></p> <ul style="list-style-type: none"> <li>- Working Group for Scientific and Technical Co-operation 50,000 55,000</li> <li>- Meeting of responsible investigators of monitoring programmes 40,000 -</li> <li>- <u>Ad hoc</u> consultation meeting on data processing 7,500 7,500</li> <li>- <u>Ad hoc</u> consultation meeting on monitoring 7,500 7,500</li> <li>- <u>Ad hoc</u> meeting for the preparation of annex IV of LBS 7,500 -</li> </ul> <p><u>Training:</u></p> <ul style="list-style-type: none"> <li>- On-job training (through the secretariat) 80,000 80,000</li> </ul> <p><u>Fellowships:</u></p> <ul style="list-style-type: none"> <li>- Attendance at IX ICSEM/IOC/UNEP Workshop and other meetings 60,000 35,000</li> </ul>		
Component total	252,000	185,000
<p>5. EQUIPMENT</p> <p><u>Expendable:</u></p> <ul style="list-style-type: none"> <li>- Spare parts for common maintenance service (through IAEA) 30,000 35,000</li> </ul> <p><u>Non-expendable:</u></p> <ul style="list-style-type: none"> <li>- Laboratory equipment (to ILMR), purchase and maintenance 20,000 20,000</li> </ul>		
Component total	50,000	55,000

CHAPTER 4 - MED POL - RESEARCH

	1988	1989
<b>A. SUBCONTRACTS</b>		
Activities A-L	320,000	350,000
Component Total	320,000	350,000
<b>B. MEETINGS</b>		
Activity C	<u>1/</u>	-
D (see para 85 d)	-	25,000
E (see para 85 d)	-	25,000
F (see para 85 d)	25,000	-
G (see para 85 d)	25,000	-
L (see para 85 d)	-	25,000
Component Total	50,000	75,000
<b>GRAND TOTAL</b>	<b>370,000</b>	<b>425,000</b>

1/ Meeting will be funded by WHO/EURO at no cost to MTF.

MED POL BUDGET - SUMMARY TABLE

	1988	1989
CHAPTER 3 - MONITORING		
1. PERSONNEL	284,000	311,000
2. TRAVEL	57,000	62,000
3. SUBCONTRACTS	947,500	990,000
4. MEETINGS/TRAINING/FELLOWSHIPS	252,500	185,000
5. EQUIPMENT	50,000	55,000
CHAPTER 3 - TOTAL	1,591,000	1,603,000
CHAPTER 4 - RESEARCH		
A. SUBCONTRACTS	320,000	350,000
B. MEETINGS	50,000	75,000
CHAPTER 4 - TOTAL	370,000	425,000
GRAND TOTAL	1,961,000	2,028,000

Annex I

Status of implementation of National Monitoring Programmes  
(as at February 1987)

Country	Programme transmitted	Sent by UNEP for revision	Signed by UNEP	Signed by country	Data transmitted
Algeria	1984	1984	1984	1985	-
Cyprus	1983	1983	1983	1983	1983, 1984, 1985
Egypt	1985	1985	1986	1986	-
France	1986	1986	-	-	1983, 1984
Greece	1983	1983	1985	-	-
Israel	1983	1983	1983	1983	1982, 1983, 1984, 1985, 1986
Italy	-	-	-	-	1982, 1983, 1984
Lebanon	1983	1983	1983	1983	1984, 1985
Libya	1985	1985	1986	1986	-
Malta	1983	1983	1983	1983	1982, 1983, 1984, 1985, 1986
Monaco <sup>1/</sup>	-	-	-	-	-
Morocco	1984	1984	1985	1985	1983, 1984, 1985
Spain	1987	-	-	-	1981, 1982, 1983, 1984 1985
Syria	1986	1986	1986	1986	-
Tunisia	1983	1984	-	-	-
Turkey	1983	1983	1983	-	-
Yugoslavia	1982	1982	1983	1983	1983, 1984, 1985

<sup>1/</sup> Included in French Monitoring Programme.

Annex II

Participants in MED POL - PHASE II monitoring activities  
(January 1986 - February 1987)

ALGERIA

Agence nationale pour la protection de l'environnement Antenne d'Oran 9 Bd. du 5 Juillet Oran	M. N. Sini
Agence nationale pour la protection de l'environnement 49 rue de Fusillés Les Annassers 16 015 Alger	M. H. Mostafaï
Institut des Sciences de la Mer et de l'Aménagement du Littoral B.P. 90 1er Novembre Alger	M. A. Chouikhi
Laboratoire de Chromatographie USTHB 2 Rue D. Mourad Alger	M. Sebih
Laboratoires du secteur sanitaire:	
El Tarf	M. Z. Khentoudr
El Kala	M. F. Nahdi
Ibn Rouchid, Annaba	M. M. Atallia
Chetaïbi	M. Z. Boussaha
Azzaba	M. R. Sayah
Skikda	M. Y. Redjane
Jijel	M. A. Bouroudi
Laboratoires d'Hygiène:	
Walaya, Bejaïa	M. A. Aksons
Wilaya, Tizi-Onzou	M. S. Benkacem
Wilaya, Boumerdes	M. A. Boudersaïa
Mostaganem	M. M. Bendsemi
Oran	M. M. Benfrine
Tlemcen	M. O. Hanon
Aïn Temouchent	M. N. Merabet

Laboratoire Municipal d'Hygiène, Alger

M. M. Chemekh

Laboratoires du secteur:

Cherchell

M. H. Ayaa

Kolea

M. M. Achoum

Zeralda

M. Y. Charbi

Hadjout

M. A. Khemar

Gouraya

M. A. Taïder

Chlef

M. K. Mehidi

CYPRUS

Fisheries Department  
Ministry of Agriculture and  
Natural Resources  
5-7 Tagmatarchou Poulou  
Nicosia

Mr. L. Loizides  
Ms. L. Athanassiadou

Medical and Public Health Service  
Ministry of Health  
Nicosia

Mr. F. Neocleous

EGYPT

Institute of Oceanography and Fisheries  
Kayet Bay  
Alexandria

Mr. A.R. Bayoumi

High Institute of Public Health  
Horrea Str.  
Alexandria

Mr. F. El-Sharkawy

Atomic Energy Establishment  
Anshass  
Cairo

Mr. A. G. El-Sayed

FRANCE

IFREMER Centre de Nantes, DERO/MR. Rue de l'Ile d'Yeu BP 1049 44037 Nantes Cedex 01	M. Alzieu
Faculté de Pharmacie Laboratoire d'hydrologie 27 Boulevard Jean Moulin 13385 Marseille Cedex 4	M. A. Arnoux
Université de Marseille Luminy Laboratoire d'Hydrobiologie Marine 70 rue Léon Lachamp 13288 Marseille Cedex 2	M. Leveau
Centre Scientifique de Monaco 16 Boulevard de Suisse Monte Carlo Principauté de Monaco	M. A. Vatrican
Laboratoire Départemental d'Ajaccio 18 Boulevard Lantivy 20000 Ajaccio	M. Gibert

ISRAEL

Israel Oceanographic and Limnological Research Tel-Shimona, P.O. Box 8030 Haifa	Ms. H. Hornung
Dr. A. Felix Public Health Laboratory Ministry of Health Abu Kebir, P.O. Box 8255 Tel-Aviv	Ms. Y. Yoshpe-Purer
District Public Health Laboratory Ministry of Health P.O. Box 9526 Haifa	Mr. A. Mates
District Public Health Laboratory Ministry of Health Beer-Sheva	Ms. N. Platzner

LEBANON

Research Centre for Scientific Research      Mr. H. H. Kouyoumjian  
National Research Council  
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Jounieh

LIBYAN ARAB JAMAHIRIYA

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Tripoli

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Tajura, Tripoli

Petroleum Research Centre      Mr. S. Tumi  
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Tripoli

Industrial Research Centre      Mr. R. Mukhtar  
P.O. Box 3633  
Tripoli

MALTA

Department of Health and Environment      Mr. M. Sammut  
Toxicology Unit, Pathology Department  
St. Luke's Hospital  
G'Mangia

Department of Works      Mr. V. Gauci  
Sewage Purification Plant  
Sant Antnin  
M'Scala

Biology Section      Mr. V. Axiak  
Department of Maths and Science  
University of Malta  
Msida

Department of Health and Environment      Mr. F. Portelli  
Public Health Labs, Evans Building  
Valletta



MOROCCO

Institut Agronomique et Vétérinaire Hassan II B.P. 6202 Rabat	M. M. Kessabi
Laboratoire de pharmacologie, toxicologie et biochimie	M. M. Kessabi
Laboratoire d'Hygiène et industrie denrées alimentaires d'origine animale	M. S. Belmlih
Laboratoire de chimie analytique et minérale	M. B. Raissouni
Institut scientifique des Pêches maritimes B.P. 21 rue Tiznit Casablanca 01	Mme H. Idrissi
Ecole Mohammedia d'Ingénieurs (Centre National de Génie Sanitaire CNGS/EMI, B.P. 765 Rabat	M. A. Nejjar
Laboratoire de la Qualité des eaux O.N.E.P. Rabat	M. H. Abouzaid
Institut National d'Hygiène (I.N.H.) B.P. 769 Rabat	M. N. Benmansour
Faculté des Sciences d'Oujda Oujda	M. Ramdani
Office National de l'eau potable B.P. Rabat-Chellah Rabat	M. H. Abouzid

SPAIN

Centro de Estudios Avanzados de Blanes Camino de Sta. Barbara Blanes (Gerona)	Mr. A. Cruzado
Inst. de Quimica Bio-organica Centro Investigacion y Desarrollo c/Jorge Girona Salgado 18-26 Barcelona	Mr. J. Albaiges
Inst. Quimico de Sarria Barcelona 17	Mr. J. Obiols
Colegio Univers. de Castellon Universidad de Valencia Valencia	Mr. J. Medina
Facultad Ciencias Universidad de Valencia C/Dr. Moliner, 50 Bursasot (Valencia)	Mr. F. Bosch
Dept. de Quimica Analitica Universidad de Alicante Carretera de San Vicente s/n Alicante	Mr. F. Ruiz
Instituto Español de Oceanografia C/Alcala, 27 Madrid 28014	Mr. A. Rodriguez

SYRIAN ARAB REPUBLIC

Marine Research Centre P.O. Box 1216 Latakia	Mr. R. Nahhas
Coast Centre Latakia Cost Center for Pollution Combating (Facing Techrin University)	Mr. M. Al-Fadel
Atomic Energy Establishment Atomic Energy Centre	Mr. I. Othman

YUGOSLAVIA

Marine Research and Training Centre Piran JLA 65 66330 Piran	Mr. P. Tusnik
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Health Protection Institute Nazorova 3 52000 Pula	Ms. C. Skabic
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Institute of Public Health Balkanska 46 58000 Split	Ms. N. Stambuk-Giljanovic
Institute for Subtropical Cultures and Environmental Protection Bar Topolica b.b. 85000 Bar	Mr. R. Kljajic
Institute for Oceanography and Fisheries Mose Pijade 63 P.O. Box 114 58001 Split	Ms. N. Krstulovic
Biological Institute P.O. Box 39 50001 Dubrovnik	Mr. D. Vilicic
Institute for Marine Biology 82000 Kotor	Mr. B. Stjepcevic

Annex III

List of research projects

- a) ongoing projects as at February 1987
- b) completed projects as at February 1987
- c) 1986 and 1987 projects under negotiation

- a) ongoing projects as at February 1987
- a) projets de recherche en cours en février 1987

Activity A

Development and testing of sampling and analytical  
techniques for monitoring of marine pollutants

Activité A

Mise au point et essai de techniques d'échantillonnage  
et d'analyse pour la surveillance des polluants de la mer

RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
(1982 - 1987)

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IOC	ISR-12-A	
A. GOLIK		
QUANTITATIVE ESTIMATION OF BEACH TAR BALLS BY REMOTE SENSING		82: 83: 84: 85: 6000
ISRAEL OCEANOGRAPHIC AND LIMNOLOGICAL RESEARCH INTITUTE HAIFA		
		86: NIL 87:
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WHO	ISR-13-A	
Y. YONA YOSHPE-PURER		
DETERMINATION OF THE MOST SUITABLE MEDIUM FOR ENUMERATION OF FAECAL STREPTOCOCCI IN MARINE WATERS		82: 83: 84: 85: 4000
DR. A. FELIX PUBLIC HEALTH LABORATORY MINISTRY OF HEALTH, TEL AVIV		
		86: 3500 87:
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WHO	ISR-14-A	
A. MATES		
DETERMINATION OF E. COLI. FROM FAECAL COLIFORMS IN SEA-WATER BY THE MEMBRANE FILTRATION CULTURE METHOD		82: 83: 84: 85: 4000
DISTRICT PUBLIC HEALTH LABORATORY MINISTRY OF HEALTH HAIFA		
		86: 3500 87:
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FAO	ISR-17-A	
D. WYNNE		
ORGANOPHOSPHORUS COMPOUNDS IN THE MARINE ENVIRONMENT - FISH		82: 83: 84: 85:
THE KINNERET LIMNOLOGICAL LABORATORY, TIBERIAS		
		86: 3000 87:
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IAEA	ISR-18-A	
D. WYNNE		
ORGANOPHOSPHORUS COMPOUNDS IN THE MARINE ENVIRONMENT - SEDIMENTS		82: 83: 84: 85:
THE KINNERET LIMNOLOGICAL LABORATORY, TIBERIAS		
		86: 5000 87:
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NNN: US Dollars	COM: Completed	NAC: Not Accepted
Dollars E.U.	Acheve	Non accepte
NIL: No Contribution	UND: Under Negotiation	WIT: Withdrawn
Aucune contribution	En cours de negoci.	Retire

RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
 PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
 (1982 - 1987)

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IOC	ITA-18-A	
G. C. PAPPALARDO		
STUDIES AND MONITORING OF TRACE METALS IN MARINE WATERS		82:
BY INDUCTIVELY COUPLED PLASMA (ICP) EMISSITRY		83:
		84:
		85: 4000
ISTITUTO DIPARTIMENTALE DI CHIMICA	UNIVERSITA DI	86: NIL
CATANIA		87:
-----		
IAEA	ITA-19-A	
M. GALLORINI		
NUCLEAR METHODS FOR TRACE ELEMENTS DETERMINATION IN		82:
ENVIRONMENTAL RELATED MATRICES		83:
		84: 300
		85: NIL
CNR CENTRO DI RADIOCHIMICA, UNIVERSITA DI PAVIA		86: NIL
		87:
-----		
FAO	ITA-57-A	
V. U. FOSSATO		
TESTING OF THE METHOD OF ANALYSIS OF DDTs AND PCBS IN		82:
MARINE ORGANISMS		83:
		84:
		85: 3000
ISTITUTO DI BIOLOGIA DEL MARE	CNR, VENEZIA	86: NIL
		87:
-----		
WHO	LIB-1-A	
A. F. BOARGOB		
ASSESSMENT OF MICROBIOLOGICAL POLLUTION IN BATHING		82:
SEAWATER IN TRIPOLI		83:
		84:
		85:
ENVIRONMENTAL PROTECTION PROGRAMME	SECRETARIAT OF	86: 3000
SCIENTIFIC RESEARCH,	TRIPOLI	87:
-----		
IAEA	SPA-10-A	
M. GASSIOT-MATAS		
STUDY OF ORGANOCHLORINATED POLLUTANTS TRANSFER THROUGH		82:
THE MARINE INTERFACE		83:
		84:
		85:
INSTITUTO QUIMICA DE SARRIA, BARCELONA		86: 6000
		87:
-----		

NNN: US Dollars	COM: Completed	NAC: Not Accepted
Dollars E.U.	Acheve	Non accepte
NIL: No Contribution	UND: Under Negotiation	WIT: Withdrawn
Aucune contribution	En cours de negoc.	Retire

RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
 PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
 (1982 - 1987)

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FAO	SPA-14-A		
J. OBIOLS SALVAT			
STUDIES ON METHODOLOGY FOR DETERMINATION OF TOTAL		82:	
ARSENIC IN SELECTED MARINE ORGANISMS		83:	
		84:	
		85:	3000
INSTITUTO QUIMICO DE SARRIA, BARCELONA		86:	3000
		87:	
-----			
WHO	SPA-17-A		
J. JOFRE TORROELLA			
BACTERIOPHAGES OF BACTEROIDES AS INDICATORS OF		82:	
PATHOGENIC HUMAN VIRUSES IN COASTAL SEAWATERS		83:	
		84:	
		85:	2500
FACULTAD DE BIOLOGIA, UNIVERSIDAD DE BARCELONA		86:	4500
		87:	
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IAEA	YUG-9-A		
V. VALKOVIC			
DEVELOPMENT OF X-RAY EMISSION SPECTROSCOPY AS		82:	
MULTIELEMENTAL ANALYTICAL TECHNIQUES FOR		83:	
MONITORING MARINE POLLUTANTS		84:	2000
		85:	NIL
DEPARTMENT OF PHYSICS RUDJER BOSKOVIC INSTITUTE	ZAGREB	86:	NIL
		87:	
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IOC	YUG-18-A		
B. COSOVIC			
DEVELOPMENT OF NEW ELECTROANALYTICAL TECHNIQUES FOR		82:	
DETERMINATION OF SURFACE ACTIVE SUBSTANCES AND		83:	
DETERGENTS IN SEA-WATER AND SEA SURFACE MICROLAYER		84:	
		85:	3500
CENTRE FOR MARINE RESEARCH RUDJER BOSKOVIC INSTITUTE		86:	3000
ZAGREB		87:	
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NNN: US Dollars  
 Dollars E.U.

NIL: No Contribution  
 Aucune contribution

COM: Completed  
 Acheve

UND: Under Negotiation  
 En cours de negoci.

NAC: Not Accepted  
 Non accepte

WIT: Withdrawn  
 Retire



Activity B

Development of reporting formats required according  
to the Dumping, Emergency and Land-based Sources Protocols

Activité B

Mise au point des formulaires types pour les rapports  
à soumettre en application des protocoles relatifs à l'immersion,  
à la pollution résultant de situations critiques et  
à la pollution d'origine tellurique

RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
 PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
 (1982 - 1987)

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WHO TUR-14-B  
 S. SOYUPAK  
 DEVELOPMENT OF APPROACHES FOR THE CONTINUOUS ASSESSMENT 82:  
 OF POLLUTANT LOADS 83:  
 84:  
 85:  
 DEPARTMENT OF ENVIRONMENTAL ENGINEERING, MIDDLE EAST 86: 4000  
 TECHNICAL UNIVERSITY (METU) ANKARA 87:

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NNN: US Dollars                      COM: Completed                      NAC: Not Accepted  
       Dollars E.U.                      Acheve                                Non accepte  
 NIL: No Contribution                UND: Under Negotiation            WIT: Withdrawn  
       Aucune contribution            En cours de negoc.                Retire

Activity C

Formulation of the scientific rationale  
for Mediterranean environmental quality criteria

Activité C

Elaboration des fondements scientifiques des critères  
de qualité de l'environnement en Méditerranée

RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
(1982 - 1987)

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WHO	ITA-59-C		
L. VOLTERRA			
DEVELOPMENT OF ANALYTICAL TECHNIQUES FOR MONITORING THE		82:	
HYGIENIC QUALITY OF SHELLFISH		83:	
		84:	
		85:	
LABORATORIO DI IGIENE	ISTITUTO SUPERIORE DI SANITA,	86:	3000
ROMA		87:	
-----			
WHO	SPA-21-C		
T. FELIU MENDEZ			
STUDY OF METHODS IN MICROBIOLOGICAL ANALYSIS OF SEAWATER		82:	
FOR FAECAL STREPTOCOCCI		83:	
		84:	
		85:	
HEALTH AND SOCIAL SECURITY DEPARTMENT	TERRITORIAL	86:	2000
DELEGATION OF	TARRAGONA	87:	
-----			
WHO	TUR-15-C		
Y. F. OZTURK			
FORMULATION OF SCIENTIFIC RATIONALE FOR EMISSION		82:	
STANDARDS OF	SELECTED POLLUTANTS	83:	
		84:	
		85:	
DEPT. OF ENVIRONMENTAL ENGINEERING, MIDDLE EAST		86:	4000
TECHNICAL	UNIVERSITY, METU, ANKARA	87:	
-----			
WHO	YUG-63-C		
V. PRAVDIC			
DEVELOPMENT OF MODELS FOR CALCULATION OF ENVIRONMENTAL		82:	
CAPACITY OF SEAWATER IN THE MEDITERRANEAN		83:	
		84:	
		85:	
CENTER FOR MARINE RESEARCH, RUDJER BOSKOVIC INSTITUTE,		86:	3500
ZAGREB		87:	
-----			
WHO	YUG-67-C		
N. KRSTULOVIC			
COMPARISON OF FAECAL COLIFORM LEVELS IN MUSSEL FLESH AND		82:	
FLESH/INTERVALVULAR FLUID		83:	
		84:	
		85:	
INSTITUTE OF OCEANOGRAPHY AND FISHERIES, SPLIT		86:	3000
		87:	
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NNN: US Dollars	COM: Completed	NAC: Not Accepted
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NIL: No Contribution	UND: Under Negotiation	WIT: Withdrawn
Aucune contribution	En cours de negoc.	Retire

Activity D

Epidemiological studies related to environmental quality criteria

Activité D

Etudes épidémiologiques relatives  
aux critères de qualité de l'environnement

RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
 PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
 (1982 - 1987)

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 WHO GRE-8-D  
 J. A. PAPADAKIS  
 EVALUATION OF HEALTH RISK AT DIFFERENT BACTERIOLOGICAL 82:  
 GRADING OF SEAWATER. RELATION BETWEEN DENSITIES OF 83: 5000  
 INDICATOR ORGANISMS AND MICROBIAL PATHOGENS IN 84: 5500  
 SEAWATER 85: NIL  
 ATHENS SCHOOL OF HYGIENE 86: 5000  
 87:

-----  
 WHO GRE-9-D  
 V. KRIKELIS  
 RESEARCH OF ENTERIC VIRUSES IN AQUATIC ENVIRONMENTS 82:  
 (SEWAGE EFFLUENTS COASTAL SEAWATERS FRESH 83:  
 WATERS) 84: 5000  
 85: 5000  
 PASTEUR INSTITUTE ATHENS 86: NIL  
 87:

-----  
 WHO GRE-13-D  
 J. A. PAPADAKIS  
 INVESTIGATION FOR NEUROTOXINS IN SHELLFISH OF ELEFSIS 82:  
 AND SARONICOS GULFS 83:  
 84: 4500  
 85: 4500  
 ATHENS SCHOOL OF HYGIENE 86: NIL  
 87:

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 WHO GRE-29-D  
 S. NAKOU  
 BIOLOGICAL MONITORING OF METHYLMERCURY IN MEDITERRANEAN 82:  
 POPULATIONS: SAMPLING OF HUMAN HAIR 83:  
 84: 3500  
 85: 3500  
 INSTITUTE OF CHILD HEALTH AGHIA SOPHIA CHILDREN'S 86: NIL  
 HOSPITAL ATHENS 87:

-----  
 WHO GRE-30-D  
 A. TRICHOPOULOU  
 BIOLOGICAL MONITORING OF MERHYLMERCURY IN MEDITERRANEAN 82:  
 POPULATIONS: DIETARY SURVEY 83:  
 84: 5000  
 85: 5000  
 ATHENS SCHOOL OF HYGIENE 86: NIL  
 87:

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 NNN: US Dollars COM: Completed NAC: Not Accepted  
 Dollars E.U. Acheve Non accepte  
 NIL: No Contribution UND: Under Negotiation WIT: Withdrawn  
 Aucune contribution En cours de negoc. Retire



RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
 PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
 (1982 - 1987)

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WHO	YUG-27-D		
	R. BUZINA		
	EVALUATION OF METHYLMERCURY IN MEDITERRANEAN	82:	
	POPULATION SAND RELATED HEALTH HAZARDS	83:	8000
		84:	6000
		85:	5000
	INSTITUTE OF PUBLIC HEALTH OF SR CROATIA, ZAGREB	86:	NIL
		87:	

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WHO	YUG-28-D		
	P. STEGNAR		
	ANALYSIS OF HUMAN HAIR FOR ASSESSING EXPOSURE AND	82:	
	POSSIBLE HEALTH HAZARDS IN MEDITERRANEAN POPULATIONS	83:	8500
	DUETO METHYLMERCURY IN SEAFOOD	84:	7500
		85:	4500
	INSTITUTE JOSEF STEFAN, UNIVERSITY E. KARDELJ, LJUBLJANA	86:	NIL
		87:	

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WHO	YUG-79-D		
	P. STEGNAR		
	ANALYSIS OF HUMAN HAIR AND OTHER TISSUES ON BEHALF OF	82:	
	INSTITUTIONS PARTICIPATING IN MEDITERRANEAN	83:	
	METHYLMERCURY PROJECT	84:	
		85:	8000
	INSTITUTE JOSEF STEFAN, UNIVERSITY E. KARDELJ, LJUBLJANA	86:	6000
		87:	

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Dollars E.U.	Acheve	Non accepte
NIL: No Contribution	UND: Under Negotiation	WIT: Withdrawn
Aucune contribution	En cours de negoc.	Retire



Activity E

Guidelines and criteria for the application  
of the Land-based Sources Protocol

Activité E

Directives et critères pour l'application du Protocole relatif  
à la pollution d'origine tellurique

RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
 PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
 (1982 - 1987)

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WHO	GRE-47-E		
J. GANOULIS			
DEVELOPMENT OF GUIDELINES FOR THE DESIGN OF SUBMARINE		82:	
OUTFALLS IN THE MEDITERRANEAN		83:	
		84:	
		85:	
DEPARTMENT OF HYDRAULICS AND ENVIRONMENTAL ENGINEERING,		86:	4000
SCHOOL OF TECHNOLOGY, ARISTOTLE UNIVERSITY OF THESSAL		87:	

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WHO	LIB-3-E		
S. OMAR TUMI			
ASSESSMENT OF WASTE OIL IN SPLAJ		82:	
		83:	
		84:	
		85:	
PETROLEUM RESEARCH CENTRE, TRIPOLI		86:	4000
		87:	

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NNN: US Dollars	COM: Completed	NAC: Not Accepted
Dollars E.U.	Acheve	Non accepte
NIL: No Contribution	UND: Under Negotiation	WIT: Withdrawn
Aucune contribution	En cours de negoci.	Retire

Activity F

Research on oceanographic processes

Activité F

Recherches sur les processus océaniques

RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
 PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
 (1982 - 1987)

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IOC	FRA-20-F	
P. M. LEUCHER		
MEDMODEL (MODELISATION HYDRODYNAMIQUE DU BASSIN		82:
OCCIDENTAL DE LA MEDITERRANEE)		83:
		84:
		85: 4000
SERVICE HYDRAULIQUE CENTRE D'ETUDES TECHNIQUE LES		86: NIL
MILLES		87:
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IOC	GRE-1-F	
J. GANOU LIS		
DEVELOPMENT OF MATHEMATICAL MODELS FOR HORIZONTAL		82:
TRANSPORT OF POLLUTANTS IN COASTAL AREAS OF THE		83:
MEDITERRANEAN SEA		84:
		85: 3400
SCHOOL OF TECHNOLOGY ARISTOTLE UNIVERSITY OF		86: NIL
THESSALONIKI		87:
-----		
IOC	GRE-6-F	
A. LASCARATOS		
DYNAMICAL STUDY OF SURFACE COLD WATER PATTERNS		82:
APPEARINGIN THE GULF OF KORINTH		83:
		84:
		85: 9900
LABORATORY OF PHYSICAL GEOGRAPHY UNIVERISITY OF ATHENS		86: NIL
		87:
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IOC	GRE-10-F	
M. BONAZUNTAS		
MODELLING POLLUTANT CIRCULATION IN COASTAL WATERS		82:
		83:
		84:
		85: 5000
DEPARTMENT OF CIVIL ENGINEERING NATIONAL TECHNICAL		86: NIL
UNIVERSITY ATHENS		87:
-----		
IOC	GRE-16-F	
A. LASCARATOS		
DYNAMICAL STUDY OF SURFACE COLD WATER PATTERNS		82:
APPEARINGIN THE GULF OF KORINTH		83:
		84:
		85: 9900
LABORATORY OF PHYSICAL GEOGRAPHY UNIVERSITY OF ATHENS		86: NIL
		87:
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NNN: US Dollars	COM: Completed	NAC: Not Accepted
Dollars E.U.	Acheve	Non accepte
NIL: No Contribution	UND: Under Negotiation	WIT: Withdrawn
Aucune contribution	En cours de negoc.	Retire

RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
 PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
 (1982 - 1987)

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IOC	GRE-40-F	
G. FERENTINOS		
A STUDY OF THE CIRCULATION PATTERNS IN A FJORD TYPE		82:
SEMI-ENCLOSED SEA AMBRAKIKOS BAY IONIAN SEA. A)		83:
MECHANISMS GOVERNING THE WATER EXCHANGE BETWEEN THE		84:
OPENSEA AND THE FJORD B) RIVER PLUME DISPERSION		85:
DEPARTMENT OF GEOLOGY UNIVERSITY OF PATRAS		86: 3000
		87:
-----		
IOC	ITA-12-F	
P. MALANOTTE RIZZOLI		
MODELLING OF CIRCULATION PROCESSES IN THE NORTHERN		82:
ADRIATIC AND THEIR INFLUENCE ON THE DISTRIBUTION OF		83:
POLLUTANTS CONSIDERED AS PASSIVE SCALARS		84: 6000
		85: NIL
ISTITUTO PER LO STUDIO DELLA DINAMICA DELLE GRANDI		86: NIL
MASSEVENEZIA		87:
-----		
IOC	ITA-23-F	
S. CUNSOLO		
VERTICAL TRANSPORT PROCESSES OF MARINE WATER NEAR THE		82:
ITALIAN COASTS		83:
		84:
		85: 3600
DEPARTIMENTO DI FISICA UNIVERSITA "LA SAPIENZA" ROMA		86: NIL
		87:
-----		
IOC	ITA-33-F	
R. SANTANGELO		
APPROXIMATE MODELS FOR THE NORTHERN ADRIATIC SEA AND		82:
EXPERIMENTAL CHECKS OF CURRENTS IN FIXED POINTS		83:
		84:
		85: 8000
OSSERVATORIO GEOFISICO UNIVERSITA DI MODENA		86: NIL
		87:
-----		
IOC	SPA-19-F	
J. SALAT		
EASTERN MEDITERRANEAN DRIFT-CARD EXPERIMENT (DRIFTEX)		82:
		83:
		84:
		85:
INSTITUTO DE INVESTIGACIONES PESQUERAS DE BARCELONA		86: 3000
		87:
-----		

NNN: US Dollars	COM: Completed	NAC: Not Accepted
Dollars E.U.	Acheve	Non accepte
NIL: No Contribution	UND: Under Negotiation	WIT: Withdrawn
Aucune contribution	En cours de negoci.	Retire

RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
 PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
 (1982 - 1987)

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IOC	TUR-1-F		
	U. UNLUATA		
	OCEANOGRAPHIC PROCESSES IN THE NORTHEASTERN LEVANTINE	82:	
	COASTAL WATERS	83:	
		84:	
		85:	7000
MIDDLE EAST TECHNICAL UNIVERSITY	ERDEMLI ICEL	86:	NIL
		87:	
-----			
IOC	TUR-2-F		
	E. OZSOY		
	POLLUTANT TRANSPORT PROCESSES AT GOKSU SEYHAN AND	82:	
	CEYHAN RIVER MOUTHS	83:	
		84:	
		85:	NIL
MIDDLE EAST TECHNICAL UNIVERSITY	ERDEMLI ICEL	86:	NIL
		87:	
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IOC	YUG-6-F		
	M. GACIC		
	LOW-FREQUENCY CURRENT FIELD OSCILLATIONS IN THE COASTAL	82:	
	ZONE OF THE CENTRAL ADRIATIC	83:	
		84:	3000
		85:	8000
INSTITUTE OF OCEANOGRAPHY AND FISHERIES	SPLIT	86:	4000
		87:	
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IOC	YUG-15-F		
	M. KUZMIC		
	MATHEMATICAL MODELLING OF HORIZONTAL CIRCULATION AND	82:	
	VERTICAL DISTRIBUTION OF CURRENTS IN THE NORTHERN	83:	
	ADRIATIC	84:	3800
		85:	NIL
CENTER FOR MARINE RESEARCH	RUDJER BOSKOVIC INSTITUTE	86:	NIL
ZAGREB		87:	
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IOC	YUG-25-F		
	J. FAGANELI		
	MODIFICATIONS OF THE SUSPENDED ORGANIC MATTER COMPOSITION	82:	
	AND SEDIMENTATION IN THE POLLUTED COASTAL WATERS	83:	
		84:	
		85:	6600
MARINE RESEARCH AND TRAINING CENTRE	PIRAN	86:	NIL
		87:	
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NNN: US Dollars  
 Dollars E.U.

NIL: No Contribution  
 Aucune contribution

COM: Completed  
 Acheve

UND: Under Negotiation  
 En cours de negoci.

NAC: Not Accepted  
 Non accepte

WIT: Withdrawn  
 Retire

RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
(1982 - 1987)

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IOC	YUG-36-F	
M. ZORE-ARMANDA		
TURBIDITY TRANSPORT BY RESIDUAL CURRENTS		82:
		83:
		84:
		85: 5000
INSTITUTE OF OCEANOGRAPHY AND FISHERIES, SPLIT		86: NIL
		87:

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NNN: US Dollars	COM: Completed	NAC: Not Accepted
Dollars E.U.	Acheve	Non accepte
NIL: No Contribution	UND: Under Negotiation	WIT: Withdrawn
Aucune contribution	En cours de negoc.	Retire

Activity G

Research on the toxicity, persistence, bioaccumulation,  
carcinogenicity and mutagenicity

Activité G

Recherches sur la toxicité, la persistance, la bioaccumulation,  
la cancérogénicité et la mutagénicité



RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
 PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
 (1982 - 1987)

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FAO	CYP-2-G		
M. HADJICHRISTOPHOROU			
EFFECTS OF TURBIDITY AND BLANKETING OF GYPSUM ON		82:	
LITTORAL AND SUBLITTORAL MARINE ORGANISMS		83:	
		84:	
		85:	
FISHERIES DEPARTMENT, MINISTRY OF AGRICULTURE, NICOSIA		86:	3000
		87:	
-----			
FAO	FRA-24-G		
C. CHASSARD-BOUCHAUD			
TOXICITE, PERSISTANCE ET BIOACCUMULATION DU CHROME DANS		82:	
UNE CHAINE TROPHIQUE D'ORGANISMES MARINS COMESTIBLES.		83:	
ASPECTS STRUCTURAUX ULTRASTRUCTURAUX ET		84:	
MICROANALYTIQUES		85:	
UNIV. P. ET M. CURIE, LABORATOIRE DE BIOLOGIE, PARIS		86:	3000
		87:	
-----			
FAO	FRA-29-G		
J. BRUSLE			
EXPERIMENTALE DE L'EFFET DU CADMIUM SUR LES JUVENILES		82:	
(CIVELLES ET ANGUILLETES DE L'ANGUILLE EUROPEENNE		83:	
Anguilla anguilla: ANALYSE STRUCTURALE ET METABOLIQUE		84:	
DES PERTUBATIONS INDUITES PAR CONTAMINATION PAR L'EAU		85:	
LABORATOIRE DE BIOLOGIE MARINE, UNIV. DE PERPIGNAN		86:	4000
		87:	
-----			
WHO	FRA-36-G		
M. LAFAURIE			
ABSORPTION DES XENOBIOTIQUES BIOTRANSFORMATION ET		82:	
TUMOROGENESE CHEZ LES POISSONS MARINS		83:	
		84:	
		85:	
FACULTE DE MEDECINE NICE		86:	3500
		87:	
-----			
FAO	GRE-26-G		
A. HARITOS			
STUDY OF THE RESPONSES OF MARINE ORGANISMS TO		82:	
POLLUTANTS AT THE LEVEL OF FUNCTIONAL PROTEINS		83:	
		84:	4000
		85:	3000
ZOOLOGICAL LABORATORY, UNIVERSITY OF ATHENS		86:	2000
		87:	
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NNN: US Dollars  
 Dollars E.U.

NIL: No Contribution  
 Aucune contribution

COM: Completed  
 Acheve

UND: Under Negotiation  
 En cours de negoci.

NAC: Not Accepted  
 Non accepte

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 Retire

RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
 PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
 (1982 - 1987)

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 FAO GRE-31-G  
 S. E. PAPOUTSOGLOU  
 EFFECT OF CADMIUM AND OTHER POLLUTANTS ON THE SURVIVAL, 82:  
 GROWTH RATE AND REPRODUCTION OF COMMERCIALY CULTURED 83:  
 MARINE AND BRACKISH WATER FISH OF THE MEDITERRANEAN 84:  
 85: 4500  
 DEPT. OF APPLIED HYDROBIOLOGY, AGRICULTURAL UNIVERSITY 86: 3000  
 OF ATHENS 87:  
 -----

FAO GRE-32-G  
 A. HARITOS  
 STUDY OF THE EFFECT OF HEAVY METALS ON POLYPEPTIDES IN 82:  
 FISH AND CRUSTACEAN SPECIES BY HIGH PERFORMANCE LIQUID 83:  
 CHROMATOGRAPHY 84:  
 85: 4500  
 ZOOLOGICAL LABORATORY, UNIVERSITY OF ATHENS 86: 2000  
 87:  
 -----

FAO ISR-9-G  
 E. NEVO  
 COMPLEX POLLUTION EFFECTS OF TWO HEAVY METALS (MERCURY 82:  
 AND CADMIUM) ON THE GENETIC STRUCTURE OF MARINE 83:  
 ORGANISMS 84: 5000  
 85: 4000  
 INSTITUTE OF EVOLUTION, UNIVERSITY OF HAIFA 86: 3000  
 87:  
 -----

FAO ISR-10-G  
 H. HORNUNG  
 BIOACCUMULATION OF MERCURY AND ITS DISTRIBUTION IN 82:  
 VARIOUS ORGANS OF SOME SHORE FISHES OFF THE 83:  
 MEDITERRANEAN SEA COAST 84: 4000  
 85: 4000  
 ISRAEL OCEANOGRAPHIC AND LIMNOLOGICAL RESEARCH 86: 2000  
 INSTITUTE, HAIFA 87:  
 -----

FAO ISR-15-G  
 Y. ACHITUV  
 THE INFLUENCE OF POLLUTION BY HEAVY METALS ON VARIOUS 82:  
 PHYSIOLOGICAL ASPECTS AND ENERGY BUDGET OF *Donax* 83:  
*trunculus* (BIVALVIA), *Nassarius circumcincta* AND n. 84:  
*gibbosa* (GASTROPODS) 85: 5000  
 DEPT. OF LIFE SCIENCES, BAR-ILAN UNIVERSITY, RAMAT-GAN 86: 3000  
 87:  
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NNN: US Dollars                      COM: Completed                      NAC: Not Accepted  
       Dollars E.U.                      Acheve                                Non accepte  
 NIL: No Contribution                UND: Under Negotiation              WIT: Withdrawn  
       Aucune contribution            En cours de negoci.                 Retire

RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
(1982 - 1987)

-----		
WHO	ISR-19-G	
H. RAV-ACHA		
MUTAGENICITY OF CHLORINATED SEAWATER FROM POWER PLANTS		82:
COOLING SYSTEMS		83:
		84:
		85:
SCHOOL OF APPLIED SCIENCES AND TECHNOLOGY	THE HEBREW	86: 3000
UNIVERSITY	JERUSALEM	87:
-----		
FAO	ITA-39-G	
A. RENZONI		
CONTAMINANTS IN RESIDENT AND MIGRATORY BIRDS IN THE		82:
EASTERN MEDITERRANEAN FLYWAY		83:
		84: 2000
		85: 2000
DIPARTIMENTO DI BIOLOGIA AMBIENTALE, UNIVERSITA DI SIENA		86: NIL
		87:
-----		
FAO	ITA-64-G	
V. ALBERGONI		
BIOACCUMULATION STUDIES AND PHYSIOLOGICAL AND		82:
BIOCHEMICAL RESPONSES IN MARINE ORGANISMS EXPOSED TO		83:
HEAVY METALS AND POLYCHORINATED BIPHENYLS		84:
		85:
DIPARTIMENTO DI BIOLOGIA, UNIVERSITA DI PADOVA		86: 3000
		87:
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FAO	ITA-65-G	
L. DALLA VENEZIA		
STUDY OF OSMOREGULATION MECHANISMS IN MARINE		82:
INVERTEBRATES UNDER POLLUTION CONDITIONS		83:
		84:
		85:
INSTITUTE OF MARINE BIOLOGY, NATIONAL RESEARCH COUNCIL		86: NIL
(CNR), VENICE		87:
-----		
WHO	ITA-66-G	
S. DE FLORA		
MUTAGENICITY OF CHEMICAL COMPOUNDS IN THE MARINE		82:
ENVIRONMENT		83:
		84:
		85:
INSTITUTE OF HYGIENE, UNIVERSITY OF GENOVA		86: 3000
		87:
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NNN: US Dollars  
Dollars E.U.

NIL: No Contribution  
Aucune contribution

COM: Completed  
Acheve

UND: Under Negotiation  
En cours de negoc.

NAC: Not Accepted  
Non accepte

WIT: Withdrawn  
Retire

RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
 PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
 (1982 - 1987)

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WHO	ITA-79-G	
G. P. DE RENZI		
CORRELATION BETWEEN MARINE POLLUTANTS AND DEGENERATIVE DISEASE		82:
		83:
		84:
		85:
FACULTY OF MEDICINE	UNIVERSITY OF ROME "LA SAPIENZA"	86: 3000
		87:
-----		
WHO	ITA-80-G	
G. L. BRONZETTI		
DETECTION OF MUTAGENIC AND CARCINOGENIC POLLUTANTS IN SEAWATER		82:
		83:
		84:
		85:
ISTITUTO DI MUTAGENESI E DIFFERENZIAMENTO DEL CNR, PISA		86: 3000
		87:
-----		
FAO	MAL-4-G	
V. AXIAK		
AN INVESTIGATION ON THE BIOLOGICAL RESPONSES TO THE ORGANOPHOSPOROUS PESTICIDES OF SELECTED MARINE INVERTEBRATES		82:
		83:
		84:
		85:
BIOLOGY SECTION OF THE MATHS DEPT, UNIVERSITY OF MALTA		86: 3000
		87:
-----		
FAO	MOR-2-G	
M. KESSABI		
RECHERCHE SUR LA TOXICITE, LA PERSISTANCE ET LA BIOACCUMULATION DES CERTAINS POLLUANTS		82:
		83:
		84:
		85: 5000
INSTITUT NATIONAL AGRONOMIQUE ET VETERINAIRE, RABAT		86: 2000
		87:
-----		
FAO	SPA-13-G	
J. MEDINA ESCRICHE		
STUDY OF THE TOXICITY, BIOACCUMULATION AND PERSISTENCE OF SOME HEAVY METALS AND PESTICIDES IN THE CRAYFISH <i>Procambarus clarkii</i> (GIRARD) ON THE ALBUFERA LAKE		82:
		83:
		84:
		85: 4000
UNIVERSITY COLLEGE OF CASTELLON, UNIVERSITY OF VALENCIA		86: 3000
		87:
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RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
(1982 - 1987)

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FAO SPA-20-G		
B. MORALES-NIN		
LIFE HISTORY PATTERNS OF MEDITERRANEAN BLUEFIN TUNA	82:	
	83:	
	84:	
	85:	
INSTITUTO DE CIENCIAS DELMAR, BARCELONA	86:	3000
	87:	
-----		
FAO TUR-5-G		
H. BAGCI		
DESIGN AND DEVELOPMENT OF BIO-TEST METHODS THAT WILL BE	82:	
USED TO ASSAY THE POLLUTANTS LISTED IN THE ANNEXES OF	83:	6500
THE PROTOCOLS WITH RESPECT TO THEIR TOXICITY, RESIDUAL	84:	2000
EFFECTS, BIO-DEGRADABILITY, MUTAGENICITY AND	85:	NIL
DEPT. OF BIOLOGICAL SCIENCES, MIDDLE EAST TECHNICAL	86:	NIL
UNIV., ANKARA	87:	
-----		
WHO YUG-14-G		
B. KURELEC		
THE CORRELATION BETWEEN LEVELS AND EFFECTS OF MUTAGENIC	82:	
POLLUTANTS IN THE MARINE ENVIRONMENT	83:	
	84:	5000
	85:	5000
CENTRE FOR MARINE RESEARCH, RUDJER BOSKOVIC INSTITUTE,	86:	NIL
ZAGREB	87:	
-----		
FAO YUG-47-G		
N. FANUKO		
TOXICITY OF CADMIUM, MERCURY AND PCBS TO THE	82:	
REPRESENTATIVE NORTHERN- ADRIATIC PHYTOPLANKTON SPECIES	83:	
CULTURED IN VITRO	84:	
	85:	4000
MARINE RESEARCH AND TRAINING CENTRE, PIRAN	86:	NIL
	87:	
-----		
FAO YUG-53-G		
M. OZRETIC		
SERUM ENZYMES IN FISH AS BIOCHEMICAL INDICATORS OF	82:	
MARINE POLLUTION	83:	
	84:	
	85:	5000
CENTRE FOR MARINE RESEARCH, RUDJER BOSKOVIC INSTITUTE,	86:	NIL
ROVINJ	87:	
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RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
(1982 - 1987)

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FAO YUG-70-G  
B. OZRETIC  
DEVELOPMENT OF SHORT-TERM TOXICITY TESTS: THE USE OF SEAURCHIN GAMETES AND THEIR DEVELOPMENTAL STAGES 82:  
83:  
84:  
85:  
CENTER FOR MARINE RESEARCH, RUDJER BOSKOVIC INSTITUTE, 86: 3000  
ROVINJ 87:

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NNN: US Dollars                      COM: Completed                      NAC: Not Accepted  
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NIL: No Contribution                  UND: Under Negotiation              WIT: Withdrawn  
         Aucune contribution              En cours de negoc.                  Retire

Activity H

Eutrophication and concomitant plankton blooms

Activité H

Eutrophisation et floraisons concomitantes de plancton

RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
 PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
 (1982 - 1987)

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FAO	ITA-81-H		
L. ROTTINI-SANDRINI			
PERIODICITY AND CAUSES OF IRREGULAR MACRO- AND		82:	
MICRO-PLANKTON BLOOMS APPEARING IN EUTROPHICATED AREAS		83:	
IN NORTHERN ADRIATIC AND GULF OF TRIESTE		84:	
		85:	
LABORATORY OF MARINE BIOLOGY - CIMAM, TRIESTE		86:	3000
		87:	

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FAO	YUG-43-H		
I. MARASOVIC			
STUDIES OF TOXIC DINOFLAGELLATE SPECIES IN THE INSHORE		82:	
WATERS OF THE EAST ADRIATIC COAST		83:	
		84:	
		85:	3000
INSTITUTE OF OCEANOGRAPHY AND FISHERIES, SPLIT		86:	3000
		87:	

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Activity I

Pollution-induced ecosystems modifications

Activité I

Modification des écosystèmes par la pollution

RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
 PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
 (1982 - 1987)

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FAO	GRE-34-I	
A. NICOLAIDOU		
IDENTIFICATION OF BIOLOGICAL INDICATORS OF HEAVY METALS		82:
AT THE SITE OF A SMELTIN IN LARYMNA, GREECE		83:
		84:
		85:
ZOOLOGICAL LABORATORY, UNIVERSITY OF ATHENS		86: 3000
		87:
-----		
FAO	GRE-38-I	
I. SIOKOU-FRANGOU		
ETUDE DE L'IMPACT DE LA POLLUTION SUR LE ZOOPLANKTON DU		82:
GOLFE SARONIKOS (MER EGEE, GRECE)		83:
		84:
		85:
CENTRE NATIONAL DE RECHERCHES MARINES, ATHENES		86: 3000
		87:
-----		
FAO	LEB-2-I	
N. M. KHAIRALLAH		
POLLUTION-INDUCED ECOSYSTEMS MODIFICATIONS		82:
		83:
		84:
		85: 3000
CENTRE FOR MARINE RESEARCH, BEIRUT		86: 2000
		87:
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FAO	LEB-3-I	
S. H. LAKKIS		
POLLUTION-INDUCED ECOSYSTEMS MODIFICATIONS: SURVEY ON		82:
ICHTHYOPLANKTON ALONG THE COAST OF LEBANON		83:
PARTICULARLY IN POLLUTED ZONES		84:
		85:
MARINE RESEARCH CENTRE, BEIRUT		86: 3000
		87:
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Activity J

Effects of thermal discharges on coastal organisms and ecosystems

Activité J

Effets des pollutions thermiques sur les organismes et écosystèmes côtiers



Activity K

Biogeochemical cycles of specific pollutants

Activité K

Cycle biogéochimique de certains polluants

RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
(1982 - 1987)

-----			
WHO	FRA-16-K		
P. BERNARD			
RECHERCHE DE DERMATOPHYTES ET MOISSISSURES PATHOGENES		82:	
DANS LE SABLE DES ZONES MARINES A VOCATION BALNEAIRE		83:	
PAR LA METHODE DE FILTRATION SUR MEMBRANES ET		84:	
SENSIBILITE DES DERMATOPHYTES ISOLES VIS-A-VIS DE		85:	
INSTITUT NATIONAL DE LA SANTE ET DE LA RECHERCHE		86:	3500
MEDICALE (INSERM) VILLEFRANCHE/MER		87:	
-----			
WHO	FRA-17-K		
M. GAUTHIER			
ADAPTATION DES ENTEROBACTERIES PATHOGENES A L'EAU DE MER		82:	
		83:	
		84:	
		85:	
INSTITUT NATIONAL DE LA SANTE ET DE LA RECHERCHE		86:	3500
MEDICALE (INSERM) NICE		87:	
-----			
WHO	FRA-34-K		
Y. MARTIN			
ESTIMATION DES APPORTS PAR LES EFFLUENTS URBAINS ET		82:	
CAPACITES DE SURVIE DANS LE MILIEU MARIN DE CERTAINS		83:	
MICROORGANISMES PATHOGENES. VARIATIONS EN FONCTION DE		84:	
LAFILIERE D'EPURATION UTILISEE		85:	
DEPT. RECHERCHE FONDATION OCEANOGRAPHIQUE, RICARD SIX		86:	3500
FOURS LES PLAGES		87:	
-----			
IAEA	GRE-37-K		
A. P. GRIMANIS			
TRANSFER OF POLLUTANTS (HEAVY METALS-HYDROCARBONS) IN		82:	
THE MARINE ENVIRONMENT OF SARONIKOS GULF		83:	
		84:	
		85:	
CHEMISTRY DEPARTMENT, NUCLEAR RESEARCH CENTER		86:	2500
"DEMOKRITOS" ATHENS		87:	
-----			
FAO	ISR-11-K		
H. HORNUNG			
SOME ASPECTS OF THE BIOGEOCHEMICAL CYCLE OF MERCURY IN		82:	
APOLLUTED AREA OFF THE ISRAEL MEDITERRANEAN COAST		83:	
		84:	3000
		85:	NIL
ISRAEL OCEANOGRAPHIC AND LIMNOLOGICAL RESEARCH		86:	2000
INSTITUTE, HAIFA		87:	
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PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
(1982 - 1987)

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FAO	ITA-68-K	
E. BACCI		
ENVIRONMENTAL DISTRIBUTION AND FATE OF ORGANOTIN		82:
COMPOUNDS (MAINLY BUTYLTIN AND METHYLTIN SPECIES) WITH		83:
PARTICULAR ATTENTION TO THE MARINE ENVIRONMENT		84:
		85:
DIPARTIMENTO DI BIOLOGIA AMBIENTALE, UNIVERSITA DEGLI		86: 3000
STUDI DI SIENA		87:
-----		
FAO	ITA-69-K	
F. BALDI		
ISOLATION AND ASSESSMENT OF BACTERIA WHICH TRANSFORM		82:
THEINORGANIC AND ORGANIC FORMS OF MERCURY IN THE MARINE		83:
ENVIRONMENT: METHOD TO EVALUATE THE BIOTRANSFORMING		84:
FEATURES OF MERCURY RESISTANT BACTERIA		85:
DIPARTIMENTO DI BIOLOGIA AMBIENTALE, UNIVERSITA DEGLI		86: 3000
STUDI DI SIENA		87:
-----		
IAEA	ITA-76-K	
L. TASSI PELATI		
BEHAVIOUR OF PU-239 IN THE MARINE ENVIRONMENT WITH		82:
PARTICULAR ATTENTION TO ITS TRANSFERS THROUGH THE		83:
FOOD-CHAINS (SEE ALSO ITA/14)		84: NIL
		85: NIL
ISTITUTO DI ZOOLOGIA DELL'UNIVERSITA DI PARMA		86: NIL
		87:
-----		
WHO	SPA-6-K	
P. ROMERO RAYA		
STUDIES ON SURVIVAL OF PATHOGENIC MICROORGANISMS IN		82:
SEAWATER		83:
		84: 4500
		85: 4500
FACULTY OF SCIENCE, DEPT. OF MICROBIOLOGY, UNIVERSITY OF		86: NIL
MALAGA		87:
-----		
IAEA	YUG-11-K	
M. BRANICA		
ANTHROPOGENIC INFLUENCE ON THE DISTRIBUTION AND FLUXES		82:
OF LEAD SPECIES INTO THE MARINE ENVIRONMENT		83:
		84: 4000
		85: NIL
CENTRE FOR MARINE RESEARCH RUDJER BOSKOVIC INSTITUTE		86: 4000
ZAGREB		87:
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PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
(1982 - 1987)

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IAEA	YUG-22-K		
N. AJDACIC			
ACCUMULATION AND TRANSPORT OF RADIONUCLIDES IN THE BIOTA		82:	
OF THE SOUTH ADRIATIC REGION		83:	
		84:	2000
		85:	NIL
UNIVERSITY "VELJKO VLAHOVIC" TITOGRAD		86:	NIL
		87:	
-----			
FAO	YUG-49-K		
T. ZVONARIC			
STUDY OF THE MERCURY ECOCYCLE IN THE MARINE SYSTEM OF		82:	
THE KASTEL BAY		83:	
		84:	
		85:	4500
INSTITUTE OF OCEANOGRAPHY AND FISHERIES, SPLIT		86:	3000
		87:	
-----			
FAO	YUG-64-K		
M. BRANICA			
BIOGEOCHEMICAL CYCLE OF MERCURY SPECIES IN THE MARINE		82:	
ENVIRONMENT		83:	
		84:	
		85:	
CENTER FOR MARINE RESEARCH, RUDJER BOSKOVIC INSTITUTE,		86:	3000
ZAGREB		87:	

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Activité L

Pollutant-transfer processes

Activité L

Processus de transfert des polluants

RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
(1982 - 1987)

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IOC	EEC-1-L	
P. FRAYSSE		
ETUDE DU TRANSPORT COTIER DE LA POLLUTION		82:
		83:
		84:
		85: NIL
COMMISSIONE DELLE COMMUNITA EUROPEE	CENTRO COMUNE DI	86: NIL
RICERCA	STABILIMENTO DI ISPRA	87:
-----		
IOC	EGY-8-L	
M. F. MACKLAD		
POLLUTANT TRANSFER PROCESSES		82:
		83:
		84: 4000
		85: 5100
UNIVERSITY OF ALEXANDRIA RESEARCH CENTRE (UNARC)		86: NIL
		87:
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IOC	FRA-7-L	
A. MONACO		
ROLE DES COUCHES NEPHELOIDES ET DES COLLOIDES		82:
ORGANIQUESDANS LE TRANSPORT DES METAUX LOURDS (PB CD		83:
CU ZN) DU MILIEU ESTUARIEN AU MILIEU MARIN. EXEMPLE DU		84:
RHONE		85: 9900
LABORATOIRE DE SEDIMENTOLOGIE ET GEOCHIMIE MARINES		86: NIL
UNIVERSITE DE PERPIGNAN		87:
-----		
WMO	FRA-15-L	
J. MORELLI		
CONTRIBUTION A L'ETUDE DU CYCLE DE METAUX		82:
POTENTIELLEMENT TOXIQUES DANS L'ENVIRONNEMENT		83:
ATMOSPHERIQUE MEDITERRANEEN. ORIGINES ET		84:
EVALUATION DE L'APPORT AU MILIEU MARIN		85:
ECOLE NORMALE SUPERIEURE, PARIS		86: 1000
		87:
-----		
IOC	FRA-26-L	
A. CAILLOT		
PROCESSUS DE TRANSFERT DES POLLUANTS: LOCALISATION DES		82:
ZONES DE DEPOT DES POLLUANTS DANS LE CONE DE DEJECTION		83:
MARIN DU DELTA DU RHONE		84:
		85:
COMMISSARIAT A L'ENERGIE ATOMIQUE	GIF SUR YVETTE	86: NIL
		87:
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 PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
 (1982 - 1987)

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IOC	FRA-30-L
G. CAUWET	
ROLE DE LA DYNAMIQUE MENTAIRE EN MILIEU STRATIFIE	82:
	83:
	84: 5000
	85: NIL
LABOR. DE SEDIMENTOLOGIE ET GEOCHIMIE MARINES UNIV. DE	86: NIL
PERPIGNAN	87:
-----	
IOC	GRE-4-L
M. J. SCOULLOS	
STUDY OF THE TRANSPORT OF PARTICLES IN GREEK ESTUARIES	82:
	83:
	84: 3500
	85: NIL
DEPARTMENT OF CHEMISTRY UNIVERSITY OF ATHENS	86: NIL
	87:
-----	
IOC	GRE-18-L
M. BONAZUNTAS	
MEDITERRANEAN WATER POLLUTION FROM PINIOS RIVER	82:
	83:
	84:
	85: 5000
DEPARTMENT OF CIVIL ENGINEERING NATIONAL TECHNICAL	86: NIL
UNIVERSITY ATHENS	87:
-----	
IOC	GRE-19-L
G. FERENTINOS	
RIVER PLUME DISPERSION INTO COASTAL WATERS	82:
	83:
	84:
	85: 6000
DEPARTMENT OF GEOLOGY UNIVERSITY OF PATRAS	86: NIL
	87:
-----	
IOC	GRE-35-L
M. BONAZOUNTAS	
OPTIMIZATION OF POLLUTANT TRANSFER REDUCTION TO THE	82:
MEDITERRANEAN FROM LAND-BASED AND RIVER SOURCES	83:
	84:
	85:
DEPARTMENT OF CIVIL ENGINEERING NATIONAL TECHNICAL	86: 4000
UNIVERISTY OF ATHENS	87:
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 (1982 - 1987)

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 IAEA GRE-41-L  
 G. KARAIKAKIS  
 DETERMINATION OF PARTICLE SIZE DISTRIBUTION (PSD) OF 82:  
 COLLOIDAL POLLUTANTS IN COASTAL WATERS BY 83:  
 SEDIMENTATION FIELD-FLOW FRACTIONATION 84:  
 CORRELATION OF PSD WITH THE CONCENTRATION OF POLLUTANTS 85:  
 DEPARTMENT OF CHEMISTRY, UNIVERSITY OF PATRAS 86: 3000  
 87:

-----  
 IAEA GRE-46-L  
 G. VASILIKIOTIS  
 TRANSPORT MECHANISMS DISTRIBUTION MOBILIZATION OF HEAVY 82:  
 METALS IN WATER AND SEDIMENTS IN AXIOS RIVER ITS 83:  
 ESTUARIES AND THERMAIKOS GULF 84:  
 85:  
 CHEMISTRY DEPARTMENT, ARISTOTELIAN UNIVERSITY OF 86: 2500  
 THESSALONIKI 87:

-----  
 WMO ISR-20-L  
 U. DAYAN / J.M. MILLER  
 METEOROLOGICAL REVIEW FOR THE ASSESSMENT OF ATMOSPHERE IN 82:  
 SPORT OF POLLUTANTS INTO THE MEDITERRANEAN 83:  
 84:  
 85:  
 HEBREW UNIV. OF JERUSALEM 86: 5800  
 87:

-----  
 IAEA ITA-3-L  
 O. HIEKE MERLIN  
 TEXTURAL AND MINERALOGICAL CHARACTERS AND ROLE IN THE 82:  
 POLLUTION PROCESSES OF BOTTOM SEDIMENTS IN THE 83:  
 NORTHERN ADRIATIC SEA (SEE ALSO ITA/32.L) 84: 5000  
 85: NIL  
 ISTITUTO CHIMICA GENERALE ED INORGANICA SEZIONE 86: 5000  
 MINERALOGICA VENEZIA 87:

-----  
 IAEA ITA-14-L  
 L. TASSI-PELATI  
 STUDY ON THE <sup>137</sup>C AND <sup>239</sup>Pu FLUXES INTO MEDITERRANEAN 82:  
 MARINE ENVIRONMENT 83:  
 (SEE ALSO ITA/76.K) 84: 4000  
 85: NIL  
 ISTITUTO DI ZOOLOGIA, UNIVERSITA DI PARMA 86: 2000  
 87:

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 NNN: US Dollars                      COM: Completed                      NAC: Not Accepted  
       Dollars E.U.                      Acheve                                Non accepte  
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IOC	ITA-56-L		
G. FIERRO			
SEDIMENT AND PARTICULATE MATTER STUDIES IN THE LIGURIAN SEA; MECHANISM OF INTERACTION WITH POLLUTANT MATTER		82:	
		83:	
		84:	
		85:	8000
ISTITUTO DI GEOLOGIA UNIVERSITA DI GENOVA		86:	NIL
		87:	
-----			
WMO	ITA-63-L		
S. GUERZONI			
RIVERINE AND ATMOSPHERIC TRNAPORT OF DUSTS AND CONTAMINANTS INTO THE MEDITERRANEAN REGION		82:	
		83:	
		84:	
		85:	
ISTITUTO DI GEOLOGIA MARINE, CONSIGLIO NAZIONALE DELLE RICHERCHE BOLOGNA		86:	3500
		87:	
-----			
WMO	SPA-8-L		
A. CRUZADO			
STUDY OF LONG AND MEDIUM RANGE ATMOSPHERIC POLLUTANT TRANSPORT INTO THE NORTHWEST MEDITERRANEAN SEA		82:	
		83:	
		84:	
		85:	5000
CENTRO DE ESTUDIOS AVANZADOS DE BLANES (GIRONA)		86:	NIL
		87:	
-----			
IOC	SPA-16-L		
J. ALBAIGES RIERA			
TRANSPORT AND FATE OF WASTEWATER DISCHARGES OF THE CITY OF BARCELONA AND ADJACENT RIVERS (BESOS AND LLOBREGAT) INTO THE COASTAL WATER		82:	
		83:	
		84:	
		85:	8000
INSTITUTE OF BIO-ORGANIC CHEMISTRY BARCELONA		86:	3000
		87:	
-----			
IAEA	YUG-10-L		
V. PRAVDIC			
THE ROLE OF SEDIMENTS AND SUSPENDED MATTER IN THE TRANSFER OF SELECTED POLLUTANTS IN THE NORTHERN ADRIATIC BASIN		82:	
		83:	
		84:	4000
		85:	NIL
CENTRE FOR MARINE RESEARCH RUDJER BOSKOVIC INSTITUTE ZAGREB		86:	NIL
		87:	
-----			

NNN: US Dollars	COM: Completed	NAC: Not Accepted
Dollars E.U.	Acheve	Non accepte
NIL: No Contribution	UND: Under Negotiation	WIT: Withdrawn
Aucune contribution	En cours de negoc.	Retire

RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
(1982 - 1987)

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WMO	YUG-29-L		
Z. I. JANJIC			
PRELIMINARY STUDY OF POTENTIAL LONG-RANGE CADMIUM		82:	
TRANSPORT FROM MAJOR IDENTIFIED SOURCES IN EUROPE		83:	
INTO THE MEDITERRANEAN REGION		84:	
		85:	
FEDERAL HYDROMETEOROLOGICAL INSTITUTE, BELGRADE		86:	1500
		87:	

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IOC	YUG-33-L		
V. ZUTIC			
VERTICAL TRANSPORT OF POLLUTANTS IN THE ESTUARY: THE		82:	
IMPORTANCE OF ORGANIC AGGREGATES		83:	
		84:	
		85:	7900
CENTRE FOR MARINE RESEARCH RUDJER BOSKOVIC INSTITUTE		86:	3000
ZAGREB		87:	

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NNN: US Dollars	COM: Completed	NAC: Not Accepted
Dollars E.U.	Acheve	Non accepte
NIL: No Contribution	UND: Under Negotiation	WIT: Withdrawn
Aucune contribution	En cours de negociation.	Retire

Jellyfish projects

Projets de recherche sur les méduses



RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
(1982 - 1987)

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UNEP	FRA-11-Z	
J. GOY		
MODELISATION DES FLORAISONS DE MEDUS	UNE ZONE	82:
D'EUTROPHISATION EN MER LIGURE		83:
		84:
		85: 9300
ICHTYOLOGIE GENERALE ET APPLIQUEE	MUSEUM NATIONAL	86: 4000
D'HISTOIRE NATURELLE	PARIS	87:
-----		
UNEP	FRA-12-Z	
P. BERNARD		
SURVEILLANCE DES PROLIFERATIONS DE MEDUSES URTICANTES		82:
DURANT LA PERIODE ESTIVALE 1985 SUR LE LITTORAL DE LA		83:
REGION PROVENCE-ALPES- COTE D'AZUR (FRANCE)		84:
		85: NIL
INSTITUT NATIONAL DE LA SANTE ET DE LA RECHERCHE		86: 2000
MEDICALE UNITE INSERM "MER ET SANTE" NICE		87:
-----		
WHO	GRE-11-Z	
P. VLACHOS		
EPIDEMIOLOGY AND THERAPEUTIC METHODS OF JELLYFISH.		82:
POISONING IN GREECE		83:
		84:
		85: 2500
POISON CONTROL CENTER, CHILDREN'S HOSPITAL "P.A.		86: 500
KYRIAKOU", ATHENS		87:
-----		
WHO	GRE-12-Z	
S. K. MASTRONICOLIS		
ISOLATION AND IDENTIFICATION OF NEW MOLECULES		82:
PHOSPHONOLIPIDS IN JELLYFISH		83:
		84:
		85: 4500
SCHOOL OF CHEMISTRY	UNIVERSITY OF ATHENS	86: 500
		87:
-----		
UNEP	GRE-24-Z	
E. PAPATHANASSIOU		
STUDIES ON THE ECOLOGY AND BIOLOGY OF JELLYFISH IN		82:
GREECE		83:
		84:
		85: 12150
NATIONAL CENTER FOR MARINE RESEARCH	ATHENS	86: 2500
		87:
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NNN: US Dollars	COM: Completed	NAC: Not Accepted
Dollars E.U.	Acheve	Non accepte
NIL: No Contribution	UND: Under Negotiation	WIT: Withdrawn
Aucune contribution	En cours de negoc.	Retire

RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
(1982 - 1987)

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 UNEP GRE-25-Z  
 J. CASTRITSI-CATHARIOS  
 DISTRIBUTION QUANTITATIVE QUALITATIVE DES MEDUSES COMMUNES 82:  
 DANS LES ZONES PROCHES DE LA COTE DES ILES: HYDRA 83:  
 POROSET AUSSI AU N.E. DU GOLFE DE KORINTHE 84:  
 85: 3800  
 ZOOLOGICAL LABORATORY UNIVERSITY OF ATHENS 86: 1000  
 87:

-----  
 UNEP GRE-28-Z  
 A. P. GRIMANIS  
 USE OF ISOTOPES TO IDENTIFY THE FOOD SOURCES OF 82:  
 JELLYFISH BLOOMS: NATURAL ECOSYSTEMS OR SEWAGE EFFLUENTS 83:  
 84:  
 85: NIL  
 CHEMISTRY DEPARTMENT DEMOCRITOS NUCLEAR RESEARCH 86: NIL  
 CENTERATHENS 87:

-----  
 UNEP ITA-42-Z  
 L. ROTTINI-SANDRINI  
 MONITORRAGE DES MEDUSES EN ADRIATIQUE ET DOMMAGE A LA 82:  
 PECHE 83:  
 84:  
 85: 6000  
 CIMAM LABORATORIO DI BIOLOGIA MARINA UNIVERSITA DI 86: NIL  
 TRIESTE 87:

-----  
 UNEP ITA-43-Z  
 L. ROTTINI-SANDRINI  
 ETUDE ECOLOGIQUE EXPERIMENTAL DE PELAGIA NOCTILUCA 82:  
 83:  
 84:  
 85: NIL  
 CIMAM LABORATORIO DI BIOLOGICAL MARINA UNIVERSITA DI 86: NIL  
 TRIESTE 87:

-----  
 UNEP ITA-46-Z  
 R. DELLA LOGGIA  
 INDIVIDUATION AND TOXICOLOGICAL EVALUATION OF THE 82:  
 DERMATOTOXIC PRINCIPLES OF PELAGIA NOCTILUCA AND OTHER 83:  
 MEDUSAE 84:  
 85: NIL  
 ISTITUTO DI FARMACOLOGIA E FARMACOGNOSIA UNIVERSITA DI 86: 1500  
 TRIESTE 87:

-----  
 NNN: US Dollars                    COM: Completed                    NAC: Not Accepted  
       Dollars E.U.                    Acheve                                Non accepte  
 NIL: No Contribution            UND: Under Negotiation            WIT: Withdrawn  
       Aucune contribution            En cours de negoc.                Retire

RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
(1982 - 1987)

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UNEP	ITA-47-Z		
C. SCARPA			
STUDY ON THE HISTOLOGY AND ON THE LOCAL TREATMENT OF		82:	
HUMAN SKIN INJURIES FROM JELLYFISH STINGS		83:	
		84:	
		85:	NIL
ISTITUTO DI CLINICA DERMATOLOGICA DELL'UNIVERSITA DI		86:	1500
TRIESTE		87:	
-----			
UNEP	ITA-48-Z		
A. CARLI			
SAMPLE-MONITORING OF PELAGIA NOCTILUCA IN THE LIGURIAN		82:	
SEA: BIOLOGICAL AND ECOLOGICAL ASPECTS		83:	
		84:	
		85:	NIL
ISTITUTO DI SCIENZE AMBIENTALI MARINE UNIVERSITA DI		86:	1500
GENOVA		87:	
-----			
UNEP	ITA-49-Z		
G. C. PAPPALARDO			
MUTLI-ELEMENT ANALYSIS OF MEDITERRANEAN SEA-WATERS AND		82:	
ASSESSMENT OF ENVIRONMENTAL QUALITY IN RELATION TO		83:	
JELLYFISH SWARMINGS AND STRUCTURE CHARACTERIZATION OF		84:	
CHEMICAL COMPONENTS OF VENOM PRODUCED BY		85:	NIL
ISTITUTO DIPARTIMENTALE DI CHIMICA UNIVERSITA DI		86:	1500
CATANIA		87:	
-----			
UNEP	ITA-50-Z		
A. SALLEO			
DISCHARGE MECHANISM OF THE NEMATOCYSTS OF PELAGIA		82:	
NOCTILUCA		83:	
		84:	
		85:	NIL
ISTITUTO DI FISIOLOGIA GENERALE UNIVERSITA DI MESSINA		86:	1500
		87:	
-----			
UNEP	ITA-51-Z		
A. LONGINELLI			
STABLE ISOTOPE RESEARCH O D/H AND 13 C/12 C) AS A NEW		82:	
TOOL FOR STUDYING THE RELATIONSHIPS BETWEEN SOME		83:	
ENVIRONMENTAL PARAMETERS AND THE BEHAVIOUR OF JELLYFISH		84:	
		85:	NIL
ISTITUTO DI MINERALOGIA E PETROGRAFIA LABORATORIO DI		86:	NIL
GEOCHIMICA TRIESTE		87:	
-----			

NNN: US Dollars	COM: Completed	NAC: Not Accepted
Dollars E.U.	Acheve	Non accepte
NIL: No Contribution	UND: Under Negotiation	WIT: Withdrawn
Aucune contribution	En cours de negoc.	Retire

RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
 PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
 (1982 - 1987)

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 UNEP ITA-55-Z  
 F. BOERO  
 PROJECT ON JELLYFISH ON THE MEDITERRANEAN SEA 82:  
 83:  
 84:  
 85: NIL  
 ISTITUTO DI ZOOLOGIA UNIVERSITA DI GENOVA 86: 1500  
 87:  
 -----

UNEP ITA-58-Z  
 L. SCALERA LIACI  
 JELLYFISH IN THE MEDITERRANEAN SEA 82:  
 83:  
 84:  
 85: NIL  
 ISTITUTO DI ZOOLOGIA ED ANATOMIA COMPARATA UNIVERSITA 86: 1500  
 DI BARI 87:  
 -----

UNEP MAL-3-Z  
 V. AXIAK  
 MONITORING OF JELLYFISH SWARMINGS IN THE COASTAL WATERS 82:  
 OF MALTA 83:  
 84:  
 85: 6000  
 DEPARTMENT OF MATHEMATICS AND SCIENCES UNIVERSITY OF 86: 2000  
 MALTA 87:  
 -----

UNEP TUR-12-Z  
 F. BINGEL  
 PROJECT ON JELLYFISH IN THE MEDITERRANEAN SEA. 82:  
 JELLYFISHMONITORING PROGRAMME FOR THE EASTERN 83:  
 MEDITERRANEAN COASTOF TURKEY 84:  
 85:  
 MIDDLE EAST TECHNICAL UNIVERSITY ERDEMLI ICEL 86: 3000  
 87:  
 -----

UNEP YUG-30-Z  
 A. BENOVIC  
 INVESTIGATION OF JELLYFISHES (MEDUSAE) IN THE SOUTHERN 82:  
 ADRIATIC 83:  
 84:  
 85: 7450  
 BIOLOGICAL INSTITUTE DUBROVNIK 86: 2000  
 87:  
 -----

NNN: US Dollars                    COM: Completed                    NAC: Not Accepted  
       Dollars E.U.                                       Acheve                                Non accepte  
 NIL: No Contribution                UND: Under Negotiation            WIT: Withdrawn  
       Aucune contribution                               En cours de negoc.                Retire

RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
 PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
 (1982 - 1987)

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 UNEP YUG-32-Z  
 T. LEGOVIC  
 SWARMING AND TRANSPORT OF PELAGIA NOCTILUCA IN THE ADRIATIC SEA 82:  
 83:  
 84:  
 85: 4000  
 CENTRE FOR MARINE RESEARCH RUDJEYUG035ZVIC INSTITUTE 86: 1500  
 ZAGREB 87:

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 UNEP YUG-35-Z  
 Z. MARETIC  
 DEPARTMENT FOR COMMUNICABLE DISEASES, PULA 82:  
 83:  
 84:  
 85: 600  
 PELAGIA NOCTILUCA - HUMAN HEALTH ASPECTS 86: 500  
 87:

-----  
 UNEP YUG-42-Z  
 T. VUCETIC  
 COMPARATIVE STUDY OF THE UNUSUAL APPEARANCE OF PELAGIA AND CHANGES OF THE ENVIRONMENTAL FACTORS 82:  
 83:  
 84:  
 85: 2000  
 INSTITUTE OF OCEANOGRAPHY AND FISHERIES SPLIT 86: 1000  
 87:

-----  
 UNEP YUG-45-Z  
 A. MALEJ  
 RATE OF METABOLISM OF JELLYFISH AS RELATED TO BODY WEIGHT CHEMICAL COMPOSITION AND TEMPERATURE 82:  
 83:  
 84:  
 85: 5850  
 MARINE RESEARCH AND TRAINING CENTRE PIRAN 86: 3000  
 87:

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NNN: US Dollars	COM: Completed	NAC: Not Accepted
Dollars E.U.	Acheve	Non accepte
NIL: No Contribution	UND: Under Negotiation	WIT: Withdrawn
Aucune contribution	En cours de negoci.	Retire

- b) completed projects as at February 1987
- b) projets de recherche terminés en février 1987

RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
 PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
 (1982 - 1987)

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WHO FRA-14-A  
 P. BERNARD  
 RECHERCHE DES DIVERS CANDIDA DANS LES SABLES DES ZONES 82:  
 MARINES A VOCATION BALNEAIRE 83:  
 84:  
 85: 3000  
 INSTITUT NATIONAL DE LA SANTE ET DE LA RECHERCHE 86: COM  
 MEDICALE UNITE INSERM "MER ET SANTE" NICE 87:  
 -----

WHO ITA-29-A  
 L. VILLA  
 STUDIES ON THE HYGIENIC CONDITIONS OF COASTAL WATERS AND 82:  
 THEIR TO PUBLIC HEALTH 83: 10500  
 84: 5000  
 85: NIL  
 ISPETTORATO CENTRALE PER LA DIFESA DEL MARE MINISTERO 86: COM  
 DELLA MARINE MERCANTILE ROME 87:  
 -----

WHO SPA-2-A  
 F. LUCENA-GUTIERREZ  
 FLUCTUATIONS DE LA POLLUTION BACTERIENNE D'ORIGINE 82:  
 FECALE LE LONG DULITTORAL DE BADALONA 83: 8000  
 84: 4000  
 85: NIL  
 CONSELLERIA DE ECOLOGIA I MEDIO AMBIENTE AJUNTAMENT DE 86: COM  
 BADALONA 87:  
 -----

WHO SPA-4-A  
 F. LUCENA-GUTIERREZ  
 DIFERENCIAS DE EFICACIA EN LA RECUPERACION DE 82:  
 STREPTOCOCOS FECALES EN LAS TEMPERATURAS DE INCUBACION 83: NIL  
 DE 37 Y 44 C 84: NIL  
 85: NIL  
 CONSELLERIA DE ECOLOGIA I MEDIO AMBIENTE AJUNTAMENT DE 86: COM  
 BADALONA 87:  
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NNN: US Dollars                      COM: Completed                      NAC: Not Accepted  
       Dollars E.U.                      Acheve                                  Non accepte  
 NIL: No Contribution                UND: Under Negotiation              WIT: Withdrawn  
       Aucune contribution            En cours de negoc.                  Retire

RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
 PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
 (1982 - 1987)

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WHO	ISR-6-D	
H. SHUVAL		
EPIDEMIOLOGICAL STUDY ON THE RELATIONSHIP BETWEEN THE		82:
MICROBIAL QUALITY OF COASTAL SEAWATER AND THE HEALTH		83: 2000
OF SWIMMERS		84: NIL
		85: NIL
ENVIRONMENTAL HEALTH LABORATORY, HEBREW UNIVERSITY,		86: COM
JERUSALEM		87:
-----		
WHO	SPA-3-D	
J. IZQUIERDO		
ETUDE DE L'INCIDENCE DE CHAMPIGNONS SUR UNE PLAGE		82:
POLLUEE ET LEUR IMPORTANCE RELATIVEMENT A LA SANTE		83: 8000
		84: 500
		85: NIL
LABORATORIO MUNICIPAL, BARCELONA		86: COM
		87:
-----		
FAO	YUG-26-D	
R. BUZINA		
THE ANALYSIS OF MERCURY AND METHYL MERCURY IN SEAFOOD		82:
INVARIOUS PARTS OF THE MEDITERRANEAN REGION		83: 3000
		84: 4000
		85: NIL
INSTITUTE OF PUBLIC HEALTH OF SR CROATIA, ZAGREB		86: COM
		87:

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NNN: US Dollars	COM: Completed	NAC: Not Accepted
Dollars E.U.	Acheve	Non accepte
NIL: No Contribution	UND: Under Negotiation	WIT: Withdrawn
Aucune contribution	En cours de negoci.	Retire



RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
 PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
 (1982 - 1987)

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 WHO ITA-6-G  
 S. DE FLORA  
 MUTAGENICITY GENOTOXICITY INTERACTIONS AND METABOLISM 82:  
 OF CHEMICAL COMPOUNDS IN THE MARINE ENVIRONMENT AND IN 83: 7000  
 MARINE ORGANISMS 84: 4000  
 85: NIL  
 ISTITUTO DI IGIENE UNIVERSITA DI GENOVA 86: COM  
 87:

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 WHO ITA-28-G  
 G. BRONZETTI  
 MUTAGENICITY AND CARCINOGENICITY STUDIES ON MARINE 82:  
 POLLUTANTS 83: 7000  
 84: 4000  
 85: NIL  
 ENVIRONMENTAL MUTAGENESIS DEPARTMENT PISA 86: COM  
 87:

-----  
 WHO ITA-30-G  
 G. P. DE RENZI  
 RESEARCH INTO THE TOXICITY PERSISTENCE BIOACCUMULATION 82:  
 AND MUTAGENICITY OF HYDROCARBONS DETERGENTS AND 83: 3000  
 HEAVY METALS IN THE SEA 84: 3000  
 85: NIL  
 FACOLTA DI MEDICINA UNIVERSITA DI ROMA 86: COM  
 87:

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 FAO YUG-5-G  
 M. TUDOR  
 RESEARCH ON THE EFFECTS OF OIL DISPERSANTS ON MARINE 82:  
 ORGANISMS 83: 6000  
 84: 2000  
 85: NIL  
 INSTITUTE OF OCEANOGRAPHY AND FISHERIES, SPLIT 86: COM  
 87:

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 FAO YUG-23-G  
 M. GASIC  
 HALOGEN-CONTAINING TERPENOIDS AND RELATED SUBSTANCES IN 82:  
 MARINE ORGANISMS 83: 3000  
 84: 4000  
 85: NIL  
 INSTITUTE OF CHEMISTRY, UNIVERSITY OF BELGRADE 86: COM  
 87:

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 NNN: US Dollars                      COM: Completed                      NAC: Not Accepted  
       Dollars E.U.                      Acheve                                Non accepte  
 NIL: No Contribution                UND: Under Negotiation              WIT: Withdrawn  
       Aucune contribution            En cours de negoc.                  Retire

RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
(1982 - 1987)

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FAO YUG-38-G  
M. OZRETIC  
TOXICITY OF POLLUTANTS TO MARINE ORGANISMS: 82:  
PHYSIOLOGICAL AND BIOCHEMICAL STUDIES 83:  
84: 3000  
85: 3000  
CENTRE FOR MARINE RESEARCH, RUDJER BOSKOVIC INSTITUTE, 86: COM  
ROVINJ 87:

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NNN: US Dollars	COM: Completed	NAC: Not Accepted
Dollars E.U.	Acheve	Non accepte
NIL: No Contribution	UND: Under Negotiation	WIT: Withdrawn
Aucune contribution	En cours de negoc.	Retire

RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
 PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
 (1982 - 1987)

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FAO	TUN-4-H		
M. HADJ ALI			
EUTROPHISATION ET FLORAISSONS CONCOMITANTES DE PLANCTON		82:	
		83:	6000
		84:	2000
		85:	NIL
INSTOP, SALAMMBO		86:	COM
		87:	
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FAO	TUR-8-H		
E. IZDAR			
ELEMENTAL TRANSFER PROCESS AND EUTROPHICATION IN BUYUK		82:	
MENDERES DELTA (GREAT MEANDER DELTA) AND THEIR OFFSHORE		83:	3200
DISTRIBUTION, EASTERN AEGEAN- TURKEY		84:	4500
		85:	NIL
INSTITUTE OF MARINE SCIENCES AND TECHNOLOGY, DOKUZ		86:	COM
EYLULUNIV., IZMIR		87:	
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FAO	YUG-8-H		
V. ZUTIC			
RELATIONSHIP BETWEEN PHYTOPLANKTON BLOOMS AND DISSOLVED		82:	
ORGANIC MATTER IN THE NORTHERN ADRIATIC		83:	2000
		84:	3500
		85:	NIL
CENTRE FOR MARINE RESEARCH, RUDJER BOSKOVIC INSTITUTE,		86:	COM
ZAGREB		87:	
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FAO	YUG-13-H		
T. LEGOVIC			
MODELLING EUTROPHICATION PROCESSES IN THE NORTHERN		82:	
ADRIATIC		83:	2000
		84:	3500
		85:	NIL
CENTRE FOR MARINE RESEARCH, RUDJER BOSKOVIC INSTITUTE,		86:	COM
ZAGREB		87:	
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FAO	YUG-24-H		
N. FANUKO			
EUTROPHICATION AND CONCOMITANT PLANKTON BLOOMS		82:	
		83:	4500
		84:	2000
		85:	NIL
MARINE RESEARCH AND TRAINING CENTRE, PIRAN		86:	COM
		87:	
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NNN: US Dollars	COM: Completed	NAC: Not Accepted
Dollars E.U.	Acheve	Non accepte
NIL: No Contribution	UND: Under Negotiation	WIT: Withdrawn
Aucune contribution	En cours de negoc.	Retire

RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
(1982 - 1987)

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FAO GRE-14-I  
J. CASTRITSI-CATHARIOS  
UDE COMPARATIVE DES MODIFICATIONS DES ECOSYSTEMES DES 82:  
EAUX COTIERES DU GOLFE ET DU PORT DE PATRAS SOUMISES A 83:  
L'INFLUENCE DES POLLUANTS 84: 2000  
85: 3000  
ZOOLOGICAL LABORATORY UNIVERSITY OF ATHENS 86: COM  
87:

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FAO GRE-17-I  
A. NICOLAIDOU  
EFFECTS OF POLLUTION ON THE DISTRIBUTION OF MOLLUSCS IN 82:  
MESSOLONGHI LAGOON AND ADJACENT AREAS 83:  
84: 3000  
85: 3000  
ZOOLOGICAL LABORATORY, UNIVERSITY OF ATHENS 86: COM  
87:

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FAO GRE-23-I  
P. PANAYOTIDIS  
ETUDE DE L'IMPACT DE LA POLLUTION SUR LES HERBIERS DE 82:  
Posidonia oceanica DANS LE GOLFE SARONIKOS (MER EGEE, 83:  
GRECE) 84: 3000  
85: 2000  
CENTRE NATIONAL DE RECHERCHES MARINES, ATHENES 86: COM  
87:

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FAO ITA-8-I  
M. SARA  
EVALUATION OF THE CONDITIONS OF SOME POSIDONIA MEADOWS 82:  
IN THE NORTH- WESTERN MEDITERRANEAN SEA AND EVENTUAL 83: 4000  
EFFECTS OF POLLUTANTS ON THE ASSOCIATED FAUNA 84: 3000  
85: NIL  
ISTITUTO DI ZOOLOGIA, UNIVERSITA DI GENOVA 86: COM  
87:

-----  
FAO ITA-22-I  
S. DI GERONIMO  
RELATIONS BETWEEN POLLUTION AND BIOCOENOSSES IN THE 82:  
ROADSTEAD OF AUGUSTA (EASTERN SICILY) 83: 7000  
84: 2000  
85: NIL  
ISTITUTO DI SCIENZE DELLA TERRA, UNIVERSITA DI CATANIA 86: COM  
87:

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NNN: US Dollars                   COM: Completed                   NAC: Not Accepted  
      Dollars E.U.                Acheve                           Non accepte  
NIL: No Contribution            UND: Under Negotiation        WIT: Withdrawn  
      Aucune contribution        En cours de negociation       Retire

RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
 PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
 (1982 - 1987)

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FAO LEB-1-I  
 S. LAKKIS  
 MODIFICATIONS DES ECOSYSTEMES PAR LA POLLUTION 82:  
 83: 5000  
 84: 2000  
 85: NIL  
 CENTRE DE RECHERCHES MARINES, BEYROUTH 86: COM  
 87:

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FAO YUG-7-I  
 A. BENOVIC  
 INVESTIGATION OF ZOOPLANKTON COMMUNITIES IN THE 82:  
 NORTHERNADRIATIC SEA 83: 4000  
 84: 2000  
 85: NIL  
 BIOLOGICAL INSTITUTE, DUBROVNIK 86: COM  
 87:

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FAO YUG-19-I  
 D. ZAVODNIK  
 MONITORING OF ECOSYSTEMS MODIFICATIONS IN THE NORTHERN 82:  
 ADRIATIC SEA INDUCED BY EUTROPHICATION AND 83: 6000  
 ANTHROPOGENIC ACTIVITIES 84: 2000  
 85: NIL  
 CENTRE FOR MARINE RESEARCH, RUDJER BOSKOVIC INSTITUTE, 86: COM  
 ROVINJ 87:

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RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
 PROJETS DE RECHERCHE DANS LE CADRE DU MED POL  
 (1982 - 1987)

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FAO	CYF-1-J		
A. DEMETROPOULOS			
STUDY OF LITTORAL BENTHIC AND FISH COMMUNITIES IN THE		82:	
VASILIKOS-MONI AREA IN RELATION TO THE EFFECT ON THESE		83:	3500
OF POLLUTION FROM THERMAL EFFLUENTS		84:	4500
		85:	NIL
FISHERIES DEPARTMENT, MINISTRY OF AGRICULTURE, NICOSIA		86:	COM
		87:	

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FAO	ITA-13-J		
E. TARAMELLI-RIVOSECCHI			
EFFECTS OF THERMAL EFFLUENTS ON SEASHORE ORGANISMS AT		82:	
TORVALDALIGA (CIVITAVECCHIA-ROMA)		83:	4000
		84:	4500
		85:	NIL
ISTITUTO DI ZOOLOGIA, UNIVERSITA DI ROMA "LA SAPIENZA"		86:	COM
		87:	

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RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
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WHO	EGY-3-K	
F. EL-SHARKAWI		
BIOGEOCHEMICAL CYCLES OF SPECIFIC POLLUTANTS. SURVIVAL		82:
OF PATHOGENS IN THE MEDITERRANEAN		83: 10000
		84: 5000
		85: NIL
HIGH INSTITUTE OF PUBLIC HEALTH	ALEXANDRIA	86: COM
		87:
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FAO	EGY-7-K	
I. H. ELSOKKARY		
BIOGEOCHEMICAL CYCLES OF SPECIFIC POLLUTANTS		82:
		83: 3000
		84: 3500
		85: NIL
UNIVERSITY OF ALEXANDRIA RESEARCH CENTRE (UNARC),		86: COM
ALEXANDRIA		87:
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FAO	GRE-22-K	
A. V. CATSIKI		
BIOACCUMULATION DU MERCURE ET D'AUTRES METAUX DANS		82:
L'ECOSYSTEME MARIN		83:
		84: 3000
		85: 3000
NATIONAL CENTRE FOR MARINE RESEARCH, ATHENS		86: COM
		87:
-----		
FAO	TUR-9-K	
E. IZDAR		
POLLUTANT TRANSFER PROCESS AND BIOGEOCHEMICAL CYCLE OF		82:
SPECIFIC POLLUTANTS AT THE SELECTED LOCATION OF		83: 2800
CANDARLIGULF, TURKEY		84: 4500
		85: NIL
INSTITUTE OF MARINE SCIENCES AND TECHNOLOGY, DOKUZ		86: COM
EYLULUNIV., IZMIR		87:
-----		
WHO	YUG-20-K	
D. FUKS		
SURVIVAL OF SOME INTESTINAL PATHOGENS IN THE MARINE		82:
ENVIRONMENT		83: 3000
		84: 6000
		85: NIL
CENTRE FOR MARINE RESEARCH, RUDJER BOSKOVIC INTITUTE,		86: COM
ROVINJ		87:
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Aucune contribution	En cours de negoc.	Retire

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c) projets de recherche en cours de négociation  
pour les années 1986 et 1987



RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
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 WHO GRE-53-A  
 A. MARCELOU-KINTI/PAPADAKI  
 A STUDY ON THE COMPARATIVE DISTRIBUTION OF MICROBIAL A 82:  
 AND YEAST POPULATION S AND AND SEAWATER 83:  
 84:  
 85:  
 ATHENS SCHOOL OF HYGIENE 86:  
 87: UND

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 WHO ISR-23-A  
 A. MATES  
 A SIMPLE RAPID METHOD FOR ENUMERATION OF E. COLI IN 82:  
 SEAWATER 83:  
 84:  
 85:  
 PUBLIC HEALTH LABORATORY, MINISTRY OF HEALTH, HAIFA 86:  
 87: UND

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 WHO ITA-59-A  
 L. VOLTERRA  
 HYGIENIC QUALITY OF SHELLFISH: MICROBIOLOGICAL 82:  
 INDICATORS OF POLLUTION VERSUS OTHER 83:  
 MICROBIOLOGICAL PARAMETERS 84:  
 85:  
 ISTITUTO SUPERIORE DI SANITA, ROME 86:  
 87: UND

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 IOC ITA-61-A  
 G. C. PAPPALARDO  
 STUDIED AND MONOFMAJOR AND MINOR ELEMENTS IN 82:  
 MEDITERRANEAN SEAWATERS BY SIMULTANEOUS INDUCTIVELY 83:  
 COUPLED PLASMA (ICP) EMISSION SPECTROMETRY 84:  
 85:  
 DIPARTIMENTO DI SCIENZE CHIMICHE UNIVERSITA DI CATANIA 86: UND  
 87:

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 IAEA ITA-70-A  
 R. CECCHI  
 MENTAL PROGRESSES IN HEAVY METALS PIXE ANALYSIS IN SEA 82:  
 WATERS 83:  
 84:  
 85:  
 OSSERVATORIO GEOFISICO DELL'UNIVERSITA DI MODENA 86: NAC  
 87: UND

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RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
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 IAEA ITA-35-A  
 S. GUERZONI  
 DEVELOPMENT AND TESTING OF LARGE-VOLUME SAMPLING AND 82:  
 ANALYTICAL TECHNIQUES FOR TRACE METALS IN SUSPENDED 83:  
 AND BOTTOM SEDIMENTS (FOR MONITORING OF MARINE 84:  
 POLLUTANTS) 85:  
 ISTITUTO DI GEOLOGIA MARINA, CONSIGLIO NAZIONALE DELLE 86:  
 RICERCHE, BOLOGNA 87: UND

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 IOC YUC-62-A  
 M. PICER  
 IMPROVEMENTS AND TESTING OF THE METHODS OF ANALYSIS 82:  
 PETROLEUM HYDROCARBONS IN WATER SEDIMENTS AND MUSSELS 83:  
 BY SPECTROFLUOROMETRY 84:  
 85:  
 CENTRE FOR MARINE RESEARCH RUDJER BOSKOVIC INSTITUTE 86: UND  
 ZAGREB 87:

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 IAEA YUG-77-A  
 M. SKREBLIN  
 OPTIMIZATION OF PROCEDURES FOR THE DETERMINATION OF 82:  
 MERCURY IN ENVIRONMENTAL SAMPLES USING THE M-511 83:  
 GOLD FILM MERCURY ANALYZER 84:  
 85:  
 CENTER FOR MARINE RESEARCH ROVINJ 86:  
 87: UND

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WHO EGY-10-C  
 F. EL-SHARKAWI  
 FORMULATION OF SCIENTIFIC RATIONALE FOR MEDITERRANEAN ENVIRONMENTAL QUALITY CRITERIA 82:  
 83:  
 84:  
 85:  
 HIGH INSTITUTE OF PUBLIC HEALTH ALEXANDRIA 86: UND  
 87:

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WHO ITA-84-C  
 M. V. TORREGROSSA  
 BACTERIAL AND CHEMICAL INDICATORS OF COASTAL WATERS POLLUTION OF HUMAN ORIGIN 82:  
 83:  
 84:  
 85:  
 ISTITUTO DI IGIENE DELL'UNIVERSITA DI PALERMO 86:  
 87: UND

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WHO MOR-4-C  
 A. BELEMLIH  
 BILAN DES POLLUTIONS MICROBIENNES DES EAUX ET COQUILLAGES EN PARAL- LELE AVEC L'EUTROPHISATION ET LES FLORAISONS DU PLANCTON 82:  
 83:  
 84:  
 85:  
 INSTITUT AGRONOMIQUE ET VETERINAIRE, HASSAN II, RABAT 86:  
 87: UND

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WHO	ITA-82-D	
A. CARLI		
ECOLOGICAL AND MEDICAL ASPECTS OF JELLYFISH		82:
		83:
		84:
		85:
ISTITUTO DI SCIENZE AMBIENTALI MARINE, UNIVERSITA DI		86:
GENOVA		87: UND

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WHO	ITA-87-D	
A. ZAMPIERI		
RELATION BETWEEN COASTAL WATER QUALITY AND HEALTH		82:
EFFECTS		83:
		84:
		85:
EPIDEMIOLOGY UNIT, ISTITUTO SUPERIORE DI SANITA, ROME		86:
		87: UND

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WHO	EGY-11-E		
F. EL-SHARKAWI			
DEVELOPMENT OF PROPOSALS FOR GUIDELINES AND CRITERIA		82:	
GOVERNING THE APPLICATION OF THE LAND-BASED SOURCES		83:	
PROTOCOL		84:	
		85:	
HIGH INSTITUTE OF PUBLIC HEALTH	ALEXANDRIA	86:	UND
		87:	

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WHO	ITA-88-E		
G. A. ZAPPONI			
THE HEALTH COMPONENT OF ENVIRONMENTAL IMPACT ASSESSMENT		82:	
- EIA OF SELECTED PROJECTS AND DEVELOPMENTS IN THE		83:	
MEDITERRANEAN COASTAL AREAS		84:	
		85:	
REPARTO METODI DI VALUTAZIONE DEL RISCHIO, ISTITUTO		86:	
SUPERIORE DI SANITA, ROME		87:	UND

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WHO	TUR-13-E		
G. SURUCU			
GUIDELINES AND CRITERIA FOR THE APPLICATION OF		82:	
LAND-BASED SOURCES PROTOCOL (SUBMARINE OUTFALLS)		83:	
		84:	
		85:	
DEPARTMENT OF ENVIRONMENTAL ENGINEERING	MIDDLE EAST	86:	UND
TECHNICAL UNIVERSITY (METU) ANKARA		87:	

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 IOC FRA-27-F  
 A. CAILLOT  
 DEVENIR DES POLLUANTS SOUS FORME PARTICULAIRES DANS LE 82:  
 CHAMP PROCHE EN PRESENCE ET EN L'ABSENCE DE THERMOCLINE 83:  
 84:  
 85:  
 COMMISSARIAT A L'ENERGIE ATOMIQUE GIF SUR YVETTE 86: UND  
 87:

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 IOC GRE-48-F  
 M. BONAZUNTAS  
 OPTIMIZATION OF SEA OUTFALLS 82:  
 83:  
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 85:  
 HYDRAULICS LABORATORY, NATIONAL TECHNICAL UNIVERSITY OF 86:  
 ATHENS 87: UND

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 IOC GRE-50-F  
 C. KOUTITAS  
 PHYSICAL INVESTIGATION AND MODELLING OF CIRCULATION AND 82:  
 POLLUTANTS TRANSPORT IN AEGEAN SEA 83:  
 84:  
 85:  
 DEPT OF CIVIL ENGINEERING, ARISTOTLE UNIV. OF 86:  
 THESSALONIKI 87: UND

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 IOC ITA-23-F  
 S. CUNSOLO  
 VERTICAL TRANSPORT PROCESSES OF MARINE WATER NEAR THE 82:  
 COASTS (EXTENSION OF ONGOING PROJECT) 83:  
 84:  
 85:  
 DEPARTMENT OF PHYSICA, UNIVERSITY OF "LA SAPIENZA", ROMA 86:  
 87: UND

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 IOC ITA-86-F  
 R. SANTANGELO  
 LONGSHORE CURRENTS 82:  
 83:  
 84:  
 85:  
 OSSERVATORIO GEOFISICO DELL'UNIVERSITA DI MODENA 86:  
 87: UND

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RESEARCH PROJECTS IN THE FRAMEWORK OF MED POL  
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IOC	YUG-68-F		
M. GACIC			
PHYSICAL OCEANOGRAPHY COMPONENT OF POLLUTION MONITORING		82:	
		83:	
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		85:	
INSTITUTE OF OCEANOGRAPHY AND FISHERIES	SPLIT	86:	UND
		87:	

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IOC	YUG-79-F		
T. LEGOVIC			
RECONSTRUCTION OF A CURRENT FIELD AND CONCENTRATION		82:	
FIELD OF A POLLUTANT IN COASTAL SEA USING		83:	
MICROCOMPUTER		84:	
		85:	
CENTER FOR MARINE RESEARCH	ZAGREB	86:	
		87:	UND

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Aucune contribution	En cours de negoci.	Retire

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FAO GRE-49-G  
J. CASTRITSI-CATHARIOS  
ETUDE DE LA TOXICITE AIGUE ET DES EFFETS SUBLETAUX DES 82:  
COMPOSANTS D'ORGANOTINE SUR LES NAUPLII D'ARTEMIA 83:  
SALINAL. DE MESSOLONGHI, GRECE 84:  
85:  
LABORATOIRE DE ZOOLOGIE, UNIVERSITE D'ATHENES 86:  
87: UND

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FAO ITA-64-G  
V. ALBERGONI  
BIOACCUMULATION STUDIES AND PHYSIOLOGICAL AND 82:  
BIOCHEMICAL RESPONSES IN MARINE ORGANISMS EXPOSED TO 83:  
HEAVY METALS AND POLYCHLORINATED BIPHENYLS 84:  
85:  
DIPARTIMENTO DI BIOLOGIA, UNIVERSITA DI PADOVA 86:  
87: UND

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FAO ITA-65-G  
L. DALLA VENEZIA  
STUDY OF OSMOREGULATION MECHANISMS IN MARINE 82:  
INVERTEBRATES UNDER POLLUTED CONDITIONS 83:  
84:  
85:  
INSTITUTE OF MARINE BIOLOGY. NATIONAL RESEARCH COUNCIL, 86:  
VENICE 87: UND

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WHO ITA-66-G  
S. DE FLORA  
MUTAGENICITY, GENOTOXICITY, INTERACTIONS AND METABOLISM 82:  
OF CHEMICAL COMPOUNDS IN THE MARINE ENVIRONMENT AND IN 83:  
MARINE ORGANISMS 84:  
85:  
INSTITUTE OF HYGIENE, UNIVERSITY OF GENOA 86:  
87: UND

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FAO ITA-67-G  
M. DE NICOLA GIUDICE  
PHYSIOLOGICAL AND BIOCHEMICAL RESPONSE TO PCB POLLUTION 82:  
OF IDOTEA BALTHICA IN RESPECT TO SALINITY, 83:  
TEMPERATURE AND IN COMPARISON WITH HEAVY METALS (Cd, Hg, 84:  
Cu) 85:  
DIPT GENETICA, BIOLOGIA GENERALE E MOLECOLARE, 86:  
UNIVERSITA DEGLI STUDI DI NAPOLI 87: UND

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WHO	ITA-80-G	
G. BRONZETTI		
SHORT TERM TEST IN THE MUTAGENIC AND CARCINOGENIC		82:
DETECTION OF SEA- WATER POLLUTANTS		83:
		84:
		85:
CNR, PISA		86:
		87: UND
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FAO	ITA-83-G	
R. CAPELLI		
TIN, ORGANOTIN COMPOUNDS AND THALLIUM IN MARINE		82:
ORGANISMS		83:
		84:
		85:
INSTITUTO DI CHIMICA GENERALE, UNIVERSITA DI GENOVA		86:
		87: UND
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FAO	ITA-91-G	
R. GIORGI		
BIOACCUMULATION DE Hg, Cr ET Pb DANS LES STADES		82:
JUVENILES DES QUELQUES ESPECES DES POISSONS		83:
UTILISES EN AQUACULTURE		84:
		85:
LABORATOIRE CENTRALE HYDROBIOLOGIE, MINISTERE		86:
AGRICULTURE ET FORETS, ROME		87: UND
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FAO	ITA-97-G	
C. BARGHIGIANI		
MERCURY PRESENCE IN BENTHIC ORGNISMS OF THE NORTHERN		82:
TYRRHENIAN SEA IN RELATION TO THE CINNABAR ANOMALY OF		83:
MOUNT AMIATA		84:
		85:
CENTRO INTERUVERSITARIO DI BIOLOGIA MARINA, LIVORNO		86:
		87: UND
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FAO	ITA-105-G	
A. DI MUCCIO		
ORGANIC INDUSTRIAL CHEMICALS: MONITORING AND IMPACT		82:
ASSESSMENT ON SEDIMENTS? SEAWATER AND MARINE		83:
ORGANISMSSAMPLED IN SELECTED ITALIANCOAST AREAS		84:
		85:
ISTITUTO SUPERIORE DI SANITA, ROMA		86:
		87: UND
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FAO MOR-2-G  
M. KESSABI  
ETUDE DE LA TOXICITE, DE LA BIOACCUMULATION ET DE LA PERSISTANCE DU DDT CHEZ LE POISSON 82:  
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85:  
INSTITUT NATIONAL AGRONOMIQUE ET VETERINAIRE HASSAN II, 86:  
RABAT 87: UND  
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FAO YUG-57-G  
C. LUCU  
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83:  
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85:  
CENTRE FOR MARINE RESEARCH ROVINJ 86:  
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WHO YUG-71-G  
R. BATEL  
GENOTOXIC RISK ASSESSMENT IN THE MARINE ENVIRONMENT 82:  
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FAO YUG-72-G  
J. PAVICIC  
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83:  
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85:  
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87: UND  
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FAO	ITA-81-H	
L. ROTTINI-SANDRINI		
PERIODICITY AND CAUSES OF IRREGULAR MACRO- AND		82:
MICROPLANKTON BLOOMS APPEARING IN EUTROPHICATED AREAS		83:
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		85:
CIMAM, TRIESTE		86:
		87: UND
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FAO	ITA-92-H	
L. SCALERA-LIDIA		
ANALYSIS OF REPRODUCTIVE CAPACITY OF MACROPLANKTON		82:
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		84:
		85:
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FAO	ITA-93-H	
F. BOERO		
ACTIVITY, BEHAVIOUR AND DIE OF JELLYFISH ALONG THE		82:
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		84:
		85:
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FAO	ITA-106-H	
G. MARANO		
MONITORING OF MACROPLANKTON AGGREGATION IN THE SOUTHERN		82:
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		85:
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FAO	MOR-6-H	
L. TAHRI		
RECHERCHES SUR L'EUTROPHISATION ET LES FLORAISONS DE		82:
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		84:
		85:
INSTITUT SCIENTIFIQUE DES PECHEs MARITIMES, CASABLANCA		86:
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Aucune contribution	En cours de negoc.	Retire

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FAO	TUN--5-H	
M. BELKHIR		
BIOLOGIE DES EAUX DECOLOREES		82:
		83:
		84:
		85:
INSTOP SALAMMBO		86:
		87: UND

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Aucune contribution	En cours de negoc.	Retire

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 FAO FRA-37-I  
 J. GOY  
 EVOLUTION DE L'ECOSYSTEME PELAGIQUE DEPUIS LE DEBUT DU 82:  
 SIECLE EN MER LIGURE. MODELISATION DE SON 83:  
 FONCTIONNEMENT EN MILIEUX NATUREL ET PERTURBE. 84:  
 85:  
 ERA 228, UNIV PIERRE ET MARIE CURIE, PARIS 86:  
 87: UND

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 FAO ISR-24-I  
 B. S. GALIL  
 POLLUTION INDUCED MODIFICATIONS IN THE COMPOSITION AND 82:  
 DIVERSITY OF PLANKTONIC LARVAL DECAPODA OFF THE 83:  
 MEDITERRANEAN COAST OF ISRAEL 84:  
 85:  
 DEPT OF ZOOLOGY, TEL AVIV UNIV. TEL AVIV 86:  
 87: UND

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 FAO ITA-94-I  
 G. BRESSAN  
 MONITORAGE DES PHANEROGAMES MARINES DU GOLFE DE 82:  
 TRIESTE:ANALYSE DES VARITIONS DE L'ECOSYSTEME 83:  
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 FAO ITA-95-I  
 G. COGNETTI  
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 DEPARTIMENTO DI SCIENZE DELL'AMBIENTE E DEL TERRITORIO, 86:  
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 FAO ITA-96-I  
 E. TARAMELLI-RIVOSECCHI  
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 ASTRETCH OF COAST FACING THE THERMOELECTRIC CENTRES AT 83:  
 TORVALDALIGA 84:  
 85:  
 DIP. BIOLOGIA ANIMALE E DELL'UOMO, ROME 86:  
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FAO YUG-76-I  
A. Z. LOVRIC  
ECOLOGICAL MAPPING OF PHYTO-INDICATORS OF COASTAL  
POLLUTION INDUCED DEGRADATION ALONG THE EAST ADRIATIC  
COAST, ISLANDS AND ESTUARIES  
CENTER FOR MARINE RESEARCH ZAGREB

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 IAEA FRA-22-K  
 D. CALMET  
 ETUDES DES TRANSFERTS DE RADIONUCLEIDES ARTIFICIELS DANS 82:  
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 L'INFLUENCE DES EAUX DURHONE: APPLI CATION AU SUIVI 84:  
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 FAO FRA-38-K  
 F. WILKERSON  
 MEASUREMENT OF CHEMICAL COMPOSITION AND RATES OF 82:  
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 V. KRIKELIS  
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 IAEA ITA-71-K  
 A. LONGINELLI  
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 IAEA ITA-76-K  
 L. TASSI PELATI  
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 FACOLTA DI SCIENZE - UNIVERSITA DI PARMA 86:  
 87: UND

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IAEA	ITA-98-K	
A. A. ORIO		
THE TRANSPORT AND FATE OF CONTAMINANTS IN A LAGOON		82:
ECOSYSTEM: THE VENICE LAGOON CASE STUDY		83:
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		85:
DIPARTIMENTO DI SCEINCE AMBIENTALI, UNIVERSITA DEGLI		86:
STUDI DI VENEZIA		87: UND
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IAEA	ITA-100-K	
R. FRACHE		
RELATIONSHIPS BETWEEN ORGANICALLY BOUND TRACE METALS IN		82:
SETTLING PARTICULATE MATTER AND BIOLOGICAL PROCESSES		83:
IN LIGURIAN SEA		84:
		85:
ISTITUTO CHIMICA GENERALE GENOVA		86:
		87: UND
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FAO	ITA-104-K	
. FERRARA ROMANO		
ROLE OF POSIDONIA OCEANICA (L.) DELILE PARIRIES ON		82:
BIOAVAILABILITY OF MERCURY IN MARINE ENVIRONMENT		83:
		84:
		85:
CENTRO INTERUNIVERSITARIO DI BIOLOGIA MARINA, LIVORNO		86:
		87: UND
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IAEA	MOR-5-K	
. B. RAISSOUNI		
TRACE METALS (Hg, Pb, Fe, Cu, Ni) SPECIATIONS AND		82:
BEHAVIOUR ET ESTUARINE AND COASTAL WATER (OUED		83:
MOULOUYA - MEDITERRANEAN COST OF MOROCCO)		84:
		85:
INSTITUT AGRONOMIQUE ET VETERINAIRE HASSAN II, RABAT		86:
		87: UND
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IAEA	TUR-17-K	
S. PORTAKAL		
DETERMINATION OF THE MEDITERRANEAN SURFACE WATERS AND		82:
SEDIMENTS <sup>238</sup> Pu, <sup>239+240</sup> Pu, <sup>137</sup> Cs, <sup>60</sup> Co AND <sup>90</sup> Sr		83:
LEVELS AT THE SOUTH AND WEST COAST OF TURKEY		84:
		85:
RADIOBIOLOGY, NUCELAR RESEARCH AND TRAINING CENTRE,		86:
ISTANBUL		87: UND
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IAEA	YUG-74-K	
M. HORVAT		
ESTABLISHMENT OF MERCURY LEVELS IN THE ADRIATIC SEA		82:
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DEPARTMENT OF NUCLEAR CHEMISTRY, J. STEFAN INSTITUTE,		86:
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IAEA	YUG-75-K	
K. JUZNIC		
DISTRIBUTION OF CS-137 AND SR-90 IN ADRIATIC MARINE		82:
ORGANISMS AND SEDIMENTS AFTER THE CHERNOBYL ACCIDENT		83:
		84:
		85:
LAB OF NUCLEAR CHEMISTRY, J. STEFAN INSTITUTE, LJUBLJANA		86:
		87: UND
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IAEA	YUG-78-K	
A. MALEJ		
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MATTER AS INDICATORS OF ITS ORIGIN		83:
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		85:
MARINE BIOLOGICAL STATION PIRAN, UNIVERSITY OF LJUBLJANA		86:
		87: UND

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IOC	ALG-5-L	
D. AIT-KACI-AHMED		
LA DYNAMIQUE DE PRODUITS POLLUANTS ASSOCIES AUX APPORTS		82:
FLUVIATILES EN SUSPENSION ET LEUR DISPERSION DANS LES		83:
SEDIMENTS DU PLATEAU CONTINENTAL ALGERIEN		84:
		85:
INSTITUT DES SCIENCES DE LA MER ET DE L'AMENAGEMENT DU		86: UND
LITTORAL (ISMAL) ALGER		87:
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IOC	FRA-18-L	
J. M. MARTIN		
MECANISMES DE TRANSFERT DE RADIONUCLEIDES ARTIFICIELS		82:
ENTRE LE RHONE ET LA MEDITERRANEE		83:
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IOC	FRA-19-L	
M. AUBERT		
ETUDE DU TRANSFERT DES POLLUANTS ENTRE LE BASSIN		82:
ORIENTAL ET LE BASSIN OCCIDENTAL DE LA MEDITERRANEE		83:
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		85:
CERBOM	NICE	86: UND
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IOC	FRA-23-L	
J. M. MARTIN		
REEVALUATION DES APPORTS RHODANIENS DE METAUX A LA		82:
MEDITERRANEE		83:
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		85: 4000
ECOLE NORMALE SUPERIEURE	PARIS	86: UND
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WMO	FRA-32-L	
P. BUAT-MENARD		
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 IOC FRA-33-L  
 A. SALIOT  
 ETUDE DU CYLCE BIOGEOCHIMIQUE ET DES PROCESSUS DE 82:  
 TRANSFERT DES POLLUANTS ORGANIQUES EN MER MEDITERRANEE 83:  
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 85:  
 LAB. DE PHYSIQUE ET CHIMIE MARINES UNIV. P. ET M. 86: UND  
 CURIEPARIS 87:

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 IOC GRE-44-L  
 N. E. KOTSOVINOS  
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 GREECE - HYDROLOGIC ANALYSIS TIDAL MIXIG AND FLUSHING 83:  
 TIME 84:  
 85:  
 LABORATORY OF HYDRAULICS DEMOCRITUS UNIVERSITY OF 86: UND  
 THRACE 87:

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 IOC GRE-45-L  
 S. D. KILIKIDIS  
 EUTROPHICATION IN NESTOS RIVER ESTUARY IN N. GREECE. 82:  
 NUTRIENTS AND OTHER FACTORS INFLUENCING ESTUARINE 83:  
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 FACULTY OINARY MEDICINE ARISTOTELIAN UNIVERSITY OF 86: UND  
 THESSALONIKI 87:

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 IAEA GRE-51-L  
 P. KOUTSOUKOS  
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 INTERFACES 83:  
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 85:  
 PHYSICAL CHEMISTRY LAB, UNIVERSITY OF PATRAS 86:  
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 WMO ISR-21-L  
 Y. MAHRER  
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 FACULTY OF AGRICULTURE, HEBREW UNIV. OF JERUSALEM, 86:  
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IOC	ITA-73-L	
R. SANTANGELO		
BOX MODEL FOR EVOLUTION OF METALS IN MEDITERRANEAN SEA		82:
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OSSERVATORIO GEOFISICO DELL'UNIVERSITA DI MODENA		86: UND
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IOC	ITA-99-L	
R. PURINI		
AIR-SEA INTERACTIONS IN THE MEDITERRANEAN SEA		82:
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OCEANOGRAPHIC GROUP, ISTITUTO DI FISICA DELL'ATMOSFERA, CNR, ROMA		86:
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IOC	ITA-103-L	
S. GUERZONI		
TRANSPORT OF POLLUTANT BY SEDIMENTATION		82:
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		84:
		85:
ISTITUTO DI GEOLOGIA MARINE, CONSIGLIO NAZIONALE DELLE RICERCHE, BOLOGNA		86:
		87: UND
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WMO	MOR-3-L	
. NEJJAR		
CONTRIBUTION A L'ETUDE DES MECANISMES DE TRANSFERTS DES POLLUANTS AUX POINTS DE CONTACT ENTRE LES COURS D'EAU ET LA MER ET A L'INTERFACE AIR/MER		82:
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		85:
ECOLE MOHAMMADIA D'INGENIEURS, RABAT		86:
		87: UND
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IOC	SPA-18-L	
J. ALBAIGES RIERA		
TRANSPORT AND FATE OF WASTEWATER DISCHARGES OF THE CITY OF BARCELONA AND ADJACENT RIVERS (BESOS AND LLOBREAT) INTO THE COASTAL WATERS		82:
		83:
		84:
		85:
ENVIRONMENTAL CHEMISTRY CENTRO DE INVESTIGACION Y DESARROLLO BARCELONA		86: UND
		87:
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 IOC TUR-16-L  
 U. UNLUATA  
 TRANSPORT OF WATER AND SELECTED SUBSTANCES THROUGH THE STRAIT OF CANAKKALE - THE SEA OF MARAMARA - THE STRAIT OF INSTANBUL: A REVIEW 82:  
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 METU, ERDEMLI-ICEL 86:  
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 WMO YUG-29-L  
 Z. JANIC  
 DEFINITION OF SYNOPTIC SCALE DRIVING PARAMETERS FOR A MODEL OF ATMOSPHERIC POLLUTION TRANSPORT TOWARDS AND INTO THE MEDITRRANEAN SEA 82:  
 83:  
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 FEDERAL HYDROMETEOROLOGICAL INSTITUTE, BELGRADE 86:  
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 IAEA YUG-65-L  
 M. JURACIC  
 POLLUTANT TRANSFER PROCESSES: THE ROLE OF SUSPENDED MATTER AND SEDIMENTS IN THE LAND-TO-SEA TRANSPORT IN A KARSTIC ESTUARY 82:  
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 CENTER FOR MARINE RESEARCH RUDJER BOSKOVIC INSTITUTE ZAGREB 86: UND  
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 WMO YUG-73-L  
 L. KLASINC  
 PHOTOCHEMICAL OXIDANTS IN THE TROPOSPHERE - SIGNIFICANCEOF LAND TO SEA TRANSPORT IN THE MEDITERRANEAN 82:  
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 PHYSICAL CHEMISTRY DEPARTMENT, RUDER BOSKOVIC INST., ZAGREB 86:  
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MONI	ITA-101-		
G. P. DE RENZI			
EVALUATION OF THE CONTRIBUTION OF HYDROCARBONS TO THE		82:	
COASTAL POLLUTION IN TYRRHENIAN AND ADRIATIC SEAS		83:	
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ITEM, UNIVERSITY OF ROME "LA SAPIENZA", ROME		86:	
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MONI	ITA-102-		
S. CONSTANTINI			
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ORGANISMS OF TWENTY STATIONS OF THE ITALIAN COASTS		83:	
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		85:	
ISTITUTO SUPERIORE DI SANITA, ROME		86:	
		87:	UND

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Annex IV

Status of Reference Methods\* for Marine Pollution Studies  
as at February 1987

A. Sanitary quality of coastal recreational and shellfish-growing waters

No. 1	UNEP/WHO: Guidelines for monitoring the quality of coastal recreational and shellfish-growing waters.	draft (E) 09.05.84 Revised version in 1987 (E) (F)
No. 2	UNEP/WHO: Determination of total coliforms in sea-water by the membrane filtration culture method.	Rev.1(E) 31.08.83 Rev.1(F) 31.10.83
No. 3	UNEP/WHO: Determination of faecal coliforms in sea-water by the membrane filtration culture method.	Rev.1(E) 31.08.83 Rev.1(F) 31.10.83
No. 4	UNEP/WHO: Determination of faecal streptococci in sea-water by the membrane filtration culture method	Rev.1(E) 31.08.83 Rev.1(F) 31.10.83
No. 5	UNEP/WHO: Determination of faecal coliforms in bivalves by multiple test tube method.	Rev.1(E) 31.08.83 Rev.1(F) 31.10.83
No. 21	UNEP/WHO/IAEA: Determination of total coliforms in sea-water by multiple test tube (MPN) method.	draft(E) 19.07.85
No. 22	UNEP/WHO/IAEA: Determination of faecal coliforms in sea-water by multiple test tube (MPN) method.	draft(E) 19.07.85
No. 23	UNEP/WHO/IAEA: Determination of faecal streptococci in sea-water by multiple test tube (MPN) method.	draft(E) 19.07.85
No. 28	UNEP/WHO/IAEA: Determination of <u>staphylococcus aureus</u> in sea-water and sewage by the membrane filtration culture method.	draft(E) 30.06.86
No. 29	UNEP/WHO/IAEA: Determination of <u>pseudomonas aeruginosa</u> in sea-water and sewage by the membrane filtration culture method.	in preparation (E) 1987
No. 30	UNEP/WHO/IAEA: Isolation/enumeration of salmonella from sea-water and sewage.	in preparation (E) 1987

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\* Rev. refers to the revised issue of a method. (E) and (F) denote French and English issues.

- D UNEP/WHO/IAEA: Determination of faecal coliforms in estuarine waters, suspended matter and sediments. in preparation draft(F) April 1987
- M UNEP/WHO/IAEA: Statistical methods for the evaluation of results from monitoring the quality of coastal recreational and shellfish-growing waters. in preparation draft(E) 1987 draft(F) 1987
- UNEP/WHO/IAEA: Determination of fungi in sand by the membrane filtration culture method in preparation draft(F) 1987

B. Chemical contaminants in marine organisms

- No. 6 UNEP/FAO/IAEA: Guidelines for monitoring chemical contaminants in marine organisms. in preparation draft(E) 1988
- No. 7 UNEP/FAO/IOC/IAEA: Sampling of selected marine organisms and sample preparation for trace metal analysis. Rev.2(E) 12.11.84
- No. 8 UNEP/FAO/IOC/IAEA: Determination of total mercury in selected marine organisms by cold vapour atomic absorption spectrophotometry. Rev.1(E) 12.11.84
- No. 9 UNEP/FAO/IAEA: Determination of total arsenic in selected marine organisms by hydride generation atomic absorption spectrophotometry. draft(E) 22.04.85
- No. 10 UNEP/FAO/IAEA: Determination of total selenium in selected marine organisms by hydride generation atomic absorption spectrophotometry. (E) 12.11.84
- No. 11 UNEP/FAO/IOC/IAEA: Determination of total cadmium, zinc, lead and copper in selected marine organisms by flameless atomic absorption spectrophotometry. Rev.1(E) 12.11.84
- No. 12 UNEP/FAO/IAEA: Sampling of selected marine organisms and sample preparation for the analysis of chlorinated hydrocarbons. Rev.1(E) 12.11.84
- No. 13 UNEP/FAO/IAEA: Determination of methylmercury in selected marine organisms by gas chromatography. (E) 12.11.84
- No. 14 UNEP/FAO/IOC/IAEA: Determination of DDTs and PCBs in selected marine organisms by packed column gas chromatography. Rev.1(E) 03.04.86

No. 40	UNEP/FAO/IOC/IAEA: Determination of DDTs and PCBs in selected marine organisms by capillary column gas chromatography.	in preparation draft(E) April 1987
S	UNEP/IOC/FAO/IAEA: Guidelines for the control and management of analytical quality assurance for marine organism monitoring.	in preparation
U	UNEP/FAO/IOC/IAEA: Determination of total chromium in selected marine organisms by atomic absorption spectrophotometry.	in preparation
V	UNEP/FAO/IOC/IAEA: Determination of total cobalt in selected marine organisms by atomic absorption spectrophotometry.	in preparation
W	UNEP/FAO/IOC/IAEA: Determination of total nickel in selected marine organisms by atomic absorption spectrophotometry.	in preparation
X	UNEP/FAO/IOC/IAEA: Determination of total vanadium in selected marine organisms by atomic absorption spectrophotometry.	in preparation
Y	UNEP/FAO/IOC/IAEA: Determination of total iron in selected marine organisms by atomic absorption spectrophotometry.	in preparation
Z	UNEP/FAO/IOC/IAEA: Determination of total manganese in selected marine organisms by atomic absorption spectrophotometry.	in preparation
AZ	UNEP/FAO/IOC/IAEA: Determination of organotin compounds in selected marine organisms.	in preparation
BZ	UNEP/IOC/IAEA: Determination of organotin compounds in marine sediments.	in preparation
CZ	UNEP/IOC/FAO: Determination of organophosphorous compounds in selected marine organisms.	in preparation

C. Chemical contaminants in sea-water

No. 16	UNEP/IAEA: Determination of DDTs, PCBs, PCCs and other hydrocarbons in sea-water by gas chromatography.	draft(E) 21.09.82
No. 18	UNEP/IOC: Determination of total dissolved cadmium in sea-water by differential pulse anodic stripping voltammetry.	draft(E) 16.09.83
B	UNEP/IOC/IAEA: Monitoring of petroleum hydrocarbons in sea-water.	in preparation draft(E) 1988

D. Chemical contaminants in marine sediments and suspended matter

No. 17	UNEP/IAEA: Determination of DDTs, PCBs, PCCs and other hydrocarbons in marine sediments by gas-liquid chromatography.	draft(E) 22.09.82
No. 20	UNEP/IOC: Monitoring of petroleum hydrocarbons in sediments.	in preparation draft(E) 1988
No. 26	UNEP/IAEA: Determination of total mercury in marine sediments and suspended solids by cold vapour atomic absorption spectrophotometry.	draft(E) 25.03.85
No. 27	UNEP/IAEA: Determination of total cadmium in marine sediments by flameless atomic absorption spectrophotometry.	draft(E) 25.03.85
No. 31	UNEP/IAEA: Determination of total chromium in marine sediments by flameless atomic absorption spectrophotometry.	draft(E) 17.07.85
No. 32	UNEP/IAEA: Determination of total cobalt in marine sediments by flameless atomic absorption spectrophotometry.	draft(E) 17.07.85
No. 33	UNEP/IAEA: Determination of total copper in marine sediments by flameless atomic absorption spectrophotometry.	draft(E) 17.07.85
No. 34	UNEP/IAEA: Determination of total lead in marine sediments by flameless atomic absorption spectrophotometry.	draft(E) 17.07.85
No. 35	UNEP/IAEA: Determination of total nickel in marine sediments by flameless atomic absorption spectrophotometry.	draft(E) 17.07.85
No. 36	UNEP/IAEA: Determination of total vanadium in marine sediments by flameless atomic absorption spectrophotometry.	draft(E) 17.07.85
No. 37	UNEP/IAEA: Determination of total iron in marine sediments by flame atomic absorption spectrophotometry.	draft(E) 01.03.86
No. 38	UNEP/IAEA: Determination of total manganese in marine sediments by flame atomic absorption spectrophotometry.	draft(E) 01.03.86
No. 39	UNEP/IAEA: Determination of total zinc in marine sediments by flame atomic absorption spectrophotometry.	draft(E) 01.03.86

- R UNEP/IOC/IAEA: Guidelines on the sampling and preparation of sediments for marine pollution monitoring. in preparation
- T UNEP/IOC/IAEA: Guidelines for the control and management of analytical quality assurance for marine sediment monitoring. in preparation
- DZ UNEP/IOC/IAEA: Determination of organophosphorous compounds in marine sediments. in preparation

E. Chemical contaminants in estuarine waters and suspended matter

- No. 19 UNEP/IOC/IAEA: Determination of total mercury in estuarine waters and suspended sediment by cold vapour atomic absorption spectrophotometry. draft (E) 25.03.85
- C UNEP/IAEA: Guidelines for monitoring of estuarine waters and suspended matter. in preparation  
draft(E) April 1987
- E UNEP/WHO/IAEA: Determination of phosphorus in suspended matter and sediments in preparation  
draft(E) April 1987
- F UNEP/WHO/IAEA: Determination of nitrogen in suspended matter and sediments. in preparation  
draft(E) April 1987
- G UNEP/WHO/IAEA: Determination of BOD<sub>5</sub> and COD in estuarine waters. in preparation  
draft(E) April 1987
- I UNEP/IOC/IAEA: Determination of total cadmium in estuarine waters and suspended matter. in preparation  
draft(E) 1988
- No. 41 UNEP/IOC/IAEA: Guidelines for the determination of riverine input of contaminants to estuaries. in preparation  
draft(E) April 1987

F. Chemical contaminants on beaches

- No. 15 UNEP/IOC/IAEA: Monitoring of tar on marine beaches. draft(E) 25.03.85

G. Atmospheric chemical contaminants

- No. 24 UNEP/WMO/IAEA: Sampling of aerosols and wet precipitation for analysis of chemical pollutants. draft(E) 12.04.85
- No. 42 UNEP/IAEA: Determination of selected trace metals in aerosols and in wet precipitation. in preparation  
draft(E) April 1987

- P UNEP/IAEA: Determination of halogenated hydrocarbons in aerosols and in wet precipitation. in preparation draft(E) 1988
- Q UNEP/WMO/IAEA: Sampling of dry deposition. in preparation draft(E) 1988

H. Effects on marine organisms and ecosystems

- No. 25 SPC/UNEP: Coral reef monitoring handbook. (E) 27.08.84
- A UNEP: Sampling and identification of common Mediterranean Scyphomedusae and evaluation of their occurrence. in preparation draft(E) 1987
- Nos 43, 44, 45 UNEP/FAO/IAEA: Acute biological toxicity tests. in preparation drafts(E) 1987
- J UNEP/FAO/IAEA: Biological non-acute toxicity tests (five methods). in preparation drafts(E) 1987

I. Standard physical, chemical and meteorological observations

- K UNEP/IOC/IAEA: Determination of basic oceanographic and meteorological conditions. in preparation draft(E) 1987
- L UNEP/IOC/IAEA: Determination of standard physical and chemical parameters. in preparation draft(E) 1987

J. Miscellaneous methods

- AD UNEP/WHO/IAEA: Determination of methylmercury, total mercury and selenium in human hair. in preparation draft(E) April 1987
- AE UNEP/WHO/IAEA: Guidelines for monitoring and epidemiological studies on health effects of methylmercury. in preparation
- UNEP/IAEA: Guidelines for the use of Reference Methods in marine pollution studies. in preparation draft(E) April 1987
- UNEP/IAEA: Catalogue of Reference Methods for Marine Pollution Studies. (E) 30.06.86
- UNEP/IAEA: Development of Reference Methods for selected radionuclide measurements in marine matrices. in preparation

Annex V

List of MAP Technical Series

Published in 1986

No. of pages

No. 1	UNEP/IOC/WMO: Baseline studies and monitoring of oil and petroleum hydrocarbons in marine waters (MED POL I). MAP Technical Reports Series No. 1. UNEP, Athens 1986.	103
No. 2	UNEP/FAO: Baseline studies and monitoring of metals, particularly mercury and cadmium, in marine organisms (MED POL II). MAP Technical Reports Series No. 2. UNEP, Athens 1986.	227
No. 3	UNEP/FAO: Baseline studies and monitoring of DDT, PCBs and other chlorinated hydrocarbons in marine organisms (MED POL III). MAP Technical Reports Series No. 3. UNEP, Athens 1986.	135
No. 4	UNEP/FAO: Research on the effects of pollutants on marine organisms and their populations (MED POL IV). MAP Technical Reports Series No. 4. UNEP, Athens 1986.	125
No. 5	UNEP/FAO: Research on the effects of pollutants on marine communities and ecosystems (MED POL V). MAP Technical Reports Series No. 5. UNEP, Athens 1986.	153
No. 6	UNEP/IOC: Problems of coastal transport of pollutants (MED POL VI). MAP Technical Reports Series No. 6. UNEP, Athens 1986.	107
No. 7	UNEP/WHO: Coastal water quality control (MED POL VII). MAP Technical Reports Series No. 7. UNEP, Athens 1986.	433
No. 8	UNEP/IAEA/IOC: Biogeochemical studies of selected pollutants in the open waters of the Mediterranean (MED POL VIII). MAP Technical Reports Series No. 8. UNEP, Athens 1986.	49
No. 8 Add.	UNEP: Biogeochemical studies of selected pollutants in the open waters of the Mediterranean (MED POL VIII). Addendum, Greek Oceanographic Cruise 1980. MAP Technical Reports Series No. 8, Addendum. UNEP, Athens 1986.	75
No. 9	UNEP/FAO/UNESCO/WHO/WMO/IAEA/IOC: Co-ordinated Mediterranean pollution monitoring and research programme (MED POL - PHASE I). Final Report 1975 - 1980. MAP Technical Reports Series No. 9. UNEP, Athens 1986.	276



Published in 1987

	No. of pages
No. 10 UNEP/FAO: Research on the toxicity, persistence, bioaccumulation, carcinogenicity and mutagenicity of selected substances (Activity G). MAP Technical Reports Series No. 10. UNEP, Athens 1987.	118
No. 11 UNEP: Rehabilitation and reconstruction of Mediterranean historic settlements. MAP Technical Reports Series No. 11. UNEP, Athens 1987.	160

## Annex VI

## Summary of Intercalibration Exercises

1986 Exercises1. MED POL: Petroleum Hydrocarbon Intercalibration

Samples distributed: SD-K-1 (sediment) and MA-K-1 (oyster homogenate).

Initial distribution date: 23 October 1985.

Reply date: 31 January 1986.

Replies received by 5 January 1987: 9

Participant laboratories: 21 - Cyprus (1), Egypt (3), France (1), Greece (3), Lebanon (1), Libya (1), Malta (1), Spain (5), Tunisia (1), Turkey (2), Yugoslavia (2).

2. MED POL participants in IAEA Intercalibration

Samples distributed: MA-A-3/TM (shrimp, trace metals);  
MA-B-3/TM (fish, trace metals);  
MA-A-3/OC (shrimp, organochlorines);  
MA-B-3/OC (fish, organochlorines).

Initial distribution date: 23 September 1985.

Reply date: 31 May 1986.

Replies received by 5 January 1987: MA-A-3/TM: 1;  
MA-B-3/TM: 2;  
MA-A-3/OC: 7;  
MA-B-3/OC: 11.

Participant States from MED POL: 7 - Egypt, France, Italy, Libya, Spain, Turkey, Yugoslavia.

3. MED POL: Intercalibration of trace metals and organochlorines

Samples distributed: MA(S)-MED-86/TM (shrimp, trace metals);  
MA(S)-MED-86/OC (shrimp, organochlorines);  
MA(F)-MED-86/TM (fish, trace metals);  
MA(F)-MED-86/OC (fish, organochlorines).

Initial distribution date: 14 August 1986.

Reply date: 1 December 1986.

Replies received by 5 January 1987: MA(S)-MED-86/TM: 8;  
MA(S)-MED-86/OC: 3;  
MA(F)-MED-86/TM: 8;  
MA(F)-MED-86/OC: 3.

Participant laboratories: 34 - Algeria (3), Cyprus (2), Egypt (3), Israel (1), Italy (1), Lebanon (2), Malta (1), Morocco (4), Spain (1), Yugoslavia (16) - of which 21 laboratories participate in trace metal intercalibration only and 6 laboratories for organochlorines only.

Reports published in 1986 from previous exercises

1. Final report on the IAEA/UNEP (MED POL) Intercalibration of the Analysis of Marine Environmental samples of Organochlorine Compounds (SD-M-1/OC and MA-M-2/OC). Distributed to participants: February 1986.

Participant laboratories: 13 - Cyprus (1), France (1), Italy (2), Spain (8), Yugoslavia (1).

2. IAEA Report No. 29 (in print) - Results of MED POL II Exercise for the Intercalibration of Chlorinated Hydrocarbon Measurements on Mussel Homogenate (MA-M-2/OC), December 1986.

Participant laboratories: 16 - Cyprus (1), France (2), Italy (3), Spain (8), Yugoslavia (2).

3. IAEA Report No. 31 (in print) - Results of MED POL II Exercise for the Intercomparison of Trace Element Measurements on Mussel Tissue Homogenate and Marine Sediment (MA-M-2/TM and SD-N-1/2/TM), December 1986.

Participant laboratories: 18 - France (1), Greece (2), Israel (1), Italy (3), Morocco (1), Spain (6), Tunisia (1), Yugoslavia (3).

Available (limited) stocks of reference material

Trace Metals

AD-N-1/2 - Sediment

MA-A-1 - Copepods

Chlorinated Hydrocarbons

MA-M-2/OC - Mussels

MA-A-1/OC - Copepods

MA-A-2/OC - Fish

SD-M-1 - Sediment

Petroleum Hydrocarbons

MA-K-1 - Oyster homogenate

Annex VII

List of Maintenance Services

A. Service visits to the National Institutions, Regional Activity Centres and other visits (January 1986 - February 1987)

	Duty Period	Destination	Purpose
1.	03-08 February 1986	SPA/RAC, Salammbou Tunis	Installation of WANG Data/Word Processing System
2.	06-07 February 1986	INSTOP, La Goulette Tunis	Service of: - Recorder Mod 9176 - VARIAN automatic sample Dispenser
3.	10-12 March 1986	WANG-France, Paris	OIS-50/1 System training course
4.	15-16 March 1986	Fisheries Dept. Nicosia, Cyprus	Service of: - Aanderaa current meter - Aanderaa tape reader link to Apple II computer
5.	16-23 March 1986	Marine Research Center, Beirut	Service of: - VARIAN GC Mod 3700 - VARIAN recorder 9176 - VARIAN carbon rod atomizer, CRA-90
		<u>Note:</u> These instruments were transported to the Nicosia Laboratory to be serviced.	
6.	02-05 April 1986	PAP/RAC, Split Yugoslavia	Installation of WANG Data/WP System (new OIS-50) as a replacement for the initially installed one in September 1985
7.	11-15 May 1986	ISMAL, Alger	Service of: - VARIAN GC Mod 3700 - VARIAN AAS Mod 1250 - Serial interface for Perkin- Elmer AAS
8.	14 May 1986	Ministry of Hydraulics, Alger	Meeting with Mr. Benaji and Mr. Hamza

	Duty Period		Destination	Purpose
9.	14 May	1986	ANPE, Alger	Assessment of the present situation, and state of the instrument
10.	14 May	1986	University of Alger Chromatography Laboratory	Assessment of the present situation, and state of the instrument
11.	21-22 May	1986	WANG-France Paris	WANG PC system/supervision training course
12.	09-10 July	1986	VARIAN, Zug Switzerland	GC 3400 Service training course
13.	21-24 July	1986	Research and Training Centre Piran, Yugoslavia	Service of: - VARIAN AAS Mod 1250 - VARIAN GC Mod 2450
14.	25-27 July	1986	Centre for Marine Research Rovinj Yugoslavia	Service of: - VARIAN AAS Mod 1250 - Aanderaa current meter
15.	28-31 July	1986	PAP/RAC, Split Yugoslavia	To complete the installation of the WANG System (OIS-50 and DW/OS-55)
16.	31 July-2 Aug.	1986	Oceanographic Inst. Split, Yugoslavia	Installation of the VARIAN GC 3400
17.	03-04 August	1986	Center for Subtropic Cultures and Environmental Protection, Bar Yugoslavia	Installation of digital readout accessory to their PYE-UNICAM AAS Mod SP9-800, and, services of: - Olivetti minicomputer - VARIAN recorder 9176
18.	13-14 October	1986	SPA/RAC, Salambo Tunis	Service of: - WANG OIS-50 - WANG PC - WANG DW/OS-55
19.	15-16 October	1986	INSTOP, La Goulette Tunis	Service of: - VARIAN AAS Mod 1250 - VARIAN BC-6

Duty Period	Destination	Purpose
20. 15-19 December 1986	VARIAN, Zug Switzerland	AAS 1275ABD/1475ABD Service training course
21. 02-04 February 1987	PAP/RAC, Split Yugoslavia	Service of: - WANG OIS-50 - WANG DW/OS-55
22. 05-07 February 1987	Oceanographic Inst. Split, Yugoslavia	Service of: - VARIAN GC 3400 - Aanderaa current meter

<u>Summary</u>	a. Number of countries visited .....	7
	b. Number of institutions visited .....	16
	c. Number of visits .....	22
	d. Number of instruments serviced .....	26
	e. Number of the installed instruments (4 WANG computers, 1 VARIAN GC, 1 digital readout unit) ..	6

## B. Planned visits (March 1987 - December 1987)

	Duty Period	Destination	Purpose
1.	March 1987	SPA/RAC, Salamambo Tunis	Service of: - WANG OIS-50 - WANG PC - WANG DW/OS-55
2.	March 1987	INSTOP, La Goulette Tunis	Service of VARIAN AAS Mod. 1250
3.	April 1987	ROCC, Malta	Service of: - WANG OIS-50 - WANG PC - WANG DW/OS-55
4.	April 1987	University, Malta	Service of: - VARIAN GC 3700 - VARIAN AAS Mod. 1250
5.	May 1987	VARIAN, Zug Switzerland	Service training course for SpectrAA/10 AAS
6.	May 1987	Latakia, Syria	Installation of VARIAN SpectrAA/10 AAS
7.	June 1987	Institut des Pêches Casablanca, Morocco	Service of: - VARIAN GC 3700 - VARIAN AAS Mod. 1250
8.	June 1987	Veterinary Institute Rabat, Morocco	Service of: - VARIAN AAS 1200 - H & P integrator Installation of VARIAN CRA-90
9.	July 1987	ISMAL, Alger	Service of: - VARIAN GC 3700 - VARIAN AAS Mod. 1250
10.	September 1987	Fisheries Department Alexandria, Egypt	Service of: - VARIAN AAS Mod. 1250 - VARIAN GC 2400
11.	September 1987	University of Alexandria, Egypt	Service of VARIAN AAS Mod. 175

	Duty Period	Destination	Purpose
12.	October 1987	Fisheries Department Nicosia, Cyprus	Service of: - VARIAN AAS 1250 - VARIAN GC 3700 - Aanderaa current meter
13.	November 1987	Marine Research and Training Centre Piran, Yugoslavia	Service of: - VARIAN AAS 1250 - VARIAN GC 2400
14.	November 1987	Center for Marine Research Rovinj Yugoslavia	Service of: - VARIAN AAS 1250 - VARIAN GC 2400 - Aanderaa current meter
			<u>Note:</u> Possible emergency service visits to any National Institutions participating in the MED POL



## C. Supplies to the National Institutions (January 1986 - February 1987)

	Duty Period	Destination	Purpose
1.	February 1986	METU, Erdemli-Içel Turkey	- H2 short lamp - Xenon arc lamp - Ceramic injector heater - Metering valve
2.	April 1986	ISMAL, Alger	14 books concerning radiocative contamination of the marine environment
3.	May 1986	ISMAL, Alger	- Hamilton syringe cleaner - Hamilton needle cleaning kit - GC PCB standards - Pen, red, medium dry - Pesticide glass column
4.	July 1986	Center for Marine Research Split, Yugoslavia	Aanderaa current meter parts: - "O" ring - "C" clamp - Ten split pins 2462 - Five split pins 2062 - Spiral wire for lower spool holder - Rotor tester (synchro) - Conductivity tester - Set of screws - Five magnetic tapes
5.	July 1986	Oceanographic Inst. Split, Yugoslavia	Bubble Flow Meter (GC)
6.	August 1986	PAP/RAC, Split Yugoslavia	World Language Word Processing Software Package for WANG PC
7.	October 1986	METU, Erdemli-Içel Turkey	VARIAN GC parts: - Anode probe - Cathode probe - Oven temperature probe - Oven cartridge heater - Det. temperature probe - Two heat sinks with SCR - 3 transistors 2N3643 - 3 transistors 2N646
8.	January 1987	Marine Research and Training Centre Piran, Yugoslavia	- Blue lamp for Turner fluorometer - Lamp adapter

## Annex VIII

## List of training and fellowships

A. List of training courses granted to Mediterranean scientists  
(January 1986 - February 1987)

Scientists and institutions	Dates and institutions of training	Purpose of training/visit
<u>CYPRUS</u>		
Ms.M.Hadjichristophorou Ministry of Agriculture Fisheries Dept. Nicosia	20-23 January 1986 University of Athens	Discussions on the statistical aspects of the effects of thermal effluents on ecosystems
Ms. A. Nicolaidou Univ. of Athens Athens	29 Nov.-9 Dec. 1986 Dept. of Fisheries Nicosia, Cyprus	Consultation on data processing on benthos
<u>MOROCCO</u>		
Mr. E. Jellal Lab. G. Sanitaire E.M.I. Rabat	07-31 January 1986 Lab. IRH, Nancy France	Sampling and analysis of waste waters
<u>YUGOSLAVIA</u>		
Ms. M. Horvat Josef Stefan Inst. Ljubljana	31 Mar.-15 Apr. 1986 IFREMER Nantes	Trace element analysis by GC
Ms. A. Malej Univ. of Ljubljana Piran	15 June- 6 July 1986 METU Erdemli, Turkey	Meet scientists working on jellyfish programme
Mr. M. Gacic Inst. of Oceanography and Fisheries Split	26 Jan.-1 Feb. 1987 Univ. of Athens Athens, Greece	Analysis of sea-level data concerning meso-scale variability

B. List of fellowships granted to Mediterranean scientists  
(January 1986 - February 1987)

IX International Symposium "Chemistry in the Mediterranean, Primosten,  
Yugoslavia (1-7 May 1986)

N. FRILIGOS  
National Centre for Marine Research  
Aghios Kosmas  
16604 Athens  
Greece

Hava HORNUNG  
Israel Oceanographic and Limnological  
Research Ltd.  
P.O. Box 8030  
Tel-Shikmona  
Haifa 31080  
Israel

A. Cemal SAYDAM  
Institute of Marine Sciences  
Middle East Technical University  
P.K. 28  
Erdemli/Içel  
Turkey

Bachir RAISSOUNI  
Institut Agronomique et Vétérinaire Hassan II  
Département de Pharmacie, Pharmacologie,  
Toxicologie et Biochimie  
B.P. 6202  
Rabat-Institut  
Rabat  
Morocco

3rd International Conference on Environmental Quality, and Ecosystem Stability,  
Jerusalem, Israel (1-4 June 1986)

A. V. CATSIKI  
National Centre for Marine Research  
Aghios Kosmas  
16604 Athens  
Greece

A. PICCIONI  
Istituto Superiore di Sanita  
Viale Regina Elena 299  
00161 Rome  
Italy

Scientific visit to British Museum, London, U.K. (24 June - 5 July 1986)

Adam BENOVIC  
Biological Institute  
P.O. Box 39  
51001 Dubrovnik  
Yugoslavia

Chemicals in the Environment, Lisbon, Portugal (30 June - 3 July 1986)

K. FYTIANOS  
Laboratory of Analytical Chemistry  
School of Physics and Mathematics  
University of Thessaloniki  
54006 Thessaloniki  
Greece

Third International Symposium on Environmental Management, for Developing Countries, Istanbul, Turkey (6-12 August 1986)

V. ONOFRI  
Biological Institute  
P.O. Box 39  
51001 Dubrovnik  
Yugoslavia

VII Symposium on Animal and Plant Toxins, Prague, Czechoslovakia (18-22 August 1986)

Zvonimir MARETIC  
Medical Center  
52000 Pula  
Yugoslavia

Second International Conference Environmental Contamination  
Amsterdam, Holland (23-25 September 1986)

Tomislav ZVONARIC  
Institute of Oceanography and Fisheries  
P.O. Box 114  
58000 Split  
Yugoslavia

La mise en oeuvre de la Directive eaux de baignade, dans le Etats Membres de  
la Communauté, Montpellier, France (12-15 October 1986)

Rafael MUJERIEGO  
Professor of Sanitary Engineering  
Universitat Politecnica de Barcelona  
Escola Tecnica Superior d'Enginyers  
de Camins, Canals i Ports  
Jordi Girona Salgado 31  
Barcelona 34  
Spain

VIII ICSEM/IOC/UNEP Workshop on Marine Pollution, of the Mediterranean  
Palma de Mallorca, Spain (20-22 October 1986)

Ali BAKALEM  
ISMAL  
B.P. 90  
1er Novembre  
Alger  
Algeria

Osma T. ABOUL-DAHAB  
Oceanography Department  
Faculty of Science  
University of Alexandria  
Moharrem Bey  
Alexandria  
Egypt

M. F. MACKLAD  
Pesticides Research Station  
Agricultural Research Centre  
Etay El-Baroud  
Egypt

George ARAPIS  
S.E.R.E.  
Département de Protection  
Centre d'Etudes Nucléaires  
92265 Fontenay-aux-Roses Cedex  
France

Jacqueline GOY  
Ichtyologie générale et appliquée  
Muséum National d'Histoire naturelle  
43 rue Cuvier  
75005 Paris Cédex 5  
France

Efstathios BALOPOULOS  
National Centre for Marine Research  
16604 Hellinikon  
Greece

Joanna CASTRITSI-CATHARIOS  
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Faculty of Science  
University of Athens  
15771 Athens  
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N. Ch. FRILIGOS  
National Centre for Marine Research  
16604 Hellinikon  
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K. FYTIANOS  
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Aristotelian University of Thessaloniki  
54006 Thessaloniki  
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A. HALKIAS  
Athens School of Hygiene  
Department of Nutrition and Biochemistry  
Leof. Alexandras 196  
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Fanny VOUTSINOI-TALIADOURI  
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Israel

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Turkey

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University of Ljubljana  
MRIC, JLA 65  
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Yugoslavia

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Tomislav ZVONARIC  
Institute of Oceanography and Fisheries  
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Yugoslavia

Training Course on the Coastal Zone Monitoring and Management  
Alexandria, Egypt (16 November - 7 December 1986)

Victor Elie NAJJAR  
Research Assistant  
Marine Research Centre  
National Council for Scientific Research  
P.O. Box 123, Jounieh  
Lebanon

Marie M. TELBEIAN  
Research Assistant  
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Ivanka KRAUS  
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Marine Research and Training Centre Piran  
MRIC, JLA 65, 66330 Piran  
Yugoslavia

Annex IX

Budget for 1986 and 1987  
(taken from UNEP/IG.56/5, Annex VIII, pages 7-10)  
(in US dollars)

(SECTION I)  
CHAPTER 3 - MED POL - MONITORING

	1986	1987
<b>1. PERSONNEL <u>A/</u></b>		
<u>Experts/Consultants</u>		
- FAO Fishery Expert, P-5	12mm 65,000	12mm 67,000
- WHO Senior Scientist, P-5	12mm 73,000	12mm 75,000
- IAEA Maintenance Engineer, P-3	12mm 60,000	12mm 62,000
<u>Administrative Support</u>		
- FAO Secretary, Athens, Local G-4	12mm 12,000	12mm 14,000
- WHO Secretary, Athens, Local G-4	12mm 14,000	12mm 15,000
- WHO Secretary, Copenhag., Loc.G-4	6mm 8,000	6mm 9,000
- IAEA Lab. Assist., Monaco, Local G-5	12mm 25,000	12mm 27,000
<b>Component Total</b>	<b>257,000</b>	<b>269,000</b>
<b>2. TRAVEL <u>B/</u></b>		
- WHO	10,000	10,000
- FAO	10,000	10,000
- IOC/UNESCO	5,000	5,000
- WMO	5,000	5,000
- IAEA	20,000	20,000
<b>Component Total</b>	<b>50,000</b>	<b>50,000</b>

A/ Cost of UNEP staff involved in MED POL covered through Chapter I (Co-ordination) of MAP budget.

B/ Cost of travel of UNEP staff related to MED POL covered through Chapter I (Co-ordination) of MAP budget.

	1986	1987
<b>3. SUBCONTRACTS</b>		
- Intercalibration of petroleum hydrocarbon analytical methods (through IOC)	6,000	-
- Printing of VIII ICSEM/IOC/UNEP proceedings (ICSEM through the Secretariat)	-	15,000
- Assistance through agreements	316,600	431,000
<b>Component Total</b>	<b>322,600</b>	<b>446,000</b>
<b>4. MEETINGS/TRAINING/WORKSHOPS/FELLOWSHIPS</b>		
<u>Meetings:</u>		
- Working Group for Scientific and Technical Co-operation	40,000	45,000
<u>Training:</u>		
- On-job training (through the Secretariat)	80,000	70,000
<u>Fellowships:</u>		
- Fellowships for attendance at meetings:		
- VIII ICSEM/IOC/UNEP Workshops	30,000	-
- Preparation of documentation to assess results of monitoring activities	-	30,000
- Consultation meeting on LBS monitoring (WHO)	-	15,000
- Other meetings	30,000	25,000
<b>Component Total</b>	<b>180,000</b>	<b>185,000</b>
<b>5. EQUIPMENT <u>C/</u></b>		
<u>Expendable</u>		
- Spare parts for common maintenance service (through IAEA)	23,000	25,000
<u>Non-expendable</u>		
- Laboratory equipment (to ILMR)	18,000	17,500
<b>Component Total</b>	<b>41,000</b>	<b>42,500</b>

	1986	1987
6. RENTAL AND MAINTENANCE OF PREMISES <sup>D/</sup>	-	-
Component Total	-	-
7. OPERATION AND MAINTENANCE OF EQUIPMENT <sup>E/</sup> - IAEA	1,800	2,000
Component Total	1,800	2,000
8. REPORTING COSTS <sup>F/</sup> - IAEA	1,300	1,500
Component Total	1,300	1,500
9. SUNDRY <sup>G/</sup> - IAEA	1,300	1,500
Component Total	1,300	1,500
GRAND TOTAL	855,000	997,500

C/ Equipment committed through Agreements included in Section 3 (Sub-contracts).

D/ No direct costs to MED POL.

E/ This item covers only the cost of operation and maintenance of equipment used by ILMR for common maintenance service.

F/ Costs of translation and printing of UNEP documents related to MED POL covered through Chapter I (Co-ordination) of MAP budget.

G/ Cost of sundry items related to MED POL incurred by UNEP covered through Chapter I (Co-ordination) of MAP budget.

## (SECTION I)

## CHAPTER 4 - MED POL - RESEARCH

	1986	1987
<b>SUBCONTRACTS</b>		
Activity A	35,000	36,000
B	16,000	18,000
C	16,000	18,000
D	25,000	36,000
E	16,000	18,000
F	20,000	26,000
G	20,000	26,000
H	25,000	26,000
I	12,000	20,000
J	14,000	12,000
K	25,000	30,000
L	25,000	30,000
Sub-total	249,000	296,000
<b>MEETINGS</b>		
Activity A	12,000	-
D	12,000	12,500
H	12,000	-
L (two meetings)	-	24,000
Sub-total	36,000	36,500
<b>GRAND TOTAL</b>	<b>285,000</b>	<b>332,500</b>

Annex X

Parameters agreed at Second Meeting of the Contracting Parties  
to the Convention for the Protection of the Mediterranean Sea  
against Pollution and its related protocols  
and Intergovernmental Review Meeting of  
Mediterranean Coastal States on the Action Plan  
(Cannes, 2-7 March 1981)  
(UNEP/IG.23/11, paragraphs 13, 17, 18, 19, 20 and 24)

13. Pollutants to be monitored [for sources of pollution] include:
- (a) Pollutants listed in annexes I and II to the Land-based Sources Protocol;
  - (b) Pollutants listed in annexes I and II to the Dumping Protocol;
  - (c) Pollutants referred to in article 8 and article 9 of the Dumping Protocol;
  - (d) Pollutants referred to in article 8 of the Emergency Protocol;
  - (e) Substances which may contribute significantly to the over-all level (concentration) of pollutants in the sea.

17. For general monitoring purposes of coastal waters (i.e. not in the heavily polluted areas in the vicinity of point sources), the following priority parameters (indicators) will be taken into account initially:

Total mercury in organisms and sediments;

Cadmium in organisms;

High-molecular weight halogenated hydrocarbons in organisms and sediments;

Petroleum hydrocarbons in water, sediments and oil residues (tar-balls) on sea-shores;

Faecal coliforms in recreational waters and edible bivalves;

Basic oceanographic and meteorological conditions.

In addition, standard physical and chemical parameters (salinity, oxygen, temperature, etc.) which may contribute to the interpretation of the results, will be monitored.

18. It is envisaged that, after three years, the following additional parameters (indicators) for monitoring of coastal waters will be added to the list:

Cadmium in sediments;

Organic mercury in organisms and sediments;

Total arsenic in organisms;

Selenium in organisms;

Lead in organisms;

Polynuclear aromatic hydrocarbons in organisms;

Additional organics (such as carcinogenic compounds) in organisms;

Radionuclides in organisms;

Faecal coliforms in sediments;

Pathogens in waters, sediments and bivalves;

Ecological parameters, such as productivity and community structure.

19. Taking into account the specificity of estuaries, the parameters (indicators) to be monitored will initially include:

Total mercury in water and suspended matter;

Cadmium in water and suspended matter;

High-molecular weight halogenated hydrocarbons in water and suspended matter;

Faecal coliforms in water and suspended matter;

Phosphorus in water and suspended matter;

Nitrogen in water and suspended matter;

BOD<sub>5</sub> in water;

COD in water.



20. It is envisaged that, after three years, the following additional parameters (indicators) for monitoring of estuaries will be added to the list:

Total arsenic in water and suspended matter;

Organic mercury in water and suspended matter;

Selenium in water and suspended matter;

Lead in water and suspended matter;

Polynuclear aromatic hydrocarbons in water and suspended matter;

Radionuclides in water and suspended matter;

Oil residues in water and suspended matter;

Pathogens in water;

Phenols in water.

24. Parameters (indicators) recommended to be monitored in the reference areas are primarily those listed in paragraph 17, with the exception of micro-organisms.