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ENGLISH



MEDITERRANEAN ACTION PLAN

Meeting of MAP National Focal Points

Athens, 11-14 September 2001

MED POL PHASE III DATA MANAGEMENT



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MED POL PHASE III DATA MANAGEMENT

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Introduction

This document contains information on the activities related to the management of MED POL Phase III data achieved during 2000-2001 (chemical pollution data) and a summary on the proposed activities for the next biennium. Brief background information concerning MED POL Phase I and II data is also presented. This document is submitted to the MED POL Coordinators for their information and comments. Further discussions on the issues presented below will be made during the second half of 2001 through direct contacts with MED POL National Coordinators and MED POL participating scientists and at the 'Review Meeting of MED POL Monitoring Activities' scheduled to be held in December 2001.

1. Status of data stored in MED POL during Phases I and II

The available MED POL marine pollution data of Phases I and II covers, respectively, the periods 1975-1982 and 1983-1996. Although the data from Phase I is limited if compared to that of Phase II, when both are considered as a single entity, the maximum number of records belong to Trace Metal (TM) measurements in biota (around 35,000) whereas the records for Chlorinated Hydrocarbons (CH) in biota are around 15,000. In addition, the MED POL data base also includes data on microbial pollution and contaminants in sediments.

MED POL Phase I and II data was transmitted by participating laboratories to the Secretariat either as hardcopy or on diskette; the data was accordingly computerized. The work of MED POL staff and consultants for the analysis of the data has often revealed rather difficult because of a number of causes, such as missing basic information in data forms submitted by the laboratories, lack of systematic validation of data, lack of comprehensive feedbacks etc. Already in the past, the project "Enhancement of Data Processing Facilities for Environmental Data at the Coordinating Unit for MAP" (implemented as part of MED POL during the period July 1994-January 1996 with funds from the Italian Government) had attempted to overcome these difficulties. The undeniable necessity of uniform data reporting formats and codes was stressed by the project and the necessary guidelines for data submission were provided among the outputs of the project.

At present, the data of TM and CH in biota of Phase I and II is being reviewed in its entirety and the reliable data is being selected by an expert in consultation with the Secretariat and the data originators. A CD ROM will be prepared and widely distributed by the end of 2001. The CD will include the reliable data of Phase I and II, the list of participating institutes, the description of the parameters and a short report. In addition, MED POL is going to perform a general statistical evaluation of the whole data bank.

2. The activities related to MED POL Phase III data management

The main aim of MED POL Phase III is to provide valid data and information on pollution trends of contaminants and loads, biological effects of pollutants and compliance to existing legislation for the management of Mediterranean coastal waters and hot spots. These different objective-oriented aspects of MED POL Phase III impose the collation of high quality data and a proper and timely processing and analysis of the data. Therefore, as a first step, the data flow from the participating laboratories should be rapid and achieved through the use of uniform data reporting formats which allow quick access to data for analysis and evaluation, mainly in relation to trend and biological effects monitoring. As a second step, the proper storage of all the data (from Phase I, II and III) in an appropriate database structure is required to allow quick selection and evaluation of data for various purposes, such as the application of different data analysis techniques, presentation of the

results and preparation of reports and reformulation of the trend objectives of the pilot programmes as needed.

During 2001, several meetings were held among MED POL staff and external experts were contacted to review and revise the existing data reporting formats and the present structure of the MEDPOL database aiming at the simplification and re-organization of the reporting formats and, accordingly, the restructuring of the database for the specific purposes of MED POL Phase III. In particular, a one-day informal consultation meeting was held on 4 April 2001 in MAP Coordinating Unit to discuss the present and future needs of the MED POL Phase III database. Three scientists working in the Mediterranean region attended the consultation. A summary of the discussions and conclusions of the meeting are presented here below.

MEDPOL Phase III reporting formats for trend (and state) monitoring were examined and reviewed, and are presented in the Annex to this document as data field tables. The description of the fields is also included in the tables. The draft reporting format for biological effects monitoring is not presented in the Annex as it requires further expert review. The information on the analytical variances of the laboratories was found missing in the existing formats and was added. The information is in fact needed for the statistical analysis of trends and should be kept by both the laboratory and the Secretariat to be used for calculating the analytical variances. The monitoring data would be transferred by the participating laboratories on the attached formats (see Annex) which have been prepared in EXCEL worksheets and are available in diskette for the data providers together with a short information text. The diskette will also include the reporting table for compliance monitoring of bathing waters, which was also reviewed during the informal consultation meeting, as well as formats for reporting on tar and coastal litter.

After the data is submitted by the participating laboratories in diskettes by using the new formats in EXCEL (attached to the annual reports of the monitoring activities), it would then be integrated into the MED POL database. All the Phase III data and 'reliable' Phase I and II data will be integrated into the new database.

The validation of MEDPOL Phase III data will be made by the laboratories (data providers); however, internal and external quality assurance information of the laboratories would also be kept by the Secretariat.

In parallel to the re-establishment of the new MED POL database, the establishment of similar and compatible *national databases* in some pilot countries could also be considered and planned by MED POL in the mid-term. This would increase the national capabilities for storing and analyzing data and would greatly facilitate the transfer of the data to MED POL for the regional assessments.

3. Proposed work plan for 2002-2003

On the basis of the work carried out during 2000-2001, the activities related to the establishment of new MED POL database and, possibly, of national databases could be achieved during the coming biennium as follows:

1. finalization of all the reporting formats of trend monitoring, bio-monitoring and compliance monitoring;
2. distribution of the new reporting formats to the countries/laboratories in EXCEL sheets thus ensuring a standard MED POL data flow to the Secretariat;

3. establishment of a new MEDPOL database responding to the following needs:
 - effective integration and storage of various environmental/pollutant data together with standard oceanographic data;
 - appropriate data loading, import and export possibilities;
 - proper/effective data management;
 - integration of valid Phase I and Phase II data;
 - development and use of basic statistical and processing tools to check completeness of data, trends, etc.;
 - development and use of basic tools for appropriate presentation of data;
4. the possible establishment of similar and compatible database(s) in pilot countries for the achievement of proper data storage and management of monitoring data by the countries themselves; this process would ensure on the long-term a permanent and standard way of storage and processing of the monitoring data in the Mediterranean countries;
5. organization of training and meetings on database and database management issues.

ANNEX

Table 1
BIOTA fields and descriptions for data entries of MEDPOL Phase III

Fields	Requisite	Description	Format	Units
(columns in the reporting XLS tables)				
YEAR	Mandatory	Monitoring Year	NUM (4)	
COUNTRY	Mandatory	Country Code (MED POL Codes)	CHAR (3)	
AREA	Mandatory	Area Code (as used in Phase III Agreement)	CHAR (6)	
STATION	Mandatory	Station Code (as used in Phase III Agreement)	CHAR (6)	
STATION_TYPE	Mandatory	for Hot Spots (HS), Coastal (C), Reference (R)	CHAR (2)	
SAMP_DATE	Mandatory	Date of Sampling	DATE	
LAT_DEG	Mandatory	Latitude degree	NUM (2)	
LAT_MIN	Mandatory	Latitude minute, seconds (In case of GPS application use this field for minutes and seconds in decimals, otherwise use only for minutes)	NUM (5,2)	
LAT_SEC	Mandatory	Latitude seconds (Use this field only when GPS is not used for positioning)	NUM (2)	
LON_DEG	Mandatory	Longitude in degrees	NUM (2)	
LON_MIN	Mandatory	Longitude minute, seconds (In case of GPS application use this field for minutes and seconds in decimals, otherwise use only for minutes)	NUM (5,2)	
LON_SEC	Mandatory	Longitude seconds (Use this field only when GPS is not used for positioning)	NUM (2)	
BOT_DEPTH	Mandatory	Bottom depth of the sampling station	NUM (5,1)	m
SAM_DEPTH	Mandatory	Sampling depth	NUM (5,1)	m
SAM_TEMP	Mandatory	Temperature at the sampling station and depth	NUM (5,2)	Deg C
SAM_SALIN	Mandatory	Salinity at the sampling station and depth	NUM (5,2)	
SAM_DO	Mandatory	Dissolved oxygen at the sampling station and depth	NUM (5,2)	mg/L
SPECY	Mandatory	Selected Specie for analysis (MED POL codes)	CHAR (2)	
TISSUE	Mandatory	Selected Tissue for analysis (MED POL codes)	CHAR (2)	
SAM_NO	Mandatory	Sample no. (1,...) (as used in trend objectives of the programme)	NUM (2)	
NS	Mandatory	Number of specimens (=num.Of pooled organisms in a sample)	NUM (2)	
LENGTH_AVG	Mandatory	Average length of specimens in a pool	NUM (7,2)	cm
LENGTH_STD	Mandatory	Standard deviation of average length of specimens in a pool	NUM (6,2)	cm
WEIGHT_AVG	Mandatory	Average weight of specimens in a pool	NUM (8,1)	grams
WEIGHT_STD	Mandatory	Standard deviation of average weight of specimens in a pool	NUM (7,1)	grams
EOM	Additional	Extractable Organic Matter	NUM (5,2)	mg/g
DW / FW	Additional	Ratio of dry weight to fresh weight	NUM (5,2)	%
INST_CODE_TM	Mandatory	Trace Metal Institute code	CHAR(9)	
ANALY_DATE_TM	Mandatory	TM Analysis Date	DATE	
ANALY_METH_TM	Mandatory	TM Analysis method (MED POL codes)	CHAR (5)	
AS_CONC	Additional	Arsenic concentration	NUM (7,3)	ug/kg
AS_BDL	Additional	enter BL if As conc. Is below detection limit or level of determination	CHAR (2)	
CD_CONC	Mandatory	Cadmium Concentration	NUM (7,3)	ug/kg

CD_BDL	Mandatory	Enter BL if Cd conc. is below detection limit or level of determination	CHAR (2)	
CR_CONC	Additional	Chromium Concentration	NUM (7,3)	ug/kg
CR_BDL	Additional	enter BL if Cr conc. Is below detection limit or level of determination	CHAR (2)	
CU_CONC	Additional	Copper concentration	NUM (7,3)	ug/kg
CU_BDL	Additional	Enter BL if Cu conc. Is below the detection limit or level of determination	CHAR (2)	
HGT_CONC	Mandatory	Total Hg concentration	NUM (7,3)	ug/kg
HGT_BDL	Mandatory	enter BL if HgT conc. is below detection limit or level of determination	CHAR (2)	
PB_CONC	Additional	Lead Concentration	NUM (7,3)	ug/kg
PB_BDL	Additional	enter BL if Pb conc. Is below detection limit or level of determination	CHAR (2)	
ZN_CONC	Additional	Zinc concentration	NUM (7,3)	ug/kg
ZN_BDL	Additional	Enter BL if Zn conc. Is below the detection limit or level of determination	CHAR (2)	
INST_CODE_OC	Additional	Institute code for organic contaminant analysis	CHAR(9)	
ANALY_DATE_OC	Additional	Analysis Date	DATA	
ANALY_METH_OC	Additional	Analysis method(s) for organic contaminants (MED POL codes)	CHAR (5)	
PAH+_CONC	Additional	PAH-concentration	NUM (7,3)	ug/kg
PAH_BDL	Additional	enter BL if PAH conc. is below detection limit or level of determination	CHAR (2)	
PCB_CONC	Additional	Average PCB-concentration	NUM (7,3)	ug/kg
PCB_BDL	Additional	enter BL if PCB conc. is below detection limit or level of determination	CHAR (2)	
Other Organics	Additional	to be included to the fields depending on the country agreements		

Table 2
SEDIMENT fields and descriptions for data entries of MEDPOL Phase III

Fields	Requisite	Description	Format	Units
(columns in the reporting XLS tables)				
YEAR	Mandatory	Monitoring Year	NUM (4)	
COUNTRY	Mandatory	Country Code (MED POL codes)	CHAR (3)	
AREA	Mandatory	Area Code (as used in Phase III Agreement)	CHAR (6)	
STATION	Mandatory	Station Code (as used in Phase III Agreement)	CHAR (6)	
STATION_TYPE	Mandatory	for Hot Spots (HS), Coastal (C), Reference (R)	CHAR (2)	
SAMP_NO	Mandatory	Sample no.(1,...) (as used in trend objectives of the programme)	NUM (2)	
SAMP_DATE	Mandatory	Date of Sampling	DATE	
LAT_DEG	Mandatory	Latitude degree	NUM (2)	
LAT_MIN	Mandatory	Latitude minute, seconds (In case of GPS application use this field for minutes and seconds in decimals, otherwise use only for minutes)	NUM (5,2)	
LAT_SEC	Mandatory	Latitude seconds (Use this field only when GPS is not used for positioning)	NUM (2)	
LON_DEG	Mandatory	Longitude in degrees	NUM (2)	
LON_MIN	Mandatory	Longitude minute, seconds (In case of GPS application use this field for minutes and seconds in decimals, otherwise use only for minutes)	NUM (5,2)	
LON_SEC	Mandatory	Longitude seconds (Use this field only when GPS is not used for positioning)	NUM (2)	
BOT_DEPTH	Mandatory	Bottom depth of the sampling station	NUM (5,1)	m
BOT_TEMP	Mandatory	Temperature value at the bottom of the sediment sampling station	NUM (5,2)	Deg C
BOT_SALIN	Mandatory	Salinity value at the bottom of the sediment sampling station	NUM (5,2)	
BOT_DO	Mandatory	Dissolved Oxygen value at the bottom of the sampling station	NUM (5,2)	mg/L
DW / WW		Ratio of dry weight to wet weight	NUM (5,2)	%
INST_CODE_TM	Mandatory	Trace Metal Institute code	CHAR(9)	
ANALY_DATE_TM	Mandatory	TM Analysis Date	DATE	
ANALY_METH_TM	Mandatory	TM Analysis method (MED POL codes)	CHAR (5)	
AS_CONC	Additional	Arsenic concentration	NUM (7,3)	ug/kg
AS_BDL	Additional	enter BL if As conc. Is below detection limit or level of determination	CHAR (2)	
CD_CONC	Mandatory	Cadmium concentration	NUM (7,3)	ug/kg
CD_BDL	Mandatory	enter BL if Cd conc. is below detection limit or level of determination	CHAR (2)	
CR_CONC	Additional	Chromium Concentration	NUM (7,3)	ug/kg
CR_BDL	Additional	enter BL if Cr conc. Is below detection limit or level of determination	CHAR (2)	
CU_CONC	Additional	Copper concentration	NUM (7,3)	ug/kg
CU_BDL	Additional	Enter BL if Cu conc. Is below the detection limit or level of determination	CHAR (2)	
HGT_CONC	Mandatory	Total Hg concentration	NUM (7,3)	ug/kg
HGT_BDL	Mandatory	enter BL if HgT conc. is below detection limit or level of determination	CHAR (2)	
PB_CONC	Additional	Lead Concentration	NUM (7,3)	ug/kg
PB_BDL	Additional	enter BL if Pb conc. Is below detection limit or level of determination	CHAR (2)	
ZN_CONC	Additional	Zinc concentration	NUM (7,3)	ug/kg

ZN_BDL	Additional	Enter BL if Zn conc. Is below the detection limit or level of determination	CHAR (2)	
INST_CODE_OC	Additional	Institute code for organic contaminant analysis	CHAR(9)	
ANALY_DATE_HH	Additional	HH+ Analysis Date	DATE	
ANALY_METH_HH	Additional	HH+ Analysis method (MED POL codes)	CHAR (5)	
HH+_CONC	Additional	HH+ concentration	NUM (7,3)	ug/kg
HH+_BDL	Additional	Enter BL if HH+ conc. is below detection limit or level of determination	CHAR (2)	
ANALY_DATE_PAH	Additional	PAH Analysis Date	DATE	
ANALY_METH_PAH	Additional	PAH Analysis method (MED POL codes)	CHAR (5)	
PAH_CONC	Additional	PAH concentration	NUM (7,3)	ug/kg
PAH_BDL	Additional	enter BL if PAH conc. is below detection limit or level of determination	CHAR (2)	
Other Organics	Additional	to be included to the fields depending on the country agreements		

Table 3
LOADS fields and descriptions for data entries of MEDPOL Phase III

Effluent Fields	Requisite	Description	Format	Units
YEAR	Mandatory	Monitoring Year	NUM (4)	
COUNTRY	Mandatory	Country Code	CHAR (3)	
AREA	Mandatory	Area Code (as used in Phase III Agreement)	CHAR (6)	
STATION	Mandatory	Station Code (as used in Phase III Agreement)	CHAR (6)	
STATION_TYPE	Mandatory	Station Type (EFF=Effluent, OUT=Outfall, RIV=River)	CHAR (3)	
SOURCE_TYPE	Mandatory	Effluent Source (MIX=Mixed, IND=Industrial, MUN=Municipal)	CHAR (3)	
SAMP_DATE	Mandatory	Date of Sampling	DATE	
LAT_DEG		Latitude degree	NUM (2)	
LAT_MIN		Latitude minute	NUM (5,2)	
LAT_SEC		Latitude seconds	NUM (2)	
LON_DEG		Longitude in degrees	NUM (2)	
LON_MIN		Longitude minute	NUM (5,2)	
LON_SEC		Longitude seconds	NUM (2)	
BOT_DEPTH		Bottom depth of the sampling station	NUM (5,1)	m
SAMP_DEPTH		Sampling depth	NUM (5,1)	m
DISCHARGE_MIN	Mandatory	Minimum discharge value in the sampling year	NUM ()	m ³ /day
DISCHARGE_AVE	Mandatory	Average discharge value in the sampling year	NUM ()	m ³ /day
DISCHARGE_MAX	Mandatory	Maximum discharge value in the sampling year	NUM ()	m ³ /day
INST_CODE_TM	Mandatory	Trace Metal Institute code	CHAR(9)	
ANALY_DATE_TM	Mandatory	TM Analysis Date	DATE	
ANALY_METH_TM	Mandatory	TM Analysis method	CHAR (5)	
CD_CONC	Mandatory	Cadmium concentration	NUM (7,3)	ug/L
CR_CONC	Additional	Chromium concentration	NUM (7,3)	ug/L
CU_CONC	Additional	Copper concentration	NUM (7,3)	ug/L
HGT_CONC	Mandatory	Total mercury concentration	NUM (7,3)	ug/L
PB_CONC	Additional	Lead concentration	NUM (7,3)	ug/L
ZN_CONC	Additional	Zinc concentration	NUM (7,3)	ug/L
INST_CODE_OC	Additional	Organic Contaminant Institute code	CHAR(9)	
ANALY_DATE_HH+	Additional	HH Analysis Date	DATE	
ANALY_METH_HH+	Additional	HH Analysis method (MED POL codes)	CHAR (5)	
HH+_CONC	Additional	HH+ concentration	NUM (7,3)	ug/L
ANALY_DATE_PAH	Additional	PAH Analysis Date	DATE	
ANALY_METH_PAH	Additional	PAH Analysis method (MED POL codes)	CHAR (5)	
PAH+_CONC	Additional	PAH concentration	NUM (7,3)	ug/L
Other organics	Additional	DET, PHE etc. pls. Specify yours in the .XLS reporting tables		
INST_CODE_LOAD	Additional	Institute code for analysis of nutrients, TSS, COD, BOD etc.	CHAR(9)	

PO4-P_CONC	Optional	PO4-P concentration	NUM (6,2)	ug/L
TP_CONC	Additional	Total Phosphorus concentration	NUM (6,2)	ug/L
NH3-N_CONC	Optional	NH3-N concentration	NUM (6,2)	ug/L
NH4-N_CONC	Optional	NH4-N concentration	NUM (6,2)	ug/L
NO2-N_CONC	Optional	NO2-N concentration	NUM (6,2)	ug/L
NO3-N_CONC	Optional	NO3-N concentration	NUM (6,2)	ug/L
TN_CONC	Additional	Total Nitrogen concentration	NUM (6,2)	ug/L
TSS_CONC	Additional	TSS concentration	NUM(7,2)	mg/L
BOD_CONC	Additional	BOD concentration	NUM(7,2)	mg/L
COD_CONC	Additional	COD concentration	NUM(7,2)	mg/L

Table 4
EUTROPHICATION fields and descriptions for data entries of MEDPOL Phase III

Sea Water Fields	Requisite	Description	Format	Units
YEAR	Additional	Monitoring Year	NUM (4)	
COUNTRY	Additional	Country Code (MED POL codes)	CHAR (3)	
AREA	Additional	Area Code (as used in Phase III Agreement)	CHAR (6)	
STATION	Additional	Station Code (as used in Phase III Agreement)	CHAR (6)	
STATION_TYPE	Additional	for Hot Spots (HS), Coastal (C), Reference (R)	CHAR (2)	
SAMP_DATE	Additional	Date of Sampling	DATE	
LAT_DEG	Additional	Latitude degree	NUM (2)	
LAT_MIN	Additional	Latitude minute, seconds (In case of GPS application use this field for minutes and seconds in decimals, otherwise use only for minutes)	NUM (5,2)	
LAT_SEC	Additional	Latitude seconds (Use this field only when GPS is not used for positioning)	NUM (2)	
LON_DEG	Additional	Longitude in degrees	NUM (2)	
LON_MIN	Additional	Longitude minute, seconds (In case of GPS application use this field for minutes and seconds in decimals, otherwise use only for minutes)	NUM (5,2)	
LON_SEC	Additional	Longitude seconds (Use this field only when GPS is not used for positioning)	NUM (2)	
BOT_DEPTH	Additional	Bottom depth of the sampling station	NUM (5,1)	m
SAMP_DEPTH	Additional	Sampling depth	NUM (5,1)	m
SAM_TEMP	Additional	Temperature at the sampling depth	NUM (5,2)	Deg C
SAM_SALIN	Additional	Salinity at the sampling depth	NUM (5,2)	
SAM_DO	Additional	Dissolved oxygen at the sampling depth	NUM (5,2)	mg/L
INST_CODE_SW	Additional	Institute code for analysis of nutrients, chlorophyll-a, TRIX etc.	CHAR(9)	
PO4-P_CONC	Additional	PO4-P concentration	NUM (6,2)	ug/L
TP_CONC	Optional	Total Phosphorus concentration	NUM (6,2)	ug/L
NH4-N_CONC	Additional	NH4-N concentration	NUM (6,2)	ug/L
NO2-N_CONC	Additional	NO2-N concentration	NUM (6,2)	ug/L
NO3-N_CONC	Additional	NO3-N concentration	NUM (6,2)	ug/L
NO3-2-N_CONC	Additional	NO3+NO2-N concentration	NUM (6,2)	ug/L
TN_CONC	Optional	Total Nitrogen concentration	NUM (6,2)	ug/L
CHL-A_CONC	Additional	Chlorophyll-a concentration	NUM (6,2)	ug/L
TRIX	Additional	Trophic Index	NUM (5,2)	

Table 5
AIR-dry fields and descriptions for data entries of MEDPOL Phase III

Atmospheric Particle Fields	Requisite	Description	Format	Units
YEAR	Mandatory	Monitoring Year	NUM (4)	
COUNTRY	Mandatory	Country Code (MED POL codes)	CHAR (3)	
AREA	Mandatory	Area Code (as used in Phase III Agreement)	CHAR (6)	
STATION	Mandatory	Station Code (as used in Phase III Agreement)	CHAR (6)	
STATION_ID	Mandatory	Station identity ('R' for reference and 'I' for Impact=hot spot)	CHAR (1)	
HEIGHT	Mandatory	Height of station from the ground	NUM (5,1)	m
ALTITUDE	Mandatory	Altitude/Elevation of st. ground level above sea level	NUM (6,1)	m
DISTANCE_SHORE	Mandatory	Distance of atmospheric station to shore	NUM (7,1)	m
METEO_DIST	Mandatory	Distance to nearest meteorological station	NUM (7,1)	m
LAT_DEG	Mandatory	Latitude degree	NUM (2)	
LAT_MIN	Mandatory	Latitude minute	NUM (5,2)	
LAT_SEC	Mandatory	Latitude seconds	NUM (2)	
LON_DEG	Mandatory	Longitude in degrees	NUM (2)	
LON_MIN	Mandatory	Longitude minute	NUM (5,2)	
LON_SEC	Mandatory	Longitude seconds	NUM (2)	
SAMP_START_DATE	Mandatory	Start Date of Sampling	DATE	
SAMP_START_HOUR	Mandatory	Start Hour of Sampling	NUM (2)	
SAMP_END_DATE	Mandatory	End Date of Sampling	DATE	
SAMP_END_HOUR	Mandatory	End Hour of Sampling	NUM (2)	
SAMP_TIME-TOT	Mandatory	Total Sampling Hours	NUM (2)	
AIR_VOLUME	Mandatory	Total Air volume filtered during the total sampling time	NUM (7,2)	m ³
SAMP_INST_CODE	Mandatory	Sampling Institute Code	NUM (9)	
INST_CODE_DUST		Institute code for dust analysis	CHAR(9)	
ANALY_DATE_DUST		Dust Analysis Date	DATE	
ANALY_METH_DUST		Dust Analysis method (MED POL codes be reviewed)	CHAR (5)	
DUST_CONC		Dust Concentration	NUM ()	
INST_CODE_TM	Mandatory	Trace Metal Institute code	CHAR(9)	
ANALY_DATE_TM	Mandatory	TM Analysis Date	DATE	
ANALY_METH_TM	Mandatory	TM Analysis method (MED POL codes be reviewed)	CHAR (5)	
CD_CONC		Cadmium concentration	NUM (7,3)	
CD_BDL		enter BL if Cd conc. is below detection limit or level of determination	CHAR (2)	
Other Trace Metals	As specified in the programme			
Organic contaminants	As specified in the programme			

Table 6
AIR-wet fields and descriptions for data entries of MEDPOL Phase III

Precipitation Fields	Requisite	Description	Format	Units
YEAR	Mandatory	Monitoring Year	NUM (4)	
COUNTRY	Mandatory	Country Code (MED POL codes)	CHAR (3)	
AREA	Mandatory	Area Code (as used in Phase III Agreement)	CHAR (6)	
STATION	Mandatory	Station Code (as used in Phase III Agreement)	CHAR (6)	
STATION_ID	Mandatory	Station identity ('R' for reference and 'I' for Impact=hot spot)	CHAR (1)	
HEIGHT	Mandatory	Height of station from the ground	NUM (5,1)	m
ALTITUDE	Mandatory	Altitude/Elevation of station ground level above sea level	NUM (6,1)	m
DISTANCE_SHORE	Mandatory	Distance of atmospheric station to shore	NUM (7,1)	m
METEO_DIST		Distance to nearest meteorological station	NUM (7,1)	m
LAT_DEG	Mandatory	Latitude degree	NUM (2)	
LAT_MIN	Mandatory	Latitude minute	NUM (5,2)	
LAT_SEC	Mandatory	Latitude seconds	NUM (2)	
LON_DEG	Mandatory	Longitude in degrees	NUM (2)	
LON_MIN	Mandatory	Longitude minute	NUM (5,2)	
LON_SEC	Mandatory	Longitude seconds	NUM (2)	
SAMP_START_DATE		Start Date of Sampling	DATE	
SAMP_START_HOUR		Start Hour of Sampling	NUM (2)	
SAMP_END_DATE		End Date of Sampling	DATE	
SAMP_END_HOUR		End Hour of Sampling	NUM (2)	
SAMP_TIME-TOT		Total Sampling Hours	NUM (2)	
PRECIPITATION_NG		Precipitation (National gauge)	NUM (5)	mm
SAMP_INST_CODE		Sampling Institute Code	NUM (9)	
INST_CODE_TM		Trace Metal Institute code	CHAR(9)	
ANALY_DATE_TM		TM Analysis Date	DATE	
ANALY_METH_TM		TM Analysis method	CHAR (5)	
CD_CONC		Average cadmium concentration	NUM (7,3)	ug/kg
CD_BDL		enter BL if Cd conc. is below detection limit or level of determination	CHAR (2)	
Other Trace Metals				
Other fields		organic contaminants		

Table 7
CERTIFIED Material Fields to calculate the analytical variances (within and between year) for Trend Analysis

Fields for analytical variances	Description	Format	Units
YEAR	Monitoring Year	NUM (4)	
COUNTRY	Country Code	CHAR (3)	
INST_CODE_TM_BIO	Institute code for trace metal analysis in biota	NUM (9)	
CERTIFIED_BIO_TM_CD	Name of the material	CHAR (10)	
CERTIFIED_BIO_CD_SAMPLE NO	Number of sample (1,...,n)	NUM (2)	
CERTIFIED_BIO_CD_NA	Number of analysis of each sample	NUM (2)	
CERTIFIED_BIO_CD_CONC	Average concentration of cadmium of each sample	NUM (7,3)	ug/kg
CERTIFIED_BIO_CD_STD	Std.dev.of cadmium analysis for each sample	NUM (6,3)	ug/kg
ANALY_DATE_CD_BIO	Cd Analysis Date	DATE	
ANALY_METH_CD_BIO	Cd Analysis method (MED POL codes)	CHAR (5)	
CERTIFIED_BIO_TM_HGT	Name of the material	CHAR (10)	
CERTIFIED_BIO_HGT_SAMPLE NO	Number of sample (1,...,n)	NUM (2)	
CERTIFIED_BIO_HGT_NA	Number of analysis of each sample	NUM (2)	
CERTIFIED_BIO_HGT_CONC	Average concentration of total mercury of each sample	NUM (7,3)	ug/kg
CERTIFIED_BIO_HGT_STD	Std.dev.of Hg-T analysis for each sample	NUM (6,3)	ug/kg
ANALY_DATE_HGT_BIO	Hgt Analysis Date	DATE	
ANALY_METH_HGT_BIO	Hgt Analysis method (MEDPOL codes)	CHAR (5)	
INST_CODE_TM_SED	Institute code for trace metal analysis in sediment	NUM (2)	
CERTIFIED_SED_TM_CD	Name of the material	CHAR (10)	
CERTIFIED_SED_CD_SAMPLE NO	Number of sample (1,...,n)	NUM (2)	
CERTIFIED_SED_CD_NA	Number of analysis of each sample	NUM (2)	
CERTIFIED_SED_CD_CONC	Ave. Concentration of Cd of each sample	NUM (7,3)	ug/kg
CERTIFIED_SED_CD_STD	Std.dev.of Cd analysis for each sample	NUM (6,3)	ug/kg
ANALY_DATE_CD_SED	Cd Analysis Date	DATE	
ANALY_METH_CD_SED	Cd Analysis method (MED POL codes)	CHAR (5)	
CERTIFIED_SED_TM_HGT	Name of the material	CHAR (10)	
CERTIFIED_SED_HGT_SAMPLE NO	Number of sample (1,...,n)	NUM (2)	
CERTIFIED_SED_HGT_NA	Number of analysis of each sample	NUM (2)	
CERTIFIED_SED_HGT_CONC	Ave. Concentration of Hg-T of each sample	NUM (7,3)	ug/kg
CERTIFIED_SED_HGT_STD	Std.dev.of Hg-T analysis for each sample	NUM (6,3)	ug/kg
ANALY_DATE_HGT_SED	Hgt Analysis Date	DATE	
ANALY_METH_HGT_SED	Hgt Analysis method (MED POL codes)	CHAR (5)	

INST_CODE_OC_BIO	Institute code for organic contaminants analysis in biota	NUM (2)	
CERTIFIED_BIO_HH+	Name of the material	CHAR (10)	
CERTIFIED_BIO_HH+_SAMPLE NO	Number of sample (1,...,n)	NUM (2)	
CERTIFIED_BIO_HH+_NA	Number of analysis of each sample	NUM (2)	
CERTIFIED_BIO_HH+_CONC	Ave. Concentration of HH+ of each sample	NUM (7,3)	ug/kg
CERTIFIED_BIO_HH+_STD	Std.dev.of HH+ analysis for each sample	NUM (6,3)	ug/kg
ANALY_DATE_HH+_BIO	HH+ Analysis Date	DATE	
ANALY_METH_HH+_BIO	HH+ Analysis method (MED POL codes)	CHAR (5)	
CERTIFIED_BIO_OC_PAH	Name of the material	CHAR (10)	
CERTIFIED_BIO_PAH_SAMPLE NO	Number of sample (1,...,n)	NUM (2)	
CERTIFIED_BIO_PAH_NA	Number of analysis of each sample	NUM (2)	
CERTIFIED_BIO_PAH_CONC	Ave. Concentration of PAH of each sample	NUM (7,3)	ug/kg
CERTIFIED_BIO_PAH_STD	Std.dev.of PAH analysis for each sample	NUM (6,3)	ug/kg
ANALY_DATE_PAH_BIO	PAH Analysis Date	DATE	
ANALY_METH_PAH_BIO	PAH Analysis method (MED POL codes)	CHAR (5)	
INST_CODE_OC_SED	Institute code for organic contaminant analysis in sediments	NUM (2)	
CERTIFIED_SED_HH+	Name of the material	CHAR (10)	
CERTIFIED_SED_HH+_SAMPLE NO	Number of sample (1,...,n)	NUM (2)	
CERTIFIED_SED_HH+_NA	Number of analysis of each sample	NUM (2)	
CERTIFIED_SED_HH+_CONC	Ave. Concentration of HH+ of each sample	NUM (7,3)	ug/kg
CERTIFIED_SED_HH+_STD	Std.dev.of HH+ analysis for each sample	NUM (6,3)	ug/kg
ANALY_DATE_HH+_SED	HH+ Analysis Date	DATE	
ANALY_METH_HH+_SED	HH+ Analysis method (MED POL codes)	CHAR (5)	
CERTIFIED_SED_PAH	Name of the material	CHAR (10)	
CERTIFIED_SED_PAH_SAMPLE NO	Number of sample (1,...,n)	NUM (2)	
CERTIFIED_SED_PAH_NA	Number of analysis of each sample	NUM (2)	
CERTIFIED_SED_PAH_CONC	Ave. Concentration of PAH of each sample	NUM (7,3)	ug/kg
CERTIFIED_SED_PAH_STD	Std.dev.of PAH analysis for each sample	NUM (6,3)	ug/kg
ANALY_DATE_PAH_SED	PAH Analysis Date	DATE	
ANALY_METH_PAH_SED	PAH Analysis method (MED POL codes)	CHAR (5)	

Table 8

COMPLIANCE MONITORING

Monitoring of bathing waters

Country Code	Area Code	Parameter/ Group	Number of stations monitored	Total Number of measurements	Frequency of measurements	Stations (%) Comply with interim WHO/UNEP criteria	Stations (%) Comply with the National Legislation *	Remarks **

* Specify the national legislation applied as reference

** When appropriate, specify the reasons for non-compliance and the measures taken to ensure compliance