Management Unit of the Mathematical Model
of the North sea and Scheldt estuary

· Commission of European Communities

European Directory of Marine Environmental Data (EDMED)

DIRECTORY OF MARINE ENVIRONMENTAL DATA SETS IN BELGIUM

Draft version
based on
EDMED forms submitted to BODC
up to February 1993

23 February 1993

Ministry of Public Health and Environment - I.H.E.

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Ministry of Public Health and Environment - I.H.E.

LABORATORY OF PLANT MORPHOLOGY, SYSTEMATICS AND ECOLOGY, UNIVERSITY OF GHENT (U.G.)

*LOCATION:	University of Ghent (U.G.), Ghent
*COUNTRY:	Belgium
*CONTACT:	Prof. Dr. Eric Coppejans
*ADDRESS:	K. L. Ledeganckstraat 35, B-9000 Gent, Belgium
*PHONE:	+32 (0)91 64 50 58
*FAX:	+32 (0)91 64 53 42
*EMAIL:	COPPEJAN@BOTAMSEG.RUG.AC.BE

*DESCRIPTION:	Marine research on (1) algae (both microscopic and macroscopic), mainly taxonomic but also ecological; (2) on seagrasses and mangroves in the Indian Ocean.
*ENTRY-DATE:	25-08-1992

MICROPHYTOBENTOS OF THE SCHELDT ESTUARY

*TIME-PERIOD:	1 January 1992 to 31 December 1995
*COVERAGE:	+/- 75 sites in the Westerschelde Estuary (the Netherlands) and the Yzer Estuary (Belgium)
*PROJECT:	Benthos, nekton and plankton of the North Sea and the Delta region
*PARAMETERS:	microphytobenthos
*INSTRUMENTS:	light- and scanning electron microscope

*SUMMARY: Two estuaries (the Westerschelde and the Yzer (Belgium) on the North sea coast have been sampled monthly during one year (1991-1992). The aim of this study is: a) an inventarisation of the microphytobenthic communities in these estuaries (+ taxonomy of species); b) to study the structure of these communities with the aid of multivariate techniques; c) to relate the distribution (spatial and temporal) of these communities with selected environmental parameters.

*REFERENCE:	Preparation of a Ph D-thesis
*CENTRE:	UG (University of Ghent, Belgium)
*COMPLETED-BY:	Koen SABBE
*ENTRY-DATE:	26-08-1992

MACROALGAE, SEAGRASSES, MANGROVES FROM THE INDIAN OCEAN

*TIME-PERIOD:	1986-1995
*COVERAGE:	Kenya, Persian Gulf (Saudi Arabie), Indonesia, Papua New Guinea
*PROJECT:	Systematics, ecology and biogeography of marine organisms in the Indian Ocean
*PARAMETERS:	Taxonomy, distribution, autecology
*INSTRUMENTS:	non-specified
*SUMMARY:	The aim of this long term project is to prepare a seaweed flora for the Indian Ocean. For the time being the marine Chlorophyta are studied, described and illustrated. For seagrasses and mangroves zonation studies are made (next to the inventarisation)
*REFERENCE:	herbarium specimens, scientific publications
*CENTRE:	UG
*STORAGE-MEDIUM:	publications
*AVAILABILITY:	reprints; herbarium specimens on loan
*COMPLETED-BY:	Dr. Eric COPPEJANS
*ENTRY-DATE:	26-08-1992

MARINE BIOLOGY SECTION, UNIVERSITY OF GHENT (U.G.)

*LOCATION:	Zoology Institute, University of Ghent (U.G.), Ghent
*COUNTRY:	Belgium
*CONTACT:	coordinator marine biology section
*ADDRESS:	K.L. Ledeganckstraat 35, B-9000 Gent, Belgium
*PHONE:	+32 (0)91 64 52 10
*FAX:	+32 (0)91 64 53 44
*EMAIL.:	MAVI@zoolinst
*DESCRIPTION:	The marine biology section of the Zoology Institute is a research group of the University of Gent which is involved in fundamental research of the zoobenthic communities of marine areas. From 1971 onwards, cooperation on national and international programmes allowed the gathering of a hughe number of data, mainly in the field of the meiobenthos; from 1984 onwards, data on demersal fishes and hyperbenthos (e.g. shrimps) are also available, although public domain after publication only. Rough data need to be negotiated only after correspondence with the contactperson.
*ENTRY-DATE:	15-09-1992

MEIOBENTHOS FROM THE NORTH SEA AND SCHELDT ESTUARY AREA AND ALSO DIFFERENT PARTS OF THE WORLD

*TIME-PERIOD:	1971 - 1992
*COVERAGE:	North Sea, Western Scheldt estuary, Kenyan mangroves, Greenland, Antarctica
*PROJECT:	partly: EEG MAST I JEEP92, EEG-STD2
*PARAMETERS:	densities, biomass, species list of meiobenthic organisms
*INSTRUMENTS:	box-corer
*SUMMARY:	From 1971 onwards, seasonal data (at least twice a year) of the above mentioned parameters are obtained from subsamples (10

cm2) out of the box-core samples of the Southern Bight of the North Sea with detailed information on the Belgian coastal area. Species lists are complete for nematodes, and partially complete for the copepods. Other meiofauna data are not available on the species level. From 1979 onwards, similar data are available for the Western Scheldt.
Kenyan mangroves: species lists of nematodes from mangrove areas for Sep 1989, Sep 1990.
Greenland (Disko Island) : species list of nematodes from July 1990.
Antarctica: meiobenthic taxa, species list of nematodes from Jan 1989 (EPOS leg III expedition).

*STORAGE-MEDIUM: partly on papersheet, partly on LOTUS (123 files)
*AVAILABILITY: not freely available, only available by special arrangements.
*COMPLETED-BY: Dr. Magda VINCX
*ENTRY-DATE: 15-09-1992

HYPERBENTHOS AND FISHES FROM THE WESTERN SCHELDT ESTUARY AND DELTA AREA

*TIME-PERIOD: from 1986 onwards (on a seasonal basis)
*COVERAGE: Voordelta, Western Scheldt
*PROJECT: RWS-Voordelta: EEG MAST JEEP 92
*PARAMETERS: densities, biomass, species lists
*INSTRUMENTS: epibenthic sledge

*SUMMARY: The spatial distribution of the demersal fish and hyperbenthic communities of the Voordelta is described on the basis of the seasonal samples of the period 1987 - 1988. For the Western Scheldt, samples were taken in 1990 - 1991 for both components and data will be available from next year on.

*STORAGE-MEDIUM: LOTUS123 files
*AVAILABILITY: available only by special arrangement
*COMPLETED-BY: Dr. Olivier Hamerlynck
*ENTRY-DATE: 15-09-1992

LABORATORY OF PHYSICAL GEOGRAPHY, UNIVERSITY OF GHENT, (U.G.)

*LOCATION:	Geological Institute, University of Ghent (U.G.), Ghent
*COUNTRY:	Belgium
*CONTACT:	Prof. Dr. G. DE MOOR
*ADDRESS:	Laboratory of Physical Geography, State University of Ghent, Krijgslaan 281, B-9000 Gent, Belgium
*PHONE:	+32 (0)91 64 46 88
*FAX:	+32 (0)91 64 49 97
*TELEX:	12754 RUGENT
*DESCRIPTION:	The Laboratory of Physical Geography has an ample experience in the study of morphodynamics and sediment dynamics on continental shelves. The principal scientific aims are to analyse: a) the changes in volume, position and morphology of sandbanks; b) the maintenance processes of sandbanks by analysing the residual sediment transport paths; c) the sedimentological and mineralogical characteristics of the seafloor. Field techniques include echosounding, analog and digital side scan sonar, shallow reflection subbottom profiling, grab sampling and vibrocorer drilling.
*ENTRY-DATE:	12-09-1992

MORPHOLOGY AND SEDIMENTOLOGY OF THE FLEMISH BANKS (91/TS02)

*TIME-PERIOD:	15/07/1991 - 15/07/1991
*COVERAGE:	Belgian Continental Shelf - Flemish Banks (Middelkerke Bank, Kwintebank, Buiten Ratel)
*PROJECT:	EC-MAST Project 25 (RESECUSED), Project Sand & Gravel Extraction (Min. Ec. Affairs)
*PARAMETERS:	Echosounding
*INSTRUMENTS:	Deso XX echosounder (+ wave compensator)

*SUMMARY:	a) Bathymetric recording over Flemish Banks. Purpose: detection of volumetrical, morphological and sedimentological changes of seafloor. Platform: Ter Streep. Instrumentation: see "Parameters". Sampling method: continuous analog echosounding b) Analog recording: 2 channels (210, 33 kHZ). Positioning: Syledis (accuracy: 2 m) c) Continuous profiling along a grid with 1800 m interval d) Spatial resolution: - grid (1800 m) - profiles (0.25 m) e) Acquisition of data carried out in 1 day f) Bathymetric recording: miles g) Sources of data: Lab. for Physical Geography
*CENTRE:	Laboratory for Physical Geography, Universiteit Gent
*STORAGE-MEDIUM:	paper rolls (2)
*AVAILABILITY:	data available for EC partners of RESECUSED Project and Min. of Economic Affairs
*COMPLETED-BY:	Dr. Jean Lanckneus
*ENTRY-DATE:	12-09-1992

MORPHOLOGY AND SEDIMENTOLOGY OF THE FLEMISH BANKS (91/G15)

*TIME-PERIOD:	17-06-1991 to 19-06-1991
*COVERAGE:	Belgian Continental Shelf - Flemish Banks (Middelkerke Bank, Kwintebank, Buiten Ratel, Oost Dyck and Gootebank)
*PROJECT:	EC-MAST Project 25 (RESECUSED); Project Sand & Gravel Extraction (Min. Economic Affairs)
*PARAMETERS:	echosounding, grabsampling, dynamics, morphology, evolution.
*INSTRUMENTS:	Deso XX echosounder, Van Veen bottom sampler
*SUMMARY:	a) Bathymetric recording over Flemish Banks. Sampling of superficial sediments. Purpose: detection of volumetrical, morphological and sedimentological changes of seafloor. Platform: Belgica. Instrumentation: see "parameters". Sampling method: continuous analog echosounding; Van Veen bottom sampling. b) Analog recording, 2 channels (210, 33 kHZ). Positioning: Syledis (accuracy: 2 m) c) Continuous profiling along a grid with 1800 m interval d) Spatial resolution:- grid (1800 m) - profiles (0.25 m) e) Acquisition of data carried out in 3 days

f) Bathymetric recordings: 300 miles. Bottom samples: 84 samples
g) Sources of data: Lab. for Physical Geography.

*CENTRE: Laboratory for Physical Geography, Universiteit Gent
*STORAGE-MEDIUM: paper rolls (11), samples (82)
*AVAILABILITY: data available for EC partners of RESECUSED project and Min. of Economic Affairs
*COMPLETED-BY: Dr. Jean Lanckneus
*ENTRY-DATE: 12-09-1992

MORPHOLOGY AND SEDIMENTOLOGY OF THE FLEMISH BANKS (91G27)

*TIME-PERIOD: 02.12.1991 to 06.12.1991
*COVERAGE: Belgian Continental Shelf - Flemish Banks (Middelkerke Bank, Kwintebank, Buiten Ratel, Oost Dyck) Hinder Banks, Gootebank
*PROJECT: EC-MAST Project RESECUSED; Project Sand & Gravel extraction (Min. Economic Affairs)
*PARAMETERS: Echosounding, dynamics, morphology, evolution, grabsampling.
*INSTRUMENTS: Deso XX echosounder, Van Veen Bottom sampler.

*SUMMARY:

a) Bathymetric recording over Flemish Banks. Sampling of superficial sediments. Purpose: detection of volumetrical, morphological and sedimentological changes of seafloor. Platform: Belgica. Instrumentation: see "Instruments". Sampling method: continuous analog echosounding; Van Veen bottom sampling.
b) Analog bathymetric data are digitized and corrected for tidal movements. Positioning performed with Syledis (accuracy: 5 m).
c) Continuous profiling along reference lines.
d) Spatial resolution of bathymetric data: one data per 2.5 metres.
e) Volumetric time series on the Flemish Banks: between 3 and 10 years.
f) Bathymetric recordings: 495 miles. Bottom samples: 144
g) Sources of data: Lab. of Physical Geography.

*CENTRE: Laboratory for Physical Geography, University Ghent
*STORAGE-MEDIUM: paper rolls (19), samples (144)

*AVAILABILITY:	data available for EC partners of RESECUSED project and Min. of Economic Affairs.
*COMPLETED-BY:	Dr. Jean LANCKNEUS
*ENTRY-DATE:	12-09-1992

MORPHOLOGY AND SEDIMENTOLOGY OF THE FLEMISH BANKS (92G05)

*TIME-PERIOD:	03.03.1992 to 10.03.1992
*COVERAGE:	Belgian Continental Platform - Flemish Banks (Middelkerke Bank, Kwintebank, Buiten Ratel, Oost Dyck, Gootebank)
*PROJECT:	EC-MAST Project RESECUSED, Project Sand an Gravel extraction (Min. Economic Affairs)
*PARAMETERS:	echosounding, dynamics, morphology, evolution, sonographs
*INSTRUMENTS:	Deso XX echosounder, Van Veen Bottom sampler, KLEIN side scan sonar (500 kHz).

*SUMMARY:

a) Bathymetric recording over shelf banks. Side scan sonar recordings on shelf banks and swales. Purpose: detection of volumetrical, morphological and sedimentological changes of seafloor, study of residual sediment transport paths. Platform: Belgica. Instrumentation: see "Instruments". Sampling method: continuous analog echosounding; continuous sonograph recording.
b) Analog bathymetric data are digitized and corrected for tidal movements. Analog sonographs are processed to bedform maps. Positioning performed with Syledis (accuracy : 5 m).
c) Continuous profiling along reference lines.
d) Spatial resolution of bathymetric data: one data per 2.5 m. Slant range of sonograph recordings: 100 m per channel.
e) Volumetric time series on the Flemish Banks: between 3 and 10 years.
f) Bathymetric recordings: 410 miles
g) Sources of data: Lab. of Physical Geography

*CENTRE:	Laboratory of Physical Geography, University Ghent
*STORAGE-MEDIUM:	paper rolls (18), sonograph rolls (8)
*AVAILABILITY:	data available for EC partners of RESECUSED project and Min. of Economic Affairs.
*COMPLETED-BY:	Dr. Jean LANCKNEUS
*ENTRY-DATE:	12-09-1992.

MORPHOLOGY AND SEDIMENTOLOGY OF THE FLEMISH BANKS (92G11)

*TIME-PERIOD:	04.05.1992 to 08.05.1992
*COVERAGE:	Belgian Continental Shelf - Flemish Banks (Middelkerke Bank, Kwintebank, Buiten Ratel, Oost Dyck, Gootebank)
*PROJECT:	EC-MAST Project RESECUSED, Project Sand an Gravel extraction (Min. Economic Affairs)
*PARAMETERS:	echosounding, dynamics, morphology, evolution, grabsampling, sonographs
*INSTRUMENTS:	Deso XX echosounder, Van Veen Bottom sampler, KLEIN side scan sonar (500 kHz).

*SUMMARY:

a) Bathymetric recording over shelf banks. Side scan sonar recordings on shelf banks and swales. Purpose: detection of volumetrical, morphological and sedimentological changes of seafloor, study of residual sediment transport paths. Platform: Belgica. Instrumentation: see "Instruments". Sampling method: continuous analog echosounding; continuous sonograph recording.

b) Analog bathymetric data are digitized and corrected for tidal movements. Analog sonographs are processed to bedform maps. Positioning performed with Syledis (accuracy: 5 m).

c) Continuous profiling along reference lines.

d) Spatial resolution of bathymetric data: one data per 2.5 metres. Slant range of sonograph recordings : 100 m per channel.

e) Volumetric time series on the Flemish Banks: between 3 and 10 years.

f) Bathymetric recordings : 329 miles. Sonograph recordings : 64 miles

g) Sources of data : Lab. of Physical Geography

*CENTRE:	Laboratory of Physical Geography, University Ghent
*STORAGE-MEDIUM:	paper rolls (14), sonograph rolls (4)
*AVAILABILITY:	data available for EC partners of RESECUSED project and Min. of Economic Affairs.
*COMPLETED-BY:	Dr. Jean LANCKNEUS
*ENTRY-DATE:	12-09-1992.

DEPARTMENT OF CHEMISTRY, UNIVERSITY OF ANTWERP (U.I.A.)

*LOCATION:	University of Antwerp (U.I.A.), Antwerp
*COUNTRY:	Belgium
*CONTACT:	Prof. Dr. R. Van Grieken
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*FAX:	+32 (0)3 820 23 76
*TELEX:	33646 uia b
*EMAIL:	vangrieken ccv.uia.ac.be

*DESCRIPTION: The Micro- and Trace Analysis Centre in the University of Antwerp (UIA) specializes in inorganic analyses at low concentration levels (e.g. heavy metals) and in micro-analysis (e.g. analysis of individual particles). In addition to analytical methodological work, a large fraction of the research is devoted to environmental problems, mostly related to the marine environment. Most emphasis is on marine aerosols (heavy metal deposition, individual particle type characterization) in remote and polluted areas, on suspended matter and sediments.

*ENTRY-DATE: 15-09-1992

HEAVY METALS IN THE WESTERN SCHELDT (1980-1990)

*TIME-PERIOD:	80-90
*COVERAGE:	Western Scheldt, estuary and tributaries
*PROJECT:	BMM BH/90/34
*PARAMETERS:	Heavy metals
*INSTRUMENTS:	Diverse

*SUMMARY: The aim of this work consisted of two main parts : (1) to create an inventory of all the heavy metals (Cd, Cu, Hg, Pb en Zn)

content data for in the dissolved and particulate phases in the river Scheldt and its affluents and to interpret these data; (2) to describe the distribution of the heavy metals in the Scheldt estuary over the dissolved and particulate phase resulting in a calculation method for the distribution coefficient for the different metals.

*REFERENCE:	Report to Management Unit of the North Sea Mathematical Models (MUMM), Contract BH/90/34, 1991.
*CENTRE:	MiTAC, University of Antwerp (UIA)
*STORAGE-MEDIUM:	Data files on floppy (ASCII, Lotus)
*AVAILABILITY:	
*COMPLETED-BY:	V. VAN ALSENOY
*ENTRY-DATE:	15-09-1992

ECOLOGY LABORATORY, VRIJE UNIVERSITEIT BRUSSEL (V.U.B.)

*LOCATION:	Vrije Universiteit Brussel (V.U.B.), Brussels
*COUNTRY:	Belgium
*CONTACT:	ECOL, DARO N.
*ADDRESS:	Vrije Universiteit Brussel, Pleinlaan 2 B-1050, Brussels-Belgium
*PHONE:	+32 (0)2 641 34 06
*FAX:	+32 (0)2 641 34 03
*TELEX:	61051 VUBCO b
*EMAIL:	PPOLK@VNET3.VUB.AC.BE

*DESCRIPTION:

- plankton ecology, relationships between phyto- and zooplankton in the North Sea, coastal Belgian waters and estuaries (Elbe, Scheldt, Gironde).
- plankton ecology, evaluation of the stocks of phyto- and zooplankton in mangrove ecosystems (Kenya).
- transfer of pollutants (PCB's, Hg) in the marine food chain (low levels: water - phytoplankton - zooplankton - fishes).

*ENTRY-DATE: 08-10-1992

PHYTO- ZOOPLANKTON RELATIONSHIPS IN THE NORTH SEA AREA AND INDIAN OCEAN

*TIME-PERIOD:	1970 - present
*COVERAGE:	North Sea, estuaries, coastal waters Indian Ocean
*PARAMETERS:	chlorophyll, particulate carbon; zooplankton biomass as dry weight, carbon, counting of species; ingestion as chlorophyll, carbon
*INSTRUMENTS:	Coulomat, Coulter counter, spectrometer and microscope

*SUMMARY: Phyto- and zooplankton collected at different depths (3 to 10) time series : every 4 hours, every day, every month. Some

series (spring to autumn) very often, with biomasses and ingestion of zooplankton

*REFERENCE:
*CENTRE: ECOL, VUB, 2 Pleinlaan - 1050 Brussels
*STORAGE-MEDIUM: Publications, MacIntosh diskettes, spread-sheets
*AVAILABILITY: Free with mention of the author
*COMPLETED-BY: Dr. DARO (32-2-641 34 06; Fax: 32-2-641 34 03)
*ENTRY-DATE: 08-10-1992

TRANSFER OF POLLUTANTS THROUGH LOW LEVELS OF FOOD CHAINS IN THE NORTH SEA AREA

*TIME-PERIOD: 1983 - present
*COVERAGE: North Sea, Belgian coastal waters.
*PARAMETERS: PCB's and Hg concentrations in plankton and fishes
*INSTRUMENTS: HPLC, Gas chromatograph

*SUMMARY: Series of PCB's and Hg analyses from water, plankton and fishes along transects in the North Sea (surface samples) in spring, summer and autumn.

*REFERENCE: - Delbeke, K. and C. Joiris, 1988. Accumulation mechanisms and geographical distribution of PCBs in the North Sea. Oceanis, Vol. 14, Fasc. 4, 399-410.
- Delbeke, K., C.R. Joiris and M. Bossicart, 1990. Organochlorines in Different Fractions of Sediments and in Different Planktonic Compartments of the Belgian Continental Shelf and the Scheldt Estuary. Env. Pollution, 66, 325-349.
*CENTRE: ECOL, VUB, 2 Pleinlaan
*STORAGE-MEDIUM: Publications, Macintosh diskettes, spread-sheets
*AVAILABILITY: Free with mention of the author
*COMPLETED-BY: Dr. K. DELBEKE (tel: 32-2-641 34 02; fax: 32-2-641 34 03)
*ENTRY-DATE: 08-10-1992

LABORATORY FOR ECOTOXICOLOGY, FREE UNIVERSITY OF BRUSSELS (V.U.B.)

*LOCATION:	Free University of Brussels (V.U.B.), Brussels
*COUNTRY:	Belgium
*CONTACT:	Prof. Dr. C. JOIRIS
*ADDRESS:	Pleinlaan 2, 1050 Brussels
*PHONE:	+32 2 641 34 14, 18 & 19
*FAX:	+32 2 641 34 38
*TELEX:	61051 vubco b
*EMAIL:	

*DESCRIPTION: The activities are in two main research areas:

1. Monitoring of stable pollutants (PCBs, organochlorine pesticides, heavy metals) at the different trophic levels of marine ecosystems (phytoplankton, zooplankton, benthos, fish, birds and mammals) with special interest for background concentrations (levels in Arctic and Antarctic areas).

2. At sea study of the distribution of marine birds and mammals: seasonal variations of distributions, linkage with hydrographical regimes, estimations of population sizes and densities. Estimations of food demands and energy fluxes through higher trophic levels of the marine ecosystems.

*ENTRY-DATE: 08-12-1992

ECOTOXICOLOGY OF STABLE POLLUTANTS - ORGANOCHLORINES AND HEAVY METALS - IN MARINE ECOSYSTEMS.

*TIME-PERIOD:	from 1975 onwards
*COVERAGE:	North Sea and NE Atlantic (1970 - 1985); Greenland and Norwegian Seas (from 1978 onwards), Barents Sea (from 1991 onwards); Antarctica (from 1989 onwards)
*PROJECT:	

*PARAMETERS:	organochlorines (PCBs and pesticides) and heavy metals (total and organic Hg) in phytoplankton, krill, fish, seabirds and marine mammals. In collaboration, pathology of birds and mammals; other heavy metals, metallothioneins, Se.
*INSTRUMENTS:	
*SUMMARY:	Monitoring of stable pollutants (PCBs, organochlorine pesticides, heavy metals) in the different trophic levels of various marine ecosystems. Interpretation at the ecosystem level (transfer and accumulation mechanisms, fluxes) and the individual level: detoxification, excretion, lethality, mortality).
*REFERENCE:	A list of publications and reports is available from C. Joiris
*CENTRE:	Laboratory for Ecotoxicology, V.U.B.
*STORAGE-MEDIUM:	Apple MacIntosh: excel, statview MS Word
*AVAILABILITY:	by arrangement; contact C. Joiris or L. Holsbeek
*COMPLETED-BY:	C. JOIRIS
*ENTRY-DATE:	08-12-1992

ECOLOGY OF SEABIRDS AND MARINE MAMMALS, MAINLY IN POLAR REGIONS (ARCTIC & ANTARCTIC)

*TIME-PERIOD:	from 1970 onwards
*COVERAGE:	North Sea and NE Atlantic (1970-1985); Greenland and Norwegian Seas (from 1978 onwards), Barents Sea (from 1991 onwards); Antarctica (from 1989 onwards).
*PROJECT:	
*PARAMETERS:	birds and mammals counts, density, link with other ecological factors (in collaboration: phytoplankton, zooplankton, pelagic and demersal fish)
*INSTRUMENTS:	
*SUMMARY:	At sea study of the distribution of marine birds and mammals: seasonal variations of distributions, linkage with hydrographical regimes, estimations of population sizes and densities. Estimations of food demands and energy fluxes through higher trophic levels of the marine ecosystems.
*REFERENCE:	A list of publications and reports is available from C. Joiris

*CENTRE:	Laboratory for Ecotoxicology, V.U.B.
*STORAGE-MEDIUM:	Apple Macintosh excel, statview, MSWord
*AVAILABILITY:	by arrangement. Contact C. Joiris or L. Holsbeek
*COMPLETED-BY:	C. JOIRIS
*ENTRY-DATE:	08-12-1992

LABORATORIUM VOOR ANALYTISCHE CHEMIE, VRIJE UNIVERSITEIT BRUSSEL (V.U.B.)

*LOCATION:	Vrije Universiteit Brussel (V.U.B), Brussels
*COUNTRY:	Belgium
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*FAX:	+32 (0)2 641 34 03
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*EMAIL:	lgoeyens@vnet3.vub.ac.be

*DESCRIPTION: The "Laboratorium voor Analytische Chemie" is member of the Interuniversitary Research Group of Environment. The principal research subjects of the laboratory are the following:

- Analytical chemistry
- Spectroscopy
- Chromatography
- Environmental sciences
- Geochemistry
- Global Change

*ENTRY-DATE: 01-12-1992

GLOBAL CHANGE Data Set

*TIME-PERIOD:	1990 to 1994
*COVERAGE:	The English Channel and a sector of the Northern Atlantic Ocean, delimited by the Irish Sea and the Ligurian Front near the Spanish coast including the Gulf of Biscay.
*PROJECT:	Belgian Impulse Programme GLOBAL CHANGE (Science Policy Office, GC/03/010)
*PARAMETERS:	(1) Particulate organic and inorganic carbon, nitrogen, barium, silicium, calcium, aluminium and strontium

(2) Suspended matter
(3) Total mercury (particulate + dissolved phases)
(4) Dissolved barium
(5) Nutrients ($Si(OH)_4$, PO_4, NO_3, NO_2, NH_4)

*INSTRUMENTS:
(1) Autoanalyser Technicon
(2) C and N Analyzer Carlo Erba NA 1500
(3) Mass-spectrometer Finnigan Mat Delta E
(4) Emission-spectrometer Jasco NIA-1
(5) ICP-MS, VG
(6) GFAAS, Perkin Elmer

*SUMMARY:
The general aim of this project is to quantify the most important fluxes and processes (uptake rates of inorganic nitrogen (NO_3, NO_2 and NH_4; ammonium mineralization rates) affecting the behaviour of components of the carbon cycle in the coastal zone and at the ocean margins in order to assess the role of this environment in terms of sources and sinks of critical elements and components associated with global change. Sampling was carried out with the RV Belgica during 11-26/09 1989, 02-18/07 1990, 24/06-10/07 1991, 16-27/06 1992 and 08-23/10 1992. Data were collected in the English Channel, the shelf edge (La Chapelle bank) and the upwelling region of the Spanish coast (La Coruna and Vigo). In 1993, intercalibration experiments will be performed within the framework of the European project Ocean Margin Exchange (OMEX) running on the same investigation area.

*REFERENCE: Information sheet available from VUB with further details
*CENTRE: Laboratorium voor Analytische Chemie, V.U.B.
*STORAGE-MEDIUM: on Microsoft Excel files, Macintosh disks 1400k or 800k
*AVAILABILITY: The data set will be available in 1994 on request to V.U.B. after agreement of the promoter and distributed as Macintosh disks, complete with documentation
*COMPLETED-BY: M. Elskens
*ENTRY-DATE: 01-12-1992

EUROTRAC-ASE, data on air-sea exchanges of heavy metals

*TIME-PERIOD:	1991 to 1993
*COVERAGE:	North sea
*PROJECT:	EUROTRAC-ASE Programme (Science Policy Office)
*PARAMETERS:	(1) Total Hg , Hg● and methylmercury in rainwater and in seawater (2) Gaseous and particulate atmospheric mercury (3) Major ions in rainwater (4) Heavy metals in rainwater
*INSTRUMENTS:	(1) CVAFS, Brooks Rand (2) HPLC, Dionex (3) ICP-MS, VG
*SUMMARY:	The general aim of this research is to achieve a better understanding of the pathways controlling the air-sea exchange fluxes of Hg (deposition and emission fluxes). In the North Sea experiment (sept 1992) this was aimed by measuring Hg concentrations (gaseous, particulate and in rainwater) along an air mass on two research vessels aligned downwind. Results are interpreted in function of meteorological data as well as additional data on rainfall scavenging of major ions and pollutants. Intercalibration experiment was performed in Mace Head (Ireland) on April 1991. Sampling was carried out in the North Sea with the RV Belgica and FS Alkor during 04-27/09 1991 and a North Sea Platform experiment was conducted in 08-22/09 1992.
*REFERENCE:	Information sheet available from V.U.B. with further details
*CENTRE:	Laboratorium voor Analytische Chemie, V.U.B.
*STORAGE-MEDIUM:	On Microsoft Excel files, Macintosh disks 1400k or 800k
*AVAILABILITY:	The data set will be available in 1994 on request to V.U.B. after agreement of the promoter and distributed as Macintosh disks, complete with documentation
*COMPLETED-BY:	M. Leermakers
*ENTRY-DATE:	01-12-1992

SCHELDT Data Set, on heavy metals fluxes in sediments

*TIME-PERIOD:	1991 to 1994
*COVERAGE:	The Scheldt estuary
*PROJECT:	HEAVY METALS IN SEDIMENTS OF THE SCHELDT
*PARAMETERS:	(1) Interstitial water: -metals: Fe, Mn, Cd, Zn, Cu, Pb -nutrients: SO_4, NO_3, NO_2, NH_4, $Si(OH)_4$, SO_4 -alkalinity, dissolved organic carbon, redox potential (2) Analysis of sediment -Metals: Fe, Mn, Cd, Cu, Zn, Pb -Particulate organic and inorganic carbon
*INSTRUMENTS:	(1) GFAAS, Perkin Elmer (2) ICP-MS, VG (3) Auto analyzer, Technicon (4) C/N analyzer, Carlo Erba
*SUMMARY:	The aims of the study are twofold: - first, a better understanding of the biogeochemical processes influencing the immobilization and/or remobilization of metals in the sedimentary phase of the Scheldt estuary, and; - secondly, an attempt to measure in a reliable way the possible fluxes of metals from the sediment to the aqueous phase of the estuary. Six sites in the Scheldt estuary, chosen in function of bottom characteristics and salinity gradient, are studied seasonally.
*REFERENCE:	Information sheet available from VUB with further details
*CENTRE:	Laboratorium voor Analytische Chemie, V.U.B.
*STORAGE-MEDIUM:	On Microsoft Excel files, Macintosh disks 1400k or 800k
*AVAILABILITY:	The data set will be available in 1994 on request to V.U.B. after agreement of the promoter and distributed as Macintosh disks, complete with documentation
*COMPLETED-BY:	F. Monteny
*ENTRY-DATE:	01-12-1992

MANGROVE Data Set, on ecosystem functions in Gazi Bay, Kenya

*TIME-PERIOD:	February 1990 to October 1992
*COVERAGE:	Mangroves area of Gazi Bay, situated 50 km south of Mombasa, Kenya.
*PROJECT:	DYNAMICS AND ASSESSMENT OF KENYAN MANGROVE ECOSYSTEM (EEC STD2 TS2-0240-C)
*PARAMETERS:	(1) Particulate organic carbon and nitrogen (2) Nutrients ($Si(OH)_4$, PO_4, NO_3, NO_2, NH_4) (3) Remineralisation rate of nitrogen in the sediments (4) Decomposition rate of mangrove litter (5) Microbial nitrogen enrichment of mangrove litter (N_2- Fixation) (6) transfer of mangrove carbon, from primary to secondary and tertiary producers using stable isotope techniques.
*INSTRUMENTS:	(1) Autoanalyser Technicon (2) C and N Analyzer Carlo Erba NA 1500 (3) Mass-spectrometer Finnigan Mat Delta E (4) Gas-chromatograph Varian 3300 (5) Emission-spectrometer Jasco NIA-1
*SUMMARY:	The general objective of this project is the description and the better understanding of mangrove ecosystems along the Kenyan coast in order to provide a basis for rational management of those ecosystems. The objective of V.U.B. is to estimate the processes responsible for nutrient and energy flows through the mangrove ecosystem.
*REFERENCE:	Information sheet available from V.U.B. with further details
*CENTRE:	Laboratorium voor Analytische Chemie, V.U.B.
*STORAGE-MEDIUM:	On Microsoft Excel files, Macintosh disks 1400k or 800k
*AVAILABILITY:	The data set will be available in 1993 on request to V.U.B. after agreement of the promoter and distributed as Macintosh disks, complete with documentation.
*COMPLETED-BY:	A.F. Woitchik
*ENTRY-DATE:	01-12-1992

G.M.M.A., GROUPE DE MICROBIOLOGIE DES MILIEUX AQUATIQUES, UNIVERSITE LIBRE DE BRUXELLES (U.L.B.)

*LOCATION: Université Libre de Bruxelles, Brussels
*COUNTRY: Belgium

*CONTACT: ROUSSEAU Véronique
*ADDRESS: GMMA, ULB, Campus de la Plaine, CP 221, Boulevard du Triomphe, 1050 Bruxelles, Belgium

*PHONE: +32 (0)2 650 59 90
*FAX: +32 (0)2 650 59 93
*TELEX: 230.69 UNILIB-B

*DESCRIPTION: The Groupe de Microbiologie des Milieux Aquatiques (GMMA), a research unit which is part of the Faculty of Sciences of the Universite Libre de Bruxelles, studies the ecological working of aquatic ecosystems. Its main task consists in establishing predictive models of the functioning of marine and freshwater ecosystems in response to natural constraints or pertubations induced by human activities. These studies include a fundamental understanding of the mechanisms - mainly biological processes at the first trophic levels - governing the ecosystem dynamics.
Available data concern the marine environment in the coastal zone of the continental shelf of the North Sea. They consists in a time-series on the phytoplankton community and related environmental parameters measured during spring at one reference station of the Belgian coastal waters.

*ENTRY-DATE: 15-10-1992

PHAEOCYSTIS BLOOM - BELGIAN COASTAL ZONE (PHAEOBCZ)

*TIME-PERIOD: 1988 - present
*COVERAGE: 1 station in the Belgian coastal waters (N 51°26.00 E 02°48.50)

*PROJECT:	1) C.E.C. - "Dynamics of Phaeocystis blooms in nutrient enriched coastal zones". 2) STEP project - "Phaeocystis blooms, their causes and consequences".
*PARAMETERS:	Temperature, salinity, suspended matter, major nutrients (NO^-_3, NH^+_4, $SI(OH)_4$, PO_4^{3-}), Chlorophyll a, phytoplanktonic community composition.
*INSTRUMENTS:	Bucket for seawater sampling; specific filtration, preservation and analysis for the different parameters.
*SUMMARY:	Acquisition of these data is carried out as part of European projects on eutrophication in the Southern Bight of the North Sea. This is part of a coordinated survey in the coastal zone of the Channel and the North Sea (U.K., France, Belgium, The Netherlands, Germany, Denmark), with as goal the assessment of the seasonal and interannual variations of diatoms and Phaeocystis development. Data are normally available for the spring period (from March to June), with the exception of 1988 and 1992 (from February to September). Surface seawater is sampled weekly (1/month during summer) on R.V. BELGICA at a station representative of the Belgian coastal waters. Measurements of the different parameters are carried out either on board, or in the laboratory after storage in a Dewar bottle. Standard methods are used for the measurement of temperature, salinity (oceanographic probes), major nutrients (according to Grasshof), Chlorophyll a (Lorenzen), phytoplankton countings (inverted microscope), bacteria and protozoa countings (for 1988, epifluorescence microscopy).
*REFERENCE:	
*CENTRE:	GMMA (Groupe de Microbiologie des Milieux Aquatiques).
*STORAGE-MEDIUM:	1 floppy disk (LOTUS files) (1.4 Mb)
*AVAILABILITY:	Dataset available by special arrangement with GMMA.
*COMPLETED-BY:	Véronique Rousseau - 32(0)2-650.59.90
*ENTRY-DATE:	15-10-1992

CHEMICAL OCEANOGRAPHY, FREE UNIVERSITY OF BRUSSELS (U.L.B.)

*LOCATION:	Free University of Brussels (U.L.B.), Brussels
*COUNTRY:	Belgium
*CONTACT:	Prof. Roland Wollast
*ADDRESS:	Campus de la Plaine, CP 208, Bd. du Triomphe, 1050 Brussels, Belgium
*PHONE:	+32 (0)2 650 52 13
*FAX:	+32 (0)2 646 34 92
*TELEX:	23069 UNILIB BRUX
*EMAIL:	rwollast@bbrbfu60

*DESCRIPTION: The Laboratory of Chemical Oceanography has focused its activities on the study of various components of the biogeochemical cycle of carbon, nutrients and trace elements in the marine system. This includes especially evaluation of fluxes and of transfer processes from rivers to the coastal zone and the open ocean.
The Laboratory is involved in various national (Science Policy: Programme Marine Sciences and Global Change) or international programmes (EEC: STEP and MAST programme).

*ENTRY-DATE: 28-12-1992

PRODUCTION, TRANSPORT AND FATE OF ORGANIC MATTER AND ASSOCIATED ELEMENTS IN MARINE SYSTEMS

*TIME-PERIOD:	from september 1989 onwards
*COVERAGE:	English Channel, Celtic sea, Gulf of Biscay, La Chapelle Bank, Spanish Coastal upwelling (from La Coruna to Vigo)
*PROJECT:	Global Change project 7, Belgian State, Science Policy Office
*PARAMETERS:	Standard hydrological parameters, nutrients, trace metals, organic carbon, ^{32}P and ^{14}C primary production

*INSTRUMENTS:	Standard methods. ICP, AA, gamma spectrometer, in-situ filtering.
*SUMMARY:	The goal of this joint oceanographic research project (4 teams involved) is to quantify the most important fluxes and processes affecting the behaviour of components of the carbon cycle in the coastal zone and at the ocean margins. The elements considered include the classical nutrients (N, P, Si, Ca) as well as trace elements (Mn, Co, Zn) essential for the biological activity. The study must lead to the development of predictive models allowing the evaluation of the various fluxes involved in the biological cycles of the considered elements. The relative importance of perturbations of these cycles due to the anthropogenic activities, as well as their influences at the global scale on medium and long time scales, will also be investigated.
*REFERENCE:	A list of published work is available from Ms. Loijens
*CENTRE:	Chemical Oceanography, U.L.B.
*STORAGE-MEDIUM:	list, floppy disks, MS-DOS, ASCII files
*AVAILABILITY:	data available by special arrangement - contact Prof. Roland Wollast
*COMPLETED-BY:	Ms. Michèle Loijens
*ENTRY-DATE:	28-12-1992

TRANSPORT, TRANSFER AND TRANSFORMATION OF PARTICULATE MATERIAL IN ESTUARIES

*TIME-PERIOD:	from April 1991 onwards
*COVERAGE:	Rhône and Scheldt estuary
*PROJECT:	EEC, STEP
*PARAMETERS:	S, T, O_2, pH, nutrients, trace metals, radionuclides, organic and inorganic C
*INSTRUMENTS:	Standard methods, gamma spectrometer
*SUMMARY:	The aim of this study is to evaluate the distribution of trace metals and natural or anthropogenic radionuclides between the dissolved and the particulate phases under natural conditions encountered in the estuarine waters. Two contrasting estuaries exhibiting different hydrodynamic regimes have been selected: the Rhône and the Scheldt.

	In addition, the rate of transfer of these elements will be examined during laboratory experiments at different time scales, taking into account: - the importance of aging on the degree of trace element fixation; - its impact on the reversibility of transfer of trace element between the dissolved and particulate phase in the saline zone. Finally, the dynamic behaviours of particles in estuaries will be investigated in order to quantify these phenomena and to develop predictive models that will provide estimates of residence time, age, transit time and concentrations of particulate and dissolved matter.
*REFERENCE:	A list of published work is available from Ms. Loijens
*CENTRE:	Chemical Oceanography, U.L.B.
*STORAGE-MEDIUM:	list, floppy disks, MS-DOS, ASCII files
*AVAILABILITY:	data available by special arrangement - contact Prof. Roland Wollast
*COMPLETED-BY:	Ms. Michèle Loijens
*ENTRY-DATE:	28-12-1992

SOURCES, SINKS AND TRANSFER OF TRACE METALS IN THE WESTERN MEDITERRANEAN SEA

*TIME-PERIOD:	from April 1988 onwards
*COVERAGE:	Northwestern Mediterranean Sea (Gulf of Lions), strait of Gibraltar, detroit of Sicily
*PROJECT:	EROS 2000 'European River Ocean System' EEC STEP
*PARAMETERS:	Dissolved and particulate trace elements
*INSTRUMENTS:	Standard methods. ICP, AA, gamma spectrometer, in-situ pumping
*SUMMARY:	The main objectives of the project are: - To quantify the biogeochemical cycles of trace elements (Co, Ni, Cu, Cr, Al) including the identification of their sources and sinks, their dissolved and particulate speciation and their distribution in the Western Mediterranean sea. - To establish the role of the particulate phase and to quantify the scavenging fluxes for these metals in relation with primary productivity.

*REFERENCE:	A list of published work is available from Ms. Loijens
*CENTRE:	Chemical Oceanography, U.L.B.
*STORAGE-MEDIUM:	list, floppy disks, MS-DOS, ASCII files
*AVAILABILITY:	data available by special arrangement - contact Prof. Roland Wollast
*COMPLETED-BY:	Ms. Michèle Loijens
*ENTRY-DATE:	28-12-1992

TRANSFER AND BEHAVIOUR OF TRACE METALS IN THE SCHELDT ESTUARY

*TIME-PERIOD:	from October 1992 onwards
*COVERAGE:	The Western Scheldt estuary
*PROJECT:	Marine Science Project 6, Belgian State, Sciences Policy Office
*PARAMETERS:	Dissolved and particulate trace elements + standard parameters
*INSTRUMENTS:	Standard methods. ICP, AA, gamma spectrometer

*SUMMARY:

The aim of this study is to evaluate the distribution of trace metals (Cr, Mn, Co, Zn, Cd, Pb) between the dissolved and the particulate phases in the Scheldt estuary.
The rate of transfer of these elements between the two phases will furthermore be investigated by using radiotracers during incubation experiments carried out with Scheldt water. A special attention will be devoted to the role of biological activity in these transfer processes.
The final goal is to evaluate the sources, sinks and fluxes of these metals in the estuarine system.

*REFERENCE:	A list of published work is available from Ms. Loijens
*CENTRE:	Chemical Oceanography, U.L.B.
*STORAGE-MEDIUM:	list, floppy disks, MS-DOS, ASCII files
*AVAILABILITY:	data available by special arrangement - contact Prof. Roland Wollast
*COMPLETED-BY:	Ms. Michèle Loijens
*ENTRY-DATE:	28-12-1992

LABORATORIUM VOOR ECOLOGIE EN AQUACULTUUR, KATHOLIEKE UNIVERSITEIT LEUVEN (K.U.L.)

*LOCATION:	Katholieke Universiteit Leuven (K.U.L.), Leuven
*COUNTRY:	Belgium
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*PHONE:	+32 (0)16 28 39 66
*FAX:	+32 (0)16 28 45 75
*EMAIL:	AQUACULT @ BLEKUL11

*DESCRIPTION: The role of multicellular parasites in marine and estuarine ecosystems has been studied since 1990. Firstly attention has been paid to the population dynamics of ecto- and endoparasites of fish. The infection dynamics and the dispersion patterns of parasites of the genus Lernaeocera (Crustacea) are studied in the North Sea and the Western Scheldt. These parasites show variable degrees of specificity towards intermediate (flatfish) and final hosts (gadoids). In a next step the effect of parasite-induced host mortality on the fish population structure will be estimated. Secondly, the parasite faunas of two sympatric goby species are studied. Significant quantitative and qualitative differences in their respective parasites were found. This may be due to the pronounced niche segregation which has been documented for these species.
In addition, the estuarine fauna of the Western Scheldt is being investigated at regular intervals.

*ENTRY-DATE: 10-11-1992

FISH PARASITES IN THE NORTH SEA AND WESTERN SCHELDT ESTUARY

*TIME-PERIOD:	January 1991-1993
*COVERAGE:	Scheldt estuary (North Sea)
*PROJECT:	Community structure of fish and crustaceans in the brackfish part of the Western Scheldt

*PARAMETERS: Fish species, numbers, densities, length, weight
*INSTRUMENTS:

*SUMMARY: The aquatic fauna of the Western Scheldt is poorly known. The most complete information dates back to the fourties. In the present study the fish population dynamics and fish community structure of the brackish part of the Western Scheldt are investigated. Samples are taken monthly at the outlet of the cooling water of the nuclear power station in Doel. The influence of tidal and diurnal cycles on fish intake is investigated.

*REFERENCE:
*CENTRE: Laboratorium voor Ecologie en Aquacultuur
*STORAGE-MEDIUM: on computer file
*AVAILABILITY: On request
*COMPLETED-BY: P. VANDAMME
*ENTRY-DATE: 10-11-1992

LABORATOIRE D'OCEANOLOGIE, UNIVERSITE DE LIEGE (U.LG)

*LOCATION:	Institut de Chimie, Université de Liège (U.Lg), Sart-Tilman
*COUNTRY:	Belgium
*CONTACT:	Prof. J.M. Bouquegneau
*ADDRESS:	Institut de Chimie, Bât 6 B-4000 Sart Tilman
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*FAX:	+32 (0)41 56 33 25
*EMAIL:	U211002 @ BLIULG11
*DESCRIPTION:	The Laboratory of Oceanology of the University of Liege (ULg) maintains research programmes in Seagrass Beds Ecology, Food Webs Ecology, Trace Metals Ecotoxicology, CO2 chemistry, Carbon Biogeochemistry, Air-Sea Exchanges. The laboratory is involved in several international programmes as Global Change, MAST, STEP, OMEX, and in some national programmes. The data storage medium (ASCII files) enables ready transfer to other groups. These data are in general freely available by contacting the relevant scientist. Sponsor's permission may however be asked for some contract data.
*ENTRY-DATE:	03-11-1992

BIOGEOCHEMICAL CARBON CYCLING IN COASTAL ZONES (TAMAR ESTUARY, PLYMOUTH, U.K.)

*TIME-PERIOD:	August 1991 to July 1992
*COVERAGE:	Tamar Estuary (Plymouth, United Kingdom)
*PROJECT:	MAST 0019C
*PARAMETERS:	DOC, TOC, pH, TALK, pCO2, Nutrients, Chlorophyll a, calcium (+Mg & Sr), Salinity, temperature, currents, meteorology, air-sea gas fluxes.

*INSTRUMENTS: Carbon analyzer, pH probe, Titration set, Gas chromatograph, Nutrient multianalyser, fluorometer, CTD, Meteo mast, CO2 IR analyzer, ICP.

*SUMMARY: The Laboratory of Oceanology is coordinating a MAST research programme on the biogeochemistry of carbon in coastal systems (the Bay of Calvi in France, the Tamar Estuary in United Kingdom and the Aveiro Lagoon in Portugal). As coordinator, ULg has to manage the complete set of data obtained during this project. According to the contract, the data will be available to European Oceanographers by the end of the contract (April 1993) in the standard LOTUS 123 format with all the needed information concerning the sampling procedure.

The aim of this MAST project is to collect field data in order to get a better understanding of the carbon cycle in coastal areas. A lot of related parameters are collected in water column together with exchanges of carbon at some interfaces. The water column study includes diel cycles monitoring, surveys of the Plymouth Sound (10 stations) and transects up the River Tamar (12 stations). The data set includes 3 cycles, 5 surveys and 10 transects obtained during 4 campaigns (Aug 91, Nov 91, Mar 92 & Jul 92).
Air-sea CO2 exchanges have been measured at several stations in the estuary.
The project also includes two intercalibration exercises : air-sea gas exchange using the halogenated tracer method and the bell method apply to CO2; the intercomparison of CO2 seawater chemistry obtained from the measured pCO2, total alkalinity and in situ pH.

*CENTRE: Laboratoire d'Océanologie
*STORAGE-MEDIUM: IBM PS/2 hard disk & disk copies, about 5 megabytes.
*AVAILABILITY: According to EEC contract rules.
*COMPLETED-BY: Michel Frankignoulle
*ENTRY-DATE: 31-07-1991

SUSPENDED MATTER IN NORTH EASTERN ATLANTIC

*TIME-PERIOD:	from 1989 onwards
*COVERAGE:	North Sea, English Channel, Gulf of Biscay, Celtic Sea
*PROJECT:	
*PARAMETERS:	Biomass, chlorophylls, heavy metals, 13C/12C ratios
*INSTRUMENTS:	Centrifugation for collection ICP-Stable isotope Mass spectrometry
*SUMMARY:	Sets of data obtained during 6 cruises of the R.V. Belgica as a part of the Global Change programme. Set contains spatial resolution data and files are sorted by research cruise. Data also on pH, alcalinity, pCO2, dissolved O2.
*STORAGE-MEDIUM:	Excel MAC or DOS files
*AVAILABILITY:	data available by special arrangement. Contact Dr. P. Dauby or M. Frankignoulle
*COMPLETED-BY:	Dr. P. Dauby
*ENTRY-DATE:	03-11-1992.

PRODUCTIVITY OF SEAGRASS BED (CALVI-CORSICA)

*TIME-PERIOD:	from 1991 onwards
*COVERAGE:	N-W Corsica
*PROJECT:	STEP
*PARAMETERS:	dissolved O2-CO2, 14C incorporation
*INSTRUMENTS:	in situ measurements
*SUMMARY:	Data on in-situ measurements of gas exchanges over a Posidonia oceanica meadow, correlated with in-situ experiments of 14C incorporation by the seagrass community. Data collected monthly since March 1991. Associated data: POM, chlorophyll, irradiance, T°, seagrass biomass and phenology.
*STORAGE-MEDIUM:	MS-DOS Lotus or Excel Mac
*AVAILABILITY:	by special arrangement. Contact Dr. P. Dauby
*COMPLETED-BY:	Dr. P. Dauby
*ENTRY-DATE:	03-11-1992

13C/12C RATIOS IN MEDITERRANEAN BENTHIC FOOD WEBS

*TIME-PERIOD:	from 1989 onwards
*COVERAGE:	N-W Corsica, Gulf of Marseilles, Gulf of Naples
*PARAMETERS:	13C/12C ratios in various organisms
*INSTRUMENTS:	Isotope ratio Mass Spectrometry
*SUMMARY:	Data present d13C values of different organisms in relation with their position in food webs and allow delineation of carbon flows.
*REFERENCE:	- P. Dauby, 1989. The stable carbon isotope ratios in benthic food webs of the Gulf of Calvi, Corsica. Continental Shelf Research, 9, 181-195.
*STORAGE-MEDIUM:	Excel MAC
*AVAILABILITY:	freely on request
*COMPLETED BY:	Dr. P. Dauby
*ENTRY-DATE:	03-11-1992

TRACE METALS IN MUSSELS FROM BELGIAN COAST

*TIME-PERIOD:	from 1991 onwards
*COVERAGE:	Belgian Coast
*PARAMETERS:	Ti, Pb, Cd, Cr, Fe, Hg, Cu, Zn
*INSTRUMENTS:	ICP - Atomic absorption
*SUMMARY:	Data collected quarterly on several locations of the Belgian Coast. Associated data: respiration and excretion rates.
*REFERENCE:	- Bouquegneau, J.M. et al., Bull. Soc. roy. Sci. Liège, 61, 155-162
*STORAGE-MEDIUM:	MSDos Lotus
*AVAILABILITY:	Freely on request. Contact S. Gobert
*COMPLETED-BY:	Dr. P. Dauby
*ENTRY-DATE:	03-11-1992

IZWO, INSTITUUT VOOR ZEEWETENSCHAPPELIJK ONDERZOEK (INSTITUTE FOR MARINE SCIENTIFIC RESEARCH)

*LOCATION:	Ostend
*COUNTRY:	Belgium
*CONTACT:	Dr. ir. E. JASPERS, Director
*ADDRESS:	IZWO, Victorialaan 3, B-8400 Oostende, Belgium
*PHONE:	+32 (0)59 32 10 45
*FAX:	+32 (0)59 32 11 35
*DESCRIPTION:	IZWO is an independent, non-profit organization, established in 1970. The Institute was created thanks to the support of the Government of the Province of the West-Flanders (boarding the North Sea), The Francqui Foundation and the Belgian National Science Foundation. The association counts approximately 140 members, mainly scientists, working in oceanography and marine sciences, at the various Flemish universities and governmental departments. Thanks to the diversity of practiced disciplines (biology, ecology, chemistry, physics, geology, etc. and applied marine research such as aquaculture and pollution), by the IZWO members, the Institute constitutes a multidisciplinary forum for cooperation, coordination, planning and execution of marine projects. Annually, the results of the scientific investigations of the IZWO-members are bundled in the "IZWO Collected Reprints". This publication is exchanged worldwide with the publications of marine centers in all continents.
*ENTRY-DATE:	05-10-1992

HALEWIJK LIBRARY

*TIME-PERIOD:	from early 20th century to date
*COVERAGE:	
*PROJECT:	

*INSTRUMENTS:

*SUMMARY: The 'Halewijk Library' serves the scientists as well as the interested public at large. Publications in the library, cover marine and brackish water biology, ecology, pollution, marine geology, chemistry, physics, marine and brackish water fisheries and aquaculture. Most Belgian reports and publications in the sphere of marine research are conserved there. A printed title catalogue is available at nominal cost. The library will be automated in 1993-94 and bibliographic searches made possible.

*CENTRE: IZWO, Institute for Marine Scientific Research
*STORAGE-MEDIUM: paper
*AVAILABILITY: Consultation of the library free of charge. Printed title catalogue available at nominal cost. Photocopies.
*COMPLETED-BY: Dr. ir. E. JASPERS
*ENTRY-DATE: 05-10-1992

R.B.I.N.Sc., ROYAL BELGIAN INSTITUTE OF NATURAL SCIENCES

*LOCATION:	Ministry of Education and Culture, Brussels
*COUNTRY:	Belgium
*CONTACT:	Daniel CAHEN, the Director
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*PHONE:	+32 (0)2 627 42 11
*FAX:	+32 (0)2 646 44 33
*DESCRIPTION:	The Royal Belgian Institute of Natural Sciences keeps and preserves the National Natural History collections. The collections are kept in large store-rooms, specially adapted for preserving wet as well as dry collections. Parts of the collections have a computerized inventory. The collections are accessible to researchers from all over the world and can be consulted and/or studied in the store-rooms or in well-equipped laboratories during a visit to the Institute. Smaller parts of the collections can be sent or given on loan. Exchange material is also available.
*ENTRY-DATE:	15-09-1992

SEDIMENTARY ROCKS FROM DIFFERENT PARTS OF THE WORLD

*TIME-PERIOD:	approx. 1850 - present
*COVERAGE:	Different parts of the world
*PROJECT:	Recent estuarine and marine sediments
*PARAMETERS:	Sediment characteristics
*SUMMARY:	The collection of sedimentary rocks consists, next to older geological samples, also of recent estuarine and marine deposits. The samples were collected in many parts of the world by scientific members of the Institute (staff members and scientific collaborators). Of particular interest are the historical collections of the North Sea sediments, sampled during the first years of the 20th century, and a collection of rock samples collected during

the "Challenger-expedition" (1873-1876). More recent collections are, among others, a collection of sediments from the Lützow-Holm Bay (Antarctica) (1976-1977) and a collection of recent sediments from the Scheldt-estuary and the Belgian continental shelf (1967-present).

*CENTRE: Dept. of Mineralogy - Petrography, Royal Belgian Institute of Natural Sciences
*STORAGE-MEDIUM: Dry - in storage rooms
*AVAILABILITY: Collections can be studied by scientists in the Sedimentology laboratory of the Institute.
*COMPLETED-BY: Dr. S. WARTEL
*ENTRY-DATE: 15-09-1992

MARINE INVERTEBRATES OF BELGIUM AND ADJACENT COUNTRIES

*TIME-PERIOD: approx. 1850 - present
*COVERAGE: Belgium, North Sea
*PROJECT:
*PARAMETERS: marine and brackish invertebrate biodiversity
*INSTRUMENTS: collection of specimens

*SUMMARY: The collection of marine invertebrates of Belgium is very extensive (hundreds of thousands of specimens) and contains representatives of all major marine invertebrate phyla. It has an important scientific value, and an historical one as well. It contains specimens collected in the second half of the 19th century, but also specimens collected during the "Exploration de la Mer" - expeditions in the Belgian Coastal waters during the first two decades of the 20th century. Collecting of invertebrates has been continued until the present day by numerous scientists and research associates of the Institute. The collections are preserved in especially adapted store rooms, in preserving fluid (alcohol or formol) and as dry collections. Most of the invertebrate species of the Belgian fauna are represented in the collections. These collections are the basic data set for faunal inventories, each specimen representing the record of a species in time and geographical space. The collections contain also specimens from other parts of the North Sea (e.g. U.K., France, The Netherlands).

*CENTRE:	Department of Invertebrates, Royal Belgian Institute of Natural Sciences, Brussels.
*STORAGE-MEDIUM:	Invertebrate collections in preserving fluid, or dry specimens.
*AVAILABILITY:	Collections can be studied by researchers in the store rooms or laboratories of the Institute. Individual specimens can be obtained on loan.
*COMPLETED-BY:	J. VAN GOETHEM & K. WOUTERS
*ENTRY-DATE:	10-09-1992

MARINE INVERTEBRATES, WORLDWIDE COLLECTION

*TIME-PERIOD:	approx. 1850 - present
*COVERAGE:	Different parts of the world
*PROJECT:	
*PARAMETERS:	Marine and brackish invertebrate biodiversity
*INSTRUMENTS:	Collection of specimens

*SUMMARY:

The natural history collections of the Royal Belgian Institute of Natural Sciences, Brussels, not only contain Belgian marine invertebrates, but also a very large number of species of most invertebrate phyla from the world seas, with records going back to the 19th century. The material of major expeditions is present in the collections :"Voyage aux Indes Orientales" (1928-1929), "Expédition Océanographique Belge, dans les Eaux côtières Africaines de l'Atlantique Sud" (1948-1949), several expeditions to the Antarctic, Papua New Guinea, The Maldives, Indonesia, Red Sea, the Comoros etc., and recently also to the Gulf of Mexico. Apart from this material there is also the famous collection "Dautzenberg" including a few million specimens of marine molluscs from all over the world (1870-1934). Finally, the collection contains a great diversity of marine invertebrates from very different parts of the world, obtained in different ways by many scientists and research associates in the course of time. Although less complete than the collection of the marine Belgian faunas, the worldwide marine invertebrate collection constitutes an important tool in studying taxonomy and biodiversity.

*CENTRE:	Department of Invertebrates, R.B.I.N.Sc., Brussels
*STORAGE-MEDIUM:	Invertebrate collections in preserving fluid, or dry specimens.

*AVAILABILITY: Collection can be consulted and studied by researchers in the store rooms or laboratories of the Institute. Individual specimens can be obtained on loan.
*COMPLETED-BY: J. VAN GOETHEM & K. WOUTERS
*ENTRY-DATE: 10-09-1992.

VERTEBRATES, WORLDWIDE COLLECTION

*TIME-PERIOD: Approx. 1850 - present
*COVERAGE: The five continents

*SUMMARY: The natural history collections of the vertebrates of the Royal Belgian Institute of Natural Sciences in Brussels, contains: mammalogy: 25.578 specimens; ornithology: 84376 specimens; herpetology: reptiles 46.209 and batracians 115.906; ichthyology: 223.209.

*CENTRE: Department of Vertebrates, R.B.I.N.Sc., Brussels
*STORAGE-MEDIUM: Vertebrate collections in fluid, or in skins or skeletons
*AVAILABILITY: The collections can be visited and studied by researchers in the store rooms. Loans of specimens with other museums.
*COMPLETED-BY: Dr. J. GOVAERE
*ENTRY-DATE: 22-09-1992.

BELGIAN BIRDS RINGING SCHEME

*TIME-PERIOD: 1927 - to date
*COVERAGE: most of all Europe and Africa
*PROJECT: The study of bird migration
*INSTRUMENTS: 1. The ringing of birds captured and released in Belgium.
2. The recovery data of birds ringed in Belgium and abroad.

*SUMMARY: The Belgian Ringing Scheme is a member of EURING (covering the european ringing organisations). The coordination of the Ringing Scheme: 20 million data since 1927. Annually 600.000 birds are ringed in Belgium. Administration of the data of

	Belgian and foreign ringing. Recoveries: 130.000. Annually 5000 recoveries. The study of migration flyways and periods. The conservation of roosting areas of birds on migration. Populations dynamics: mortality, causes of death (road accidents, shooting, etc.).
*CENTRE:	The Belgian Ringing Scheme, Department of Vertebrates R.B.I.N.Sc., Brussels
*STORAGE-MEDIUM:	Computer files
*AVAILABILITY:	The ringing and recovery data can be studied by scientific and amateur ornithologists.
*COMPLETED-BY:	W. ROGGEMAN & W. WENDELEN
*ENTRY-DATE:	22-09-1992

INVENTORIES AND REPORTS FROM SCIENTIFIC EXPEDITIONS

*TIME-PERIOD:	from 1900 till present
*COVERAGE:	North sea - all seas over the world
*PROJECT:	Several distinct projects and missions
*PARAMETERS:	Hydrography, biological inventories
*INSTRUMENTS:	
*SUMMARY:	The Royal Institute of Natural Sciences has published quite a number of scientific papers and 'Memoires', organised in Series and Fascicules. There is the depository of a wealth of early oceanographic data (mostly biological). A few major items are referred thereafter. A complete list of publications is available from the Royal Institute. Insofar available, these publications are for sale.
*REFERENCE:	- Resultats scientifiques des croisieres du navire-ecole belge "Mercator": 5 series (1936-1951), with a total of 37 monographies (biological inventories, organised by taxonomical groups). - Resultats scientifiques du Voyage aux Indes orientales et neerlandaises de LL. AA. RR. le Prince et la Princesse Leopold de Belgique, publies par V. Van Straelen: 16 fascicules (1930-1939) relevant to marine taxonomical groups. - Resultats scientifiques de l'expedition oceanographique belge dans les eaux cotieres africaines de l'Atlantique Sud (1948-

1949): 26 monographies (mostly on taxonomical groups) organised in 5 volumes and 19 fascicules.
- Gilson, G., 1900. Exploration de la Mer sur les cotes de la Belgique. 81 pp. Memoires du Musee Royal d'Histoire Naturelle de Belgique (2).
- Gilson, G. 1907. Exploration de la Mer sur les cotes de la Belgique. Variations horaires, physiques et biologiques de la Mer. 87 pp., Memoires du Musee Royal d'Histoire Naturelle de Belgique (13).
- Gilson, G. 1924. Exploration de la Mer sur les cotes de la Belgique. Recherches sur la derive dans la mer du Nord. 50 pp., Memoires du Musee Royal d'Histoire Naturelle de Belgique (35).
- Meunier, A. (from 1913 till 1919). Microplankton de la Mer Flamande. Memoires du Musee Royal d'Histoire Naturelle de Belgique (26 till 29).
- Van Meel, L.I.J., 1975. La Mer du Nord Meridionale, le Pas-de-Calais et la Manche. Essai d'ecologie marine, principalement en ce qui concerne le microplancton. Vol. II. Etude planctonique. Note: submitted for publication in 1975 but delayed. Only a few bound exemplars of this heavy manuscript of 655 pp. and 72 tables have been directly made available by the author.

*CENTRE: Royal Institute of Natural Sciences
*STORAGE-MEDIUM: Publications
*AVAILABILITY: all publications are for sale.
*COMPLETED-BY: Dr. J.P. Mommaerts (MUMM)
*ENTRY-DATE: 16-11-1992

INSTITUTE OF NATURE CONSERVATION

*LOCATION:	Ministry of the Flemish Community, Hasselt
*COUNTRY:	Belgium
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*ADDRESS:	Institute of Nature Conservation, Kiewitdreef 5 B3500 Hasselt, Belgium
*PHONE:	+32 (0)11 210110
*FAX:	+32 (0)11 242262
*TELEX:	
*EMAIL:	

*DESCRIPTION: The Institute of Nature Conservation is an applied research institute of the Ministry of the Flemish Community, Department of the Environment and Infrastructure. The task of the institute is mainly applied scientific research in relation to nature conservation. This includes the realisation of own studies and the transfer of knowledge towards the responsable governmental bodies. Part of the scientific research consists of research on the distribution and dynamics of species populations and communities in relation to environmental factors, including monitoring.
The Institute maintains databases of different species and communities, including seabirds, waders, waterfowl and estuarine macrozoobenthos. These data have a restricted availablility.

*ENTRY-DATE: 04-11-1992

ESTUARINE MACROBENTHOS FROM THE EASTERN AND WESTERN SCHELDT AREAS

*TIME-PERIOD:	July 1979 until present
*COVERAGE:	several sites scattered over the Oosterschelde (The Netherlands) and the Wester- and Zeeschelde (The Netherlands and Belgium).
*PROJECT:	The data are collected in the course of several projects.

*PARAMETERS: Density, biomass and population structure/dynamics of macrobenthic species and a characteristation of the sediment (granulometric data; of some points also concentrations of pollutants).

*INSTRUMENTS: core sampling, Van Veen grab

*SUMMARY: These data are collected within the framework of different projects. They all have however the same aim: studying the factors determining the distribution of macrobenthic invertebrates, mainly sediment characteristics, pollution and hydrodynamics; estimating the biomass available for birds and the predation pressure by birds (waders (Charadrii)); assessing the potential impact of environmental changes.

*REFERENCES:

- Meire, P. & E. Kuijken, 1984. Relations between the distribution of waders and the intertidal benthic fauna of the Oosterschelde, Netherlands. In Coastal Waders and Waterfowl in winter. (Ed. by EVANS P.R., GOSS-CUSTARD D.J., HALE W.), pp.57- 68. Cambridge: Cambridge University Press.
- Craeymeersch, J., Herman, P. & P. Meire, 1986. Secondary production of an intertidal mussel (Mytilus edulis L.) population in the Eastern Scheldt (S.W. Netherlands). Hydrobiologia 133: 107- 115.
- Meire, P., Dereu, J., Van Der Meer, J. & D. Develter, 1989. Aggregation of some benthic invertebrates: theoretical and practical considerations. Hydrobiologia. 175: 137-148.
- Meire, P. & J. Dereu, 1990. Use of the Abundance/biomass comparison method for detecting environmental stress: some considerations based on intertidal macrozoobenthos and bird communities. Journal of Applied Ecology, 26: 210-223.
- Meire, P., Seys, J., Ysebaert, T. & J. Coosen, 1991. Comparing macrobenthic distribution and community structure between two estuaries in SW-Netherland. pp 221-230 In Elliot, M. & J.P. Ducrotoy (Eds) Estuaries and Coasts: spatial and temporal intercomparisons. Olson & Olson, Fredensborg.
- Smaal, A.C., Knoester, M., Nienhuis, P. & Meire, P., 1991. Changes in the Oosterschelde ecosystem induced by the Delta works. pp 375-384 In Elliot, M. & J.P. Ducrotoy (Eds) Estuaries and Coasts: spatial and temporal intercomparisons. Olson & Olson, Fredensborg.

*CENTRE: Institute of Nature Conservation.

*STORAGE-MEDIUM: on floppy disks 4 megabytes

*AVAILABILITY: Available on special arrangement

*COMPLETED-BY: Patrick Meire

*ENTRY-DATE: 04-11-1992

MARINE AND ESTUARINE BIRDS FROM THE BELGIAN COASTAL AREA AND SCHELDT ESTUARY

*TIME-PERIOD: July 1979 until present
*COVERAGE: The Belgian coast and continental shelf; the Scheldt estuary.
*PROJECT: The data are collected in the course of several projects.
*PARAMETERS: Bird numbers, densities, prey selection, food consumption.
*INSTRUMENTS: visual observation

*SUMMARY: Birds are important predators in the marine and estuarine ecosystems. The main aim of the project is understanding the factors determining the distribution of birds and whether or not the carrying capacity is reached. In the estuary of the river Schelde (the Zee- and Westerschelde) regular counts are organised and detailed research on the feeding ecology of waders and shelduck is ongoing. On the Belgian continental shelf the distribution of Seaducks is studied since 1986, of all seabirds since 1992. Additionally the number of beached birds and the amount of them which are oiled are monitored along the Belgian coast.

*REFERENCES:

- Meire, P. & E. Kuyken, 1987. A description of the habitat and wader populations of the Slikken van Vianen (Oosterschelde, The Netherlands) before major environmental changes and some predictions on expected changes. Gerfaut 77, 283-311.
- Meire, P. & A. Ervynck, 1986. Are Oystercatchers selecting the most profitable mussels? Anim. Behav. 34: 1427-1435.
- Meire, P., Seys, J., Ysebaert, T., Meininger, P. & H. Baptist, 989. A changing Delta: effects of large coastal engineering works on feeding ecological relationships as illustrated by waterbirds. pp. 109-146 in Hooghart, J.C. & C.W.S. Posthumus. Hydro-ecological relations in the Delta Waters of the South-West Netherlands. The Hague, TNO Committee on hydrological Research.
- Ysebaert, T. & P. Meire, 1990. Factors affecting food selection and foraging behaviour on mudflats by breeding Black-headed Gulls, Larus ridibundus. p. 250-265 in Barnes, M. & R. Gibson (Ed.) Trophic relationships in the Marine

Environment, Proceedings of 24th European Marine Biology Symposium., Aberdeen University Press.
- Meire, P., 1991. Effects of a substantial reduction in intertidal area on numbers and densities of waders. Acta XX Congressus Internationalis Ornithologici: 2219-2227.

*CENTRE: Institute of Nature Conservation.
*STORAGE-MEDIUM: on floppy disks 4 megabytes
*AVAILABILITY: Available on special arrangement
*COMPLETED-BY: Patrick Meire
*ENTRY-DATE: 04-11-1992

M.U.M.M., MANAGEMENT UNIT OF THE NORTH SEA AND SCHELDT ESTUARY MATHEMATICAL MODELS

*LOCATION:	Institute of Hygiene and Epidemiology, Ministry of Public Health and Environment, Brussels
*COUNTRY:	Belgium
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*PHONE:	32 (0)2 773 21 11
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*DESCRIPTION:

The Management Unit of the North Sea and Scheldt Estuary Mathematical Models (MUMM) is a department of the Belgian Ministry of Public Health and Environment affiliated to IHE, a State research institute. The unit's responsibilities lie in the area of marine environmental protection and resource assessment; they include:
- the monitoring of the North Sea environment, since 1977, through surveillance programmes and oceanographic campaigns (MONITB) and, since 1990, also through airborne surveillance (BELMEC);
- the study of marine processes, marine resource management and marine pollution, using mathematical modelling as a tool;
- the management of the State environmental protection activities relating to the sea.

MUMM is responsible for implementing national and international legislation pertaining to the protection of the marine environment e.g. the Oslo and Paris Conventions for the prevention of the pollution of the sea, and for coordinating work pertaining to the North Sea Conference. It is the licensing authority for waste dumping and incineration at sea (both now terminated). It serves in an advisory capacity in the national counter-pollution contingency arrangements and coordinates environmental surveillance in case of marine incidents.

MUMM is maintaining a database as far as the national and international (JMP, MMP/NSTF) monitoring activities are concerned. It is currently the Belgian focal point for most international oceanographic data exchange. Moreover, several datasets from various recent and less recent Belgian research programs are conserved at MUMM.

*ENTRY-DATE: 01-09-1992

MONITB, MONITORING OF THE QUALITY OF THE MARINE ENVIRONMENT IN THE NORTH SEA AREA AND SCHELDT ESTUARY

*TIME-PERIOD: from 1977 onwards

*COVERAGE: Over 30 sampling stations in the Belgian Continental Shelf area and Western Scheldt estuary + a few MMP/NSTF stations ouside these limits.

*PROJECT: national monitoring + incorporation of the results of several more specific projects if relevant, Joint Monitoring Program (Oslo and Paris Conventions), Monitoring Master Plan (North Sea Task Force)

*PARAMETERS:
- hydrography: temperature, salinity, suspended matter, secchi depth and/or quantameter
- meteorology: air temperature, sea state, wind speed and direction, relative humidity
- nutrients in water: nitrates + nitrites, ammonium, phosphates, silicates
- heavy metals in water and in bottom sediment: mercury, cadmium, copper, zinc, lead
- organic contaminants in water and sediments: PCB's (seven IUPAC congeners), HCH's (including lindane), o- and p- DDT, DDE, DDD, HCB, members of the 'drins and 'zins families
- plant pigments: chlorophyl a and phaeophytin a

*INSTRUMENTS: CTD probes, Beckman salinometer, Niskin bottles, box corers and grab samplers. Laboratory analytical equipment.

*SUMMARY: The monitoring of the North Sea environment, especially in the area of the Belgian continental shelf and in the estuary of the Scheldt river (Western Scheldt) was initiated at MUMM in 1977, with a since then almost unchanged pattern of about 25 sampling stations at sea and 7 in the estuary, each one being visited with a

frequency of 6 to 10 times a year, and water being taken from a standard depth of - 3m.

Several laboratories from Belgian universities and State research institutes are currently participating in that monitoring effort.

At the end of 1991, the database held about 40000 data records organized basically as specified in the ICES Environmental Data Reporting Formats. A first quality control has been performed in order to mark or eliminate spurious data.

*REFERENCE: Mommaerts, J.P., 1991. Distribution and trends of contaminants in seawater and sediments of the Southern Bight of the North Sea and the Western Scheldt Estuary. A first screening. MUMM's data processing series, vol. 2. November 1991. 22 pp. + 41 figs. Also in: Oslo and Paris Commissions/ ICES: 7th meeting of the North Sea Task Force, Antwerp, 19-22 November 1991, TF 7/Info. 13-E.

*CENTRE: MUMM

*STORAGE-MEDIUM: The database is operated from a PC whereas the actual data files, 5 megabytes, are stored on the mass storage media of the MUMM's CAMME (Computer Assisted Management of he Marine Environment) centre.

*AVAILABILITY: data available by agreement, on written request to the Director of MUMM.

*COMPLETED-BY: Dr. Jean-Paul Mommaerts

*ENTRY-DATE: 01-09-1992

KL, KUSTWATERLOZINGEN, MONITORING OF THE BELGIAN COASTAL WATERS INFLUENCED BY CHANNELS AND OUTFALLS

*TIME-PERIOD: 1981-1982

*COVERAGE: Coastal stroke of the Belgian Continental shelf, in front of five existing outfalls and channels.

*PROJECT: Coordinated action of MUMM, the Institute of Hygiene and Epidemiology and the Waterzuiveringsmaatschappij van het Kustbekken in view of the periodical evaluation of areas influenced by inputs from several outfalls and channels, and improving the definition of boundary conditions in ecological models.

*PARAMETERS:	temperature, conductivity, chlorinity, dissolved oxygen, BOD, TOC, fluorides, sulfates, anionic detergents, nutrients, chlorophyl a and phaeophytin a, coliform bacteria, E. coli, faecal streptococci
*INSTRUMENTS:	Niskin bottles, standard laboratory analytical equipment
*SUMMARY:	Five cruises in 1981 and four in 1982. Fives areas respectively off Nieuwpoort, Middelkerke, Oostende, Blankenberge and Zeebrugge were sampled on each cruise. Each area comprised 7 sampling stations. Moreover, samplings were simultaneously made in the rivers and channels concerned.
*REFERENCE:	
*CENTRE:	MUMM
*STORAGE-MEDIUM:	floppy disk for all seawater data. Paper reports for all rivers and channels results.
*AVAILABILITY:	data available by agreement, on written request to the Director of MUMM.
*COMPLETED-BY:	Dr. Jean-Paul Mommaerts
*ENTRY-DATE:	01-10-1992

BELMEC, BELGIAN MARINE ENVIRONMENTAL CONTROL THROUGH AIRBORNE SURVEILLANCE

*TIME-PERIOD:	January 1991 onwards
*COVERAGE:	Southern Bight of the North Sea and, more intensively, between 50°57' N and 52°13' N
*PROJECT:	Bonn Agreement Aerial Surveillance Programme
*PARAMETERS:	Oil spills number, location, size, colours, estimated volume, ship discharges, algal blooms, coastal morphology
*INSTRUMENTS:	Side-looking airborne radar (SLAR), IR scanner, UV camera, video camera, S-VHS recorders, Hasselblad photocamera
*SUMMARY:	BELMEC is a programme run by MUMM on behalf of the Belgian Government for the purpose of assessing ship pollution in the North Sea and of acquiring the data and evidence necessary for prosecuting the violators of anti-pollution regulations.

This programme makes use of a B-N. Islander aircraft of the Belgian Air-Force, equipped with remote-sensing instrumentation to patrol the North Sea on a regular basis. All sensors are integrated and data-annotated. Flight schedules are kept confidential. 250 hours of observation per year (approximately). Pollutions are detected with SLAR and are fully documented with the other sensors/recorders. Volume estimations follow the agreed colour code (Bonn Agreement). Other marine phenomena (shipping accidents, algal blooms, shore processes, bird concentrations) are occasionally documented using the same instrumentation.

*REFERENCE:
*CENTRE: MUMM
*STORAGE-MEDIUM: - Paper: pollution reports, summaries of observations, maps
- computer: spread-sheets
*AVAILABILITY: freely available on request, except where judicial enquiries impose confidentiality
*COMPLETED-BY: Dr. Thierry G. Jacques (+32 2 773 21 24)
*ENTRY-DATE: 04-09-1992

CIPS/ICWB, DATA FROM THE NATIONAL 'PROJECT SEA'

*TIME-PERIOD: 1971 - 1976
*COVERAGE: Eastern half of the Southern Bight of the North Sea from the Straits of Dover till Den Helder (Netherlands) and Western Scheldt estuary
*PROJECT: Project 'SEA', National R-D program - Environment - Water
*PARAMETERS: As the project was aiming at a complete inventory of the marine system components and fluxes, a vast collection of parameters have been monitored: physical and physico-chemical (hydrodynamics, meteorology, hydrography), chemical (heavy metals, nutrients, physico-chemical equilibria), biological (taxonomy, stocks, production and consumption fluxes at all trophic levels), microbiological, geological,...
*INSTRUMENTS: NIO bottles, reversing thermometers, Van Dorn bottles, Van Veen grabs, various corers, various probes, salinometers, currentmeters, various types of plankton nets, incubators, filtration units, etc.

*SUMMARY:

The Belgian Department of Scientific Policy is coordinating and stimulating research in the various fields of science and sectors of interest - academic and applied. Impulsion programs and concerted actions are regularly launched in selected fields. The project 'Sea', launched in 1970, was one of such projects.

In view of the increasing pressure exerted on the marine environment and also the increasing complexity and interaction of these activities, it was perceived that a new type of instrument would be needed to manage the marine resources. This would be a Mathematical Model of the North Sea and Scheldt estuary. As a prerequisite, a complete inventory of components and description of ecosystem functions would be carried out, whereas the hydrodynamic model would be worked out by Prof. J.C.J. Nihoul (State University of Liege), functioning as Project leader and coordinator.

Thus 200 scientists and technical assistants from several universities and scientific institutes have devoted themselves to that project. For 5 years, a grid of 25 sampling stations at sea has been surveyed at a frequency of 4-6 cruises a year. In addition to this, special cruises have also been organized for specific topics e.g. the Western Scheldt, the '1000 points' grid for a better description of the bottom sediments at sea, the ICES/JONSDAP IN-OUT program (september 1973), a denser grid on the coastal area (special topic of 1975), etc. Thus, the total number of cruises wherefore hydrographical information exists amounts to 48.

*REFERENCE:

The most relevant data gathered during this project have been summarized and discussed in a Final Report of 11 volumes (edited in 1977 by 'Services de Programmation de la Politique Scientifique', 8, rue de la Science, B-1040 Bruxelles):

1. Modelisation des systemes marins. 139 pp., Nihoul (ed.)
2. Acquisition et compilation des donnees. 123 pp., Nihoul et Pichot (eds.)
3. Modeles hydrodynamiques. 270 pp., Nihoul et Ronday (eds.)
4. Sedimentologie. 240 pp., Nihoul et Gullentops (eds.)
5. Modeles de dispersion. 350 pp., Nihoul et Adam (eds.)
6. Inventaire des polluants. 209 pp., Nihoul et Elskens (eds.)
7. Inventaire de la flore et de la faune. 405 pp., Nihoul et De Coninck (eds.)
8. Chaines trophiques et cycles des nutrients. 339 pp., Nihoul et Polk (eds.)

9. Contamination des produis de la mer. 295 pp., Nihoul et Disteche (eds.)
10. L'estuaire de l'Escaut. 239 pp., Nihoul et Wollast (eds.)
11. Niveaux de pollution du reseau hydrographique et de la zone cotiere belges.
A. Escaut, Yser et affluents. 368 pp., Nihoul et Boelen (eds.)
B. Cote belge. 526 pp., Nihoul et Boelen (eds.)

Moreover, a separate report, devoted to the river IJzer, was edited jointly by the Institute for Hygiene and Epidemiology and the Institute for Chemical Research, in 1973: 'De IJzer. Inventaris van de waterverontreiniging in het stroomgebied van de IJzer'. 105 pp.

*CENTRE: MUMM

*STORAGE-MEDIUM: The bulk of raw data exists in the form of an important collection of about 300 cruise reports, maps, synthesis reports and monographies issued by the participating laboratories. Also Vol. 11 of the Final Report contains only raw data.

*AVAILABILITY: A fairly complete exemplar of this collection is conserved at MUMM and can be consulted there. A catalog is available upon written request.

*COMPLETED-BY: Dr. Jean-Paul Mommaerts

*ENTRY-DATE: 02-09-1992

FLEX76, DATA FROM THE FLADEN GROUND EXPERIMENT 1976

*TIME-PERIOD: spring 1976

*COVERAGE: Fladen Ground area (Northern North sea)

*PROJECT: The Belgian participation to the international ICES/JONSIS project FLEX'76 was viewed as an extension to the national project 'SEA'

*PARAMETERS: Hydrography, Nutrients, Phytoplankton, Zooplankton, Microbiology (see project 'SEA')

*INSTRUMENTS: same as in project 'Sea'

*SUMMARY: The participation to the international Fladen Ground Experiment is also an extension of the Project 'Sea' in the area of synecology. Indeed, the experiment was focused on the dynamics of plankton blooming in an area were advective

exchanges would be comparatively small. Hence, the emphasis on vertical structures and production-consumption processes.

*REFERENCE: - FLEX Atlas
- Proceedings of the final ICES/JONSIS Workshop on JONSDAP '76 (Liège, Belgium, 29 April-2 May, 1980), 171 pp., G. Pichot (ed.), ICES C.M. 1980/C : 3
- J.P. Mommaerts, 1980. Atlas of particulate primary production results from the central station during the FLEX'76 campaign, as calculated with a model of photosynthesis-light relationship. vii + 189 pp.

*CENTRE: MUMM

*STORAGE-MEDIUM: cruises reports and atlases mentioned hereabove

*AVAILABILITY: to be consulted at MUMM

*COMPLETED-BY: Dr. Jean-Paul Mommaerts

*ENTRY-DATE: 02-09-1992

ARC, DATA FROM THE NATIONAL PROJECT 'ACTIONS DE RECHERCHE CONCERTÉES' EN OCÉANOLOGIE

*TIME-PERIOD: 1977 - 1981

*COVERAGE: North Sea, Western Channel and Western Scheldt estuary

*PROJECT: 'Actions de Recherche Concertées' - Action Interuniversitaire - Océanologie

*PARAMETERS: As the project was aiming at the deepening of the study of the marine system components and fluxes, initiated during the 'Project Sea', again a vast collection of parameters were monitored in all fields of marine science.

*INSTRUMENTS: NIO bottles, reversing thermometers, Van Dorn bottles, Van Veen grabs, various corers, various probes, salinometers, currentmeters, various types of plankton nets, incubators, filtration units, etc.

*SUMMARY: The 'concerted action' was launched by the Belgian Department of Scientific Policy in 1977. In contrast with the 'Project Sea', there was no central coordination. The mode of funding was also different. The project was aiming at the deepening of the study of the marine ecosystem components and fluxes - including the cycle of pollutants. The various research teams

took advantage of the monitoring program of the recently established MUMM or planned specific cruises in concertation with MUMM.

*REFERENCE: The most relevant data gathered during this project have been summarized and discussed in two progress reports and a Final Report in 3 volumes (all edited by the 'Services de Programmation de la Politique Scientifique', 8, rue de la Science, B-1040 Bruxelles):
1. Rapport des journées d'étude (1979). 254 pp.
2. Rapport des journées d'étude (1980). 302 pp.
3. Rapport final. Volume 1 (1983): 'Hydrodynamic and dispersion models, boundary fluxes and boundary conditions'. 257 pp., Nihoul & Wollast (eds.)
4. Rapport final. Volume 2 (1984): 'Distribution, transport and fate of heavy metals in the Belgian coastal marine environment'. 171 pp., Disteche & Elskens (eds.)
5. Rapport final. Volume 3 (1985): 'Biological processes and translocations'. 226 pp., Heip & Polk (eds.)

*CENTRE: MUMM

*STORAGE-MEDIUM: In addition to reports prepared by individual laboratories, data exist in the form of a collection of about 30 cruise reports, and synthesis reports (paper reports). It must be noted that nearly all nutrient, metal and chlorophyl data from the regular monitoring cruises have also been incorporated in the MONITB dataset (mass storage media of MUMM).

*AVAILABILITY: A complete exemplar of the collection of paper reports is conserved at MUMM and can be consulted there. A catalog is available upon written request.

*COMPLETED-BY: Dr. Jean-Paul Mommaerts

*ENTRY-DATE: 01-10-1992

TWOZ - NIEUWPOORT, DATA FROM AN INTENSIVE SURVEY OFF NIEUWPOORT

*TIME-PERIOD: 1970 - 1972

*COVERAGE: Coastal waters off Nieuwpoort

*PROJECT: Project 'Nieuwpoort-Lombardsijde' - Kommissie voor Toegepast Wetenschappelijk Onderzoek in de Zeevisserij (T.W.O.Z.) - Bestuur voor Landbouwkundig Onderzoek

*PARAMETERS: many parameters were monitored in the fields of hydrography, seawater physico-chemistry, marine biology (phytoplankton, zooplankton, fish and shrimps), biology and biochemistry of the marine sediments, bacteriology of water and sediments.

*INSTRUMENTS:

*SUMMARY: Nine institutes and university laboratories were associated in the project. The objective of the study was to establish the ecological inventory of a coastal sea area directly threatened by the possible construction of a waste water collector opening at some distance into sea. Nine stations arranged in a grid were sampled monthly from mid-1970 till mid-1972. All data are published in the comprehensive report referenced hereafter.

*REFERENCE: 'Ekologische en biologische studie van de kustwateren ter hoogte van Nieuwpoort in verband met het lozen van afvalwateren'. Edited by 'Kommissie voor Toegepast Wetenschappelijk Onderzoek in de Zeevisserij (T.W.O.Z.) - Bestuur voor Landbouwkundig Onderzoek'. Mededelingen van het Rijksstation voor Zeevisserij (C.L.O. Gent) - Publikatie nr 99. 428 pp.

*CENTRE: MUMM

*STORAGE-MEDIUM: paper report in reference

*AVAILABILITY: to be consulted at MUMM's library.

*COMPLETED-BY: Dr. Jean-Paul Mommaerts

*ENTRY-DATE: 06-10-1992

ZAGRI, STATISTICS ON MARINE SAND AND GRAVEL MINING ON THE BELGIAN CONTINENTAL SHELF

*TIME-PERIOD: from 1976 onwards

*COVERAGE: Belgian Continental Shelf with special reference to the Flemish Banks

*PROJECT:

*PARAMETERS: volumes extracted and locations

*INSTRUMENTS:

*SUMMARY: monthly and annual statistics on the volumes of sand and gravel extracted by private firms and by the Ministry of Public Works,

	in several locations of the Belgian Continental Shelf. Returns to the ad hoc working group of the ICES.
*REFERENCE:	B. Lauwaert en J.P. Mommaerts, 1986. Zand- en grindontginningen op het Belgisch kontinentaal plat sedert 1976. MUMM rep., 26 pp. + 21 figs.
*CENTRE:	MUMM
*STORAGE-MEDIUM:	report format.
*AVAILABILITY:	data available by agreement, on written request to the Director of MUMM.
*COMPLETED-BY:	Ms. B. Lauwaert
*ENTRY-DATE:	01-10-1992

DREDGE, STATISTICS ON DUMPINGS OF DREDGED MATERIAL ON THE BELGIAN CONTINENTAL SHELF

*TIME-PERIOD:	from 1976 onwards
*COVERAGE:	Belgian Continental Shelf with special reference to navigation channels and harbour entrances
*PROJECT:	
*PARAMETERS:	volumes dredged, origins and dumpsites, contamination levels by metals and PCB
*INSTRUMENTS:	
*SUMMARY:	annual returns to the Oslo Commission on details of permits and approvals issued under the Royal Decree of 7 November 1983 and on quantities annually dumped.
*REFERENCE:	Annual reports of the Oslo Commission.
*CENTRE:	MUMM
*STORAGE-MEDIUM:	report format.
*AVAILABILITY:	freely available
*COMPLETED-BY:	Dr. J.P. Mommaerts
*ENTRY-DATE:	01-10-1992

DUMP, STATISTICS ON DUMPINGS OF INDUSTRIAL WASTE ON THE BELGIAN CONTINENTAL SHELF

*TIME-PERIOD:	from 1980 till 1989.
*COVERAGE:	Belgian Continental Shelf
*PROJECT:	
*PARAMETERS:	quantities of industrial waste dumped, contamination levels by metals and specific pollutants.
*INSTRUMENTS:	
*SUMMARY:	annual returns to the Oslo Commission on details of permits and approvals issued under the Royal Decree of 7 November 1983, and on quantities annually dumped.
*REFERENCE:	Annual reports of the Oslo Commission.
*CENTRE:	MUMM
*STORAGE-MEDIUM:	report format.
*AVAILABILITY:	freely available
*COMPLETED-BY:	Dr. J.P. Mommaerts
*ENTRY-DATE:	01-10-1992

INC, STATISTICS ON INCINERATION OF INDUSTRIAL WASTE AT SEA, FROM THE ANTWERP HARBOUR

*TIME-PERIOD:	from 1980 till 1991
*COVERAGE:	North Sea
*PROJECT:	
*PARAMETERS:	quantities of industrial waste incinerated, from Belgian origin or only transiting by Antwerp.
*INSTRUMENTS:	
*SUMMARY:	annual returns to the Oslo Commission on details of permits and approvals issued under the Royal Decree of 7 November 1983, and on quantities annually incinerated and/or delivered in Antwerp.
*REFERENCE:	Annual reports of the Oslo Commission.
*CENTRE:	MUMM
*STORAGE-MEDIUM:	report format.
*AVAILABILITY:	freely available

*COMPLETED-BY: Dr. J.P. Mommaerts
*ENTRY-DATE: 01-10-1992

WESTERN SCHELDT DATA FROM THE 1973-1983 PERIOD

*TIME-PERIOD: 1973 - 1983
*COVERAGE: Western Scheldt estuary from mouth up to the freshwater boundary.
*PROJECT: Data collected by the Laboratoire d'Océanographie (Université Libre de Bruxelles) in the frame of 'Projet Mer / Actions concertées de recherche en Océanographie'; a substantial part of them have been evaluated in a contract study funded by MUMM (see reference).
*PARAMETERS: chlorinity, suspended matter, temperature, dissolved oxygen, Eh, pH, COD, nutrients
*INSTRUMENTS:

*SUMMARY: The data were collected a.o. in order to understand the processes of organic matter degradation in relation with the redox conditions and to be able to simulate these processes under a series of circumstances. In the project funded by MUMM, the existing data were used to evaluate the contributions of the different sources of suspended matter to the siltation in the estuary, taking the river flow regime into account.
The nutrient data are also normally part of the 'MONITB' database (see this entry) but still need be transferred on that medium.

*REFERENCE: - Wollast, R., 1983. Behaviour of organic carbon, nitrogen and phosphorous in the Scheldt estuary and the adjacent coastal zone. in: J.C.J. Nihoul and R. Wollast (eds.) 'Hydrodynamic and dispersion models boundary fluxes and boundary conditions', vol. 1 of the final report of Actions de Recherche Concertées - Action Interuniversitaire - Océanologie, Programmation de la Politique Scientifique, pp. 199-222.
- Wollast, R. et A. Marijns, 1981. Evaluation des contributions des différentes sources de matière en suspension à l'envasement de l'Escaut. Rapport final, décembre 1981, 151 pp. Contrat U.L.B.- MUMM.
*CENTRE: MUMM

*STORAGE-MEDIUM:	Paper
*AVAILABILITY:	data available by agreement, on written request to the Director of MUMM
*COMPLETED-BY:	Dr. Jean-Paul Mommaerts
*ENTRY-DATE:	29-10-1992

DREDGE IMPACT, ECOLOGICAL IMPACT OF THE DUMPING OF DREDGED MATERIAL BEFORE THE BELGIAN COAST

*TIME-PERIOD:	October-November 1989
*COVERAGE:	Dredging sites and the Belgian continental shelf. 77 samples of bottom sediment from the dredging areas, 3 samples of dredged material from the hopper or trailing suction dredger were taken. Furthermore, 10 bottom samples from the Belgian continental shelf outside the navigation channels were added.
*PROJECT:	Production of a comprehensive report on the environmental aspects of dredging activities in the Belgian coastal harbours and the navigation channels offshore.
*PARAMETERS:	All samples were examined for their physico-chemical characteristics and their organic and inorganic contaminants. More in detail: pH, Eh, density (t°=20°C), dry matter (%), ignition loss (%), organic matter (%), TOC, carbonates (%), CEC, Os, granulometric distribution, cyanides, fluorides, N-nutrients and phosphates, faecal coliforms, Al, Fe, As and heavy metals, purgeable organic compounds, organochlorine pesticides, PCB IUPAC congeners, PAH (12), TBTs,
*INSTRUMENTS:	Shipek grab
*SUMMARY:	The monitoring program was executed in order to obtain a first comprehensive report on the environmental aspects of dredging activities. The dredged materials are dumped into the Southern Bight of the North Sea. A large number of samples have been taken from the dredging sites and from the Belgian continental shelf in order to evaluate the degree of contamination of the dredged sediments against the natural background levels.
*REFERENCE:	Ecologische impact van baggerspecielossingen voor de Belgische kust. Ministerie van Volksgezondheid en Leefmilieu - BMM en Bestuur der Waterwegen. Conceptrapport, Brussel, april 1990.
*CENTRE:	MUMM

*STORAGE-MEDIUM: The database is operated from a PC.
*AVAILABILITY: data available by agreement on written request to the Director of MUMM.
*COMPLETED-BY: Brigitte LAUWAERT
*ENTRY-DATE: 20-10-1992

SEDIM, DATABASE ON SEDIMENTOLOGICAL CHARACTERISTICS OF THE BELGIAN CONTINENTAL SHELF

*TIME-PERIOD: depending on the sources: 1977-1982 (Zoology Institute - UG); 1977-1985 (Laboratory of Physical Geography -UG); 1984-1987 (RVZB); 1972-1976 (Institute of Geology - KUL)

*COVERAGE: Belgian continental shelf. In the case of the Institute of Geology - KUL, about 1400 samples were taken on a 200 x 80 km grid of 1000 points.

*PROJECT:

*PARAMETERS: Geographic coordinates, depth, granulometric analyses, d50, respective percentages of silt, sand and grint.

*INSTRUMENTS:

*SUMMARY: Four laboratories or State institutes, respectively: (1) the 'Zoology Institute, Marine Biology Section - University of Ghent (UG)', (2) the 'Laboratory of Physical Geography - University of Ghent (UG)', (3) the 'Rijkstation voor Zeevisserij (RVZB)' and (4) the 'Institute of Geology - Catholic University of Leuven (KUL)' have provided their datafiles to MUMM.

These data cover the period 1972-1987 and correspond to distinct projects. On the one hand the three first laboratories have much focused their efforts on the sand banks in relation to the possible effects of sand mining. On the other hand, the Institute of Geology - KUL has carried out an extensive survey on the whole area, in the frame of the 'Project Sea' (see also the 'CIPS' dataset, referenced under MUMM).

The merging of these files in a consistent database on the sedimentological characteristics all over the Belgian Continental Shelf is currently underway at MUMM. One of the objectives is to relate the sedimentological characteristics of the area to the water circulation model in use at MUMM and develop further on the modelling of sediment transport. Morphological and

	sedimentological charts have already been produced, based on these data.
*REFERENCE:	Ceuleneer, G. et B. Lauwaert, 1987. Les sediments superficiels de la zone des "Vlaamse Banken". Unite de Gestion du Modele Mer, 34 pp. + 8 charts.
*CENTRE:	MUMM
*STORAGE-MEDIUM:	ASCII files presently converted into Reflex files. Approximately 2590 data lines.
*AVAILABILITY:	data available by agreement, on written request to the Director of MUMM.
*COMPLETED-BY:	Dr. Jean-Paul Mommaerts
*ENTRY-DATE:	26-11-1992

BLOOMS, A DATABASE ON UNUSUAL PHYTOPLANKTON BLOOMS IN THE I.C.E.S. AREA

*TIME-PERIOD:	Most of the banked information covers the period 1980-1984 - based on reports and papers sent by several correspondents - plus earlier records from the literature.
*COVERAGE:	from Portugal to Northern Norway and from the East coast of USA and Canada to the Western coast of Europe
*PROJECT:	ICES action, 1982, with as objective the regular publication of a report in 'Annales Biologiques'
*PARAMETERS:	author(s) names, addresses, affiliations, year, year of first reported occurrence, bibliographic reference, algal species in bloom, taxonomical information: author(s), synonyms, notes (e.g. on toxicity, ecology), area of occurrence, area typology, period of the bloom, interference with biota or other hazards, notes...
*SUMMARY:	Since the scheme for data acquisition was halted with the demise of 'Annales Biologiques', BLOOMS contains only a limited number of records: i.e. 150 records counted per individual species occurrence, but covering between 50 and 100 different events, located from Portugal to Northern Norway and from the East coast of USA and Canada to the Western coast of Europe). Nevertheless, the relational character of the database makes that BLOOMS remains a quite powerful and flexible tool, with enhanced searching and sorting potential and possibilities of extension and adaptation in the future.

	It contains basically three related files with appropriate 'doorways' (i.e. by (1) report's author name and (2) species name) allowing instantaneous to-and-fro jumps between related windows.
*REFERENCE:	- Mommaerts, J.P., 1985. Observations of phytoplankton blooms in the ICES area. Annals. Biol., 39: 85-89. - Mommaerts, J.P., 1986a. Observations of phytoplankton blooms in the ICES area in 1983. Annals. Biol., 40: 84-85. - Mommaerts, J.P., 1986b. Report on exceptional phytoplankton blooms observed in the ICES area during 1984. Annals. Biol., 41: 82-84.
*CENTRE:	MUMM
*STORAGE-MEDIUM:	hard-disk and abovementioned publications
*AVAILABILITY:	data freely available
*COMPLETED-BY:	Dr. Jean-Paul Mommaerts
*ENTRY-DATE:	19-10-1992

MATHEMATICAL MODELS DEVELOPED AT MUMM

*TIME-PERIOD:	from 1984 onwards
*COVERAGE:	(1) North sea (2) North sea and finer resolution off the Belgian coast (3) (4) and (5): wherever the circulation is mainly induced by the tide and the atmospheric forcing (6) Scheldt estuary from the mouth up to the 90th km, the confluence of the Rupel river and the upstream basin of the Scheldt river
*PROJECT:	(2) contract with Ministry of Public Works (1987) (4) EEC contract B6612-88-15. (5) Joint research project between EEC and People's Republic of China (6) multi-disciplinary with efforts from universities and private
*PARAMETERS:	
*INSTRUMENTS:	
*SUMMARY:	Models referred to are mentioned because of their capacity to generate data and/or their close association with existing datasets.

(1) MU-STORM: Vertically-integrated model for tide and wind induced circulation.
(2) MU-WAVE: A system of coupled models (a wave model HYPAS, developed by H. Günther and W. Rosenthal, GKSS Forschungszentrum GmbH, the hydrodynamic model MU-STORM and a spectral refraction model SPECIN) to forecast significant wave heights into the North Sea and especially along the Belgian coast
(3) MU-SLICK: Drift, spreading and aging of oil and chemical spills
(4) MU-PARCEL: A 3-D model to predict the transport, spreading and aging of floating chemicals at sea. The particle approach is used.
(5) OPERA: a set of three coupled mathematical models related to oil pollution. The three models are: a current model; a model for the advection, spreading and aging of surface patches; a model for the advection and diffusion of the dissolved fraction. The models are not site-specific. Cartesian coordinates or spherical coordinates can be used allowing the implementation of the models on areas of various sizes
(6) MASS POLLUTANT TRANSPORT IN THE SCHELDT ESTUARY: Finite difference one dimensional solution programs for the continuity and momentum equations at the one hand (hydrodynamical module) and the advection/ dispersion/ sources/ sinks equation at the other hand (dispersion module), at time steps ranging from 100 seconds to several hours. Cell width is aproximately 2 km, simulation periods mostly cover 1 complete year.

*REFERENCE:

1) ADAM, Y. et STERLING, A. (1984). La prévision des marées-tempêtes le long de la côte belge, Annales des travaux publics de Belgique, 84-2, 105-115.
(2) VAN DEN EYNDE, D., 1992 : MU-WAVE : an operational wave forecasting system for the Belgian coast. Proc. Third International Workshop on Wave Hindcasting and Forecasting, Montréal, Canada, May, 19-22, 1992, 313-324.
(3) SCORY, S. (1991). The MU-SLICK model, Management Unit of the North Sea Mathematical Models, Brussels, Rep. CAMME/91/03, 28 p.
(4) VOLKAERT, F. and TOMBROFF, D. (1989). Simulation of the transport, spreading and aging of floating chemicals at sea, MUMM's contribution to the PARCEL Project, Progress Report, EEC contract B6612-88-15.

PARCEL: a 3-D model for the transport, spreading and aging of floating chemicals at sea. Management Unit of the North Sea and Scheldt Estuary Mathematical Models. Final report of the EEC contract B6612-88-15. September 1992.
(5) Oil Pollution: Environmental Risk Assessment. Proceedings of the final workshop held in Dalian-China, 9-10 December 1991, J. Ozer (editor).
(6) A technical report is available. Contact Mr. M. Moens.

*CENTRE: MUMM

*STORAGE-MEDIUM: CAMME computer Centre. Results are produced on a Convex-230 vectorial computer and stored on disks and tapes in b^] ^U' files.

*AVAILABILITY: Contact authors or director of MUMM.

*COMPLETED-BY: Dr. Jean-Paul Mommaerts

*ENTRY-DATE: 16-11-1992.

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MUMM is also
water quality.

DATASET (NORTH SEA)

1977 - 1991
Belgian coastal area
MUMM 1977 -1991
Current speed, current direction, seawater temperature
NBA Model DNC 2A/B currentmeters, AMF Model VACM 610 A/B/C vector averaging currentmeters

The aim of this program is to provide current data for the calibration of several hydrodynamical models developed at MUMM. These models cover the entire North sea and are used to simulate impacts of pollutants in the marine environment, to predict storm surges, to study the influence of sand and gravel extraction, predict the displacement of oil slicks, etc.

The dataset includes the data from over 250 moorings of autonomous self recording currentmeters. The mooring periods are about 6 weeks on an average. The recording interval of the NBA currentmeters has been set to 10 minutes and for the AMF currentmeters to 7.5 minutes.
The station near the light vessel "WESTHINDER" (N 51 23'00" E 02 26'20") covers 41 periods from 1977 to 1986.
The station at the "Thornton bank" (N 51°34'18" E 02°59'14") covers 10 periods from 1977 to 1980.
The station at the "Wandelaar bank" (N 51°23'02" E 03°03'03") covers 12 periods from 1977 to 1980.
The station at the "Trappegeer bank" (N 51°08'29" E 02°34'20") covers 11 periods from 1979 to 1980.
The station at the "Nieuwpoort bank" (N 51°10'20" E 02°36'15") covers 12 periods from 1981 to 82.
The station at the "Kwinte bank" (N 51°21'16" E 02°42'59") covers 11 periods from 1981 to 82.
All other stations cover less than 4 periods.

The data processing consists of adding the exact time stamp, calculation of physical values with respect to calibration, interpolation of small gaps, harmonic analysis, and calculation of residual currents.

*REFERENCE:	Inventory current and tide measurements 1977 - 1992.
*CENTRE:	MUMM - Meetdienst Oostende
*STORAGE-MEDIUM:	Magnetic tape, 9 track IBM compatible, 60 Mb
*AVAILABILITY:	Contact MUMM - Meetdienst Oostende
*COMPLETED-BY:	Jean-Pierre De Blauwe
*ENTRY-DATE:	01-10-1992

TIDE GAUGE DATASET (NORTH SEA)

*TIME-PERIOD:	1981 - 1991
*COVERAGE:	Belgian coastal area
*PROJECT:	MUMM 1981 -1991
*PARAMETERS:	sea level
*INSTRUMENTS:	NBA Model DNW 5 tide gauge, AANDERAA Model WLR 5 tide gauge

*SUMMARY:

The aim of this program is to provide tidal data for the calibration of several hydrodynamical models developed at MUMM. These models cover the entire North sea and are used to simulate impacts of pollutants in the marine environment, to predict storm surges, to study the influence of sand and gravel extraction, predict the displacement of oil slicks, etc.

The data set includes the data from 36 moorings of autonomous recording tide gauges. Most of the data series cover a period of approximatively 42 days. The recording interval was set at 30 minutes.
The sea level data have been filtered for waves, taking the average from 120 samples spread over 1 minute.

The station near the light vessel "Westhinder" (N 51°23'00" E 02°26'20") covers 28 periods from 1981 to 1986.
The station at the measuring pile "MOW4" (N 51°25'04" E 03°17'59") covers 7 periods from 1986 to 1988.
One period in 1991 is available for the station at the Kwintebank (N 51°20'28" E 02°43'07").

The data processing consists of adding the exact time stamp, calculation of sea level from pressure, temperature and salinity,

correction for the barometric pressure, interpolation of small gaps and harmonic analysis.

*REFERENCE: Inventory current and tide measurements 1977 - 1991
*CENTRE: MUMM - Meetdienst Oostende
*STORAGE-MEDIUM: Magnetic tape, 9 track IBM Compatible, 36 Mb
*AVAILABILITY: Contact MUMM - Meetdienst Oostende
*COMPLETED BY: Jean-Pierre De Blauwe
*ENTRY DATE: 01-10-1992

LIGHT VESSEL "WESTHINDER" METEO DATASET

*TIME-PERIOD: 1984 - 1991
*COVERAGE: Light vessel "WESTHINDER"
N 51 23'00" E 02°26'20"
*PROJECT: MUMM 1981 -1991 (Cost-43)
*PARAMETERS: air temperature, wind speed, wind direction, atmospheric pressure, solar radiation
*INSTRUMENTS: Bergen Ocean DATA meteorological sensors

*SUMMARY: An automatic meteorological data acquisition system was installed on board of the light vessel "WESTHINDER" in 1983. This system was installed with the scope of a participation to the Intergovernmental Agreement COST-43.

The data from this station are currently used to monitor wind speed, wind direction and barometric pressure, in order to anticipate the operation of a storm-surge model and to feed the input data to an oil slick displacement model.

Real time data are sent hourly to the shore station and stored on computer. Some large gaps in the data are due to major technical failures.

*REFERENCES: Inventory
*CENTRE: MUMM, Meetdienst Oostende
*STORAGE-MEDIUM: Magnetic tape, 9 track IBM Compatible, 9 Mb
*AVAILABILITY: Contact MUMM - Meetdienst Oostende
*COMPLETED-BY: Jean-Pierre De Blauwe
*ENTRY-DATE: 01-10-1992

BATHING WATER QUALITY AT THE BELGIAN COAST

*TIME-PERIOD:	1988 - present
*COVERAGE:	39 bathing zones spread along the entire Belgian coast
*PROJECT:	CEC Guideline 76/160 on Bathing water quality
*PARAMETERS:	Total coliforms (TC), faecal coliforms (FC), faecal streptococci (FS) and salmonella
*INSTRUMENTS:	membrane filtration apparatus, culture media (lactose-tergitol, Slanetz, Rappaport, XLD & Hectaen), incubation equipment

*SUMMARY: The frequent monitoring of the microbiological status of bathing zones at the Belgian coast is essential for the assessment of possible health hazards. Since 1988 the sampling was intensified for a better information of the authorities concerned and of the public on the microbiological quality of the different bathing zones. The 39 bathing zones are defined in the Royal decree of 30-07-87. The bathing season runs from April 1 till end of September as described in CEC guideline 76/160.
Each bathing zone is sampled once a week during April and May and the 2nd half of September (i.e. during the low season) and twice a week from June to 15 September (i.e. during the high season). TC, FC and FS are determined on each sample. Salmonella is determined qualitatively on a routine basis but additional quantitative measurements, by the MPN method, are performed weekly on 5 bathing zones during the low season and on 10 zones in the high season. Additional samples are taken whenever the imperative norms are exceeded.

*REFERENCE:	Annual reports edited by MUMM: - 'La Qualité des Eaux de Baignade en Belgique - 1989'. 55 p. - 'La Qualité des Eaux de Baignade à la Côte Belge en 1990', 69 p. - 'La Qualité des Eaux de Baignade à la Côte Belge en 1991', 72 p.
*CENTRE:	MUMM, Meetdienst Oostende
*STORAGE-MEDIUM:	Floppy discs, 4 Mb
*AVAILABILITY:	Contact MUMM - Meetdienst Oostende
*COMPLETED-BY:	Jean Dhont
*ENTRY-DATE:	08-10-1992

LIPID, RV BELGICA CRUISE 89/16 (FRENCH, BELGIAN AND DUTCH CONTINENTAL SHELF)

*TIME-PERIOD:	02 July 1989 to 14 July 1989
*COVERAGE:	French, Belgian and Dutch continental shelf between N 50° 30' and N 54° 00'
*PROJECT:	Lipid 89, together with the 'Unité d'Ecohydrodynamique'(resp. J.H. Hecq) - Université de Liège
*PARAMETERS:	Temperature, salinity, chlorophyll fluorescence, meteorology
*INSTRUMENTS:	RV Belgica instrument set for basic parameters, Sea-Bird DBE19 Sea Cat SCTD profiler
*SUMMARY:	The aim of the cruise was to follow the drift and evolution of different fats, chlorophylls, hydrocarbons and organochlorine compounds in particulate organic matter from the Western Channel to the Dogger Bank. The cruise consisted in a continuous sub-surface sampling of particulate organic material (speed 5 knots) and the measurement of hydrological, chlorophyll fluorescence and nutrient parameters. In addition, 20 stations were sampled.
*REFERENCE:	Lipid 89, RV Belgica cruise 89/16 computer logged oceanographic, navigational and meteorological data.
*CENTRE:	MUMM, Meetdienst Oostende
*STORAGE-MEDIUM:	Magnetic tape, 9 track IBM compatible, 1 Mb
*AVAILABILITY:	contact MUMM - Meetdienst Oostende
*COMPLETED-BY:	Joan Backers
*ENTRY-DATE:	08-10-1992

JGOFS 1990 - RV BELGICA CRUISE 90/18 (BAY OF BISCAY AND ENGLISH CHANNEL)

*TIME-PERIOD:	02 July 1990 to 18 July 1990
*COVERAGE:	25 stations were sampled; 10 stations in the English Channel and 15 stations in the Bay of Biscay
*PROJECT:	JGOFS 1990, together with the 'Laboratoire d'Océanographie Chimique' (Prof. R. Wollast) - Université Libre de Bruxelles
*PARAMETERS:	seawater temperature, salinity, pH, dissolved oxygen, chlorophyll fluorescence, meteorology, position

*INSTRUMENTS:	RV Belgica basic equipment, sea-bird SBE 9 SCTD system
*SUMMARY:	During this campaign precise measurements of the speciation of inorganic carbon as a function of depth and of primary production were performed. Isotopic distribution of carbon-13 in plankton was used in order to characterize the food chain.
*REFERENCE:	Report "JGOFS 90, RV Belgica cruise 90/18"
*CENTRE:	MUMM, Meetdienst Oostende
*STORAGE-MEDIUM:	Magnetic tape, 9 track IBM Compatible, 3 Mb
*AVAILABILITY:	contact MUMM - Meetdienst Oostende
*COMPLETED-BY:	Joan Backers
*ENTRY-DATE:	08-10-1992

GLOBAL CHANGE - RV BELGICA CRUISES 91/16 AND 92/16 (BAY OF BISCAY AND ENGLISH CHANNEL)

*TIME-PERIOD:	24-06-1991 to 10-07-1991 and 16- to 27-06-1992
*COVERAGE:	21 stations were sampled in 1991: 15 stations in the English Channel, 6 stations in the northern front of the Bay of Biscay. In 1992, 27 stations were sampled.
*PROJECT:	Global Change, together with the 'Laboratoire d'Océanographie Chimique' (Prof. R. Wollast) - Université Libre de Bruxelles
*PARAMETERS:	seawater temperature, salinity, pH, dissolved oxygen, chlorophyll fluorescence, meteorology, position, bathymetry
*INSTRUMENTS:	RV Belgica basic equipment, Sea-bird SBE9 SCTD system
*SUMMARY:	The aim of the cruises was to identify and to quantify vertical and lateral fluxes of elements in the oceanic system and particularly to evaluate the role of the biological processes in these fluxes.
*REFERENCE:	- Report "GLOBAL CHANGE 91, RV Belgica cruise 91/16" - Report "GLOBAL CHANGE 92, RV Belgica cruise 92/16"
*CENTRE:	MUMM, Meetdienst Oostende
*STORAGE-MEDIUM:	2 Magnetic tapes, 9 track IBM compatible, 4 Mb
*AVAILABILITY:	contact MUMM - Meetdienst Oostende
*COMPLETED-BY:	Joan Backers
*ENTRY-DATE:	09-10-1992

EUROTRAC-NOSE 91 - RV BELGICA CRUISE 91/18 (NORTH SEA)

*TIME-PERIOD:	11 September 1991 to 26 September 1991
*COVERAGE:	circle with 100 km diameter and centre position N 55° 30', E 04° 00
*PROJECT:	Eurotrac-Nose 91, together with the 'Laboratorium voor Analytische Scheikunde' (Prof. W. Baeyens) - Vrije Universiteit Brussel.
*PARAMETERS:	air temperature, wind speed and direction, humidity, solar radiation, atmospheric pressure
*INSTRUMENTS:	RV Belgica instrument set for basic measurements
*SUMMARY:	The purpose of the North Sea Air/Sea exchange experiment is to study of the air-sea exchanges of heavy metals, nitrogen and elemental carbon in the North Sea. Consequently, the aim of this cruise was 'to measure the change of parameters in the same airmass' and in the case of frontal passages, 'to characterize the change in gas and aerosol composition and the wet deposition involved' by means of two ships (RV Belgica and FS Alkor) aligned along the wind direction and 200 km apart of each other. During the campaign, air samples were taken in accordance with an eight hour scheme of 6 hours of pumping and 2 hours of travel time. The sampling on the Belgica was delayed according to the calculated airmass travel time.
*REFERENCE:	Eurotrac - Nose 91, RV Belgica cruise 91/19 computer logged oceanographic, navigational and meteorological data
*CENTRE:	MUMM, Meetdienst Oostende
*STORAGE-MEDIUM:	magnetic tape, 9 track IBM Compatible, 1.8 Mb
*AVAILABILITY:	contact MUMM - Meetdienst Oostende
*COMPLETED-BY:	Joan Backers
*ENTRY-DATE:	09-10-1992

CARBON BUDGET - RV BELGICA CRUISE 91/22

*TIME-PERIOD:	21 October 1991 to 30 October 1991
*COVERAGE:	3 stations were sampled: station 1, in a non-stratified area of the continental shelf (N 51°29', E02°30'); station 2, in the Scheldt estuary (N 51°25', E 03° 39') and station 3, in a stratified area of the continental shelf (N 53°36', E 02°41')
*PROJECT:	Carbon budget study, together with the 'Laboratoire d'Océanologie' (Prof. J.M. Bouquegneau) - Université de Liège.
*PARAMETERS:	seawater temperature, salinity, chlorophyll fluorescence
*INSTRUMENTS:	RV Belgica basic equipment, Sea-Bird SBE 9 SCTD system
*SUMMARY:	The cruise aimed at the study of the daily carbon budget in 3 different coastal areas. This daily carbon budget was determined by monitoring the inorganic carbon in the water column (together with related parameters, such as oxygen, nutrients, ...) as well as by measuring the fluxes of carbon at the interfaces (water masses movements, primary production and exchanges with the atmosphere and the sediment).
*REFERENCE:	RV Belgica cruise 91/22 computer logged oceanographic, meteorological and navigational data
*CENTRE:	MUMM, Meetdienst Oostende
*STORAGE-MEDIUM:	magnetic tape, 2 Mbytes
*AVAILABILITY:	contact MUMM - Meetdienst Oostende
*COMPLETED-BY:	Joan Backers
*ENTRY-DATE:	09-10-1992

DIENST DER KUSTHAVENS (Service of the Coastal Harbours; formerly: Hydrographical Service of the Coast)

*LOCATION:	Ministry of the Flemish Community, Ostend
*COUNTRY:	Belgium
*CONTACT:	Hoofdingenieur Directeur ir B. De Putter
*ADDRESS:	Vrijhavenstraat, 3, B-8400 Oostende, Belgium
*PHONE:	+32 (0)59 55 42 11
*FAX:	+32 (0)59 50 70 37
*DESCRIPTION:	The Dienst der Kusthavens carries out different measurements on the Belgian Continental Shelf and along the Belgian coast. The activities cover the following areas: - hydrography: depth soundings, production of marine charts and currents atlases, processing and statistics on sea level data along the coast. - acquisition and on-line processing of hydrometeo data as a basis for the preparation of hydrometeo announcements aimed at: (1) nautical authorities; (2) the forecasting of working conditions at sea in relation with operations carried out by the Dienst der Kusthavens and (3) storm-surges warning.
ENTRY-DATE:	23-10-1992

WAVE DATA, BELGIAN CONTINENTAL SHELF

*TIME-PERIOD:	1977 - present
*COVERAGE:	Westhinder 51 23'00"N 02 26'30"E Akkaert 51 24 49 02 46 18 A2-buoy 51 21 57 03 07 43 Bol van Heist 51 22 46 03 12 28 D8-buoy 51 21 49 03 10 35 Wielingen 51 23 26 03 18 00
*PARAMETERS:	Significant wave heights, mean period, wave spectrum
*INSTRUMENTS:	WAVERIDER (Datawell)

*SUMMARY:	Calculation of wave parameters based on measurements made at 15 minutes intervals
*CENTRE:	Dienst der Kusthavens
*STORAGE-MEDIUM:	9 Track Mag Tape HP 1000 - binary format - system specific
*AVAILABILITY:	data available by agreement, on written request to the Hoofdingenieur Directeur. Data may be charged.
*COMPLETED-BY:	ir B. De Putter
*ENTRY-DATE:	23-10-1992

DIRECTIONAL WAVE DATA, BELGIAN CONTINENTAL SHELF

*TIME-PERIOD:	1986 - present (with interruptions)
*COVERAGE:	Bol van Heist 51 22'46"N 03 12'28"E Westhinder 51 23 00 02 26 30
*PARAMETERS:	Significant wave height, mean period, wave spectrum
*INSTRUMENTS:	WAVEC - Directional wave recorder (Datawell)
*SUMMARY:	Wave height, wave period, swell height, flow direction, swell direction, directional wave spectra. Measurements at 30 minutes intervals.
*CENTRE:	Dienst der Kusthavens
*STORAGE-MEDIUM:	9 Track Mag Tape HP 1000 - binary format - system specific
*AVAILABILITY:	data available by agreement, on written request to the Hoofdingenieur Directeur. Data may be charged.
*COMPLETED-BY:	ir B. De Putter
*ENTRY-DATE:	23-10-1992

BAROMETRIC PRESSURE AT ZEEBRUGGE

*TIME-PERIOD:	1985 - present
*COVERAGE:	Zeebrugge (on land) Measuring pile MOW5 (51 25'30"N 03 08'59"E), since 1985

*PARAMETERS:	Barometric pressure
*INSTRUMENTS:	Barometer
*SUMMARY:	Pressure measurements at 15 minutes intervals.
*CENTRE:	Dienst der Kusthavens
*STORAGE-MEDIUM:	9 Track Mag Tape HP 1000 - binary format - system specific
*AVAILABILITY:	data available by agreement, on written request to the Hoofdingenieur Directeur. Data may be charged.
*COMPLETED-BY:	ir B. De Putter
*ENTRY-DATE:	23-10-1992

WIND DATA AT ZEEBRUGGE

*TIME-PERIOD:	1977 - present
*COVERAGE:	Zeebrugge (on land) Measuring pile MOW5 (51 25'30"N 03 08'59"E), since 1985
*PARAMETERS:	Wind speed and direction
*INSTRUMENTS:	Anemometer
*SUMMARY:	Wind speed and direction calculated on the basis of 12 minutes measurements at 15 minutes intervals.
*CENTRE:	Dienst der Kusthavens
*STORAGE-MEDIUM:	9 Track Mag Tape HP 1000 - binary format - system specific
*AVAILABILITY:	data available by agreement, on written request to the Hoofdingenieur Directeur. Data may be charged.
*COMPLETED-BY:	ir B. De Putter
*ENTRY-DATE:	23-10-1992

SEA LEVEL AND WATER TEMPERATURE MEASUREMENTS IN OPEN SEA (FROM MEASUREMENT PILES), BELGIAN COASTAL AREA

*TIME-PERIOD:	1986 - present (with interruptions)
*COVERAGE:	Wandelaar MOW0 51 23'04"N 03 02'50"E

	A2 MOW1 51 21 42 03 07 11 Paardenmarkt MOW2 51 21 50 03 17 28 Bol van Heist MOW3 51 23 26 03 11 60 Bol van Knokke MOW4 51 25 29 03 17 59
*PARAMETERS:	Sea level; temperature of seawater
*INSTRUMENTS:	pressure sensor; Pt-100 element
*SUMMARY:	Sea level measurements at 5 minutes intervals. Temperature measurements hourly.
*CENTRE:	Dienst der Kusthavens
*STORAGE-MEDIUM:	9 Track Mag Tape HP 1000 - binary format - system specific
*AVAILABILITY:	data available by agreement, on written request to the Hoofdingenieur Directeur. Data may be charged.
*COMPLETED-BY:	ir B. De Putter
*ENTRY-DATE:	23-10-1992

WIND MEASUREMENTS AT SEA (FROM MEASUREMENT PILES), BELGIAN COASTAL AREA

*TIME-PERIOD:	1986-present (with interruptions)
*COVERAGE:	MOW0 51 23'04"N 03 02'50"E
*PARAMETERS:	Wind speed, wind direction
*INSTRUMENTS:	anemometer
*SUMMARY:	Wind measurements at 10 minutes intervals.
*CENTRE:	Dienst der Kusthavens
*STORAGE-MEDIUM:	9 Track Mag Tape HP 1000 - binary format - system specific
*AVAILABILITY:	data available by agreement, on written request to the Hoofdingenieur Directeur. Data may be charged.
*COMPLETED-BY:	ir B. De Putter
*ENTRY-DATE:	23-10-1992

BAROMETRIC PRESSURE AT SEA (FROM MEASURING PILES), BELGIAN COASTAL AREA

*TIME-PERIOD:	1986 - present (with interruptions)
*COVERAGE:	MOW3 51 23'26"N 03 11'60"E MOW4 51 25 29 03 17 59
*PARAMETERS:	Barometric pressure
*INSTRUMENTS:	Barometer
*SUMMARY:	Barometric measurements at 5 minutes intervals.
*CENTRE:	Dienst der Kusthavens
*STORAGE-MEDIUM:	9 Track Mag Tape HP 1000 - binary format - system specific
*AVAILABILITY:	data available by agreement, on written request to the Hoofdingenieur Directeur. Data may be charged.
*COMPLETED-BY:	ir B. De Putter
*ENTRY-DATE:	23-10-1992

SEA LEVEL DATA ON THE BELGIAN COAST

*TIME-PERIOD:	permanent
*COVERAGE:	Nieuwpoort, Oostende, Zeebrugge
*PARAMETERS:	Sea level
*INSTRUMENTS:	Marigraphs
*SUMMARY:	Maregraphic data from the harbours of Nieuwpoort, Oostende and Zeebrugge
*CENTRE:	Dienst der Kusthavens
*STORAGE-MEDIUM:	- analog recordings (paper) - hourly figures and extreme values are digitized (9 Track Mag Tape HP 1000 - ASCII format)
*AVAILABILITY:	data available by agreement, on written request to the Hoofdingenieur Directeur. Data may be charged.
*COMPLETED-BY:	ir B. De Putter
*ENTRY-DATE:	23-10-1992

SEA LEVEL DATA AT SEA (NON-CONTINUOUS), BELGIAN CONTINENTAL SHELF

*TIME-PERIOD:	several campaigns
*COVERAGE:	several locations
*PARAMETERS:	Sea level
*INSTRUMENTS:	different types of tide gauges
*SUMMARY:	
*CENTRE:	Dienst der Kusthavens
*STORAGE-MEDIUM:	- 9 track Mag Tape - HP 1000 format - floppy disk (ASCII files, DOS format)
*AVAILABILITY:	Inventory to be requested from Dienst der Kusthavens. Data available by agreement, on written request to the Hoofdingenieur Directeur. Data may be charged.
*COMPLETED-BY:	ir B. De Putter
*ENTRY-DATE:	23-10-1992

DEPTH SOUNDINGS, BELGIAN CONTINENTAL SHELF

*TIME-PERIOD:	permanent
*COVERAGE:	Belgian Continental Shelf
*PARAMETERS:	Depth soundings
*INSTRUMENTS:	Echosounder
*SUMMARY:	The depth data are used for the preparation of the various nautical charts
*CENTRE:	Dienst der Kusthavens
*STORAGE-MEDIUM:	Sounding data (paper) - Marine charts
*AVAILABILITY:	Data available by agreement, on written request to the Hoofdingenieur Directeur. Data may be charged.
*COMPLETED-BY:	ir B. De Putter
*ENTRY-DATE:	25-10-1992

CURRENTS DATA, BELGIAN CONTINENTAL SHELF

*TIME-PERIOD:	various periods
*COVERAGE:	Belgian Continental Shelf
*PARAMETERS:	Current velocity and direction
*INSTRUMENTS:	Mechanical currentmeters
*SUMMARY:	Discontinuous currents measurements at various locations
*CENTRE:	Dienst der Kusthavens
*STORAGE-MEDIUM:	Tables (paper)
*AVAILABILITY:	Data available by agreement, on written request to the Hoofdingenieur Directeur. Data may be charged.
*COMPLETED-BY:	ir B. De Putter
*ENTRY-DATE:	25-10-1992

ANTWERPSE ZEEHAVENDIENST (SERVICE OF THE ANTWERP HARBOUR)

*LOCATION:	Ministry of the Flemish Community, Antwerp
*COUNTRY:	Belgium
*CONTACT:	ir. J. Claessens
*ADDRESS:	Tavernierkaai 3, B-2000 Antwerpen
*PHONE:	+32 (0)3 222 08 11
*FAX:	+32 (0)3 231 20 62
*TELEX:	73311 zeedan b

*DESCRIPTION: The 'Antwerpse Zeehavendienst' is the Antwerp Harbour authority, now a department of the Flemish regional administration for water courses infrastructure and sea service.

The missions reported here cover: - monitoring of water elevation in the Zeeschelde (= maritime course of the river, on Belgian territory) and tributaries;
- depth soundings in the Western Scheldt and in the Zeeschelde;
- temperature and salinity measurements at the Dutch-Belgian border and at Antwerp;
- measurements of the river flow + tributaries at the limit of tidal influence as well as extrapolations to the river flow in the Zeeschelde.

*ENTRY-DATE: 26-10-1992

WATER ELEVATION, RIVER SCHELDT AND TRIBUTARIES

*TIME-PERIOD:	end 19th century till present
*COVERAGE:	Zeeschelde from Ghent till the Netherlands border + the following tributaries: Rupel, Dijle till Haacht, Kleine Nete till Grobbendonk, Grote Nete till Zammel, Durme till Zele, Zenne till Zemst.
*PROJECT:	

*PARAMETERS:	sea level with respect to the reference level T.A.W.
*INSTRUMENTS:	OTT- and SEBA tide gauges, ETROMETA radio-tide gauges, ABAY-TS teletransmission system and tide gauges.
*SUMMARY:	The water level is continuously recorded in 35 locations along the Scheldt and tributaries. Overviews of the monthly and annual averages for high- and low water are published on the 10 years ('Tienjarige overzichten'). Moreover, tables ('Getijtafels') with tide predictions are computed and published annually.
*REFERENCE:	- Tienjaar overzichten - Getijtafels voor Oostende, Zeebrugge, Vlissingen, Prosperpolder en Antwerpen
*CENTRE:	Antwerpse Zeehavendienst
*STORAGE-MEDIUM:	Diagrams and paper rolls. Processed data on MS-DOS diskettes or printouts (tables)
*AVAILABILITY:	Data and overviews are freely available.
*COMPLETED-BY:	ir. J. Claessens (phone: +32 3 222 08 11)
*ENTRY-DATE:	26-10-1992

DEPTH SOUNDINGS, WESTERN SCHELDT AND RIVER SCHELDT

*TIME-PERIOD:	end 19th century till present
*COVERAGE:	Thresholds in Western Scheldt and Zeeschelde
*PROJECT:	
*PARAMETERS:	Bottom depth expressed in X, Y, Z coordinates
*INSTRUMENTS:	ATLAS DESO 20 (Z-coordinate) and electronic positioning (X-, Y-coordinates)
*SUMMARY:	The Antwerpse Zeehavendienst carries out very frequent soundings on the thresholds in the Western Scheldt and Beneden Zeeschelde. Furthermore, the depth in the Beneden Schelde is completely sounded and mapped anew on the 2 years (sectional charts). The Boven Zeeschelde is completely mapped anew at 5-10 years intervals. Moreover, a 'folding' chart ('plooikaart') of the Scheldt from Zeebrugge till the Rupel is edited annually.
*REFERENCE:	Charts ('Sectiekaarten' and 'plooikaarten').
*CENTRE:	Antwerpse Zeehavendienst

*STORAGE-MEDIUM: Maps, Paper.
*AVAILABILITY: recent maps from the Zeeschelde are freely available. For older maps, contact Antwerpse Zeehavendienst. Sectional charts and 'Plooikaarten' are commercially distributed.
*COMPLETED-BY: ir. Claessens and ir. De Cock (phone +32 3 222 08 00)
*ENTRY-DATE: 26-10-1992

TEMPERATURE AND SALINITY, RIVER SCHELDT AND TRIBUTARIES

*TIME-PERIOD: from 1942 till present
*COVERAGE: Prosperpolder (Dutch-Belgian border) and Oosterweel (Antwerp).
*PROJECT:
*PARAMETERS: temperature and conductivity
*INSTRUMENTS: VALEPORT temperature and conductivity meters, OBSERMET dataloggers.

*SUMMARY: Temperature and conductivity are measured at 6 minutes intervals and the data stored on data cartriges. Both parameters make it possible to compute salinity and chlorinity. The data are thereafter transfered to diskettes. Before 1987, the recording was mostly on paper rolls. Ten-days, monthly and annual averages, at high water and low water, are compiled in reports.

*REFERENCE:
*CENTRE: Antwerpse Zeehavendienst
*STORAGE-MEDIUM: Paper rolls. Diskettes since 1987.
*AVAILABILITY: Data and reports are freely available.
*COMPLETED-BY: ir. J. Claessens (phone: +32 3 222 08 11)
*ENTRY-DATE: 26-10-1992

RIVER FLOW, RIVER SCHELDT AND TRIBUTARIES

*TIME-PERIOD: from 1949 till present
*COVERAGE: Tidal region of the Scheldt and tributaries.

*PROJECT:

*PARAMETERS: flow, area of the transversal section

*INSTRUMENTS: STORK - SERVEX acoustic flowmeter; OTT mechanical flowmeters.

*SUMMARY: The water flow at the boundaries of the tidal region is determined as follows:
- Scheldt at Melle: acoustic flowmeter since 1987; calibration graphs before.
- Dender at Denderbelle: calibration graphs will be in use till 1993; thereafter: Dender at Dendermonde: acoustic flowmeter.
- Zenne at Eppegem: correlation water level/flow.
- Dijle at Haacht: correlation water level/flow.
- Grote Nete at Itegem: correlation water level/flow.
- Kleine Nete at Grobbendonk: correlation water level/flow.

The data are published annually as daily, 10-day, monthly and annual averages ('De afvoer van de Schelde').

*REFERENCE: Annual reports: 'De afvoer van de Schelde in 19..'

*CENTRE: Antwerpse Zeehavendienst

*STORAGE-MEDIUM: Paper.

*AVAILABILITY: Data and reports are freely available.

*COMPLETED-BY: ir. J. Claessens (phone: +32 3 222 08 11)

*ENTRY-DATE: 26-10-1992

D.E.R., DÉTACHEMENT ETUDES ET RECHERCHES DE LA FORCE NAVALE (RESEARCH CENTRE OF THE BELGIAN NAVY)

*LOCATION:	Kazerne Bootsman Jonsen, Bloc Eguermin
*COUNTRY:	Belgium
*CONTACT:	Commanding Officer
*ADRESS:	3e en 23ste Linieregimentsplein - 8400 Oostende
*PHONE:	+32 (0)59 80 14 02 ext 295
*DESCRIPTION:	D.E.R. is in charge of Belgian navy studies on environmental oceanographic and hydrographic factors which could have an influence on navy operations. This mission is carried out without any specific measurement equipment other than equipment existing on board of navy ships (e.g. sound velocity metres). Most data that we used are originated from the cooperation with MUMM or civilian universities carrying out oceanographic studies via MUMM/BELGICA. Up to now, the data collected are stored in separated databases; each database is then questionned for processing in navy application studies. The area of concern is limited to the Belgian shelf. The original databases are normally not classified (except if restrictions to distribution are defined by the originators mentioned hereabove).
*ENTRY-DATE:	10-11-1992

SNDVEL, SOUND VELOCITY PROFILES IN THE BELGIAN CONTINENTAL SHELF AREA

*TIME-PERIOD:	1 January 1987 to 31 December 1988
*COVERAGE:	26 measuring standard stations MUMM/BELGICA in the area: 51°15'N - 51°25'N /02°27'E - 02°40'E. Will be randomized later.
*PROJECT:	National Navy
*PARAMETERS:	Sound velocity in function of the depth from surface to the bottom
*INSTRUMENTS:	Sound velocity meter 2 Kz

*SUMMARY:	- The sound velocity in sea water is depending on temperature and salinity; the advantage in using a sound velocity meter is that the equipment allows to measure T° and salinity at the same time and at the same depth in one operation. - In the area, 258 measurements were carried out within the hereabove defined timeframe. It is hoped that measurements will be resumed from mid-1993 onwards with a regular input of data. - Individual records contain the following information: station nb, serial nb of measurements at the station, date, gridded depth with corresponding sound velocity value, later position for random measurement. - Resolution is 0.1 m for depth and 0.1 m/s for sound velocity.
*REFERENCE:	DER study n° 125 part 3.
*CENTRE:	D.E.R.
*STORAGE-MEDIUM:	Two floppy disks 3.5" HD and one printed volume.
*AVAILABILITY:	The data set may be obtained on request. The dataset is managed under Dbase 4 and amounts to about 2 MB.
*COMPLETED-BY:	Commanding Officer DER
*ENTRY-DATE:	10-11-1992

R.V.Z.B., RIJKSSTATION VOOR ZEEVISSERIJ (State Fisheries Research Station)

*LOCATION:	Ministry of Agriculture, Ostend
*COUNTRY:	Belgium
*CONTACT:	RVZB - Biology and Fish Quality Division
*ADDRESS:	Rijksstation voor Zeevisserij, Ankerstraat 1, B-8400 Oostende, Belgium.
*PHONE:	+32 (0)59 32 08 05
*FAX:	+32 (0)59 33 06 29

*DESCRIPTION:

RVZB is the Belgian Governmental Fisheries Research Station (Ministry of Agriculture). The tasks reported here cover:

1. Biological and technical research (quantitative improvement of the catches and labour rationalization on board fishing vessels), including studies on the quality of fish and fish products (qualitative improvement of the catch) and research into the fish processing industry (valorization of the production).

2. Technical fisheries research (gear design and development, selectivity, netting materials, environmental impact of fishing gear, catch handling equipment, safety and working conditions on fishing vessels, underwater noise generated by trawls and trawlers in relation the fish catching process, wrecks and obstacles on the sea bed).

3. Monitoring the diseases and parasites of fish and shellfish in the Belgian Continental Shelf area and the Southern North Sea (Laboratorium voor vispathologie - Centrum voor Landbouwkundig Onderzoek Gent).

4. Monitoring contaminants in biota from Belgian coastal waters, in collaboration with the Institute for Chemical Research, Tervuren. The data are also used in the framework of the Joint Monitoring Programme of the Oslo and Paris Commissions.

*ENTRY-DATE: 26-11-1992

VARIOUS DEMERSAL FISH STOCKS IN THE NORTH ATLANTIC

*TIME-PERIOD:	From 1970 onwards.
*COVERAGE:	North Sea (cod, whiting, sole and plaice), English Channel (sole and plaice), Celtic Sea (sole and plaice), Irish Sea (sole and plaice).
*PROJECT:	ICES fish stock assessment.
*PARAMETERS:	details of landings, fishing effort, catch-per-unit-effort, age structure of landings, weight at age, length at age, indices of recruitment.
*INSTRUMENTS:	Electronic balance, measuring board, PC computer.
*SUMMARY:	The data collected as part of the ICES assessment of commercial fish stocks. Data ara collected on a random basis at the three Belgian fishing harbours Zeebrugge, Oostende and Nieuwpoort and at sea on research cruises directed on juveniles and adults (only in the Southern Bight). Data are quarterly processed as population assessments. Individuals per stock samples are as follows: about 1000 per stock for ageing and about 4000 per stock for measuring (survey data not included). Data are processed annually in the appropriate ICES Working Groups.
*REFERENCE:	ICES Working Groups: "Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak", "Working Group on the assessment of Southern Shelf Demersal Stocks" and "Working Group on the assessment of Northern Shelf Demersal Stocks".
*CENTRE:	Fisheries Research Station
*STORAGE-MEDIUM:	data lists, floppy discs
*AVAILABILITY:	Data restricted to certain users and only by special arrangement - contact R. De Clerck
*COMPLETED-BY:	Dr.ir. R. De Clerck.
*ENTRY-DATE:	20-11-1992

TECHNICAL FISHERIES RESEARCH

*TIME-PERIOD:	from 1962 onwards
*COVERAGE:	EC waters visited by Belgian fishermen (mainly ICES areas IVb,c, VIIa,d-g)
*PARAMETERS:	fishing gear, selectivity, netting materials, physical impact of fishing gear, vessel equipment, underwater acoustics, fishing grounds
*INSTRUMENTS:	scanmar net monitoring equipment, netsonde, warp load cells, noise recording and analyzing equipment
*SUMMARY:	data covering various topics of technical fisheries research, such as: - gear design and development, - selectivity, - netting materials, - environmental impact of fishing gear, - catch handling equipment, - safety and working conditions on fishing vessels, - underwater noise generated by trawls and trawlers in relation the fish catching process, - wrecks and obstacles on the sea bed.
*STORAGE-MEDIUM:	reports, floppy discs, video-tapes, data lists
*AVAILABILITY:	except for confidential data, information is generally available
*COMPLETED BY:	Ronald Fonteyne / Hans Polet
*ENTRY-DATE:	18-11-1992

FISH DISEASES IN THE BELGIAN CONTINENTAL SHELF AREA AND SOUTHERN NORTH SEA

*TIME-PERIOD:	- Belgian Continental Shelf: since 1985 - Southern North Sea: since 1989
*COVERAGE:	Southern North Sea
*PROJECT:	ICES - PDMC
*PARAMETERS:	length, wight, sex, diseases, parasites respectively of flounder, dab, place, whiting and cod
*INSTRUMENTS:	microscope, histological equipment, etc.

*SUMMARY:	The program involves sampling of commercial fish with a beamtrawler 'De Broodwinnner' in spring and autumn. From each species a 5000 samples were examined for external and internal diseases. All data are presented to ICES-WEPDMO sub-group on analysis of diseases prevalence in marine fish stocks. The determination of fish diseases in relation to pollution in the Southern North Sea is carried out with the research vessel 'Belgica'. This program was started in 1989.
*REFERENCE:	ICES Working group reports
*CENTRE:	Fisheries Research Station
*STORAGE-MEDIUM:	Magnetic tape (flounder), hard disks.
*AVAILABILITY:	Data available by agreement, on written request.
*COMPLETED-BY:	Ir. Daniel Declerck
*ENTRY-DATE:	27-10-1992

CONTAMINANTS IN BIOTA FROM THE BELGIAN CONTINENTAL SHELF AREA

*TIME-PERIOD:	1978 - present
*COVERAGE:	Belgian coastal waters
*PARAMETERS:	Hg, Cd, Cu, Zn, Pb, Cr, Ni, Organochlorines, Cod, Flounder, Shrimp, Mussel
*INSTRUMENTS:	AAS, GC
*SUMMARY:	Heavy metals (see parameters) and organochlorines are determined once a year in the muscle tissue of cod (Gadus Morhua), flounder (Platichthys flesus), shrimp (Crangon crangon) and mussel (Mytilus edulis) from Belgian coastal waters. Lead, cadmium and organochlorines are also assessed in the liver of the two fish species. These analyses are performed in the framework of the Joint Monitoring Programme of the Oslo and Paris Commissions. The centre participates in international intercalibration exercices. Data source: national. Number of samples : 50 fish muscle, 10 fish liver, 1 shrimp (bulked sample), 4 mussels (bulked samples) per year.
*CENTRE:	RVZB - Rijksstation voor Zeevisserij
*STORAGE-MEDIUM:	1 floppy disk
*AVAILABILITY:	freely available
*COMPLETED-BY:	Dr. W. VYNCKE (tel. +32 (0)59 32 08 05)
*ENTRY-DATE:	21-08-1992

BELGIAN GEOLOGICAL SURVEY

*LOCATION:	Administration of Mines, Ministry of Economic Affairs, Brussels
*COUNTRY:	Belgium
*CONTACT:	Prof. PAEPE/Dr. BAETEMAN
*ADDRESS:	Jennerstraat 13, 1040 Brussel
*PHONE:	+32 (0)2 647 64 00
*FAX:	+32 (0)2 647 73 59
*DESCRIPTION:	Collection of geological date - Scientific research - Information service.
*ENTRY-DATE:	08-09-1992

QUATERNARY BORINGS IN THE BELGIAN CONTINENTAL SHELF AREA

*TIME-PERIOD:	1986 and 1988
*COVERAGE:	Belgian Continental Shelf
*PROJECT:	Kwartairkartering Noordzee/Quaternary mapping North Sea
*PARAMETERS:	
*INSTRUMENTS:	Boring platform
*SUMMARY:	11 cores recovering entire Quarternary sequence (10 cm). Lithological description useful to climate change studies in the Quarternary. Purposes: - mapping - quarternary sediments North Sea - raw material availability - paleogeographical reconstruction N.S. in the quarternary. national resources.
*CENTRE:	Belgian Geological Survey
*STORAGE-MEDIUM:	paper - file - photographs/cores
*AVAILABILITY:	available by special arrangement
*COMPLETED-BY:	Ms. Cecile Baeteman
*ENTRY-DATE:	08-09-1992

VIBROCORES: CORES, LITHOLOGICAL DESCRIPTION, GRAINSIZE ANALYSIS IN THE BELGIAN CONTINENTAL SHELF AREA

*TIME-PERIOD:	1986
*COVERAGE:	Belgian Continental Shelf
*INSTRUMENTS:	vibrocorer
*PARAMETERS:	
*SUMMARY:	193 vibrocores, 6 m length. Purpose: mapping Holocene and Seabed sediments, national resources
*REFERENCE:	Geological map OSTEND SHEET
*CENTRE:	Belgian Geological Survey
*STORAGE-MEDIUM:	paper-file/cores
*AVAILABILITY:	available by special arrangement
*COMPLETED-BY:	Cecile Baeteman
*ENTRY-DATE:	08-09-1992

BELGIAN HOLE (NORTH SEA)

*TIME-PERIOD:	1990
*COVERAGE:	51°44.34'N, 2°.32.03'E
*PROJECT:	EEC Southern North Sea Project
*PARAMETERS:	
*INSTRUMENTS:	boringship
*SUMMARY:	1 core, 36.14 m length, covering the Quaternary sequence. Purpose: Quarternary of the North Sea (EEC-project) and application to environmental protection & industrial development EEC resources.
*REFERENCE:	EEC-Report 1 April 1989 - 31 March 1991
*CENTRE:	Belgian Geological Survey
*STORAGE-MEDIUM:	paper file/core
*COMPLETED-BY:	Ms. Cecile Baeteman
*ENTRY-DATE:	08-09-1992

AIR SECTION, INSTITUTE FOR HYGIENE AND EPIDEMIOLOGY (I.H.E.)

*LOCATION:	Department of Environment, Institute of Hygiene and Epidemiology (I.H.E.), Ministry of Public Health and Environment, Brussels
*COUNTRY:	Belgium.
*CONTACT:	Dr. Daniel RASSE
*ADDRESS:	Rue J. WYTSMAN, 14 B - 1050 - BRUSSELS.
*PHONE:	+32 (0)2 642 52 06
*FAX:	+32 (0)2 642 52 23
*TELEX:	21034 ihebru

*DESCRIPTION:

The Air Section of IHE operates on behalf of the Ministry of Public Health and Environment and acts as the Belgium's focal point for data exchange and implementation of various air pollution directives within the ECC.

The Air Section runs the so-called Sulphur-Smoke network. This semi-automatic network is made of about one hundred of stations which measure, on a daily basis, the SO_2 (acidimetry) and suspended particulates (black smoke measured by reflectometry).

The Air Section runs also an automatic network. More than 70 stations are connected to a National Data Processing Centre where pollution data (SO_2, nitrogen oxides, hydrocarbons, ozone, suspended particulates) as well as meteorological data (wind speed and wind direction, temperature, rain, dew-point, atmospheric pressure) are gathered on a half-hourly basis and processed.

The third network run by the Air Section is devoted to the survey of the heavy metals concentrations. More than 60 stations measure, on a daily basis, the concentrations of non ferrous metals such as lead, cadmium, vanadium, zinc, copper.

All the information provided by these networks is stored in the Air Section Data Base, which provides a data service to research scientists, industry, and to regional and national government.

The data are processed by statistical and graphical means in order to edit yearly reports regarding each network.

Studies and data exchange are made with regional, national and international organisations such as EEC, WHO, OCED, EMEP, GEMS, Benelux EU.

*ENTRY-DATE: 05-10-92.

SULPHUR-SMOKE NETWORK (BELGIAN COASTAL STATIONS)

*TIME-PERIOD: Station 601: 05-01-1968 to 09-30-1978.
Station 608: from 03-01-1969 onwards (with an interruption from 09-30-1978 to 04-26-1982).

*COVERAGE: Station 601: De Haan - Zeepreventorium
Station 608: Oostende - Tijseinpost

*PARAMETERS: SO_2, Black Smoke.

*INSTRUMENTS: Titrimetry (Acidimetry), Reflectometry

*SUMMARY: Measurements are obtained on a daily basis. Time series cover one month.

*CENTRE: IHE - Brussels.

*STORAGE-MEDIUM: data are stored on a 7.350 SIEMENS Computer.

*AVAILABILITY: The data set is freely available on request to the Air Section of the IHE and is distributed on 3 1/2" MS-DOS floppy disks. Processing costs will be charged.

*COMPLETED-BY: Dr. D. Rasse

*ENTRY-DATE: 05-10-1992.

HEAVY METALS NETWORK (BELGIAN COASTAL STATIONS AND RV BELGICA)

*TIME-PERIOD:	Depending on the stations, within the November 1978 till present time-span. On board of RV Belgica: from 01-04-1985 till 31-05-1986.
*COVERAGE:	Nine sampling stations located on the coast: Bredene (two stations), Dixmuide (four stations), Knokke, Koksijde, Zeebrugge. One station on board of the RV Belgica.
*PARAMETERS:	Depending on the stations. Typically, Antimony, Arsenic, Cadmium, Copper, Lead, Zinc, Fluoride, Chloride, SO_2 are measured together (all Diksmuide stations, Koksijde). At some stations, the list also includes Sulphate, Chrome, Nickel, Titan, Vanadium, Manganese, Molybdenum, Barium (Bredene, RV Belgica), whereas at Knokke, additional parameters are Sulphate, Chrome, Manganese, Selenium, Vanadium, nitrogen oxides, hydrocarbons, ozone, carbon monoxide, suspended particulates. At Zeebrugge, only nitrogen oxides and suspended particulates are measured.
*INSTRUMENTS:	X Fluorescence for metals, specific electrodes for fluoride, titrimetry or UV spectrometry for SO_2, chemiluminescence for nitrogen oxides and ozone, flame ionization for hydrocarbons, IR spectrometry for carbon monoxide and nephelometry for S.P.
*SUMMARY:	Generally, measurements are obtained on a daily basis and time series cover one month. At Knokke, however, measurements are obtained on a half-hourly basis for SO_2, nitrogen oxides, ozone, hydrocarbons, carbon monoxide and S.P. and times series cover one day. At Zeebrugge, measurements are obtained on a half-hourly basis and times series cover one day.
*CENTRE:	IHE - Brussels.
*STORAGE-MEDIUM:	Data are stored on a 7.350 SIEMENS Computer.
*AVAILABILITY:	The data set is freely available on request to the Air Section of the IHE and is distributed on 3 1/2" MS-DOS floppy disks. Processing costs will be charged.
*COMPLETED-BY:	Dr. D. Rasse
*ENTRY-DATE:	05-10-1992.

AUTOMATIC NETWORK: AUTOMATIC MONITORING OF SEVERAL AIR POLLUTION PARAMETERS IN SIX BELGIAN COASTAL STATIONS)

*TIME-PERIOD:	Depending on the stations: time series starting in 1977, 1979, 1987 and 1991 onwards.
*COVERAGE:	Six stations, at various locations: Houtem (2.350 deg E; 51.01 deg N.); Moerkerke (3.215 deg E; 51.15 deg N.); Zeebrugge - Zeesluis (3.131 deg E; 51.20 deg N.); Antwerpen - Zandvlietsluis (1) (4.170 deg E; 51.21 deg N.); Antwerpen - Zandvlietsluis (2) (4.170 deg E; 51.21 deg N.); Zwijndrecht (4.201 deg E; 51.14 deg N.)
*PARAMETERS:	- SO_2 at the four first mentioned stations + nitrogen oxides at Houtem and nitrogen oxides + ozone at Moerkerke. - Wind speed and wind direction, rain, temperature, dew point at Antwerpen - Zandvlietsluis (2). - Wind speed and wind direction at 51 and 153 m above ground level, rain, atmospheric pressure, dew point, temperatures at 8, 24, 48, 80, 114 and 153 m above ground level, at Zwijndrecht.
*INSTRUMENTS:	UV fluorescence for SO_2, chemiluminescence for nitrogen oxides and ozone.
*SUMMARY:	Measurements are obtained on a half-hourly basis. Times series cover one day.
*CENTRE:	IHE - BRUSSELS.
*STORAGE-MEDIUM:	Data are stored on a 7.350 SIEMENS Computer.
*AVAILABILITY:	The data set is freely available on request to the Air Section of the IHE and is distributed on 3 1/2" MS-DOS floppy disks. Processing costs will be charged.
*COMPLETED-BY:	Dr. D. Rasse
*ENTRY-DATE:	05-10-1992.

ECOLAS NV, ENVIRONMENTAL CONSULTANCY AND ASSISTANCE

*LOCATION:	Antwerp
*COUNTRY:	Belgium
*CONTACT:	Marine consultant
*ADDRESS:	ECOLAS NV Lange Nieuwstraat 43 - 2000 Antwerpen
*PHONE:	+32 (0)3 233 07 03
*FAX:	+32 (0)3 233 81 20
*DESCRIPTION:	Ecolas is a private environmental consultancy and assistance firm working on all disciplines of environmental assessment and management for the industry and governmental organizations. A part of ECOLAS is particularly active on the marine environment. ECOLAS uses available oceanographic data for the different studies it performs.
*ENTRY-DATE:	08-10-1992

MARPOL, A STUDY ON THE ACTUAL IMPLEMENTATION OF THE MARPOL CONVENTION IN BELGIAN PORTS

*TIME-PERIOD:	1988-1989
*COVERAGE:	Belgium
*PROJECT:	Study of the actual situation in the Belgian ports with regard to the implementation of the MARPOL-Convention (only in Dutch + English abstract).
*SUMMARY:	The International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) was adopted at international level. In this regard, its implementation has been studied for the most important belgian ports. A twofold goal was set forward: to obtain a quantitative view on the input, disposal and treatment of harmful substances and to evaluate procedures and practices actually applied on board and in the belgian ports for the management and removal of these substances.

*CENTRE:	ECOLAS NV, Environmental Consultancy and Assistance
*STORAGE-MEDIUM:	1 hard-copy
*AVAILABILITY:	ECOLAS does not have authority to provide a hard-copy without the consent of its client
*COMPLETED-BY:	Dirk Le Roy, (fax) ** 32 3 233 81 20
*ENTRY-DATE:	08-10-1992

EUROSENSE BELFOTOP NV

*LOCATION:	Wemmel
*COUNTRY:	Belgium
*CONTACT:	Coastal Services Department Project Manager
*ADDRESS:	Nerviërslaan 54 - 1780 Wemmel (Belgium)
*PHONE:	+32 (0)2 460 70 00
*FAX:	+32 (0)2 460 49 58
*TELEX:	26687
*DESCRIPTION:	Eurosense's objective is to be Europe's leading commercial remote sensing organization. The company specializes in remote sensing, photogrammetry, geographic information systems, cartography and hydrography. A unique hovercraft-based system is used for high-speed and high-accuracy hydrographic surveys (BEASAC®: Belfotop Eurosense Acoustic Sounding Air Cushion). Besides bathymetric surveys, coastal studies are performed on a regular basis, including sedimentological case studies. Most of these surveys and studies are performed on behalf of the Flemish government (Service of Coastal Harbours, Oostende (= Dienst der Kusthavens)). The scientific results of the data and analyses are, in cooperation with the Service of Coastal Harbours, presented at major international professional conferences.
*ENTRY-DATE:	14-10-1992

MUD CONCENTRATION IN BELGIAN COASTAL WATERS

*TIME-PERIOD:	1) 4 September 1987 2) 8 April 1989 3) 10 July 1991
*COVERAGE:	Belgian coastal waters; in a 6 km wide strip.
*PROJECT:	Sediment budget for the Belgian coastal waters.
*PARAMETERS:	Surficial water sediment content

*INSTRUMENTS:	Airborne digital multispectral scanner; and simultaneous sea water samples.
*SUMMARY:	The data set contains a value for the momentary sediment (particles finer than 63 µm) concentration at one metre water depth. The value is established on the basis of simultaneously obtained sea water samples and digital airborne multispectral scanner registrations. The method guarantees a fast coverage of large areas. Surveys were performed in the following situations: 1) LW (4 September 1987); 2) HW (8 April 1989); 3) at 5 successive stages in the tidal cycle (10 July 91)
*REFERENCE:	All data are shown in sediment concentration charts. They are interpreted in accompanying reports.
*CENTRE:	Eurosense, Wemmel, Belgium
*STORAGE-MEDIUM:	Magnetic tape, optical disk, maps
*AVAILABILITY:	The data are only available after written permission obtained from the Service of Coastal Harbours, Oostende, Belgium
*COMPLETED-BY:	Dr. R. Houthuys
*ENTRY-DATE:	14-10-1992

BATHYMETRIC SOUNDINGS IN BELGIAN COASTAL WATERS

*TIME-PERIOD:	Since August 1985
*COVERAGE:	Harbour access channels, main dump sites, and nearshore of the Belgian Continental Platform.
*PROJECT:	Soundings are commissioned by the Service of Coastal Harbours
*PARAMETERS:	Depth
*INSTRUMENTS:	Echosounder
*SUMMARY:	The data set consists of hydrographic soundings along closely spaced lines, performed by the hydrographic hovercraft BEASAC® III. The survey frequency ranges from monthly (main harbour access channels) to yearly (nearshore). The data are used for the production of official nautical maps, for dredging monitoring and for morphological monitoring.
*REFERENCE:	All data are corrected and processed into bathymetric maps. Whenever required, digital terrain models, differential depth charts, and analyzing reports are made.

*CENTRE:	Eurosense, Wemmel, Belgium
*STORAGE-MEDIUM:	Magnetic tape, optical disk, maps
*AVAILABILITY:	The data are only available after written permission obtained from the Service of Coastal Harbours, Oostende, Belgium
*COMPLETED-BY:	Dr. R. Houthuys
*ENTRY-DATE:	14-10-1992

HAECON N.V., HARBOUR AND ENGINEERING CONSULTANTS

*LOCATION:	Gent-Drongen
*COUNTRY:	Belgium
*CONTACT:	
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*PHONE:	+32 (0)91 26 50 94
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*TELEX:	12.586 HAECON B
*EMAIL:	

*DESCRIPTION:

Harbour and Engineering Consultants (HAECON) N.V. is a Belgian firm of consulting engineers established in 1971. The National Investment Company, a Belgian public-owned company, has a 50 % participation in its assets.
HAECON's capabilities can be summarized as follows:

- It is fully experienced in the fields of port, maritime, coastal, river and fluvial engineering.
- It also has expertise in other civil engineering branches, such as: underground shafts, drilled tube tunnels and immersed tunnels, underground car parks, water and gas pipelines, river crossings, directional drillings, ...
- Its consultancy services rely to large extent on its in-house computer software, sedimentological survey department, GIS-systems and laboratory.

An idea of the scale and magnitude of HAECON's professional services is exemplified by the port extension scheme of Belgium's national coastal seaport at Zeebrugge. The works estimated at some 1.5 billion U.S.$ are spread over an execution time of 12 years.
HAECON's experience in offshore-pipeline projects centres around items concerned with seabottom geology, sedimentology, soil mechanisms, geophysics, slope stability, dredging technology, marine hydraulics (waves, wind and currents). It also offers specific marine survey activities in relation to back-filling, trenching and sea-bottom investigations.

The company has considerable experience in incorporating assessment studies on environmental impact within its engineering appraisals on dredging/sedimentology projects, energy projects, hydraulic engineering projects, natural resources projects, GIS (Geographic Information System) cartography and dredging.

It has contributed to novel approaches in beach rehabilitation and coastal protection projects in Belgium and abroad.

HAECON's professional activities have already extended over several countries (Algeria, Argentina, France, Guatemala, Indonesia, Italy, Libya, Morocco, The Netherlands, Pakistan, Tanzania, etc.) and various clients.

*ENTRY-DATE: 05-01-1993

MOB0321 - GRANULOMETRY DATA SET FROM THE BELGIAN CONTINENTAL SHELF

*TIME-PERIOD: 31 August 1981 to 30 November 1987
*COVERAGE: Several zones on the Belgian Continental Shelf covering partly the West Coast and most of the East Coast. It extends 20 miles offshore.
*PROJECT: MOB - Dredging optimization
*PARAMETERS: Complete granulometrical analysis
*INSTRUMENTS: Shipek bottom grab, sieves

*SUMMARY: The MOB-dataset contains an amalgam of data from the extensive sampling surveys carried out during the construction of the seaport of Zeebrugge. In all 1358 sites were sampled. The sites have been sampled according to various sampling schemes: along profiles, according a regular sampling grid or scattered. Granulometrical data are included from 16 separate subsets, starting from Ostend and reaching the Dutch foreshore. The data are stored together with date, time and location (geographic or UTM-coordinates).

*REFERENCE: Information sheets available from HAECON with further details.
*CENTRE: HAECON N.V., Harbour and Engineering Consultants
*STORAGE-MEDIUM: 3,5 or 5,25 in disks, ASCII files or XLS files

*AVAILABILITY:	The availability of the data set depends on the application for which it is needed. Conditions for data-access must be discussed with HAECON N.V.
*COMPLETED-BY:	Dredging and Sedimentology Department, HAECON N.V.
*ENTRY-DATE:	05-01-1993

FINA EXPLORATION AND PRODUCTION

*LOCATION:	Feluy
*COUNTRY:	Belgium
*CONTACT:	G. Defalque - M.F. Tondreau
*ADDRESS:	c/o FINA RESEARCH Zone Industrielle C B-7181 Feluy
*PHONE:	+32 (0)64 51 41 11
*FAX:	+32 (0)64 51 46 66
*TELEX:	56008 FIRUS B
*DESCRIPTION:	Fina Exploration & Production is a division of Petrofina S.A., in charge of exploration and production worldwide.
*ENTRY-DATE:	January 1993

SEISMIC REFLECTION PROFILES, GRAVITY, MAGNETIC WELLS IN THE DUTCH CONTINENTAL SHELF

*TIME-PERIOD:	From 1960 onwards
*COVERAGE:	North Sea: Holland
*PROJECT:	Fina is not operator in the Dutch part of North Sea
*PARAMETERS:	Wells data & seismic data
*INSTRUMENTS:	Drilling and geophysic
*SUMMARY:	- 2087 seismic reflection sections - 227 tapes containing seismic data - 103 seismic maps - 2 gravity maps Data on 263 wells (mainly offshore)
*STORAGE-MEDIUM:	Sepia films and magnetic tapes
*AVAILABILITY:	All data are confidential
*COMPLETED-BY:	G. DEFALQUE

*ENTRY-DATE: January 1993.

<note: when writing to Petrofina-Belgium, this answer was also received>:

FINA EXPLORATION LTD

*LOCATION: Epsom, Surrey
*COUNTRY: United Kingdom (England)

*CONTACT: Chief Geophysics
*ADDRESS: Fina House, Epsom, Surrey, England

*PHONE: +44 (0)372 726 226
*FAX: +44 (0)372 745 976
*TELEX: 894317 PFINA

*DESCRIPTION: Fina Exploration Ltd is the integrated exploration and production division of Fina plc. It is involved in all aspects of oil and gas exploitation in the United Kingdom Continental Shelf and onshore Great Britain.

*ENTRY-DATE: 20-10-92

SEISMIC REFLECTION PROFILES, GRAVITY DATA, MAGNETIC DATA AND EXPLORATORY WELLS AND APPRAISAL WELLS AROUND GREAT-BRITAIN.

*TIME-PERIOD: 1984 to present
*COVERAGE: North Sea, East Irish Sea Basin, England, Scotland
*PARAMETERS: Seismic reflection profiles, gravity and magnetic data, offshore and onshore wells.
*INSTRUMENTS: Seismic reflection profiling, gravimeter, magnetometer, drilling.

*SUMMARY: The data comprises an extensive collection of 2D seismic reflection profiles (about 70,000 kms) concentrated on 20 blocks, 3D seismic reflection surveys on 2 blocks, gravity and magnetic

data in selected areas and well information. All data are proprietary in nature and kept confidential.

*STORAGE-MEDIA: All entries are approximate:
600 sepia films of seismic data
500 sepia films of well logs
40 magnetic tapes of seismic data
30 magnetic tapes of well logs
10 magnetic tapes of gravity and magnetic data

*AVAILABILITY: All data are confidential

*COMPLETED-BY: J. Staffurth

*ENTRY-DATE: 20-10-1992