

Annual Report 2007

FLANDERS MARINE
INSTITUTE
VLIZ

Annual Report 2007

FLANDERS MARINE INSTITUTE VLIZ

*for everyone fascinated
by the sea and the coast*

www.vliz.be

Oostende, June 2008



with the support of:



Vlaamse overheid



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The Annual Report 2007 of the Flanders Marine Institute (VLIZ) gives an overview of our activities in the past calendar year. We deliberately keep this report brief and simple with short texts and many illustrations. You can find more detailed information on the performance of the different departments, the numerous projects, services and information and data bases on our website www.vliz.be.

The results are listed according to the different main activities of VLIZ, with an indication of a number of highlights for each activity. In this manner you receive information on the general networking and coordination efforts as well as on the ins and outs of the Marine Library, the data centre and the communication, research infrastructure and figures & policy departments. We are proud to announce that - as you will notice - we made considerable progress in each of these areas.

This can clearly be deduced from the key figures and administrative data of VLIZ, included at the back of this yearbook. We would also like to invite you to study the evolution of the performance indicators. These indicators are used by the supervising authorities to assess our performance. A comparison with the figures of the previous years confirms our assertion that VLIZ is and will continue to be a dynamic and rapidly growing institution. Openness, scientific integrity and qualitative service tailored to the different target groups continue to be of special interest in this respect.

*A novelty this year is that the VLIZ Collected Reprints are now an integral part of the Annual Report. **Collected Reprints 37** gives an overview of the scientific output of the marine scientific community in Flanders in 2007.*

*From this year onwards we will also translate our Annual Report into English so that it can be exchanged with numerous publications and yearbooks worldwide. This has become a necessity in view of the increased integration of VLIZ into international networks and the recent extension of the **InnovOcean** site in Oostende by major European and multilateral organisations.*

We believe we can put Flanders, West Flanders and Oostende firmly on the oceanographic world map and strongly enhance the visibility of the work of the Flemish marine scientific community.

Enjoy the Annual Report!

Paul Breyne

Governor of West Flanders
VLIZ Chairman

Jan Mees

VLIZ Manager

VLIZ in figures

3,585

Number of subscribers to the journal 'De Grote Rede'

239

Number of days at sea realised for marine scientific research

73,923,402

Number of data in the VLIZ databases

852

Number of participants in events organised or co-organised by VLIZ

19

Number of formal national cooperation agreements

2,824,697

Turnover of VLIZ (EUR)

97,795

Number of publications available in the Marine Library

10,598

Number of downloads from OMA, the Open Marine Archive

VLIZ in a timeline

a selection of major events in 2007



JANUARY

Signature of INBO-VLIZ cooperation agreement (12/1)



FEBRUARY

Symposium: 'The North Sea from a geographical perspective' (9-10/2)



MARCH

VLIZ Young Scientists' Day (2/3)



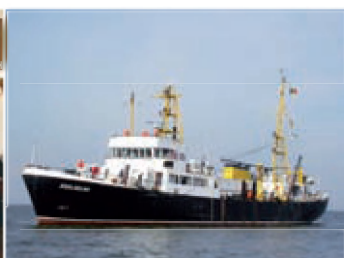
APRIL

Expeditie Zeeleeuw (16-20/4)



MAY

Ecosystem-based Stock Enhancement Workshop (7-8/5)



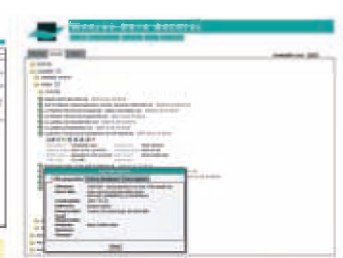
JUNE

ERVO workshop (19-20/6)



JULY

Official request from IOC and GLOSS to manage real-time data from tide gauges of Tsunami Warning Centres in the Indian and Atlantic Ocean



AUGUST

Launch of Marine Data Archive (MDA)



SEPTEMBER

Roundtable discussion: 'Prospects and limitations of aquaculture at the Belgian coast' (13/9)



OCTOBER

Speech from the governor on the sea & coast, and launch of the term 'InnovOcean site' (2/10)



NOVEMBER

Launch of new section 'SeaStats' via the VLIZ website



DECEMBER

Press conference on the new research vessel 'Simon Stevin' (10/12)

UNESCO/IOC Project Office for IODE in figures

11

Number of organised training courses
(duration of 1-3 weeks)

140

Number of students

93

Number of nationalities represented on
the courses

73

Number of both short- and long-term
guest researchers

1,688

Number of nights spent by trainees and
experts

100

Number of dynamic websites hosted

10

Number of available servers

1,100

Subscribers to the Project Office mailing
list system

40

Number of computers available for
training courses

6

Number of employees for 'IOC Project
Office for IODE' at the end of 2007

UNESCO/IOC Project Office for IODE in a timeline

a selection of major events in 2007



FEBRUARY

Largest training activity so far: Data management course for SeaDataNet (40 persons from all over Europe)



MARCH

Biennial general meeting of IODE (IODE-XIX) in Trieste, Italy



APRIL

'E-repositories training' or how to set up a digital marine library



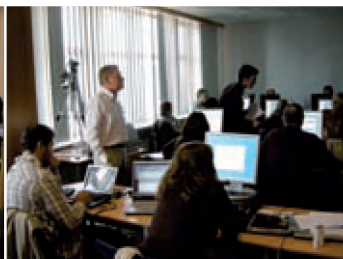
JUNE

Young scientist training: from data collection to data products; incl. short cruise with RV 'Zeeleeuw'



SEPTEMBER

Group of Experts on Marine Information Management meets in Oostende



OCTOBER

Training 'End to End Data Management (EzEDM)' with participants from the Black Sea region



NOVEMBER

Departure of dr. Vladymyrov as head of the Project Office. Peter Pissierssens will take over his responsibilities as from November



DECEMBER

IODE Officers meeting

Core tasks and structure

Established in 1999, the Flanders Marine Institute (VLIZ) has evolved into **the central coordination and information platform for marine scientific research in Flanders**.

VLIZ is a focal point for marine and coastal-related research and serves as an international point of contact in this respect. As VLIZ does not have a mandate to conduct research itself, it has the opportunity to perform a whole range of scientific support tasks such as managing a data centre, providing logistic assistance to researchers, managing a marine library, coordinating and networking and offering a range of marine information to various target groups. By concluding cooperation agreements with Flemish research groups and authorities this support can be developed further and be integrated into national and international networks.

Strategic objectives

The Flanders Marine Institute (VLIZ) is an autonomous institute with the legal status of a non-profit organisation under Belgian law that receives an annual subsidy from the Flemish government and from the Province of West-Flanders. The strategic objectives and activities are defined in five-year management agreements with the financing authorities (1999-2004; 2005-2009). VLIZ has the following **four strategic objectives**:

- Promoting Flemish coastal and marine scientific research;
- Promoting the international image of Flemish coastal and marine scientific research and serving as an international point of contact in this field.
- Promoting the visibility of Flemish coastal and marine scientific research to the public at large by means of popularisation and sensitisation.
- Providing scientific information on the sea, the coast and on tidal systems to policy makers, whether or not upon request, so that they can use this information to develop their policy with regard to marine affairs.

Principles and preconditions

- VLIZ is an institute with a clearly scientific character, but does not undertake any research activities itself (to avoid competition with research groups).
- VLIZ has a multidisciplinary character and supports all marine research disciplines.
- VLIZ supports marine scientific research in the broadest sense, which means that 'sea' not only refers to the open water and the seabed but also to all tidal and coastal systems.
- All areas where Flemish marine scientists are or were active are part of the field of activity of VLIZ.
- The information provided by VLIZ is scientifically founded (usually reference to experts or through consultation of the network of experts; great care is taken to quote their input).
- VLIZ promotes an integrated approach (integration of research disciplines, sectors, land-sea, international cooperation).
- VLIZ is completely autonomous and neutral.
- The basic principles of VLIZ are administrative openness and public consultation.
- VLIZ promotes sustainability (the three pillars of sustainable management are environment, economy and social atmosphere).

Main activities

Within this coordinating and supportive role it is possible to distinguish five main activities, complemented with two additional tasks which concern the operation of, respectively, the UNESCO/IOC Project Office for IODE and the Secretariat of the Marine Board of the European Science Foundation, which are both supported by the Flemish government through VLIZ.

- Supporting marine scientific research by deploying the research vessel 'Zeeleeuw' and other research equipment and infrastructure for common use within the scope of marine scientific research. VLIZ also contributes to the (inter)national planning, management and efficient use of marine research infrastructure.
- Managing and further developing the Flanders Marine Data and Information Centre (FMDC). The centre collects different kinds of data, implements international standards and distributes data in Belgium and abroad. Within this context the centre processes and provides access to external data and collects its own data. FMDC is an integral part of international networks and contributes to the development of international standards for managing and exchanging data and information.
- Managing a multimedia centre that is developing a collection of marine scientific and coastal literature and multimedia.

- Facilitating a network of marine scientists and other persons concerned by offering a platform (in the form of the Scientific Committee), by organising meetings, congresses and conferences and by issuing publications. A core task of VLIZ is to map the marine expertise in Flanders on a permanent basis and to present it both in Belgium and abroad.
- Managing an information desk that provides objective scientific information to scientists and policymakers in Flanders and abroad, as well as to teachers, students and interested citizens in Flanders. The information desk answers all questions and furthermore provides information of its own accord by responding to current events and promoting Flemish marine scientific research through exhibitions and open house days, through publications and the website and by organising and co-organising seminars, workshops and symposia.
- Last but not least VLIZ has a special responsibility to take care of the follow-up and management of the financing of the accommodation and support of the IODE Project Office of the Intergovernmental Oceanographic Commission of UNESCO (UNESCO/IOC Project Office for IODE), and of the Secretariat of the Marine Board of the European Science Foundation (MB-ESF). For UNESCO this also concerns the support of training courses for foreign students and experts in oceanographic data management with special attention to the development and operation of early tsunami warning systems and other ocean-related natural phenomena.

Geographic scope

The Flanders Marine Institute focuses its activities on all marine and tidal systems. In this context we concentrate on the actors and activities in the Southern Bight of the North Sea with special emphasis on the Belgian part of the North Sea, the Flemish coastal area and adjacent areas (the Channel, the Delta area and the Scheldt estuary). This does not only concern the open sea but also the seabed, the beach, the mud flats, the salt marshes, the dunes, the estuaries and the hinterland with the maritime polders. In addition, all tidal systems studied by Flemish marine research groups all over the world (tropical coastal systems, the deep sea, polar areas etc) fall within the scope of interest of VLIZ.

Internal structure

As far as internal structure is concerned, this subdivision into main activities translates into **six operational units** within VLIZ, complemented with the activities of the UNESCO/IOC Project Office for IODE. These six units correspond to the main menu sections on the VLIZ website.

- Coordination cell ('About VLIZ')
- Infodesk cell
- Marine Library cell
- Figures & Policy cell
- Facilities cell
- Data Centre cell



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Achievements in 2007

an overview



Coordination



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Read more?
www.vliz.be/EN/About_VLIZ

- ☐ INNOVOCEAN SITE
- ☐ PERSONNEL POLICY
- ☐ NETWORKING
- ☐ COOPERATION AGREEMENTS
- ☐ SCIENTIFIC AWARDS
- ☐ MEMBERSHIP

Addendum to 2005-2009 management agreement

Since 1 January 2007 VLIZ has been a structural partner of the 'Science Information and Innovation' Action Plan. It receives an additional subsidy from the Department of Economy, Science and Innovation (EWI) of the Flemish government for organising **science popularisation activities** in the field of marine scientific research specifically aimed at **schools**. These activities fall within the scope of the annual 'Science Information and Innovation' Action Plan, which is approved by the Flemish government and is intended to reinforce social support for science, technology and innovation (also see p. 47).

Staff

At the end of 2007 VLIZ employed a total of 37 personnel members (29.27 FTE), comprising 16.95 permanent and 12.32 temporary employees. The number of scientific and administrative personnel amounted to 22.77 and 6.50 respectively.

In the course of 2007 the data centre underwent major personnel changes. Francisco (Tjess) Hernandez became the new manager of the data centre after Edward Vanden Berghe left VLIZ on 31/3/2007 to become executive director of OBIS at Rutgers University, USA. In the course of 2007 Bart Vanhoorne (1/6/2007) and Ward Appeltans (1/9/2007) joined the permanent staff. Pieter Deckers, scientific assistant at VLIZ since 2004, took on a new challenge at the Hydraulic Research Laboratory and Universiteit Gent after 31/3/2007. Robin Brackez, IT specialist and developer since 2005, left VLIZ at the end of December 2007 and now continues his career at a private company in Gent. In addition, quite a number of new temporary employees out short-, medium- and long-term assignments: Johan Mares (since 1/3/2007), Ellen Pape (1/3/2007 - 30/9/2007), Ruth Vandepitte (since 16/4/2007), Sherley Rosseel (since 15/7/2007), Heidi Debergh (since 3/9/2007), Nathalie De Hauwere (since 3/9/2007), Karl Van Ginderdeuren (1/10/2007 - 31/1/2008) and Nathalie Daems (since 1/12/2007).

Governor Breyne of West Flanders launches the name 'InnovOcean' for the site with a concentration of innovative marine research institutions in Oostende.



In the library we said goodbye to temporary employee Steven Cerpentier on 18/1/2007, who became the librarian of the Flanders Hydraulics Research in Borgerhout.

In the summer of 2007 no less than 17 student employees worked for VLIZ during a total of 16 months. In the past year 8 trainees and 3 thesis students were active at VLIZ.

Annelies Groen joined the staff of the UNESCO/IOC Project Office for IODE as administrative employee in March 2007. The Scheldt Information Centre-Flanders, located in the offices of VLIZ, also needed an additional administrative employee. This job was filled by Nathalie Wiels from 15/3/2007 to 30/06/2007 and has been filled by Melissa Proseć since 1/10/2007.

Recently relocated from Strasbourg to Oostende, the secretariat of the ESF Marine Board is supported by the Flemish government by means of an administrative FTE. In this respect Dina Eparkhina was added to the VLIZ payroll. She works for VLIZ since December 2007.



220m of marine research in the harbour of Oostende (left to right): the Flanders Marine Institute (VLIZ); the secretariat of the Flemish-Dutch cooperation Scheldt Information Centre-Flanders (SIC); the IOC Project Office for IODE (UNESCO); and the Provincial antenna for coastal affairs, housing the Coordination Centre for Integrated Coastal Zone Management (CC-ICZM); the secretariat of the Marine Board of the European Science Foundation (MB/ESF); the secretariat of the European Fisheries and Aquaculture Research Organisation (EFARO); the Foundation for sustainable Fishery Development (SDVO); the Marine Fishermen's Fund; and a division of the Federal Agency for the Safety of the Food Chain (FAAV).

Overview of VLIZ personnel at the end of December 2007



Jan Mees
VLIZ general manager

General operation, coordination and maintenance



Simon Claus
BeNCoRe coordination



Ingrid Dobbelaere
*administrative assistant -
contact and management
secretariat*



Nathalie Keersebilck
*administrative assistant -
projects*

Research infrastructure



André Cattrijsse
*research infrastructure
manager*

Figures & Policy



**Ann-Katrien
Lescauwat**
figures & policy manager



Dominique Milh
*administrative assistant
- reception and general sup-
port*



Chedi Minkailova
*VLIZ and UNESCO
maintenance*



Nora Roelandt
*administrative assistant
- financial and personnel
management*

Library



Jan Haspeslagh
librarian



Chilekwa Chisala
assistant librarian

Communication & Information



Jan Seys
*communication & informa-
tion manager*



Evy Copejans
educational assistant



Nancy Fockedey
*communication & informa-
tion assistant*

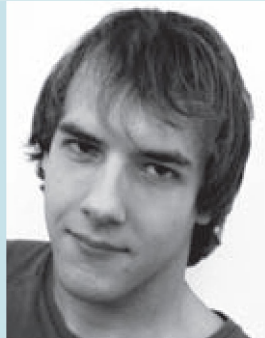
Data Centre



Francisco (Tjess) Hernandez
data centre manager, network manager, operational data and monitoring



Ward Appeltans
data centre project manager



Robin Brackez
IT specialist and developer (until 31/12/2007)



Nathalie De Hauwere
scientific assistant - OMES & Scheldemonitor (since 3/9/2007)



Heidi Debergh
scientific assistant (since 1/9/2007)



Klaas Deneudt
data centre project manager



Annelies Goffin
scientific assistant - OMES, INRAM, Westbanks & Quest4D



Johan Mares
IT specialist and developer (since 1/3/2007)



Sherley Rosseel
IT specialist and developer - IMIS (since 17/7/2007)



Roeland T'jampens
IT specialist and developer - IMIS



Karl Van Ginderdeuren
scientific assistant - exotic species (until 31/1/2008)



Leen Vandepitte
scientific assistant - MarBEF



Ruth Vandepitte
administrative assistant - information & data



An Vanhoorne
scientific assistant - Indicators (6/02/06 - 31/3/2007) and Scheldemonitor (since 1/4/2007)



Bart Vanhoorne
IT specialist and developer - MarBEF

Overview of VLIZ personnel at the end of December 2007

Marine Board - European Science Foundation



Dina Eparkhina
ESF/MB administrative assistant

UNESCO/IOC Project Office for IODE



Kristin de Lichtervelde
UNESCO/IOC administrative assistant



Annelies Groen
UNESCO/IOC administrative assistant

Scheldt Information Centre - Flanders



Bregje Beyst
SIC-Flanders manager



Melissa Prosec
SIC-Flanders project assistant



Wouter Rommens
UNESCO/IOC training course coordinator



Mark Van Crombrugge
UNESCO/IOC IT specialist and developer

Students, trainees and student employees active at VLIZ in 2007

Students

Mieke Eggermont	MareLac, UGent	M.Sc. thesis student (2005-2007)
Heidi Debergh	Environmental science and technology, Katholieke Universiteit Leuven	M.Sc. thesis student (2006-2007)
Fieke Hellenbrand	Coastal and Marine Management, Van Hall Institute (the Netherlands)	M.Sc. thesis student (2006-2007)

Trainees

Klaas Cornillie	Gent Library School	library trainee
Johan Mares	IBO	data centre trainee
Wim Garreyn	University College West Flanders Applied Information Technology	data centre trainee
Sherley Rosseel	University College West Flanders Applied Information Technology	data centre trainee
Annelies Groen	Flemish Service for Employment and Vocational Training	administrative trainee
Jasper Lanoote	Antwerp University College - B.Sc. Teacher Training	communication trainee
Michael Deboysere	Vesalius Institute, Oostende	facilities trainee
Kelley Carrez	Vesalius Institute, Oostende	facilities trainee

Student employees

Sylvie Braekevelt, Delphine Coates, Marian Coppieters, Heidi Debergh, Michael Deboysere, Carlos Eduardo Forero, Eline Haspeslagh, Manon Hernandez, Tom Jottier, Joke Lenoir, Bert Lietaert, Mathieu Serruys, Fien Van Coillie, Sarah Vanden Eede, Nathalie Verelst, Bart Vleminckx, Kristien Veys

Members

Individuals or groups can become a supporting member of VLIZ. Supporting members are kept informed about the activities of VLIZ. In addition, membership entitles members to price reductions for a number of services and products offered by VLIZ. At the end of 2007 the Flanders Marine Institute had a total of 238 members, including 167 individual members, 30 students, 35 institutional members and 6 honorary members.

Scientific awards

Within the context of its coordinating role VLIZ aims at encouraging marine and coastal scientific research, for example by granting awards for meritorious scientific studies. Since September 2000 VLIZ has granted one North Sea Award (1000 EUR) and two Marine Sciences Incentive Awards (2x 500 EUR) for theses every year.

Dr Eric Stienen won the **VLIZ North Sea Award 2006** for his Master thesis '*Living with gulls - Trading of food and predation in the sandwich tern *Sterna sandvicensis**'. The laureates for the **VLIZ Incentive Award 2006** were Katrien Broeckaert with '*Cryptic genetic diversity in the genus *Mesopodopsis* (Crustacea, Mysidacea)*' and Robby Caspeele with '*Generation of irregular long and short crested waves in a numerical model for wave propagation: implementation, validation and application*'.

For more than one third of all Flemish marine scientists cooperation with VLIZ is defined in 19 formal cooperation agreements.

The cooperation agreement with the Research Institute for Nature and Forest (INBO) was officially signed on 12 January 2007. Both institutes recognise each other as privileged partners in the field of information exchange and data management with regard to marine and coastal research.



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These awards were presented at the VLIZ Young Scientists' Day 2007 (2/3/2007). On the same day the **VLIZ Poster Awards** (value of € 125) were presented as well. Out of a total of 37 posters the professional jury selected the poster of Griet De Backer, Marc Vantorre and Julien De Rouck (*'Wave energy extraction in the North Sea by a heaving point absorber'*). The public chose the poster of Karen Bekaert, Stefan Hoffman and Koen Parmentier as the best (*'Fish diseases and parasites on the Belgian continental shelf'*).



Cooperation agreements and networks

Cooperation with national and international universities, research institutions and individual research groups is continuously enhanced by concluding cooperation agreements (see list below). VLIZ also participates in national and international networks and takes care of the image of Flemish marine and coastal research (see list below).

National cooperation agreements

In the course of 2007 VLIZ concluded 2 new national cooperation agreements with:

- the Research Institute for Nature and Forest (INBO) in the field of information exchange and data management with regard to marine and coastal research
- the Mangrove Management Group (MMG) at Vrije Universiteit Brussel in the field of data exchange with regard to mangroves

Combined with the 17 already existing agreements, this gives a total of 19 cooperation agreements. This number does not include the respective management agreements with the Department of Economy, Science and Innovation (2005-2009 and structural partner of the 'Science Information and Innovation' Action Plan) and the Province of West Flanders.

Overview of the **19 national cooperation agreements** concluded between VLIZ and institutional actors in the field of marine scientific research in Belgium and abroad (state of affairs at the end of 2007).

UNIVERSITIES

- Universiteit Gent, Department of Biology - biodiversity databases
 - Prof Dr M. Vincx - meiobenthos/macrobenthos/hyperbenthos/epibenthos
 - Prof Dr E. Coppejans - macroalgae
 - Prof Dr W. Vyverman - Protista
 - Prof Dr A. Vanreusel - meiobenthos of the deep sea and Antarctica
 - Prof Dr K. Sabbe - microphytobenthos
- Universiteit Hasselt,
 - Prof Dr E. Schockaert - biodiversity/taxonomic databases
- Katholieke Universiteit Leuven
 - Prof Dr J. Berlamont & Prof Dr J. Monbaliu - hydrodynamics and sediment mechanics databases
 - Prof Dr F. Ollevier & Prof Dr F. Volckaert - marine and estuarine biology databases
- Vrije Universiteit Brussel,
 - Prof Dr N. Koedam & Dr F. Dahdouh-Guebas - mangroves

FLEMISH AND NATIONAL RESEARCH INSTITUTIONS

- Flemish Heritage Institute (VIOE) - maritime archaeology and nautical heritage
- Institute for Agricultural and Fisheries Research, Animal Science Unit, Fisheries Research Area (ILVO - Fisheries)- monitoring data and fisheries biological data
- Research Institute for Nature and Forest (INBO)- information exchange and data management with regard to marine and coastal research
- The MUMM department of the RBINS - cooperation with regard to Zeeleeuw and Belgica

FLEMISH AUTHORITIES

- Waterways and Marine Affairs Administration (AWZ) - disclosure and exchange of scientific information and use of the measurement data of tidal systems
- Agency for Maritime & Coastal Services, Coastal Division- redistribution of data from Monitoring Network Flemish Banks
- Agency for Maritime & Coastal Services, Coastal Division - management of greenhouses for dune research in De Haan
- Agency for Maritime & Coastal Services, Coastal Division - organisation of Sluice Dock management committee
- Agency for Maritime and Coastal Services, Fleet Division - management of the Zeeleeuw research vessel
- Agency for Maritime and Coastal Services, Coastal Division, and Research Institute for Nature and Forest (INBO) - Monitoring of Flemish beaches

In addition, the management agreements between VLIZ and the financing authorities are also to be considered national cooperation agreements:

- Department of Economy, Science and Innovation (EWI) - 2005-2009 management agreement
- Province of West Flanders - 2005-2009 management agreement
- Department of Economy, Science and Innovation (EWI) - structural partner of the 'Science Information and Innovation' Action Plan for 2007-2009.

Networks, committees and expertise

VLIZ is active in numerous national and international networks (see textbox). VLIZ employees furthermore participate in various advisory and consultative committees.

Overview of **national and international networks** in which VLIZ was active (state of affairs at the end of 2007)

NATIONAL NETWORKS:

- VLIZ Scientific Committee
- presidency of the Executive Committee and Consultative Group of the Coordination Centre for Integrated Coastal Zone Management (CP-ICZM)
- secretariat of the Belgian Network for Coastal Research (BeNCoRe)
- member of the Platform for Science Communicators (SciCom)
- member of the Flanders Environmental Library Network (FELNET)
- member of the Flemish Association for Libraries, Archives and Documentation Centres (VVBAD)
- member of the Flemish Research Libraries Council (VOWB)

INTERNATIONAL NETWORKS:

- member of the IODE data centre network (UNESCO/IOC), host of the UNESCO/IOC Project Office for IODE
- member of the Partnership for Observation of the Global Oceans (POGO)
- member of the POGO News & Information Group
- representative of the Research Foundation - Flanders in the Marine Board of the European Science Foundation (ESF)
- member of the executive committee of the Marine Board
- member of the Marine Board Communications Network (MBCN)
- member of the European Centre for Information on Marine Science and Technology (EurOcean)
- representative of the Department of Economy, Science and Innovation in the KP6 ERA net project MarinERA
- member of the European Marine Research Stations Network (MARS)
- member of the European Research Vessel Organisation (ERVO)
- member of the European Federation of Marine Science and Technology Societies (EFMS)
- member of the European Association of Aquatic Sciences Libraries and Information Centres (EURASLIC)
- member of the International Association of Aquatic and Marine Sciences Libraries and Information Centres (IAMSLIC)
- national input centre of Aquatic Sciences and Fisheries Abstracts (AFSA) of the Food and Agriculture Organisation (FAO)
- member of the European Census of Marine Life (EuroCoML)
- member of the executive committee and data centre of the EU Network of Excellence 'Marine Biodiversity and Ecosystem Functioning' (MarBEF)
- member of the Society for the Management of European Biodiversity Data (SMEBD)
- member of the executive committee of the European Register of Marine Species (ERMS)
- member of the ICES 'Study Group on Biodiversity Science' (SGBIODIV)
- member of the steering committee of the World Register of Marine Species (WoRMS)
- partner of the Sea Data Network
- partner of the Global Sea Level Observing System (GLOSS) network
- coordinator of the European node (EurOBIS) of the Ocean Biogeographic Information System (OBIS) of the Census of Marine Life (CoML)
- host of the Scheldt Information Centre - Flanders (SIC)

Scientific Committee

The VLIZ Scientific Committee met four times in 2007: on 30 April, on 15 June (extensive committee meeting), on 19 October and on 21 December. Prof Colin Janssen succeeded Prof Patric Jacobs as chairman of the Scientific Committee and hence also as vice-chairman of the Board of Directors. This resulted in a vacancy on the Scientific Committee for a representative of Universiteit Gent. Prof Wim Vyverman was suggested, with Prof Koen Sabbe as his substitute. Eckhart Kuijken, Administrator General of the INBO, retired in the course of 2007. He was succeeded by Jurgen Tack. On 6 December 2007 we mourned the early loss of Dr Frank Redant, head of the Biology and Aquaculture section of ILVO - Fisheries and a member of the VLIZ Scientific Committee for many years. The composition of the committee (situation of 31/12/2007) is attached to this report (p. 108-109).

Like every other year an extensive committee meeting was organised in the VLIZ buildings on 15 June 2007. Apart from the members of the Scientific Committee this meeting was also open to all interested marine scientists.



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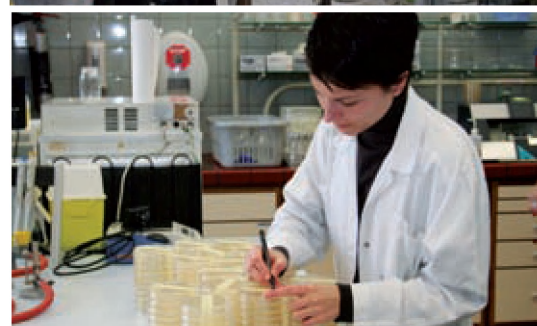
Patric Jacobs, until recently chairman of the VLIZ Scientific Committee, together with Minister Patricia Ceysens on board the Zeeleeuw research vessel on the occasion of the announcement of the construction of a new research vessel (see also p. 66).

VLIZ Tour of Flanders

In order to stimulate cooperation with research groups and authorities VLIZ decided to create a 'VLIZ Tour of Flanders'. The intention is to visit the marine groups with a VLIZ delegation every so many years. During these visits the delegation detects the expectations and needs of the research group or authority and checks what VLIZ can do for the group. The information databases and library files are updated as well.

In the course of 2007 we visited eight research groups and authorities. In this manner we established contacts with 211 full-time researchers. In addition, a number of exploratory visits were paid to commercial and non-commercial nature and environmental education initiatives at the coast in the course of January 2007 so as to examine cooperation possibilities.

Date	Name of research group / authority / organisation
8 January	National Sea Life Marine Park, Blankenberge - exploratory visit
9 January	Earth Explorer, Oostende - exploratory visit
10 January	Flemish Visitors and Nature Education Centre 'De Nachtegaal', De Panne - exploratory visit
12 January	Universiteit Gent Laboratory of Food Microbiology and Food Preservation
19 February	Flemish government Mobility and Public Works policy area Department of Mobility and Public Works Maritime Access, Antwerp
7 May	Ketnet, Brussels - exploratory visit
11 May	Vrije Universiteit Brussel Laboratory of General Botany and Nature Management (incl. Mangrove Management Group)
26 August	C-Power, Oostende - exploratory visit
17 September	Katholieke Universiteit Leuven Laboratory of Animal Diversity and Systematics Katholieke Universiteit Leuven Laboratory of Aquatic Ecology and Evolutionary Biology
29 November	Flemish government Agriculture and Fisheries policy area Institute for Agricultural and Fisheries Research Animal Science Unit Fisheries Research Area (ILVO - Fisheries), Oostende
17 December	Universiteit Gent - Laboratory of Phycology Universiteit Gent - Laboratory of Protistology and Aquatic Ecology





By signing the protocol on 12 September 2007 the Province of West Flanders, the Flemish government and VLIZ confirmed they will use the Coordination Centre for Integrated Coastal Zone Management as the main instrument to ensure good coastal management.

Protocol with Coordination Centre for Integrated Coastal Zone Management

The Province of West Flanders, the Flemish government and the Flanders Marine Institute all participate in the Coordination Centre for Integrated Coastal Zone Management (CC-ICZM). On 12 September 2007, Hildre Crevits, Flemish Minister of Public Works, Energy, the Environment and Nature, Kris Peters, Flemish Minister-President, Jan Durnez, member of the Executive Council of West Flanders and Paul Breyne, Governor of West Flanders and Chairman of the Flanders Marine Institute, signed a protocol for a declaration of principles with regard to the Coordination Centre for Integrated Coastal Zone Management.



With the signature of the protocol the Coordination Centre was upgraded from a project to a structural form of cooperation between the partners, who confirm that they will use the Coordination Centre as the main instrument to ensure good coastal management and subscribe to its objectives. In 2007 Jan Mees was the chairman of the executive committee and the administrative consultation committee of the Coordination Centre.

The Coordination Centre (www.kustbeheer.be) aims at local and international strategic issues, communication assignments and local actions with the support of the coastal municipalities. Its main target groups are authorities and sectoral organisations. They regard the Coordination Centre as the main point of contact regarding coastal matters: it provides them with all kinds of information and numerical data and assumes a coordinating role in complex situations at their request. In addition, the Coordination Centre can organise consultation forums or be used for communication and sensitisation assignments. As long as it concerns the coast.

Partnership for Observation of the Global Oceans - POGO



In 2007 VLIZ joined the prestigious Partnership for Observation of the Global Oceans (POGO). This international forum was established in 1999 by the managers of major international oceanographic institutions (e.g. Woodhole Oceanographic Institution, NOAA, Scripps, Saphos, NIOZ and IFREMER). It aims at promoting and implementing a global ocean observation system. VLIZ is also part of the POGO News & Information Group and assists in planning its communication strategy. Jan Mees and Jan Seys attended the annual meeting of the partnership from 17 to 19 January 2007 in Qingdao, China. Read more? www.ocean-partners.org

Marine Board - European Science Foundation

The Marine Board of the European Science Foundation (MB/ESF) is the leading multidisciplinary European marine sciences forum. Established in 1995, the Marine Board works to promote and coordinate science strategy and policy matters amongst the main marine research institutes and funding agencies in Europe.

The Marine Board is classified within ESF as an expert committee that draws up strategic documents in preparation of the European policy (e.g. Navigating the Future III). In addition, a number of working groups consisting of European experts publish position papers on various current marine topics (e.g. Remote sensing of shelf sea ecosystems and Investigating life in extreme environments).

The ESF Marine Board has 29 recognised members from 23 countries. The current chairman is Lars Horn from Norway. Belgium is represented within the Marine Board by the Research Foundation Flanders and the Foundation for Scientific Research of the French Community. The Research Foundation Flanders is represented by Jan Mees. Since May 2006 he has been the Vice-Chairman of the Executive Board. VLIZ is also active in the Marine Board Communications Network.

The secretariat of the organisation recently moved to Oostende. The Flemish government supports the office (accommodation and one administrative officer). The secretariat is led by Dr Niamh Connolly. It employs three science officers (Maud Evrard, Aurélien Carbonnière and Jan-Bart Calewaert) and one administrator (Dina Eparkhina).

Further information on the Marine Board can be found on its website www.esf.org/marineboard.

Who in Oostende?



Niamh Connolly
executive scientific secretary



Maud Evrard
science officer



Dina Eparkhina
administrator



Aurélien Carbonnière
science officer



Jan-Bart Calewaert
science officer



Projects

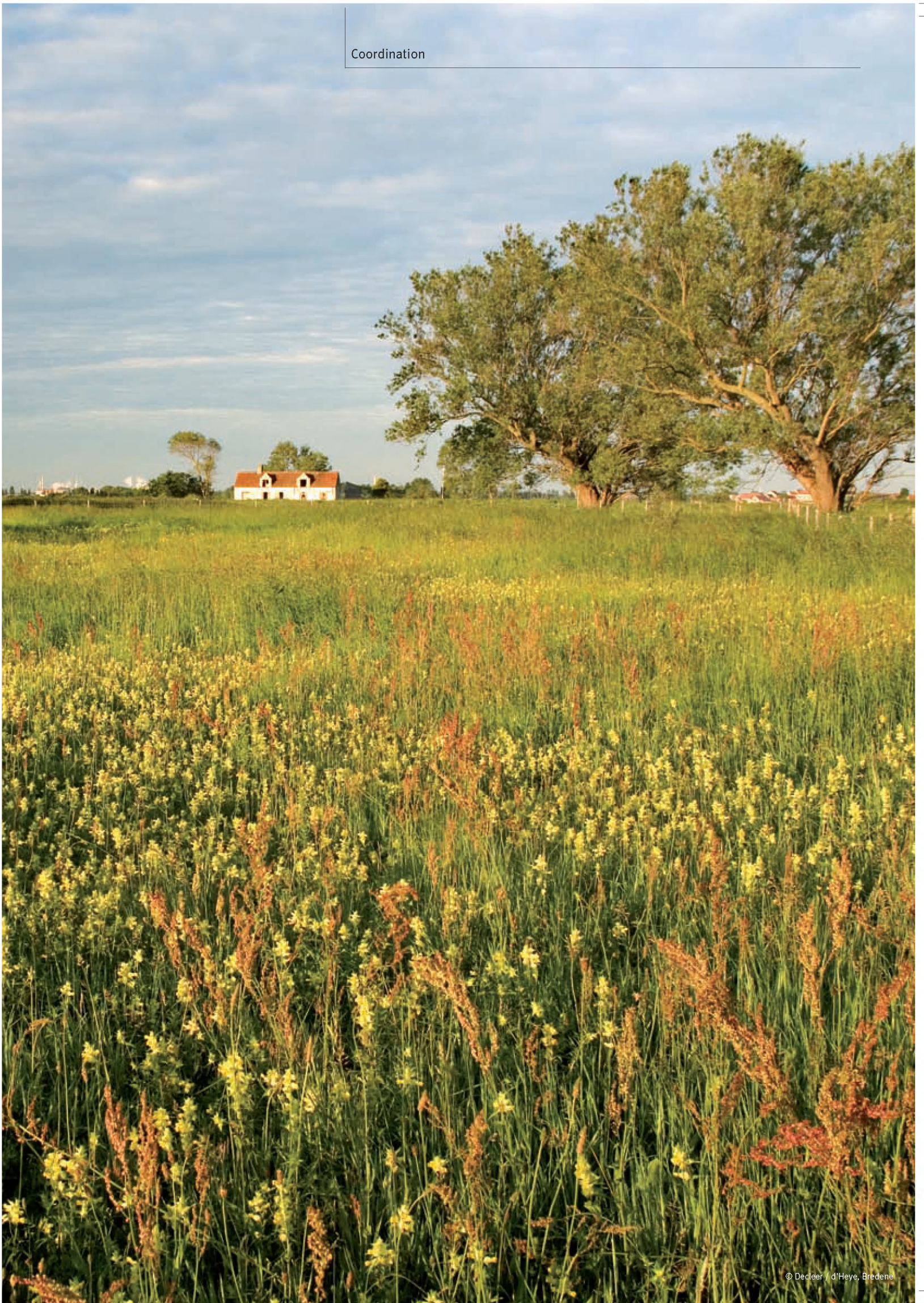
In 2007 VLIZ received external funding for coordination, communication and/or data management in 29 projects (9 projects ended in 2007, 7 started in 2007 and 13 continued in 2007). Of these projects, 21 were carried out in cooperation with research groups.

Support of UNESCO/IOC Project Office for IODE

In 2007 the UNESCO/IOC Project Office for IODE received a subsidy of € 576,000 from the Department of Economy, Science and Innovation of the Flemish government through VLIZ for the accommodation and coordination of the project office (personnel and operation) and the organisation of information and data management training courses. This assignment is described in a first addendum to the management agreement of VLIZ. The activities of the office are discussed in more detail below (see 'UNESCO/IOC Project Office for IODE' below). Additional external means (€ 114,106 in 2007) are used for the organisation of international training courses on the basis of contracts between UNESCO and VLIZ.

VLIZ also supports the UNESCO office by employing VLIZ staff members as teachers of these data and information management courses and for general ICT support.

25/1/07	VLIZ IMIS training	information management	Jan Haspeslagh Roeland T'Jampens
12-17/2/07	SeaDataNet Data Management Training	data management	Klaas Deneudt Johan Mares
19-23/3/07	IODE/MarBEF Biodiversity Data Management Course	biological data management	Edward Vanden Berghe
7-9/5/07	Regional e-repositories - MIM training course for Ukrainian and Russian Aquatic Librarians	information management	Jan Haspeslagh
4-5/6/07	SeaDataNet training	data management	Francisco Hernandez Roeland T'Jampens
4-9/6/07	Young scientists Data Management Training	oceanological data management	Francisco Hernandez André Cattrijsse
4-15/6/07	ODINAFRICA Marine Biodiversity	biological data management	Leen Vandepitte Ward Appeltans
various	various	ICT support	Bart Vanhoorne Roeland T'Jampens Robin Brackez Sherley Rosseel



Info



Infodesk



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Read more?
www.vliz.be/EN/Infodesk

- ❑ ORGANISATION OF EVENTS
- ❑ PUBLICATIONS
- ❑ INFODESK
- ❑ WEBSITE
- ❑ EDUCATION
- ❑ SCIENCE COMMUNICATION

***Marine Board
position paper on
climate change
in European seas
launched at the VLIZ
Young Scientists'
Day 2007.***

In the presence of numerous young Flemish scientists the VLIZ Young Scientists' Day 2007 on 2 March 2007 was the setting of the official launch of the position paper on climate change impacts on the European marine and coastal environment. Katja Philippart (Royal Netherlands Institute for Sea Research), chairwoman of the Marine Board Working Group of Experts, presents a copy to Koen Verlaeckaert, principal private secretary of the Flemish minister of Economy, Science and Innovation.



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Organisation of workshops, symposia and other events

In 2007 VLIZ organised or co-organised 12 events related to marine or coastal research. VLIZ assisted in the organisation of 4 international meetings/workshops, 1 international symposium and 7 local events (workshops, prize distribution, official signature of cooperation agreement and book presentations). A total number of 852 people attended these events.

Overview of events (co)organised by VLIZ in 2007



12 January 2007 *

Formal signature of the VLIZ-INBO cooperation agreement

VLIZ, Oostende (27 participants)

in cooperation with INBO

The Research Institute for Nature and Forest (INBO) and VLIZ become partners for information exchange and data management with regard to marine and coastal research



9-10 February 2007 *

Symposium: The North Sea from a geographical perspective

Provinciaal Hof, Brugge (250 participants)

in cooperation with Geography Teachers' Association (VLA), CC-ICZM, Province of West Flanders

250 geography teachers and students follow workshops on the sea & the coast for two days and visit the North Sea market

see also: www.vliz.be/nl/infoloket/Noordzeesymposium



2 March 2007 *

VLIZ Young Scientists' Day 2007

Provinciehuis Boeverbos, Brugge (183 participants)

Annual marine meeting for mainly 'young' (predoctoral) researchers from the North Sea region

see also: www.vliz.be/NL/Home&id=169



26 April 2007 *

First BeNCoRe Conference: State of the Art and Future of Belgian Coastal Research

Provinciehuis, Leuven (74 participants)

in cooperation with BeNCoRe, ENCORA

Belgian coastal researchers meet

see also: www.bencore.be/index.php?contentid=36&mid=15



2-3 May 2007 *

Ocean Ukraine Kick-Off Meeting

Oostende, VLIZ (8 participants)

in cooperation with IBSS (Ukraine), MHI (Ukraine)

Strengthening the oceanographic data management and operational forecast services at IBSS and MHI, Ukraine



7-8 May 2007 *

Ecosystem-based Stock Enhancement Workshop

Provinciaal Hof, Brugge (31 participants)

in cooperation with Department of Economy, Science and Innovation, UGent - Laboratory of Aquaculture and Artemia Reference Centre, UGent - ASEM Aquaculture Platform, ILVO

International experts develop vision on releasing fish to replenish natural fish stocks

see also: www.vliz.be/EN/INTRO/restocking



9-11 May *

ICES Study Group on Biodiversity Science workshop (SGBIODIV)

VLIZ, Oostende (11 participants)

in cooperation with ICES

First meeting of ICES Study Group experts; assessment of state of the art of European biodiversity research



19-20 June *

ERVO Workshop

VLIZ, Oostende (30 participants)

in cooperation with MUMM

European research vessel operators and managers exchange experiences in Oostende



13 September 2007 *

Roundtable discussion: 'Prospects and limitations of aquaculture at the Belgian coast'

VLIZ, Oostende (59 participants)

in cooperation with UGent - Laboratory of Aquaculture and Artemia Reference Centre, ILVO

Panel discussion on developments, future and opportunities of aquaculture at the Belgian coast

see also: www.vliz.be/NL/home/RondetafelAquacultuur



1-3 October 2007

Sea Alarm Conference

Thermae Palace, Oostende (94 participants)

in cooperation with Sea Alarm, MUMM, Oostende Bird Rehabilitation Centre (VOC)

Conference with international experts on how to react, plan and cooperate in case of disasters with oil victims

12 October 2007 *

Workshop in preparation of congress on water system knowledge

Provinciaal Hof, Brugge (40 participants)

in cooperation with Universiteit Antwerpen

Workshop in preparation of congress intended to stimulate water research in Flanders and scientifically sound water policy



© SIC-Kattenwinkel

10 December 2007 *

Press conference on new research vessel 'Simon Stevin'

VLIZ, Oostende (45 participants)

in cooperation with Fleet Division

Attended by Kris Peeters, Minister-President of the Flemish government, and Patricia Ceysens, Flemish Minister for Economy, Science, Innovation and Foreign Trade



© VLIZ - Bal Gehakt

* VLIZ as principal organiser

Scale model of the banks off the Flemish coast: eye-catcher at public events.



© VLIZ - Vandepitte

On the final day of the Year of the Dolphin the scale model brought many people to the VLIZ stand (HRH Prince Laurent - 4 November 2007 - Nieuwpoort)

Participation in public events

VLIZ participates in numerous public events every year (see table). In addition, VLIZ employees give several presentations on the sea and/or the activities of VLIZ.

In 2007 VLIZ bought a special piece of furniture that serves as an eye-catcher at such events. It is a 3D-model of the Southern Basin of the North Sea with special attention to the sand bank system off the Belgian coast. Also, a paper bag imprinted with the VLIZ logo and a frisbee - "vlizbee" - were designed as gadgets for public events.

Overzicht van deelname aan publieksevenementen

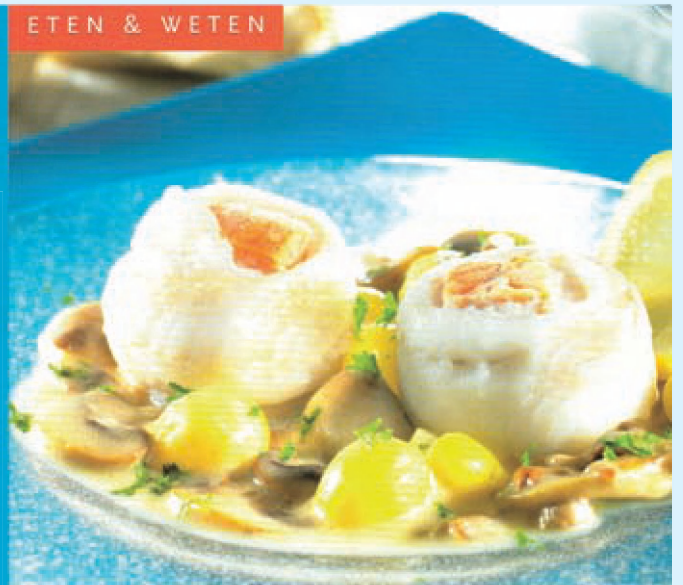
Date		Target group
21 March	Experiential fair 'Week van de Zee' (Week of the Sea) <i>Horizon Educatief, Oostende</i>	Teachers
31 March	Lenteprikkel - beach cleaning event <i>Coordination Centre for Integrated Coastal Zone Management, in all coastal municipalities</i>	Public at large
22 April	Vlaanderendag - Zeeleeuw Open House <i>Post Foxtrot, Oostende</i>	Public at large
7-9 May	Round trips with Zeeleeuw	Primary education
21-22 May	<i>Week of the Sea, Nature and Environmental Education department (NME) of the Province of West Flanders</i>	
25-28 May	Oostende at Anchor <i>Oostende</i>	Public at large
24 June	Fisheries Day <i>Zeebrugge</i>	Public at large
19 October	Workshop Sandbank in the Bay of Heist <i>Scharpoord, Knokke-Heist</i>	Stakeholders
4 November	Closing festivities of the Year of the Dolphin <i>Natuurpunt, Nieuwpoort</i>	Public at large
17 November	13th Flemish Congress for Science Teachers <i>VELEWE, Leuven</i>	Science teachers (600)
etc	additional speeches for target groups by VLIZ employees	Public at large, teachers, NME...

Fish, crustacean and shellfish cookbook with a touch of science.

Vis schaal- en schelpdieren

Info over alle vissoorten
bij Colruyt
105 heerlijke recepten

ETEN & WETEN



Met kook-dvd: basisbereidingen, vissausen
en culinaire tips



The cookbook 'Eten en weten - vis, schaal- en schelpdieren' was compiled by super-market chain Colruyt with the assistance of VLIZ. The recipes are complemented with scientific information on the habitat and catch area, biological features and other tidbits of information on the species used.

Publications

Three issues of 'De Grote Rede' were published in 2007, comprising a total of 96 pages, 9 leading articles, 15 short features, 15 short articles and 6 marine terms. We reached a total of 3585 subscribers.

Eight issues of the digital newsletter 'VLIZINE' (with a total of 171 articles) were sent to 1155 e-mail addresses in 2007.

In addition, three Special Publications (with a total of 337 pages), four reports, seven brochures and various other materials were published in 2007. VLIZ also contributed actively to four co-publications and six other publications, seven of which were intended for the public at large (refer to list for complete overview).

The number of subscribers to the journal 'De Grote Rede' increases with every issue. In 2007 we welcomed 693 new subscribers. The number of subscribers has increased by 1,392 since the 2004-2009 management agreement took effect (*: the first issue was sent to 1639 addresses with an invitation to subscribe).



Overview of non-regular VLIZ publications in 2007

VLIZ Special publications (ISSN 1377-0950)



No. 37: Vanden Berghe E. et al. (Eds) - 2007

Proceedings of 'Ocean Biodiversity Informatics': an international conference on marine biodiversity data management. Hamburg, Germany (29 Nov - 1 Dec 2004). IOC Workshop Report, 202, VLIZ Special Publication, 37. Flanders Marine Institute, Oostende, Belgium. 192pp



No. 38: Herrier J.-L. et al. (Eds) - 2007

Recommendations resulting from the workshop discussions 'Dunes and Estuaries 2005': International Conference on Nature Restoration Practices in European Coastal Habitats, Koksijde, Belgium, 19-23 September, 2005. VLIZ Special Publication 38. Flanders Marine Institute, Oostende, Belgium. 63pp



No. 39: Mees J. & Seys J. - 2007

VLIZ Young Scientists' Day, Brugge, Belgium 2 March 2007: book of abstracts. VLIZ Special Publication 39. Flanders Marine Institute, Oostende, Belgium. 82pp

Various publications - Reports



Mees J. et al. (Eds) - 2007

VLIZ Jaarboek 2006 - voor al wie gefascineerd is door de zee en de kust. Flanders Marine Institute (VLIZ), Oostende, Belgium 128pp
ISBN 978-90-810081-9-8



Cattrijsse A. - 2007

Zeeleeuw Annual Report 2006. Flanders Marine Institute (VLIZ), Oostende, Belgium. 26pp



Deneudt K. et al. - 2007.

Vooronderzoek databeheer NIOO-CEME. Flanders Marine Institute (VLIZ): Oostende, Belgium. 17pp



Termote T. & Cattrijsse, A. (2006).

Raising the Belgica: a report on the visit to Norway by the Belgica Society 19th-23rd August 2006. [S.n.]: [S.l.]. 38pp.

VLIZ Co-publications



DEDUCE Newsletter
No. 3 (February 2007)



Martí X. et al. (Eds) - 2007
Indicators guidelines to adopt an indicators-based approach to evaluate coastal sustainable development. Department of the Environment and Housing, Government of Catalonia: Barcelona, Spain. 97pp.



Belpaeme K. - 2007.
Coordination Centre for Integrated Coastal Zone Management: 2004-2007 activity report. Coordination Centre for Integrated Coastal Zone Management: Oostende, Belgium. 71pp.



Breyne P. et al. - 2007
'West Flanders, driven by the sea': Speech given by Paul Breyne, Governor of West Flanders, during the Provincial Council of 2 October 2007. Province of West Flanders: Brugge, Belgium. 77pp.

VLIZ contributions to publications for the public at large



Colruyt - 2007
Cookbook: 'Eten & weten: vis, schaal- en schelpdieren'. Luc Rogge, Halle. 176pp. + DVD



MIRA-T 2007 background document



Scheldekrant 5



Supplement to **De Zondag**
(4 March 2007)



'Planet Ocean' in **Klasse voor Leraren**
(No. 176 - June 2007)



Lagrou P. - 2007
Worden dolfijnen verliefd?
Het antwoord op 101 vragen van kinderen over dolfijnen! Clavis: Hasselt, Belgium. ISBN 978-90-448-0831-5. 42pp.

Leaflets and other materials

- 2007 Calendar - photographs of the Flemish coast
- 2007 tide book
- 'Planet Ocean' flyer and A3 poster
- Leaflet on first BeNCoRe Conference
- Poster 'A Future for fisheries - toward effective strategies for sustainability'
- Leaflet on the Week of the Sea 2007
- Leaflet on De Goede visdag 2007
- InnovOcean Christmas card

Infodesk 'Our Coast'

Every year the VLIZ infodesk receives numerous requests for information, documents, contact information of persons involved in marine scientific research etc. A large part of the questions asked and their respective answers are registered and kept on file. In 2007 the VLIZ infodesk answered and registered a total of 209 questions, 28 of which from the press.

The most interesting questions and answers are subsequently stored in the 'Our Coast' module of the VLIZ website, so that they can be consulted by the public at large. At the end of 2007 a total of 593 questions and answers could be found online (503 in Dutch and 90 in English). In the past year little attention was paid to adding new questions, but instead VLIZ spent considerable time and energy on producing 1,500 sea stats and drawing up data sheets for the public at large on non-native species in the Belgian part of the North Sea and adjacent estuaries (also refer to the Figures & Policy section).

Educational activities

Expeditie Zeeleeuw 2007

Within the scope of the project 'Expeditie Zeeleeuw' youngsters aged 17-18 from all across Flanders were invited to come up with creative solutions for ten sea-related problems with the assistance of a network of marine scientists. This educational e-learning project for youngsters in the third cycle of general, technical or professional secondary education was an initiative of the Flanders Marine Institute (VLIZ) in cooperation with SHE Consultancy and Fleet Division of the Agency for Maritime and Coastal Services. The project fell within the scope of the 'Science Information and Innovation' Action Plan of the Flemish government, intended to stimulate youngsters in the third cycle of secondary education to opt for a programme that involves scientific research and innovative technology. In 2007 the project ran for the third and final time.

66 Flemish classes signed up for the new e-learning project 'Planeet Zee'.

In 2007 great efforts were made to get the new e-learning project online. VLIZ could count on the considerable contribution from many Flemish marine scientists for the development of educational modules on 21 marine problems.

The grade 5 Science class of the Pius X College in Tessenderlo won the first prize. The students were able to experience how research is done at the North Sea on board the 'Zeeleeuw' research vessel for a duration of one week (16-20 April). The Broers Bank was 'occupied' by the students at extreme low tide. On Friday 20 April the expedition members received a festive welcome in Oostende and were given the opportunity to demonstrate their findings both verbally and visually to the assembled press.

New educational research project: PLANEET ZEE

A new e-learning project was approved within the framework of the 'Science Information and Innovation' Action Plan of the Flemish government. Creation of the interdisciplinary project and the interactive website started in the course of 2007. It is a virtual journey along coastal areas, shallow seas and across the open ocean which will confront youngsters with specific sea-related problems. The main themes (biodiversity, living and non-living resources, climate-ocean interactions, sea and society, physical environment, ports and shipping) are based on the very best current ocean research.

This rich source of information is presented in 21 separate learning modules, each consisting of a theoretical and practical part, by means of an attractive website. The diverse functional assignments are perfectly attuned to the subject-specific objectives of science courses and the General Subjects Course as well as to the cross-course final attainment levels of the 4th, 5th and 6th year of general, professional and technical secondary education.

'Planeet Zee' is an initiative of the Flanders Marine Institute (VLIZ) in cooperation with SHE Consultancy, Studio Bal Gehakt and Fleet Division of the Flemish government.

More attention to the sea and the coast in education!

In 2007 VLIZ became a structural partner of the Flemish government in the field of science communication to schools. On 9 and 10 February 2007 some 250 geography teachers and students were able to sample the educational possibilities of the sea and the coast at the symposium 'The North Sea from a geographical perspective'.



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Structural partner within the framework of the 'Science Information and Innovation' Action Plan

Since 1 January 2007 VLIZ has also been a structural partner of the 'Science Information and Innovation' Action Plan. It receives an additional subsidy from the Department of Economy, Science and Innovation (EWI) of the Flemish government for organising **science popularisation activities** in the field of marine scientific research specifically aimed at schools. These activities fall within the scope of the annual 'Science Information and Innovation' Action Plan, which is approved by the Flemish government and is intended to reinforce social support for science, technology and innovation.

In this respect VLIZ has established as its main objectives

- (1) to inform youngsters and teachers throughout Flanders on and sensitise them to coastal and marine sciences, technique and technological innovation;
- (2) to inform school-going youngsters on and encourage them to opt for a scientific or technological programme, more in particular in the marine and maritime field;
- (3) to support teachers and other educational associations or institutions in the marine and maritime field in the performance of their tasks and activities; and
- (4) to serve as a central point of contact for coastal and marine sciences.

The educational tasks generally consist of developing digital teaching packages and other teaching materials relating to the sea and the coast, maintaining the educational component of the VLIZ website, producing short films, creating a picture gallery, providing samples, developing a marine newspaper, designing a series of posters and contributing to the science week and the science celebration day. Initiatives towards teachers and cooperation with other educational organisations constitute an essential component of this assignment. These activities have to enable VLIZ to optimise support to schools.

Picture gallery

Teachers as well as pupils, students and researchers often need pictures of the sea and the coast and of the activities taking place over there. VLIZ wants to make this photo material available on its website for non-commercial use (e.g. in lessons, papers, powerpoints and reports). At the end of 2007 the photo gallery 'Our Coast' contained 1,060 pictures. The website also features a photo gallery where the VLIZ activities are shown: workshops, conferences, open house days etc. At the end of 2007 the latter picture gallery contained 499 pictures.

Short films

Various marine and coast-related subjects are dealt with in short documentaries of 6-8 minutes that can be watched at any given time and be accessed and downloaded from the website. The short films were developed in cooperation with various Flemish research groups, authorities and companies. In 2007 twelve new films were produced and made available online: Alternative trawl, Bird Rescue, Broers bank, Fish freshness, Fisheries, Lenteprikkel, Natural beach waste, Natural gas, Nautical maps, Traffic at sea, Unnatural beach waste and Expeditie Zeeleeuw. A total of 20 VLIZ productions are now available online.

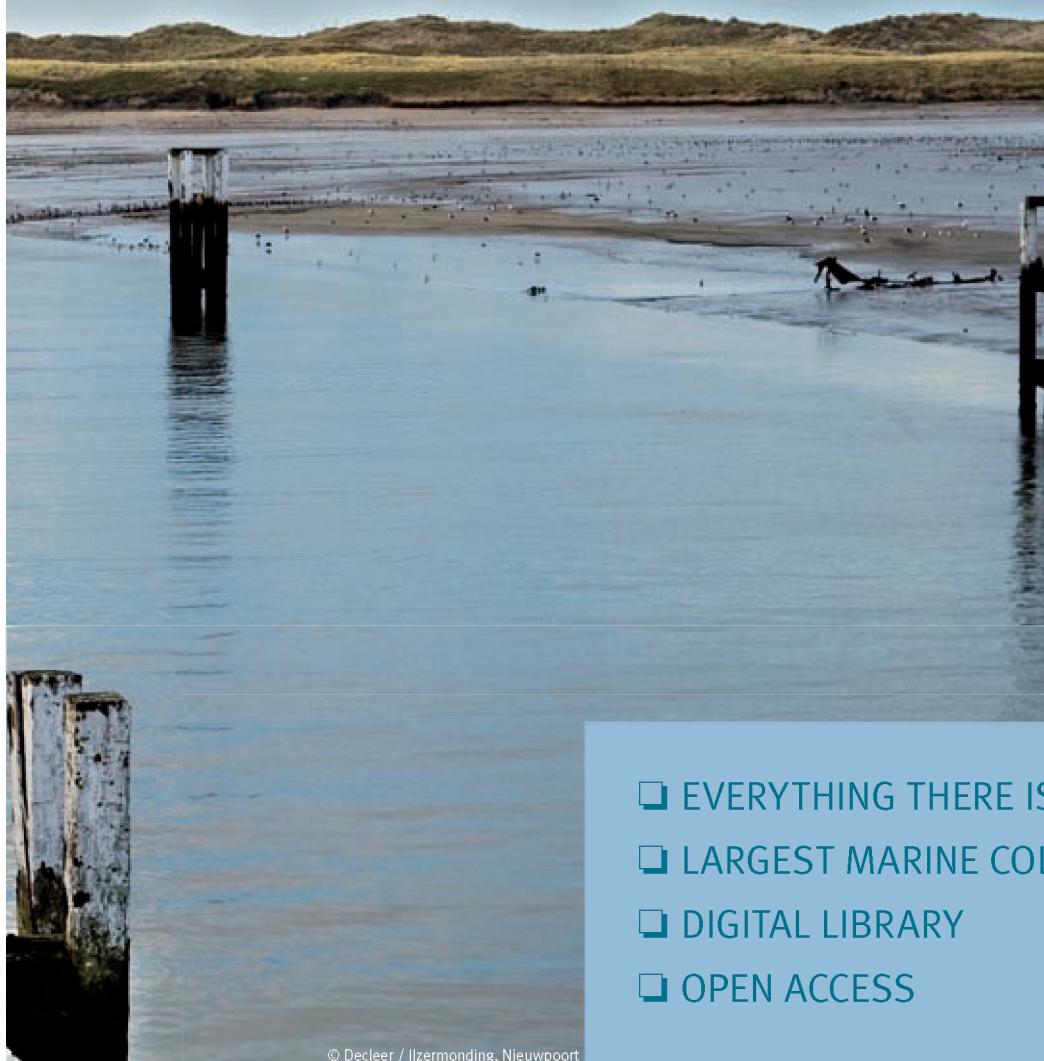
Digital teaching packages

In 2007 a total of eight digital teaching packages were developed by VLIZ. Each package contains a clear PowerPoint presentation, an information package for the teacher with additional information on the subject and how the package fits in with the learning objectives and activity sheets for the students (incl. learning objectives reached). The teaching packages were compiled on the basis of a thorough analysis of the geography curriculum. At the end of 2007 a total of 24 packages were available online through the VLIZ website.

Marine L



Marine Library



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Read more?
www.vliz.be/EN/Marine_Library

- ❑ EVERYTHING THERE IS TO KNOW ABOUT THE SEA
- ❑ LARGEST MARINE COLLECTION
- ❑ DIGITAL LIBRARY
- ❑ OPEN ACCESS

Almost 100,000 publications available online through the VLIZ library.

At the end of 2007 a total of 97,795 publications on the sea and the coast were available through the Marine Library.



Publications available through the Marine Library

The VLIZ Marine Library manages the most extensive collection of marine scientific literature in Belgium. The core of the collection consists of documents and multimedia materials on the Southern Bight of the North Sea, the Belgian coastal area, the Flemish dune and polder belt and tidal rivers and estuaries. Additional materials that are also welcome are all publications by Flemish and Belgian marine scientists, even if their research concerns foreign marine areas, and all foreign publications on the above marine areas. The collection is complemented with all relevant international literature and multimedia materials supporting Flemish marine research. In addition, special attention is paid to the development of a collection of general books on the marine environment destined for the general public.

In 2007 the number of publications in the IMIS literature module increased by 10,839 to a total of 110,631 publications, 22,626 of which are currently part of the Belgian Marine Bibliography, the leading reference list of all publications on the Flemish coast and all other marine literature written by Belgian authors and scientists. 8,823 publications dealt with (an aspect of) the Southern Bight of the North Sea while 13,839 titles were written by (a) Belgian author(s). The collection of Belgian marine theses currently comprises 1,076 titles. Of the over 110,000 references described in the IMIS literature module, 88% (97,795) are physically present in the Marine Library; as for the remaining 12%, we know in which other libraries the title is available. The number of references increased by 10,449 titles over the course of 2007.

Offering information on the current Flemish marine research is one of the major objectives of the VLIZ Marine Library. In 2007 we added 626 publications written by Belgian authors and published in 2007 to the collection. This goes to show that marine and coastal research in Belgium is clearly alive!

Special attention is also paid to the acquisition of older, historical literature. The completion of the historical Belgian Marine Bibliography resulted in 2007 in the acquisition of 25 publications by Belgian authors from the 1900-1950 period. In addition, a total of 110 titles published prior to 1900 were bought or donated. Of these titles, 31 were written by Belgian authors. The large Belgian literature collections are gradually disclosed (Royal Library, State Archives, Museum of Natural Sciences, Fonds Quetelet), which will certainly result in even more additions and 'discoveries' of 'new' historical marine publications in the future.

Service

The VLIZ Marine Library attempts to collect and make accessible as many publications as possible in the above field. For this reason the library always considers it a challenge to dig up requested sources that are not easily traceable and to acquire these sources for the collection. Out of 683 requests (590 from members, 93 from external persons), 655 references (96%) could be supplied; 424 (65%) from the Library's own collection, 231 from external sources (mainly via networks such as Euraslic and Iamslic (free of charge), Antilope/Impala and Subito - Germany (at a charge)).

The digital 'OMA' archive (Open Marine Archive) enables internet users to read and download full articles by Flemish marine scientists completely legally and free of charge. It concerns peer-reviewed articles, pre-print versions, articles from local magazines, press cuttings, scientific posters, reports, congress reports, theses, pictures, videos etc. The aim of the OMA is to completely, immediately and permanently make available both published and unpublished research results of Flemish/Belgian marine scientists and thus to optimally promote the visibility, distribution and use of these results as well as the scientific communication.

Flemish marine scientific output visible worldwide through the Open Marine Archive (OMA).

At the end of 2007 the VLIZ Open Marine Archive (OMA) offered 2,800 Flemish marine scientific publications online. This archive can also be browsed through Google Scholar and various marine and aquatic search engines (AVANO, OAlster, Aquatic Commons).



The OMA collection increased to 2,800 titles in 2007. These titles are frequently consulted by Marine Library users through the OMA website. 10,598 downloads were recorded in 2007.

The OMA was adjusted technically so that it is OAI compliant, which means that it meets the requirements of the OAI-PMH protocol (Open Archives Initiative - Metadata Harvesting Protocol). This protocol was especially developed to enable OAI search engines (the 'harvesters', such as Avano, Google Scholar, OAIster and the Aquatic Commons) to directly search open archives and to present the user with a standard search result. This makes the entire search procedure extremely short and efficient: you enter a marine keyword, you immediately get a list of freely available documents and with a single click you see the entire text of the publication on your screen. The Avano harvester was especially developed by IFREMER for marine publications. It searches over 200 open archives worldwide with purely marine terms, taxa and geographical keywords. With over 2,800 searchable titles, the OMA is in the top 10 of this group of marine open archives.

VLIZ librarian becomes president of the International Association of Aquatic and Marine Libraries and Information Centers (IAMSLIC).

Jan Haspeslagh was elected president of the International Association of Aquatic and Marine Science Libraries and Information Centers (IAMSLIC) in 2007, which enables him to promote new forms of international cooperation.



Cooperation within projects and networks

The Marine Library is active in various fields, contributes to projects and joins various regional, national and international networks. The library is a member of the European (EURASLIC) and international (IAMSLIC) associations of marine libraries and cooperates with the IOC (Intergovernmental Oceanographic Commission) of UNESCO. It is also the Belgian input centre for all Belgian marine publications in the ASFA (Aquatic Science and Fisheries Abstracts) database of FAO. In Belgium the VLIZ library supports the Felnet project (Flanders Environmental Libraries Network) and is a member of the Flemish Association for Libraries, Archives and Documentation Centres (VVBAD) and of the Flemish Research Libraries Council (VOWB).

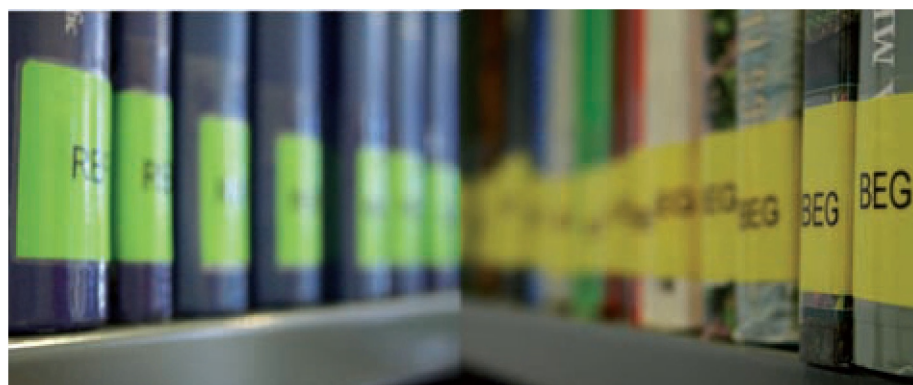
IAMSLIC presidency

At the annual international congress of marine librarians - Sarasota, Florida, in October 2007 - VLIZ librarian Jan Haspeslagh was elected president of the International Association of Aquatic and Marine Science Libraries and Information Centers (IAMSLIC). IAMSLIC aims at supporting the marine information network throughout the world, at offering expertise to librarians and at assisting them in serving the needs of library users in an optimal manner. The VLIZ library has played a crucial role in this field for many years and wants to use the IAMSLIC presidency to help set the policy for the coming years.

One of the main tasks of this Presidency is the organisation of the annual IAMSLIC meeting in Oostende in 2009. This will be an extremely interesting event as the European library association EURASLIC will organise its congress at the same time at the VLIZ site.

The IAMSLIC president is also responsible for attracting international projects for better marine information management. The association aims for far-reaching forms of cooperation, in particular with the IOC, on:

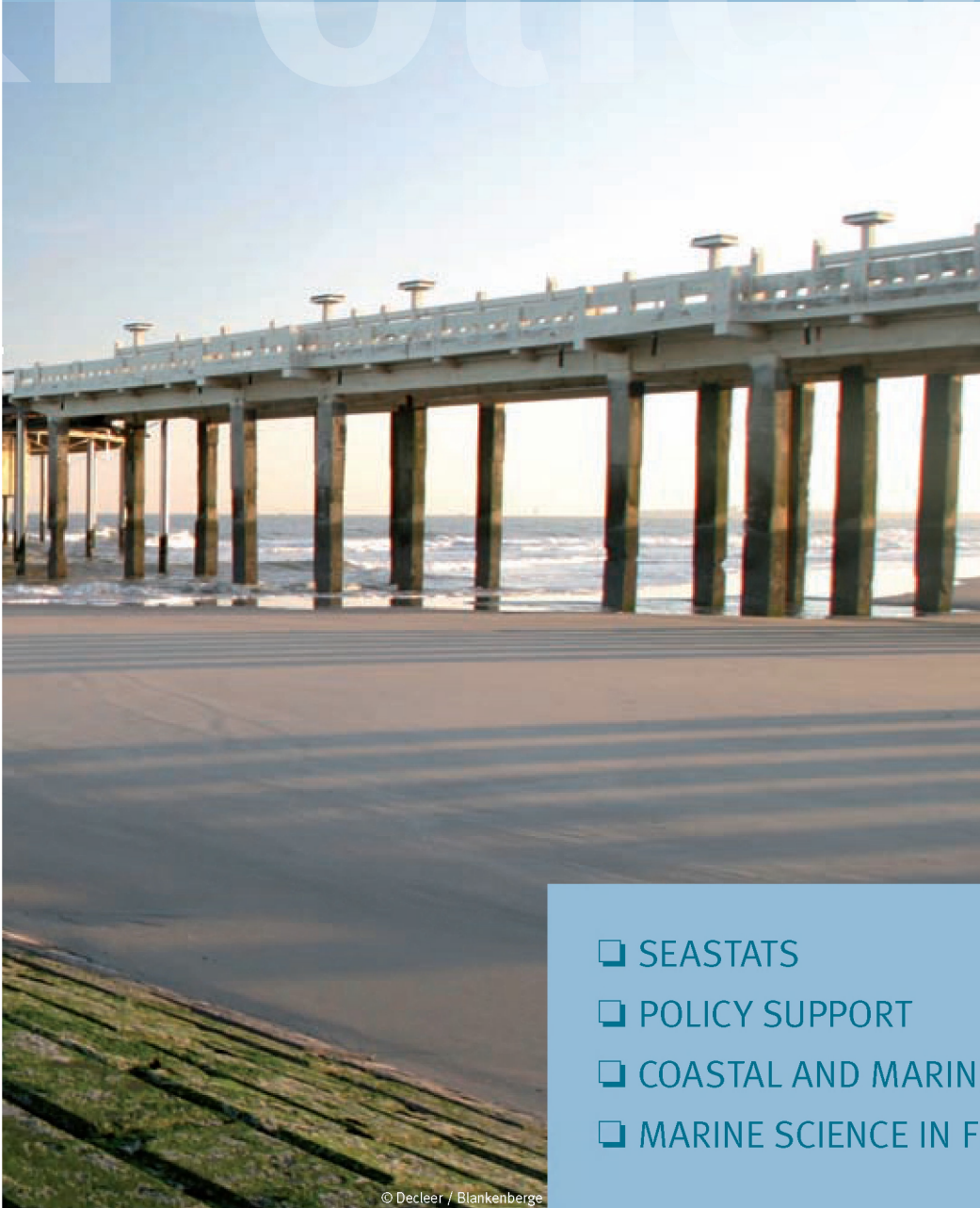
- Further development of open digital literature archives (such as the IOC initiative OceanDocs and the Aquatic Commons of IAMSLIC).
- Elaboration and support of local networks of marine information managers and libraries; the so-called ODIN networks of IODE. At this moment such platforms already exist in Africa, Central America, Eastern Europe, the Indian Ocean region and the Pacific.
- Support of specialised training activities on marine information management.



Figures &



Figures & Policy



© Decler / Blankenberge

Read more?
www.vliz.be/EN/SeaStats

- ❑ SEASTATS
- ❑ POLICY SUPPORT
- ❑ COASTAL AND MARINE INDICATORS
- ❑ MARINE SCIENCE IN FIGURES

Reliable figures are indispensable to ensure efficient management of human activities at sea and at the coast. Technical-scientific information usually needs to be 'translated' and 'repackaged' for policy makers. On the other hand, objective figures stimulate transparent and clear communication. However, this can only be achieved if there is close cooperation between the different actors and, if necessary, an integrated approach. VLIZ plays an active role in the coordination of this cooperation. It is furthermore also responsible for the development of policy-supporting products.

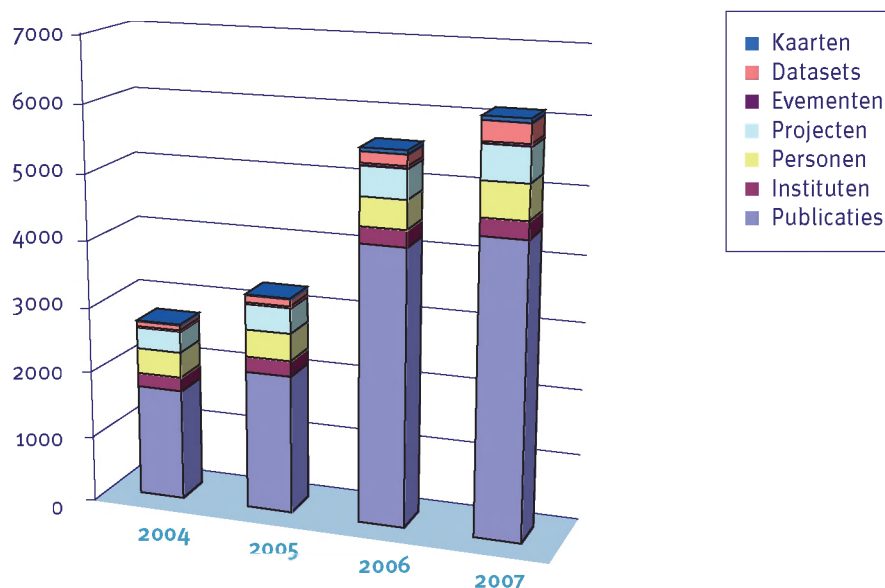
It is for example possible to determine, on the basis of a set of indicators of sustainable development in coastal areas, whether the Belgian coast is evolving towards a more sustainable situation and to what extent the current policy measures have contributed to this evolution. Within the framework of cooperation agreements VLIZ also supports a number of derived products that translate complex and comprehensive databases into a useful format for a broader audience. A number of important achievements in 2007 with regard to policy support, indicators and cooperation are discussed below.

Policy support



The **ScheldeMonitor** is a Flemish-Dutch knowledge and information system for research and monitoring of the Scheldt estuary. This information system provides an extensive amount of publications, who-is-who information, project information, documentation on datasets etc. VLIZ carries out this project by order of Maritime Access Division of the Department of Mobility and Public Affairs (Flanders) with additional support from the National Institute for Coastal and Marine Management (The Netherlands). The virtual information centre can be searched for 4,699 publications, 321 datasets, 354 institutes, 55 events, 699 persons, 571 projects and 51 maps through the website www.scheldemonitor.org.

In 2007 VLIZ again chaired the **Oostende Sluice Dock management committee**; together with the Coordination Centre for Integrated Coastal Zone Management, this committee represents the central point of contact for users of the Oostende Sluice Dock by order of the Coastal Division of the Agency for Maritime and Coastal Services, which owns and manages the sluice dock. VLIZ also provides scientific



support to the management of the Sluice Dock and was involved in the preparation of the regional planning programme for the region, in which the previously outlined plan for the area was elaborated in more detail. The web pages of the Sluice Dock are also managed by VLIZ.

The **Coordination Centre for Integrated Coastal Zone Management** (CC-ICZM) is a contact point for the coastal area where intersectoral themes are discussed. VLIZ is a partner of the Coordination Centre, along with the province of West Flanders, the Coastal Division of the Agency for Maritime and Coastal Services, the Agency of Nature and Forests and the Federal Public Service for the Environment. In its capacity as neutral chairman it is part of the executive committee and the strategic consultative group.

After the success of the 2004, 2005 and 2006 editions, the Coordination Centre for Integrated Coastal Zone Management organised the fourth edition of the **Lenteprikkel** spring cleaning action on 31 March 2007, in cooperation with the coastal municipalities and VLIZ. Once again, this event was a great success. A total of 776 volunteers collected 2,380kg of waste at 9 places along the Belgian coast and participated in the various peripheral activities. Some 9.9km of beach was thoroughly cleaned.

The 2005 edition of the annual **MiRa-T State of the Environment Report** of the Flemish Environment Agency (VMM) was the first to contain a new chapter on the coast and the sea. At that time VLIZ coordinated and bundled the contributions of numerous researchers into a background document (digital format) and a synthesis report (printed format). In 2007 this background document needed to be revised and updated. VLIZ once again took care of the coordination and processed the contributions of 29 different co-authors (including 5 VLIZ co-authors) into one document. A set of indicators is used to clarify the state of the Belgian coastal and marine areas as accurately as possible. The MiRa-T background document 'Coast and Sea' 2006 appeared in the middle of 2007 (digital format only).

VLIZ coordinates the 'Coast and Sea' section of the Flemish state of the environment report for the second time.

VLIZ coordinated, bundled and updated the contributions of 29 Flemish marine and coastal scientists into an elaborate background document for the 'Coast and Sea' section of the Flemish state of the environment report. The situation of the Belgian coastal and marine areas is monitored by means of indicators.



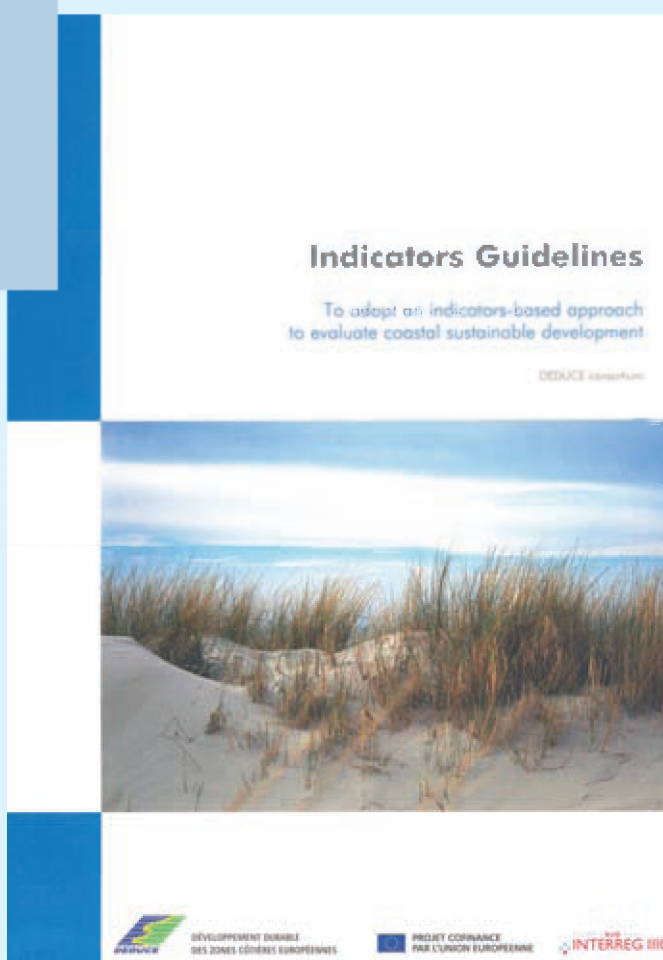
© VLIZ

Indicators

By order of the province of West Flanders the experience from the SAIL initiative for the Southern North Sea region (State of the Coast) was used by VLIZ and the Coordination Centre for Integrated Coastal Zone Management as a contribution to the European **DEDUCE** project (INTERREG IIIC - South). Organisations in Spain, France, Poland, Malta and Latvia are partners of the project. In 2007 VLIZ participated in drawing up 45 Standard Indicator Formats (SIFs). These formats explain for every sustainability parameter what it represents and the method to be followed to determine the value. The fourteen 'Indicator Fact Sheets' (IFS) bundle the data collection and analysis results for every partner country and for each indicator. In 2007 VLIZ also assisted in preparing the Technical Conference (1 March, Tarragona, Spain) and a final conference (1 June, Brussels). The third newsletter also contains a special annex with articles by experts participating in the Technical Conferences. During the Final Conference the 'Indicator guidelines, to adopt an indicators-based approach to evaluate coastal sustainable development' document was presented (with VLIZ as co-author). In addition to the evaluation of the set of European sustainability indicators this work also assesses current data on availability, reliability, access and spatial and temporal coverage. With a number of specific recommendations the DEDUCE partnership outlines the direction for possible future steps regarding the use of indicators in European coastal areas. The results of the DEDUCE project are available from www.deduce.eu.

VLIZ very active in finalising sustainability indicators for European coastal areas.

VLIZ is co-author of the 'Indicator guidelines - to adopt an indicators-based approach to evaluate coastal sustainable development' publication, which assesses a set of sustainability indicators at European level on availability, reliability, access and coverage.



In a European context the CC-ICZM Coordination Centre is part of the **Integrated Coastal Zone Management (ICZM) Expert Group**, guided by DG Environment of the European Commission. The Working Group on Indicators and Data (WG-ID) of this expert group reflects on how sustainability indicators can be embedded in policy planning and policy evaluation.

VLIZ received the mandate to assist the CC-ICZM Coordination Centre in this working group in view of its expertise gained in the field of sustainability indicators in Belgium.

The **Coastal Barometer** of the Coordination Centre for Integrated Coastal Zone Management bundles a set of indicators for monitoring more sustainable management of the Flemish Coast. Within this context VLIZ acts as data centre and develops the barometer website (www.vliz.be/projects/indicatoren). In 2007 the ICZM Coordination Centre prepared an update of the 'Coastal Compass', a publication for which VLIZ was a member of the editorial board and provided support regarding data collection. After a strengths and weaknesses analysis of the Coastal Barometer the set of 20 indicators was revised thoroughly. Early 2008 the Coastal Compass 2007 will appear and the website and Coastal Barometer will be improved and updated.

Thanks to the input of experts from various research groups a **list of non-native species** living in the Belgian part of the North Sea and adjacent estuaries was compiled with the support of VLIZ (Data Centre, Infodesk and Figures & Policy). VLIZ aims at providing both the public at large and scientists with information on each of these species with regard to distribution, life cycle, ecology and possible measures. The list is available at www.vliz.be/NL/Infoloket/nietinheemsLIJST (in Dutch only). As from 2008 the first species data sheets at species level for these non-native marine and coastal species will be posted on the VLIZ website.

Cooperation

As a data centre VLIZ participates in numerous research projects in which the end products are relevant to the coastal and North Sea policy (INRAM, WESTBANKS and QUEST4D). An example for the year 2007 is the INRAM project. **INRAM** (www.vliz.be/projects/inram) started in December 2006 within the framework of the SSD Science for Sustainable Development research action of the Belgian Federal Science Policy Office and is a continuation of the ENDIS-RISKS research project. The purpose of the INRAM project is to assess in an integrated approach the risks of micropollutants to Belgian coastal zone ecosystems and man. The study area includes the three Belgian coastal harbours, the Scheldt estuary and coastal waters. This project intends to identify the relationship between the occurrence and concentrations of contaminants, the state of the ecosystems and the possible impact on human health by means of an integral risk analysis (see also p. 79).

In 2007 VLIZ also organised an 'integrated coastal zone management and sustainable coastal management indicators (for Belgium and Europe)' learning module within the scope of the 'Applied Aquatic Ecology and Sustainable Development' programme of the Katholieke Universiteit Leuven.

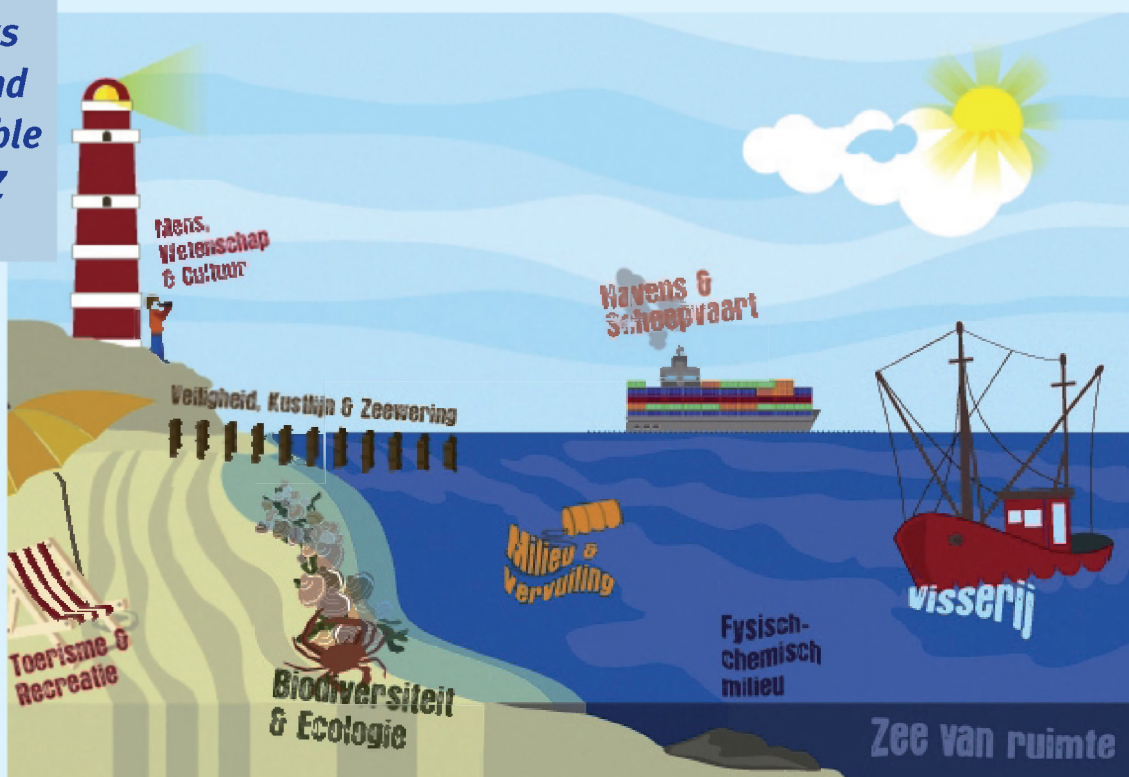
The Data Centre, the Marine Library and the Communication cell (Infodesk) of VLIZ work closely together for both the indicator work and the collection of reliable statistics about the coast and the sea.

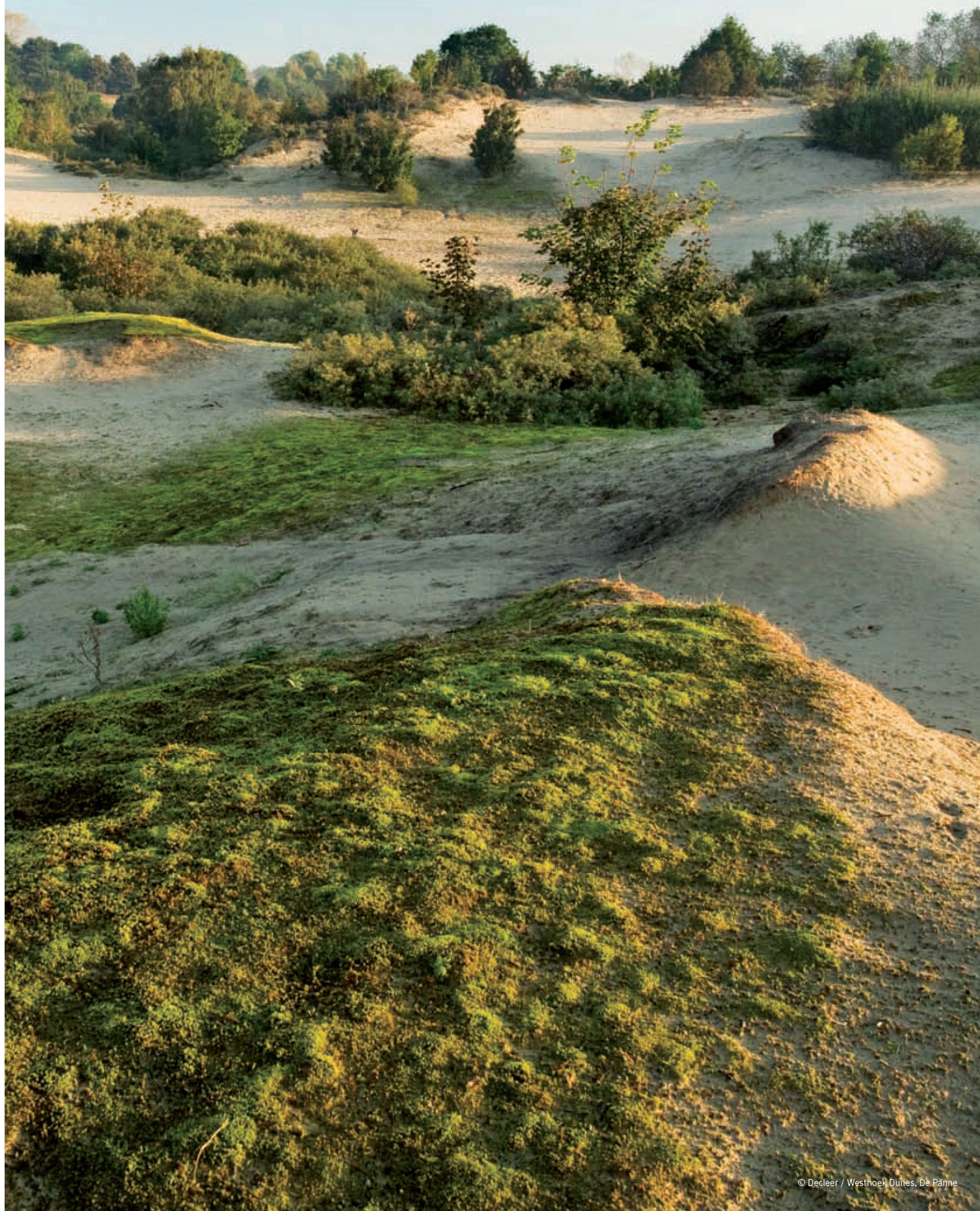
The **'Seastats'** section of the VLIZ website is a result of this internal cooperation. In this section you can find stats and facts about all kinds of sea-related topics with an indication of the source and a direct link to a reliable source document. A useful instrument for users looking for scientifically reliable statistics for the introduction to a report or presentation. You can browse the stats by clicking 1 of the 9 sections on the interactive home page or by typing a keyword in the search box. The Seastats section was posted on the VLIZ website in November 2007 and originally contained 1,500 stats. In 2008 new facts and stats will be added to this database.

It is not possible to imagine the coastal and marine landscape without the fishing industry. Historical **fisheries statistics** reflecting the socio-economic importance of fishing and the size of the catch can only be found sparsely in various statistic bulletins, annual reports from the fishing industry, agricultural statistics and so on. In 2007 VLIZ started an initiative to inventory, archive and document data on the supply and volume per port, per fishing ground and per fish species. Data on management aspects and on the size and activities of the fishing fleet are scrutinised as well. The aim is not only to archive historic documents but also to make information available in an as broad as possible time series and in a user-friendly format. This service is offered thanks to the assistance of the Sea Fisheries service, the Institute for Agricultural and Fisheries Research (ILVO), the Province of West Flanders and the Antwerpen City Library.

1500 objective and reliable stats about the sea and the coast available through the VLIZ website.

Looking for stats about the coast and the sea? You want to know the exact length of the Belgian coast, the highest temperature measured in the sea, the number of plaice caught in the North Sea? Search your sea stats by main theme via the symbols on the screen or via keywords in the search interface. You also gain immediate access to the original source document for all stats.







Facilities



© Decleer / Harbour Zeebrugge

Read more?
www.vliz.be/EN/Logistic_Support

- ❑ RESEARCH VESSEL 'ZEELEEUW'
- ❑ RIB 'ZEEKAT'
- ❑ GREENHOUSES FOR DUNE RESEARCH
- ❑ EQUIPMENT
- ❑ OVERVIEW OF FLEMISH MARINE INFRASTRUCTURE
- ❑ MONITORING

In 2007 VLIZ gives logistic support to marine scientists and students for a total of 239 days.

VLIZ coordinates 239 days at sea for marine scientists and students with the research vessel Zeeleeuw (picture), the Rigid Inflatable Boat Zeekat and other ships of the Flemish shipowner Fleet Division.



© VLIZ - De Kievith

R/V Zeeleeuw and RIB Zeekat

The oceanographic research vessel '**Zeeleeuw**' can be used in the Belgian and adjacent coastal waters and in the Scheldt estuary on the basis of a cooperation agreement with Fleet Division of the Internally Autonomous Agency for Maritime and Coastal Services (MDK). Fleet Division operates the Zeeleeuw, pays the operational costs and provides the crew. VLIZ takes care of the coordination of the scientific programme and manages the research equipment. If necessary, other vessels from the Flemish fleet can also be used for marine scientific research. The research vessel '**Zeeleeuw**' is available for the Flemish and international marine research community. The '**Zeekat**' is an RIB (Rigid Inflatable Boat) that can be used from the Zeeleeuw but can also be operated autonomously.

The total number of days at sea with the Zeeleeuw, the RIB Zeekat or other vessels of Fleet Division as coordinated by VLIZ is indicated in the table below.

In calendar year 2007 a total of 239 days at sea were spent on scientific research, 150 of which with the Zeeleeuw, 51 with the Zeekat and 38 with other ships of Fleet Division. In 2007 a total of 1,036 persons boarded the '**Zeeleeuw**' (343 scientists, 693 students and other passengers).



© VLIZ - De Kievith

Number of days at sea for research purposes:	2004	2005	2006	2007
R/V ' Zeeleeuw '	155	151	122	150
RIB ' Zeekat '	37	45	35	51
'third' vessels: Ter Streep, Veeremans, Scheldewacht, Parel I and Scaldis	3	44	41	38
Total number of days at sea for research purposes	195	240	188	239

The RV 'Zeeleeuw' is used for numerous research projects and for the monitoring of coastal waters (see below), but also offers possibilities for educational projects such as 'Expeditie Zeeleeuw' and 'Week of the Sea' and demonstrations for students (see table).

During the trip a computer network on board the RV Zeeleeuw registers the navigation data as well as meteorological and oceanographic (physicochemical) data. This data is kept and managed in the **MIDAS** database, which stands for Marine Information and Data Acquisition System. At the end of 2007 the database contained 4,773,200 records. The system also helps to plan cruises and to register ship activities.

Research and educational projects with RV 'Zeeleeuw' in 2007

Research projects		# Trips
VLIZ BCS	Monitoring, equipment trials	23
UGent - Marine Biology	WESTBANKS - Role of diversity, functionality and density of macrobenthos in the functioning of a seafloor	9
UGent - Marine Biology	Artificial reefs	18
UGent - Marine Biology UGent - Environmental Toxicology	INRAM - Integrated risk analysis and monitoring of micropollutants in Belgian coastal waters	9
UGent - Protistology Lab	Reproductive, genetic and phenotypic variation patterns in relation to toxicity in <i>Pseudo-nitzschia pungens</i>	4
UGent - Protistology Lab	Monitoring of Water Framework Directive	
VMM		3
UGent - Nematology Lab	Acoela and Nemertodermatida in the Belgian part of the North Sea	1
UGent - RCMG	Side Scan Sonar records	3
UGent - RCMG	Testing of REMUS AV	
Belgian Marine		1
KULeuven - Aquat. Ecol. Lab	WESTBANKS - Interactions between the benthic and pelagic ecosystem in shallow coastal areas and the effects on avifauna	2
UHasselt - Biodiversity, Phylogeny and Population studies	The Rhabdocoela fauna of the Belgian part of the North Sea	2
ULB - Marine Biology Lab	MICROMET - Microbial diversity and metal fluxes in contaminated North Sea sediments	7
Neder-Over-Heembeek Burns Unit	Pseudomonas sampling	1
INBO	Monitoring of beach and seabirds in Flanders	31
ILVO	Monitoring of Thornton wind farm	2
ILVO	Testing of net sounders	2
MUMM	Calibration of multibeam signal & scientific diving training	4
VIOE	Archaeological evaluation of wrecks	14
Educational projects		# Trips
Week of the Sea		7
Expeditie Zeeleeuw		5
UGent - MarBiol		4
UGent - Environmental Technology		1
Vrije Universiteit Brussel - Ecomama		2
UNESCO/IOC Project Office for IODE		2
VLIZ		5

Flanders builds new research vessel 'Simon Stevin'



Simon Stevin (°1548, Bruges)

Artist's impression of new research vessel 'Simon Stevin'

On 10 December 2007 Minister-President Kris Peeters and Minister Patricia Ceysens disclosed the plans of the Flemish government to finance a new research vessel to replace the current vessel RV Zeeleeuw. The Flanders Marine Institute (VLIZ) will take care of the scientific programme and management of the research equipment. Fleet Division (MDK) will ensure the good operation of the new coastal vessel. The ship was named 'Simon Stevin' after a Flemish intellectual jack-of-all-trades (°1548, Bruges) with numerous maritime and hydraulic achievements.

A poll and feasibility study among over 500 marine scientists in Flanders confirmed that there is a great need for logistic support of their research. Within this context priority needs to be given to a modern and well-equipped vessel with a shallow draught and swift access to the shallow coastal waters of the Southern Bight of the North Sea and the adjacent estuaries.

Minister Ceysens also announced the purchase of additional land-based facilities. These facilities are located within walking distance of VLIZ and are part of the InnovOcean site, the central body for oceanographic initiatives on the east bank of the harbour of Oostende. Minister-President Peeters has undertaken to ensure that the vessel is manned and maintained via Fleet Division and leaves port daily for research purposes.

New Flemish research vessel 'Simon Steven' underway.

On 10 December 2007 Minister Patricia Ceysens and Minister-President Kris Peeters gave the green light to the construction of a new Flemish research vessel: the 'Simon Stevin'. A poll among Flemish marine scientists confirmed the strong need for a coastal vessel to carry out the work in the Southern Bight of the North Sea and adjacent estuaries.



© VLIZ - Decler

De Haan Greenhouses

The Nieuwmunster dunes in the coastal municipality of Zuienkerke (near De Haan) accommodate a greenhouse complex that can be used for research related to coastal vegetation (dunes, salt marshes, polders). The complex consists of 5 greenhouses, 3 of which can be heated, 6 seed beds, a 6ha area and annexes with limited accommodation possibilities and an elementary laboratory. The Coastal Division of the Agency for Maritime and Coastal Services offers these greenhouses and adjacent grounds while VLIZ takes care of the coordination of the scientific programme and manages the research equipment.

In 2007 the greenhouses were used by UGent and the INBO (Prof. Hoffman, Bram D'Hondt and assistants). They investigated the seed distribution of dune vegetation by grazers introduced in the landscape within the context of dune management. The laboratory facilities in De Haan were also used by Maite Bauwens (Vrije Universiteit Brussel, assistant of Prof Dehairs) for the first reprocessing of samples collected at the coast within the framework of her research on climate reconstruction on the basis of mussel shells.



Equipment

VLIZ manages a wide range of marine scientific facilities that can be used by the marine science community: see table at the right. In the VLIZ buildings researchers can furthermore make use of (temporary) storage space for samples and sampling materials. A cold store, constructed on the site in 2006, serves as 'core repository' for geological deep-sea drill cores and sediment samples.

In 2007 VLIZ bought a Cohesive Strength Meter (CSM) and a Passive Acoustic Monitoring (PAM) system so as to further improve its equipment.

A portable Cohesive Strength Meter (CSM) is used to measure the erodibility of sediments in the field (or in laboratory experiments); here used in the salt marshes of the Yser estuary by researchers of the Marine Biology section of UGent.



© De Backer

Within the framework of the systematic bird and marine mammal counts of the Research Institute for Nature and Forest (INBO) VLIZ takes care of the purchase, management and operation of a Passive Acoustic Monitoring (PAM) system. These hydrophones are an additional source of information on the occurrence of porpoises and other delphinoids in the Belgian part of the North Sea.



Overview of scientific equipment and infrastructure for scientific research made available by VLIZ:

■ Physico-chemical parameters

- Zeeleeuw and De Haan weather stations
- Thermosalinograph
- Fluorimeter
- CTD SBE-19plus
- OBS
- YSI-85 probe
- Acoustic Doppler Current Profiler (ADCP)
- LISST-100
- Cohesive Strength Meter (CSM)

■ Water sampling

- Niskin bottle
- GO-FLO
- Van Dorn bottle

■ Sediment sampling

- Van Veen grab
- Reineck Box Corer
- Bowers & Connolly Multi-Corer
- Hamon grab

■ Biological sampling

- Van Veen grab
- Reineck Box Corer
- Hamon grab
- Midi corer
- Beam trawl
- Otter trawl
- Neuston net
- IKMT net
- WP2 plankton net
- Trawl plankton net
- Bongo net
- Plankton net
- Plankton pump
- Hyperbenthic sledge
- Passive Acoustic Monitoring (PAM) system

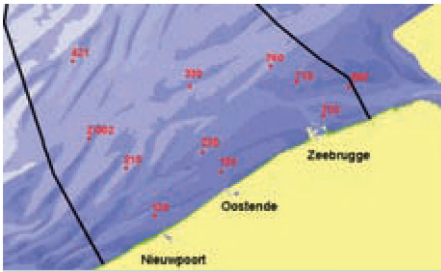
■ Miscellanea

- Sieving table
- Wilson Automated Siever
- Fish sorting table
- Tough Book
- DGPS hand-held unit
- Aquarium
- Compressor for filling diving cylinders
- ROV (incl. video camera)
- Underwater photo camera

■ Storage space

- Warehouses
- Freezers
- Cold store - Core Repository

Monitoring in the Belgian part of the North Sea



In August 2002 VLIZ started monitoring 10 stations in the Belgian part of the North Sea. Every month water samples are taken and CTD measurements are made with the ‘Zeeleeuw’. The samplings allow the measurement of turbidity, nutrient content and chlorophyll-a concentrations in cooperation with the research groups performing the analyses.

In this manner VLIZ hopes to be able to provide coastal research with the necessary information and data. In the long term a time series of data will be collected that should contribute to improved management of the Belgian coastal waters. This monthly monitoring was continued in 2007. During several of these monitoring trips samples were furthermore taken for the Royal Netherlands Institute for Sea Research (NIOZ) within the framework of the MarBEF project ‘MarPace’.

More information on the project and the results so far can be found on the website www.vliz.be/monitoring.

VLIZ monitoring dates in 2007

23-23 January 2007	3, 13, 16, 19, 23 July 2007
19 February 2007	21 August 2007
26 March 2007	25 September 2007
23 April 2007	29 October 2007
29 May 2007	27 November 2007
-	17-18 December 2007

ERVO workshop

In cooperation with MUMM VLIZ organised a workshop for the European Research Vessel Operators (ERVO) in Oostende on 19 and 20 June 2007. At this annual informal meeting, research vessel operators and managers exchange experiences, share information and examine cooperation opportunities. Through this networking ERVO hopes to be able to provide improved service to the research community and to develop a standard practice.



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Data





Data centre

Read more?
www.vliz.be/EN/Data_Centre

- ❑ DATA AND INFORMATION CENTRE
- ❑ DOCUMENTATION
- ❑ ARCHIVING
- ❑ INTEGRATION
- ❑ REDISTRIBUTION
- ❑ INTERNATIONAL STANDARDS
- ❑ SERVICE CENTRE
- ❑ WEBSITES

Spectacular growth of VLIZ databases to 74 million data records.

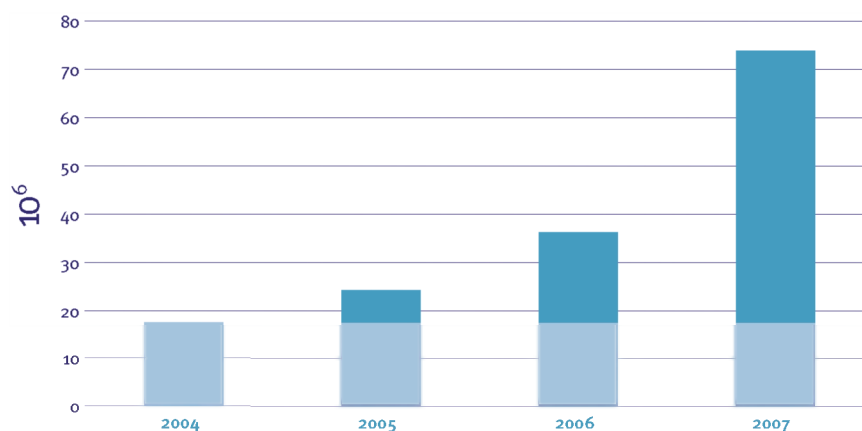
The total number of unique records in the databases on the VLIZ servers now amounts to 74 million. Operational data records account for 64%, biological databases for 22%. This means that the number of records has more than doubled in one year's time.



The data centre in figures

The VLIZ data centre, also known as the Flanders Marine Data and Information Centre (FMDC), is specialised in the development of information systems and taxonomic and biogeographic databases as well as in databases collecting monitoring and survey data. Interested parties have free online access to most of these databases (approximately 40) by means of a search interface on the website.

An additional 436 datasets can be requested from VLIZ but can not always be consulted via the website (see www.vliz.be/dblist.php?type=datasets). In total, over 1044 datasets from various marine research disciplines and with an international scope



The total number of unique records in the VLIZ databases increased to 73,923,402 by the end of 2007.

are documented via the inventory on the VLIZ website (http://www.vliz.be/imis/imis.php?module=dataset&c=data_centre).

The number of archived and disclosed databases increased to 6,534 files by the end of 2007, totalling 11.02 GB of data. The total number of unique records in the VLIZ databases now amounts to 73,923,402, which is an increase by 104% compared to 2006 and an increase by 320% compared to 2004. Operational databases account for the major part of this increase: 64% of all records (i.e. 47,104,738 records) can be found in the 'Tsunami Sea Level Station Monitoring Facility', 'Monitoring Network Flemish Banks', 'GLOSS Sea level Data Facility', 'CPPS' and 'Midas' databases. The biological databases account for 22% of the total number of records (16,169,975 records in the 'Aphia', 'EurOBIS', 'MacroBel', 'NSBP', 'NSBS', 'IMERS' and 'Antobis' databases: see table in annex).

The database archiving **operational data** from measurement buoys and tide gauges continues to be the strongest grower in 2007 (+343%). These data include the meteorological and water parameters of the two measurement buoys in the Oostende Sluice Dock (available in real time at www.vliz.be/spuikom/monitoring.php) and the water levels measured by a series of buoys in the Indian Ocean and the eastern Atlantic Ocean (Tsunami Sea Level Station Monitoring Facility, available in real time at www.vliz.be/vmdcdata/iode). This latter activity is carried out in cooperation with the UNESCO/IOC Project Office for IODE within the ODINAFRICA project.

The number of pages consulted and the number of visits to the **VLIZ website** (and other websites hosted on the 'vliz.be' domain) amounted to 2,258,496 and 501,428 respectively in 2007.

In addition to the VLIZ website, the VLIZ data centre also hosts the websites of 53 different **projects** and supports the websites of 14 **organisations**.

VLIZ species list becomes world list.

The number of species listed in the World Register of Marine Species (WoRMS) reached 90,000 at the end of 2007.



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Data systems

Over the course of the years the data centre developed a number of important systems that have in the mean time been used in numerous projects and websites. The five largest data systems are explained in more detail below.

The **IMIS** information system ('Integrated Marine Information System') provides a detailed picture of the Flemish marine scientific landscape. Information is structured in the following modules: persons, institutes, literature, projects, events, datasets, maps and, since recently, infrastructure. As the system is increasingly feeding international (project) sites as well, it also contains more and more Dutch (ScheldeMonitor) and even European information (Encora and MarBEF).

In the course of 2007 various new functions were developed. X-2-IMIS is a tool used to import a series of references (in standard formats) in a semi-automatic manner. The collection is loaded into the programme, controlled manually and forwarded to the database. The programme allows to spread out the importing process over several days and persons. IMIS-2-X is integrated into the new IMIS search interface. This makes it possible to look up references, to refine search results and to export the results in international standard formats. With OAIMIS VLIZ also joins the Open Archives Initiative. In the mean time some 3,000 references available under the OMA (Open Marine Archive) protocol can be picked up by the OAI harvesters.

Only too often are generic names misinterpreted or are there several spelling variations, as a result of which one and the same species is often referred to with different names. The lack of a standardised spelling of generic names is a major problem for people who want to integrate data from various sources or interpret information from literature. Until today there is no complete register of all marine species. A global approach and global coordination are therefore of the utmost importance in our opinion. For this reason VLIZ, with the support of MarBEF, joined forces with the international network OBIS to develop the World Register of Marine Species (**WoRMS**).

Originally a local initiative for storing and distributing information on marine species in the Belgian part of the North Sea, the **Alpha** database of VLIZ now serves as IT platform for WoRMS. It is a taxonomic register that comprises several geographical registers as well as several world lists of various taxonomic groups. In 2007 the world lists of the Euphausiacea, Tanaidacea, Pycnogonida and Ophiuroidea were added. At the end of 2007 WoRMS contained almost 90,000 valid generic names! WoRMS is unique because experts in specific groups of marine organisms can edit and validate generic names and additional information online. At this moment more than 100 experts from all corners of the world are contributing to WoRMS. WoRMS is coordinated by a steering committee. The technical infrastructure is developed and maintained by VLIZ. Experts have a double task: validating the names of known species and keeping up with new discoveries. Data management is also coordinated within the data centre.

The **IMERS** (Integrated Marine Environmental Readings and Samples) data system stores and integrates measurement data of sampling campaigns of Belgian projects. The data system is also used to provide data to the IDOD database of the MUMM (with regard to the quality of the marine environment) as stipulated in the agreement with the Belgian Federal Science Policy Office for North Sea projects financed by the latter. IMERS grew by 254% in the last calendar year. The number of measurements increased from 281,042 at the end of 2006 to 1,280,292.

The IMERS search interface (www.vliz.be/vmdcdata/imers) was further developed in 2007. An advanced search form now allows to perform searches with better search control. It has also become possible to request relevant data via the measuring stations plotted on the map. A login system is used to protect data that is not publicly accessible.

VLIZ developed the Marine Data Archive (**MDA**) to safeguard marine measurement data in the long term. It is an online system (mda.vliz.be) specifically designed to allow scientists, research groups and project partners to archive and describe their data files in an external archive. Each file is stored together with the metadata describing the contents of the file. At least 3 copies of the files are stored at different locations outside the building. Access to the data files can be shared by a specific group of people, for example all partners in a project. User rights are regulated by an account-based registration procedure. At the end of 2007 a total of 13 organisations and 10 projects made use of this online data archive. The system has 63 registered users.

The VLIMAR (VLIZ MARine) **Gazetteer** is an online list of geographic names linked to geographic information on and maps of these locations (www.vliz.be/vmdcdata/vlimar). Every geographic object is defined by a place name, a place type, coordinates and its relation to other geographic objects. This relational structure allows to search within a hierarchical tree structure and to group related geographic elements. The purpose of the gazetteer is to provide a clearer picture and to improve access to the different geographic marine terms (seas, sandbanks, bays...) used in marine research. This database is also used for biogeographic applications such as WoRMS. A new feature added in 2007 is the online input tool. This enables everyone to assist in the improvement and further development of the VLIMAR Gazetteer.

VLIZ develops online data archive system for scientists, research groups and project partners.

The Marine Data Archive (MDA) is an online system for individual scientists, research groups and project partners. Data files can be archived and documented in an additional archive on the VLIZ servers and, if desired, shared with others.



VLIZ supports the development of the leading Scheldt information system.

The ScheldeMonitor, the leading Flemish-Dutch knowledge and information system on the River Scheldt, was developed and completed by VLIZ. In 2007 the project entered a new phase, in which the system is developed into a data portal for Scheldt estuary measurement data. The long time series with measurement data from the multidisciplinary OMES project, the objective of which is to monitor the effects of the Sigma plan for the protection against floods in the Belgian part of the Scheldt estuary, were documented by VLIZ, archived and integrated into a central database and subsequently made accessible through the OMES website developed for this purpose.

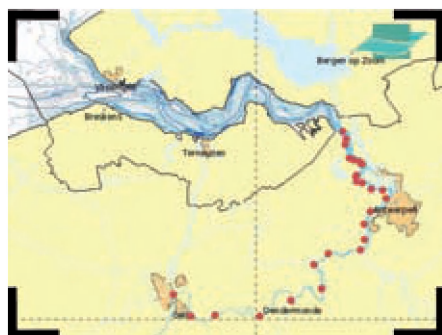


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Projects in 2007

In 2007 VLIZ developed websites, collected and disclosed data etc. within the context of various projects. These projects are discussed in more detail below.

In 1976 the Scheldt dyke of Ruisbroek broke and a large part of the Province of Antwerp was flooded. The Sigma plan was developed to protect the land against future flooding, but reliable scientific information was needed to assess the impact of this plan on the environment and to draw up a sound integral water policy. The multidisciplinary study of the estuarine environment of the Belgian part of the Scheldt Estuary, also known as the 'research on the environmental effects of the Sigma plan' (**OMES**), started in 1995. In the meantime much data has been collected and many experiments have been performed. The resulting database represents the longest and most valuable time series with measurements of the Flemish part of the Scheldt estuary: a provisional total of 892,165 records. In 2006 VLIZ was involved in the upgrade of the OMES database. The various datasets within OMES were described in great detail (geographic information, parameters, partners, time ranges...). This metadata was made available online to the public at large by means of a project website (www.vliz.be/projects/omes). The OMES measurement results were included in the IMERS database and were subjected to a first quality check. They can easily be extracted from the database via specific collections and administrative links. A thorough quality check with special attention to outliers was performed in 2008. Historical data (1904-1983) can already be consulted online. The other data from the OMES database can only be requested in the private section of the website but will be made available upon approval by the data owners.



To improve the visibility of this data series and the further monitoring of the Scheldt basin VLIZ developed the **OMES website** (www.vliz.be/projects/omes). This website provides background information, pictures, downloadable publications, explanation on field experiments and detailed information on available measurement data. Data can be searched online on the basis of geographic distribution, time range, parameters, taxonomy etc. Data relating to a specific region selected by the user can be requested by means of a map. The programme is financed by the Waterwegen en Zeekanaal Agency of the Flemish government; scientific coordination is provided by Prof Patrick Meire, Universiteit Antwerpen.



The **ScheldeMonitor** (www.scheldemonitor.org) is a Flemish-Dutch knowledge and information system for research and monitoring of the Scheldt estuary. It provides an extensive amount of publications, who-is-who information, project information, documentation on datasets etc. VLIZ carries out this project by order of Maritime Access Division of the Department of Mobility and Public Affairs (Flanders) with additional support from the National Institute for Coastal and Marine Management (The Netherlands). The project falls within the scope of the Long-Term Planning, Research and Monitoring (LTV-O&M) programme under the Knowledge Management pillar. At the end of 2007 the ScheldeMonitor contained 4,699 publications, 321 datasets, 354 institutes, 55 events, 669 persons, 571 projects and 71 maps. The ScheldeMonitor has already evolved into the largest online Scheldt library with over 1500 digital publications. To inform website users even better, VLIZ launched a free bimonthly electronic ScheldeMonitor News (www.scheldemonitor.org/attendering.php). The project entered a new phase in December 2007. In addition to being an information system the ScheldeMonitor will also become a data portal for validated measurement data with regard to the Scheldt estuary.



WestBanks, or 'Understanding benthic, pelagic and air-borne ecosystem interactions in shallow coastal seas'. The Belgian part of the North Sea is characterised by a series of shallow bank systems. Earlier investigation demonstrated the high biological value of the Western Coastal Banks. This area harbours rich macrobenthic communities. It is an important foraging area for seabirds and a nursery ground for juvenile fish. Westbanks is a continuation of the Trophos project and a such subjects this area to an ecosystem vision through experimental studies and fieldwork. The project focuses on predator-prey relationships, functional groups and biogeographic analyses. VLIZ is involved in the public outreach (logo design, integration in SeaOnScreen, development of project website www.vliz.be/projects/westbanks etc) and in data management. An integrated Trophos-Westbanks database was developed. A large part of the data is already available online through a search interface.



The **INRAM** (Integrated Risk Assessment and Monitoring of micropollutants in the Belgian coastal zone) project focuses on the cycles of micropollutants at the Belgian coast and in ports. Much expertise was drawn from the earlier ENDIS-RISKS project, which focused on the Scheldt estuary. Apart from measurements in the water, additional measurements are performed on the tissue of various organisms in the food web: commercial fish, crustaceans and shellfish. New technologies are developed in this framework. On the basis of a risk analysis a first attempt will be made at identifying the relationship between the presence of a contaminant, the health of the ecosystem and the possible impact on man. VLIZ was involved in the outreach (logo design, integration into SeaOnScreen, development of project website www.vliz.be/projects/inram, etc) and in data management. An integrated ENDIS-RISKS-INRAM database was developed and largely made available online through a search interface on the website.

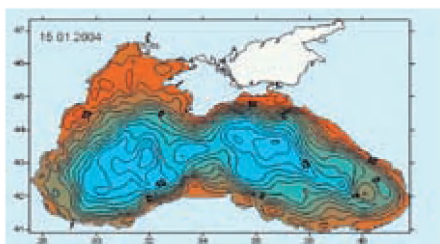




The **Coastal & Marine Wiki** (www.encora.eu/coastalwiki) is an internet encyclopaedia for coastal and marine professionals. It contains correct, up-to-date information on integrated marine and coastal research and/or management and is conceived as a collection of short general articles according to the generally known Wikipedia principle. This encyclopaedia links articles in which the same terms are used so that the user can look up further information with a single mouse click. The Coastal & Marine WIKI contains the latest coastal and marine knowledge (and experience) from the perspective of science, practice and policy. The information is constantly updated and improved by 250 registered experts of the European ENCORA network. The Coastal and Marine WIKI is an ideal resource for training courses. It can also replace textbooks and syllabuses for university students. After one year the Coastal & Marine WIKI contains over 855 articles.



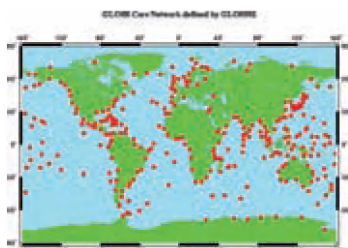
Since 2006 VLIZ and the Institute of Oceanology in Varna, Bulgaria, have been partners in the **SIBEMA** project (Scientific and Institutional capacity Building for implementing European Marine policy in the Black Sea Region). By order of the Foreign Affairs Administration of the Flemish government this project aims at providing support in data and information management and at encouraging implementation of European maritime research standards in Bulgaria and in the Black Sea Region. In 2007 this project was at the basis of the establishment of a Black Sea ODIN, an international network for exchanging oceanographic data.



Since 2006 VLIZ has also engaged in a bilateral project (Ocean Ukraine) with two **Ukrainian** institutes (in cooperation with UNESCO/IOC Project Office for IODE): the Marine Hydrophysical Institute (MHI) and the Institute of Biology of the Southern Seas (IBSS) in Sebastopol. In addition to exchanging oceanographic data management expertise the partners also work towards a number of specific objectives. On the one hand VLIZ will support in the data rescue of marine data collected by these Ukrainian institutes with regard to the southern seas. On the other hand VLIZ will prepare a GRID infrastructure for developing oceanographic models of the Black Sea.



Thanks to its broadband internet connection VLIZ is able to participate in GRID computing initiatives. In this context a huge number of computers are connected to each other in a network so as to perform difficult calculations. The hardware required to connect to this type of networks was installed within the framework of the BeGrid project of the Flemish government. Even after completion of this pilot project VLIZ continues to invest in the **BEGRID** network. In 2007 the data centre installed 8 new servers and additional storage capacity in the local GRID node. In the course of 2008 this equipment will be connected to the BEGRID network by means of the new gLite 3.1 middleware.



Within the framework of the ODINafrica project VLIZ developed a data system to read **tide gauges** via satellite and land lines. The system was especially intended to support the Tsunami Warning Centers in the Indian Ocean. In 2007 VLIZ was asked by IOC/GLOSS to further extend this system. In the near future the system will be extended by tide gauges to support the Tsunami Warning Centers for the Atlantic Ocean and the Mediterranean Sea as well as by tide gauges used by GLOSS for the Global Sea Level Observing System.

Internet encyclopaedia for coastal and marine professionals launched.

The Coastal & Marine WIKI was developed at VLIZ. It collects short general articles on integrated marine and coastal research and management according to the Wikipedia principle.



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The European **SeaDataNet** project (www.seadatanet.org) was started in 2006 and is intended to make the large and diverse data sets collected by the Pan-European oceanographic research fleet and the new automated observation systems available within one efficiently distributed data system. Professional data centres from 35 countries work together in the Sea Data Network for this purpose. The VLIZ data centre is one of the 49 partners and forwards the data and metadata collected in Flanders to this network. The project is financed by the 6th framework programme (Integrated Infrastructure Initiative). The annual plenary meeting took place in Trieste, Italy, on 19 and 20 March 2007.



The VLIZ data centre takes care of the data management and website of **MarBEF** (www.marbef.org), a EU Network Of Excellence under the 6th framework programme. The network had 92 partners by the end of 2007. One of the main activities of the MarBEF data management team is maintaining the European taxonomic species register: **ERMS**, or European Register of Marine Species. By the end of 2007 the database contained 54,132 taxonomic names, among which 31,590 valid generic names. About 20% of the total number of records had been validated by the taxonomic editors by the end of 2007. The names of marine organisms within ERMS are forwarded by VLIZ to the **European Species 2000** Europa project and the world-wide register of marine species **WoRMS**. In addition, VLIZ also participates in the European Census of Marine Life (**EuroCoML**) project.

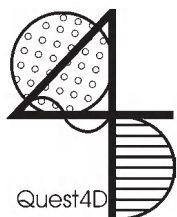




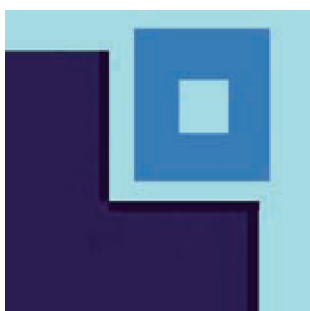
Marine biogeographic data is collected in Europe within the scope of the MarBEF objective 'Bringing biodiversity data online'. Data integration is supported by various VLIZ products: IMIS, ERMS and the Gazetteer. **EurOBIS** currently features 3,543,584 records. Six new data sets with a total of 94,569 distribution records were added in 2007. Within EurOBIS efforts are also made to bring together data in thematic, integrated databases. Initially this data will only be accessible to the data suppliers. The data will be made accessible to the public after the analyses of the integrated data will have been published. In total, it concerns approximately 1,500,000 distribution records, 15,000 species and 25,000 sampling locations. The oldest observations date from 1858.



Within the framework of the **DIMAS** project (Development of an Integrated Database for the Management of Accidental Spills) VLIZ developed an integrated database to support the accidental spills policy. In case of an accident this database can be used to screen the risks of 400 substances that may have been discharged (www.vliz.be/projects/dimas).



Quest4D (QUantification of Erosion and Sedimentation patterns to Trace the natural versus anthropogenic sediment dynamics) mainly focuses on a better definition of the sediment and the sediment transport system in the Belgian part of the North Sea (www.vliz.be/projects/Quest4D). Knowledge of these processes is essential, especially in view of the central role the sediment plays in ecosystem studies. A major step is the identification of natural changes versus changes caused by human activities, such as dredging, fishing, aggregate extractions etc.



The second phase of the **STARDUST** project (Spatial and Temporal Assessment of high Resolution Depth profiles Using novel Sampling Technologies) ended in December 2007. In the past 5 years two laboratories of the Vrije Universiteit Brussel and the University in Lille investigated the impact of contaminated sedimentary soils on the quality of river and estuarine water in cooperation with the Flanders Marine Institute. All data was integrated into the IMERS database and will be freely accessible at the project website (www.vliz.be/projects/stardust2) within 2 years. The findings will be published in the final report and will be presented to the public at large in Lille in the course of 2008.



Project Office



UNESCO/IOC Project Office for IODE



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- ❑ OCEANOGRAPHIC DATA AND INFORMATION MANAGEMENT
- ❑ INTERNATIONAL TRAINING COURSES
- ❑ EXPERT MEETINGS
- ❑ THINK TANK
- ❑ INNOVATIVE TECHNOLOGIES
- ❑ WEB-BASED

VLIZ has the special responsibility of taking care of the accommodation and support of the UNESCO/IOC Project Office for IODE (€ 76,000). In addition, VLIZ spends € 500,000 every year on the support of training courses for foreign students and experts in oceanographic data management with special attention to the development and operation of tsunami early warning systems and other ocean-related natural disasters.

The Project Office features two training rooms with a total of 40 PCs. The conference room has a maximum capacity of ca. 150 persons. A smaller meeting room accommodates up to 15 persons. In addition, the Project Office has 10 servers hosting a total of 100 dynamical websites. Thanks to the fast internet connection (850 Mbs) these websites are optimally accessible. The Project Office also features a video conferencing installation.

Oceanographic data and information management training courses

A total of 11 training courses and workshops with a total number of 164 trainees from 59 different countries were organised at the UNESCO/IOC Project Office for IODE in 2007. The total number of person days of training amounted to 942 (see table below).

training course	region	date	#	level
SeaDataNet Data Management Training Course	Europe, North Africa, Middle East	12-17/2	40	A
IODE/MarBEF Biodiversity Data Management Course	Europe + Worldwide	19-23/3	16	A
E-repository Training Course	Worldwide	23-28/4	9	A
ASCABOS Training Course	Black Sea countries	23-27/4	12	A
Young Scientist Training Course	Worldwide	4-9/6	15	B
African Marine Atlas (AMA) workshop (final)	Africa	4-8 /6	6	A
ODINAFRICA	Africa	4-15/6	5	A
Marine Biodiversity Data Mobilisation workshop				
Training Course on Buoy Program Implementation and Data Management	Worldwide	11-15/6	24	A
Training on the management of the End to End data Management (E2EDM) prototype system	Eastern Europe + Worldwide	22-25/10	18	A
ECOMAMA GIS Training Course	Worldwide	5-9/11	10	B
ODINECET Marine Information Management Training Course	Eastern Europe	19-23/11	9	A

Level: B = Basics; A = Advanced; S = Specialisation.

The participants represent 59 different nationalities: Albania, Algeria, Angola, Argentina, Australia, Bangladesh, Barbados, Belgium, Benin, Brazil, Bulgaria, Cameroon, Canada, Chile, China, Colombia, Croatia, Denmark, Estonia, France, Georgia, Germany, Ghana, Iceland, India, Indonesia, Ireland, Israël, Italy, Kenya, Kuwait, Latvia, Libanon, Lithuania, Mauritania, Mauritius, Mexico, Mozambique, Netherlands, Nigeria, Pakistan, Peru, Poland, Romania, Russia, Senegal, Seychelles, Slovenia, Sri Lanka, Tanzania, Thailand, Tunisia, Turkey, Ukraine, United Kingdom, United States, Venezuela, Vietnam and South Africa.

Guest researchers

In 2007 a total of 73 guest researchers from 11 different countries and 3 international organisations visited the 'Project Office for IODE' in Oostende. Depending on the assignment the visit took one day up to one month. The total number of person days spent by guest researchers amounted to 110.

Training courses in the spotlight

In 2007 a total of 11 training courses were organised at the IODE Project Office, two of which had an innovative character.

From 4 to 9 June 2007 a marine data management course was organised for a group of 15 young marine scientists ('**Young Scientist Training**'). This course was organised in cooperation with VLIZ. The course dealt with the entire process, from measurements at sea (data collection) to the delivery of data products (maps with measurement data). Within this context data was collected at sea on board the Zeeleeuw for a duration of 2 days. The group consisted of young scientists from 15 countries (Nigeria, Russia, Thailand, Sri Lanka, Kuwait, Vietnam, Romania, Venezuela, Kenya, Morocco, Peru, Colombia, Bulgaria, Ghana and Indonesia).



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From 11 to 15 June 2007 the IODE Project Office organised the **'Training Course on Buoy Programme Implementation and Data Management'** in Oostende with 24 participants from 23 countries (Australia, South Korea, United Kingdom, Ukraine, United States, France, Tunisia, Brazil, China, Italy, Seychelles, Pakistan, Canada, Senegal, Kenya, Mauritius, Slovenia, Tanzania, South Africa, Mozambique and Cameroon). During the training a test buoy was dropped into the water in Oostende, after which real-time measurement data could be requested at the IODE Project Office via satellite connection. This training course falls within the scope of the development of a worldwide network of data buoys of the Data Buoy Cooperation Panel (DBCP), the official joint body of the WMO (World Meteorological Organisation) and the IOC (Intergovernmental Oceanographic Commission).

IODE Project Office Visitors Survey

Since 2006 the IODE Project Office has regularly organised an electronic survey among its visitors. The main intention is to check what this international group thinks of the IODE Project Office but also of Oostende and Belgium. The survey results are used to continuously improve the quality of the training and conference facilities offered. In the mean time some 160 replies have been received. The services offered by the IODE Project Office are generally rated good to excellent. The catering service (lunch) also gets a very good rating.

A selection of comments from visitors:

'... Spacious, comfortable and well equipped. High quality and efficient catering services. Outstanding support. Airport service was very efficient and timely. Town and taxi services were very efficient and timely...'

'... Very nice location on the port site. All facilities and support available...'

'... The venue was excellent and the organisation done by the staff was amazing. All staff were extremely friendly and so helpful...'

'... I was happy with the organizers of the workshop as well as the IODE Project Office Staff. I would feel no hesitation to attend another event if invited...'

Areas that are capable of improvement include the temperature and ventilation in the training and conference room (not always easy with visitors from the tropics!). For this reason a number of investments were made in the course of 2007 (e.g. a ventilation system). A number of improvements were made to the IT infrastructure as well (e.g. training room network).



Annexes

Financial statement
Performance & other indicators
Organisational chart
VLIZ contact information
VLIZ Collected Reprints 37 (2007)

FINANCIAL STATEMENT

BALANCE SHEET AND PROFIT AND LOSS ACCOUNT

BALANCE SHEET AS PER 31 DECEMBER 2007 (KEUR)

Assets	31/12/2005	31/12/2006	31/12/2007
Intangible fixed assets	0.52	0.00	1.04
Tangible fixed assets	499.52	606.40	659.91
Financial fixed assets	12.39	13.70	1.31
Amounts receivable within one year	179.29	237.41	255.45
Investments	0.00	0.00	0.00
Liquid assets	412.03	411.82	268.44
Prepayments and deferred income	80.74	40.76	3.07
Total	1,184.50	1,310.09	1,189.22

Liabilities	31/12/2005	31/12/2006	31/12/2007
Allocated funds	95.78	95.78	95.78
Surplus brought forward	666.19	901.84	735.18
Provisions for liabilities and charges	25.00	21.35	22.25
Liabilities due within one year	69.76	77.18	184.61
Prepayments and deferred income	327.78	213.94	151.40
Total	1,184.50	1,310.09	1,189.22

No surplus of the allocated subsidy was brought forward as a reserve in 2007 (art. 9 §1 of the Management Agreement).

The income from external financing represented 68.33% of the fixed 1st + 2nd subsidy and 41.50% of the 1st + 2nd + 3rd + 4th + 5th subsidy in 2007 (art. 5 §2 of the Management Agreement).

Budgetary deviations from the 2007 budget (art. 9 §1 of the Management Agreement)

The following adjustments were made to the 2007 budget:

- 1) regarding the expenditure for VLIZ (1st and 2nd subsidy):
 - the 'Zeeleeuw investments' item was reduced by € 2,808.00 in favour of the 'Zeeleeuw operational costs' item (€ 1,300.00) and the 'Flanders Marine Data Centre operational costs' item (€ 1,508.00).
 - the 'Flanders Marine Data Centre investments' item was reduced by € 4,100.00 in favour of the 'Flanders Marine Data Centre operational costs' item).

- 2) regarding the expenditure for the IODE Project Office (3rd subsidy):
 - the 'Operational costs' item was reduced by € 60,000.00 in favour of the 'Investments' item.

- 3) regarding the expenditure for the ESF (4th subsidy):
 - due to late completion of the new ESF buildings no rent had to be paid in 2007.

This means that an additional € 21,400.00 from the infrastructure costs budget was added to the budget for non-recurring investments in the equipment of buildings and € 12,100.00 was used for operational costs.

PROFIT AND LOSS ACCOUNT 2007 (KEUR)

Profits	31/12/2005	31/12/2006	31/12/2007
Operating income	2,978.96	3,650.53	3,172.79
Financial income	0.52	2.52	4.80
Extraordinary income	0.00	0.00	0.00
Total	2,979.48	3,653.05	3,177.59

Losses	31/12/2005	31/12/2006	31/12/2007
Remuneration and social security charges	1,273.51	1,540.74	1,712.93
Services and other goods	1,179.27	1,542.45	1,302.59
Provisions for liabilities and charges	25.00	-3.64	0.90
Depreciations	185.22	218.70	258.43
Financial charges	2.68	1.98	1.42
Other operating charges	17.61	117.17	67.98
Extraordinary charges	1.00	0.00	0.00
Total	2,684.31	3,417.40	3,344.25

Result	2005	2006	2007
Result of the financial year	295.17	235.65	-166.66
Transfer to allocated funds	10.00	0.00	0.00
Profit and loss reserve brought forward as per 31/12	666.19	901.84	735.18

PERFORMANCE & OTHER INDICATORS

VLIZ performance indicators overview table

(pursuant to the Management Agreement and the work schedule for the 2005-2009 period):

Performance indicator	2004	2005	2006	2007
P1 Number and quality of cooperation agreements concluded with institutional actors in the field of marine scientific research in Belgium and abroad	10	13	17	19
P2 Number of quality-checked records in the IMIS literature module	63,534	73,486	87,346	97,795
P3 Number of quality-checked records forwarded to the ASFA database	396	666	939	1126
P4 Number of quality-checked records in the VLIZ databases	17,572,920	24,297,742	36,303,562	73,923,402
P5 Number and quality of informative publications for the public at large:				
· number of issues of 'De Grote Rede' (*)	3	3	2	3
· total number of pages of 'De Grote Rede' (*)	72	92	60	96
· number of subscribers to 'De Grote Rede' (*)	2,193	2,386	2,892	3,585
· number of issues of 'VLIZINE' (*)	6	5	5	8
· total number of articles in 'VLIZINE' (*)	140	117	91	171
· number of subscribers to 'VLIZINE' (*)	730	839	930	1155
· number of other publications for the public at large made with the active cooperation of VLIZ (*)	5	3	10	7
· number of questions/answers added to the 'Our Coast' section of the VLIZ website	50	113	287	8
P6 Number of guest researchers using the 'IODE Project Office' expressed in terms of person days (*)	0	296	173	110
P7 Actual number of days at sea for scientific research (*)	195	240	188	239
P8 Number of training activities organised within the scope of the additional assignment described in article 4, expressed in number of person days (*)	0	1,227	2,348	942

(*): reported per calendar year

Performance indicators in more detail

The 8 performance indicators used to assess the performance of VLIZ in 2007 are discussed in more detail below.

P1: Number and quality of cooperation agreements concluded with institutional actors in the field of marine scientific research in Belgium and abroad

Within the context of its role as supporting research infrastructure for marine sciences VLIZ fulfils a special role. The cooperation with Belgian and foreign universities, research institutes and individual research groups is extended even further through the conclusion of cooperation agreements. VLIZ also participates in national and international networks and takes care of the image of Flemish marine and coastal research.



In the course of 2007 VLIZ concluded 2 new national cooperation agreements with research or administrative institutes:

- the Research Institute for Nature and Forest (INBO) in the field of information exchange and data management with regard to marine and coastal research (also see text box below)
- the Mangrove Management Group (MMG) at the Vrije Universiteit Brussel in the field of data exchange with regard to mangroves

Combined with the 17 already existing agreements, this gives a total of 19 cooperation agreements. This number does not include the respective management agreements with the Department of Economy, Science and Innovation (2005-2009 and Structural Science Communication Partnership) and the Province of West Flanders.

Of these 19 cooperation agreements, 13 relate to data exchange with marine research groups associated with universities or scientific institutions. These agreements represent 245 full-time researchers.

We have noticed an increase of the number of agreements by 9 since the entry into force of the new management agreement (2005-2009).

Overview of the **19 national cooperation agreements** concluded between VLIZ and institutional actors in the field of marine scientific research in Belgium and abroad.

AGREEMENTS WITH UNIVERSITIES

- Universiteit Gent, Department of Biology - biodiversity databases
 - Prof Dr M. Vincx - meiobenthos/macrobenthos/hyperbenthos/epibenthos
 - Prof Dr E. Coppejans - macroalgae
 - Prof Dr W. Vyverman - Protista
 - Prof Dr A. Vanreusel - meiobenthos of the deep sea and Antarctica
 - Prof Dr K. Sabbe - microphytobenthos
- Universiteit Hasselt, Prof Dr E. Schockaert - biodiversity/taxonomic databases
- Katholieke Universiteit Leuven
 - Prof Dr J. Berlamont & Prof Dr J. Monbaliu - hydrodynamics and sediment mechanics databases
 - Prof Dr F. Ollevier & Prof Dr F. Volckaert - marine and estuarine biology databases
- Vrije Universiteit Brussel, Prof Dr N. Koedam & Dr F. Dahdouh-Guebas - mangroves

AGREEMENTS WITH FLEMISH AND NATIONAL RESEARCH INSTITUTIONS

- Flemish Heritage Institute (VIOE) - Maritime Archaeology and Nautical Heritage cell
- Institute for Agricultural and Fisheries Research, Animal Science Unit, Fisheries Research Area (ILVO - Fisheries) - monitoring data and fisheries biological data
- Research Institute for Nature and Forest (INBO) - information exchange and data management with regard to marine and coastal research
- The MUMM department of the RBINS - cooperation with regard to Zeeleeuw and Belgica

AGREEMENTS WITH FLEMISH AUTHORITIES

- Waterways and Marine Affairs Administration (AWZ) - disclosure and exchange of scientific information and use of the measurement data of tidal systems
- Agency for Maritime & Coastal Services, Coastal Division - redistribution of data from Monitoring Network Flemish Banks
- Agency for Maritime & Coastal Services, Coastal Division - management of greenhouses for dune research in De Haan
- Agency for Maritime & Coastal Services, Coastal Division - organisation of Sluice Dock management committee
- Agency for Maritime and Coastal Services, Fleet Division - management of the Zeeleeuw research vessel
- Agency for Maritime and Coastal Services, Coastal Division, and Research Institute for Nature and Forest (INBO) - Monitoring of Flemish beaches

P2: Number of quality-checked records in the IMIS literature module

The IMIS integrated database is one of the databases of the VLIZ data centre (see also p. 76). This Integrated Marine Data & Information System incorporates all marine and coastal expertise in Flanders/Belgium (and surroundings) and makes it freely accessible to internet users. IMIS is a coherent modular system built around 'persons', 'institutes', 'projects', 'infrastructure', 'events', 'datasets', 'maps', 'journals' and 'publications'.

New references are continuously added to the 'publication' module after a quality check. It is this number of quality-checked records in the IMIS literature module that is the subject of performance indicator 2. It comprises all titles present in the VLIZ library (books, reports, articles, pdfs) as well as all titles of which we know where the user can acquire a copy.

At the end of 2007 the IMIS literature module contained a total of 97,795 quality-checked records of marine or coastal publications. This is 10,449 more than at the end of 2006.

At the end of 2004 the total number of quality-checked literature records amounted to 65,354, which is an increase by 34,261 records since the beginning of the 2005-2009 management agreement.

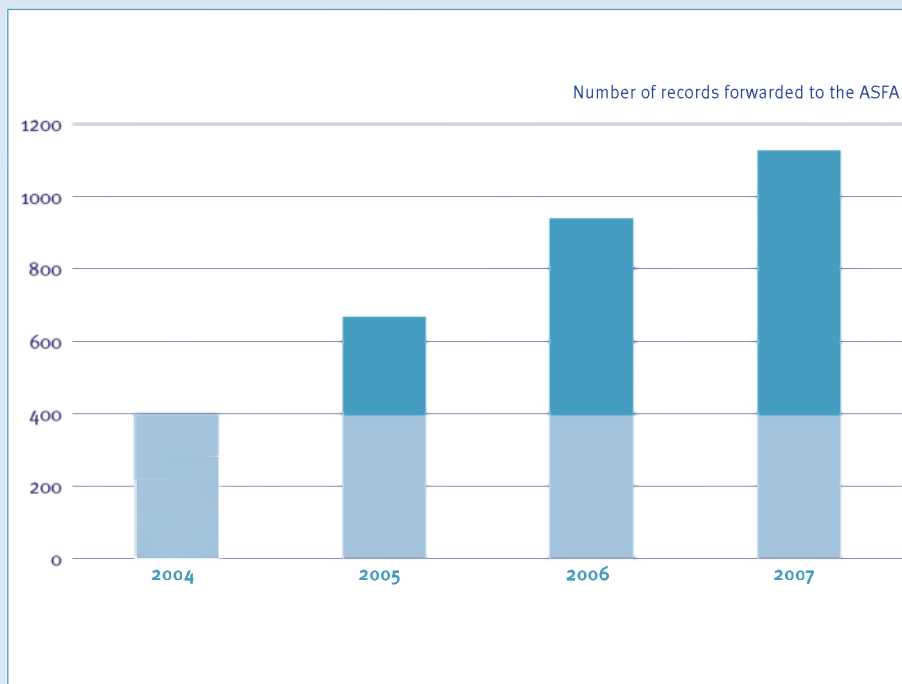


P3: Number of quality-checked records forwarded to the ASFA database

The VLIZ library serves as a national input centre for the ASFA (Aquatic Sciences and Fisheries Abstracts) database, the most comprehensive international source of information on marine scientific literature. By importing all Flemish marine references in this database VLIZ promotes the Flemish marine research to an international scientific audience.

The ASFA Advisory Board assesses the operation, contents and efficiency of the ASFA database on an annual basis and during this assessment it particularly focuses on the importance of referring to local grey literature. The Belgian input centre make considerable efforts in this field in particular. In 2007 we were able to add 187 Flemish marine references, which gives us a total of 1126 Belgian records.

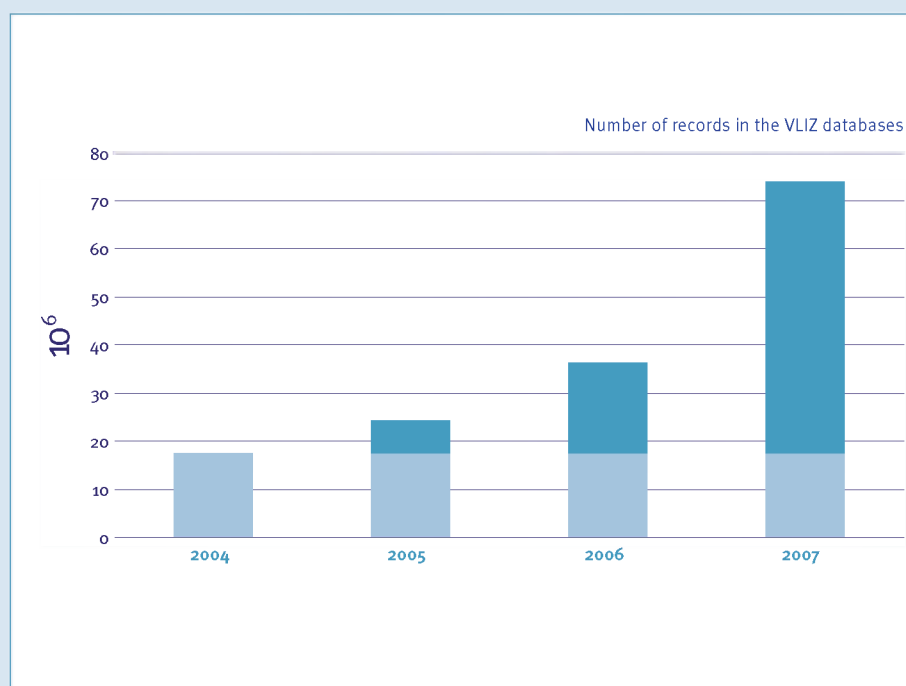
In 2004, the first year in which data were forwarded, the number of records was only 396. This means that 730 new records have been added since the start of the new management agreement (2005-2009).



P.4: Number of quality-checked records in the VLIZ databases

VLIZ manages several dozens of marine and coastal databases, which are stored on the VLIZ servers and put at the disposal of marine researchers and users after a quality check.

At the end of 2007 the total number of quality-checked unique records throughout all VLIZ databases amounted to 73,923,402. This is an increase by 104% compared to the number of records reported in the annual report of 2006. In 2004 the number of records in the databases amounted to 17,572,920. This means that this number has increased by 321% since the entry into force of the second management agreement (2005-2009).



The databases which experienced the strongest growth in the number of records (in absolute figures) over the past year are illustrated in the table below.

	end 2004	end 2005	end 2006	end 2007	Absolute growth in 2007	%
1 Tsunami Sea Level Stations	0	59,827	6,280,702	27,811,374	21,530,672	343
2 IMERS	0	734,558	2,180,822	7,712,717	5,531,895	245
3 WoRMS - Marine species	312,400	1,580,513	1,532,319	3,759,354	2,227,035	145
4 IMIS	792,893	1,153,866	1,285,903	3,230,476	1,944,573	151
5 Monitoring Network Flemish Banks	6,229,997	8,179,733	9,640,981	10,982,330	1,341,350	14
6 Midas	2,580,000	3,506,515	4,037,139	4,773,200	736,061	18
7 Antobis	0	131,772	330,033	557,037	227,004	69
8 Marine Gazetteer	0	51,309	83,314	182,597	99,283	119
9 Eurobis	340,000	1,437,781	3,479,908	3,546,255	66,347	2
10 ICZM	365,550	500,268	510,999	548,742	37,743	7

The database archiving operational data from measurement buoys and tide gauges continues to be the strongest grower in 2007 (+343%). IMERS also increased significantly (+245%), mainly due to the addition of the OMES data.

The taxonomic register WoRMS experienced a growth of no less than 145% as a result of the input of numerous world lists. At the end of 2007 some 90,000 marine species were documented in this manner. The IMIS information databank grew by 151%, mainly due to the addition of data for international projects (ENCORA, SeaDataNet...) and within the context of the Tour of Flanders. Since 2007 a full-time administrative assistant has been responsible for the input of data.

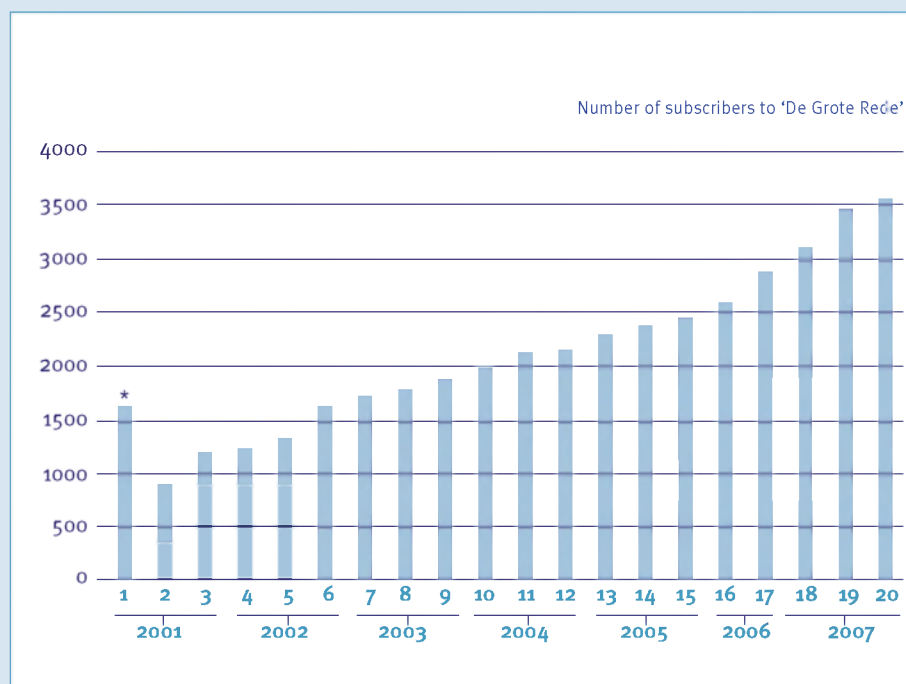
P5: Number and quality of informative publications for the public at large

The Flanders Marine Institute plays an important role in popularising and distributing marine scientific information to various target audiences. Apart from organising various workshops, symposia and information sessions and managing an infodesk, VLIZ also issues two regular publications ('De Grote Rede' and the digital newsletter 'VLIZINE') and contributes to other publications, some of which are also intended for the public at large. The 'Our Coast' and 'SeaStats' sections on the VLIZ website furthermore fulfil an important role in informing interested citizens.

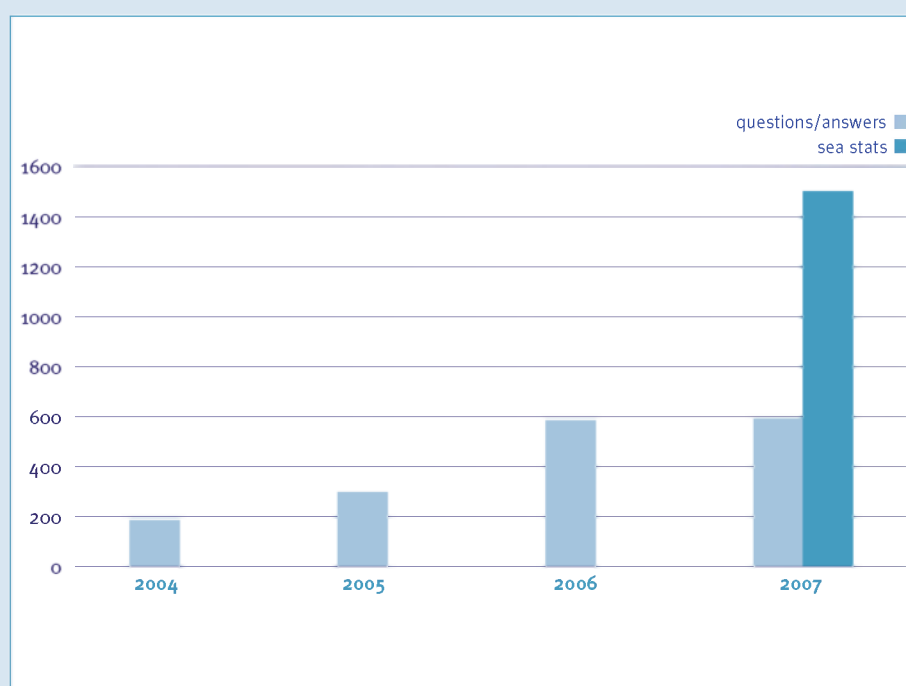
Informative publication	Indicator	2004	2005	2006	2007
'De Grote Rede'	number of issues	3	3	2	3
	total number of pages	72	92	60	96
	total number of leading articles	9	9	6	9
	total number of short articles	11	14	16	15
	number of short features	0	0	10	15
	number of marine terms explained	4	6	4	6
	number of subscribers	2,139	2,386	2,892	3,585
'VLIZINE'	number of issues	6	5	5	8
	total number of articles	140	117	91	171
	number of subscribers	730	839	930	1,155
Other publications for the public at large with contributions from VLIZ	number of publications	5	3	10	7
Questions/answers regarding marine/coastal matters; disclosed via 'Our Coast' section on VLIZ website	Newly introduced	50	113	287	8
	total number online	185	298	585	593
Figures regarding marine/coastal matters disclosed via 'SeaStats' section on VLIZ website		0	0	0	1,500

In 2007:

- VLIZ published 3 issues of 'De Grote Rede', comprising a total of 96 pages, 9 leading articles, 15 short features, 15 short articles and 6 marine terms. We reached a total of 3585 subscribers;
- VLIZ published 8 issues of the digital newsletter 'VLIZINE', comprising a total of 171 articles; the newsletter was sent to 1155 e-mail addresses.
- VLIZ actively contributed to 7 other publications for the public at large;
- VLIZ added 8 questions/answers to the 'Our Coast' section on the VLIZ website; this means that a total of 503 questions and answers in Dutch and 90 in English can now be found online;
- VLIZ added 1500 stats (incl. source and link) on maritime and coastal affairs to the 'SeaStats' section on the VLIZ website.



The number of subscribers to the journal 'De Grote Rede' increases with every issue. In 2007 we welcomed 693 new subscribers. The number of subscribers has increased by 1,392 since the 2004-2009 management agreement took effect (*: the first issue was sent to 1639 addresses with an invitation to subscribe).

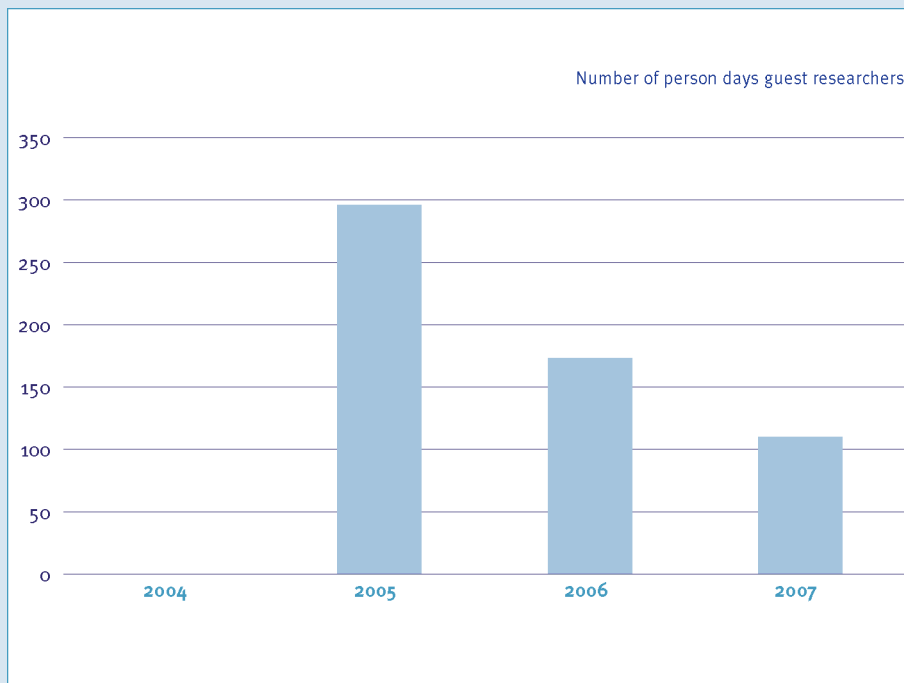


In 2007 major efforts were made to collect and launch 1,500 sea stats (www.vliz.be/cijfers_beleid/zeecijfers): reliable figures and titbits of information on all kinds of marine affairs with indication of the source and a direct link to a reliable document. Because of this, hardly any new questions and answers were added to the 'Our Coast' section.

P6: Number of guest researchers using the UNESCO/IOC Project Office for IODE expressed in terms of person days

VLIZ functions as the instrument used by the Flemish government to support the UNESCO/IOC Project Office for IODE. For that purpose VLIZ receives additional funding for accommodation, electricity, water, gas and internet costs (€ 76,000 a year) and has an annual budget of € 500,000 for the organisation of training courses in the field of tsunami early warning systems and other sea-related phenomena.

In 2007 a total of 73 guest researchers from 11 different countries and 3 international organisations visited the 'Project Office for IODE' in Oostende. Depending on the assignment the visit took one day up to one month.



P7: Actual number of days at sea for scientific research

VLIZ concluded a cooperation agreement with Fleet Division, a division of the Internally Autonomous Agency for Maritime and Coastal Services (MDK), so as to be able to use the research vessel 'Zeeleeuw' (and, if necessary, other vessels of the Flemish fleet) for marine scientific research. In order to evaluate the performance of the scientific trips with marine scientists as organised by VLIZ the actual number of days at sea realized for scientific research was suggested as an indicator. This number includes the trips with the Zeeleeuw, with the RIB Zeekat as well as with any other vessels of the Flemish fleet.

In calendar year 2007 a total of 239 days were spent at sea on scientific research, 150 of which with the Zeeleeuw, 51 with the Zeekat and 38 with other ships of Fleet Division (see table below).

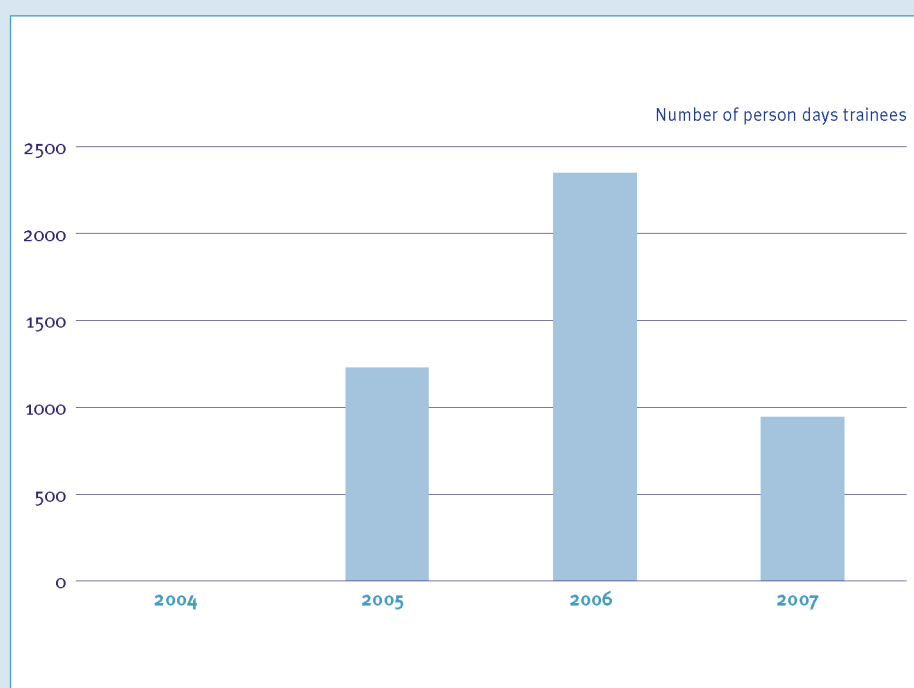
Number of days at sea for research purposes:	2004	2005	2006	2007
R/V 'Zeeleeuw'	155	151	122	150
RIB 'Zeekat'	37	45	35	52
'third' ships: Ter Streep, Veeremans, Scheldewacht, Parel I and Scaldis	3	44	41	38
Total number of days at sea for scientific research	195	240	188	239



P8: Number of training activities organised within the scope of the additional assignment described in article 4, expressed in number of person days.

The article mentioned above specifies the special responsibility of VLIZ to support the UNESCO/IOC Project Office for IODE. While performance indicator P6 relates to the number of guest researchers using this project office in Oostende, P8 specifically refers to the training courses organised at the office. In the case of P8 the decision was taken to express the indicator in number of person days of training.

A total of 11 training courses and workshops with a total number of 164 trainees from 59 different countries were organised at the UNESCO/IOC Project Office for IODE in 2007. The total number of person days amounted to 942.



The number of training courses in 2007 is lower than in 2006 due to the fact that:

- the biannual general IODEXIX meeting (in March in Trieste, Italy) was prepared in Oostende in the months of February and March. As a result, less training courses were organised in this period than in the same period of the previous year;
- ODINAFRICA III was in its final phase in 2007; the major part of the basic training courses had already been organised in the previous years.

An overview of the training courses organised in 2007 with indication of the date and number of participants is given below

training course	region	date	#	level
SeaDataNet Data Management Training Course	Europe, North Africa, Middle East	12-17/2	40	A
IODE/MarBEF Biodiversity Data Management Course	Europe + Worldwide	19-23/3	16	A
E-repository Training Course	Worldwide	23-28/4	9	A
ASCABOS Training Course	Black Sea countries	23-27/4	12	A
Young Scientist Training Course	Worldwide	4-9/6	15	B
African Marine Atlas (AMA) workshop (final)	Africa	4-8 /6	6	A
ODINAFRICA	Africa	4-15/6	5	A
Marine Biodiversity Data Mobilisation workshop				
Training Course on Buoy Program Implementation and Data Management	Worldwide	11-15/6	24	A
Training on the management of the End to End data Management (E2EDM) prototype system	Eastern Europe + Worldwide	22-25/10	18	A
ECOMAMA GIS Training Course	Worldwide	5-9/11	10	B
ODINECET Marine Information Management Training Course	Eastern Europe	19-23/11	9	A

Level: B = Basics; A = Advanced; S = Specialisation.

The participants represent 59 different nationalities: Albania, Algeria, Angola, Argentina, Australia, Bangladesh, Barbados, Belgium, Benin, Brazil, Bulgaria, Cameroon, Canada, Chile, China, Colombia, Croatia, Denmark, Estonia, France, Georgia, Germany, Ghana, Iceland, India, Indonesia, Ireland, Israël, Italy, Kenya, Kuwait, Latvia, Libanon, Lithuania, Mauritania, Mauritius, Mexico, Mozambique, Netherlands, Nigeria, Pakistan, Peru, Poland, Romania, Russia, Senegal, Seychelles, Slovenia, Sri Lanka, Tanzania, Thailand, Tunisia, Turkey, Ukraine, United Kingdom, United States, Venezuela, Vietnam and South Africa.

Other indicators

Apart from the main activities (see Annex 'Main activities and activities scheduled for 2005-2009') and from the performance indicators discussed above, additional indicators can be contemplated to get a clearer picture of the achievements of VLIZ during the past year. Contrary to the 8 performance indicators, these indicators have no binding effect and are only given for illustrative purposes.

		2005	2006	2007
About VLIZ				
Turnover of VLIZ (EUR)		2,528,646	2,746,084	2,824,697
Turnover without basic subsidy (external financing; in EUR)		408,815	667,292	227,606
Financial result of VLIZ (EUR)		285,170	235,653	166,660
Personnel (FTE permanent & temporary)		28,75	29,38	*29,27
Number of association members		265	248	238
Number of projects carried out by VLIZ in cooperation with research groups		27	28	29
Infodesk: communication & information				
Number of 'Special' and 'other' publications of VLIZ		12	16	**17
Number of questions asked/answered by e-mail/phone		125	170	209
Number of events organised		10	15	12
Number of participants in organised events		890	1117	852
Number of 'Special Publications' pages		1,465	953	337
Number of hits/visitors to the VLIZ website and ander websites hosted on the 'vliz.be' domain: total number of visits		***505,474	263,896	501,428
Number of hits/visitors to the VLIZ website and ander websites hosted on the 'vliz.be' domain: total number of pages consulted		2,131,950	2,371,833	3,258,496
Marine Library				
Number of exchange subscriptions with the VLIZ Collected Reprints (resulting in at least the same number of journal or series titles in the VLIZ library)	C	163	163	163
Number of new publications in the library (references)		9,952	11,446	11,390
Number of requested references in the library		815	598	****683
Number of titles offered online via the Open Marine Archive	C	524	2,221	2,800
Number of titles downloaded via the Open Marine Archive		-	12,487	10,598
Percentage of questions answered successfully		99	98	96
Facilities				
Number of researchers/students/passengers that made use of the Zeeleeuw		830	697	*****1,036
Number of references to VLIZ in scientific publications resulting from the use of the facilities	C	31	48	60
Number of records in the MIDAS database	C	3,506,515	4,037,139	4,773,200
Data Centre				
Number of archived and disclosed datasets expressed in number of files	C	1,701	5,896	6,534
Number of archived and disclosed datasets expressed in total file size (in Gb)	C	1.83	6.22	11.02
Number of records in biological databases (Aphia, Eurobis, Macrobel, NSBP and Antobis)	C	2,823,778	5,951,961	16,169,975
Number of records in the IMIS 'Publications' module	C	87,545	99,792	110,631
Number of records in the IMIS 'Datasets' module	C	500	714	1,044
Number of records in the IMIS 'Institutes' module	C	4,818	5,154	6,542
Number of records in the IMIS 'Events' module	C	447	493	653
Number of records in the IMIS 'Persons' module	C	9,757	11,635	14,359
Number of records in the IMIS 'Projects' module	C	1,266	1,376	1,906
Number of records in the IMIS 'Maps module	C	47	108	899
Number of records in the IMIS 'Infrastructure' module	C	0	41	46

* = 16.95 permanent and 12.32 temporary FTE; 22.77 scientific and 6.50 administrative employees (trainees and student employees not included)

** including 3 'VLIZ Special Publications', 4 reports, 4 co-publications and contributions to 6 other publications.

*** The current VLIZ website was launched on 20 March 2006. In 2005 different software was used to count the number of visitors and the results cannot be compared.

**** Out of 683 requests (590 from members, 93 from external persons), 655 references (96%) could be supplied; 424 (65%) from the Library's own collection, 231 from external sources (mainly via networks such as Euraslic and Iamslic (free of charge), Antelope/Impala and Subito - Germany (at a charge)).

***** 343 researchers + 693 students/passengers

C = cumulative

ORGANISATIONAL CHART

The Flanders Marine Institute (VLIZ) is an autonomous institute with the legal status of a non-profit organisation under Belgian law that receives an annual subsidy from the Flemish government and from the Province of West-Flanders. Pursuant to the articles of association VLIZ installed a Board of Directors, a General Assembly and a Scientific Committee as executive bodies at the time of its establishment. The latter advises the Board of Directors on the scientific feasibility and desirability of decisions.

Board of Directors

Pursuant to the articles of association the Board of Directors is composed of 14 members (end 2007):

Chairman of the Board is Mr *Paul Breyne*, governor of West Flanders

Eight members were nominated by the Flemish government:

- Mr *Colin Janssen*, professor, Universiteit Gent, vice-chairman
- Ms *Marie-Claire Van der Stichele-De Jaegere*,
honorary member of the Provincial Executive, secretary
- Mr *Jean Berlamont*, full professor, Katolieke Universiteit Leuven
- Mr *Yves Goossens*, general manager of Fleet Division of MDK
- Mr *Jean Lanckneus*, marine geology consultant, Magelas NV
- Ms *Veerle Lories*, secretary general ad interim
of the Department of Economy, Science and Innovation
- Ms *Ilse Hoet*,
department manager of the Department of Mobility and Public Works
- Ms *Magda Vincx*, full professor, Universiteit Gent

The two members nominated by the Province of West Flanders are:

- Mr *Gunter Pertry*, member of the Provincial Executive
- Ms *Hilde Veulemans*, member of the Provincial Council

The three other members are:

- Mr *André De Raes*, assistant manager
of the Provincial Development Company of West Flanders
- Mr *Paul Gerard*, managing director of AG Haven Oostende
- Mr *Willy Versluys*, fishing vessel owner

The government commissioners are:

- Mr *Luc Gobin*, on behalf of the Flemish Minister of Finance
- Ms *Marie Claire Van de Velde*, on behalf of the Flemish Minister of Science Policy

Attend the meetings:

- Mr *Rudy Herman*,
researcher of the Department of Economy, Science and Innovation
- Mr *Jan Mees*, manager of VLIZ and rapporteur

General Assembly

The General Assembly is currently composed as follows (2007):

Chairman of the General Assembly is Mr *Paul Breyne*, governor of West Flanders

The eight voting members appointed by the Flemish Community are:

- Prof Dr *Patric Jacobs*, vice-chairman of VLIZ
- Prof Dr *Willy Baeyens*, Vrije Universiteit Brussel
- Prof Dr *Jean Berlamont*, Katholieke Universiteit Leuven
- Prof Dr *Ernest Schockaert*, Universiteit Hasselt
- Prof Dr *René Van Grieken*, Universiteit Antwerpen
- Prof Dr *Magda Vincx*, Universiteit Gent
- Dr *Veerle Lories*, Department of Economy, Science and Innovation
- Eng *Jan Strubbe*, honorary director-general
of the Waterways and Marine Affairs Administration

The four voting members appointed by the Province of West Flanders are:

- Mr *Gunter Pertry*, member of the Provincial Executive
- Mr *Bart Naeyaert*, member of the Provincial Executive
- Mr *Patrick Braet*, Provincial Treasurer
- Mr *Jan Denys*, manager of the Mercator Maritime Institute

The member appointed by the Research Foundation Flanders (FWO) is:

- Dr Eng *Elisabeth Monard*, secretary general of the Research Foundation Flanders

Mr *Frederik Colson* is entitled to vote in the General Assembly in his capacity as founding member.

The members of the Board of Directors of VLIZ have the right to attend and participate in the General Assembly but are not entitled to vote.

Scientific Committee

The Scientific Committee advises the Board of Directors on all scientific and research-supporting activities organised by VLIZ and supports VLIZ in the formulation of qualitative and scientifically sound advice.

The composition of the Scientific Committee reflects the inter-university and interdisciplinary character of VLIZ. Attention is also paid to good cooperation with the Flemish authorities and the federal government in this respect. The composition of the Scientific Committee at the end of 2007 is presented below.

The Flanders Marine Institute (VLIZ):

- *Colin Janssen*, chairman, vice-chairman of the Board of Directors
- *Jan Mees*, manager
- *Jan Seys*, rapporteur (substitute: *Nancy Fockedey*)
- *Jean Berlamont*, Katholieke Universiteit Leuven, member of the Board of Directors
- *Jean Lanckneus*, marine geology consultant, member of the Board of Directors
- *Magda Vincx*, Universiteit Gent, member of the Board of Directors
(substitutes: *Ann Vanreusel* or *Steven Degraer*)

Flemish universities and scientific institutions:

Two delegates from Katholieke Universiteit Leuven (KULeuven)

- *Filip Volckaert* (substitute: *Tine Huyse*)
- *Jaak Monbaliu*

Three delegates from Universiteit Gent (Ugent):

- *Gilbert Van Stappen* (substitute: *Patrick Sorgeloos*)
- *Frank Maes* (substitute: *An Cliquet*)
- *Wim Vyverman* (substitute : *Koen Sabbe*)

Two delegates from Universiteit Antwerpen (UA)

- *Patrick Meire* (substitutes : *Stefan Van Damme* or *Eric Struyf*)
- *René Van Grieken*

Three delegates from Vrije Universiteit Brussel (VUB):

- *Frank Dehairs* (substitute: *Martine Leermakers*)
- *Nanette Daro*
- *Nico Koedam* (substitute: *Farid Dahdouh-Guebas*)

One delegate from Universiteit Hasselt (UHasselt)

- *Tom Artois* (substitute : *Nathalie Beenaerts*)

One delegate from the Research Institute for Nature and Forest (INBO):

- *Jurgen Tack* (substitute : *Eric Stienen*)

One delegate from the Fisheries department of the Institute for Agricultural and Fisheries Research (ILVO - Fisheries):

- *Kris Cooreman*

One delegate from the Flemish Heritage Institute (VIOE):

- *Marnix Pieters* (substitute : *Anton Ervynck*)

The Flemish government:

One delegate from the Hydraulic Research Laboratory division of the Department of Mobility and Public Affairs:

■ *Frank Mostaert*

One delegate from the Coastal Division of the Agency for Maritime and Coastal Services (MDK):

■ *Guido Dumon* (substitute: *Nathalie Balcaen*)

One delegate from the Department of Economy, Science and Innovation (EWI):

■ *Rudy Herman*

One delegate from the Environment, Nature & Energy policy area:

■ *Fabienne Vanderstraeten*, International Environmental Policy Division (AIM) of the Environment, Nature & Energy Department (LNE) (substitute : *Els Martens*, Central Services division of the Nature and Forest Agency (ANB))

The federal government:

One delegate from the Federal Science Policy Office:

■ *David Cox*

One delegate from the MUMM department of the Royal Belgian Institute for Natural Sciences (RBINS):

■ *Georges Pichot* (substitute: *Brigitte Lauwaert*)

This list is not exhaustive: the Board of Directors may invite representatives from other institutions and underrepresented research disciplines to join the Scientific Committee. If a specific problem arises, Belgian and/or foreign experts may be invited to attend one or several meetings.

Vliz Contact Information

Flanders Marine Institute
VLIZ - InnovOcean site
Wandelaarkaai 7
8400 Oostende
Belgium

Tel.: +32 (0)59 34 21 30
Fax: +32 (0)59 34 21 31
E-mail: info@vliz.be
URL: <http://www.vliz.be>

Colophon

This Annual Report 2007 of the Flanders Marine Institute (VLIZ) is based on the 'jaarverslag 2007' presented for approval to the Board of Directors and the General Assembly on 17 April 2008.

Coordination and final editing

Jan Mees - manager
Nancy Fockedeey and Jan Seys - Communication & Information

Many thanks to all who contributed to the completion of this document.

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All pictures property of VLIZ unless stated otherwise.

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Vlaams Instituut voor de Zee *Flanders Marine Institute*

VLIZ COLLECTED REPRINTS

Marine and coastal research in Flanders

Colophon

Vol. 37 (2007)

The annual VLIZ Collected Reprints are the continuation of the previous IZW0 Collected Reprints (vol. 1, 1970 - vol. 28, 1998). They list the marine scientific papers of Flemish researchers published in the last year. They are available full-text through the Open Marine Archive (OMA) of VLIZ, and from volume 37 on, through a CD as a supplement to the VLIZ Annual Report.

On the CD in the Annual Report 2007 one can find an overview of volume 37 (2007). The full-text of some papers is added as pdf on the CD, but of other publications the full-text can only be provided via the OMA website. Clicking on the link 'OMA' will lead you directly to the full text version available in our Open Marine Archive.

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Dr. Jan Mees, director
Flanders Marine Institute (VLIZ)
Wandelaarkaai 7, B-8400 Oostende, Belgium
Tel. +32 (0)59 34 21 30
Email: info@vliz.be

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