EURASLIC

Seventh Biennial Meeting
of the European Association of Aquatic Sciences
Libraries and Information Centres (EURASLIC)
6-8 May 1998, Athina, Greece

PEOPLE AND TECHNOLOGY

Sharing Knowledge and Shaping the Future of Aquatic Information in Europe

Proceedings

'98

National Centre for Marine Research

PEOPLE AND TECHNOLOGY

Sharing Knowledge and Shaping the Future of Aquatic Information in Europe

Proceedings of the 7th Biennial Meeting of EURASLIC, 6-8 May 1998
National Centre for Marine Research, Athina, Greece

Edited by
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National Centre for Marine Research
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Preface

The title of this Seventh Biennial Meeting of the European Association of Aquatic Sciences Libraries and Information Centres (EURASLIC) is significant for its many nuances - **People and Technology:** ***Sharing Knowledge and Shaping the Future of Aquatic Information in Europe***. We wanted to stress the partnership of people and technology and explore the potential of this partnership in shaping the future of our chosen profession within Europe. The political and cultural realities of such a large and diverse region make this task such an interesting challenge. The themes for the three main sessions - Specialised Databases and Retrieval Tools; Continuing Professional Development; and European Co-operation - will all play their part in shaping the aquatic information systems for the next millennium.

The Conference itself was significant in so many respects:

Firstly because it marked the tenth anniversary of the inauguration of EURASLIC. The two invited papers gave an overview of the development of the Association over these ten years and led into the Open Forum "EURASLIC the future" on the third day.

Secondly because this was our first three-day meeting, the previous six had all been two day meetings. With over 35 papers and an extensive Business Meeting, it was still a very packed three-day programme. To me, this is an indication of a healthy and dynamic group.

Thirdly because it saw the introduction of Poster Papers to our Conferences. The membership of EURASLIC encompasses a large number of nationalities and languages. Poster papers encourage participation by those attendees who may not be confident enough in the conference language to read their paper. This increased participation is beneficial to all and I would encourage any future contributors who may be worried about presenting a paper to seriously consider a poster.

Fourthly because we were able run a training workshop (Creating Web Pages) as part of the Meeting, providing participants with the opportunity to develop new skills.

The Conference was attended by 48 participants from 19 countries. Although this is quite an achievement, we are always striving to increase participation. The Eighth Meeting, EURASLICs Millennium Conference, will be held from 3–5 May 2000 at the Marine Laboratory, Aberdeen, UK – why not put it in your diary now!

Ian Pettman
EURASLIC President 1997-98

ACKNOWLEDGEMENTS

I wish to thank all those who helped make this Seventh Biennial Meeting such a constructive and enjoyable experience.

Nothing would have been accomplished without the hard work and determination of Joan Baron, the Programme Co-ordinator combined with that of Sofia Goulala and her team, the Local Organisers. Without the generous support and involvement of the Directors of the National Centre for Marine Research (NCMR), Athens, we would not have had the necessary transport, venue, conference and catering facilities.

Our local hosts, the NCMR Library Staff (Sofia Goulala, Lia Charou and Dimitris Kazepis) were the model of Greek hospitality. Their care for our comfort and enjoyment was evident every hour of our stay. Their vitality was inexhaustible.

Sponsorship is essential for these meetings. Both David Moulder and Sofia Goulala put in a lot of work with our sponsors, and we are very grateful to them and to all of the individuals and organisations that provided sponsorship.

Tremendous thanks must also go to all the speakers (my particular thanks go to all those whose mother tongue is not English), workshop co-ordinators, session chairs and poster presenters.

I am glad to have had the opportunity of meeting all the attendees and I trust that they all gained in many ways not only from the presentations but also from the chance to meet so many of their colleagues from all over Europe. I must also express my personal thanks to all the Board Members for the 1996 to 1998 period without whose support my term as President would have been untenable.

Finally I wish to express thanks on your behalf to the Editors of these *Proceedings*. They serve as both a record of the meeting and a means of sharing the experiences and ideas with those of our colleagues who were not fortunate enough to be able to be with us. I hope that they will encourage and enable these colleagues to join us in the future.

Ian Pettman
EURASLIC President 1997-98

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Introduction

by

Sofia Goulala
National Centre for Marine Research, Athina, Greece.

As Head of Library and Information Services, I was delighted to welcome members of EURASLIC and other colleagues from the library and information world to the National Centre for Marine Research (NCMR) in Athina, Greece for the Seventh Biennial Meeting and Conference of the European Association of Aquatic Sciences Libraries and Information Centres (EURASLIC). I have been privileged to have been involved in EURASLIC for many years and have been fortunate in being able to attend many past meetings. I and my Institute have benefited immeasurably from links, contacts and friendships made during our association with, and participation in this very special network.

My staff and I were particularly pleased to be hosting this Conference which marked the Tenth anniversary of the Association, and which was the first meeting to be held over a span of three days. We were privileged during the opening ceremony to be addressed by the President and Director of NCMR, Dr. Dimitris Papanikolaou, and by Dr. Francesco Civilli, Coordinator of the MedPol Programme of the United Nations Environment Programme (UNEP) Mediterranean Action Plan (MAP), both of whom demonstrated the importance they attributed to the work of library and information specialists in support of aquatic sciences, and each gave an enthusiastic and informed welcome to conference participants. Ian Pettman (EURASLIC President 1996-98) replied to these welcoming speeches.

I would like to add my own thanks to all those involved in organising this highly successful Seventh meeting and conference of EURASLIC and to all those organisations and individuals who provided much valued sponsorhip.

I was greatly honoured to be nominated and accepted by members as the next President of the Association and look forward during the next two years to working closely with the Vice-President, Sarah Heath, and other members of the Board to facilitate the various actions we have been charged with.

Sofia Goulala
EURASLIC President 1998-

Special Session:
History and Development of EURASLIC

Proceedings of the 7th Biennial Meeting of EURASLIC.
Athina, Greece, 6-8 May 1998, p. 5-12

EURASLIC: the first ten years. The origins and history of the European Association of Aquatic Sciences Libraries and Information Centres, 1988-1997

by

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ABSTRACT

EURASLIC is a pan-European association and network linking individuals and institutions working in the field of marine and freshwater information provision. The origins and development of the Association are reviewed, and its activities and products are described.

Cooperation, interdependence and interaction are recognised by librarians as vital for the efficient operation and provision of library and information services, and by long tradition librarians have formed themselves into working groups, associations and networks

The idea for the formation of an association of European aquatic libraries was first discussed and developed in the UK by the United Kingdom Marine and Freshwater Librarians' Group, and as a result, when preparing for their annual meeting in 1988, invitations were extended to a wide range of aquatic librarians and organisations throughout Europe to send representatives to the meeting. The UK group were very pleased by the encouraging response and the participation at that meeting of librarians from Belgium, Denmark, Eire, Finland, France, Monaco, Portugal and the United Kingdom, with an observer from the United States representing the International Association of Marine Science Libraries and Information Centers (IAMSLIC).

Much of the discussion at this meeting centred around means and methods of cooperation in the fields of libraries and aquatic sciences on a pan-European basis. The main outcome of the meeting was unanimous agreement that efforts should continue in building this network of cooperation, and this meeting has generally come to be regarded as the inaugural meeting of EURASLIC.

Many of the participants attending the meeting were already cooperating in networks within their own countries; national groups in France and the Scandinavian countries, as well as the UK had cooperated for many years, and other participants were involved in the international Aquatic Sciences and Fisheries Information System (ASFIS) and the international Agricultural Information System (AGRIS) programmes. At this time there was encouragement for cross-border cooperation by the European Commission, and many existing regional groups in other parts of the world were receiving support and encouragement from international organisations such as the Food and Agriculture Organisation (FAO) of the United Nations, and the Intergovernmental Oceanographic Commission (IOC) of Unesco, as part of the ASFIS programme.

Participants felt that the aims of a European association could be realised by building on existing national networks, by encouraging countries without networks to establish them, and to integrate these groups into a European network. The main functions of this pan-European association would be to develop and strengthen links between individuals and institutions, to exchange ideas, to provide mutual support and to collaborate in joint projects. The first task was to identify networks, institutions and individuals throughout Europe who might participate, and members present agreed to compile lists, which could be merged together by staff in the Plymouth laboratory to create the basis of a European directory and mailing list. It was agreed that during the next year, members would act as "missionaries" in order to identify and contact relevant organisations, institutions and individuals, and to generate and maintain interest in the idea of a European aquatic library and information network. Several participants offered to arrange and host the next "European meeting".

A report of the proceedings of this inaugural meeting (Varley and Moulder 1988) was produced and distributed to over 150 organisations with a letter asking recipients to register their interest in the work of the group, and the concept of a European aquatic information network was publicised and promoted to institutions, funding agencies, and regional and international bodies.

During the next two years details of over 200 European marine and freshwater sciences libraries were collected, and plans went ahead for the second meeting which was to be hosted by the Institut Océanographique in Paris in April 1990.

The first issue of the *EURASLIC Newsletter* appeared in September 1989. It was edited by David Moulder and produced and distributed by the PML/MBA library in Plymouth. The main objective of the first issue was to announce the date and place of the second meeting. At this stage the name "EURASLIC" was unofficial, and the *Newsletter* asked for suggestions for a suitable name and acronym.

The meeting in Paris, organised by Institut staff and Parisian aquatic sciences librarians, was attended by 75 participants from 15 European countries. The significant aspects of this highly successful meeting were the endorsement of the name of the association as the European Association of Aquatic Sciences Libraries and Information Centres, with the acronym "EURASLIC", and the resolution that the association should have a formal structure (Moulder 1990).

The possibilities of EURASLIC operating as a regional group within the framework of IAMSLIC (Simpson 1990), whilst retaining European autonomy, were debated at length at this meeting, and a working group was established to examine the feasibility and, if appropriate and agreed by members, to open up negotiations with IAMSLIC. The other main outcome of this meeting was the agreement that Nicole Momzikoff and David Moulder would develop the list of addresses and related material into a directory which would be published and distributed under the auspices of EURASLIC. Other topics discussed included inter-library loans, the costs of periodicals, and ASFA/ASFIS developments.

The proceedings of the meeting (Momzikoff and Varley 1990) were published as a special issue of *Océanis*, with papers translated into French and English. This was as a result of a grant from the French Agence de Cooperation Culturelle et Technique.

This was another major developmental meeting for EURASLIC, and David Moulder's paper tabled many issues that had been raised during the preceding two years, issues which would continue to be debated in the twelve months leading up to the third meeting of EURASLIC, which was to be held in Lelystad, The Netherlands.

The Working Group examined IAMSLIC's constitution and prepared proposals for IAMSLIC to extend its scope to cover freshwater aspects, and to amend its procedures to allow a regional structure. These were agreed and submitted to IAMSLIC's conference in Seattle, Washington, in October 1990. Pauline Simpson and Allen Varley were among the participants and, acting as EURASLIC emissaries succeeded, after detailed discussion and argument, in persuading IAMSLIC

firstly to consider formally extending the scope to include freshwater aspects and changing the name of the association to include the word "Aquatic", i.e. the International Association of Aquatic and Marine Science Libraries and Information Centers (although it would retain the acronym "IAMSLIC"), and secondly to recognise that regional groups, networks and associations such as EURASLIC could operate and be recognised as regional sections of IAMSLIC. A ballot of IAMSLIC members in early 1991 accepted these changes.

A EURASLIC Bulletin Board was established on Omnet's SCIENCEnet electronic mail system in September 1990. At this time Omnet was used for communication between marine scientists, ASFIS members, IAMSLIC, and international agencies; however with the increasing availability of the Internet the Bulletin Board was closed in November 1992.

The third EURASLIC meeting was held at the Rijksinstituut voor Integraal Zoetwaterbeheer en Afvalwaterbehandeling (RIZA), Lelystad, The Netherlands, 25-26 April 1991. Forty-three participants from 14 countries attended the meeting.

At the meeting the Working Group on IAMSLIC/EURASLIC relations reported their findings and the results of negotiations with IAMSLIC. Members voted for EURASLIC to become a regional group of IAMSLIC, and a EURASLIC Interim Committee was appointed to formulate options and proposals for the formal structure of EURASLIC. Much of the discussion over the two days of this meeting was concerned with enhancing national and international cooperation. Two workshops were held, one on improving the inter-library loan network, and RIZA subsequently developed a EURASLIC interlibrary request form. Details of institutes willing to participate in the EURASLIC inter-library loan network were to be included in the *EURASLIC Directory*, a draft of which (containing over 300 entries) was presented at this meeting. In a parallel session a second workshop was held to discuss how EURASLIC could help to improve the coverage of *Aquatic Sciences and Fisheries Abstracts* (ASFA). The purpose was to encourage EURASLIC member institutes to consider the benefits of contributing to the ASFIS/ASFA system by becoming National Input Centres or additional collaborating centres within their own countries, and to enlist their assistance in identifying gaps in ASFA's coverage.

These early years in the development of EURASLIC coincided with largely unexpected changes in Europe. These included the removal of political and social barriers between East and West Europe, German reunification in 1990, and the advent of "Perestroika" and "Glasnost" in the USSR. During the same period the Commission of the European Communities was actively promoting cross-border cooperation within Europe in many areas of scientific research, information technology, and library development, providing both the infrastructure and financial opportunities for collaboration.

We have been fortunate since the second meeting in Paris to have been joined by an ever-increasing number of colleagues from eastern Europe and the countries of the former Soviet Union, some assisted with travel costs by sponsors enlisted by EURASLIC. From the very first meeting, participants have been encouraged to present institutional and country reports and these reports, subsequently published in proceedings of meetings, serve as a unique ongoing record of developments in the provision of aquatic science information in Europe; this rich picture has expanded and continues to grow.

In November 1991 the first edition of the *Directory of European aquatic sciences libraries and information centres*, edited by David Moulder and Nicole Momzikoff, was distributed free of charge to all of the 335 organisations and institutions listed in the *Directory*, as well as to a range of additional recipients. Produced from the database maintained in Plymouth, and published by the Institut Océanographique, who funded the production, the *Directory* was a tangible and useful product, demonstrating the value of cooperation within Europe.

Since these inaugural meetings a further three meetings and conferences have been held, and a pattern has been established of organising conferences at two-yearly intervals, hosted at marine or

freshwater research institutes in various European countries. There has been no shortage of members volunteering to organise and host meetings. Subsequent meetings have been held in Bremerhaven, Germany (October 1992); Gdynia, Poland (April 1994); and Malta (April 1996).

The Bremerhaven meeting (Fuseler and Wiist 1993) was in conjunction with IAMSLIC, on the occasion of IAMSLIC's first venture outside North America. The meeting in Gdynia, hosted by Henryk Ganowiak, a loyal and supportive member who was to become a Vice President, was EURASLIC's first meeting in the former Eastern Europe (Moulder and Varley 1995), whilst the Malta meeting (Moulder, Djørup, and Heath 1996) was the first to be held in the Mediterranean.

From its inauguration, EURASLIC has received support and funding for its activities from a range of organisations, including national, regional and international bodies. This funding has taken the form of providing venues for meetings, sponsorship for participants, support for the preparation, publication and distribution of the *EURASLIC Directory* and *Newsletter*, and the commissioning of reports and papers. The most important support however has come from individual members in many countries who have devoted substantial amounts of time, effort and resources to ensure the continued progress of the association and network. The thanks of the Association are due to those who have served as officers, committee members and Board members, and particular mention should be made of David Moulder who from the inaugural meeting in Plymouth nurtured EURASLIC through its formative years, and served as President until 1996.

EURASLIC is officially registered in France as a Europe-wide association, with its own bank account and various categories of membership. Members are involved in a number of cooperative projects, including:

- The *EURASLIC Newsletter*, now in its tenth year, has been the result of a collaboration between many members, and edited by David Moulder (1989-1994); Barbara Schmidt (1994-), with Joan Baron and Sarah Heath (1997-).
- The second edition of the *EURASLIC Directory of European Aquatic Sciences Libraries and Information Centres*, edited by David Moulder, and produced from the Plymouth database was published by the Instituto Español de Oceanografia in 1994. Listing 515 organisation, this directory serves not only as a valuable information source, but also to enhance the profile of EURASLIC, its aims and its members.
- The EURASLIC Bulletin Board, on Omnet's SCIENCEnet was in operation from September 1990 to November 1992. EURASLIC's World Wide Web Page on the Internet was set up in Plymouth by David Moulder in 1996.
- The proposed compilation and production of *a European Directory of Marine and Freshwater Institutions, Scientists and Research Engineers* in collaboration with the Intergovernmental Oceanographic Commission (IOC) of Unesco, with EU Marine Science and Technology Programme (MAST) support.
- EURASLIC libraries in a number of countries are cooperating in the UNIverse Project. Funded by the EU, this project is based on the development of a virtual union catalogue, linking catalogues of major holdings of environmental sciences literature in over 50 libraries across Europe.
- Surplus and duplicate books and journals are distributed through listing in *EURASLIC Newsletter*, or by direct contacts.

The purpose of this paper has been to record EURASLIC's origins and development. Over the past thirty years information services, information systems and libraries have achieved long-deserved recognition as vital elements in the scientific research process. EURASLIC is the only pan-European association representing the interests and views of individuals and organisations involved

in the field of aquatic information provision. This has been a reflective look at the early and formative years of what is still a relatively young association. We hope that it will have served to refresh the memories of members who have been involved since the beginning and before, and to inform those who are relatively new members, or those who have perhaps yet to join, of the origins and development of EURASLIC.

ACKNOWLEDGMENT

We are grateful to our friend and colleague Marie-Thérèse Panouse, former EURASLIC Treasurer, for helpful comments and advice.

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APPENDIX 1

List of participants at the first Meeting, Plymouth, April 1988

Sheila Adair, Scotland, UK.
Derek Bate, England, UK
Andrew Beavis, Belgium.
Geoffrey Bothamley, England, UK.
Susan Boxall, England, UK.
John Burne, Scotland, UK.
Jacqueline Carpine-Lancre, Monaco.
Alison Charles, Wales, UK.
Jean Collins, Denmark.
Mary Delahaye, France
Norma Ellis, England, UK.
William Goff, USA.
Harianne Harvey, England, UK.
Marjatta Heinanen, Finland.
Denise-Hélène Hugol, France.
Helen Johnson, England, UK.
Katherine Jones, England, UK.
Anne McConville, Scotland, UK.
Nicole Momzikoff, France.
Mary Moore, Ireland.
David Moulder, England, UK.
Linda Noble, England, UK.
Lidia de Paiva Nunes, Portugal.
Ian Pettman, England, UK.
Sandra Robinson, England, UK.
Michael Rolfe, England, UK.
Paul Rolfe, Wales, UK.
Sylvia Russell, England, UK.
Roy Selwyn, England, UK.
Pauline Simpson, England, UK.
Maria Helena Tavares, Portugal.
Cecile Thiery, Monaco.
Claude Uguen, France.
Allen Varley, England, UK. (Chairman)
Susan Wharton, England, UK.
Doreen Willis, England, UK.

APPENDIX 2

List of EURASLIC Officers, Committee and Board members

EURASLIC Interim Committee, 1991:

David Moulder (Plymouth Marine Laboratory, UK) (Coordinator)
Marie-Thérèse Panouse (Observatoire océanologique, Banyuls, France)
Sandra Rientjes (Rijksinstituut voor Integraal Zoetwaterbeheer en Afvalwaterbehandeling (RIZA), Lelystad, The Netherlands)
Pauline Simpson (Institute of Oceanographic Sciences, UK)
Barbara Schmidt, (GEOMAR, Forschungszentrum für Marine Geowissenschaften, Kiel, Germany FR)

EURASLIC Officers and Board members:

President:	David Moulder	1992-1996
	Bent Gaardestrup	1996-1997
	Ian Pettman	1997-
Vice President	Henryk Ganowiak	1993-1996
	Ian Pettman	1996-1997
Treasurer	Marie-Thérèse Panouse	1992-1996
	Monique Margout	1996-
Secretary	Brit Skotheim	1992-1996
	Kirsten Djørup	1996-
Representatives	Nicole Momzikoff	1992-1996
	Ian Pettman	1992-1996
	Joan Baron	1996-
	Barbara Schmidt	1996-
Newsletter Editors	David Moulder	1989-1994
	Barbara Schmidt	1994-
	Joan Baron and Sarah Heath	1997-

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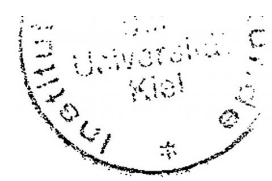
EURASLIC: review of current activities



by

Ian Pettman
Consultant - Formerly Head of Library and Information Services, Freshwater Biological Association, The Ferry House, Ambleside, Cumbria LA22 0LP, United Kingdom

ABSTRACT

The fifteen projects tabled at the 1996 Malta meeting for the Board to pursue are reviewed. The main point emphasised is the growth in the number of projects over the ten-year period. Developments in the aquatic sciences in Europe over this period are then reviewed and the EURASLIC response is considered.

INTRODUCTION

It is a tremendous privilege to be able to deliver this invited paper in this, the Association's tenth year. I was fortunate enough to be present at some of the early discussions in 1986 and 1987 when the idea of such an Association was being debated. It is, therefore, a great personal pleasure to see how far the organisation has travelled in such a short time.

My initial thoughts when invited to talk to you today where, I must admit, somewhat narrowly focused. Reviewing the current activities of the European Association of Aquatic Sciences Libraries and Information Centres (EURASLIC) seemed to be a simple task of following on from yesterdays paper on the origins and history i.e. giving you an overview of the projects undertaken since the 1996 Malta meeting.

As with all simple tasks, if the job is to be done properly, it turns out to be more involved than it appears at first sight. We have, of course, covered many of the projects in the Business Meeting and I do not want to repeat those discussions here. However, I would like to emphasise the growth in both the scale and the number of projects undertaken (or at least that the board has been charged with) over these ten years.

PROJECTS

As yesterday's paper indicated, the Association has always been productive. Even in the early years, each meeting generated at least three or four projects, all of which involved a practical outcome or the development of a product (e.g. the EURASLIC Inter-Library Loans Scheme, the *EURASLIC Newsletter*, the *EURASLIC Directory*, etc).

In 1996, at the Malta meeting, we excelled ourselves and charged the Board with 15 projects. It would give me tremendous satisfaction to be able to report to you today that we had completed all fifteen. As you know, I cannot do that but I think that your Board has achieved a considerable

amount over the last two years.

Seven of the projects have been completed:

- editing, producing and distributing the proceedings of the Malta meeting
- designing, printing and distributing a new membership brochure
- deciding on a logo for EURASLIC.
- a home page on the Internet/World Wide Web (WWW)
- improving the membership renewal systems to meet varying organisational demands and offering combined payment for both EURASLIC and IAMSLIC membership
- decisions on venues and hosts for the next two conferences
- improving the quality, frequency and content of the *EURASLIC Newsletter*

As with all developing organisations, these milestones are now part of the Associations history. Most of them can and will be improved on and the work continued.

Three of the projects have been and are still being pursued:

- organising the next revision of the "Directory of European Aquatic Sciences Libraries and Information Centres" and pursuing funding for its publication
- continuing to pursue funding for training courses
- continuing to pursue the production of a European Directory of Marine and Freshwater Institutions, Scientists and Research Engineers

This leaves five that your Board has not progressed for various reasons:

- revising the list of "National Representatives" and encouraging greater participation.
- encouraging the production of a trial "Occasional Publication" so that the membership can assess the use/requirement for such a series.
- investigating the need for and mounting a discussions list on the Internet
- organising a specialist group from within EURASLIC to advise members on funding opportunities
- investigating Silver Platter's price increases for ASFA and organising EURASLIC's response to both Silver Platter and the ASFA Board

Discussions have been held in the Business Meeting and the actions charged to the Board will be noted in the Summary and Closing Remarks to the meeting. *Any review of current activities, such as this one, should demonstrate this growth in the scale and number of projects and emphasise it as a sign of a healthy and dynamic organisation.*

Now I would like to broaden the focus of this review and consider the changes in our wider environment over the last two years.

THE DEVELOPING EUROPEAN SCENE IN THE AQUATIC SCIENCES

There have been a range of interesting developments and discussions over the last two or three years in the field of European co-operation in the aquatic sciences. Although the spirit of Europe's science community has always been willing to embrace pan-European co-operation, the flesh of its paymasters has not been so inclined. Few, if any, funding institutions have both a confident mandate and the influence required to successfully pursue the full added value of pan-European science. However, there are signs that this is slowly changing.

The first of these signs was the creation in 1995 of the European Marine and Polar Science Boards (EMAPS). This improved the coordination of marine research within Europe – some say

markedly.

In February 1996 Germany, France and Britain signed an agreement to combine their marine research facilities, including 15 research vessels of various sizes, in order to contribute more efficiently to the expensive business of deep sea research. The main outcome of this initially was that scientists from any of the three countries could join any of the ships' missions.

In May 1997 Eurohorcs, an informal group of European research council heads, published the first survey analysing the strengths and weaknesses of European research. They reported that science in Europe is relatively weak in several areas compared to other countries such as USA and Japan – one of these areas was "Coastal Ecosystems". Although the survey had weaknesses it was one of the first attempts to design a pan-European future for certain areas of science.

In March 1998 more than a hundred European politicians gave tentative support to a proposal from France and Portugal to create a European Maritime Agency, responsible for co-ordination of a cross-sector approach to research and exploitation of maritime resources. Although this idea has been around since 1995, it seems to have gained renewed impetus.

Coinciding with the above, the three marine research agencies that signed the agreement in 1996 relating to access to marine research vessels – the Triangular Liaison Group (G3) – are planning to take further steps towards the creation of a unified European fleet of research vessels *with a common scientific programme.* This initiative represents a major step towards integrating the agencies' operations. G3 brings together the British Natural Environment Research Council (NERC), the French Institute for Research into the Exploitation of the Sea (IFREMER), and Germany's Ministry of Research, Education and Technology (BMBF).

Concrete steps towards closer integration are expected to emerge from the group's next meeting in June 1998. The initial goal is to agree on common research programmes, with the ultimate aim of having a single evaluation committee for research proposals and a single group of ship operators. The construction of a new joint European vessel is also on the agenda.

The current agreement is limited to Germany, France and the United Kingdom, which together represent more than 80% of Europe's marine science resources. With a combined research workforce of more than 7,000 and a budget of US$700 million this would be the equivalent to that of the USA, Canada and Japan combined.

Under longer term plans, the tripartite agreement would be opened to the other European countries.

In the freshwater field similar European collaboration is being considered. The European Environment Agency is actively pursuing liaison with its EELNET network. A European Network of Fresh Water Research Organisations, called EurAqua, is now fulfilling the communication and partnership role and it is seeking to influence the prioritisation of research relevant to the protection and sustainability of aquatic resources.

THE EURASLIC RESPONSE

Are we seeing the beginnings of a new pan-European research "culture"? If so, how should we, as information providers, respond to this?

EURASLIC is being recognised by this "outside world" as a useful and creditable organisation. Not only is it represented in the EU Telematics for Libraries programme and the MAST Programme. It has received an enthusiastic welcome as a constructive organisation for liaison from the various World Bank and EU funded projects on Lake Victoria. As a concept, it was partially instrumental in the convening of a discussion meeting called to explore the need for a society for European freshwater scientists. This was held in November 1997 at the Centrum voor Limnologie of the Nederlands Instituut voor Oecologisch Onderzoek (NIOO-CL).

When I ask how should we respond, is respond the right approach, can we be pro-active – should we be working towards providing a pan-European library and information service for the aquatic sciences?

Maybe these are points that will arise in tomorrows "Open Forum: EURASLIC : the future" – my role today is to review our current activities. Have any of you had time to keep up with these developments over the last two years? I would suspect not.

In general terms, EURASLIC is an Association of, potentially, over 500 members – mainly small library units, many of them "one-man bands". The main professional activities over the last few years have possibly included:

- Some form of computerisation of library services
- In-house or self training in computer softwares
- Re-evaluating stock in the light of reduced budgets and increased costs of books and journals
- Preparing cases to *maintain* staffing levels
- Adjusting to "re-engineering" of organisations or new political realities
- Experiencing the benefits of advances in telecommunications (e-mail, ftp, etc)
- Plus experiencing the extra pressures of the advances in telecommunications
- Working longer hours to try and maintain services
- Seeing gift and exchange schemes slowly dwindle
- Etc

Have we all been "fighting to survive" leaving ourselves little or no time for future planning and development? As dedicated professionals it is difficult for us to provide anything but a "good" or an "excellent" service. But are we doing this at the expense of the future of our services?

Again, we have an opportunity tomorrow to voice our concerns and to try and shape EURASLIC such that it can represent our needs at a pan-European level. Can we find a way for EURASLIC to help us work smarter not harder?

Should the focus of EURASLIC for the next two years be on practical assistance e.g. helping reduce everyone's cataloguing load by encouraging record supply/sharing, improving document delivery options, acting as a negotiator for licenses for electronic products, etc.

Or should the focus be on developing a strategy document for pan-European aquatic information systems so that funding can be sought – or regional strategy documents if necessary.

Maybe we should be doing both or other things that you have in mind. If so, is the present structure of EURASLIC the correct one for the job? Have we enough members, have we got the right forums for discussion and development, do we have a plan of action?

Are we at a pivotal point in the development of the organisation? The emphasis of EURASLIC right from the very first meeting has been **networking.** The last two years have seen a considerable investment in computing and telecommunications in most of our organisations. We now have the technology to take the networked concept forward but we must have a clear set of ideas of where we wish to go. The two-year gap between meetings seems to me to be about the correct amount of time to review activities and to rethink/reformulate the previous plan.

Should we have a *review of activities* paper combined with a *pointers for the future* document for discussion at each meeting? If so how should it be arranged?

SUMMARY

Between yesterday's paper on the origins and history of EURASLIC and this review of current activities, we have a reminder of how far we have travelled since that first meeting in Plymouth in 1988 and how much we have achieved. Tomorrow we have an opportunity to guide the next two years of the Association and to provide a longer term vision. I look forward to joining you in that debate.

Session: European Cooperation Using Technology to Share Knowledge and Shape the Future

Chair

Maria Kalenchits
Estonian Marine Institute, Tallinn, Estonia

Proceedings of the 7th Biennial Meeting of EURASLIC,
Athina, Greece, 6-8 May 1998, p. 21

Short presentation about DG XIV's role and its library

by

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On the legal basis of Article 39 of the Treaty of Rome, DG XIV is the Directorate-General responsible for the Common Fisheries Policy (CFP), which covers all fishing activities, the farming of living aquatic resources, their processing and marketing.

The Common Fisheries Policy has gone through many changes since the first decisions were adopted in the early 70's and it now targets four main areas: the conservation and management of marine resources, relations and agreements with non-member countries and international organisations, structural measures and the common market organisation for fishery products.

To accomplish these tasks, DG XIV prepares legislation, implements management policy and monitors compliance with Community law in this field. The Directorate is also responsible for running scientific research programmes for fisheries as part of the Community's framework research programme (FAIR) and specific projects on the Information Society (MARSOURCE).

DG XIV's library mainly serves approximately 300 officials working directly for the Fisheries Directorate-General. It is also open to the public with an average of 100 external visitors per month, mainly from the academic sector. The library has at this moment a collection of 2,200 books, 83 periodicals, several serials collections and technical reports, covering a wide range of topics related to the fisheries world. Video and photograph collections are under preparation with such titles as "Keeping the balance", "Mackerel handling" or "De la grande pêche...aux molécules".

The nature of our work generally deals with internal inquiries coming from different departments within the Directorate-General and also from other libraries of EU institutions, as well as from outside visitors. External loans are possible in line with IFLA rules. The documentation service works closely with the library, keeping either in microfiche format or in print all the official documents related to fisheries.

In the last few years technological advances have strengthened the role of libraries as an access route to the information resources of the world, and as a consequence the redesigning of library services to perform new tasks and meets users' demands are key challenges that face today's librarians.

This happened in DG XIV two years ago: a computerised library catalogue (only accessible within the library) was installed and Internet search facilities were made available in-house along with on-line search facilities to several EU databases. The library now subscribes to an exhaustive selection of professional journals, covering in most part the 15 Member states, and from them a press review is compiled and circulated. The reference collection includes mainly statistical publications, glossaries and atlases, and abstracts of contents pages of new acquisitions are distributed monthly.

The importance of effective information provision is a key resource in the modern world and that is why for DG XIV's library the management, storage, flow and dissemination of information, either internal or external, is a major objective.

Proceedings of the 7th Biennial Meeting of EURASLIC,
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An update on FAO fisheries and aquaculture information

by

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ABSTRACT

The Food and Agriculture Organization of the United Nations (FAO) is charged with the collection, analysis, interpretation and dissemination of information relating to nutrition, food and agriculture. The Fisheries Department of FAO has a global mandate in relation to these activities within the fisheries and aquaculture sectors. A brief presentation of information resources on the FAO Fisheries Homepage is given, with particular reference to fisheries and aquaculture activities in Europe. The need to analyse and interpret an ever-increasing volume of information and data in order to facilitate effective decision-making in response to rapidly changing world fisheries and aquaculture presents new challenges. Examples of some of the information tools and products, which are being developed to assist FAO staff and Member Countries to meet these challenges, are presented. Dissemination of FAO fisheries and aquaculture information and data via WAICENT is presented.

THE FAO FISHERIES HOMEPAGE

http://www.fao.org/WAICENT/FAOINFO/FISHERY/FISHERY.HTM

The Homepage provides multilingual information on all aspects of fisheries and aquaculture, in particular those priority activities and programmes in which the Fisheries Department is involved at the present time. The programmes selected for presentation cover a broad spectrum of the activities of the FAO Fisheries Department, at Headquarters, in Regional Offices and in field projects.

THE CODE OF CONDUCT FOR RESPONSIBLE FISHERIES

http://www.fao.org/WAICENT/FAOINFO/FISHERY/agreem/codecond/codecon.htm
(Page updated March 1998)

Introduction to the Code: Fisheries, including aquaculture, provide a vital source of food, employment, recreation, trade and economic well-being for people throughout the world, both for present and future generations and should therefore be conducted in a responsible manner. This Code sets out principles and international standards of behaviour for responsible practices with a view to ensuring the effective conservation, management and development of living aquatic resources, with due respect for the ecosystem and biodiversity. The Code recognizes the nutritional, economic, social, environmental and cultural importance of fisheries and the interests of all those concerned

with the fishery sector. The Code takes into account the biological characteristics of the resources and their environment and the interests of consumers and other users. States and all those involved in fisheries are encouraged to apply the Code and give effect to it.

SPECIES IDENTIFICATION AND DATA PROGRAMME

http://www.fao.org/WAICENT/FAOINFO/FISHERY/sidp/htmls/default.htm

Initiated in the early 1970's within the Fishery Resources Division, the Programme has produced species guides in three series:

- FAO Species Identification Sheets for Fishery Purposes
- FAO Species Identification Field Guides for Fishery Purposes
- FAO Species Catalogues and Synopsis Series

The primary objectives of the Programme are:

- to promote the upgrading of fisheries data by species through reliable species identification in the field;
- to rationalize and expedite fishery work in all fields by furthering the use of correct scientific and standardized vernacular species names;
- to develop a global system of aquatic species names and data designed to serve as the standard basis for the increase and exchange of information on potentially or actually exploited marine species and their fisheries.

Priority has been assigned to resources of major commercial importance and to developing regions troubled by species identification problems. Two principles are considered essential for the validity and success of the Programme:

- Species identification and nomenclature are based on sound taxonomy and should be comprehensive at each of its geographical levels (global, regional or national)
- The strategies for the implementation of the Programme are based on a worldwide involvement of a large number of individual experts, organisations working on taxonomy and biology of aquatic species, and an editorial group working at FAO Headquarters.

Selecting one of the FAO Fishing Areas showed in the world map, a range of information, taken from SIDP publications complemented by other sources, will be made available on that marine area. e.g.

FAO FISHING AREA 37 - MEDITERRANEAN AND BLACK SEA

http://www.fao.org/WAICENT/FAOINFO/FISHERY/sidp/htmls/default.htm

- SIDP publications on the area
- Species of major importance to fisheries
- Major fishing countries
- State of resources (FAO Circular C/920)
- Regional Bodies

FISHERY COUNTRY PROFILES

http://www.fao.org/WAICENT/FAOINFO/FISHERY/fcp/fcp.htm

FAO's Fisheries Department prepares and publishes Fishery Country Profiles (FCP). Each FCP summarizes the Department's assessment of activities and trends in fisheries and aquaculture for the

country concerned. The profiles have a standard layout. Economic and demographic data are based on UN or World Bank sources; data on fisheries are generally those published by the FAO Fisheries Department. Printed versions of FCPs exist for 140 countries. They will now gradually be made available on the FAO home page.

EASTFISH

http://www.eastfish.org/

EASTFISH, based in Copenhagen, is the new Fish Marketing and Information Service for Eastern European countries. It is the first FAO office in Denmark located in the new UN building on the Copenhagen harbour.

EASTFISH joins the network of Fish Marketing Information Services which also covers the Asia Pacific Region with INFOFISH, Africa with INFOPECHE, Latin America with INFOPESCA, Arab countries with INFOSAMAK and China with INFOYU.

FAO GLOBEFISH, based in Rome, works in close co-operation with the regional services.

It aims at providing marketing information and technical advice with special emphasis on quality assurance as well as investment profiles, joint ventures and export production.

Member countries: Albania, Armenia, Belarus, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Georgia, Moldova, Poland, Romania, the Russian Federation, Slovakia, Slovenia, Turkey and Ukraine.

ITAFISH (ICRAM-FAO PROJECT)

http://www.fao.org/WAICENT/FAOINFO/FISHERY/PROJECTS/ITAFISH/MAIN.htm

Recently, FAO (Fishery Resources Division-FIR) has been involved in advising on, and backstopping, the design and implementation of an Information System for the Promotion of Aquaculture in the Mediterranean (SIPAM). The prototype phase of this System has now been completed. Its follow-up will be carried out under the direct coordination of the General Fisheries Council for the Mediterranean (GFCM). At present FIR is engaged in giving advice to member countries in the design and implementation of a regional database covering the whole fishery domain. The Istituto Centrale per la Ricerca Scientifica e Tecnologica Applicata al Mare (ICRAM) is the Italian governmental institution dealing with applied research on fisheries, aquaculture and the marine environment. In 1995 ICRAM was granted a research project to develop an information system using modern methodologies, and taking into account the regional context where Italy interacts and the sustainability of such an information system. The project has been financed by the Fishery and Aquaculture General Directorate (Direzione Generale della Pesca e dell'Acquacoltura) of the Italian Ministry of Agriculture, Food and Forestry Resources (Ministero delle Risorse Agricole, Alimentari e Forestali) and executed by FAO/FIR on their request.

MAJOR TRENDS

http://www.fao.org/WAICENT/FAOINFO/FISHERY/trends/trends.htm

Recent Trends in Global Fishery Production

This is a commentary with summary graphs describing the world's fishery production in 1995, the latest year for which FAO data are available. Emphasis is placed on capture fishery production statistics for which a new data set is available for the first time, so far only for the years 1984-1995. Major changes in catches by species, area and country compared to the previous year are identified.

Instructions are provided on how to obtain copies of the full data sets for total production (capture fishery plus aquaculture production, 1950-1995) and capture fishery production. Responsible Division FIDI - last updated 18/6/97

Recent Trends in Global Aquaculture Production

This commentary with summary graphs describes the major trends in world aquaculture production between 1984 to 1995. The contribution of major countries to world production are considered and the importance of species and species groups to aquaculture are reviewed with an emphasis on 1995 production. Responsible division FIDI - last updated 11/6/97.

DATABASES AND STATISTICS

http://www.fao.org/WAICENT/FAOINFO/FISHERY/statist/statist.htm

Dissemination of Fisheries and Aquaculture Statistics by FAO

It is the policy of the Fisheries Information, Data and Statistics unit (FIDI) of FAO to disseminate statistics as much as possible in the form of dissemination database packages which comprise a complete data set at the full level of detail (except for fishery commodities) together with data extraction, aggregation, sorting, presentation and export facilities. The intention is to provide users with a user-friendly way of accessing the full data set so as to minimise the need to respond to individual inquiries. Currently the following packages are disseminated by FAO as English language, DOS versions in this way:

FISHSTAT PC - Total fishery production statistics, 1950-1996
CECAF PC - Regional catch statistics for the CECAF area, 1972-1995
GFCM PC - Regional catch statistics for the GFCM area, 1972-1995
AQUACULT PC - Aquaculture production statistics, 1984-1996
FISHCOMM PC - Fishery commodity production and trade statistics, 1976-1996

A Windows version has been developed which will be more user-friendly and will be tri-lingual. It will incorporate all five packages above as a single integrated package. Current practice is to disseminate these packages free of charge on diskettes or via the Internet using ftp or a WWW downloading facility. All data are considered as being in the public domain but users are expected to cite the source as FAO.

Data sets not yet available as such packages include fish consumption statistics (based on food balance sheets), fishing fleet and fisher statistics.

Some of the above-mentioned statistics are also available in a more aggregated form through the statistics component of the FAO World Agricultural Information Centre (WAICENT), which also contains statistics on agriculture and forestry, by two means:

FAOSTAT Statistics Database on the WWW
FAOSTAT PC and its many modules

Usage of FAOSTAT on the WWW has been growing exponentially, roughly doubling every year. During the month of March 1998, over 500,000 hits were recorded and over 10 million data records downloaded. With the growth in electronic dissemination, it is the Organisation's policy to

reduce and eventually phase out statistical publications on paper. A timescale for this has not been established but the Organisation is aware of the absence of full Internet connectivity in many developing countries, particularly in Africa and parts of Asia.

WAICENT : WORLD AGRICULTURAL INFORMATION CENTRE

http://www.fao.org/LIBRARY/DEFAULT.HTM

WAICENT comprises three principal components which are interactive and complementary: FAOSTAT, for the storage and dissemination of statistical information, FAOINFO, which covers hypermedia information, and FAOSIS which covers very specialised information systems. WAICENT has brought a new strategic information approach to the Organisation related to paper versus electronic distribution and dissemination versus central storage.

FAO is faced with increasing demands to prepare, manage and disseminate the information that it produces to the widest possible audiences, in the most efficient manner, utilising the latest in technologies, and at less cost.

The WAICENT system was created at FAO to bring together and refocus the multiple information related activities, databases and publishing activities of this large multidisciplinary, international institution. There was also the need to reorient these activities to take advantage of the rapid developments in information technology.

In summary the principal aims behind the creation of WAICENT were to:

- increase the extent of information coverage handled by FAO;
- improve and streamline in-house data management;
- strengthen and simplify the flow of information to and from the Member Countries;
- reduce processing costs in all phases of receiving, treating and disseminating information;
- reach FAO's target audiences more effectively at less cost.

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MAP Phase II: information for sustainable development

by

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In 1975 Mediterranean countries and the EEC adopted the Mediterranean Action Plan (MAP) and in 1976, the Convention for the Protection of the Mediterranean Sea against Pollution, the Barcelona Convention and its related Protocols. The main objectives of MAP were to assist Mediterranean governments to assess and control marine pollution, to formulate their environmental policies, to improve their ability to identify better options for alternative patterns of development which would take environmental considerations into due account, and finally, to make rational choices in the allocation of natural resources.

Undoubtedly progress has been achieved in many respects though it is difficult to make a full scale assessment. There is, however, direct evidence that a large number of actions have indeed been taken by many countries in conformity with the requirements and the provisions of MAP, thus influencing environmental policies in the region. Among the achievements of particular importance are the North-South transfer of environmental technology, the development of the environmental infrastructure and of environmental legislation, the enhancement of environmental awareness, and a marked change in attitude towards environmental protection.

However experience soon confirmed that uncontrollable and unsustainable socio-economic trends, combined with poor resource management and the lack of appropriate institutional infrastructure, are the root of most environmental problems. Therefore, at the meeting of the Contracting Parties in Barcelona, in June 1995 on the occasion of the 20th anniversary of MAP, its principal legal instrument, the Barcelona Convention, was revised in order that it be made consistent with the 1992 Rio Declaration, Agenda 21" and the new environmental policy principles. Indeed, according to principles 3 and 4 of the Rio Declaration:

> *"The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations."*

> *"In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it."*

In the framework of these developments the revised Mediterranean Action Plan, MAP Phase II, is aimed at implementing the amended Barcelona Convention and its four Protocols as well as the new 1994-Offshore Protocol and the 1996-Hazardous Wastes Protocol, which together are comprehensively aimed at the legal and institutional advancement of sustainable development principles in the Mediterranean region. That is, together with the proper management and

conservation of natural resources, to move towards the implementation of the required institutional, legal and technological change to ensure the integration of environmental policies into development policies.

There is no doubt that in terms of sustainable development in the Mediterranean, it is crucial that information, in the broad sense, should be improved. Public awareness of environmental and sustainable development problems should be increased, and these issues should become an integral part of formal, non-formal and informal education. The Barcelona Convention as amended, points to this direction in article 15, providing for Public Information and Participation as follows:

> *1. The Contracting Parties shall ensure that their competent authorities shall give to the public appropriate access to information on the environmental state in the field of application of the Convention and the Protocols, on activities or measures adversely affecting or likely to affect it and on activities carried out or measures taken in accordance with the Convention and the Protocols.*
>
> *2. The Contracting Parties shall ensure that the opportunity is given to the public to participate in decision-making processes relevant to the field of application of the Convention and the Protocols, as appropriate.*

Moreover, environmental Non-Governmental Organisations (NGOs), a powerful tool, should be actively involved in this process. They should be given adequate financial and institutional support in order that they may mobilise the public, groups such as youth, women, journalists and others, on environmental protection and sustainable development issues.

In sustainable development, everyone is a user and provider of information, considered in the broad sense. That includes data, information, appropriately packaged experience, and knowledge. The need for information arises at all levels, from that of senior decision makers at the national and international levels to the grass-roots and individual levels Two programme areas need to be implemented to ensure that decisions are based increasingly on sound information:

- Bridging the data gap;
- Improving information availability.

There already exists a wealth of data and information that could be used for the management of sustainable development. However, finding the appropriate information at the required time, at low cost and at the relevant scale of aggregation is a difficult task!

Information is not always adequately managed, because of either a shortage of financial resources and trained manpower, lack of awareness of the value and availability of such information or even because of other more pressing needs and problems. Even where information is available, it may not be easily accessible. In the Mediterranean, it is necessary that prospective studies on the environment and development be strengthened, and that all useful documentation likely to help in decision-making at the various levels of responsibility be widely circulated. Mediterranean countries should be asked to make an inventory of information sources useful for sustainable development, and should be assisted in enhancing their capacity and mechanisms for the access, management and dissemination of information in the context of Mediterranean objectives. Moreover, assistance should be rendered in the compiling of data and information banks on the various national, regional and international legal texts concerning the Mediterranean.

In order to achieve more cost-effective and relevant data collection and assessment it is necessary to strengthen the capacity to collect and analyse data and information and to make relevant information accessible in the form and at the time required in order to optimise its use. Moreover

with the rapid evolution of data-collection and information technologies, it is necessary to develop guidelines and mechanisms for the rapid and continuous transfer of those technologies and the training of personnel in their utilisation. Where necessary, new technology should be developed and its use encouraged to permit participation of those not served by existing infrastructure and methods. Mechanisms should also be established to carry out the necessary transfer of information **to** and **from** non-electronic systems in order to ensure the involvement of those not able to participate in this way.

An action and project-oriented policy should be adopted and implemented. By providing training and technology, on request and upon evaluation, those in need will be able to expand their capacity to receive, store, retrieve and disseminate, use and provide appropriate public access to relevant environmental and developmental information. Thus the opportunity may be provided to all actors to play a role in the sustainable development process in the Mediterranean.

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Update on the UNIverse Project

by

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ABSTRACT

This paper provides an overview of UNIverse, a project sponsored by the European Commission's Telematics for Libraries Programme. An indication of the progress made to-date follows the overview and an outline of the forthcoming Demonstration Phase concludes the presentation.

UNIverse - THE GRAND DESIGN

As the title suggests, this is an update of the information given at the last EURASLIC Conference in Malta in 1996 (1).

UNIverse is one of the projects sponsored by the European Commission's Telematics for Libraries Programme. Like many of these projects, UNIverse is taking the latest software and technological developments to demonstrate how they can be used to improve and modernise library services for both librarians and end-users.

The project has its roots in a number of earlier EC-funded projects, specifically IRIS, Europagate and DALI. These projects demonstrated how international standards and network protocols could be used to deliver distributed search/retrieve and document delivery services to users across different library systems and domains. UNIverse will expand on their achievements to deliver high quality library services on a large scale, both in terms of numbers of libraries and geographic distribution.

The conceptual basis for UNIverse is the "virtual union catalogue". This term refers to the bringing together of physically distributed catalogues and databases so that they look like one union catalogue but in fact remain physically distributed. In UNIverse the virtual union catalogue acts as a single point of entry to a range of services which have been integrated into the system. ISO 23950 is the enabling standard. The project will implement version 3 of the standard.

The most important UNIverse service is the **Search/retrieve service.** The query entered by the user will be sent to the selected catalogues and databases simultaneously. Enhanced features in the software will overcome many of the problems associated with this kind of multiple database parallel searching.

For example,

- the user can select which databases to access by looking at the "Profile database" held on the UNIverse server. This contains information on the target servers, a description of the content of the database, the services available and the level of compliance with regard to the use attributes of ISO 23950 which it supports;

  search terms may be passed through a multilingual thesaurus, enabling searching against databases in different languages;

  the format and character sets of incoming records from different databases will be mapped to generic internal formats before being displayed in a single hit-list in the same record format. The UNIMARC and Unicode standards and the GRS syntax are being considered for this;

  the software will merge records it recognises as duplicates against defined criteria and a new "union" record will be created from those retrieved.

Document delivery and **Inter-library loan** services are integrated with the search/retrieve process so that users can request an item from their hit-list. The ISO 10160/10161 on Inter Library Loans will be implemented to enable users to request across different systems. Library staff may mediate these services if required, but it will be possible to make these services available to the end-user. An administration module will track requests and provide management information. The software provides for print-based and electronic delivery formats. The format selected by the user will depend on the formats supported by the document supplier.

Once a hit-list has been displayed a user may want to use the **Collaborative cataloguing/record supply** service which will enable them to download the records to incorporate them into their own system. Collaborative agreements and licensing terms will need to be in place before database providers and users can make use of this service.

The UNIverse project consortium is made up of software developers, document suppliers and a mix of different types of library (national, academic, public and special). This membership spans seven member states of the European Union and ensures a collaborative approach is taken to overcoming the common challenges we face. The project is coordinated by Fretwell Downing Informatics Ltd, UK.

WHERE ARE WE NOW

At the time of the Malta Meeting, we were expecting to start the project almost immediately. However, the contract was not signed until October 1996. We have, therefore, just started month 20 of our 30 month schedule.

The work is split in to three phases:

- Phase 1 Oct 96-Jun 97
  - State of the art analyses
  - Specifications and critical success factors
- Phase 2 Jul 97- Jun 98
  - System design, build and test
  - User group development
- Phase 3 Jul 98-Mar 99
  - Demonstration and evaluation

In the first three months we invested a lot of time in setting up the project management systems for this very challenging project – Work Package 1. With so many partners widely distributed throughout Europe and with such a variety of roles and expertise, we knew that project

control would be very demanding. A Project handbook was produced, e-mail systems co-ordinated, file-transfer servers set up in both the UK and Denmark, reporting and meeting timetables organised (bi-monthly reports, six-monthly cost statements, milestone reports, schedules of deliverables, annual reports, quarterly consortium meetings etc.) and quality assessment procedures established.

Also in this time we produced a "Technical State of the Art Report" and a "User Services State of the Art Report" – Work Package 2.

Work package 10 includes dissemination of results and we have been actively involved in this from the beginning of the project. The full text of both the "State of the Art" reports is available on the UNIverse Web page:

http://www.fdgroup.co.uk/research/universe/#progress

Eight journal articles have already been published (References 2 to 10), papers have been presented at 12 conferences (Reference 11 and CONFERENCE PRESENTATIONS 1 to 10) and inter-project liaison has been undertaken with both the international standards bodies and other related European library and software projects.

During the first six months of the project we undertook detailed "Technical Requirements Analyses" and "User Services Requirements Analyses" which formed the basis for the software design specifications (Work Package 4). These, in turn, formed the basis for the software "build" in Work Package 5. Integration and alpha testing of the software has been underway since the beginning of 1998 and beta testing by the UNIverse Server sites is just commencing (April 1998).

THE DEMONSTRATION PHASE

Preparations are now under way for a large-scale demonstration phase which will start in July 1998. Up to fifty libraries across Europe will be organised into five Special Interest Groups on either a national basis (UK, Irish, and Greek) or a subject-based approach (Technology, Environmental). Each group will demonstrate the system in a different working environment, making use of all the services available through the software. During this time we will evaluate how well the system performs, the effect it has on library operations and the extent to which it helps meet user needs in locating and acquiring information in today's distributed information world.

You will find more information about the project at
http://www.fdgroup.co.uk/research/universe/

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The Global Directory of Marine (and Freshwater) Scientists (GLODIR) and EuDIR: the European Dimension

by

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HISTORY

The Global Directory of Marine (and Freshwater) Scientists is a database containing information on scientists and their scientific interests.

The oldest and largest directory covering the subject area is the *International Directory of Marine Scientists* (UNESCO, 1983). Three editions of the Directory have been published, the last one with information on 2,500 institutions and 18,000 individuals. Entries were limited to organization name, address, telephone number, names of research staff and keyword subject descriptions of their research interests. There were also surname and broad keyword subject indexes. The directory was prepared through a cooperative effort of many organizations across the world, with the responsibility for preparing each country's entries being given to FAO, IOC and UNESCO focal points. Unfortunately the directory was terminated in 1983 due to lack of funds. Also, as the Internet was only a dream in those days, the only way to update the database was by 'snail' mail, which made that the directory was already out of date when published. Nevertheless, scientists regretted the demise of the Directory and UNESCO continued receiving requests for the 1983 edition.

The IODE Group of Experts on Marine Information Management (GEMIM) of the IOC Committee on International Oceanographic Data and Information Exchange (IODE) discussed the issue of the Directory on several occasions. In 1992, at its third meeting (Wormley, UK, 1992), the GEMIM recommended the preparation of a standard directory record structure. A working group was established to develop a structure, and the final report of that group was published and distributed in 1994. At the meeting of GEMIM in Washington (GEMIM-IV) the revision and updating of the 1983 UNESCO directory was discussed, and it was agreed that it was not feasible to develop a global directory in a centralized manner using, given the size of the task. It was instead suggested that the merging of national/regional directories would be an appropriate way forward. It was noted that the WIODIR (Western Indian Ocean Directory of Marine Scientists) directory, developed and maintained by the RECOSCIX-WIO (Regional Co-operation in Scientific Information Exchange in the Western Indian Ocean region) since 1989 was a good example of a viable directory project. However, it was also recognized that the quickly growing WWW on the Internet would enable the development and maintenance of a Global on-line Directory.

GLODIR AND THE INTERNET

In February 1997 the Intergovernmental Oceanographic Commission (of UNESCO) launched the Internet-based Global Directory of Marine (and Freshwater) Scientists (GLODIR). Initially

GLODIR was restricted to marine scientists. However many freshwater scientists appealed to the IOC to include the freshwater research community in the database as well.

GLODIR is fully WWW-based providing both on-line entry and searching interfaces. Since its launching the database has attracted 3132 (4 February 1998) submissions from marine and freshwater scientists in 100 countries.

Version 1

Version 1 used UNESCO's Micro CDS/ISIS database engine. This decision was taken because (i) GEMIM decided that CDS/ISIS is a suitable database management software for text-oriented database applications such as the Directory; (ii) the software is free; (iii) the software has been adopted by the ASFA Advisory Board for preparing ASFA input by ASFA input centres; (iv) an ISIS-WWW database searching interface was available on UNESCO's UNIX based web server (www.unesco.org). The web interface was a modified WAIS, custom designed by UNESCO. The system allows for simple searches combining several fields. The user can choose to use AND or OR to search the selected fields. Unfortunately the system did not allow proximity searching.

An on-line input system of the Global Directory of Marine (and Freshwater) Scientists (GLODIR) was developed by IOC. This allowed for individual scientists to submit information on their scientific activities so as to enable the marine science community as well as policy makers and other stakeholders in marine related issues to easily identify experts in subjects of their interest.

The input data were saved to a text file which was quality controlled and appended to the master data base on a weekly basis. Due to technical limitations it was not possible to edit data on-line with Version 1. Instead individuals had to submit a request for changes to their record by email to the IOC Secretariat. On many occasions scientists pointed out that this was not very satisfactory.

Version 2

Although version 1 allowed us to develop GLODIR quite rapidly and attracted a reasonably large number of inputs it was recognised from the start that there are several limitations to ISIS as well as to the available WWW interface for ISIS:

- ISIS is only available for DOS and Windows environment. This is a major disadvantage because many scientists use Macintosh computers
- the ISIS interface is very user-unfriendly so a custom designed interface must be developed (for ASFISIS)
- no on-line entry or editing (is now available in WWWISIS but very complex to install and develop)
- WWW-based search syntax does not allow proximity searching
- inability to use certain characters (e.g. &) in searches

These disadvantages (most of them major) made us look for another alternative. We considered several:

- Microsoft Access 97
- Microsoft SQL
- INMAGIC (a library oriented database system)
- ORACLE
- SYBASE
- Claris Filemaker Pro 4

Microsoft was excluded very quickly due to its limited field length (255 chars) and inability to deal with repeatable fields. Although these issues could be dealt with it was concluded that this would require extensive programming. Microsoft SQL server was excluded because this solution would require extensive and long-term programming support. INMAGIC was considered an appropriate software but was aimed more at bibliographic than factual databases. For this reason on-line data input was not a priority (although in development). Also, the cost for the database application and web server would amount to approximately US$ 10,000. ORACLE and SYBASE were fine candidates from a technical point of view (there are often the database engines for library systems as well as academic/scientific relational database systems) but they were rejected due to their high acquisition and development cost. Claris Filemaker Pro 4 was found to be the most cost-effective and all round software for this application. It was chosen for the following reasons:

- low cost (US$ 200)
- possibility to produce runtime (license not required for copies) input/edit/search modules
- multi platform (Windows 3.1, Windows 95, Mac OS)
- manages repeatable fields
- 64000 character field length limit
- inbuilt web server capability (minimal development cost)
- web application can run on stand-alone PC (with FMPro inbuilt web server)

The Free University of Brussels offered to collaborate for the development of the required applications:

1. Web-based on-line input (new record) system
2. Web-based on-line edit system
3. Web-based on-line search system
4. Offline input (new record), edit and search system (run-time) for Windows and Mac OS operating systems

The applications will be delivered on 15 May 1998. Preliminary tests have been carried out and have been most satisfactory. A demonstration will be given during the Conference.

THE GLODIR DATABASE FIELD STRUCTURE

GLODIR uses a simplified version of the 'Standard Directory Record Structure for Organizations, Individuals and their Research Interests' (1994). The field structure is attached as Annex I.

An issue of special concern is the 'subject keywords'. After some discussions among the GEMIM it was decided to use the 4-digit ASFA subject descriptors which are also used to index the Aquatic Sciences and Fisheries Abstracts database. This list contains over 300 codes on living and non-living marine resource subjects. However, it has been observed (and we have received several comments from scientists on this) that the codes lack many 'new' topics e.g. mathematical modelling, remote sensing, etc. Another question is whether the number of codes is not too excessive and we should rather reduce the number of codes. Do we need subject codes at all? This issue should be discussed during the next GEMIM but we invite suggestions from EURASLIC on this matter.

GLODIR DATA ENTRY AND DATA MAINTENANCE

In order to avoid the problems which led to the demise of the UN Directory the GE MIM recommended that the 'new' GLODIR should not be a centralized operation with responsibility entry and maintenance of the database residing with one host. Instead it was recommended to w within the framework of a global network. It is for this purpose that the IOC has attempted to att collaboration from various existing networks, national and regional organizations. Hereby emphasis is put on mutual interest. the database should first of all be of use to the collaborat organization, rather than only for GLODIR. The cooperating partners take responsibility for t monitoring and maintenance of their sub database (national or regional)

In accordance with this philosophy cooperation has been formalized between IOC and IC regional offices (IOCARIBE, WESTPAC,), and regional programmes/projects (RECOSCIX WI RECOSCIX-CEA..) Negotiations are ongoing with NAML (National Association of Mari Laboratories, USA), Northeast Association of Marine & Great Lakes Laboratories (NEAMGLI USA), IAMSLIC South Pacific Regional Group, India (National Institute of Oceanography), an Russia. If all these negotiations result in cooperation agreements then the majority of the world'. marine scientists will be covered by GLODIR ...except Europe. The case of Europe is covered under the heading 'EUDIR' of this paper.

COMPLETENESS OF GLODIR

Based on existing directories and estimates provided by marine research institutions we believe GLODIR currently covers about 6% of the global marine science community. We do not expect to be able to increase this percentage through voluntary on-line submission alone. Instead, as said above, we hope to establish cooperation agreements with a variety of partners around the world. Status as per May 1998.

- IOCINCWIO region. Input for the IOCINCWIO region has been obtained through the RECOSCIX-WIO project (in fact RECOSCIX WIO has maintained a regional directory since 1989).

- IOCEA region: the ODINAFRICA (Oceanographic Data and Information Network for Africa) project, funded by the IOC and the Government of Flanders (Kingdom of Belgium)will contribute to GLODIR through its own regional directory (to be operational by the end of 1998). This directory will be developed n cooperation with UNEP's Regional Coordinating Unit (RCU) in Abidjan which also planned to develop a regional directory (including scientists and also ICM practitioners). It has thus been agreed to join efforts.

- WESTPAC region: The IOC regional office in Bangkok will be provided with the GLODIR software module. The WESTPAC regional directory is expected to be operational by the end of 1998.(WESTPAC developed an Access based directory which will be used as a source for the GLODIR sub-database)

- IOCARIBE region: The IOC regional office for IOCARIBE (Cartagena, Colombia) will be provided with the GLODIR software module. The IOCARIBE regional directory is expected to be operational by the end of 1998.(IOCARIBE

developed an Access based directory which will be used as a source for the GLODIR sub-database)

- IOCINDIO region: The National Institute of Oceanography (NIO) has been provided with the beta release of the input module in April 1998 for the development of a national directory. In its capacity as RNODC NIO may be invited to take responsibility for a regional GLODIR sub-database.

- South Pacific region: Contacts have been made with PIMRIS (Pacific Islands Marine Resources Information System) and the questionnaire has been sent. It is planned to start entering data in 1998.

- United States: A preliminary invitation by IOC to NAML has received a positive response. It is hoped that the Board of NAML will approve the collaboration so we can start with the project in 1998.

- Europe: discussed under 'European Directory of Marine Research Resources'

EUROPEAN DIRECTORY OF MARINE RESEARCH RESOURCES (EUdir)

The GLODIR database contains 802 entries from European Scientists (see Table 1). Based on the estimates following the Survey (12,230 individuals: See Table 2) this corresponds to **6.5%:**

In order to reach a better coverage of European Scientists it was agreed to prepare a project proposal for submission to the European Union (MAST programme) entitled 'European Directory of Marine Research Resources - Eudir'. The project aims at developing a European Directory of Marine Research Resources for the use of scientists, policy makers and higher education planners. It provides logistic (name, address, telecom) as well as subject oriented (research categories, research description) information at the institutional as well as individual level. A draft proposal has been prepared jointly between Mr. David Moulder (of PML, United Kingdom) and IOC. After a comprehensive mailing exercise undertaken by Mr. Moulder, 21 institutions in as many countries (Belgium, Bulgaria, Cyprus, Denmark, Estonia, France, Germany, Greece, Iceland, Ireland, Italy, Latvia, Lithuania, Monaco, Netherlands, Norway, Poland, Russian Federation, Spain, Switzerland, Turkey, Ukraine and United Kingdom). The proposal requests financial assistance from the EU amounting to 413,421 ECU (80%), the total budget being 520,174 ECU.

The proposal draft was commented on by EU and requires some modifications which are related more to style than content. It was planned to submit the proposal in its final version to the EU before the end of December 1997. However, late December we were informed by Mr. David Moulder that he would leave PML as from January 1998. As Mr. Moulder was 'Partner 1' (IOC being Partner 1)' this meant that we could not submit the proposal as planned. Ms. Pauline Simpson (SOC), also GEMIM Chair, has offered to take over the role as Partner 2 from PML. However, whereas we had been informed initially that it was possible to obtain an 80% contribution for the project we have been told recently that it can either be 50% or 100%. It was said that 100% support is unlikely to be approved. It will therefore be necessary to contact the Partners and investigate whether the work could be carried out on a 50% basis.

EURASLIC is invited to comment on the proposal in general, and on the question 'how can EURASLIC members collaborate to EuDIR'.Can we identify a working method which would minimize the time that needs to be invested in EuDIR but would still result in a quality product. We

need to consider that, even if EU or other funding can be secured for the development of EuD maintenance of the product is an ongoing requirement which cannot continue to be supported outside sponsors

We feel it would be dramatic if European Marine (and Freshwater) Scientists would not included, or be under represented in the Directory. On the other hand we understand that resour (both human and financial) in many institutions are often minimal and thus do not allow f additional investments, no matter how useful. Nevertheless we feel that a quality product can b developed if we find the right combination of technology, available human resources and fun (internal and external).

Table 1. GLODIR COVERAGE for Europe (from GLODIR database as per 5 May 1998)

Andorra:	0	Lithuania.	1
Austria.	7	Malta.	2
Belgium.	84	Monaco.	1
Bulgaria.	2	Netherlands:	55
Croatia.	6	Norway.	35
Cyprus:	1	Poland.	0
Denmark.	40	Portugal.	20
Estonia.	1	Russian federation.	9
Finland.	6	Spain.	93
France.	64	Sweden:	29
Germany.	71	Switzerland.	10
Greece:	4	Turkey.	6
Iceland:	7	Ukraine:	2
Ireland:	17	United Kingdom.	314
Italy:	37		
Latvia:	1	***TOTAL***	***925***

Table 2 : EUROPE ESTIMATES (from survey)

Country	Est. # organizations	Est. # individuals
Belgium	35	125
Bulgaria	2	20
Croatia	7	120
Cyprus	5	25
Denmark	60	400
Estonia	12	100
Finland	30	100
France	300	2500
Germany	150	500
Greece	35	200
Iceland	5	50
Ireland	40	140
Italy	100	1500
Latvia	9	100
Lithuania	5	50
Malta	5	50
Monaco	5	50
Netherlands	50	600
Norway	50	500
Poland	20	200
Portugal	25	300
Russia	25	400
Spain	150	2000
Sweden	50	300
Switzerland	20	100
Turkey	20	200
Ukraine	10	200
United Kingdom	270	1400
TOTALS	***1495***	***12330***

ANNEX I

FIELD DEFINITION TABLE OF THE GLODIR DATABASE

Version 1 : ISIS					Version 2: FM Pro			
Tag	Name	Length	Type	Rep	Sub	Name	Rep	Options
	Record Identifier	20	X		ab			
2	Header	20	X			Dbsource -		
3	Sort Code	30	X					
21	Completeness of Record	30	X		cl			
62	Type of Factual Information	3	X					
100	Organization Name (original)	100	X			Organization		
I.						-----Organization_type		VL
105	Acronym	30	X			Acronym		
120	Street	60	X			Street_address		
124	P.O. Box	30	X			Po_box		
130	Town/City	110	X		bnp	pc_b_city		
						City		
140	County/State/Province	110	X		bnp	pc_a_city pc_b_state		
						State		
160	Country	110	X		bnp	pc_a_state pc_b_country		
						Country		VL
300	Name	140	X		sfm	pc_a_country Firstname		
						Middle_name		
302	Title	20	X	R		Surname		
304	Sex	1	X			Title	X	VL
320	Degree	80	X	R		Gender		VL
330	Function	100	X			Degree		VL
I.						Job_title		
380	Telephone(s)	80	X	R		----Department		
382	Telefax	80	X	R		Phone	X	
384	E-mail	80	X	R		Fax	X	
385	URL	80	X	R		Email	X	
390	Description of activities	1500	X			URL	X	
391	Subjects (ASFA)	1500	X	R		Activities		
393	Environment	40	X	R		Asfa_codes	X	VL
399	Notes	500	X			Environment	X	VL
511	Date of first entry	40	X			Comments		
512	Date of last update	40	X			date_first_entry		
Σ						date_last_update		
Σ						—userID		
Notes:						-----password		

bnp: postal code before../city or state or country/postal code after city or state or country
sfm: surname firstname middle name
VL: Value List: select from picklist

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IOC Group of Experts on Marine Information Management (GEMIM) - progress

by

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SUMMARY

GEMIM is a subcommittee of the IOC Committee on International Oceanographic Data and Information Exchange. It last met in Athens, January 1996. The Group comprises only four core members and invites specialists to its meetings to augment skills and assist with action lines identified. The size of the Group has been a restriction on the work accomplished (although a great deal has been achieved). Acknowledging this, the strategy has been to support the IOC MIM Programme at the centre by the compilation of new products; exploiting new delivery mechanisms and contributing to joint projects.

The main thrust has been in using new information technology to provide the product and the delivery mechanism: CD-ROMs of IOC Publications, CD-ROMS of training modules "Course in a box", and the design and update of a very impressive IOC Web page. (http://www.unesco.org/ioc/) full of marine information resource links.

Joint projects include GLODIR, the Global Directory of Marine and Freshwater Scientists; the IAMSLIC Marine Science Libraries and Information Centres Directory IDALIC and a new EUDIR - European Directory of Marine Research Resources a project proposal including assistance from EURASLIC members. However, using new technology does raise the problem that not all countries have access to the World Wide Web or even CD-ROM drives.

Other areas of focus have been in working with the data community on Metadata standards (IAMSLIC Conference 1997) and encouraging scientists and publishers to cite datasets in scientific papers. The datasets could then be referenced in ASFA.

Identifying opportunities for training and continuing professional development is an action to be taken jointly with IAMSLIC and in conjunction with IODE, the GEMIM is assisting with the CD-ROM 'Course in a box' training aid for ocean scientists.

The next meeting of the Group of Experts on Marine Information Management is likely to occur in 1999.

Session: Specialised Databases and Retrieval Tools Organising and Sharing Knowledge

Chair

Barbara Schmidt
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Information Forum Fisheries on the DAINet: a meta database-based information system for fisheries

by

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ABSTRACT

Within only two years, the German Centre for Documentation and Information in Agriculture (ZADI) created the German Agricultural Information Network (DAINet) on the Internet. For companies, scientists, farmers, and administration, the information network aims to make the rising tide of information from the field of nutrition, agriculture, and forestry - including fisheries - more transparent and accessible.

The reference system is presented with its main functional components and structural elements, along with a more detailed explanation of the "Information Forum Fisheries". Here, the central role of the forum as an entry point for users interested in fisheries-related information is shown as well as the focus of its contents, the data processing procedures and the structured presentation of information.

INTRODUCTION – THE DAINet

The number of Internet sources as well as their use are growing at a breath-taking speed. This enormous growth, however, makes a fast and targeted search for information difficult. Well-known search engines and catalogues are only of limited help, since the whole range of information sources from agriculture and fisheries is not made accessible in a global or systematic way.

Because of this, the German Centre for Documentation and Information in Agriculture developed the German Agricultural Information Network (DAINet) – http://www.dainet.de.

DAINet is a collection of Internet addresses from the agricultural sector including fisheries. At the moment, it provides references to more than 9,000 sources, and has 400,000 visits per month.

Every Internet site or address added to the DAINet collection, whether it is a single article or a complete information service, is given a meaningful title and a description of its contents.

Because of the number of references, however, this alone was not enough and therefore, sources have to be distinguished further by aspects of their contents, subjects and formats.

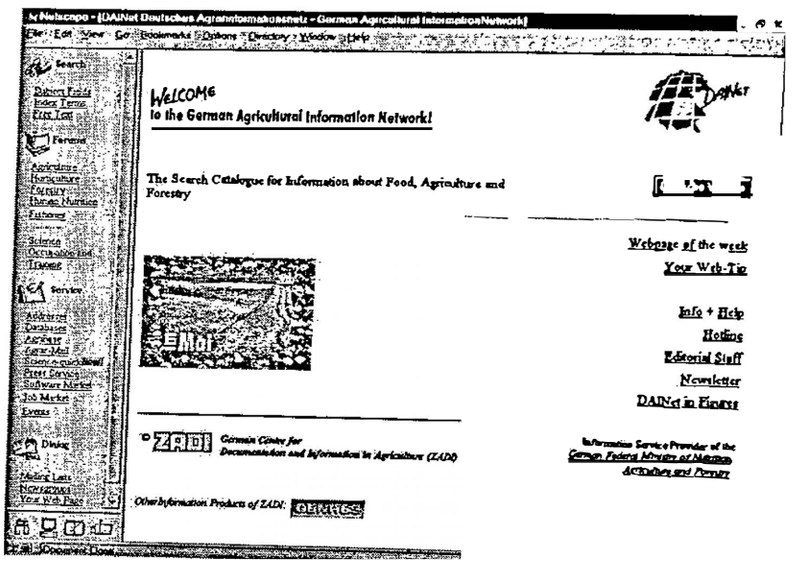
Following a common practice, the DAINet at first collected the Internet address, title and description statically on HTML pages. In the summer of 1997, this path was left in favour of a more dynamic procedure.

This means: for better accessing, every source is indexed with the help of descriptors from an agriculture-specific thesaurus as well as by free text keywords. It is then stored in a database, from where all compilations of Internet sites that appear on the DAINet are selectively generated.

Two areas of use have to be distinguished:

1. The structural characteristics of the left frame are, as long as they are branching to the lower structural levels, assigned profiles for database searches with predefined term combinations.
2. Users can enter their own terms or thesaurus terms or combinations of these in the search form, and thus trigger a corresponding search in the database.

In both cases, the dynamic compilation of the results always appears in the right frame of the screen.



The first-level structural elements of the DAINet are the areas "Search", "Forums", "Service" and "Dialogue".

"**Search**" offers all types of information queries mentioned. There are 26 subject fields divided according to scientific criteria covering topics from agricultural engineering, fisheries to animal and plant production or viticulture. The categories "Index Terms" or "Free Text" offer an unrestricted database search with the help of search forms.

The offers subsumed in the category "**Service**" are special information services of the ZADI for all kinds of users, like collections of media information services, addresses, databases, events, a job and a software market. The database "AgrarMail" is an e-mail directory of people from the agricultural field. "AgriBase" offers a complete search of the literature and factual data databases kept by the ZADI. "Science Quick" is a new compilation of references for scientists consisting of research projects, addresses, funding programmes and co-operations.

The category "**Dialogue**" refers to mailing lists and newsgroups.

We now come to the fourth outstanding feature of the DAINet, the "Forums". Opposite to the 26 subject fields mentioned, the seven forums like "Agriculture (in General)" or "Human Nutrition" provide a more general and practice-oriented approach for the search of sources. One of them is devoted to the topic of "Fisheries".

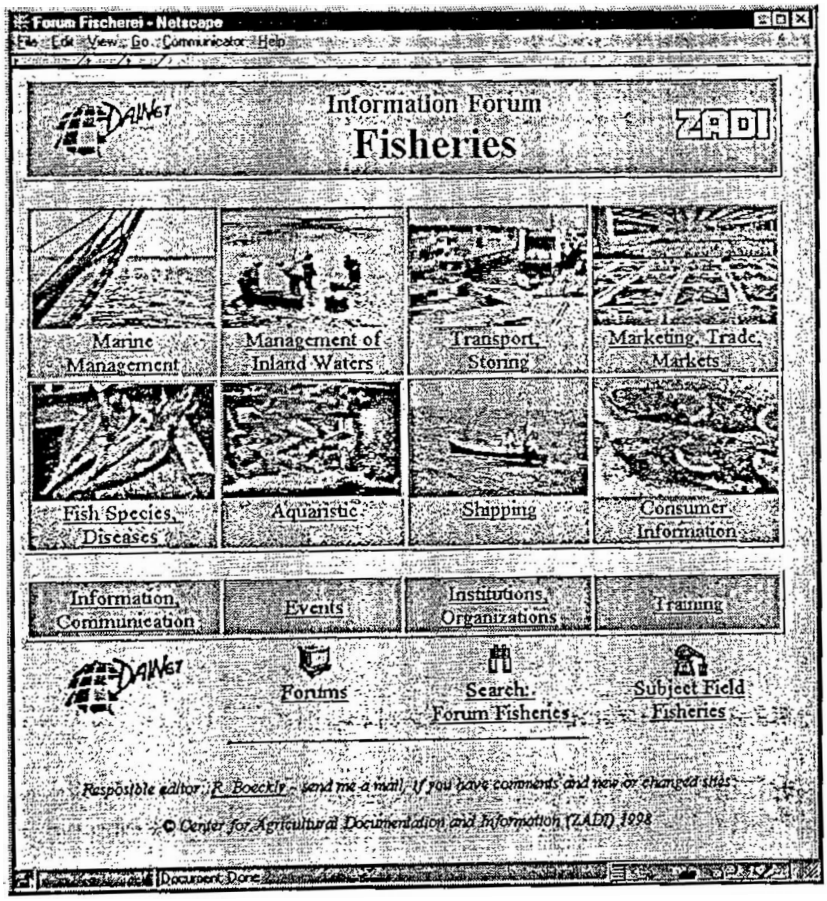
In contrast to the other forums a limitation to German-language sources is not always possible here due to the international nature of, for example, deep-sea fishing and shipping.

This forum should cover all areas which concern fish and other fresh and seawater products which are fit for human consumption. Further areas are environmental protection and pollution impacts, international agreements with supporting measures, catch quota, fishing techniques as well as marketing. Sport fishery and aquarists are not central topics, but included with a number of references.

THE "FORUM FISHERIES"

(http://www.dainet.de/dain/foren/fisch/indexe.htm)

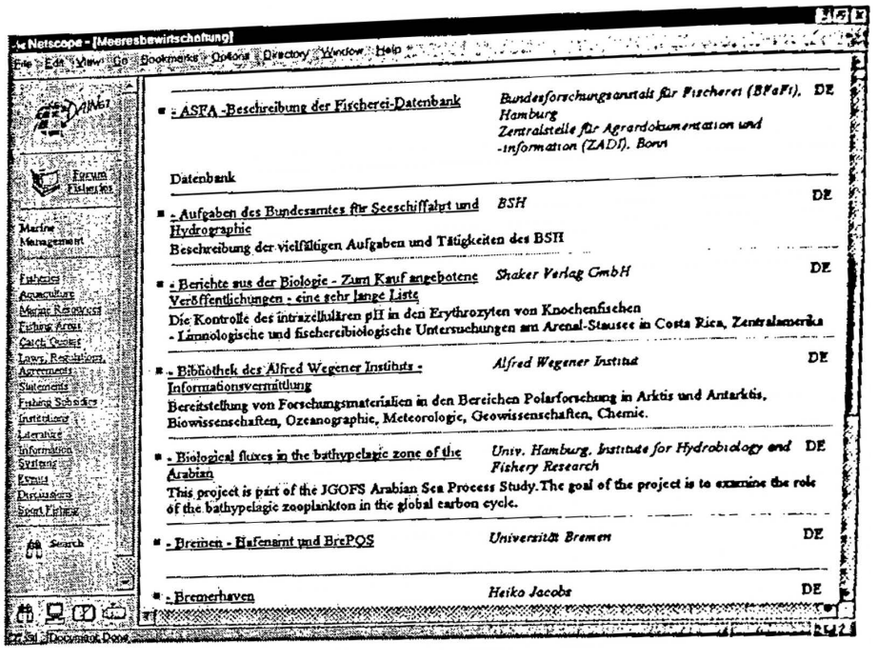
It starts with the following page:



The classification points of the forum are arranged in two tables.

The main table is illustrated with pictures for greater attractiveness and contains eight topic areas. The first one is:

Marine Management



Activated by mouse-click, the next level in the usual DAINet-design is reached and becomes visible as shown in the next picture.

This pages also offers access to the free text search in the fishery database and different return possibilities to other pages of the DAINet.

On the right page, at the present 156 references from a database search are listed. These are sorted so that the German sources always appear first and the remainder follow under the name of their country or the internationally known country abbreviations.

"**Marine Management**" is divided into the following categories (see also picture above):

Fisheries	Aquaculture	Marine Resources	Fishing Areas
Catch Quotas	Laws, Regulations, Agreements	Statements	Fishing Subsidies
Institutions	Literature	Information Systems	Events
Discussion	Sport Fishing		

With one exception, these categories are not further subdivided because of the still manageable result lists, though "Maritime Resources" with 65 and "Institutions" with 47 sites have reached a point where further differentiation could soon be necessary. For example, "Marine Resources" will soon be divided into "Fish Resources", "Resource Conservation", "Oceanography" and "Marine Protection".

A more detailed structuring for the area "Fishing" with its 46 Internet sites has already been implemented.

Marine Fisheries	Fish Shoals	Fishing Areas	Catch Quotas
Equipment, Tools	Fishing Ports		

Management of Inland Waters

To simplify the information search, as far as it makes sense, the structural characteristics of "Marine Management" are maintained. They can be seen in the following table:

Fisheries	Aquaculture	Environment, Resources	
	Laws, Regulations, Agreements	Statements	Fishing Subsidies
Institutions	Literature	Information Systems	Events
Discussion	Sport Fishing		

At the moment, 108 references are kept of which 12 refer to "Fisheries (in Inland Waters)". A more detailed structuring is thus not yet necessary. The same applies to all other points whose counts lie within the same area. Only sport fishing as a marginal topic is with its 46 Internet sources an exception. It could easily contain more references.

The information content of the 20 "Information Systems" and 21 "Institution" sites offers today more data than the numbers alone imply.

Transport Storing

The present subdivision of this point into:

Transport	Storing	Laws, Regulations, Agreements	Literature	Institutions

has been prepared mainly for future use, since so far comparatively few sources could be found about this topic.

A more intensive search and the growth of the Internet, however, will lead to higher reference numbers in coming months.

Marketing, Trade, Markets, Politics

With 70 references the topic **"Marketing, Trade, Markets, Politics"** is today already quite extensive and represents fairly well the conditions, difficulties and demands for the future. The following subcategories can be distinguished:

Trade	Markets	Fishing Industry	Fish Quality
Institutions	Information Systems	Fishery Politics	

The references found for "Institutions" and "Information Systems" are already interesting, even if sites of German commercial firms and industrial enterprises of the fishery sector are not very numerous. In comparison, the field of politics is much more productive.

For example there are a number of publications about national interventions and their effects on fisheries and fishing fleets as well as environmental projects.

Shipping

The topic **"Shipping"** is similar to buildings and machines in agriculture. Its subcategories are shown in the following table for which the database includes, altogether, 136 references.

Ships	Navigation	Sea Charts	Safety on Sea
Port Economics	Shipping Subsidies	Tourism	Laws, Regulations, Agreements
Information Systems	Literature	Weather	

With 34 Internet sources, one emphasis is on "Shipbuilding", a category that is found under the heading "Ships" together with 54 further sites from the subcategories "Fleets" - "Shipping Enterprises" - "Equipment" - "Ships".

The main page offers additionally the topics "Fish Species and Diseases", "Aquaristic" and "Consumer Information" which require hardly any further explanation. Consumer information considers aspects of health as well as quality criteria and refers also to services like fish recipes.

CATEGORIES OF THE SECOND TABLE

The categories of the second table, which has no pictures refer to superordinate or summary topics. Its purpose is to give early and thus rapid accesse to basic information. Structural characteristics and their subcategories are:

Information, Communication	Events	Institutions, Organisations	Training
Communication Information Systems Institutions Databases		Institutions Organisations	University Apprenticeship Miscellaneous

For example, "Information Systems" and "Institutions, Organisations" are found in almost all other classification areas, but with a limited topical content. "Databases" includes references to search possibilities in the database ASFA with various hosts, among others on the server of the ZADI. For license reasons, free access is only possible for the research institutions of the federal ministry.

OUTLOOK

By optimising the index lists and consequently utilising the database technologies, the structures of the DAINet become more variable and user comfort is maximised. The maintenance expenditure of the system is to be further reduced by programming of automated check routines like the finding of Internet addresses which no longer exist.

The capacity of information forum fisheries will continue to increase by an intensification of the active search from at present approximately 500 sources. At the moment, there are collected roughly another 300 sources in a "bookmark list" to be edited and stored in the database in the near future.

The integration of lower reference levels of the sites that have already been described is intended and will complete the fisheries references on the DAINet.

To what extent it will be possible to cover directly the needs of scientists by the installation of further structural characteristics and levels is likewise the subject of the current work. A higher inclusion of international sites would be the result.

Proceedings of the 7th Biennial Meeting of EURASLIC,
Athina, Greece, 6-8 May 1998, p. 59-64

Access to wide area networked workshop abstracts: second thoughts on users' behaviour

by

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On 11th November 1995, the first IMBC website (www.imbc.gr) was ready, and it was formally announced on 27th November. Our main aims were:

- to promote the activities and facilities of the IMBC nationally and internationally, and
- to provide unique services to the marine science community by making available resources such as abstracts, bibliographies and other types of databases such as glossaries and directories.

The site was far more successful than we had anticipated, in particular the marine science database was an instant success. In the first 30 days, there were more than 13500 accesses, or hits. This took place in November/December 1995, two and a half years ago. IMBC was a complete newcomer to the Internet with no means of promotion apart from the rather limited mailing lists. In addition, IMBC had no access to a really fast network (as is now the case).

The IMBC does not expect to make money out of its provision of information or its provision of bibliographic services. As a public service research institution, it is part of its remit to disseminate the results of its research as effectively as possible. IMBC was also aware, from the very first moment that the site was planned, of the very real difficulties and problems arising from the non-resolution of the copyright issues involved. It was decided from the first only to disseminate information of which we had copyright ownership or for which IMBC had written copyright permission to use. In effect, this meant that there were severe limitations in the choices available, i.e., IMBC publications, (in the form of the Collected Reprints) and to those Workshops which IMBC had hosted and which had formally given the Institute permission to use.

But, in order to evaluate the worth of the website to IMBC (worth that is not and cannot be calculable in financial terms, since IMBC does not sell its information and datasets) the Department concerned in constructing and maintaining the website, the Information Design and Development Department (IDD), does have to know and be able to describe immediately upon request, what is actually taking place on the website.

There is no doubt that at first it was very comforting to be able to point to high access rates. The IDD is now undertaking the fourth make-over of the website, and with each reconstruction, the access figures have increased very noticeably. IMBC now has more than 80.000 hits per month, which will take it into the million mark during the course of 1998. However, the IDD still needs to be able to answer certain questions. Who are these people spending time (and money) to come into our site? What are they coming in for?

IDD has to to know:

- WHO are the users? Are they browsers, surfers, or "real" scientists? Or are they a combination of the two? Before any expansion of Internet activities could be approved, IDD had to be able to answer these questions.
- What did the users look at?
- How long did they spend there?

IMBC still cannot afford the very expensive software that can handle all these questions automatically. The programmers therefore adapted some software that is less complex, but still manages to give a good deal of information which allows it to get answers to some of these questions.

In February 1996 the IMBC ran a three-day EU MAST workshop with 150 participants, putting the abstracts online less than a week after the workshop had ended. The IDD thus had a good opportunity, within three months of the opening of the IMBC website, to find out the answers to those questions. We had software tools sensitive enough to allow us to make more detailed analysis of user behaviour than the blunt instrument of overall hits. We therefore set about collecting and analysing the data.

The stated objectives were:

- to establish possible trends in the accessing of online information (abstracts) deriving from a scientific workshop (MAST -MTP 1996), and
- to examine in what ways it is worthwhile to make an extended abstract resource available online.

At that time, the available literature expressed serious doubts about marketing, and the marketing strategies suitable for the Internet.

As Sheila Webber from the University of Strathclyde said in her paper ONLINE PRICING: CHANGING STRATEGIES IN A CHANGING WORLD "since the beginning of online, pricing has been a problem" (1).

There was then a current move towards layering, charging different prices for each successive layer of information accessed, or what is known as product bundling. Most of us are familiar with this method because it is offered by many publishing houses: print + CD-ROM + access to full-text journals and abstracts. For IMBC at that time, it was interesting to discover was that there was no consensus as to pricing, neither as to the best method, nor as to the actual profits being made. As rank newcomers to the World Wide Web, it was reassuring, because we also found that to measure interest merely in terms of actual hits was seriously misleading.

The 2nd MTP Workshop Extended Abstracts were put online by the host, the Institute of Marine Biology of Crete, Coordinator of the CINCS Project, just nine days after the Workshop ended, on 9 February 1996. The announcement of the availability of the MTP Extended Abstracts pushed up the daily rate to over 500 hits, with almost 900 accesses to the abstracts themselves.

It had been decided that an 8-week period as the length of time would be adequate to provide us with accurate information concerning numbers of users, identification of users, and possible trends in user behaviour. An announcement was made to all participants, and also in relevant online mailing lists.

Detailed analysis of user behaviour revealed an initial surge, followed by a slow decline in accesses over an 8-week period. Almost 30% of accesses were made from North America, although there had been only one participant from that area.

It was felt that the first short study established some patterns of user behaviour in respect of access to online abstracts and the overall results were so unexpected that it would be very useful to

other libraries precisely at that point in European development of online library resources to put them up for discussion.

Some of this preamble was first stated in the 6th EURASLIC Proceedings of the Conference held in Malta on 25-26th April 1996 and are reiterated because that initial analysis has since been found to show only part of the picture. The first results brought us to the following conclusion that "there seems to be an optimum amount of time (about four or five weeks) when interest in such information will be sustained. And this is important when planning Web site activities"(2).

However, after the first study was completed, the database was not deleted but kept online for the use of the IMBC staff. Once such a resource exists, and is being used, it is impractical to allow it to wither away.

One year later, the IMBC upgraded its Website (12 April 1997) and presented several new features, which included two parallel Case Studies based on the MTP Project CINCS. The first (called CINCS) was scientific in overall direction, aiming to present some of the findings of the project to interested scientists worldwide. The second was targeted towards a wider public and so a minor part of the CINCS project was featured, the JAGO submersible exploration of the Aegean Sea. No special mention of either of these features was made in order to observe closely what was likely to be the true level of interest in each of the three different types of marine science information.

What the IMBC website now had was a set of abstracts from the Second Workshop of the MAST Mediterranean Targeted Project, 65 abstracts from 12 Projects. The Case Study entitled CINCS (Pelagic/Benthic Coupling in the Oligotrophic Cretan Sea) was presented under the headings of Introduction, Preparation, Fieldwork and Results, using the actual texts prepared by the scientists in their formal Reports and Publications. Two new abstracts from IMBC scientists were also included. In the counterpart, the JAGO, we presented a description of one small part of the CINCS project which had already captured the public imagination, that is, the underwater work by the manned submersible JAGO which had carried out 25 dives of almost three hours each and had also produced a number of interesting video and still records.

What then occurred was completely unexpected. From 12 April to 31 December, accesses to the JAGO pages steadily increased, starting at a modest 192 for the two weeks in April, rising steadily even through the summer months, giving a total of just over 3040 hits for an eight and a half month period. But the really interesting fact to emerge is that it is the commercial accesses from the US (785) and Europe (279) that are in the majority. The figures for the academic community are considerably lower in the US (248), though at 419 considerably higher for Europe. **(Fig. 1)**

A similar pattern emerges from the wider perspective of the CINCS study, with a modest start in April, rising steadily to high figures in September and October. Here too the majority also comes from the commercial sector, with a surprising 866 from European commercial sector, with the US Commercial (688), and the academic sector lagging behind at 362 and 234 respectively. **(Fig. 2)**

But it is in the abstract accesses that the real surprise comes. **(Fig.3)**

The US commercial sector made well over a thousand accesses (1317) compared to 61 identifiable accesses from the academic sector. The European commercial market also out-performed the academic interest by 342 compared to 229 accesses.

Total accesses **(Fig.4)** over the eight and a half month period were:

2nd MTP Workshop abstracts	: 3006
CINCS Case study	: 3732
JAGO case study	: 3040

Overall totals 9778, thus evincing clear worldwide interest in marine science, particularly by the commercial sector which is paying by means of dial-up connections

If one looks at the scientifically angled MTP abstracts and CINCS data, we arrive at a TOTAL of 6738. A convincing figure.

In fact, the IMBC put up a new dataset of Abstracts on 4 December, taken from a Workshop in Biodiversity run by the Natural History Museum in London and hosted by IMBC in October 1997

The access figures bear out our initial premise made from the MTP abstracts. There was a huge initial rush of interest, 1140 for the first four weeks, which break down into

Week 1: 824
Week 2: 100
Week 3: 185
Week 4: 31

The only announcement made to the mailing lists was at 17.30 Greek time on 4 December. By midnight, there had been 148 hits made by 18 users from 6 countries. The following day, Saturday, there were a startling 472 hits made by 54 users from 16 countries.

CONCLUSIONS

It does seem that our initial premise, made in 1996, was not completely incorrect. When workshop abstracts are put online immediately after the workshop, there is a huge surge of interest, mainly from the participants or the participants' friends. Accesses do diminish very considerably, and within three to four weeks. However, this is by no means the end of the story. Once the search engines get hold of the meta tags and the keywords, interest is revived and even increased. And once your site becomes the only accessible source for the abstracts from the Workshop, then the accesses continue. The figure for April 1998 for the MTP abstracts reached a very respectable 764, and most of the users went directly to the abstract itself, indicating that they were familiar with the resource and had accessed it previously. This, however, will remain a speculation until a further more detailed analysis is made, identifying the regularity of users' visits to individual pages and abstracts.

REFERENCES

1. Webber, S., 1995. Online Pricing: changing strategies in a changing world. In: Raitt, D.I. and Jeapes, B. (eds) *Proceedings of the 19th International Online Information Meeting, December 5-7, 1995, London, U.K.* Oxford: Learned Information Europe Limited. pp.1-11.

2. Eleftheriou, M., Dillane, E., Owen, L., Zissopoulos, C., Koutsoubas, D. Access to Wide Area Networked Workshop Abstracts: Preliminary Observations and Users' Behaviour. In: Moulder, D.S., Djorup, K. and Heath, S. (eds) *Proceedings of the 6th Meeting of the European Association of Aquatic Sciences Libraries and Information Centres (EURASLIC),* Plymouth: Plymouth Marine Laboratoy. pp.21-27.

Fig. 1 The number of accesses to JAGO abstracts (April 13th to December 31st 1997)

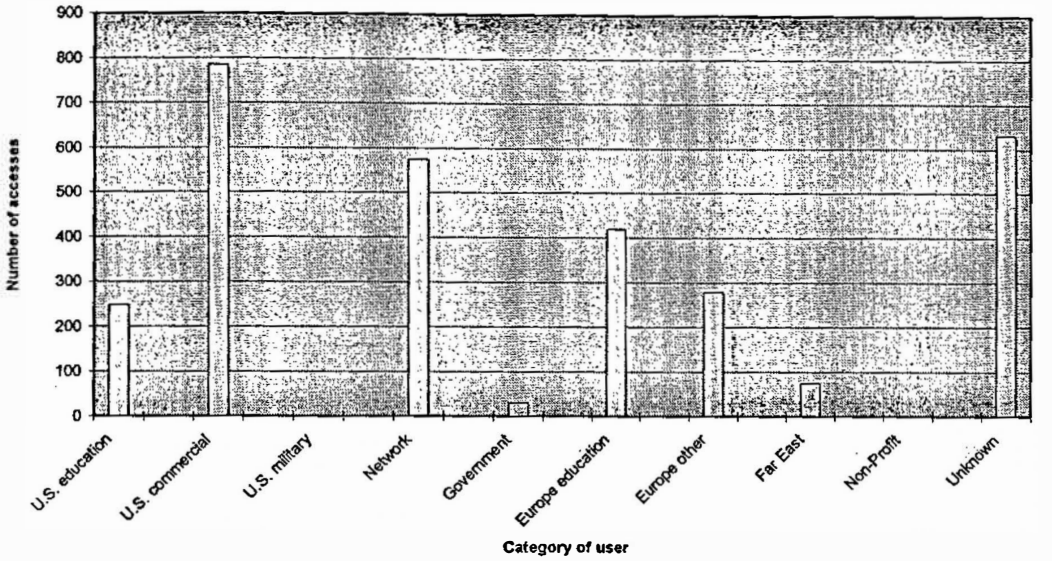


Fig. 2 The number of accesses to pelagic-benthic coupling in the oligotrophic sea (CINCS) abstracts
(April 13th-December 31st 1997)

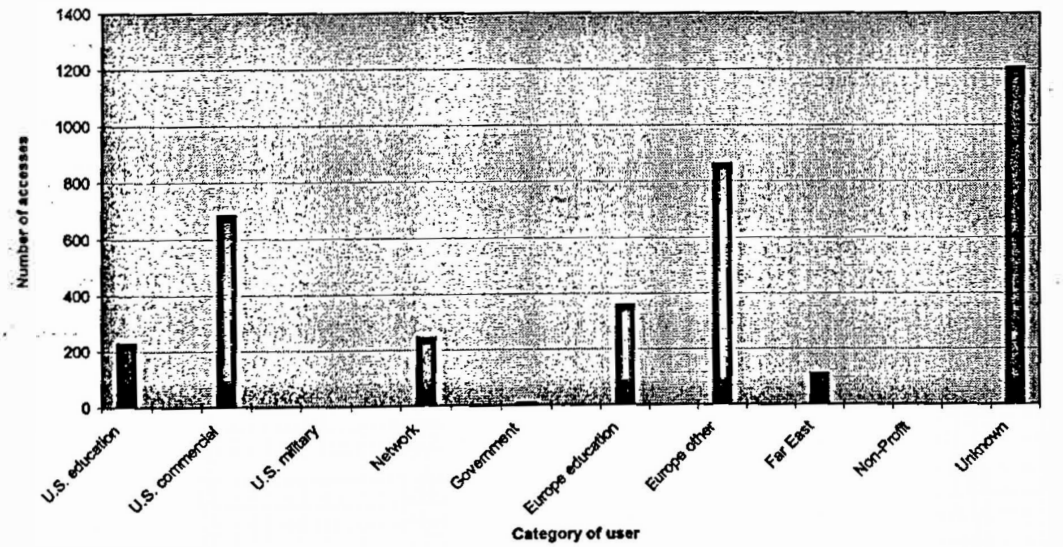


Fig.3 The number of accesses to Mediterranean Targeted Project abstracts (April 13th to December 31st 1997)

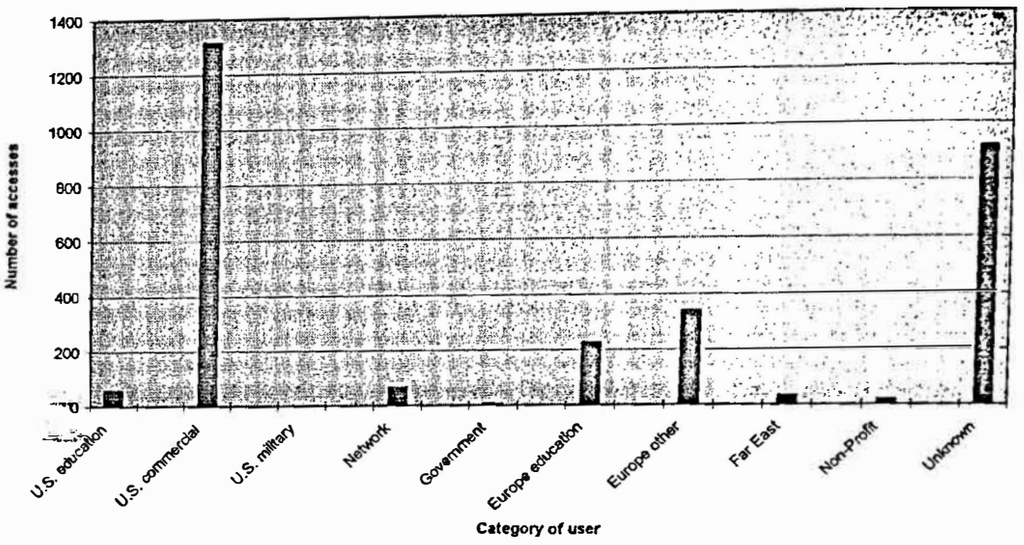
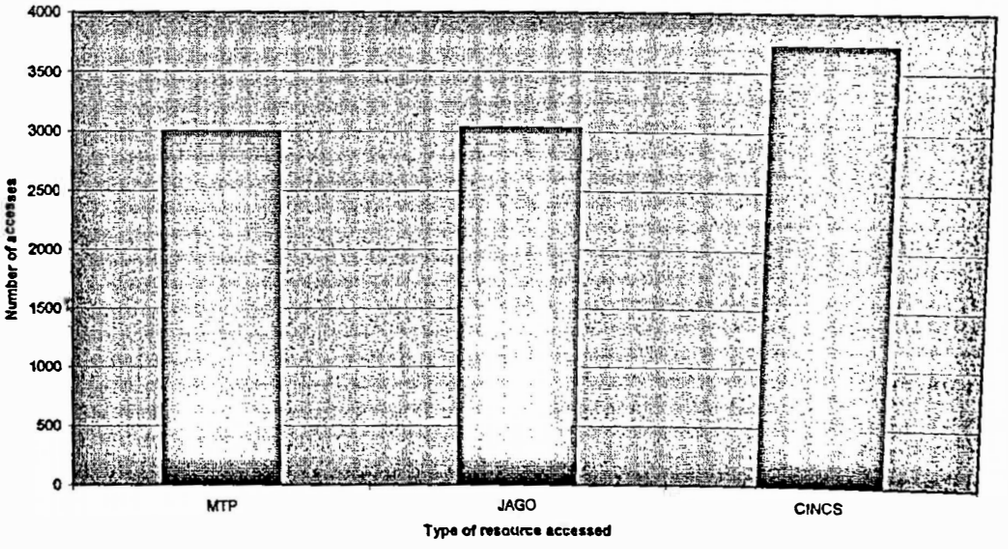


Fig. 4 The total number of accesses to MTP abstracts and related case studies, JAGO and CINCS (April 13th-December 31st 1997)



Proceedings of the 7th Biennial Meeting of EURASLIC,
Athina, Greece, 6-8 May 1998, p. 65-79

The National Centre for Marine Research (NCMR) library Online Public Access (OPAC) system

by

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In the framework of the project for the Technological enhancement and support of the NCMR Library and its services a new integrated software Library system, ADVANCE by Geac, was acquired. This software supports all the functions of the Library. OPAC, Cataloguing, Acquisitions, Circulation, Serials Control.

Hardware features that support this software are:

- UNIX Server 128 Mb RAM, 6 Gb Hard Disk, under UNIX Hp-UX
- V.10.20
- CD-Server under Windows NT, 64 Mb RAM, 4 Gb Hard Disk, CD-Tower
- PCs under Windows 95, 64 Mb RAM, 2.5 Gb Hard Disk
- Laser Network Printer

OPAC (Online Public Access Catalogue)

Library users have access to three OPAC versions:

- **OPAC Character Based Environment**
  Remote users have access to our databases via telnet. The address is given on our Web page.
- **GEOPAC Windows version**
  The scientists of NCMR from both buildings may access this version
- **GEOWEB Version (expected)**
  This version will replace the other two versions and will be accessible via Internet.

MAIN CHARACTERISTICS OF THE GEOPAC

- It is a GUI (Graphical user interface) online public catalogue.
- It has client server technology
- It uses Z 39.50 protocol.
- It uses GeoMedia to display still and moving images and to playback sound.
- It provides the possibility of establishing a connection with several databases.
- It has a multilingual user interface
- It supports UNIMARC and LCMARC formats.

- It displays multiple search screens according to the user's needs (simple search screens, complex search screens for advanced users)
- It provides three different levels of displaying search results (heading list, brief and full).
- It allows for left and right truncation.
- It can limit searches by: Date of Publication, Language, Material Type, Publisher)
- It provides multiple baskets for saved search results

In this software, what you purchase is the frame and the colours that are standard. What remains for us to do is to draw or paint the picture that will operate on our own system.

Which is the profile of our own OPAC

- We have chosen the proper tags, indicators and subfields of UNIMARC according to our needs
- We built the proper indexes with the Z39.50 equivalent.
- Greek as well as foreign marine scientists may access the database.

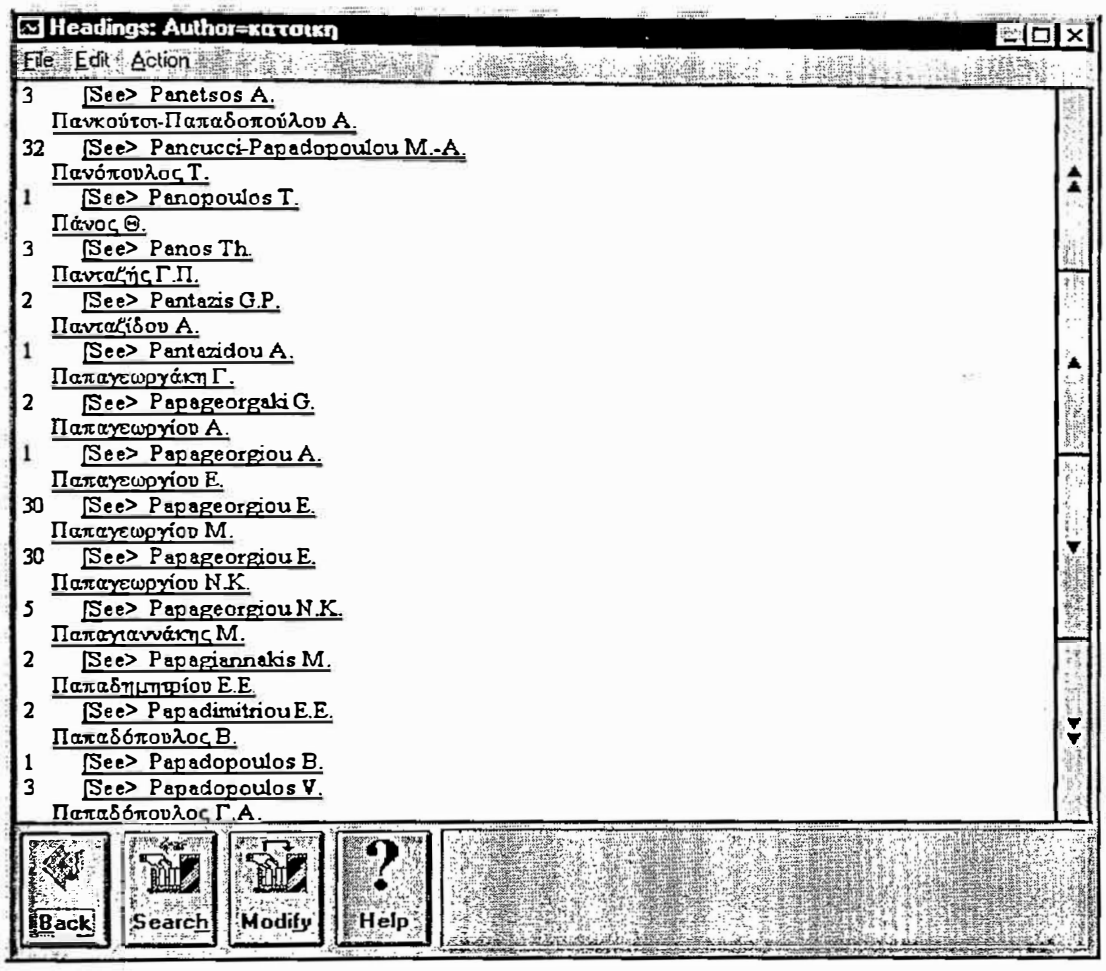
CORPORATE INDEX

Consists of:

- Author names
- Subject Headings
- Keywords
- Geographical terms
- Series
- Publishers

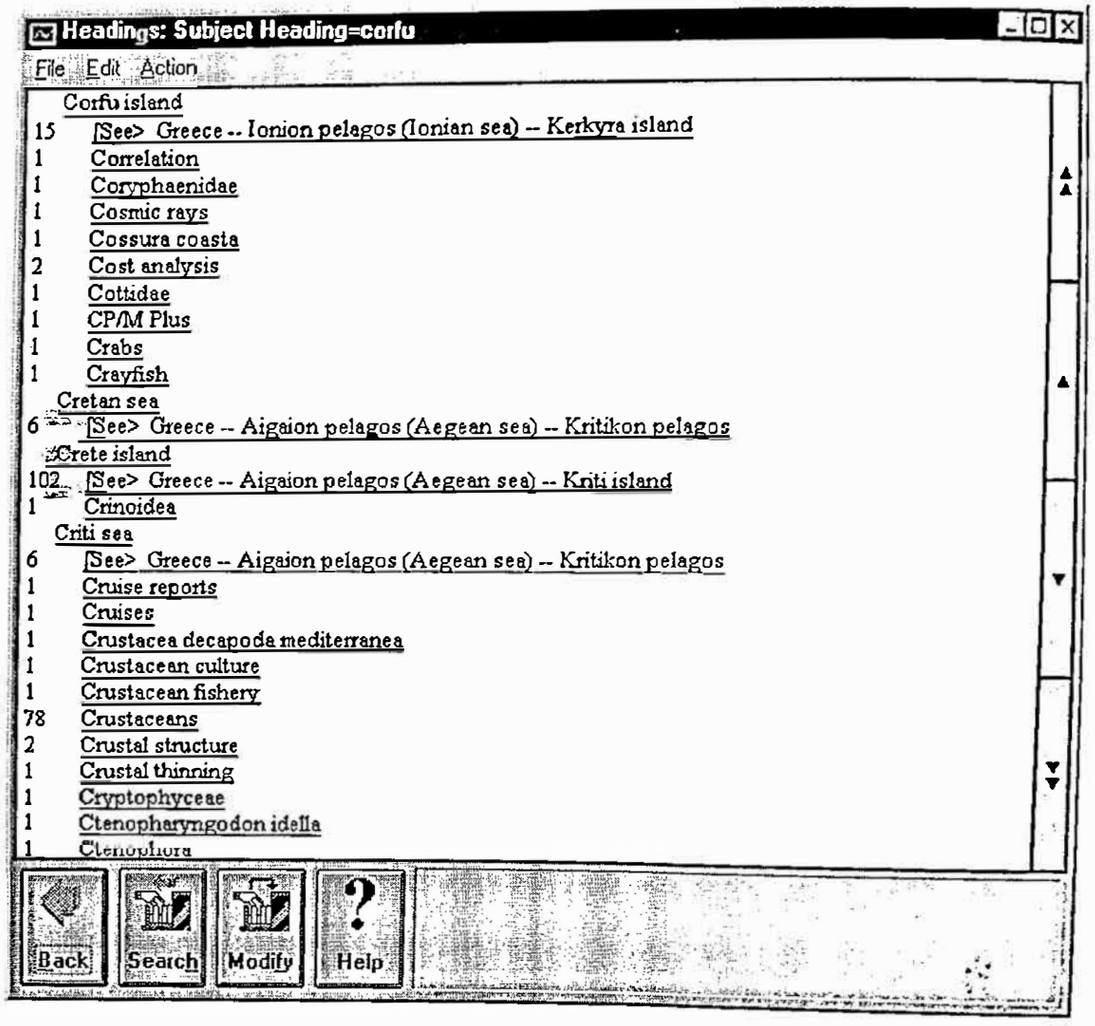
The following illustrates the above:

Example 1: "By Author"



The author index has been built to cover all the different forms of an author's name. All the intellectual responsibility fields are Authority controlled. Greek authors are transliterated into Latin according to the standard of our National Standardisation Organisation (Draft ISO/DIS 843.3). All non-preferred forms of an author are associated with the preferred form with the proper relationship given among them (for example: see, see also etc).

Example 2: "Geographic term"



The philosophy here is: Area - Region - Location

By whatever access used the user will have the same results. Which means that the end user knows where the particular region belongs to (or has the geographic area). The user also knows how many regions belong to the wider area.

For local region names we have used the National standard of the Greek National Standardisation Organisation.

For example if you search for the Corfu the reference will lead us to the term Êerkyra or for Athens will lead to Athina.

SUBJECT CATEGORIES AND DESCRIPTORS

As reference to Subject categories and descriptors we use those of ASFA for the new Greek and English language records.

NOTE

One has to note that all our records are not yet in machine-readable form. In addition some of them are converted from other systems, and they need corrections and reformatting.

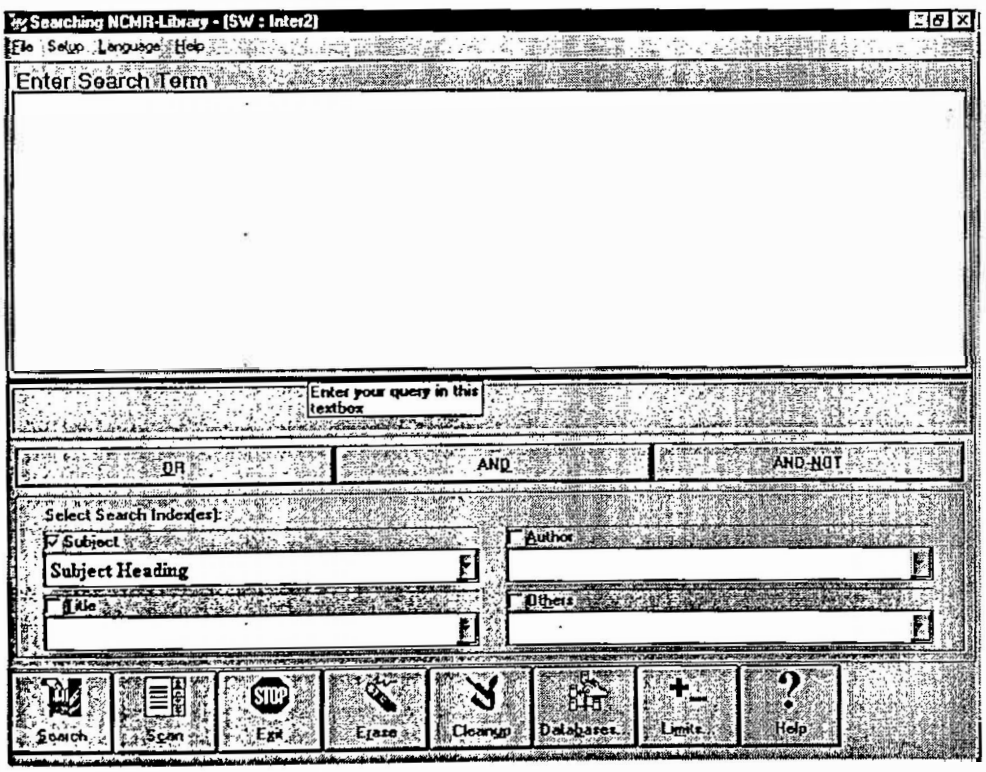
WHAT ABOUT FIELDS?

A problem arose with Greek language records in order that Greek and foreign scientists may access them. In this case, we used both languages whenever the software's fields permitted it. So fields like: Title and Abstract, are given in two languages. While fields like Author and Physical description are given in Latin.

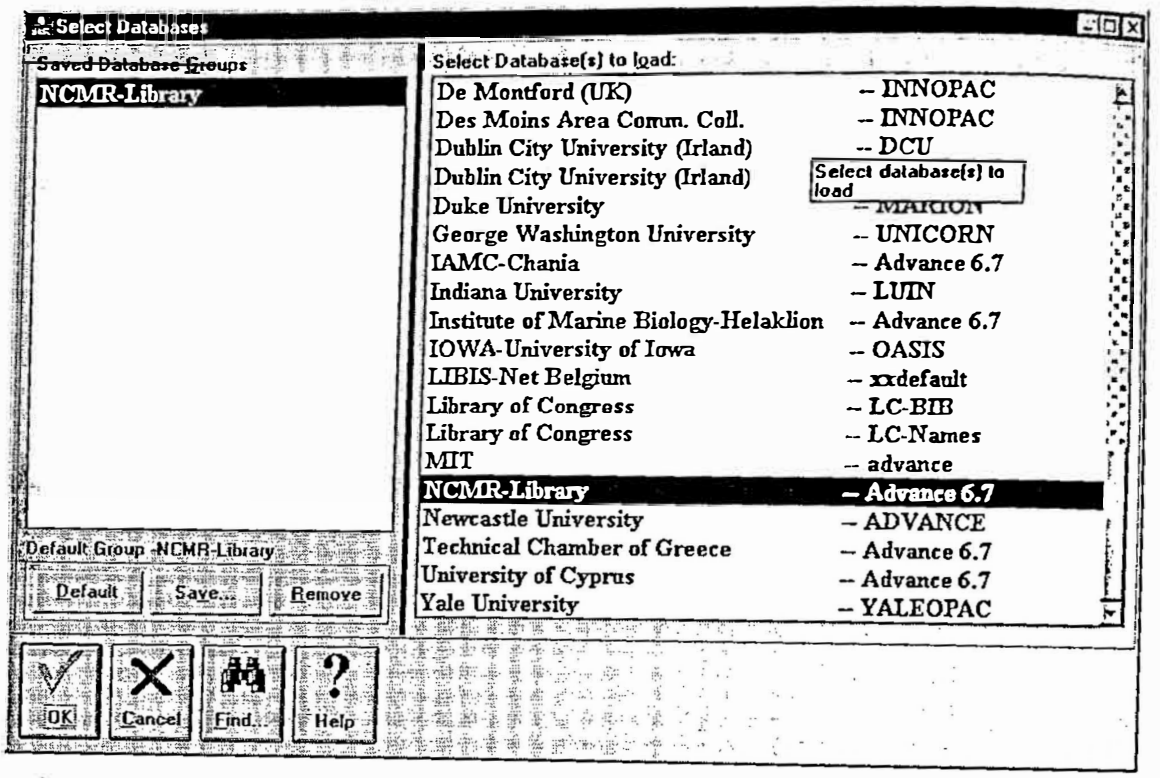
ACCESSING GEOPAC

The Search query window is displayed on the search library databases for bibliographic records. We also can access other remote library databases as we already have a connection.

Search query window

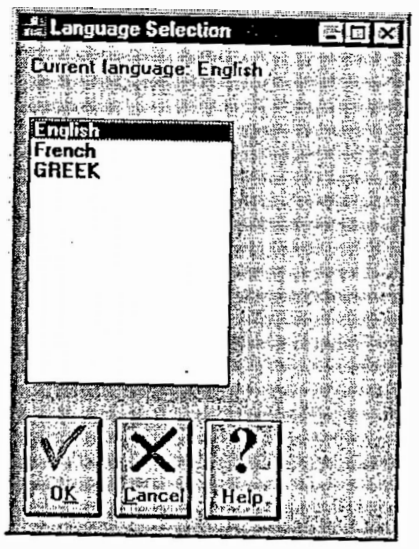


Databases window



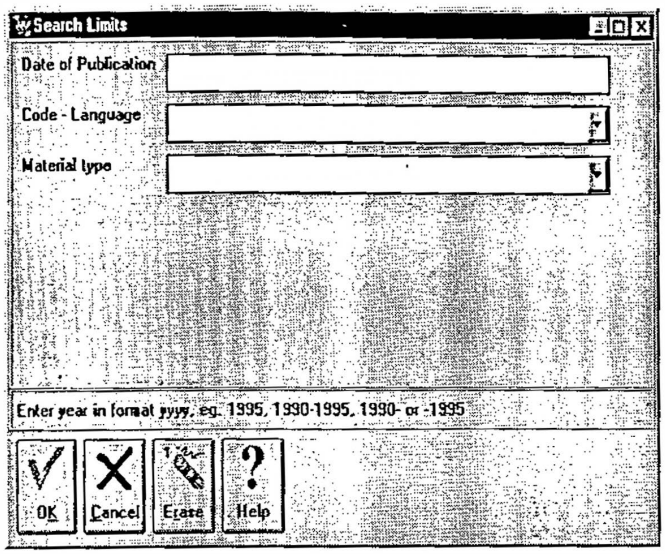
The databases' box displays a list of available databases that we already have a connection with.

Language window



We have 3 choices. French, English and Greek. The GEOPAC automatically re-starts the new language.

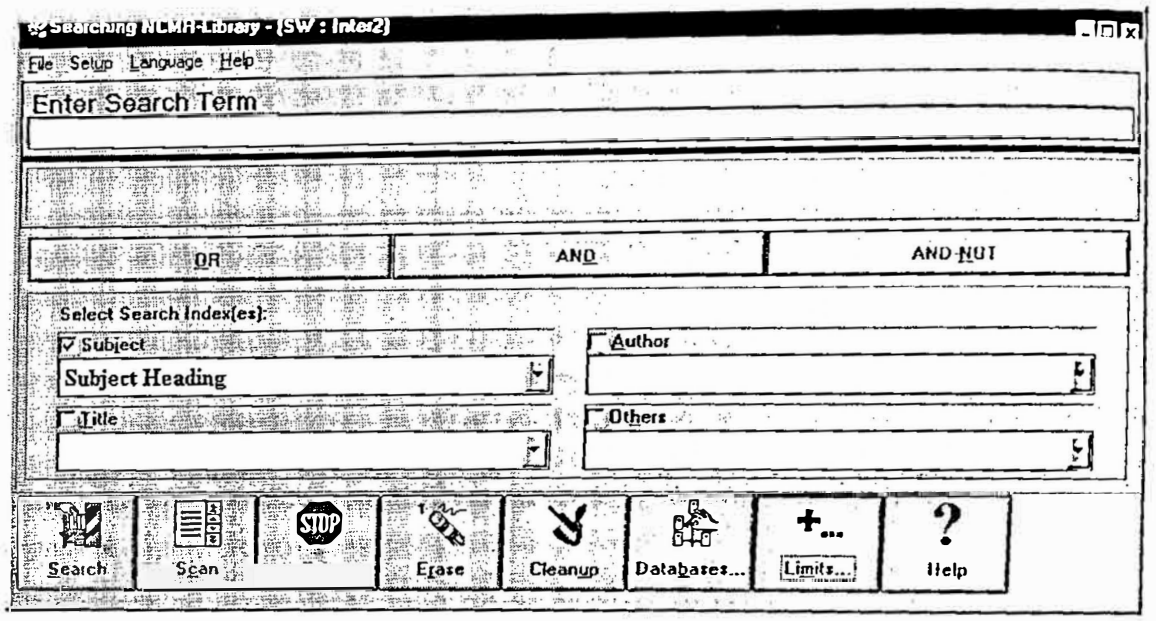
Limits window



We can limit the search on Date of Publication, on Language, on Material Type, on Publisher

SEARCH

Search query window



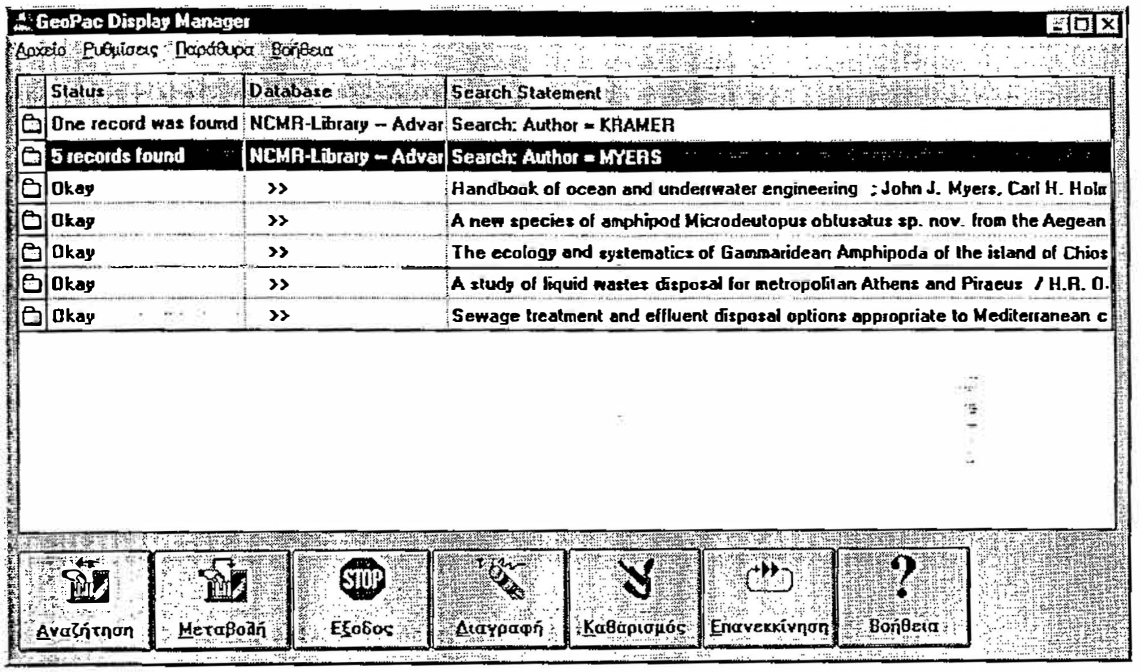
- An index can be chosen to search for a bibliograhic record
- Use Boolean operators (and, or, not)
- Truncation (left and right)

GEOPAC also uses two types of searches

- Keyword Search
- Scan Search

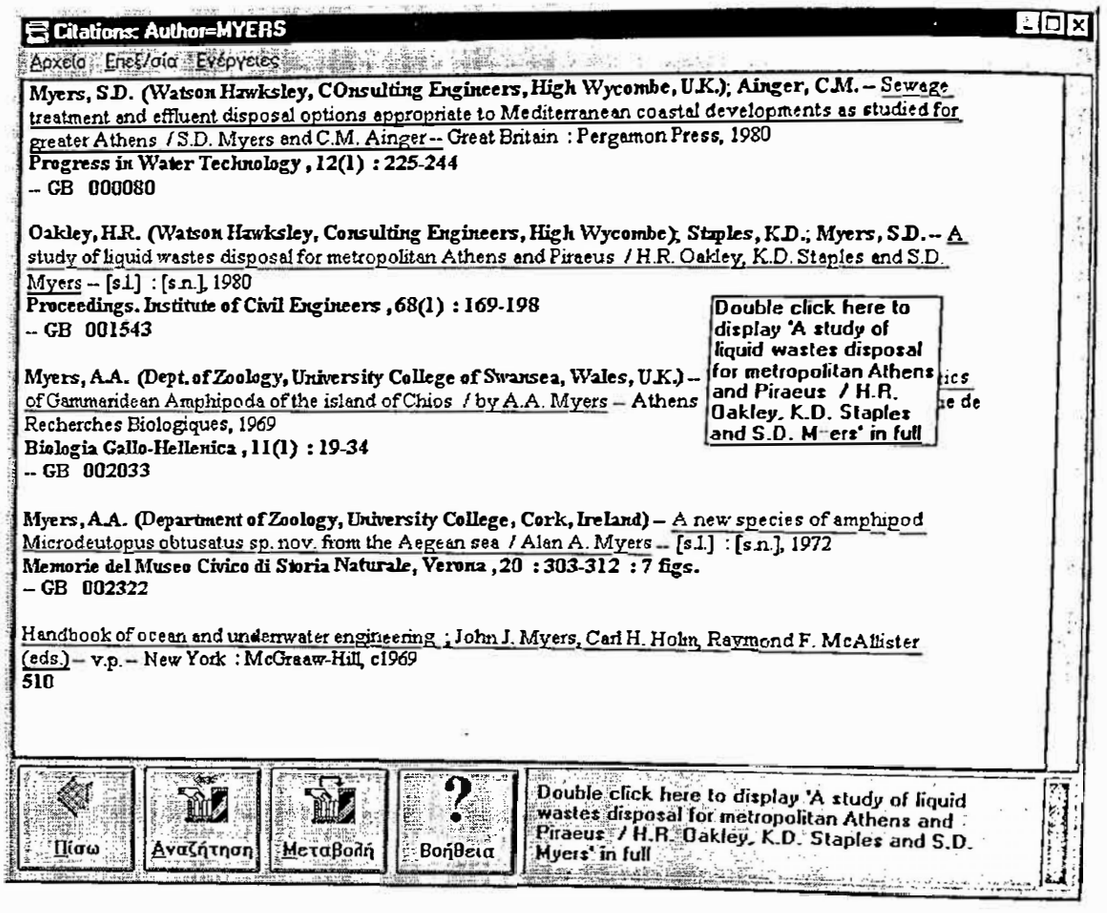
If we select "search" the results are given in a citation list.

Display manager window



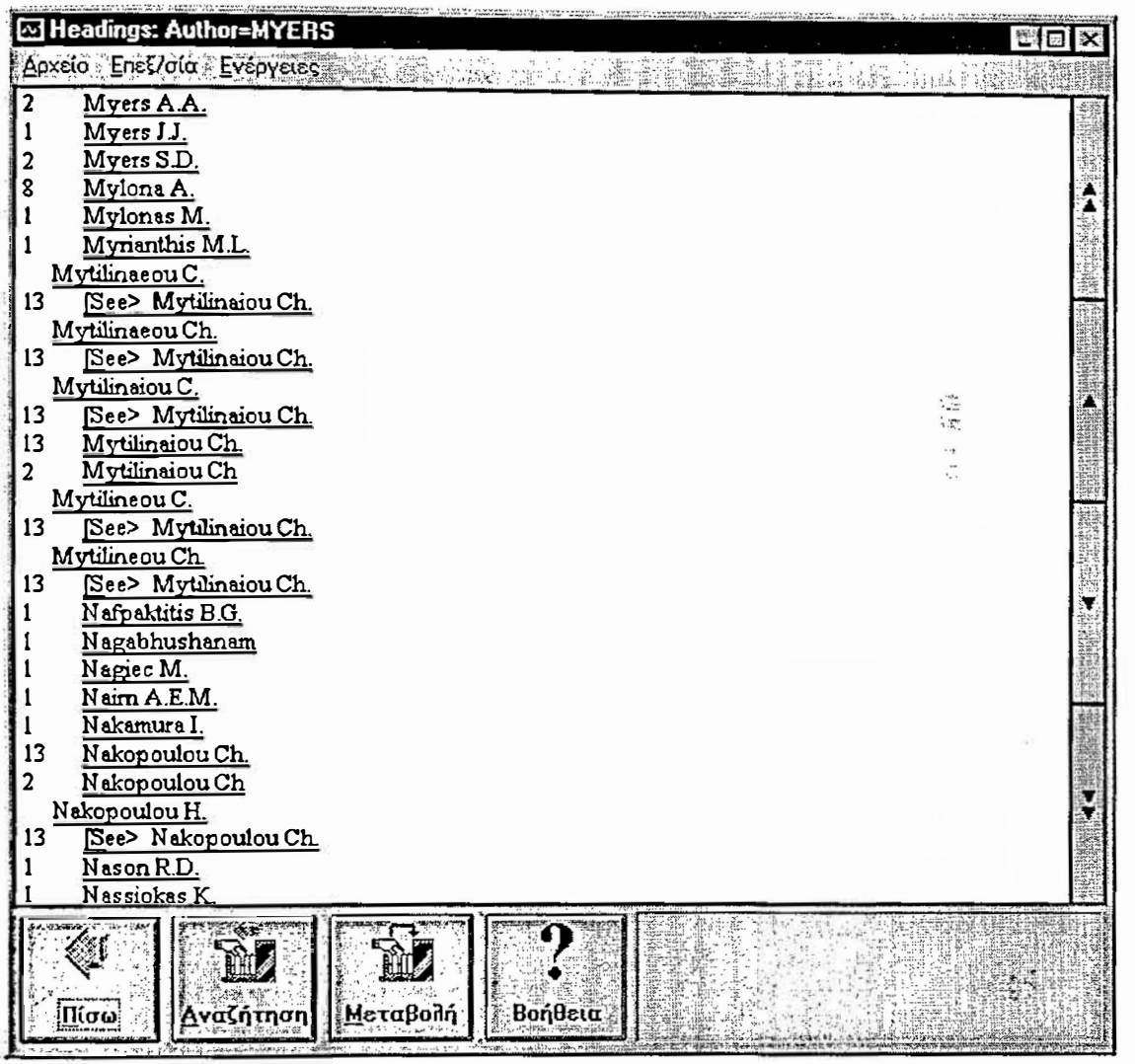
D.M displays information about the progress of our current search and previous searches and displays messages about the search results.

Citation list



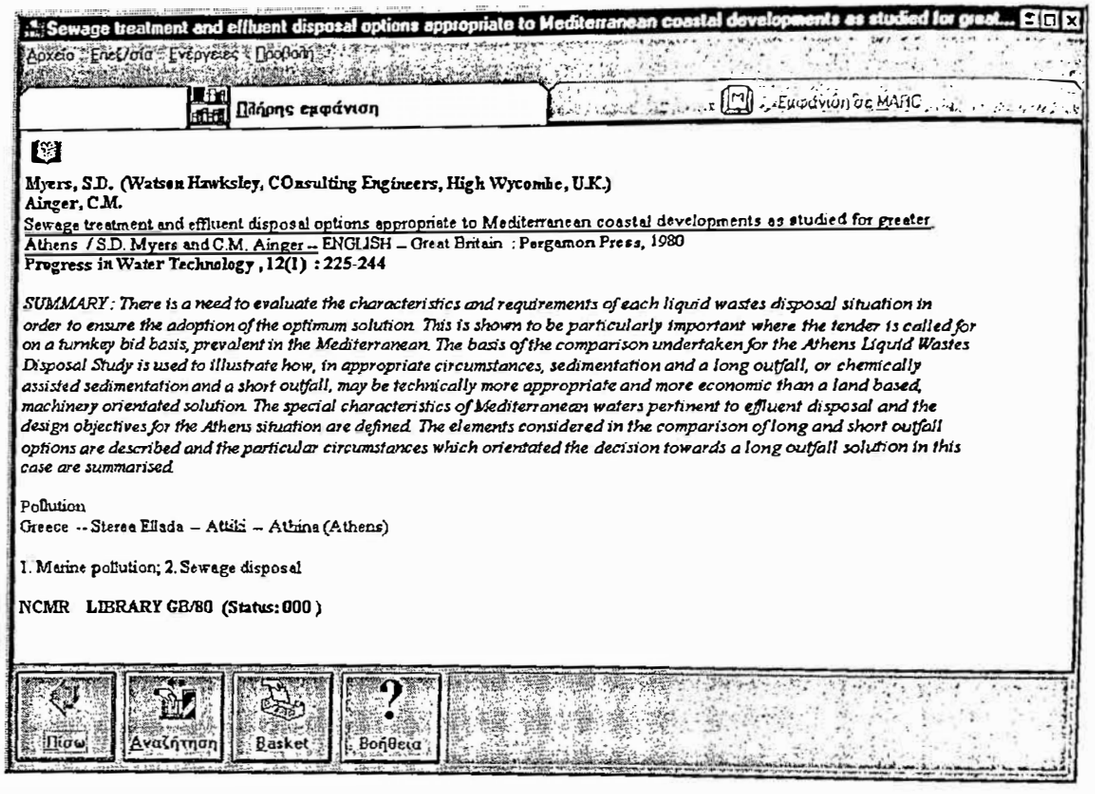
The **"citation list"** displays a brief outline of the bibliographic item. By double clicking on the reference that interests us the detail window is given. If we select a **"scan search"** OPAC displays first the Heading list.

Heading list



The **"Heading list"** is an alphabetical list of terms used. We see the number of occurrences, which allows us to control which terms are used. Double clicking on a heading will give us the Citation list.

Detail window

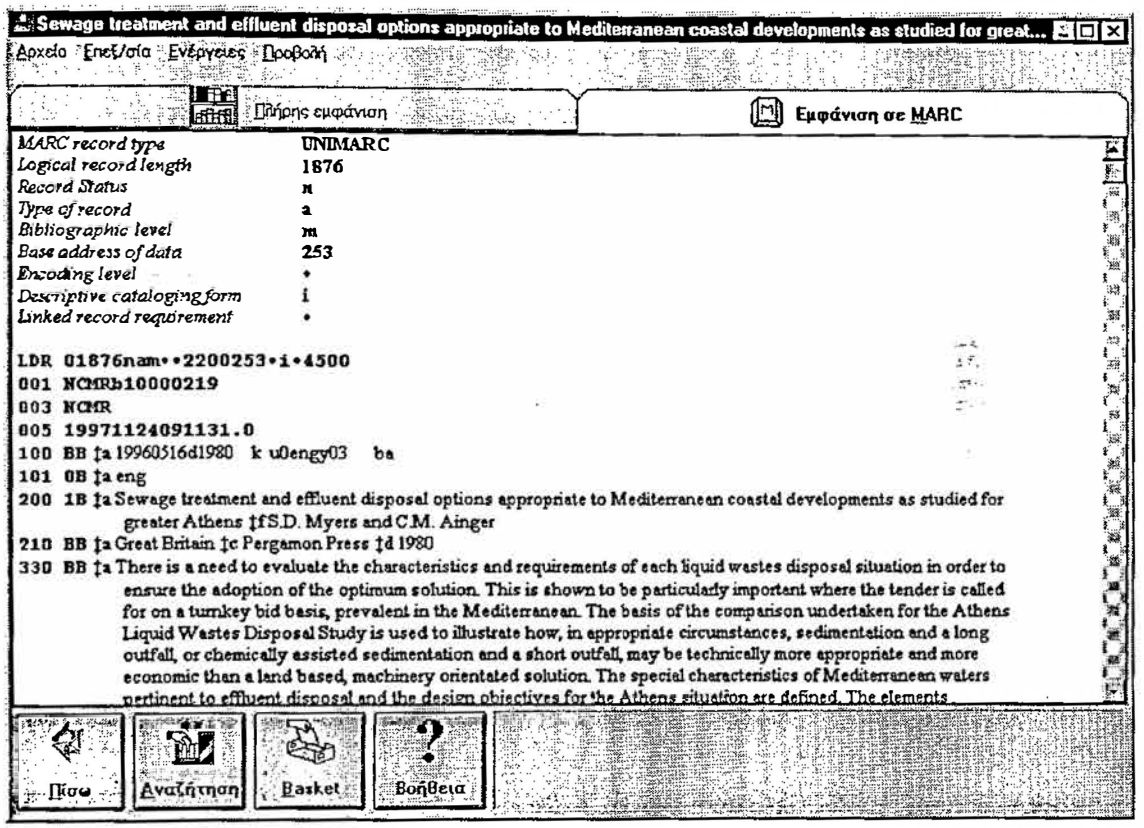


The **"detail window"** displays the following: summary[1], subject headings, keywords according to the ASFA thesaurus, the accession number, lending conditions.

We can **"extend our search"** from the detail window. Double click on Author, or subject heading, or keywords can extend our search to find other related works.

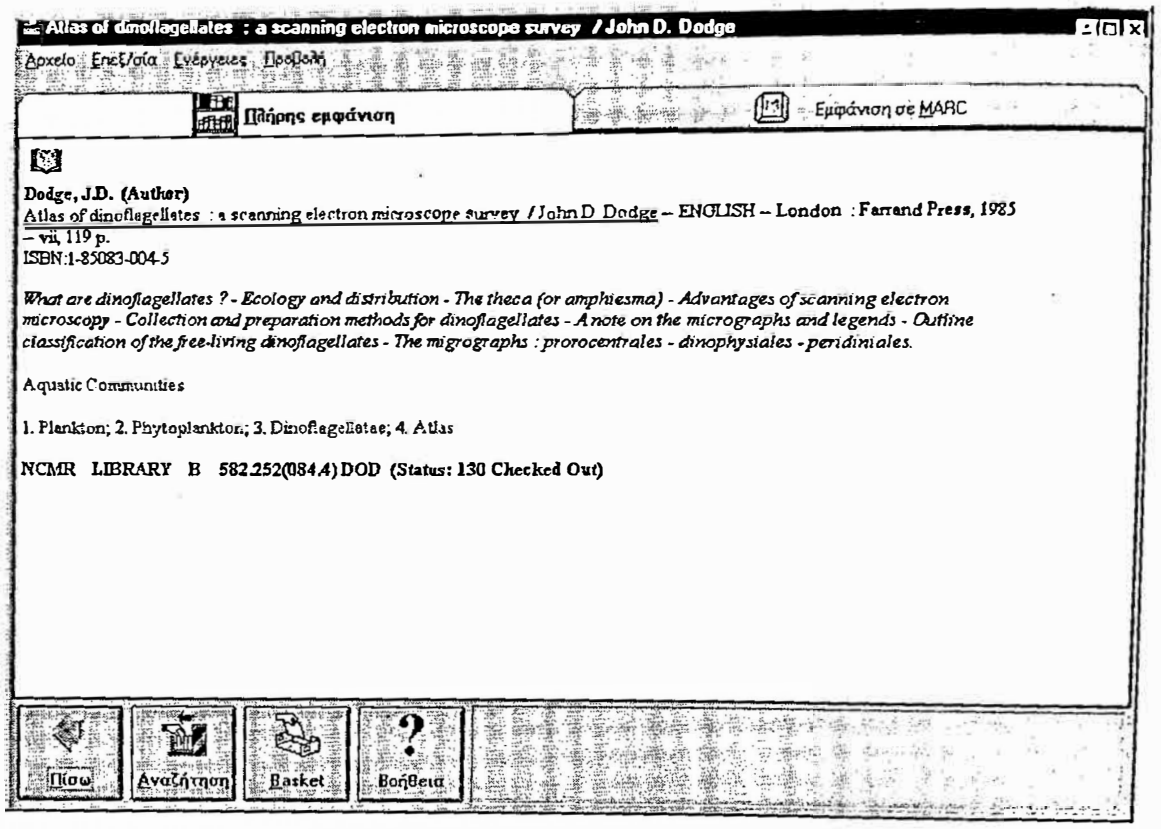
[1] This is given in two languages

Marc window



"Marc display" complete with leader, tags, indicators and subfields.

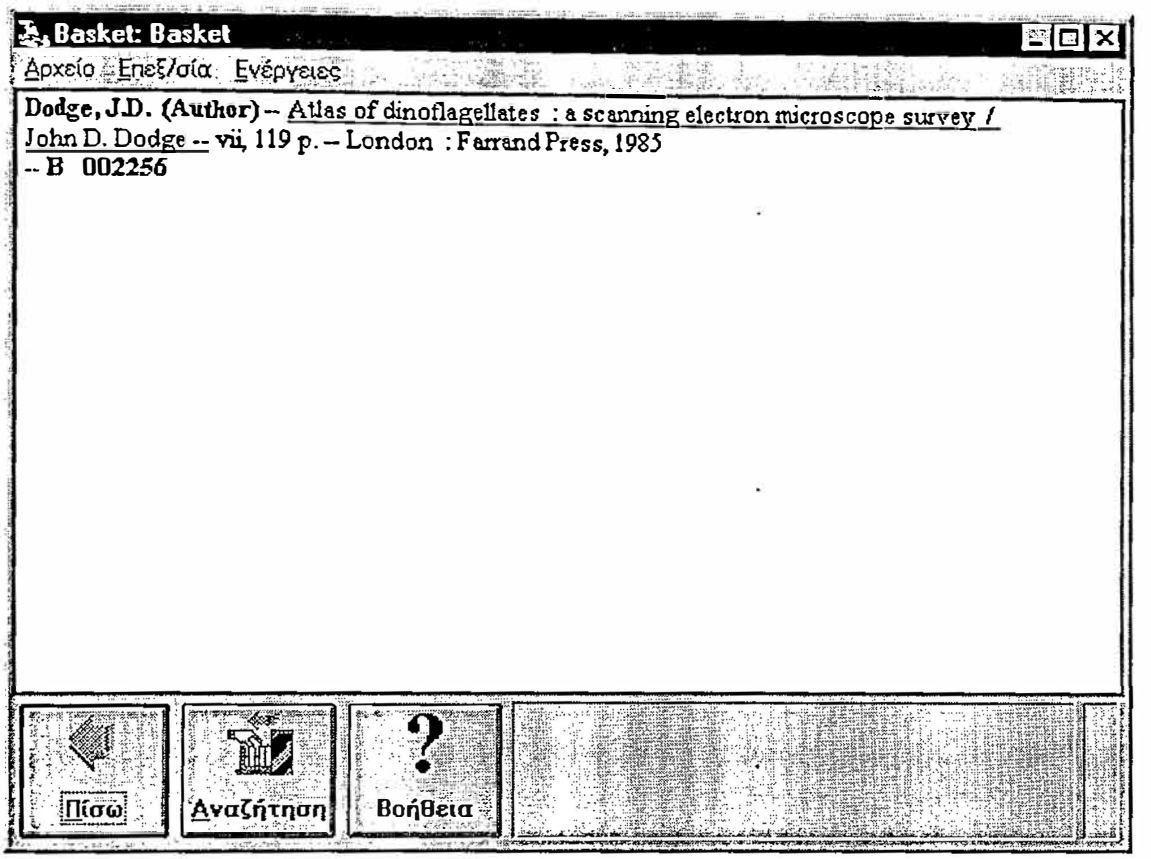
Detail window of a book



NOTE:

- Articles are accompanied by summaries in Greek and English language, while books are accompanied by contents tables.
- The appearance and features available in the Geopac that we are using, depend upon the options specified by our library.
- We use the same procedure to find other items besides books. Each of these items have a bibliographic record describing them.

Basket - and Multiple baskets



GEOPAC uses baskets as containers for records that you want to set aside for later use. It allows users to store information in separate baskets, which they can name.

Printing and saving results options are provided.

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The connection of geographical information systems with library and bibliographic processes in Russia

by

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ABSTRACT

Some aspects of the connection of retrospective information of the library data bases and the geographical information systems (GIS) are considered. The contemporary state of the problem in Russia is described briefly. The necessity of inclusion in GIS of the references to the bibliographical sources is argued.

INTRODUCTION

The creation of bibliographic databases on geography is one of the aspects of the global process referred to as organisation of the automated geographical information systems (GIS). The purpose of this paper is to consider the connection of the library-bibliographical processes with one of the oldest and highly esteemed sciences such as geography. To illustrate this, bellow we will refer to co-operation of the library stuff of the Institute of Limnological Researches (ILR) of the Russian Academy of Sciences (RAS) (the library is a branch of the Library of RAS) with the scientists working in ILR. My prime interest is the creation and use of GIS.

The subject (GIS) is familiar to everybody, it is rather a new technology than a new concept. The geographical information systems are not new, as is not new the science of geography. It is so since people were always faced with the problems how to describe the territories where they lived, worked and were at war. The sources of information for GIS can be various: results of expedition work (maps, blanks of complex description, diary records), collection of data etc. The main requirement here is to compare the data obtained for different periods of supervision. One of such sources has always been the available literature, but here arise some problems that will be discussed below.

GIS AS ECOGEOGRAPHY TOOL

In addition to bibliographic information systems there are widespread factual information systems. The modern computer GIS belong to them. They serve for storage, transfer and interpretation of specific numerical data on certain subjects, for example climatic, hydrological, geochemical etc. In the course of the time not only the approach to land description has undergone changes, but, which is much more important, the tasks of geography have become different too.

Geography was a pure empirical science, which always dealt with a specific fact. Now it is a complex science studying both the environment and influence on it of the human activities and the counter processes of the environmental influence on the human organism and society as the whole. Geography is a science studying inert and alive nature, the influence of man on nature and nature on man, and it has incorporated ecological problems. As an example of the ecogeographical approach to the study of the natural phenomena we can mention Institute of Limnological Researches of the Russian Academy of Sciences established in 1945. The idea of its creation belonged to G.Yu.Verestchagin. The directors of Institute were the outstanding scientists: the members of the USSR Academy of Sciences S.V.Kalesnik, D.V.Nalivkin, A.F.Treshnikov, and O.A.Alekin. The president of the Russian Geographical society academician S.V.Kalesnik has offered the original circuit of the systematic catalogue of the library particularly for Hydrology, Limnology, Artificial reservoirs. The point is that the available scheme of the bibliographic classification did not reflect the complex approach to study of the natural phenomena. According to available bibliographic classifications, the books on limnology were regarded as belonging both to the sciences about the Earth and to biological sciences. The scheme reflected the views of the previous generation, its incompleteness could form a wrong background for the formation of the views of scientists. And, I believe, for this reason Prof. S.V.Kalesnik suggested to change it. Though the involvement of the scientist such range, as S.V.Kalesnik in the work of any library is a large rare case, it is not to be regarded as a funny thing. The scheme of the systematic catalogue of the library of Institute of the Limnological Researches reflecting the ecogeography approach to the study of natural phenomena, taught young researchers integral thinking. And it is very important, since no university prepare limnologists. The acquaintance with library, i.e. from first steps, the young scientist learned the ecogeographical approach to the study of natural phenomena.

Ecogeography covers an abundance of the phenomena in their interrelationship. The items of information, which ecogeography has and operates with are spatial -temporary. The bulk of information for operative usage of ecogeography is often incompatible with potential of human intelligence. The GIS is the major tool of ecogeography.

GIS IN RUSSIA

Today it is not so important to speak about non automated GIS. All GIS are automated. Automated GIS have arisen and successfully developed for thirty years now all over the world. Their native land is Canada. In Russia a similar work began two decades later, and till now it is frequently connected with adaptation of the foreign experience. As to the introduction of GIS in library practice, here we can only use foreign experience. For example volume 14 of the magazine "Information technology and libraries" for 1995 is wholly devoted to the GIS and scientific libraries. For the Russian librarians the time lag is expressed in that the contents represent a purely theoretical interest.

The modern state of GIS in Russia reminds that in the beginning of the 80th in USA, Holland, Canada, Germany, and Sweden. Full size GIS functioning on the national level are single, but separate blocks have been generated which further can be connected in a unified system. At the same time, we can say that in our country the prerequisite for the creation of geographical information systems operating on the national level is already created. In the past there were special services of inventory and monitoring. The results of their activity were reflected in appropriate editions. Since the thirties there were publications reflecting inventory of a number of natural components and phenomena, and also natural complexes. The publications "Climatic directory USSR", Meteorological and actinometry monthly journals, the editions "Water cadastr of the USSR", "Hydrological year-books", "Materials of super-vision of lakes and reservoirs", "Hydrochemical

bulletins" began to appear. Basically they were the editions of the State committee on hydrometeorology (nowadays the Russian committee of hydrometeorology — Roscomhydromet). The above directories arrived to the libraries, they were readily accessible to the researchers. Now the situation is not the same. The handbooks are not issued. One has to pay much money to get the desirable data. The source of finance of the organisations involved in research and environmental protection as well as Roscomhydromet is the same, namely the state budget.

But organisation of free-of-charge access to the environmental databases remains an open question. Nevertheless, GIS are formed. It cannot be otherwise, but the dissociation and inconsistency of actions of the bodies that engaged in this process is depressing. Thus, in preparation for the creation of regional GIS, a very important experience of territorial centers of scientific and technical information, the network of scientific and technical libraries are not used. Often instead of the integrated network of bases and databanks, and corporate network appendices, the friable dissimilar information network is produced in many regions. These fail to be controlled in regard to the methodology and science, which makes them tend to market services with disproportionately high prices on the information goods whose quality leaves much to be desired.

LIBRARY DATABASE AND GIS IN THE ILR OF RAS

The above general processes are directly relevant to the library of Institute of Limnological researches (ILR) of RAS. Besides obligatory in each library the alphabetic and systematic catalogues and various card repertory, in the ILR library the information retrieval system conditionally called "Baltic" was produced. A chronological scope is five years. The basic objects are following: lakes of Northwest Russia, the Lake Ladoga, Lake Onega, and Finnish Gulf. To fill the information retrieval system, the stuff of the library realises the analytical entry of books and periodic editions according to the subjects of the Institute, received by the library. The data are prepared by ISIS/IRBIS library on IBM PC compatible computer.

At the same time, in ILR the GIS on Lake Ladoga and the regional hydroecological information-diagnostic systems (IDS) for watershed of St.-Petersburg, the Neva and its inlet are developed. If to ask the question whether the scientists of Institute addressed the library fund during the creation of these GIS? The answer will be positive. As the source of factual data they used both the library search device and publication. But the information retrieval system created in the library was not used in GIS point-blank. What can it result in? First, there can be a loss of sources, where the data are taken. If GIS included the information retrieval system of the library, this would be impossible. It is so as definition of personality, individuality is the main credo of library-bibliographic activity.

Unfortunately, many GIS are formed by accumulation of only the factual data, and, as a rule, from the time of creation of the given GIS. Such situation can be hardly regarded as normal. What is the cause? There is not one, but the basic one is a complexity of formatting the data received earlier. The others are the ninetieths, speaking geographical language, have become drainage divides in Russian science. The money allocated for science was cut down. As noted above it is unthinkable how high is now the price of the information of Roscomhydromet and other organisations. Certainly it cannot be reflected positively in the quality of domestic GIS.

I would like to mention one more problem. It is succession in science, which is impossible, if behind the teacher there is no disciple. Unfortunately, now we have to speak about a break of communication between generations in science. The researchers of 30-40 age frequently leave the walls of research centres (the pay of scientist in Russia is very low and does not allow to keep the family). The scientists, with respect to the age, fall now basically, into very young and rather elderly.

(I constantly communicate with the colleagues from other scientific libraries, the situation everywhere is approximately identical). The young, as a rule, are rather ignorant, and can expand the scientific out-look only in library.

This seems to be the evidence of an increase of the role of library in scientific life of the Institute. And we all know that the library can be the nucleus around which the scientific life of institute is shaped. The ideas of communities previously and now find in the book collection of institute the material embodiment. The memorial function of library is keeping the memory of previous researches. Like the memory of an individual defines the person.

CONCLUSION

I believe we can say life pose, and rather unambiguously, before library (here I refer only to the library of ILR) numerous problems. First, to always be near a young researcher. Sometimes he has no other possibility to find out about the existence of very important sources. Secondly, (and this can be interpreted wider) to show taking as example a library the advantage of the open information systems=GIS, if they are to develop as local IS, are doomed to destruction. One of the ways to overcome dissociation and insufficiency of GIS could be the development of a standard providing in each database the unit of sources of information and the references to the alternative projects. The completeness of this description could serve as one of the criteria of estimation of the quality of geographical information system.

My proposal gives nothing new to the bibliographers as any scientific publication deserving to be called so has the list of references which evidently presents the sources on which the research is based. And if the author's name does not say much yet, the list of the references will tell you very much. And the main thing is to define the personal attitude to the information system. The information without the author, without the source should not have the right to exist, otherwise we will return to the times of myth. Such prospect seems very clear provided global information networks become the "world village".

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Cataloguing Internet resources

by

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CATALOGUING INTERNET RESOURCES

There is a demand in some institutions for bibliographic records for Internet resources to be prepared and made available through online catalogues. The basic premises are:

- There is a great deal of valuable information available through the Internet.
- These resources need to be organised for accessibility.
- The systems available from most of the main vendors now offer a much-extended range of functions proper for this purpose (Z39.50, WWW). Systems, and indeed libraries, are no longer discrete.
- Developments in networking offer opportunities to libraries for providing new modes of access to users.
- Using existing library techniques and procedures and creating records for retrieval through existing online catalogues is the most efficient method of accessing these resources.
- Finally to improve library services. Users are often confused searching different systems and sources.

SELECTION OF RESOURCES

Tools and standards for resource description, access and retrieval are required in order to find and use resources. At this moment many tools are available, but there is not yet a widely used standard for resource description, nor are there sufficiently standard methods for resource classification and indexing.

Some people have suggested cataloguing useful home pages or Web pages (sometimes referred to as higher-level or upper-level resources) as a first step in providing access to this kind of material. Others have encouraged each library to catalogue electronic resources originating at their institution. Both suggestions are acceptable and should be considered when an institution is deciding what should be catalogued.

Internet resources to be catalogued should be selected as carefully as any other material that is added to a collection. Collection developers or managers, faculty selectors, and other library staff may be involved in this process. a systems person might be included in the process for technical advice. An institution needs to develop a collection development policy for electronic resources, just as for any other type of material.

A problem with cataloguing computer files is that the medium changes and develops so rapidly. By the time one figures out terminology and characteristics of available technology, new developments have made that technology obsolete. Those cataloguing this material for input into

local or national databases must remember to catalogue according to all existing national and international standards. If certain terminology, description, notes, etc. are needed for local reasons, the record may then be edited to reflect local practice. Cataloguing rules developed in *AACR2*, Chapter 1, give general guidance on cataloguing. Those rules can be applied to any type of material. It is always useful to review the general rules when faced with some new type of material to be catalogued.

The edition of the *International Standard Bibliographic Description for Electronic Resources (ISBD (ER))*, has been undergoing world-wide review beginning late in 1994, with final publication scheduled for 1998. It is preferable to use the ISBD (ER) especially those who use the UNIMARC format.

THE BIBLIOGRAPHIC DESCRIPTION

AACR2 provides guidance in rule 1.0D on the amount of detail that may be included in a bibliographic record. Level 1 contains minimal information; level 3 contains all possible information. One may catalogue with as much or as little information as is available and/or is desired for the user of the record. Each bit of information that is used in a bibliographic record must be used as directed by the rules of *AACR2* or *ISBD (ER)*.

The chief source of information for computer files available by remote access is the title screen or similar kin of display from a terminal or a printout of that information. If there is no special display, information may be taken from the home page, web page, or file itself: "read me file", "about" screen, TEI (Text Encoding Initiative) header, HTML tagging, documentation file, internal menus, etc.

Because Internet resources are available by remote access, accompanying printed documentation is unlikely, though such documentation may be available in an internal file or a separate file. An added complication is that the file may be unreadable until it is decompressed and/or processed in some manner. If no information is available as listed above, the cataloguer may use a title from any published description of, or citation to, the file. A file name may be used, if there is no other title given.

If no information is available from any source, the cataloguer must supply a title.

The source of the title is stated in a *required* note in the bibliographic record being created. Information for each area of the bibliographic record is to be taken from the chief source, as outlined above. A proper title must be provided, even if made up by the cataloguer. Other parts of the bibliographic record may be blank if no information is available. The rules direct cataloguers when to make assumptions in order to create a record. For further details about the bibliographic description see:

- OCLC's Guidelines for Bibliographic Description of Internet Resources
- *Anglo-American Cataloguing Rules,* 2nd ed., 1988 revision (*AACR2*)(Chapter 9) and the *Amendments 1993*
- *International Standard Bibliographic Description for Electronic Resources* (*ISBD(ER)*), 2d ed. draft, 1995

SUBJECT ANALYSIS

There are many systems for subject headings. A library may choose the type of subject access it desires: LC, NLM, Sears, other standard list, or locally developed headings. The *Guidelines on Subject Access to Microcomputer Software* (American Library Association, 1986) recommend

that a library treat computer files just like any other form of material in terms of the number and kinds of subject headings assigned, and the type of classification used. There is confusion, not unique to computer file cataloguing, between the use of terms as subject headings or subject heading subdivisions for the topical subject (what an item is *about*) and genre (what an item *is*).

The *Library of Congress Subject Headings* (LCSH) contains many terms that may be used to represent either concept. For instance, the term "Databases" may be used as subdivision to a topical heading for works *about* databases, and it may also be used as subdivision when the work being catalogued is a database. In the LC *Subject Cataloguing Manual,* instructions for cataloguing electronic serials (SCM H1580.5) direct the cataloguer to use only topical headings and subdivisions, while instructions for cataloguing monographs (SCM H2070) permit the use of genre subdivisions.

HOLDINGS

Some people have expressed positively about attaching holdings to records for electronic resources, items that are not locally "owned." This has been the concern from Dialog's early days when patrons of a library indeed had access to a specific database, and the database could be catalogued, and holdings symbols could be attached. Do we catalogue only those items physically located in our libraries, or those items our patrons have access to? This question needs to be answered by each library as it discusses cataloguing electronic resources.

One of the concerns is related to interlibrary loan. However, bibliographic records for Internet resources clearly state that these are electronic resources available through the Internet.

ACCESS INFORMATION FOR INTERNET RESOURCES

Some information is to be carried in special MARC fields. Subscription information and local access information are to be entered in field 856, Electronic Location and Access, a field developed especially for this kind of information. (see OCLC's Guidelines for Bibliographic Description of Internet Resources, Appendix A which contains current directions for field 856). Because field 856 is continually undergoing revision/updating, one must watch for changes to that field as announced by LC, and/or OCLC.

CONCLUSION

Developments in networking offer opportunities to libraries for providing new modes of access to users through the library to network information resources. Libraries can provide access to the network within the library, but this is no different from accessing the network from another location. This lack of integration leads to a conscious lack of added value from the library. What is needed, therefore, is further integration of library functions and resources into the networked environment. A first step in this process could be the cataloguing of Internet Resources and the creation of hyperlinked bibliographic records. Finally there is a challenge for libraries to maintain a position as the primary gateway to published information in the network environment.

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Activities of the National Hellenic Documentation Centre and the National Network of Scientific and Technological Libraries

by

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ABSTRACT

The mission of NDC is to ensure the flow of the scientific and technological information to the Hellenic scientific community. This is achieved by establishing online access to 17 international hosts and 1300 databases, acting as the major information intermediary in the country offering bibliographic references to 10,000 scientist per year, producing 8 national databases and hosting 40 databases produced by other national or international organisations.

Concerning libraries, NDC supports them by developing and disseminating ABEKT, the most popular library automation software in the country, which has installed more than 700 copies. NDC develops, in close collaboration with 206 libraries, the Union Catalogue of Periodicals including 22,790 unique journal titles. It creates and co-ordinates the National Network of Hellenic Scientific Libraries with 107 libraries supporting interlibrary loan through the online document ordering system provided by the host computer of NDC. NDC develops its own digital library having access to more than 230 electronic journals via Internet and about 1,000 installed locally. It organises seminars, workshops and information days focusing on the electronic information services and technologies.

OUTLINE OF NDC ACTIVITIES

The National Documentation Centre (NDC) was established in 1980 and is hosted at the National Hellenic Research Foundation (NHRF) in Athens, Greece. The main objective of NDC is the development of the **National Information System** for science and technology. It is an "installation for national use" and its mission is to ensure the flow and dissemination of Scientific and Technological information at national level. NDC users are research institutions, universities and technological institutions, hospitals, public administration, libraries, commercial and industrial chambers as well as individual SMEs and researchers, scientists and professionals. The following are the main action lines of NDC.

Covering the information needs of the scientific and business community through:

- Operation of HERMES the host computer of NDC
- Creation and maintenance of national databases
- Operation of intermediary information services from national and international online databases
- Creation and support of (peripheral) Documentation Focal Points in regional universities

Linking industry with research through:

- Support and facilitation of the participation of Greek companies and organisations in European Union Research, Technology and Development (RTD) Programmes
- Promotion of exploitation of RTD results
- Support Greek SMEs in technology transfer and innovation

Stimulating of the Hellenic market of electronic information services through:

- Awareness and training of active or potential users
- Development of demonstration information systems using new information technologies (GIS, Multimedia, WWW)
- Publishing studies on the Hellenic Electronic Information Market

Support of computerisation of Hellenic Libraries through:

- Development and maintenance of the "Union Catalogue of periodicals in Greek Scientific Libraries"
- Design, development and coordination of the National Network of Scientific and Technological Libraries.
- Development, dissemination and user support of ABEKT the most popular library automation software in the country
- Creation of the digital library
- Developing of special depository library
- Running the largest serials library in the country

Participation in national and European projects, such as:

- Programme EPET 1 / Project 7.1-EKT: Specialised Information System and Distributed Document delivery Service
- STRIDE HELLAS Project 42
- Programme EKBAN/ Project: National Information System for Research and Technology)
- VALUE (Hellenic VALUE Relay Antenna)
- INNOVATION (Hellenic INNOVATION RELAY CENTRE)
- IMPACT 2 (NAP: National Awareness Partners, TRAIN-Train, MSSTUDY, NFP: National Focal Point)
- INFO2000 (Hellenic node of MIDAS-NET)
- EKBAN/ ARGOS (Archaeological Greek Online System)

HOST "HERMES", DATABASE PRODUCTION

NDC runs the HOST Computer "HERMES"2, with BS2000 operating system, GRIPS as the DBMS and CCL3 (as retrieval language) which is online accessible via all data networks (HELLASPAC the X25 Greek PSDN, INTERNET (GRNET, etc.) and dial-up. HERMES is interconnected via a bi-directional Gateway with DIMDI (Germany), offering in this way the capability to Greek end-users to access easily databases offered by other host computers. More than 1.700-registered users, located all over Greece, are password owners of HERMES.

The databases, which are available on "HERMES", are the following:

Databases produced by NDC

Union Catalogue of Periodicals of the Greek Scientific Libraries (SERI) containing holdings (25.000 titles) covering more than 57.000 subscriptions of 207 Academic and Research Libraries, spread all over Greece and also Cyprus and providing online document ordering system. SERI is produced by NDC.

Greek Dissertation Index contains more than 7.000 references of doctoral theses granted by Greek Universities or by foreign universities to Greek doctors since 1987.

Inventory of on-going Research Projects contains information on more than 8.000 Greek on-going Research Projects of Greek Research Institutes, Universities and Industries.

List of Greek Libraries (LIBR). Basic information on the 207 Libraries included in the SERI database

Hellenic Electronic Information Market (HEIM) contains data on products and organisations of electronic information services such as databases (online or CD-ROM), Multimedia titles, information brokers, network providers and producers active in the Hellenic Information Market.

URSA, is an international bibliographic database in English, on Geographical Information Systems (GIS) including 5,500 records covering major journals and conferences in the field as well as material from seminars and foras.

ARGP, the union catalogue of periodicals included in the collections of all 17 libraries of the foreign archaeological schools, established in Greece, and 3 humanistic institutions of NHRF (project ARGOS). ARGP covers more than 2.500 journal titles.

ARGB, union catalogues of books included in the collections of all 17 libraries of project ARGOS. The whole database is going to cover more than 400.000 records on Hellenic history and civilisation.

The following databases are produced by other Greek organisations hosted in NDC and offered online by HERMES:

URSA - DIS, a database of documentary information on urban and regional development in Greece, produced by the University of Patras. Includes about 5.000 records, mostly bibliographic references from books, articles and reports on Greek regional planning since 1950.

2. Mainframe Siemens/Nixdorf
3. Common Command Language

Greek Biomedical Literature "Hippocrates" (MEDI) produced in co-operation with the Association of Medical Studies and contains 12.000 references on Greek biomedical research in Greek and in English, published since 1980.

GLAUKA - Sociological database produced by PANTEION university of Sociological and Political Science (Athens), includes more than 15.000 records covering Greek literature on Sociology, Ethnology, Anthropology.

TEE Hellenic Technical Literature. Produced by TEE, the Technical Chamber of Greece includes more than 7.000 records covering all articles and conference proceedings produced by TEE concerning engineering and technology.

Model of Biomedical equipment (HBIE). Created by the Institute of Biomedical Technology in 1994 includes 1.200 records describing the model of biomedical equipment available in Greece.

Representatives of Biomedical equipment (HBIR) Created by the Institute of Biomedical Technology in 1994 includes 140 records with data for the Greek Representatives of Biomedical equipment.

Bibliography 2000 (HEBI) A guide including 80.000 records for books produced by Greek publishers (books in print), a database produced by ELEA LTD (Athens).

PRES Historical archives covering basic information on Greek publications (newspapers magazines, reviews etc.) published in Greece or abroad between 1790-1990. Produced by Centre of Modern Hellenic Research/NHRF.

International databases

The following international databases have been installed locally on an ULTRANET system and are offered online by NDC:

Analytical Abstracts
Bibliofile
Biological abstracts
CAB Abstracts
Chembank
Chemical Abstracts
COMEXT
Compendex
Dissertation abstracts
Drug information full text
Embase drugs
ERIC
FDA approved drugs
FDA guidelines
Fomad
Forege
Frosti
Global books in print
INSPEC
ISI-arts & humanities
ISI-science
ISI-social science
ISSN- compact
Linguistics & Language Abstracts
LISA
Mathscience
McGraw Hill encyclopedia
Medline
NTIS
Polymer Encyclopedia
Psychlit
Religion index.

Information retrieval services from international databases

NDC acts as the main online information provider in Greece, covering the scientific and technological information needs of the Greek scientific community. For more than 14 years, NDC has online access to more than 1.300 databases, available on various host computers[4].

In a typical year of operations in the Information Retrieval Department, there are requests for more than 3.000 online connect hours while more than 5.000 online searches are carried out per year on user request. During its 14 years of operation more than 80.000 online searches have been carried out by NDC / IRD staff.

STIMULATION OF THE GREEK ELECTRONIC INFORMATION MARKET

NDC is the Hellenic node of the MIDAS-NET network in the frame of INFO2000 European Programme. Through this project NDC organises training seminars on multimedia and electronic information services addressed to the staff of libraries, research institutes, universities, hospitals, scientific associations, SMEs etc. all over the country. A help desk operates during all working hours for solving day to day problems of the end users. In 1995 NDC in co-operation with other NAPs participated in the development of a methodology for the measurement of the European Information Market.

LIBRARY AUTOMATION SOFTWARE: ABEKT

ABEKT is a software package for PC computers, developed by NDC staff providing an excellent tool for Greek Libraries to automate their services. It is a user friendly system -in Greek- and its main objective is to promote library automation processes in the country. ABEKT is an integrated system providing facilities such as cataloguing, online catalogue searching and all other modules, such as acquisitions, loans, serial control, data exchange etc.. The catalogue data base can be searched online or used to produce various printed catalogues (card catalogues, etc.).The ABEKT system follows the ISO/2709 standard and supports data interchange in UNIMARC and CCF formats, thus promoting library co-operation through data interchange. ABEKT is distributed free of charge to approved non-profit organisations. ABEKT is used by more than 700 libraries in Greece and abroad. Continuos user support is offered to all ABEKT users.

A new version in windows 95/NT environment is being developed. The basic features of the new version are: graphical interface, multi-user environment, fully multilingual capabilities, OPAC via Internet, etc.

LIBRARY OF SCIENTIFIC PERIODICALS

NDC operates the largest library of scientific periodicals in Greece. There are 1.800 current titles of scientific periodicals. During an average day, a photocopying service offers photocopies for more than 3.000 pages of journal articles from its own collection. NDC acts as an Intermediary Document Supplier for scientific and technical documents, which are not available through the Greek Libraries Network. More than 6.000 requests are processed every year from users via mail, fax, telephone, e-mail or in house visit from all over the country. Orders for photocopies are carried out online, while deliveries are executed via fax of mail according to user needs. Main NDC's document suppliers are ZBM, BL, KNAW, Derwent, INIST, NTIS, etc.

4. DIMDI, DIALOG, ESA-IRS, DATA STAR, QUESTEL, STN, EUROBASES, etc.

NDC also operates a **Depository Library** which includes EEC reports and publications, AGARD publications, UN reports, the original documents of 13.000 Greek dissertations and literature on electronic information services, multimedia, GIS.

Since 1998 a **digital library** is being developed including 1.500 journal titles either installed locally on CD-ROMs or remotely accessed through Internet to the publishers' www sites or SWETnet system. A project for digitisation of the full image of Greek dissertations is also ongoing.

UNION CATALOGUE OF PERIODICALS - BACKGROUND

The development of the Union Catalogue of Periodicals started in 1983 and was the first online database created by the National Hellenic Documentation Centre (NDC). NDC having already online access to more than 800 international databases5, and a group of scientific experts acting as information intermediaries, could ensure the first link of the information chain: the search and retrieval of bibliographic references. The Union catalogue of Periodicals was created to cover the second link, acting as a tool for identification of the original documents in the Hellenic libraries. The first edition of the printed union catalogue was published in 1985. It included 5.000 scientific journal titles, which corresponded to the collection of 5 libraries of Institutions supervised and financed by the Ministry of Research and Technology. Namely National Hellenic Research Foundation, National Centre for Physical Research "Democritus", Pasteur Institute, National Centre for Social Sciences, National Centre of Marine Research. More than 2.000 volumes have been disseminated for each one of the four printed editions to libraries all over the country. The Union Catalogue is continuously expanded with new libraries and updated by NDC in collaboration with the scientific and technological libraries of the country.

INFRASTRUCTURE

The technological infrastructure currently used is the host computer "HERMES" of NDC, which was installed in 1993. The whole system is identical to the host computers used by ECHO6 in Luxembourg and DIMDI7 in Germany. A mainframe Siemens/Nixdorff (SNI), operation system BS2000 and the Database Management System (DBMS) GRIPS compose the system. The query language is CCL8. A graphical user interface (GUI) based on client-server architecture is also available. Online document ordering functions are also provided by the system. A www interface has already been developed offering easy access to no experienced users (http://www.ekt.gr).

STATISTICS

The Union Catalogue of Periodicals includes 206 Hellenic libraries (two of them are located in Cyprus). The total collection includes 22,790 titles corresponding to 57,790 subscriptions. Subscriptions which are more than twice the titles raising the overlapping coefficient to 2,53 (= subscription per title).

Table I presents the evolution of the Union Catalogue of Periodicals. The first four dates (1985, 1987, 1989, 1992) correspond to the printed versions, while the next present the status of the online database during recent years.

5. Via its connection to more than 14 commercial host computers
6. European Commission Host Organisation
7. Deutch Institute fuer Medicinize Dokumentation und Informazion
8. Common Command Language

Table I

Evolution of the Union catalogue of periodicals in scientific and technological libraries in Greece

Years	Union Catalogue of Periodicals			National Network of Libraries	
	Number of Libraries	Number of Journal Titles	Number of subscriptions	Members	Online orders (since 1994)
1985 Edition 1	5	5.000	11.779		
1987 Edition 2	15	10.000	23.558		
1989 Edition 3	45	15.000	35.336		
1992 Edition 4	104	19.000	44.759		
Nov. 1994	133	20.400	48.057	6	905
Jan. 1995	140	20.587	48.498	41	1.200
Nov. 1995	167	20.614	49.800	57	5.434
Sep. 1996	190	21.100	53.224	81	12.913
Jan. 1997	195	21.500	55.009	83	16.247
Nov. 1997	206	22.790	57.790	95	27.658
May 1998	210	23.100*	58.500*	107	35.000*

* estimation

NATIONAL NETWORK OF SCIENTIFIC AND TECHNOLOGICAL LIBRARIES

One of the main objectives of NDC is to promote co-operation among all Greek Scientific Libraries, in order to increase their productivity and their usage, avoid duplication of resources, standardise procedures and overall to provide high quality library services to users, all over the country.

Background

The National Network of Scientific and Technological Libraries is an initiative of NDC aimed at:

- the development of infrastructure,
- the creation of the appropriate mechanism,
- the acquirement of know-how for the co-operation between libraries,
- the upgrade of services offered and the optimised exploitation of the continuously decreased budgets of the libraries

A first service developed by the network is the online document ordering of journal articles included in the collections of member-libraries.

The National Hellenic Network of Scientific and Technological Libraries started its pilot operation on February 1994. The initiative was undertaken by the National Documentation Centre (NDC) in the frame of project 13/EKT of the First Operational Programme of Research and Technology (EPET I), financed by the General Secretariat for Research and Technology and the European Commission. The project aimed, among others, to create the primary core of Scientific and Technological libraries, which would have the capability to order online documents from journal articles included in their collections. The basic terms of the network operation were described in a

letter of agreement, signed by a limited number of 20 libraries. 6 libraries were selected to run the pilot operation. The criteria of the selection were:

1. Their collection to be included in the database of the Union Catalogue of Periodicals (SERI),
2. The availability of equipment needed9, as well as access to one of the available data networks in Greece i.e. HELLASPAC (the Greek PSDN) and ARIADNE-T or FORTHNET (the first Greek Internet Services providers),
3. The acceptance and signature of the "Contract and Terms of network operation" by the Director of the participating organisation.

The structure of the network

The network was developed based on a radial model. The network is centrally managed by NDC while permitted a full decentralised operation by the member libraries. This model requires a central server and a union catalogue to be regularly updated with data provided by the local catalogues. Each library needs to have access only to a single point (NDC) in order to be informed on the existence of a journal title. Each User-Library considers all the others as a unified set from which documents can be supplied. This model minimises all necessary tasks to be undertaken by the individual libraries in the periphery as it reduces the hardware and software requirements in the periphery of the network as well as clearance, accounting or payments procedures, hardware and software cost and support. On the other hand the central point requires a team of three people for the co-ordination of the network and the update of the Union Catalogue.

The operation of the network

During the first phase of the operation, the participation of libraries, which can act both as suppliers and users, was decided upon. for reasons of creation of the crucial mass of suppliers and eliminating the possible malfunctions. This means that libraries which could only act as users were excluded, in the first phase. The aim was to achieve the balanced use and the fair sharing of the load caused by the offered services. In the second phase, after the procedures and functions had been consolidated, the participation of libraries which act only as users was permitted. Individual users will be permitted to directly exploit the services of the network during the third phase after the clearance mechanism of money collection is proved well established. Library users have only to pay a small portion of the cost covering photocopy and mailing.

The system also permits the users to order articles without the use of the Union Catalogue of Periodicals. However searching before the order and checking the holdings results in a relatively high response rate of 78% of the orders.

SUPPORT OF THE LIBRARIES NETWORK BY NDC

NDC plays a multiple role in the network. NDC provides the entire infrastructure required in the central level, which consists of:

- The host computer, (HERMES and www interfaces)
- The permanent connections to all available networks in the country i.e. INTERNET (GRNET), PSDN (HELLASPAC) as well as dial up,
- The DBMS for the Union Catalogue of Periodicals,
- The system for the management of orders,
- The system of statistics and invoice production
- The money collection and clearance mechanism,

9 in terms of copiers, personal computer or terminals and modem

- The update procedure of the Union Catalogue of Periodicals, in collaboration with the member libraries,
- The basic user training activities through specialised seminars,
- The user support activities through visits to the users workplaces,
- The operation of a help desk for everyday problem solving,
- The promotion of the Libraries Network to potential member libraries, final users (Higher Education faculty, researchers, business managers and scientists) and decision making groups,
- The participation in projects for the financial support of the Network development and expansion,
- The organisation of annual workshops.

Basic statistical data of the libraries network

As presented in table I, after four years of operations the Libraries Network includes 95 member librarys. They have set 35,392 online orders, of which 27,658 were executed raising the response rate at 78%. The average response time is 9 days.

It is estimated that an average of 200 million GRD have been saved till now from the operation of the Libraries Network, as these orders were served within the country not addressed to foreign document suppliers. This sum corresponds to the annual budget for periodical subscriptions of the largest library in the country.

EPILOGUE

The establishment of the National Network of Libraries in Greece was attempted in an environment with no tradition in libraries co-operation. A remarkable delay was experienced, in comparison with corresponding procedures in other European countries. The whole Network development passed directly from lack of (systematic) co-operation to computerised procedures of co-operation. However, the successful results of the Network operation ensure the continuation and expansion of the Network.

The fundamental mechanism and infrastructure has already been established. In addition a general attitude has been formed recognising that systematic co-operation between libraries as the only way to overcame the constrains of the budget cuts. The national network of libraries exploits the wealth of information spread all over the country in numerous organisations by transforming past expenses to present and future investments. The co-operation has been proved more effective because it has been established between libraries belonging to different administrative or institutional categories (universities, hospitals, commercial banks, research institutes, etc.).

Hellenic libraries are expected to cover the gap and go ahead to further collaborative schemes and practices. New information technologies helps the move towards this direction. Consortium agreements for sharing resources to electronic journals have already been planned. The co-ordinated planning for the reconstruction of the individual collections is also designed, starting gradually with a limited number of libraries, which are willing to upgrade the level of co-operation and carry along more libraries.

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Crustacea Decapoda: problem choices implemented from the literature. A worldwide bibliography from Andalusia

by

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ABSTRACT

A database has been constructed compiling virtually all the worldwide known larval developments of the Crustacea Decapoda. 4031 entries list this morphologic analysis. The criteria of relevance, comprehensiveness, and reliability applicable to this bibliography permit an objective evaluation of the relative importance of scientific research problems in the area. The data structure of the database is spread over the scientific literature to see what falls into the grid. All the data from a specimen, a gender, a family, and an infraorder have been introduced. The literature coverage is described with a special field. The practical foundation for a problem choice activity is focused on the field where the controlled stages of the evolution of the larvae are recorded. Zoeal stages names result from the application of knowledge procedures deriving in morphologic attributes. Until the Last Stage is attained the distributive lattice between the considered attributes defines a logically inconsistent situation. This must be discerned in terms of fuzzification. At least two such criteria are present in the initially defined stage with no idea of the last stage, and the changes of names along time. In terms of the material properties of the database it is said that the condition of reliability may be expressed in terms of the "density" of the distribution of the attributes. A theory of the specimen described, in the sense of finally giving it a name, must be a conjunction of data from the Lab (L) and from the plankton (P): (L+P). And this will be the criteria of quality when solving problems. The impasses detected when trying to attain this ideal would identify possible research questions. An integrated set with the names of the most important journals and authors, and results on the more informative years in the discipline are also included.

INTRODUCTION

How large is the bibliography on Crustacea Decapoda? When we have to deal with such a question, we are aware of the need to characterise it in terms of databases. A complete database would provide a decisive overview when an answer is decided upon. Naturally, in order to determine the definite establishment of a life history, the standard way is to use the bibliographic reference, as there is unanimity about its value as public recognition of a scientific event.

This study describes the database produced in the Marine Sciences Institute of Andalusia (CSIC) containing the complete set of literature references on Crustacea Decapoda. The precedents of this bibliography could be searched between the information supply arrangements authored by

Gurney in 1939, and by Soltanpuri-Gargari, Engelman and Wellerhaus in 1989. The existing financial limitations are responsible for the delay in publishing this professional collection.

The present contribution an attempt to cater for all possible audiences in all situations related with zoea. The analysis will proceed to draw attention, and to convince that this information is important. With these competing demands borne in mind our contribution has tried to follow the procedure to search for data generally in terms of a dictionary search for keywords and predicates places occupied by the nouns defining the stages of the development (Semenova, 1994).

The general research question concerns the expectations of future solutions related to the scientific problems in the framework considered. The very notion of cognizability of the object of research is a function of the salary-based labour remuneration system (Malevinskii, 1992). The problem scope needs long-term planning. Considering if the number of publications expressing their views on it is growing over time could assess the current importance of a problem. We study the publication flow for the period 1767-1996, almost from the "origin of time" of this field. This publication stream and its structure and dynamics are indicative of the shifts of interest of scientists working in the area. We search for criteria for the support of the research subject based on substantiated (and unauthorative) claims to current importance, also trying to enforce the incentives to minimize the error.

Accordingly, the individual contexts whose interpretation may be connected with the dynamics of the scientific reproduction of the area of study may be expressed in a way that involves the communication problems posed by its representation in a database. Theoretical schemes of (essentially) bibliometric indicators of a scientific discipline have been proposed (Mateev, 1995).

The quality of the information provided by the data collection from the literature and input to a database (Kuhn, 1994), is based on nonquantitative features in a parametric environment. Our discussion, in this case, would be addressed to the attributes assigned to the different stages in larval development and to its values.

The reliability of this insight is developed by means of a special formalism. The attribute here is a property of a structural entity, which is extracted from the viewpoint of organic synthesis (Nakayama, 1994). If some properties may be designed for the sake of notation with numeric parameters, this information is not here expressed to assess the statistical significance of any theory with high aggregate score (Karlin, 1990).

The degree of uncertainty is relatively high, and the choice of the dynamic trajectory conducted by the research is targeted by examining the presence/absence of the presumed attributes; and this, it is proposed, could be formally posed through fuzzy representations (Nissam, 1992). The reliability of research line's self-preservation and self-reproduction is thus exposed to the complexities of the evolution of meaning (Sharov, 1990).

METHOD

The primary concern of the author (González-Gordillo, 1996) has been the inclusion of the descriptions of larval development, i.e. raw references only mentioning the presence of larvae have not been accepted (a useful instrument to assess this problem has been created, it is not a "check-list"). Defined on the basis of a Dbase IV data model, 4031 entries list this complete morphological analysis of the Crustacea Decapoda.

The reason for defining stage meanings is larval developments matching. The definitions of this meaning are complex, because they are under specific constraints derived from the experimental conditions. They have to be given a matching mechanism of their own. Verbal expressions for the temporal-dependent relationships thus to be considered are supported in a Dbase IV system.

The structural entity of the database is based upon the systematic classification of Bowman and Abele (1982) and Burkenroad (1983), which is to say that generic structures are represented with the accepted procedures used to call the infraorders, the families, and the genera.

Under each structural context, operating on the general basis of the ordering systems, the independent module appears with the features for matching the progress in morphological studies research of the larval development. The entries holding this information are prepared for various types of fields. Not all the items are meaningful to each situation, and some of the items may be omitted. With the intent to arrive at a clear representation of the data an example search will be provided in this contribution.

Each individual field has the following meaning:

1. Crustacea decapoda accepted specimen name. A headwork for the accepted denomination of the Crustacea decapoda larval development.
Example: *Eriphia gonagra*

It is finally fixed through the evaluation of the author and the date of its description. The authors of the first description, and the date, will be enclosed in parentheses, as usual in taxonomic studies, as a simple approach to express that the acknowledged researcher having first observed the specimen called it a name not completely representative. This initial lack of effective verbal designation has actively stirred up new reactions, from the scientific community, resulting in an exact and particularly well-coined term for the live organism (Brett, 1996). On the contrary, the absence of this procedure must be regarded as stating that the registered name by the discoverer was valid from the beginning.

Example: (Fabricius, 1781)

2. Cited Crustacea Decapoda name. Here the kind of definition of the larval development is referred as determined inside the text by the author responsible for the bibliographic contribution subsequently mentioned.

3. Author. The field provides the name of the scientist to be regarded as main contributor in the larval development available from the article referred.

4. Year. The specific temporal instance when the larval development attained the public arena via its publication in a scientific journal.

5. Stages. These are the structural entities for which it is possible to specify the category known as larval development. The stages will be registered under the following initials, PZ for Protozoea, Z for Zoea, and M for Megalopa. The Last Stage previous to the Megalopa is labelled with a LS. The succession of stages identified is to be expressed using an alphanumeric code, like Z1, Z2, etc.

6. Source. With this instance the origin of the material assessed in the article is represented. If it is extracted from Plankton, it is noted with a "P". If the descriptions are based on larvae completely reared in the laboratory, then the letter "L" is employed in the field.

7. Title. With the complete title of the article having contributed the larval development, in particular.

8. Journal. The field serves to communicate the title, volume, issue, and pages of the journal where the paper was published.

Example search: The most effective criteria to understand how to work with this database are to provide an example. The topic selected is that of *Eriphia gonagra*; this is just the set of terms to be used for an English language search. When computing this search it is of course necessary to design the best view. Once the search is conducted, specialists in the field commonly use two print layouts Normally, in the first imprimatur the first six fields would be obtained. The second print product applies to the fields 3, 7 and 9. As stated in the following example:

Case one:
Eriphia gonagra – (Fabricius, 1781)
Eriphia gonagra: Lewis,J.B. 1960.- Z1. (P)
Eriphia gonagra: Franzoso,A. 1987.- Z1.Z2.Z3.Z4.M. ()

Case two:
FRANZOSO, A. 1987.
Desenvolvimento larval de *Eriphia gonagra* (Fabricius, 1871) (Decapoda, Xanthidae) em laboratorio.
Revista Brasileira de Zoologia, 4(3): 163-179.

LEWIS, J.B. 1960.
The fauna of rocky shores of Barbados, West Indies.
Can.J.Zool., 38: 391-435.

ANALYSIS OF THE DATABASE QUALITY CRITERIA

The key issue to be addressed is the criteria for the quality of the database. One way of interpreting it is that relevance, comprehensiveness, and reliability must be reflected. Thus, in our example, it must be guaranteed that what it is obtained is highly related to the user's question (relevance); that the measure of how many data are found is maximised (comprehensiveness); and, last, that the highest degree of how feasibly the data can be accessed is attained (reliability).

The relevance of the information communicated by this device is closely associated to the context of use of the data inside a publication and to the motivation of the author of the article referred to report them. The data are taken from the current and past literature. In fact, questions asking whether the development is "slow" or "fast", whether the signification is defining a normal development, whether the variables are of controllable nature, and asking about the notion of regularity, all affect the status of whatever kind of idea of relevance is employed. They will all be briefly detailed.

The comprehensiveness is an indicator of the degree of completeness of a database. That means that the question on which the last overview on a Crustacea Decapoda larval development is produced can be answered interacting with the database. In addition the most frequently asked questions (if not all) can intentionally occur enclosing the security of a relevant answer. The user can

judge by examining how many primary sources can be accessed via the database, a total figure that amounts to around 469; and accordingly, it must be added that the database is updated until 1996.

From these two former criteria then formulations arise: the presence of the genuine problems in the database and the perceived volume of data managed.

Reliability. Facing the exploratory needs of a user searching for reliable information, what else besides relevance and comprehensiveness is practically controlled at the level of data input? We will answer by developing the idea of a verbal copy of a situation. The ability to be used as a tool for select research problem choices would be reported as the key when relevant data are identified. The largest volume of data is needed to assure the broader range of choices.

DISCUSSION

A taxonomization of information significations is often identified as belonging to biological systems. The signification of morphologic information is manifested not only in the last stage in the larval development, but also in the entire development. Each stage of ontogenesis is a separate layer of signification.

The examination of the correctly characterized "critically important problems" will reveal a number of histories of the subject erected by the carcinologists themselves and by neighboring specialists; i.e. the determination of a set of "pure" histories of zoea research as carried out by practitioners, would give the result that research fronts being written out of these histories might possibly be determined. And these "current topics" are assumed to be composed of two essentially divergent issues: impasse and threshold situations (with a strong preponderance of the first one).

Problem choice, in the sense that it represents those aspects of activity which are related to internal factors of the acting persons, their motivations and plan of actions is, therefore, diagnostic. It results from the interplay of various factors, such as self-evaluation of competence, and perceived risk and profile (ex: possible biochemical skills).

The information boundary of the description and identification procedures for the larvae stages are determined by the set of attributes describing them. This set defines the finest levels of partitions, when the partition is into singletons. As the issue often concerns the unexplored, the digression attached with the treatment of ambiguity is denoted with the expression "be removed".

Let us affirm that a situation is an "object" consisting of relational systems of other objects. Each object is understood as a stage and constitutes a basic element of a unique process called a complete development. A stage in fact could ultimately be reduced to a tree, with its name at the top and a conjunction of any concepts constructing the subsequent stock of involved expressions. The verbal copy, as reflecting the state of a situation, can be regarded as an end product of a dynamic process of classifying the object X. If a set describing a situation as a verbal copy composed by a string of values of attributes has attained its last degree of admissibility, it results in a name for the specimen. Let us now interpret its composition as a set whose elements will be labels of concepts. Each label denotes a stage of development. Under these conditions we assume that the conjunction of all the labels need to have its own name; thus the closure under conjunction of the concepts implied in the series of attributes (as showed by successive stages) should finally be asserted. That each concept understood with a label result from a value for an attribute at last determining a stage is derived from the representability of its fuzzy nature. When a situation is faced where a determined stage is identified but the total size of the development is unknown or when changes of names along time are detected, are for instance fuzzy situations. When fuzzyfication is applied, the development is described by a vector of attributes, all increasing in a continuous way from 0 to 1 supporting this way, evidence of the exact recognition of the stages in the larval development.

It is also possible to face the practical question of introducing a configuration of possibly new problems with the dilemma between a classification yielding complete possibility, which is parsimonious, and then deterministic of a well solved situation (the zoea stage has been attained; and almost surely the systematic research problem is ended, but obscure possible logical interrelations between the different stages would not be characterized?) and a classification string which does not give complete possibility, i.e. which is less parsimonious, in other words, leaving one or more stages unmapped.

Case One:
Brachynotus atlanticus – Forest, 1957
Brachynotus atlanticus: Rodríguez, A.; González-Gordillo, J.I.;
Cuesta, J.A.
1992. – Z1.Z2.Z3.Z4.Z5.M (L)

Case Two:
Cancer bellianus ? – Johnson,1861
Cancer sp.: Rice, A.L.; Williamson, D.I. 1977.- Z5. (P)

Pattern recognition is of fundamental importance in morphological studies. The dynamics of such perception assumes the relations between the perception of the specimen, as expressed by its stages (measuring the number and nature (the importance) of those stages for the recognition of the meaning of the specimen, as expressed when finally named), and the structural properties of the tentative description proposed for the specimen over the time.

Have we got a problem of time effects when evaluating the problems of changes of names? What are the criteria of goodness? Are they typical situations?

One has to take into account the fact that different persons may recognize the same sign, and when observing it using the appropriate techniques, at different "stages" of completeness.

Let us say that the "resistance" to adopt a definitive taxonomic definition of a specimen takes the form of successive "deformations" of the name (or of the description) under consideration.

Example:

Necora puber	(Current designation, 1998)
Cancer rhomboidalis	(Ancient designation, 1804)
Portunus puber	(Ancient designation, 1811)
Macropipus puber	(Ancient designation, 1975)
Liocarcinus puber	(Ancient designation, 1984)

The notion of semantic equivalence, when established between successive denominations of a specimen, is used through the concept of admissibility distribution. The last would refer to the act of all possible states of an object. The admissibility as a separate problem may be conjectured at such times, called decisive moments, when the attainability of some particular outcome disappears.

The essential changes of meaning determining new morphologic stages are times of resolution of some internal conflicts derived from the restrictions on observability. These conflicts arising in the situation would likely be basic shift moments, as moments of transitions between stages.

Example: *Cancer borealis*: Ingle, R.W. 1981. – Z1.Z5.M. (P)

Are they values of attributes defined as a pivot? The pivotal value is such, that before it is given the string conformed as description is still not able to be named as a specimen and such that after it is appropriately employed the string is unambiguously understandable as a complete name for a larval development.

At some moment, the incomplete stage will be recognized, and the last fragment added before recognition is a pivot.

The determination of pivotal fragments (assumedly, Last Stages) in the course of pattern-recognition-oriented morphological studies would require experiments in which the observer would ask himself about meanings (recognition) of incomplete descriptions.

CONDITIONS OF OBSERVABILITY

Are they criteria of observability according to which components of the morphologic entity in a stated stage are separately or jointly observable, in a distinct way?

It is said that full observability is gained only as a pre-condition for distinct mapping of the considered stage. Until then we have only maximally observable set of attributes in a time-dependent way. And by that we mean that, on each successively increasing series of moments, all the elements of the increasing collection of attributes are observed in such a way that one cannot make any other observations on the remaining co-ordinates.

Referring to classification acts, the same object may be classified to one category on one occasion and to another category on a different occasion. Thus, inconsistency in the classification. has been produced This means that loss and gain are only two types of changes of classification; it is possible, also, that the observability network becomes re-structured.

Connected with the possible establishment of internal or external controls in or around the observation there are two sources of changes of observability. External changes occur if a new tool is discovered, then, assuming that a definite denomination has not been enough consolidated for the specimen; the status of previously unobservable variables should possibly change the final name associated with the conditions of the experiment. Internal changes of observability should be associated with appropriate changes in the observed object depending, for instance, on the fact that some variable cannot be observed unless it exceeds some threshold.

The normalised number of differences of values of attributes (in terms of attributes which are representable on interval scales) is due to the density of necessary extensions of classificatory schemes. The times, collected from shifts moments, when it changes its attributional structure defined for each stage expresses the requirement of a new classification incipit. And connected with the pertinency of the relationship between dynamic classification and the theory of observability, the question could be: What is the degree to which a stage is in a development?

CRITERIA ON RELIABILITY

We will consider a development as a relationship between the time lapse and the description, a trajectory able to regularly stratify times and stages, in such conditions that the first value is Z1 and the last one, LS. We say that Z1 precedes Z2 (Z1, Z2 being two stages of the same larval development), such that the trajectory must pass through Z1 and then through Z2. The sign LS is sufficient and necessary. Indeed, the incomplete sign LS is sufficient due to the fact that it allows the recognition of the meaning of the string, and it is necessary because the lack of it prevents

recognition. Which means that the notion of normal evolution is introduced in parallel with the notion of regularity. Let us think of the operator "?".

Example:
Plagusia chabrus: Wear, R.G.; Fielder, D.R. 1985. – Z1.Z5?.Z12?.M2?

With this it is possible to represent the degree to which the available selection of stages expresses the meaning introduced by the maximally observable set in terms of a defined name for the specimen.

To realize the factual nature of the considered stages, what would we define as a normal development? The identity of the stage is closely related to the stating of a time interval. So a normal stage does exist from its determination into a periodisation of time series; and a stage possesses, for some time without interruption, identity. In fact, the decisive moment when it is suggested that a new stage has been attained could be sketchedly defined as such a time when some particular previous string of stages disappears as the proposed model for the larval development in question.

Then, if two successive moments are considered, the evolution will be called regular with respect to the established denomination of the specimen if the degrees to which the stages corresponding to each moment express the name accorded to the specimen in a well-ordered way; that includes the increasing or decreasing ordering adopted. Eventually, if this relation ever disrupts, it may result in a change of meaning, a change of name for the specimen. This is a way to explore the strategies of description from the bibliographic database and to formulate testable hypotheses relating the choice of some features of the described picture (e.g. the dichotomy: static vs. dynamic).

A string of descriptions that can be characterized as a verbal copy of a situation is called reliable if it is highly concentrated. This condition of reliability may be expressed in terms of the "density" of the distribution of the attributes. When facing the situation where a determined stage is identified but the total size of the development is unknown, we refer the notion of the stage of development to the degree to which the trajectory is in this phase (stage) Z*. A membership function could be defined in a time-dependent way. The fragmentary aggregation of attributes able to configurate a phase to be viewed as a stage would constitute a fuzzy set, and the membership function should take values from it. The intended minimum of the function under each period of observability might be treated as the criterion for the choice of a well-based stage definition.

The abstract representation of the description of a situation (..., Z i-1, Zi, Zi+1, ..., LS) is said to be faithful if the values on all the attributes could be included in the intersection of all the fuzzy subsets of the sets of attributes. In fact, a faithful verbal copy (an abstract representation of the description of a situation) is said to have exact representation of support if in all cases the supremes of altogether considered fuzzy subsets intersected is the same as the one of all the values in all the attributes. The whole discussion permits the affirmation that Zoeal stages names result from the application of judgmental procedures. They constitute knowledge attributes.

Can it be judged whether the development is "slow" or "fast"? Let us, once more, focus on the changes of names. As a standard name does exist at last, the trajectory representing the actual name could be the average one. The "distortions" around this name could be "slow" or "fast". It proceeds along the regularities observed in the use of other denotations. The movement developed accumulating the times a name has been used would detect if this quantity is higher than corresponding to the current name. This should be designated as a "fast" speed of the distortion along the normal route continuously proposing the final name. The contrary case would result in a "slow" speed situation.

The growth curve of a larvae is attached to a stochastic process. This is because it must take into account the fact that, under the same initial conditions, one may still have different trajectories. This means that equations of differential nature are needed.

The variables of controllable nature would be temperature, alkalinity. The objective would be to use the controllable variables in such a way so as to reach a pre-assigned stage before a given time, etc. The larval development would be opened to the manipulations of different points of maximum sensitivity, where the placing of the points of application of the controls could be qualified as optimal. The function expressing the influence of all the co-ordinates on the growth rate depends here on what variables are inhibited, and to what extent by uncontrollable events. It could be mentioned that the fuzzy membership operator "?", acts on the set of non-fuzzy values of attributes.

When a fuzzy situation is solved, the main issue is that the specimen may be named. Two desirable properties in this sense are that one would like to be able to make distinctions between situations within the limitations imposed by the language, that is, transmit the information sufficient for identification of a class, despite the imperfection of the description.

Also desirable is the exact representation of each attribute. Such a description provides information about those values of the attribute which have perfect "negative" knowledge of the situation, and about those with sign "?" of ambiguity attached.

CONCLUSION

In general, along the larval development identification process, what proceeds is an unambiguous and non-fuzzy status determination for the precise name of the specimen. Though this is the ideal, as in the first instance only a stage is known, and until the last stage (LS) is attained, because of not knowing of the mother and consequent indeterminancy around the specimen, the issues are referred to a fuzzy set. Zoeal stages reared in laboratory are the substantive level.

Collected samples are "baffling", larvae reared in the laboratory are not. Thus, the samples from the plankton are difficult to explain, in the sense that the identification of the stages cannot be built.

Could a "baffling" situation be solved when fixing a level of admissibility? Is it possible to introduce the notion of representation of the considered object? Could a designation be assigned from the systematics? Could the strings of characterization of each species be said to be partially common or partially complementary? Could it be said that a more complete description "is richer than" another one less complete? What kind of complementary relations could be traced between the descriptions. Are all the attribute sets which finally attain their own names; as zoea; the most precise description allowed?

Could it be said the the zoea stage forms a filter as a genuine characterization of a specimen, and that this is not the case necessarily with lower bounds?

Are there distributive lattice properties between the considered descriptions?

The sample is large enough to involve a too fuzzy class of situations, and we say that the number of facts left unexplained would be unadmissible. All what has not been performed at the laboratory is able to be questioned. Once the laboratory situation is deciphered, it is complemented with the observations made from the plankton.

The nature of future, past and present is not totally determined until the larvae reared under laboratory conditions complete its development. This lack of knowledge on the temporal proximity between the stages makes ordering difficult. At present a larval development would have attained a stochastic model for a development.

A theory of the object described, in the sense of finally giving it a name, could be described as a conjunction of data from the Lab (L) and from the Plankton (P): (L+P). This is a charismatic type of constraint. The paradigmatic complete larval development inside the laboratory is a case of full determination, the reciprocal influence between the complete stages string preceding the last stage and this one, is complete. We speak of enforcement in the sense of having located *a fortiori* the mentioned successive stages of the description in nature.

FINAL NOTE

Who are the people who have made important contributions to the field? Which are the more important years and journals?

Table 1. Ten people having made important contributions to the field

Gurney, R.	328	Larval developments
Williamson, D.I.	251	Id.
Lebour, M.V.	249	Id.
Heldt, J.H.	166	Id.
Aikawa, H.O.	155	Id.
Williamson, H.C.	149	Id.
Ingle, R.W.	133	Id.
Sars, G.O.	132	Id.
Barnich, R.O.	124	Id.
Wear, R.G.	96	Id.

Table 2. Ten important years in terms of amount of contributions

1960	153	Larval developments
1996	141	Id.
1915	137	Id.
1938	120	Id.
1995	119	Id.
1981	103	Id.
1984	101	Id.
1987	95	Id.
1967	92	Id.
1970	91	Id.

Table 3. Ten important journals in the research on Crustacea Decapoda Larval Development

Crustaceana	272	Larval developments
Proc. Zool. Soc. London	179	Id.
Nordisches Plankton (Germany)	132	Id.
J. Mar. Biol. Ass. United Kingdom	98	Id.
Recuéil Travaux Station Marine d'Eudome (France)	83	Id.
Discovery Reports	78	Id.
Bull. British Museum Natural History	74	Id.
Fiches d'Identification du Zooplancton	70	Id.
Acta Adriatica	68	Id.
Fishery Bulletin	68	Id.

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Session: Continuing Professional Development
Shaping People

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Continuing professional development in the Ukraine

by

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The history of professional development in Ukraine divides into pre- and post-Reconstruction periods. In pre-perestroika time the professional advancement of librarians might be attained through professional improvement course provided at the All-Union and republican levels. In my earlier paper[1] I have described the state of affairs that took place in libraries of the former Soviet Union (FSU).

THE IMPROVEMENT OF PROFESSIONAL SKILLS IN THE FSU

The All-Union Institute of Sci-Tech Information (VINITI) was the central base where librarians and those engaged in information service raised their professional level. Situated in Moscow, the institute offered a two-month course taken either as a full-time course or a correspondence course without dropping work. Any person willing to raise the standards might apply for taking the course once in five years. Ukraine did not have a training centre like VINITI; the concerned republican ministries and departments provided the courses.

It was the practice of professional improvement when a more advanced library organized 2-3-day specialized seminars for librarians; for instance, especially for bibliographers, or cataloguers, or heads of libraries, etc. At the scientific library of IBSS, a qualified bibliographer who graduated from a professional improvement course at the VINITI, continually surveyed innovations which appeared to facilitate the work of librarians and bibliographers and regularly informed the staff about them. When replacement of the library personnel took place, both new and previous teams were given a course in the standards of bibliographic description and classification set for scientific libraries.

Until 1990, the overwhelming majority of post-Soviet libraries operated in blissful ignorance of professional computerisation and the rest of progressive innovations, which have been used for decades in developed countries. I finished the course of professional improvement given at the VINITI in 1987 when the Perestroika was on, and special computer programs for libraries were first demonstrated to the audience.

DEVELOPMENT OF THE WORK OF LIBRARIES IN POST-SOVIET RUSSIA

Perestroika opened earlier closed information borders and granted access to valuable knowledge and experience the West had accumulated, including advances in library management. As

1. Akimova O.A. (1996). Marine and Aquatic Libraries of Ukraine - Today. *In:* Information Across the Waves: The World as a Multimedia Experience: Proceedings of the 21st Annual Conference of IAMSLIC held 8-12 Oct., 1995 at Southampton, England - Fort Pierce, Florida: IAMSLIC, 1996. - p. 45-47.

a result, methods and forms of the professional development became adjusted in order to keep up with the times. A number of libraries, especially large ones, acquired computers and relevant software*. The trans-border exchange between libraries permitted to gain experience, and to make study tours to Europe and the USA.

Today, it is a fact that the recent reform of libraries in Russia has practical effect. Training centres network has been created in order to provide professional improvement of interested librarians; the centres are affiliated to large libraries of large cities.

In recent years the most popular and helpful form of professional development became annual conferences organized by the State Science and Technology Public Library. Since 1994 those conference have been regularly held in the Crimea under the motto "Libraries and Associations in the Changeable World: New Technologies and Forms of Co-operation". The usual conference term is seven days; each conference comprises several sections. Participants make reports, have mini training courses and exchange opinions. The continuously growing number of participants indicates the success and popularity of those conferences. In 1994, 230 persons from 15 countries came to attend and made 100 reports, while in 1997 participants were as numerous as 800, they represented 30 countries of Europe, America and republics of FSU and submitted 320 reports.

PROFESSIONAL DEVELOPMENT OF LIBRARIANS IN THE UKRAINE

The pace of professional improvement is regrettably slow at Ukrainian libraries. The snaky economy coupled with a set of factors previously stated[1] makes it impossible for Ukraine to follow the Russian example. It is beyond present possibilities for Ukraine to provide technical facilities and afford professional development courses to librarians. Our potential survival and advancement depend mostly on the support granted by international foundations like those of Soros, Eurasia, British Council and others. Owing to their assistance we visit our colleagues abroad and adopt their valuable experience.

PROFESSIONAL DEVELOPMENT OF LIBRARIANS AT MARINE AND AQUATIC RESEARCH INSTITUTES IN THE UKRAINE (CRIMEA)

No specially coordinated steps have been taken in Ukraine to provide the professional improvement at marine and aquatic libraries. The libraries affiliated to the Academy of Sciences or Ministries and Departments, related to fisheries and water management, were given sporadic seminars and lectures organized by the concerned bodies as a simultaneous and obligatory action.

Soon after the iron curtain fell, I came across an announcement of a EURASLIC conference to be held in Poland in 1994. I applied for participation and succeeded. That voyage was a landmark in my professional experience. Since then I have been studying thoroughly the style and methods of western marine libraries, and applying what I have learnt at my own library. My first initiative was addressed to Mr. David Moulder; I asked him to receive me at Plymouth and to acquaint me with the software CDS/ISIS and the scope of work undertaken at his library. On my coming back I introduced the software CDS/ISIS into the routine of scientific library of IBSS, and we began creating databases. Later I overviewed the array of proceedings of earlier EURASLIC and IAMSLIC conferences that contributed to my understanding of the trends of activities developed at libraries abroad.

My next step was involvement in the working group on the input of abstracts for ASFA. In 1996 I took part in a session of ASFIS working group as an observer and took a training course in data input based on ASFISIS software. As a result, today we are forming an ASFA database

* primarily MARC-format and CDS/ISIS

embracing scientific abstracts from Ukrainian journals. FAO appreciated our efforts and provided us with a computer.

All I learnt during the business tours abroad I reported to my Ukrainian colleagues at conferences, seminars and meetings. I also helped them with the introduction and development of progressive forms of the work, like a special program for small libraries with the employment of CDS/ISIS software. Cooperating like that, we took a decision about uniting the marine and aquatic libraries of Ukraine into an association. Proceedings of the conferences helped me in understanding the way in which the task might be coped with. The association in Germany appeared the most appropriate object for gaining the useful experience. I communicated with Barbara Schmidt and she has kindly invited me and promised to consult me about organisational aspects. Presently, the matter of my visit to Germany is being considered at the DFG foundation, and I believe it will be settled happily. Meanwhile, the Ukrainian association, though informally, has started operating. Its first step was creation of the regional serial holding lists and compiling the directory of institutions and researchers engaged in marine and aquatic sciences. Concurrently, we are making arrangements about giving legal status to the association of marine and aquatic libraries.

Another advancement was connecting my library to the Internet. It was very fortunate that some time before the event IBSS submitted to the EURASIA foundation a project about establishing an Internet node at the institute. The project was adopted, and the library was connected to the Internet, and personnel undertook a brief training course.

On completing my survey of the state of affairs at libraries of Ukrainian and Crimean research institutes and Ministry of Fisheries and Water Management, I found that the scientific library of IBSS is far ahead and excels others in the level and scope of services offered to researchers. It is the only scientific library which has the staff of 6 qualified librarians with a knowledge of English, French and German; besides, a computer programmer and a translator competent in the field of marine and aquatic disciplines render us regular assistance. The library possesses two computers, a printer, a photocopy machine, our readers may use a computer at the reading room. In comparison 1-2, maximum 3 librarians, usually serve other libraries; they are not equipped with computers, and access to Internet is a dream. Such a delayed development is a matter of serious concern, and I spare no effort to make those librarians interested in taking practical steps towards progress. In order to contribute to professional development, I initiated holding a training seminar for small libraries at the scientific library of our Institute.

It follows from what I have started that the idea of organising Marine Information Management Centre at the library I administer should be implemented as soon as possible, and I believe we will succeed in that.

In conclusion I want to express my deep gratitude to those many who have been giving me help and understanding in recent years. They were generous in sharing their knowledge and experience with me and sent papers I requested and donated journals and books.

My personal thanks are to David Moulder, Jean Collins, Allen Varley, Ian Pettman, Barbara Schmidt, Brit Skotheim, Sofia Goulala and now Maria Kalenchits too.

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Problems of continuing professional development

by

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The title is chosen not by chance but due to the fact that this report contains mainly issues concerning current misfortunes of continuing professional development in Bulgaria.

Sharing experience and discussion on some problems such as searching ways for library funding, providing of appropriate software, communications and professional training would be of great help.

Due to the lack of our experience in modern marketing and management policy and still being under conditions of the previous inheritance we are striving to enter the European structures rather unprepared.

The Bulgarian Academy of Sciences and its library network are dependent on the state's budget. Since the autumn of 1997 Bulgaria has had to abide by the rules of the International Monetary Fund. The governmental organisations suffered the most as their budgets were drastically reduced. For example, the Institute of Oceanology was closed for six months (October 1997 - April 1998) due to the lack of funds for heating and communications. It is very unlikely that the library will receive funds, therefore we have to search for other ways for survival and adaptation to the new conditions. Sharing your experience in this field might be very useful.

An interruption of communications is another great problem which appeared as a consequence of the above stated situation.

My efforts to provide CDS/ISIS software from UNESCO were not successful. I have received a letter signed by Mr. Del Bigio (Division of Information and Informatics) advising me to look for a person in the National Centre for Information and Documentation in Sofia who distributes this product in Bulgaria. However, until now nobody from that Centre has ever answered any of our three formal letters concerning the software.

In September 1997 there was a National Seminar "Automated Library" where a Bulgarian Company demonstrated its software products some of which are already implemented in the local public libraries. These products were very expensive and as I was told not better than CDS/ISIS. At this seminar I met colleagues from more than 30 libraries in our country. Most of them have similar problems to ours. We shared experience and ideas regarding the present and future of our libraries and it became clear that it was easier for the bigger multi-functional libraries to self-support themselves to a certain extent, to find a number of sponsors and to launch various initiatives in order to be able to survive. The smaller specialised libraries are in a more unfavourable position due to the difficulties of their institutions.

This year the Institute of Oceanology in Varna will celebrate its 25th anniversary and we are all hoping for a better future to come.

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Knowledge management and its importance for special libraries and organisations

by

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ABSTRACT

In this paper, the concept of Knowledge Management (KM) is discussed. KM is a new notion recently developed in special libraries, organisations and corporations. In the beginning of this paper KM is defined and basic terms related to it are explained. Then, the functions of KM and its level in the information provision process are analysed. Some issues that information professionals should keep in mind concerning KM are discussed with examples given. Finally, the various roles librarians can play are examined.

In the last few years a new notion has been developed in organisations and corporations, the notion of Knowledge Management (KM). The need for KM derived from the practices of the Information Society as an attempt to cope with the explosion of information and to capitalise on increased knowledge in the workplace. KM is difficult to define but[1] "the basic elements include accessing, evaluating, managing, organising, filtering and distributing information in a manner that is useful to end users –professional judgement- based activities perfected by librarians. Knowledge management involves blending a company's (or organisation's) internal and external information and turning it into actionable knowledge via a technology platform". We will proceed with an analysis of KM, its importance, what it involves, its applications and finally the role librarians can play in it.

Before we go on, it is important to give a few definitions of terms used when KM is discussed. We will define the terms *knowledge assets, tacit* and *explicit knowledge*. When we say *knowledge assets*[2] we mean databases, knowledge bases, filing cabinets and people's heads. In other words all possible resources of information. *Tacit knowledge* is defined as personal knowledge embedded in individual experience and it involves such intangible factors as personal belief, perspectives, values, individual know-how. *Explicit knowledge* involves recorded knowledge and knowledge in action and it can be articulated in formal language and transmitted among individuals (i.e. databases). Keeping the above in mind, we can then say that KM is a strategic approach whereby information and data are made useful and powerful by taking advantage of the organisation's knowledge assets and by turning tacit knowledge into explicit knowledge so as to enable the organisation to better solve a problem, avoid repetition within the premises and provide satisfactory services to its users.

[1] DiMattia, S. and N. Oder, Knowledge management: hope, hype, or harbinger?" *Library Journal*, Sept. 1997. p.122.
[2] Murray, P.C., *New language for new leverage: the terminology of knowledge management*, online, Internet, 27.3.1998.

The functions involved are[3] finding, mapping, gathering and filtering information, developing new knowledge, converting personal knowledge into shared knowledge resources, understanding and learning (acquiring or extracting knowledge value), adding value to information to create knowledge (performance and management), processing shared knowledge resources, delivering (transferring) explicit knowledge and building a technical infrastructure (i.e. databases intranets, etc.).

KM evolved as the last level among the following ones[4] : *Data Management Level* where the question "what" is answered It requires data storage where data are used as assets and it involves the use of a database. *Information Management Level* still answers the question "what". However, at this level data exists as a foundation which enables and supports decision-making. *Knowledge Management Level* answers the question "how" (and sometimes "why"). It builds on the information level but here we have patterns and relationships between pieces of information stored along with information itself for later retrieval. The emphasis here is not on the data *per se* but on people, people's need and people's abilities. At this level we have "knowledge transaction"; knowledge is transferred from a subject matter expert or recorded knowledge source to the knowledge seeker. There are two requirement: a) Information Technology (IT) and IT experts, b) the subject matter experts must be willing to share their know-how.

There are several pitfalls[5] a) Too much information can be negative for an organisation; a selection must be made, b) People are more used to compete than to co-operate, c) Data is not equivalent to information; information is not equivalent to knowledge; knowledge is not equivalent to action. Data supply itself does not create information and knowledge does not lead to action. The emphasis should be placed on information use not on information supply, on people not on information, on co-operation not on competition. Having said that, let us see how KM can be applied.

As we already said, IT is necessary (that means, installing the proper hardware and software, internet/intranet facilities; supporting telephone-based help-desk support of end users). However, putting the right technology by itself will not work. Co-operation between experts and employees is essential. Training is also essential. A British company, namely, the Anglian Water Services company, gives a good example of KM application. This company[6] is "developing an 'encyclopaedia of water' –a database of information about all aspects of water, such as treatment technology and services management. The database contains much of the knowledge currently held in books, articles, plant manuals and process descriptions and is contained on its intranet system, HAWK (Harnessing Anglian's Water Knowledge), along with annual reports and other business information". The company is also recording its tacit knowledge by having its experts to run classes before they leave the premises and then recording these data into the encyclopaedia. Finally, the company has developed a 'company university', that is, it tries to create work environments that encourage learning, knowledge creation and collaboration with external partners.

How do librarians fit into this? It becomes clearer if we consider the tasks the knowledge manager is supposed to undertake. In order to manage knowledge assets, the knowledge manager[7] can be seen as a technologist, as a content creator, as a guide and scout, as a facilitator. Accordingly, on the technology level[8] librarians can be Internet and database organisers, creators and maintainers

[3] Murray, P.C., *What to know before you select knowledge management technology*, online, Internet, 27.3.1998.

[4] Roehl, M. Where do you stand?: document management and the year 2000, *Managing Office Technology*, Dec. 1997. ProQuest BusinessLink, CD-ROM, 1998.

[5] Pascarella, P., Harnessing knowledge, *Management Review*, Oct. 1997. ProQuest BusinessLink, CD-ROM, 1998.

[6] Pickard, J, Fountain of knowledge, *People Management*, 22 Jan. 1998. ProQuest BusinessLink, CD-ROM, 1998.

[7] Williams, R.L. and W.R. Bukowitz, Knowledge managers guide information seekers, *HRMagazine*, Jan. 1997. ProQuest BusinessLink, CD-ROM, 1998.

[8] Jones, R., New technologies demand new roles: resistance is futile, *Computers in Libraries*, Jul. 1997. ProQuest BusinessLink, CD-ROM, 1998.

of electronic books, monitors of quality/integrity of Net information/data or intellectual property and information licensers. On the level of content and content creation, traditional library skills of selecting, gathering and categorising information can prove to be very useful. On the level of guidance and on the level of facilitation, person-to-person communication skills, the ability to handle and retrieve knowledge and the provision of service are all skills librarians are trained to have. It seems that what is needed is[9] "someone who combines the skills of a webmaster, technical communicator, librarian [in the traditional sense], and an ... analyst". It is impossible, though, to find technology, research, writing, communications and networking abilities all in one person. That is fine because KM involves a group of people working together not a one-man-band. Librarians can choose from the various new roles, mentioned above, the one they prefer and play a major role in KM.

To recapitulate, KM is a new area developed in organisations and it involves informal as well as formal knowledge structured, shared and disseminated in such a way so as to help organisations and patrons. This can be achieved with the help of IT. IT has played an important part in changing librarians' role from keeping 'vast stores' of information to information facilitators or information navigators. The WWW, the Internet/Intranet are leading to an integrated information environment but information overload requires an information professional. Librarians can once again prove to be necessary to organisations and patrons as Information Society through IT evolves rapidly.

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Continuing professional development in the United Kingdom

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ABSTRACT

Various definitions and the benefits of continuing professional development are considered. The scope of CPD in the UK and the ways in which it is delivered are discussed. The Library Association Framework for Continuing Professional Development is described and its usage assessed.

Continuing professional development (CPD) can be defined in a variety of ways, including the following three:

1. The systematic maintenance, improvement and broadening of knowledge and skills and the development of personal qualities necessary for the execution of professional and technical duties throughout the practitioner's working life.
2. The ways in which professionals try, throughout their active lives of service, to refresh their own knowledge and ability to build a sense of collective responsibility to society.
3. CPD is an ongoing process aimed at monitoring and upgrading the skills and competencies of individual workers in the profession. For those working as team members or on their own, CPD enhances their efficiency and effectiveness. It develops a marketable worth and promotes recognised good practice throughout the profession.

There are other definitions, but at the centre of all there is an acceptance that formal qualifications go out of date quickly and that continuous updating of skills and knowledge needs to be actively pursued. Factors leading to the growth in importance of CPD include:

- The rapid rate of technological change in the information sector.
- Convergence of libraries with other services, such as IT.
- Financial constraints making it necessary for librarians to prove their worth.
- The need for greater accountability.
- The move towards life long learning.
- The introduction of competencies in the workplace.
- The disappearance of "the job for life" and the need to develop a portfolio of skills.
- The move towards professions educating as opposed to training.
- The development of self directed training.

CPD can benefit the employee and the employer. For the employee, CPD:

- Can increase job satisfaction.
- Maintains professional competence.
- Provides a wider view of professional concerns.
- Widens the scope of professional activity.

For the employer, benefits include:

- Improved services to users.
- Visibility as a good employer.
- Better skilled workforce.

CPD in the United Kingdom is delivered in a variety of ways, including:

- Through the professional associations, both at local level through various professional groups and branches and nationally, e.g. through the Library Association's (LA) programme of continuing education and through the Framework for Continuing Professional Development. Professional committees, such as EURASLIC, have a role to play delivering CPD for the aquatic sciences.
- Through in-house training and development.
- By commercial providers, such as ASLIB and TFPL.

The extent of CPD provision in the United Kingdom appears to be mainly unstructured and ad hoc. In a 1991 British Library R&D Report (1), Sylvia Webb attributed this to the lack of a national strategy or formal requirement across the board for CPD and warned that UK professionals would find it increasingly difficult to compete for jobs in global markets. The Library Association's Code of Professional Conduct (para 7.2c(1)) require members to "be competent in professional activities and keep abreast of activities in librarianship", but does not specify how competence should be measured. It is suggested that librarians should devote 4 to 6 full working days per year to CPD.

In the UK, the library sector differs from other professions, where the professional associations are often examining bodies. CPD is voluntary and few sanctions exist. In other professions, such as healthcare, statutory bodies exist that can strike off members who fail to meet prescribed standards. In nursing, for example, the UK Central Council was set up in 1983 and requires post registration education and practice for all nurses qualifying since 1985. CPD is seen as much more than a refresher course and distance learning is widely accepted.

In the UK library sector, CPD has grown in importance over the last ten years. LA Guidelines for CPD were published in 1992, but these remain purely voluntary. The LA Framework for Continuing Professional Development (FCPD) was issued to all members in 1992 and all new members are supplied with a copy. Members applying for Chartership or Fellowship are encouraged to use the framework, but are not compelled.

The LA Framework for Continuing Professional Development is divided into a brief introductory section, a personal profile and guidelines for individuals, employers, the Library Association and providers of CPD activities. The personal profile is divided into the following stages:

- Stage 1 – Analysis
  - A Present job
  - B Future roles
  - C Personal priorities

- Stage 2 – Development needs and aims
- Stage 3 – Proposed development actions
- Stage 4 – Agreeing priorities
- Stage 5 – Development plan
- Stage 6 – Record and evaluation of development activities

The framework appears good in principle, but there has been a tendency to adapt, rather than adopt. It has been criticised for being time consuming and staff development is often delivered in other ways, such as in house appraisal schemes and national initiatives such as Investors in People and NVQs. Investors in People, developed by the Department for Education and Employment and administered through the local Training and Enterprise Councils, emphasises the need to link training, development and business strategy. NVQs are a government initiative to provide a nationally consistent framework linking training provision directly to work-based skills and to standardised accreditation.

There was low initial take-up of FCPD. In 1992, 22,000 feedback questionnaires were sent to recipients, but only 4,000 replies were received. The British Library Research and Innovation Centre (2) funded further research into usage in 1997. The framework is used by a quarter of librarians surveyed and a quarter of organisations encouraged its use.

% Using	% Encouraged	%Encouraged not using	%Using, not encouraged
24.2	24.8	14.4	13.2

It was noted that respondents from smaller organisations were more likely to use the framework without organisational encouragement. Comments received were generally negative and related to the time needed to start and maintain the framework. However, there are some encouraging signs and in 1994 the American Library Association signed a licensing agreement to use the framework.

In the UK, there appears to be an acceptance that CPD is a good thing, but there are barriers and constraints, such as the lack of time. Studies have also shown that information professionals working independently within small units can find it difficult to obtain cover to attend courses. Electronic networking has been suggested as a means to provide more equal access to CPD. However, a British Library study on the use of information networking for CPD in 1995 (3) found that institutions delivering LIS education in the UK have yet to deliver CPD programmes electronically.

In conclusion, CPD can be defined and delivered in different ways. As a good starting point, think about the skills you think may be required in the future and in your present job, taking into account the rapid changes in the information sector.

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Continuing professional development in Estonia

by

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ABSTRACT

Estonian librarians' professional education level is described. The experience and future plans of professional development in the Library of the Estonian Marine Institute are analysed.

The advance of information science is very fast. Continuing professional education and development is the only way for a librarian to remain a competent guide in the world of up-to-date information services and products.

Continuing professional education in Estonia could be analysed on two different levels:

On the state-wide level various seminars, workshops and training courses in a wide range of topics (including information technology, library management etc.) are organised by the Centre for Continuing Education of Cultural Workers, the National Library of Estonia and the Training Centre of the Department of Information Studies of the Tallinn Pedagogical University (TPU). TPU intends to start a distance continuing education project based on the use of the Internet capabilities for the research libraries staff.

On the local level large research and special libraries arrange training courses for the libraries of the same profile (Tallinn Technical University Library for the other technical libraries etc.). The Estonian Academic Library has close co-operation with small research libraries in the field of the acquisition, interlibrary lending etc., but does not act presently as a centre for continuing professional education for them. The libraries educational requirements are currently regulated by Estonian law only for its own public libraries.

The network of the Estonian libraries specialising in natural sciences includes about 20 libraries. A number of university and research libraries work with aquatic information as a part of their library scope. Among them the following libraries could be mentioned: Estonian Academic, the Tartu University, the Institute of Ecology, the Institute of Zoology and Botany, the Institute of Geology, the Institute of Meteorology and Hydrology and the Ministry of Environment. However, only the library of the Estonian Marine Institute (MEI) is engaged in the collection and dissemination of aquatic and fisheries information in the full extent. The library of MEI is a single-employee library. According to the development policy of the MEI library their main efforts in the last few years were directed to creating an up-to-date information service at the Institute. The Board of the Estonian Fishery Foundation (EFF) acting under the administration of the Fisheries Department of the Ministry of Environment has found the library development strategy deserving financial support. EEF supports fish stock conservation and restocking programmes, fisheries research, co-operation with international fisheries organisations as well as additional funding of training, fisheries information management and fisheries information publication. The timely financial support enabled the library to purchase a computer and to conduct a number of library training activities.

Information technology development and the increased responsibilities of the librarian require additional professional skills. As a result of solo librarianship in aquatic libraries a number of professional development needs have been identified. They are - knowledge of the purpose and the culture of the Institute, management, communication and interpersonal skills, information technology and networking. The ways of the continuing professional development at an aquatic library in Estonia could be conditionally divided into four main groups.

I. TRAINING ACTIVITIES

In 1993-1994 the special interest of the Library of the Estonian Marine Institute had been concentrated in the marine information management, exploitation and CDS-ISIS software. Despite an unsuccessful attempt to participate in MIST II training course in Belgium, the possibilities to obtain additional training and work experience at some developed marine library abroad have been investigated. The Library of the Plymouth Marine Laboratory (PML) offered a fortnight individual training and work experience for the librarian of the EMI in 1995. In a result of this training the local CDS-ISIS distributor in Estonia had been contacted and the required software together with the Estonian-Russian driver had been installed on the library computer. The two local databases were modified later. The PML library experience on ASFA input has been taken into consideration. The Estonian Marine Institute has been accepted by the ASFA Advisory Board as an ASFA National partner in March 1996. A short-time familiarisation with the ASFA Centre activity during a visit to the Sea Fisheries Institute in Poland as well as participation in training courses on ASFA Input Methodology (FAO, Rome) has promoted the Estonian input to the ASFA database. The CD-ROM ASFA Database received from Cambridge Scientific Abstracts is of intensive use in the library.

II. EURASLIC MEETINGS

The Library of the MEI joined EURASLIC as an institutional member in 1994. The membership in such a professional association gives the best opportunity to participate in aquatic librarians professional life as well as access to publications, meetings, training and advice.

The EURASLIC meetings workshops, discussions and presentations could be assessed as the most important sources of the professional development. Based on the knowledge and information obtained, a number of initiatives such as access to the Internet, more active interlibrary co-operation, joining ASFA etc. have been implemented. The workshops and presentations of library projects are also of great interest to Estonia since we have very limited experience in the field and investigate the possibilities to be involved. The creation of a Library Guide and an ASFA Centre Guide as well as a library Web Page using the experience obtained are the actions of the nearest future.

III. PROFESSIONAL LITERATURE

The professional literature is also an important source of the continuing professional development. The Estonian periodical "Raamatukogu" (Library) has information on the new technologies implemented by the research libraries in Estonia and abroad and contains lists of recent literature on librarianship acquired by Estonian libraries. Publications on aquatic information management, electronic information resources and CDS-ISIS software handbooks are of a special interest.

IV. SHARING EXPERIENCE

The meeting with the librarians from the Latvian Fisheries Research Institute held at the MEI library in Spring 1997 aimed to discuss the possibilities and advantages of CDS-ISIS and ASFISIS software for the library local databases. A short training course in using ASFISIS software was provided. Possibilities of future co-operation were discussed.

The nearest plans of the library toward the sharing of the obtained experience in Estonia include the preparation of an article for the journal "Raamatukogu" about the activity of the Library of the Estonian Marine Institute as well as participating at the VII Congress of Estonian librarians (Tartu, 22-23 Oct. 1998).

Some possible future actions concerning continuing professional development at aquatic libraries could be suggested for discussion:

- to join the efforts to organise training workshops in the Baltic Region similar to the workshops in around the Mediterranean and Black Sea area using the assistance of a EURASLIC specialist group on funding opportunities and other people having similar experience;
- to conduct joint seminars on work experience in Estonia, Latvia and Lithuania ;
- to initiate distance education for aquatic librarians (Internet possibilities could be used for presentation of the learning material, delivering course material, interaction between the learner and the learning material and communication between the learner and the teacher. The topics could include the Internet basic tools, services and search engines, network information seeking and retrieval, publishing on the Internet via the World Wide Web, public relations and marketing, user education etc.)

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Library education in Greece: the case of TEI-A

by

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Library education in Greece does not have a very long history. It is broadly divided into the pre and post 1977 periods when the first State Library School was established.

After the Second World War and the following Civil strife (despite the internal economic problems) a need was identified for in-service training. Through a Law passed in 1949 the National Library of Greece was designated as being responsible for undertaking this activity, but due to special circumstances and the background of the library this role was never enacted. The need was eventually fulfilled in the 1950's with the provision of a series of seminars organised firstly by the American Library of Athens in co-operation with the United States Information Service and later by the Library of Athens College. The economic conditions, the situation in Greek libraries and the lack of local qualified staff justified the involvement of foreign organisations in library training. In the early sixties (1960, 1962) two Unesco experts (L. Carnovsky and P. Kikegard), at the request of the Greek Government, came to Greece to review the situation and make recommendations. Despite their recommendations for the establishment of an undergraduate and postgraduate school, respectively, no library school was established. In 1961 a private one year course at the Young Women Christian Association library school (YWCA) started operating with an aim to train library assistants and not intending to replace the state library school proposed by Unesco. The contribution of its graduates to library operations and library development was significant considering the short duration of the course and its vocational orientation.

As a result of the demand for even better trained library staff the YWCA school was abolished and a new state library school was set up in 1977. This new library school was affiliated to the Centre of Higher Technical Vocational Education (KATEE) as part of the Faculty of Administration and Economics. In 1981 a second school was set up in Thessaloniki and this was incorporated into the same institution.

Clearly, library education has improved its status by being incorporated into higher technical education. However, due to the lack of systematic planning, the KATEE library school faced many problems. Organisational structure, the lack of sufficient well-qualified permanent staff, the high ratio of part-time staff, the heavy teaching load and the lack of instructional resources, were limitations to the effective operation of the schools. Futhermore, the low status of the profession and the affiliation of the schools with a system that had not been socially accepted, affected them in a negative way. Due to these deficiencies the KATEE schools have been replaced by new institutions called Technological Educational Institutions (TEI) with the aim to provide practical and theoretical education sufficient for the application of the scientific, technological, artistic or other skills in the profession. TEI' s along with Universities constitute the third level of education in Greece and are self governing bodies, under the auspices of the Greek Ministry of Education.

Although a need for a postgraduate course was well identified another library school at undergraduate level was created in 1993 as a part of the Ionion University in Corfu island. As a result of the approach followed, an indequate number of academic staff and it's location, the school faced

problems. Since the first students graduated in 1997, there is little recorded evidence available relating to the effectiveness of the course and the impact of these graduates on the library profession.

TEI of Athens is the largest institution of its kind offering degrees in 36 specialised subjects The Department of Library and Information Studies of TEI-A belongs to the faculty of Administration and Economics and is one of three that offers a full programme for Library and Information Studies on the third level of education. The duration of the studies is eight semesters including six months practical work which forms an integral part of the course. The number of academic staff is fourteen and fifteen on a contractual basis. The number of students accepted every year in the Department is 140, although it has to be stated that the actual number is about 100. The Department's networked specialist online facilities are satisfactory and continuing effort is made for their expansion and upgrading. The course is designed as a thorough general programme with no specialisations and is open to non-graduate students and those who are graduates in other disciplines

The aims of the course are:

- to provide students with the required theoretical and practical knowledge of the whole range of studies relevant to the library and information field in order to be able to play a sophisticated role in any type of library and information unit.
- to prepare students to work in any organisation requiring similar skills outside the traditional library and information services sector.

It is important to say that according to a study that has recently been published the percentage of unemployment in the profession is almost zero. This is not surprising as it is due to a large project for Academic Libraries being in progress and numerous graduates are employed in these libraries on a contract basis.

Due to the developments in information technology and to the changes in the labour market the Department makes continuing efforts to review the curriculum. It is expected that changes in the organisation of the Department and in the curriculum content will be made more frequently in the foreseeable future. The desirability as well as the ability of other professions and academic institutions to include in their curriculum, or to develop programmes focused on, information technology and the management of information is an issue of vital importance for the Department. In addition the library scene, as it is shaping in the public and private sector, the funding sources, the changing pattern in the employment of graduates, the differentiation in students' preferences in relation to the type of organisation they wish to work for, job mobility, the different perception and image students have of themselves in comparison to previous years are issues heavily considered in order for the Department to formulate its policy, to develop the curriculum, to upgrade the instructional resources and to plan a continuing education programme.

The Department is involved in the field of continuing education and offers short courses in areas such as library automation, archive automation, information technology, information management and library services to groups with special abilities. In addition to the programmes it provides, it also participates in continuing education courses developed by other organisations. However, in a rapidly changing profession it has to play a more active role in continuing education. Recently it has participated in a continuing education 'needs assessment' of academic libraries. The results of the study showed a demand for a continuing education programme in the following areas (in a rank order): automation, management, Internet, information services, standards and networks, evaluation effectiveness, research methods, user's education, report writing, archival records of academic institution s and space planning. On the basis of these needs a programme is proposed.

Taking into account the library situation, and assuming that the services the academic and research libraries offer could be considered similar, it can be said, although it has to be proved, that

there is a need for a continuing education programme in the above mentioned areas for staff employed in research libraries.

In the last few years the Department, identifying the need to have links and partnerships with other institutions, has established co-operation with other Departments in various areas namely, student and staff exchange, organisation of short courses, postgraduate courses and research projects. Within the Tempus, Erasmus and Socrates programmes successful placements have been arranged for students wishing to follow part of their studies or to do their fieldwork abroad, educational visits and exchange of academic staff. Within the European Credit Transfer System a document has been published by the Department with the credits assigned to each subject taught on the course, this is a step towards academic recognition and co-operation between institutions from different countries.

In the framework of the Socrates programme an official agreement has been signed between the TEI-A and Leeds Metropolitan University. According to this agreement the MSc course of the Department of Information Studies at Leeds Metropolitan University (UK) will be delivered in our Department for a period of three years and this may be extended after a review of the progress of this collaborative arrangement. This collaboration is expected to be very fruitful because of the great demand for senior staff in the public and private sectors and the lack of postgraduate course in information studies in Greece.

The Department has close links with the profession and regularly offers consultation and support to libraries and information units, upon request, to solve organisational problems. The Departments contribution to the re-organisation of the Institution's Central Library is very important. After 20 years, it can be fairly said that the graduates have contributed effectively to library re-organisation and development and have gained recognition in the labour market.

While there had been some interest over the last ten years the teaching demands were high and constraining on research activities. However, the research budget of TEI-A has been increased and the means of preparing and submitting proposals to industry and funding organisations have been clarified and formalised. Motivation for research involvement has been increased. Positive development in research and extensions of programmes of study in collaboration with educational institutions overseas, are expected to be expanded.

The situation in Greece concerning the information field is better than ever, therefore the Department of Library and Information Studies has to play a leadership role to meet the challenge of the profession.

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International training courses in Belgium about information related to water and the environment

by

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ABSTRACT

This contribution reports on training courses organised by the authors in the University Library of the Vrije Universiteit Brussel on information retrieval and information management in science and technology. The courses are mainly aimed at participants from developing countries, but are also open to other interested persons. The subject area of water and the environment is emphasised, as well as the application of computers and networks.

Topics discussed in this contribution are the aims of the training courses, the subjects treated, the teachers and contributors, the participants, costs and financial aspects, the sponsors and travel grants, methods used to announce the courses, problems and lessons learned, and possible future programmes.

INTRODUCTION

In recent years, the authors have organised training courses in Belgium on information retrieval and information management in science and technology, mainly aimed at participants who function as information intermediaries in an institute in a developing country. The subject area of water and the environment was emphasised, as well as the application of computers and networks on the methodological side. These courses can be seen as an example of co-operation in information development, even on an international level, when we consider the synergy of all contributors, including teachers, participants, and sponsors.

Up to now, four courses have taken place. The first three went under the name "International Training Course on the Management of Information in Science and Technology", abbreviated with the acronym "MIST". In the area of Belgium where most of the course activities take place, Dutch is spoken, and in that language "mist" means "fog", as it does in English. Of course the aim of the training course is to clear the fog and obscurity which often covers this strange phenomenon named "information". The first course ran in 1991, the second in 1994, and the third one in the winter of 1995-'96. For each course, we have received more than a hundred requests for a grant to contribute to the participation costs. This can be seen as a success, but it has been overwhelming. However, each time grants were available for only twelve participants. That is one of the reasons why we focused the fourth course more specifically on information related to water and the environment. This most

recent course ran in the winter of 1997-1998 under the name "KNOW-HOW". This name refers generally to the need to use, manage and exploit existing "know how" (information) as well as possible. It is again an acronym derived from "Knowledge Organisation for Water-sciences - Hydrology, Oceanography, Water-resources management".

The length of the courses is four months. As soon as a participant arrives, suitable accommodation close to the University is searched for, guided by the course assistant. The course language is English, so that participants must be able to speak, read and write English. At the end of the course, participants receive a certificate.

Earlier was published a shorter text on this topic, at the occasion of an international expert meeting in 1996 on "Facilitating Access to Agricultural and Natural Resources Information in the Developing World: What Role for European Co-operation?" (Nieuwenhuysen and Vanouplines, 1997). The first of the courses described here formed the basis of a participatory case study by Vranckx (1997) in order to shed some light on the Belgian developmental co-operation.

AIMS OF THE TRAINING COURSES

The primary aims of the courses are:

- to provide participants with a clearer view on the importance of information in general and for their environment in particular,
- to guide them in retrieving information which is publicly accessible on an international scale, and
- to teach them to organise and manage their institutional, regional or national information resources.

The increasing importance of computers and local as well as international networks as tools in this kind of work is emphasised, and participants are offered free access to these facilities during their stay in Brussels.

It is hoped that the participants (once they are back in their countries) will:

- optimally apply the newly acquired knowledge,
- transfer the new knowledge to colleagues ("teach the teachers").

The organisation of such training courses involves a lot of work. On the other hand it is a rewarding activity:

- Worldwide contacts among participants and teachers are developed and maintained, which have even lead to published research.
- A broader vision and greater expertise is developed.
- The visibility and reputation of the Vrije Universiteit Brussel, and of Belgium are, hopefully, increased.

COURSE CONTENT

Some more details on the course contents are presented in Frame 1. Every item takes about the same amount of time or effort to complete.

Frame 1: Subjects treated in the courses.

- Orientation tour of the University and the Library.
- Microcomputer systems: hardware.
- Microcomputer operating systems.
- Microcomputer systems: applications software.
- Text editing; word processing.
- Presentation of data, using a microcomputer.
- Selecting and procuring a computer system.

- ISBD = International Standard Bibliographic Description.
- MARC formats.
- National libraries and national bibliographies.
- Subject classification schemes and thesaurus systems.
- Document collection development.
- Telematics; data communication; computer networks.
- Internet.
- Internet services.
- World Wide Web (WWW).
- Internet information resources.
- Data-communications networks and librarians.
- World-Wide Web; hypertext and hypermedia.
- Online information retrieval and database searching.
  Book databases in Internet.
- Databases about journal articles.
- Electronic mail.
- Interest groups based on electronic mail.
- Usenet News.
- Archives of interest groups.

- CD-ROM.
  Bibliographic databases related to water and the environment.
- Patent information.
- Search strategies.
- Online systems versus CD-ROM.

- Software packages for local storage and retrieval of bibliographic information.
- Introduction to the CDS/ISIS software package for information storage and retrieval.
- The application of CDS/ISIS: searching.
- The application of CDS/ISIS: editing data in a database.
- The application of CDS/ISIS: output of selected data to file or printer.
- The application of CDS/ISIS: developing a database structure.
- The application of CDS/ISIS: indexing data for fast retrieval.
- Downloading of information and record format conversion: principles.

- Downloading of information and record format conversion: application of Fangorn with CDS/ISIS.
- Implementing integrated database-design in CDS/ISIS.
- History and future of CDS/ISIS.
- Programming in CDS/ISIS.
- WINISIS, the version of CDS/ISIS for Windows.
- CDS/ISIS through the WWW.

- Statistics for information science.
- Queuing theory.
- Citation analysis.
- The bibliometric laws.
- Scientometrics.
- Theoretical and quantitative aspects of information retrieval.
- Evaluation of information retrieval systems.
- Artificial intelligence in information science.

- Library automation.
- Online Public Access Catalogues (OPACs).

- Management of a library and information service.
- Orientation of information users; relations with information users.
- Archives and records management.
- Interlibrary lending and co-operation; document delivery.
- Geographic Information Systems (GIS).
- Development of a national or regional information network.
- The information society.
- Cultural aspects of the information society and information technology transfer.
- Copyright; information security; transborder data flow.
- Case studies in various libraries and information centres.

Besides the formal, guided course activities, the participants have access, like any regular student at our university, to:

- several rooms equipped with microcomputers connected to the Internet, and
- the University Library which offers printed material, CD-ROMs and a few PC's with Internet access as well.

Complementary to the courses taking place at the university campus, study visits are organised

- to the Royal (National) Library, in Brussels, Belgium,
- to the European Patent Office in Brussels, Belgium,
- to the Information Service of the Geology Department of the Royal Museum for Central Africa, in Tervuren near Brussels, Belgium,

- to the library of the Universitaire Instelling Antwerpen, in Antwerp, Belgium, and to the postgraduate school on information and library science, which is organised at that university, guided by an inter-university board,
- to the library of the UFSIA (another component of the University of Antwerp),
- to the Documentation Department of the KIT (the Royal Tropical Institute), and to the BDI (the high school on libraries, documentation and information), both in Amsterdam, The Netherlands.

More culturally oriented guided visits are included also: to the old cities of Brussels, Antwerp, Bruges, and Amsterdam, and to the North Sea coast. For some participants, the course provides a first opportunity to travel outside their own country. The educational impact of this experience receives probably not enough attention in activities like these. We look forward to suggestions about how to optimise this important component of any similar international training course.

At the end of the course, each participant presents a report of some study or work executed during the training period concerning one or several problems which should be solved in the home-institute. The form of a list of recommendations to the director of the home institute is suitable and quite useful, but confidentiality can be an obstacle here.

TEACHERS AND CONTRIBUTORS

It has been a pleasure to have more than 50 teachers and contributors with a high level of expertise and with varied intellectual and geographical backgrounds. Most of them work at our university and in other institutes or private companies in Belgium, but several came from other countries: The Netherlands (6), United Kingdom (3), Slovakia (2), Italy (1), U.S.A. (1), and from Unesco Headquarters in Paris (4).

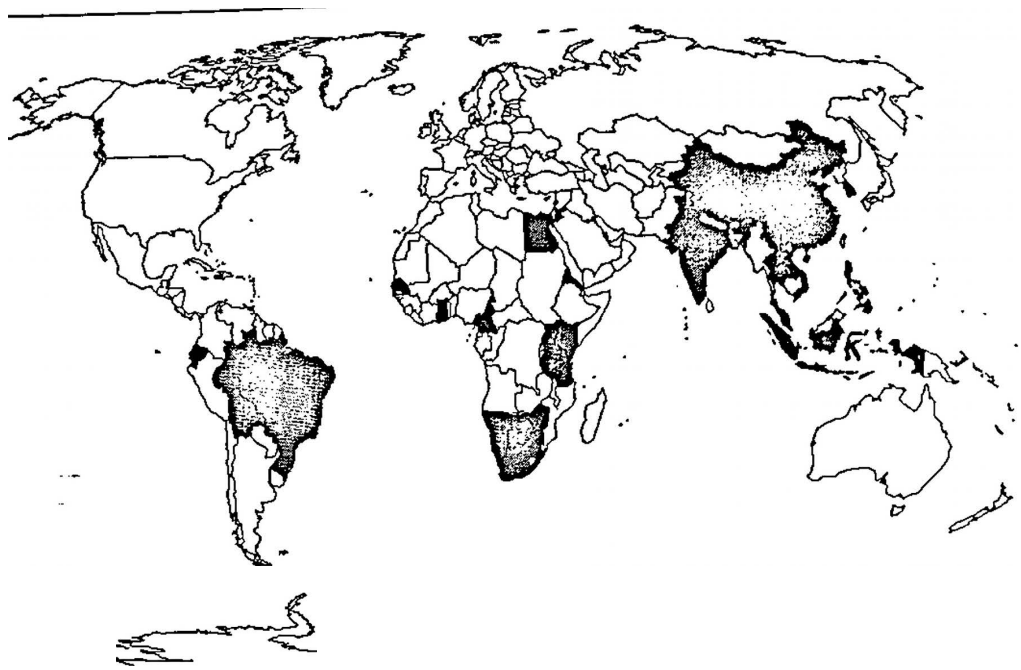
PARTICIPANTS

In accordance with the aims of the programmes, most participants work in developing countries where English is spoken as the first or second language. Most came from Africa. The list of countries can be found in Frame 2, and is graphically represented on the map.

Frame 2. Countries of participants to past training courses.

Barbados
Bolivia
Botswana
Brazil
Cameroon
China
Ecuador
Egypt
Ghana
India
Indonesia
Jordan
Kenya
Korea
Laos
Malaysia
Mauritius
Namibia
Palestine
Philippines
Senegal
South-Africa
Tanzania
Thailand
Uganda
Vietnam
Zimbabwe

Map: Countries of participants to past training courses.



COSTS, BUDGETS AND FINANCIAL ASPECTS

The costs of organising a course of the kind discussed here, excluding travel, accommodation, and living expenses grants for participants, is about $50,000. The greatest part of this is spent on an extra full time member of administrative personnel to assist and guide the participants. Up to now, most students received a grant to cover travel and accommodation costs from the sponsors. Others paid a $2,000 participation fee, which covers also copies of course materials and guided study visits; that is cheap in the sense that participation fees of this magnitude cannot cover the real costs of organisation. Cost of living (mainly accommodation and food) is about $900 per month.

SPONSORS, FINANCIAL SUPPORT AND GRANTS

For each individual course, proposals to organise it were screened by our university and by the appropriate committees of the Flemish Inter-University Council (VLIR). This has resulted in recommendations to the Belgian General Administration of Co-operation for Development (BADC, or ABOS) to sponsor these activities by providing

financial resources to the university for the organisation, plus
- travel and accommodation grants for twelve participants.

ABOS/BADC has contributed about $100,000 for every course. About half of this went to the Vrije Universiteit Brussel to take care of the organisation (wage of the administrative co-worker, wages of the lecturers, administrative and logistic expenses, etc.). The other half went directly to the participants to cover their travel and lodging expenses.

Up to now, the Division of Water Sciences of Unesco also provides support in the framework of the International Hydrological Programme, by announcing the courses and by providing an additional participation grant.

Also the Unesco General Information Programme, the British Council, and many others contributed occasionally, by providing funds or at least the time for an expert to come and teach

Besides this there is also an important own contribution by the Vrije Universiteit Brussel: an amount of time of co-operators (for scientific, logistic and administrative contributions) and the use of lecture rooms and other tools and means is not included. It can be stated that the total cost for each course exceeds $120,000.

METHODS USED TO ANNOUNCE THE COURSES

Initially, a course was announced mainly through the classical media: mailings of leaflets (on paper) to institutes and individuals, as well as some announcements in printed newsletters and journals.

Soon, we also used interest groups based on electronic mail ("discussion lists") to announce courses and e-mail to communicate with potential participants. Also for this type of communication, this medium proved to be quite useful and cheap.

The World Wide Web is now gaining importance as a communication medium. We make some information about the courses available through World Wide Web, and we intend to use this medium more because it is cheap, fast and easy to use, at least for those who have access to it. Some pages can be found starting from the home page of the Vrije Universiteit Brussel (V.U.B.) http://www.vub.ac.be, as a part of the library pages. (We do not give an exact address here because this may change in the future.)

However, the most important way to announce the courses to potential participants who may receive a grant, are leaflets sent by ABOS/BADC to a selection of Belgian embassies in developing countries. In this way, many potential participants are reached, but of course not always the most suited persons receive the information or get through the local selection procedure. This is partly due to the length, complexity, high costs and the low quality of at least some parts of the communication chain between the organisers and the potential participants.

PROBLEMS AND LESSONS LEARNED

A frustrating problem has always been the delay between approval by the screening institutions (the gatekeepers) and the decisions and lengthy procedures of the sponsors. A consolation for us is that bureaucratic delay is a general, well-known problem, also in development activities (see for instance, Ware, 1996). Concretely, this makes it difficult to plan in detail, to create a clear and detailed project proposal, and to contact potential contributors/teachers so far in advance, while on the other hand, more and more detailed and stringent budget planning is required by the sponsors.

A classical problem in education is faced also by us in these courses: the unavoidable heterogeneity of the scientific, technical and cultural background of the participants. To cope with this, the activities during the first month focus on basic concepts and leave the participants the time, freedom and opportunity to reach an acceptable level for the three further months of study and training. We found a successful formula here in appointing a participant with a relatively high level of experience as a teacher.

A problem mentioned elsewhere in this text is the question of which aspects of work and life in a Western European country to show and explain to the students, besides the more technical and scientific components. The answer depends of course on what one aims for. We think that this aspect does not receive enough attention.

More generally, we feel somewhat left alone in our organisational tasks. As we are not experts in development work and never claimed to be, we would appreciate some more guidance by experts in this area, for instance by the sponsors.

During the programme, the students are asked to evaluate each course component in terms of:

- the suitability and relevance of the subject,
- the level,
- the didactical quality,
- the amount of time and work required,
- etc

In general, the outcome has been positive and has helped us to improve the course. However, the future of these kind of activities depends on external funding by sponsors, and this depends heavily on the changing and evolving strategy of the sponsors. Furthermore, the courses have been sponsored as separate, unrelated projects without any promise of future support; on the contrary, repeating similar projects is discouraged, even when they turn out to be successful. This is strange. The motivation of the sponsor can be that this may stimulate innovation. Anyway, it causes a lack of continuity. The great uncertainty about the possibility to organise similar courses in the future is a major problem. Several consequences of this project approach are not so positive:

- For each new course, a vacancy for a seminar assistant has to be announced; a person has to be selected and has to be explained a lot about aims and procedures each time over and over again.
- It becomes even more difficult to motivate teachers and contributors to invest time in the preparation, and certainly in the evaluation and the redesign and improvement of their contributions.
- The time and effort spent by the organisers in preparing the next course and to make improvements by some limited redesign, must be limited, since each project could be the last one in the series.

Most of the contributors to the activities are not as well aware of the problems and needs of the participants as one might hope for, and we realise that we as organisers are no exception. Furthermore, it is difficult to stimulate contributors and to reward them for efforts to get a better understanding and to adapt their contribution better to their audience. In particular, one of the major professional problems of most of the participants is not so much how to cope with information overload, a topic which is well known by most of the contributors since they are based in relatively rich and information-rich parts of the world. No, many of the participants rather like to learn how to deal with information scarcity and lack of distribution channels and physical and personal networks. Of course scarcity and overload are two aspects of the same phenomenon, very much related, like the two sides of a coin, but nevertheless the point of view is important.

Unfortunately, a lack of time and funding makes it impossible to follow-up the activities of most of the participants after they returned to their home country. This is a pity, especially now that world-wide communication by electronic mail has become a medium to communicate efficiently, easily and cheaply, even with people in developing countries.

Most of the participants have no idea of the (limited) funds and organisational restrictions. Their expectations may be too high.

THE FUTURE; CO-OPERATION

We would like to publish some of the course materials offered during the most recent course or during a future one. This would offer a better view on the courses to potential, future participants, and it may inspire others who are already working on similar programmes or who are considering starting a similar activity. Again, the required money and time may hinder the realisation of this wish. The requests which we receive for proceedings shows that there is an interest in this kind of publication.

The idea of organising a similar course in a developing country is attractive, because it may be cheaper. However, in that case, several problems would need to be solved, such as:

- How to persuade several busy experts to leave their comfortable and efficient workplaces for some time, to travel to a probably unknown and hot country and institute to teach unknown and strange students?
- How to select a suitable institution in a developing country?
- How to take care of the local organisation in the developing country?
- How to ensure sufficient local access to computers (hardware and software) and to networks, so that the potential of these can be clearly demonstrated?

In the future we could also work in a more targeted way and offer a group of courses, adapted to the local needs, with one or more universities in a developing country. Such an activity could be organised in Belgium, or in the developing country. Participants from neighbouring institutes and countries could profit (in a cheap way) in the last case.

We are open to suggestions of co-operation with any institutes to join forces and to exploit the experience gained in an efficient way.

ACKNOWLEDGEMENTS

We thank again everyone who contributed to the success of the courses; this includes teachers, support personnel, the sponsors and the enthusiastic participants themselves.

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Skills Workshop:
Creating Web Pages Using Basic HTML

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Workshop report

by

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EURASLIC's continuing efforts to provide training opportunities for its members were represented at the Athens conference by a Workshop on the creation of pages for the World Wide Web using basic HyperText Mark-up Language or HTML. Of two hours duration, the Workshop included an introductory presentation by Joan Baron[1] covering a basic description of HTML and HTML Tags used to create a simple web page and this was followed by a practical session in the Library.

The practical session involved the participants marking up a page of plain text with HTML tags using the Notepad text editor, using an example of how the text could appear as a web page and a printed list of HTML tags. A Workshop collaborator assisted each group and their progress was monitored by the Workshop Co-ordinator. Groups were encouraged to view the results of their work using the Netscape Communicator browser, and then go back and carry out further editing of the source document.

The participants involved in the practical session included novice users of the Internet, as well as those who had already created Web pages using a Web authoring software, but had never used basic HTML. Thirty-eight participants attended the HTML/Web Page Workshop and 19 participants took part in the practical session.

The practical session was regarded as a useful exercise in skills development, and was followed by three presentations (included in these proceedings) on the NCMR Web Pages[2], attaching databases to Web pages[3], and the Baltic SeaWeb[4].

[1] Joan Baron and Sarah Heath "Creating Web pages using basic HTML", p.149-161.
[2] Lia Charou "NCMR Web Site" p. 163-172.
[3] Ian McCulloch "Attaching Databases to Web Pages" p. 181-186.
[4] Ann-Sofi Israelson "BALTICSEAWEB: An information system about the Baltic Marine Environment" p. 173-180.

Proceedings of the 7th Biennial Meeting of EURASLIC, Athina, Greece, 6-8 May 1998, p. 149-161

Creating Web pages using basic HTML: an introduction

by

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ABSTRACT

This paper provides an introduction to using basic HyperText Markup Language to create pages for the World Wide Web. It includes examples of pages, special codes and a glossary of terms.

INTRODUCTION

The purpose of this workshop is to provide an introduction to HyperText Markup Language (HTML), the language used to create pages for the World Wide Web (Web). During the session the basic concept of HTML will be explained and there will be a demonstration of how an HTML page becomes a Web page.

TEXT AND TAGS

HTML is the encoding method used for documents or pages on the Web. HTML pages are written in plain ASCII text and can be created using any text editor. HTML ignores all document formatting such as carriage returns, tabs and spaces as well as the character attributes produced by holding down the CTRL and ALT keys in combination with keyboard keys, e.g. bold, underline or foreign characters. To convert a page of text into an HTML or Web page it is 'marked-up' with 'tags'. In HTML it is the 'tags' which format the page by designating the size of the text, where the paragraph breaks should appear, whether it is a list of items, or if the text is to be in bold or italics.

WEB BROWSERS

Once an HTML document has been created it can be viewed using a Web browser such as Netscape or Mosaic. When a Web browser requests a home page the Web server sends it an HTML document full of 'tags'. HTML describes the content of the document, but it does not determine how the content is to be displayed. It is the function of the Web browser to take an HTML document and display it in a user-friendly way to the requester.

Whilst HTML tags describe the content of the document so that browser software can format,

arrange, and display information, HTML does not allow the Web page designer ultimate control over the appearance of the page because:

- different Web browsers interpret HTML codes in slightly different ways with variations in spacing, bullet styles, font styles and typeface, and
- the requestor can alter settings on their own PC which affect the appearance of the Web pages they display.

N.B. To reduce the impact of independent browsers, keep the page layouts simple and, to begin with, test the pages using a variety of Web browsers before going 'live'.

SOURCE MATERIAL

There may already be information about the library/institute/organisation (used to produce printed documents) which is available electronically, therefore suitable for use on the Web pages. This will not necessarily look the same as its original form once it has been encoded with HTML. Some general guidelines are:

- small amounts of text
- short sentences
- short paragraphs
- short pages with clear links to other pages
- where a long page is unavoidable, use links within the page
- use of graphics*

* *Graphics occupy more disk space than text, which means that pages take longer to load and the quality of display will depend upon the grade of the local PC and the local user may have their graphics function disabled for this reason.*

HTML TAGS

Tags can be written in either upper or lower case, or a mixture of both and they are always enclosed in angled brackets. In most cases, for every 'on' tag there must be an 'off' tag.

e.g. <html>page</html>
on off

The forward slant in front of the tag switches off the instruction.

Basic HTML tags

HTML tags can be divided into five categories:

1. starting and ending tags
2. structure tags
3. list tags
4. appearance tags
5. linking tags

1.0 Starting and ending tags

1.1 HTML Tag - this is the first and last tag of every HTML page. It tells the browser where an HTML page starts, and where it ends,

e.g.
```
<html>
 page
</html>
```

1.2 HEAD Tag - this is usually the second tag of every page. It contains the title tag and nothing else,

e.g.
```
<html>
<head>
<title>EURASLIC Home Page</title>
</head>
</html>
```

1.3 TITLE Tag - the title tag is always found within the head tags (see above). It identifies the title of the page and should include text only, there should be no links. Titles of pages should be kept short, as this is the information which is displayed in the title field by the Web browser and some Web browsers are limited in the number of characters they can display.

1.4 BODY Tag - the body tag identifies the body of the page, i.e. all the information to be displayed,

e.g.
```
<html>
<head>
<title>EURASLIC Home Page</title>
</head>
<body> Information to be displayed</body>
</html>
```

2.0 Structure Tags

Structure tags help to define the look of a Web page. They are used to create headlines and break up information into meaningful pieces.

2.1 HEADER Tags - Header tags make text larger or bolder in order to emphasise a particular piece of text, and enable the page designer to create headings and sub-headings within a document. An opening header tag will define the size of the following text and can be at six levels, i.e. <h1>; <h2>; <h3>; <h4>; <h5>; and <h6>. Those commonly used in a basic Web page are <h1> to <h3>.

Whilst there is no limit to the amount of text that can be contained within header tags, it is usual to keep the text to a minimum. Both plain text and hypertext links can be included. Again, different browsers will display headers slightly differently, so it is important to check how each type of header displays on a range of browsers, e.g.

HTML Document

```
<h1>CEMARE Libary</h1>
<h2>Special Collections</h2>
<h3>Aquaculture Reprints</h3>
```

BROWSER Display

CEMARE Library

Special Collections

Aquaculture Reprints

2.2 TEXT BREAK Tag - this **single** tag <br> is used in a similar way to a hard return in a word-processing environment. It will stop text and restart again on the next line, e.g.
HTML Document

```
CEMARE was created in 1960<br> The CEMARE Library was created in
1970<br> The CEMARE Librarian is Joan Baron<br>
```

BROWSER Display

CEMARE was created in 1960
The CEMARE Library was created in 1970
The CEMARE Librarian is Joan Baron

2.3 PARAGRAPH Tag - the **single** paragraph tag <p> puts space between lines or blocks of text. Paragraph tags should not be used to separate text so that it is more readable. If more than one <p> tag is used to try to create multiple blank lines, some browsers will ignore all but the first <p> tag and only create a one line space, e.g.
HTML Document

```
The CEMARE Library houses many specialised collections including Reprints,
Microfiche, Reports and Bulletins.<p> The CEMARE Library has access to many
specialised databases including Aquatic Sciences and Fisheries Abstracts, the British
Humanities Index, the Science Citation Index and the Social Science Citation Index.
```

BROWSER Display

The CEMARE Library houses many specialised collections including Reprints, Microfiche, Reports and Bulletins.

The CEMARE Library has access to many specialised databases including Aquatic Sciences and Fisheries Abstracts, the British Humanities Index, the Science Citation Index and the Social Science Citation Index.

2.4 HORIZONTAL RULE Tag - this **single** tag <hr> creates and inserts a line that can be used to separate headlines from body text, or it can be used as required throughout the page. It is often used to signal the end of the main body of text, and separate it from a running/recurring body of text at the end of the page which may include a copyright statement, navigation buttons to other pages, and/or the date the page was last updated, e.g.

HTML Document

```
<h2>CEMARE Library and Information Services</h2>
<hr>
The CEMARE Library is a specialised resource centre. Its core subject area is fishery economics, but in recent years its research interests have expanded to include, fishery development, fishery management, aquaculture economics and management, coastal zone management and recreational fisheries.
<hr>
This page was last updated on 1 May 1998
```

BROWSER Display

CEMARE Library and Information Services

The CEMARE Library is a specialised resource centre. Its core subject area is fishery economics, but in recent years its research interests have expanded to include, fishery development, fishery management, aquaculture economics and management, coastal zone management and recreational fisheries.

This page was last updated on 1 May 1998

2.5 ADDRESS Tag - the address tag **pair** is often found at the bottom of each page.
It contains information about the Web page author or library and often a copyright statement, e-mail address of the Webmaster, and a date when the page was last revised. Address information displays differently on various browsers. One browser may italicise it, another may indent it, and yet another may right justify it, e.g.
HTML Document

```
<address>
CEMARE Library<br>
copyright 1998<br>
last updated 1 May 1998<br>
</address>
```

BROWSER Display

CEMARE Library
copyright 1998
last updated 1 May 1998

2.6 CENTRE Tag - the centre tag **pair** will centre the text on your computer screen. Not all browsers currently handle this tag so check to see how it looks with a variety of browsers before using it.

e.g. <centre>CEMARE Borrower Information</centre>

3.0 **List Tags**

Directory and menu are the simplest kinds of lists and come in tag **pairs**. They will both be accompanied by the **single** list item tag <li>. Browsers display both of these lists with some form of bullet or an asterisk and very often the items in the list are indented.

3.1 DIRECTORY list - designed for items that can be described in 20 characters or less, e.g.

HTML Document

```
CEMARE Library Services
<dir>
<li>Collections
<li>Databases
<li>Reservations
</dir>
```

BROWSER Display

CEMARE Library Services
- Collections
- Databases
- Reservations

3.2 MENU list - designed for items that can be described in a short sentence, e.g.

HTML Document

```
CEMARE Databases
<menu>
<li>FishEcon database contains references to fishery economics and related material held in the CEMARE collections.
<li>Africa database contains references to inland fishery management in Africa, especially in Nigeria and the Chad Basin.
<li>Serials database lists all serial holdings in the CEMARE Library.
</menu>
```

BROWSER Display

CEMARE Databases

- FishEcon database contains references to fishery economics and related material held in the CEMARE collections.
- Africa database contains references to inland fishery management in Africa, especially in Nigeria and the Chad Basin.
- Serials database lists all serial holdings in the CEMARE Library

3.3 NUMBERED (ordered) list - the tag **pair** and the **single** tag combine to form what is called an ordered, or numbered list. When using these tags in combination the browser will display all items in the list in numerical order. If any items from the list are edited or removed the browser will automatically renumber the remaining items, e.g.

HTML Document

Requesting an item on inter-library loan

complete a white inter-library loan form
sign the copyright statement on the reverse
ask your tutor to countersign your request
send or take the form to the University library

BROWSER display

Requesting an item on inter-library loan
1complete a white inter-library loan form
2.sign the copyright statement on the reverse
3.ask your tutor to countersign your request
4.send or take the form to the University library

3.4 BULLETED (unordered) list - the tag **pair** and the **single** tag combine to create an unordered or bulleted list. When used together the browser will display an asterisk or some form of bullet graphic in front of each item in the list, e.g.

HTML Document

Special collections

shrimp culture
marine ranching
lobster culture
artificial reefs

BROWSER display

Special collections

- shrimp culture
- marine ranching
- lobster culture
- artificial reefs

3.5 DEFINITION (glossary) list - the <dl> <dt> tag **pairs** and the **single** <dd> tag combine to form a definition or glossary list. The <dl> tag stands for "definition list", the <dt> tag stands for "defined term", and the <dd> tag stands for "defined definition", e.g.

HTML Document

```
CEMARE Library and Information Services
<dl>
<dt>Services
<dd>loans
<dd>literature searches
<dd>reading lists
<dt>Collections
<dd>books
<dd>journals
<dd>statistics
</dl>
```

BROWSER display

CEMARE Library and Information Services

Services

loans
literature searches
reading lists

Collections

books
journals
statistics

4. Appearance tags

Appearance tags affect the graphical look of the text itself. There are two types of appearance tags: logical tags and physical tags:

- Logical tags - indicate how the text is to be used but do not dictate how browsers must display them,
- Physical tags - tell browsers precisely how the text is to be displayed.

4.1 LOGICAL Tags - allow browsers to display the text in the manner appropriate to that browser, as a result, HTML pages which contain logical tags have a better chance of displaying well with a variety of browser software, e.g.

EMPHASISED Tag - the tag **pair** indicates that the enclosed text should be treated as emphasised text, e.g. in italics.

STRONGLY EMPHASISED Tag - the tag **pair** indicates that the enclosed text should be strongly emphasised. e.g. in bold.

DEFINED TEXT Tag - the <dfn></dfn> tag **pair** is used to emphasise a word that is being defined, the enclosed text is usually displayed in bold.

CITED TEXT Tag - the <cite></cite> tag **pair** is used to make a citation stand out from the regular text and is usually displayed in italics.

4.2 PHYSICAL Tags

e.g. **bold**

italics

Physical tags can be combined to produce combined effects,

e.g. ***bold and italicised***

5.0 Linking tags and hyperlinks

5.1 Creating links

Creating in and between Web pages so that users can move around the Website is just as important as tagging document text so that it displays in an easy to read and user-friendly way. Links consist of three elements:

I. HTML tags and attributes·

II. information you want to link to, expressed as file names or URLs; and

III. words or graphics which act as links to URLs or file names

ANCHOR Tags - this anchor <a> tag **pair** identifies a link for a browser. The information contained within the anchor tag identifies the location of the information and how the link will be displayed on the Web page. Links can be created to information within the same Web page, to other information on the Web server, and to other sites on the Internet. e.g.

Link within a Web Page

<a name="back to top of page">
body of text
TOP OF PAGE

Link within Web Server

Back to CEMARE Home Page

Link to a remote Website

IOC Website

5.2 Meta tags.

<Meta> tags are used to give specific information about a website in the header element and in the name and content attributes. The information contained within the tags (title, author, date of creation, keywords or subject terms etc.) is used by browsers and document-indexing tools, and can improve the retrieval rate of the site if the <meta> tags are used correctly. In this sense <meta> tags are a method of Website classification.

Skeletons for <meta> tags can be found in some Web authoring software, and these can be customised accordingly. Otherwise, <meta> tags can be typed in using the correct protocol. <Meta> tags do not follow the same protocol as other HTML tags.

Skeleton <meta> tags look like this;

<HTML><HEAD>
<TITLE>"Enter name of document here" </TITLE>
<META NAME="AUTHOR" CONTENT="Enter Name">
<META NAME="DESCRIPTION" CONTENT="Enter descriptive text here">
<META NAME="KEYWORDS" CONTENT=Enter descriptive keywords here">
</HEAD>

They can be customised to include information about the website, for example;

```
<HTML><HEAD>
<TITLE>"Library"</TITLE>
<META NAME="AUTHOR"CONTENT="Sarah Heath">
<META NAME="DESCRIPTION"CONTENT="Marine Laboratory, Aberdeen">
<META NAME="KEYWORDS"CONTENT="Aquaculture, Marine Biology,  Ecology,
Sonar">
</HEAD>
```

<Meta> tags are part of the wider issue of meta data, which was the subject of the 1997 IAMSLIC conference in Charleston, SC, USA, (5-9 October 1997). More information is available in the published proceedings.

SAVING THE HTML PAGE

Once an HTML document has been created, the document should be saved using a unique name and the suffix HTM or HTML. It is important to be consistent in your use of suffix.

VIEWING THE WEB PAGE

The HTML document will be displayed as it would appear on the Web, at least when displayed by the same browser and dependent on local configurations. If more than one document has been created, the links between these documents can be tested, provided they are held in the same directory. The testing of links to other locations in the network, and to remote Websites will need to wait until the document has been loaded on the Server.

SUMMARY

The purpose of this introduction has been to provide some basic awareness of HTML and its use in constructing simple pages for the Web. HTML forms the basis of many of the sophisticated Web authoring programs now available. Web authoring software provides an environment, much like a wordprocessing programme, into which a document can be typed, and the software will enter the appropriate HTML codes or tags. However, many Web authoring packages are still in the developmental stage and once documents have been created, some editing may still be needed using basic HTML.

A useful suggestion for finding ideas, and learning how to create different features is to look at how other Websites have been created. The 'source document' of any page on the Web will display the codes which have been used. There are also many Websites which list HTML codes, Web authoring software, and related packages.

APPENDIX 1. CHARACTER EQUIVALENTS

Since the SHIFT, ALT or CTRL keys cannot be used to create special characters, HTML provides character-based and numerical equivalents for special characters. In addition, angled brackets (< >), quotation marks (") and ampersands (&) do not normally display, and it is necessary to use character equivalents within an HTML document. A list of special characters and their character/numerical equivalent codes follows:

Character	Character Equivalent	Numerical Equivalent
<	<	<
>	>	>
"	"	"
&	&	&
(		(
)		)
!		!
#		#
$		$
%		%
?		?
@		@
+		+
=		=
^		^
*		*
/		/
\		\
£		£

APPENDIX 2. GLOSSARY

This glossary includes terms and acronyms used in the text or this paper, and other terms and acronyms which may be encountered by readers during activities related to the Internet and creation of Web pages.

Anchor *anchors* are the *head* and *tails* (starting and ending points) of **hypertext links**.

ASCII *American Standard Code for Information Interchange*, a 7-bit character code capable of representing 128 characters. Many of these characters are special control characters used in communications control, and are not printable.

FTP *File Transfer Protocol* is an **Internet** client-server protocol for transferring files between computers.

home page the introductory page for a **World Wide Web** site, similar to the contents page of a book. It may include an introduction to the site, along with **hypertext links** to other Web pages.

HTML *HyperText Markup Language*, a markup language defined by an **SGML** Document Type Definition (DTD). To the person constructing a Web page, HTML is simply a collection of tags used to mark blocks of text and define how they should be interpreted by a **Web browser**.

hypertext any document that contains *hypertext links* to other documents. **HTML** documents are almost always hypertext documents.

hypertext link a hypertext relationship between two **anchors**, leading from the *head* to the *tail* on the Web, this is usually a link from one hypertext document to another.

Internet a worldwide network of computers communicating via the **TCP/IP** protocols.

Internet provider the company which provides **Internet** connectivity. This could either be a dedicated connection (for example, a 24hr telephone connection) or a dial-up connection.

Internet resources the collection of data, documents, and databases available on the **Internet**.

IP address the numerical *Internet protocol* address of a computer on the **Internet**. Every computer on the **Internet** has a unique numerical address.

Lynx a character-mode (text-only) World Wide Web browser for PCs.

MacWeb a graphical browser for the **World Wide Web** for use on MacIntosh computers.

Mosaic the first PC graphical browser for the **World Wide Web**.

Netscape a PC graphical browser for the **World Wide Web**.

protocol in computer networks, a *protocol* is simply an agreed convention for inter-computer communication.

server a programme, running on a networked computer, that responds to requests from client programmes running on other networked computers. The server and client communicate using a client-server **protocol**.

SGML *Standard Generalised Markup Language*, a standard for describing markup languages. **HTML** is defined as an example of SGML.

tag (HTML) **HTML** marks documents using *tags*. A *tag* is simply typed text surrounded by the less than and greater than signs, for example: <TAG>. An *end tag* has a slash in front of the tag name, e.g. </TAG>.

TCP/IP Transmission Control Protocol / Internet Protocol.

URL *Uniform Resource Locator*, the scheme used to address **Internet** resources on the **World Wide Web**. A **URL** specifies the **protocol**, domain name/IP address, port number, path and resource details needed to access a resource from a particular machine.

Web browser any programme used to view material prepared for the **World Wide Web**. **Mosaic, MacWeb, Lynx and Netscape** are examples of Web browsers. Browsers are able to interpret **URLs** and **HTML** markup language and also understand several **Internet protocols**, such as **FTP**.

Webmaster the person within and organisation who monitors, maintains and updates the Website for that organisation, and controls external access to that organisation's server.

WWW the **World Wide Web**, also called the Web. A hypertext-based Internet service providing information and resources

Proceedings of the 7th Biennial Meeting of EURASLIC, Athina, Greece, 6-8 May 1998, p.163-172

National Centre for Marine Research (NCMR) library Web site

by

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ABSTRACT

The web page was created in order to facilitate the requests of our users, and to minimize their search time on the Net. The users have the capability of accessing firstly our holdings and collections and secondly to the instructions to authors of relevant journals, and contents tables; to marine sciences journal abbreviations and acronyms with their full nomination and http addresses (where available).

INTRODUCTION

WWW is the electronic web that increases rapidly day after day, because of its ability to connect sites on a giant network providing at the same time all kinds of information to a global audience.

The Web is currently the fastest growing part of the Internet as millions of people became users. People seek for fast but also accurate answers to their questions. The Web facilitates the access to different databases easily and quickly.

CREATING THE WEB PRESENTATION

Trying to keep up with the latest needs of our users, we decided to create a web page. Our first aim was to help NCMR's staff as well as the scientific community as a whole, providing them with online useful information close to their demands. After having discussed with our staff their requirements for an effective online help and having browsed on the Web other Libraries pages. We came up with our product expecting to provide a helpful tool.

Among the contents of our Web page we decided to include a general description of the library, our catalogue on-line, information on journals, and institutions worldwide. We also included Journal abbreviations and a list of acronyms with their full nomination and http addresses[1].

After we decided what to include, we organized our pages. (Then trouble started.) We had to put our ideas "online". How could we do this, since we weren't computer specialists and we knew

[1] This was included where available

nothing of html tags? In fact this was not necessary because using the so-called WYSIWYG editors[2], we did not diminish the creating capabilities of HTML neither eliminate the efficiency of the product. Netscape Navigator Gold includes integrated WYSIWYG HTML editing capabilities, so we started digging into this field trying not to be sidetracked from our objectives.

Furthermore, using WYSIWYG proved to be the most simple way for us since we didn't have to keep track of tags, neither to memorize all rules so that we could have the final document in a way that computer specialists work. The system achieved this for us.

Netscape provided us with a Page Wizard, which permitted us to create our first draft home page. Elaborating on this draft we finally concluded on the appearance and the context of our home page. Then a more difficult job started. In order to enrich our presentation we created additional pages with several topics independent or linked together. Finally, links from one page to another were made and all pages were linked to the home page.

Having completed our task of creating NCMR Library's site our system administrator took over the procedures for installing the pages. So at least we didn't have to worry about page installation.

Specific obligatory guidelines and tips that we pursued during our effort include among others the following:

- *Home page should contain*:
  - a title
  - an index or an introduction
  - the status of the page (under construction, not activated yet, etc.)
  - the contact person with its e-mail address, when the page is last revised
  - the copyright
  - the URL address[3]

- *General tips*:
  - Don't change the link colors[4]
  - Compile indexes to long documents
  - Do a spell check[5]

The result of this work is the site that follows.

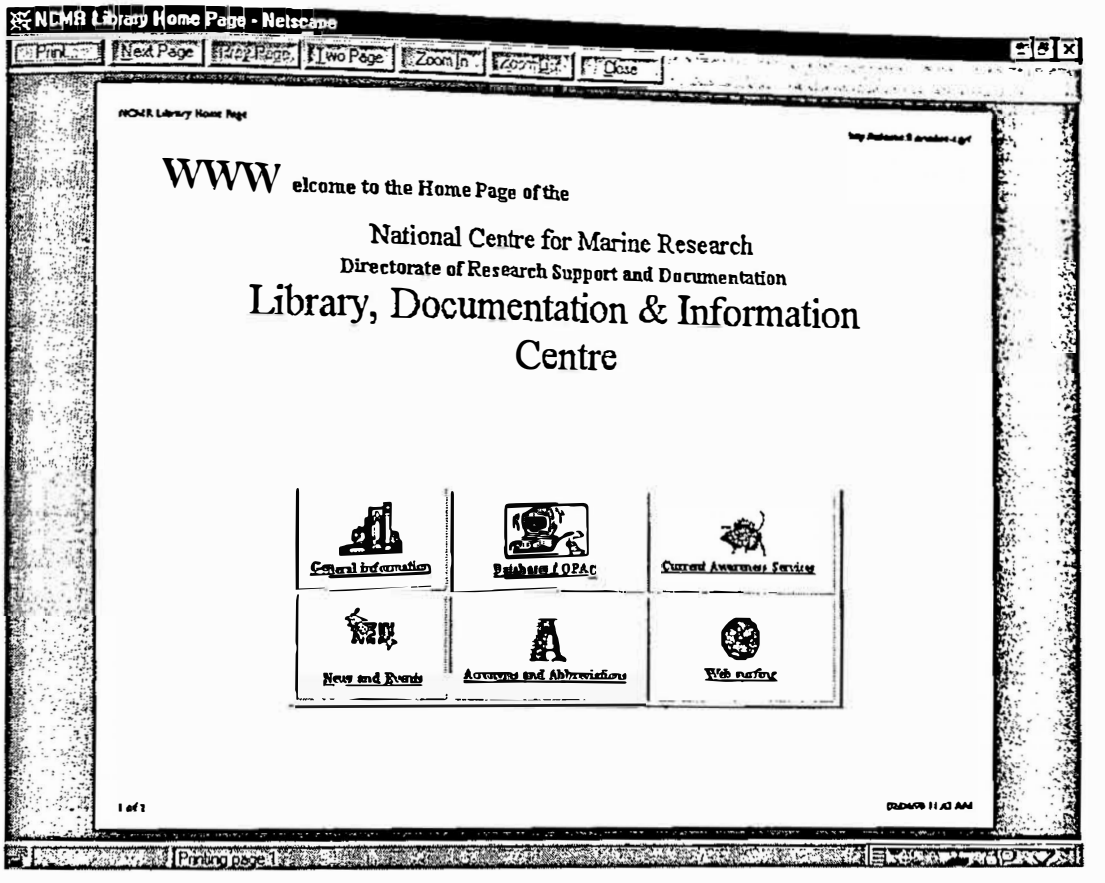
[2] That is "what you see is what you get"

[3] Sometimes print out comes without the address and then it is hard to locate it.

[4] This will confuse the users: blue stands for unfollowed links, while red/purple for followed ones.

[5] Sounds obvious but sometimes we forget to do it.

NCMR Library's Web Site



Major topics on our web page are:

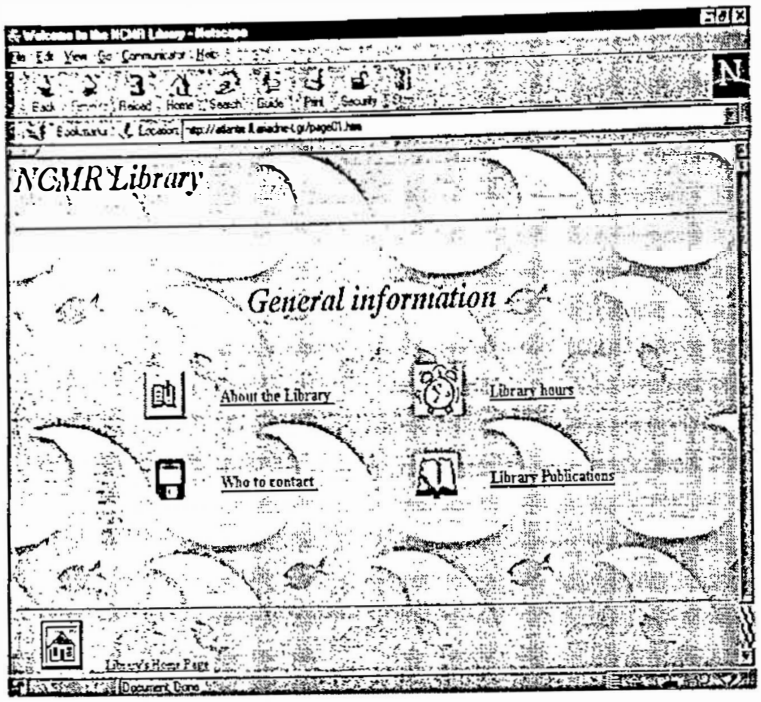
- General information about the Library
- Access to the Library's OPAC
- Current awareness. The page is divided into two parts.

  Content pages of the newcoming material (Monographs, Periodicals, Reprints and Technical Reports) to the Library will appear, and they will be updated every 15 days.

  On-line access to Aquatic Sciences Journals (Content pages and Instructions to authors)

- News and Events
- Acronyms of Organisations and Abbreviations of Aquatic Sciences Journals
- Access to web addresses relevant to the aquatic sciences

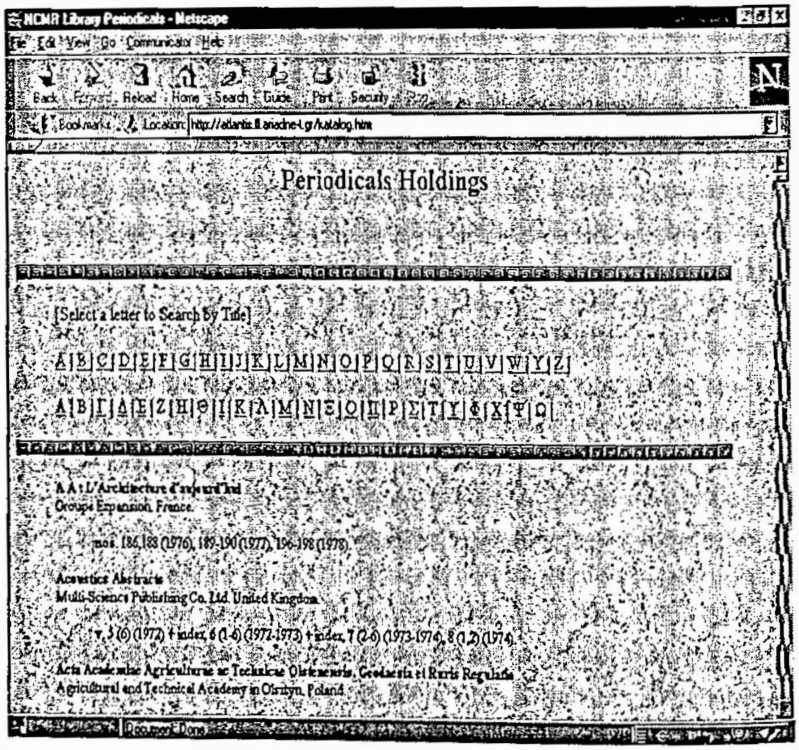
1. General Information



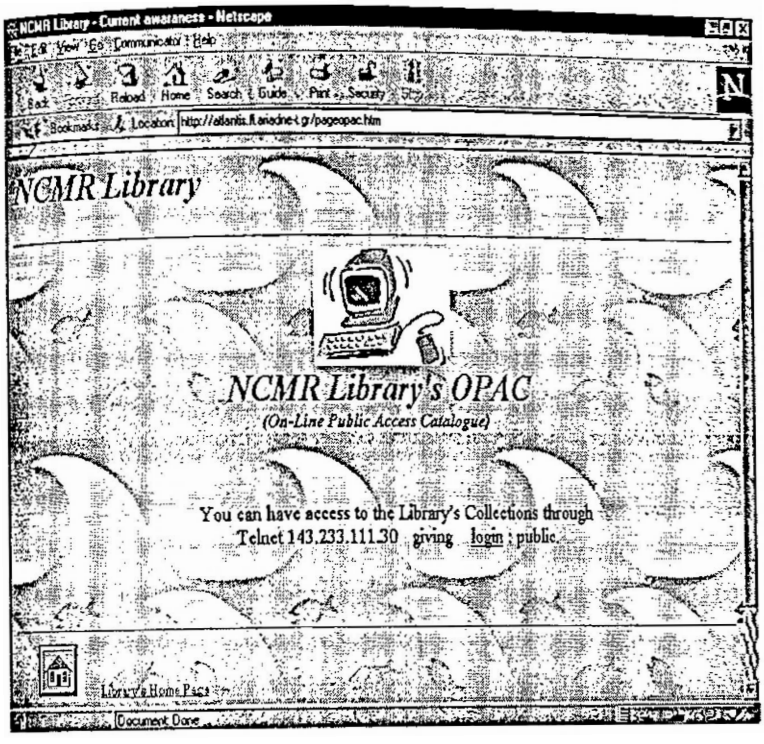
The purpose of the General information page is to provide information to new users about the Library, it's schedule, the staff and the Library's holding catalogue.

2. Library Publications - Periodicals Holdings

From the Library Publications' page the Catalogue of Library Holdings can be activated. You can search the catalogue in an alphabetical order.



3. Library's OPAC



Through this page users can have access to the library's holdings and collections. They can search and retrieve the information they want.

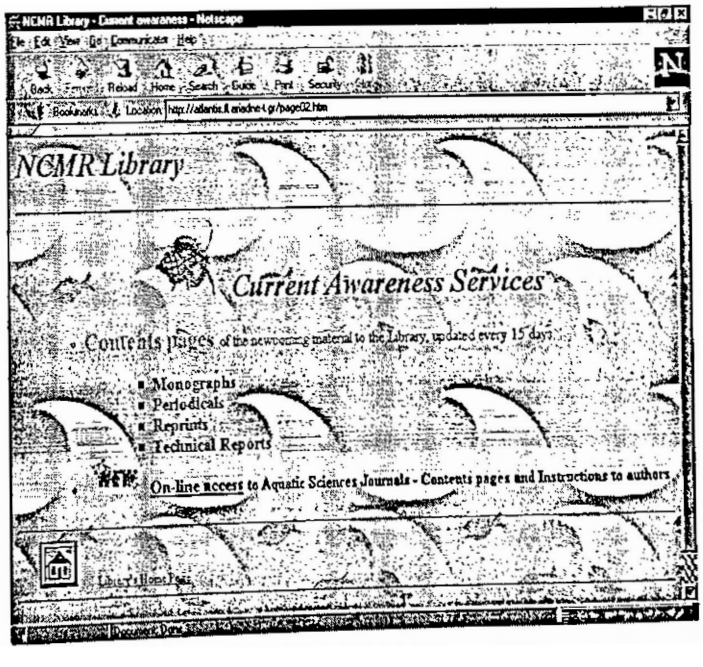
The page is active on the Web by:

a) giving the Telnet address 143.233.111.30;

b) at the login stage you insert the word "opac"

c) Selecting 3 you can change the language of your preference [GRE=greek; FRE=french; E=english]

4. Current Awareness

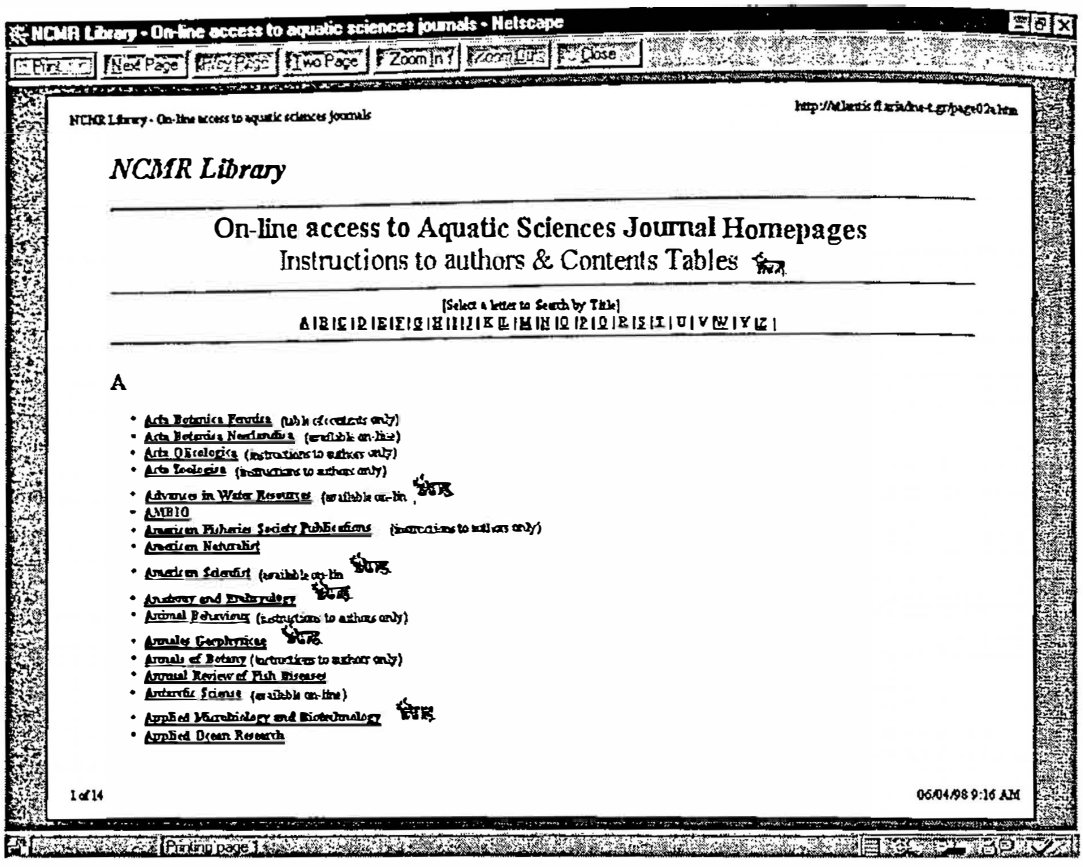


The purpose of the Current Awareness Services page is to provide useful information to the NCMR staff[6] and to the scientific community[7]

[6] Contents pages from the newcoming material to the Library

[7] Access to the instructions to authors of relevant journals and contents tables - where home pages to Internet are provided

4a. Journal Homepages



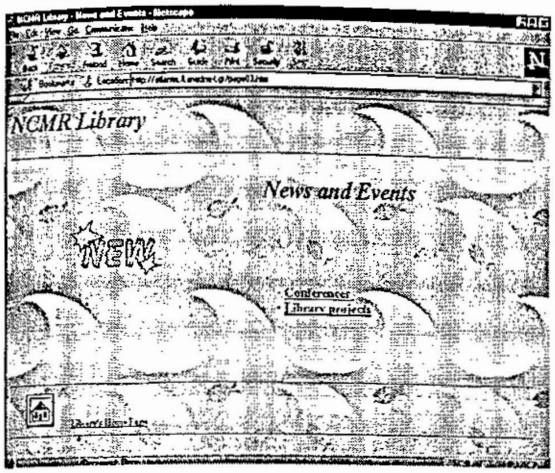
From this site, you can have access to the Homepages of the Aquatic Sciences Journals. This means there is direct access to the journals' homepage, either to the publisher or to the society that publishes it.

The users can find all necessary information about the journals they want. Such as, General description of the journal, Instructions to the authors, Sample issues, Information about subscriptions, or even access to the latest content tables and, where available, direct access to the journal itself.

The scope for the creation of this page is to minimize the search time on the Net, and, to avoid irrelevant information to reach our readers.

Our future aim is to create a searchable database where the users giving keywords will have access not only to a specific journal, but also to relevant ones.

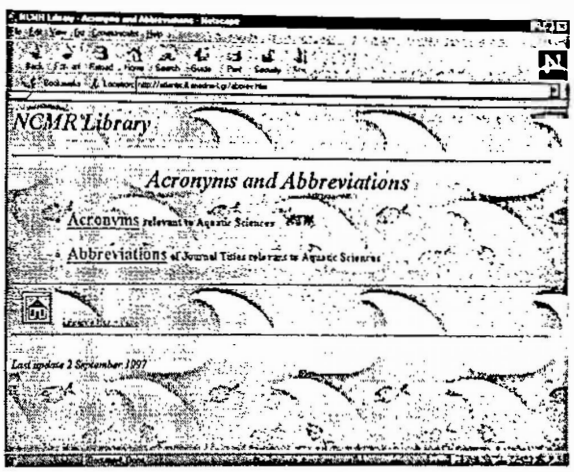
5. News and Events



Information about conferences dealing with aquatic science libraries and information centers is included.

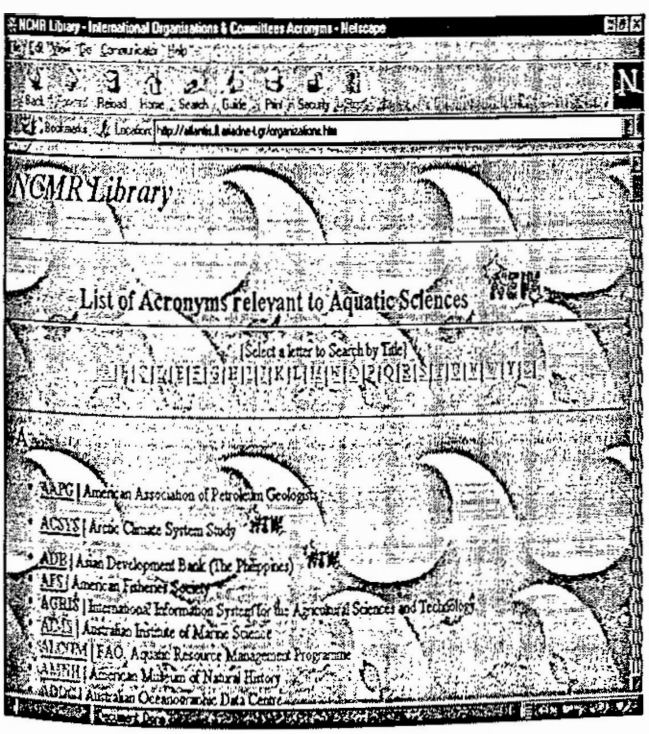
Our future task is to provide our users with the latest information about books and journals relevant to their work. Hence this page will be dynamic and its contents constantly updated.

6. Acronyms and Abbreviations



Acronyms and Abbreviations is an idea that arose following our scientists needs.

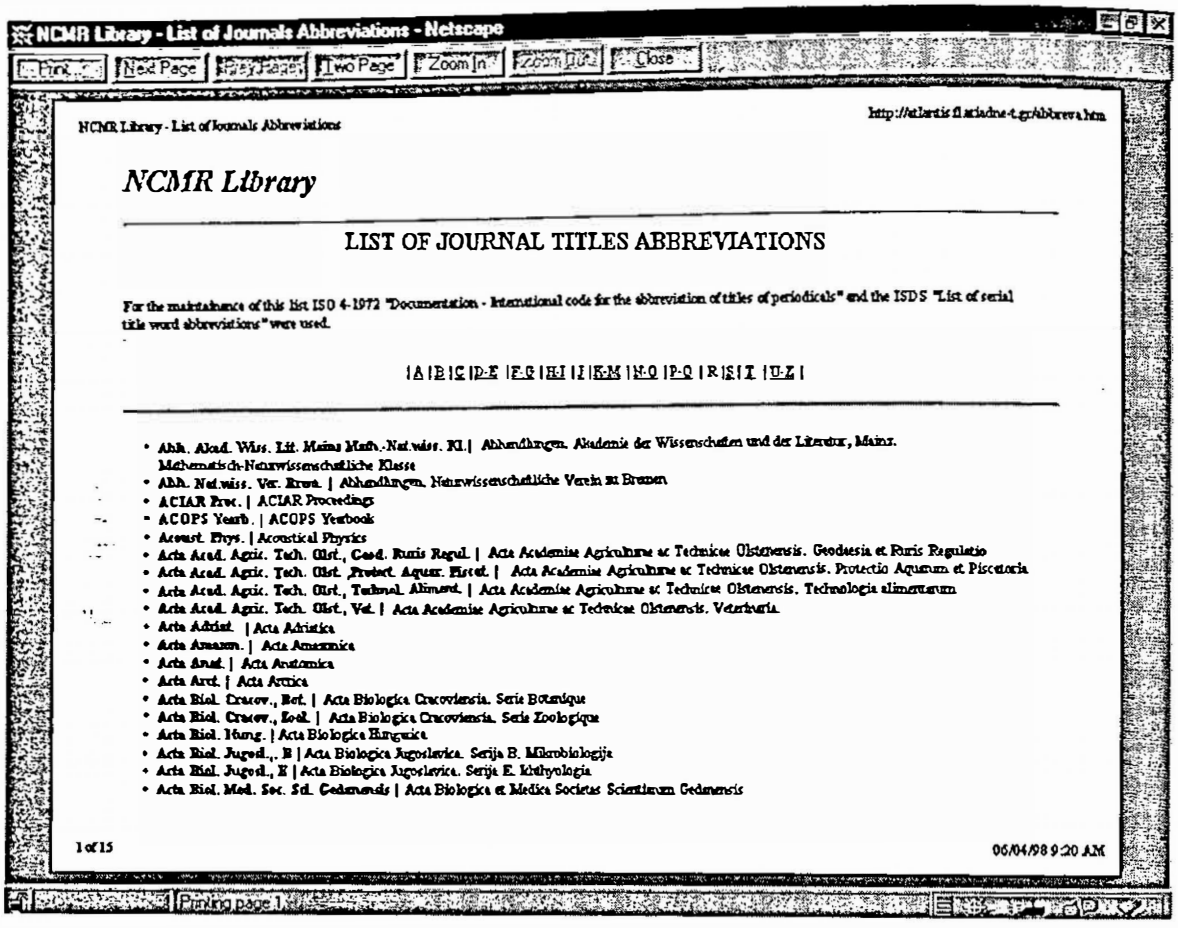
6a. Acronyms



One-way correspondence between the acronym and the full nomination of the Organization or the Society or other relevant projects are given8. In the days to come this correspondence will be two ways to help minimize the search time.

[8] Including the URL address where available

6b. Journal Titles Abbreviations



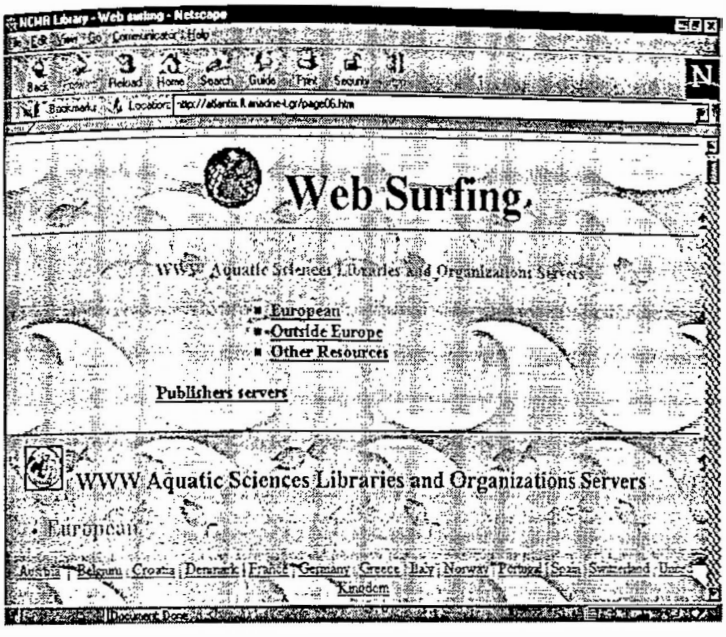
Having the abbreviation of a journal title, it's not easy to locate the full name of the journal. Sometimes, even the opposite is needed. Scientists believe that is a waste of time to search for the proper title of a journal. Therefore, we created this site, to facilitate their search. It's easier to have the abbreviation "ready to use" instead of creating it from the start word by word. For the maintenance of the list ISO 4-1972 "Documentation - International code for the abbreviation of titles of periodicals" and the ISDS "List of serial title word abbreviations" were used.

The search to this site is operated in alphabetical order. You select a letter and search alphabetically the journals until you reach the one you want.

In the future a database will be formed with access to the journals either by the abbreviation or by the full name or even part of their name.

7. Web surfing

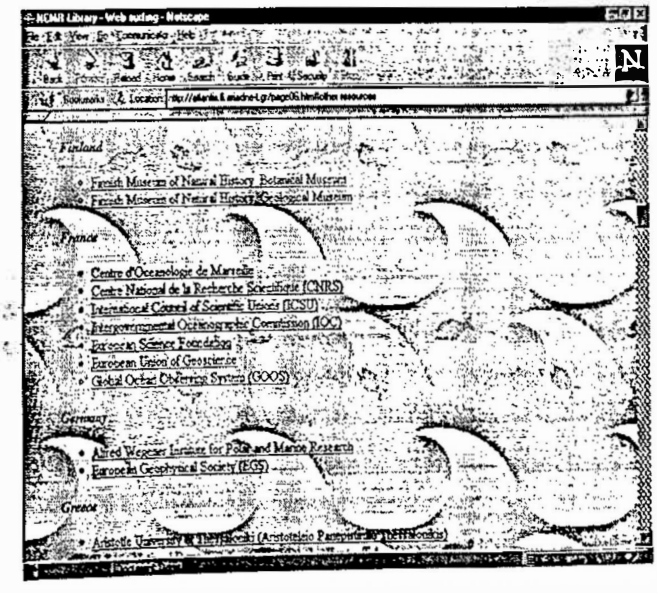
Concluding we would like to present you our Web surfing page.



The purpose of this site was to give grouped related information on other Libraries or Institutions', publishers' and resources such as Indexes and Dictionaries on the Web.

The method of classification is offered in 3 ways. First, a general grouping. Then, general headings dealing with the continent they belong. Thirdly, the general servers were grouped using the country's name as a heading.

Indexes and Dictionaries that are included under the Heading "Other resources" are grouped all together in an alphabetical order. The same applies to the heading "Publishers servers".



EPILOGUE

In the future primary priority will be given in creating an Address Book about Libraries relevant to marine sciences and including it in our Home Page. Furthermore we plan to create a Guest Book where readers can write their comments about our pages. Finally, we will try to evaluate the usefulness and applicability of an Inquiry Desk providing the facility of asking specific questions and getting ad hoc responses.

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2. Baron, Joan (1996). A fish's eye view of information': development of the CEMARE web pages. *CEMARE Miscellaneous Publication* No.**35**. Paper presented at the sixth meeting of the European Association of Aquatic Sciences Libraries and Information Centres (EURASLIC), 25-26 April 1996, Valletta, Malta, p. 17-20.

3. Pissierssens, Peter (1996). IOC's World Wide Web Server. **In:** *Proceedings of the 6th Meeting of the European Association of Aquatic Sciences Libraries and Information Centres (EURASLIC), 25-26 April 1996, Valletta, Malta.*, p. 61-69.

Proceedings of the 7th Biennial Meeting of EURASLIC. Athina, Greece, 6-8 May 1998. p.173-180

BALTICSEAWEB : an information system about the Baltic marine environment

by

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ABSTRACT

Geographic user interfaces have been created to bibliographic information on environmental conditions of the Baltic Sea in a project, BALTICSEAWEB, within the Libraries sector of the EU Telematics Applications Programme. Two versions of a map-based search interface have been developed which allows searches to be made in a database of more than 11,000 bibliographic records, using a WWW based search form which can modify the searches. In addition, a number of original documents have been made available in electronic form so that the user can not only retrieve bibliographic records but also original documents. BALTICSEAWEB offers environmental information on the Baltic Sea through a user-friendly and well-structured geographical interface. Users are encouraged to comment on the system under development. The home page of the project can be found at URL http://www.baltic.vtt.fi.

INTRODUCTION

The research work carried out on the condition of the Baltic Sea marine environment is documented as research reports, the results are presented in conferences and published as conference papers, articles in scientific journals, books, dissertations etc. An information system related to these publications was created in the late 1970's under the auspices of the Baltic Marine Environment Commission, the Helsinki Commission to offer a concise source of information about the findings related to the Baltic Sea.

National focal points in the countries around the Baltic Sea, i.e. in Estonia, Latvia, Lithuania, Poland, Germany, Denmark, Sweden, Finland and Russia make the selection of information to be inputted to the database. The publications are catalogued, indexed and abstracted according to international standards. The classification of ASFIS, the Aquatic Science and Fisheries Information System, is used for subject headings.

The database has been available on traditional online systems, where searches can be made using a command-based search interface. Printed bibliographies and previously COM (computer output on microfiche) listings have also been compiled of the database.

A user-friendly form-based interface has also been developed and the database has been made available on the Internet. This has greatly increased the usage of the database. A new project was initiated in 1997 for further development of the system. The European Commission within the Libraries sector of the Telematics Applications Programme supports the project, called

BALTICSEAWEB. The project is being carried out by VTT Information Service together with libraries of the Swedish Environment Protection Agency, the Federal Fisheries Research Institute and the Federal Maritime and Hydrographic Agency in Germany. The project started in the beginning of 1997 and its duration is 21 months.

BALTICSEAWEB has two basic aims:

1. To develop a geographic user interface allowing database searching by using maps.
2. To convert original documents into electronic form and link them to the system so that they can be retrieved by clicking the results of a bibliographic search.

DATABASE

The Baltic Marine Environment Database currently contains more than 11,000 references. It covers information on the Baltic Sea, i.e. all marine areas from the Gulfs of Finland and Bothnia in the east and north to the Belt Sea and the Kattegat in the west. It contains references to reports, including 'grey literature', journal articles, books, conference proceedings, dissertations, etc. The subject coverage includes all aspects of the marine environment of the Baltic Sea, for example ecology, fauna and flora, fisheries, hydrography, pollution, environmental impact, research, planning and administrative measures. Information on the database and bibliography can be found in: http://trip.hut.fi/vtt/baltic/intro.html

The database is managed in a commercial text retrieval system TRIP, where a WWW add-on, TRIP-Highway is available. The GIS has been created using standard WWW programming.

USER INTERFACES

The database has currently three different user interfaces available: a WWW-search form and two versions of the geographical interface. The geographical user interfaces developed within the BALTICSEAWEB project are a dynamic Java-applet with scaleable map and a solution with a more static clickable map. The database is a bibliographic database, where information is inputted in fields such as author, title keyword etc. Specific attention has been paid in the geographic indexing of the bibliographic references.

WWW-Search Form

WWW search form is implemented with standard CGI-scripts, which handle the queries between WWW server and the database. The user can either make a global search by searching in every field in the database at the same time or focus the search on a specific field (e.g. title, author, keywords, language, publication year, contributing country, source information). To receive more accurate results the user can combine different fields in the search. The use of Boolean operators is supported.

Different output layouts for displaying the search results are available. The user can receive the bibliographic information of an interesting document either by clicking its title on the list or selecting a continuous output, which displays all references in the hit list in one output file.

The search form can be found at http://trip.hut.fi/vtt/baltic/search.html

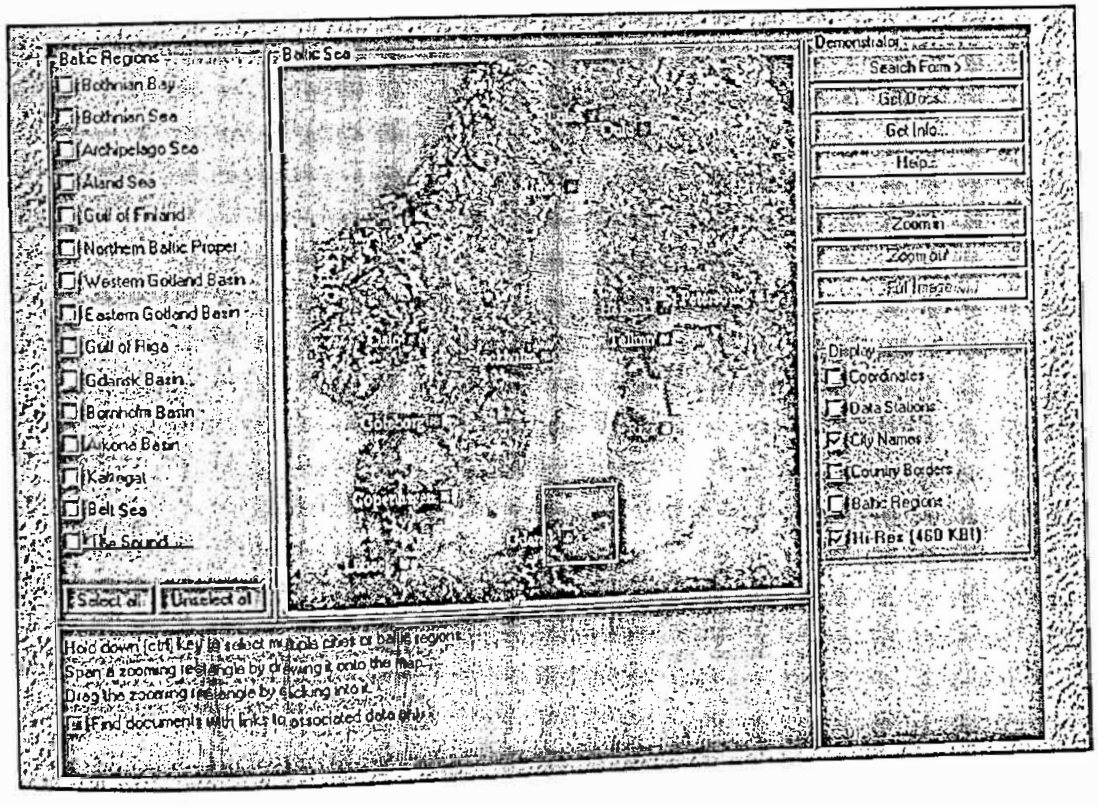
Geographical user interface with Java-applet

The geographical user interface that allows free area selection is implemented with a Java-applet (Figure 1). The user can select multiple regions, cities or monitoring stations from the map. In addition to the geographic indexing elements of the bibliographic records, such as cities, rivers, bays the map also contains the locations of data monitoring stations on the Baltic Sea, which can be displayed.

By drawing an area with the mouse the user can select specific regions, smaller cities or other geographical locations (e.g. rivers, bays) and combine them for a search. After combining different search criteria the user then either submits the query or goes to an advanced search form, where the selected criteria have been automatically transferred.

Links to monitoring data are also enabled. Icons showing monitoring stations on the map are linked to corresponding inventories of monitoring data available on the Internet. The demonstrator is also furnished with a button that offers basic environmental information pages for all major Baltic Sea sub-regions and cities.

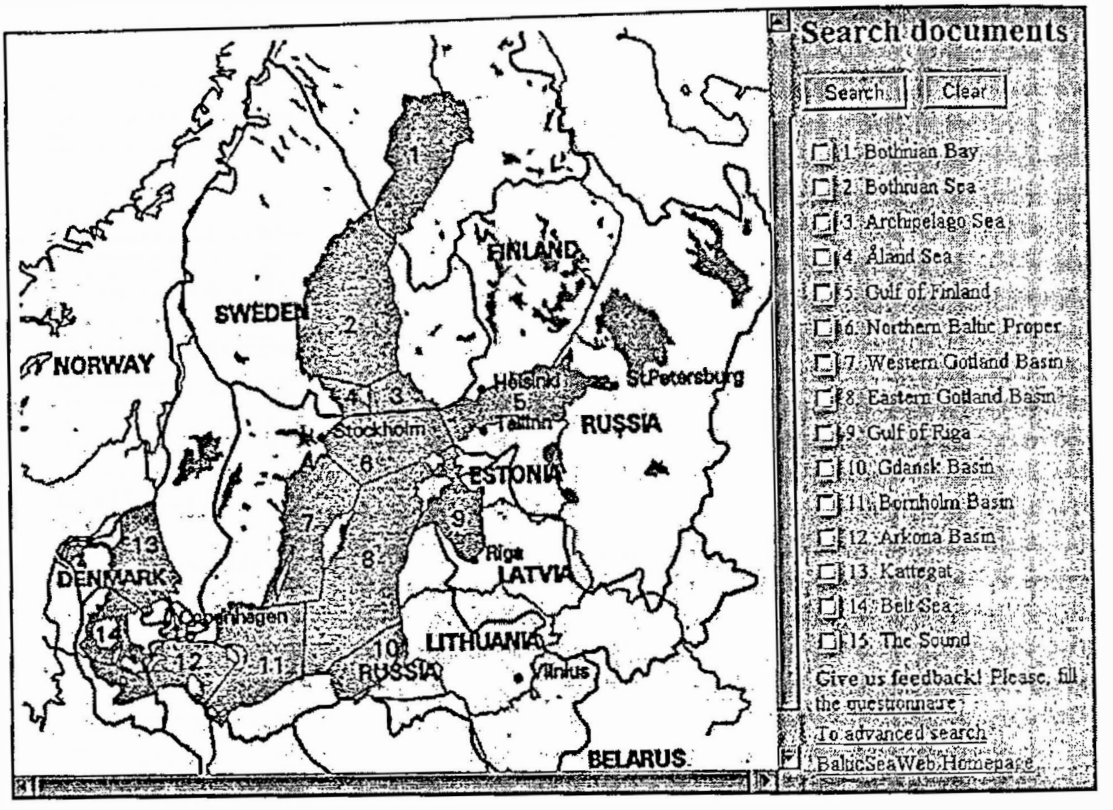
Figure 1. GIS with a Java-applet. Scaleable map allows free area selection, which can be combined also to a selection from predefined Baltic Sea regions. Multiple selections are supported.



Search interface with a clickable map

The other currently supported version of the demonstrator is a clickable Baltic Sea area map (Figure 2). It is implemented with standard (static) Html-pages, without any Java programming.

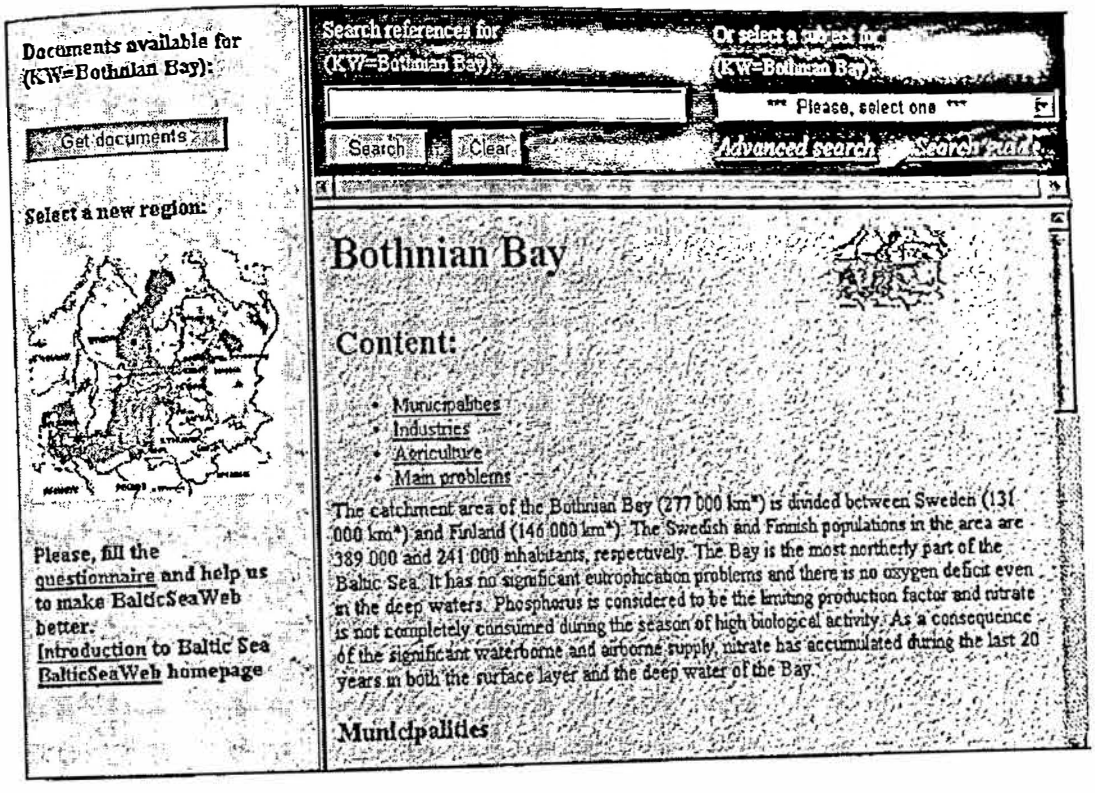
Figure 2. Clickable map allows users to select a predefined region of the Baltic Sea.



The Baltic Sea area is divided into 15 sub-regions according to a scheme used by the Baltic Marine Environment Commission. (The Baltic Sea Joint Comprehensive Environmental Action Programme. Helsinki, 1993, Baltic Sea Environment Proceedings. No. 48) by clicking the map the user can limit the search to a selected region only.

The resulting screen is divided into three windows for documents, references and introductory text (a general description of the local environmental conditions) for the particular area. (Figure 3)

Figure 3. A sub region selected from the main map



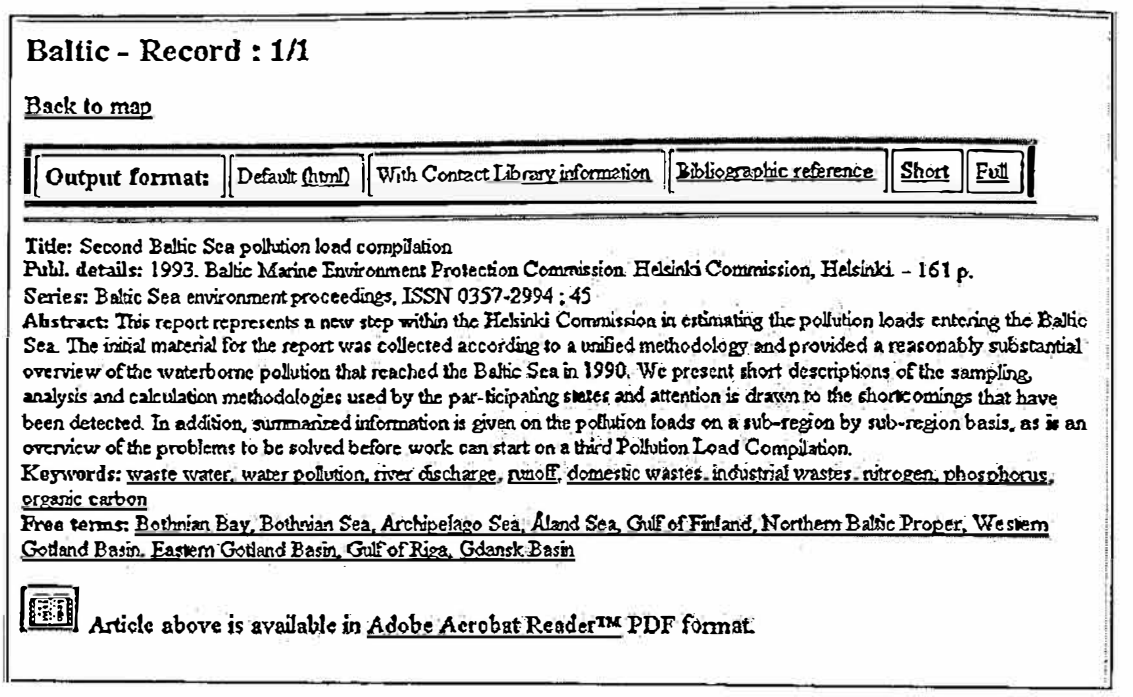
User searching for references can choose a subject descriptor from the menu of ASFA descriptors used for indexing the references or enter any free search term(s). The user can also opt for a query directed to only those regional references which have corresponding full text documents available.

As a result of the search a list of titles of available documents is displayed.

Original documents in electronic format

A number of original documents have been converted into electronic form by scanning. Scanned electronic documents are available in the Adobe Acrobat pdf format, which was chosen because of its many advantages: pdf retains the layout of the original document, it has great popularity in the publishing world and the file sizes are smaller than in e.g. PostScript or TIFF format. In addition, the most common WWW browsers (Microsoft Internet Explorer and Netscape Navigator) support pdf. The availability of the original document in pdf format is indicated in the bibliographic record. (Figure 4)

Figure 4. Reference from the Baltic Marine Environment Database with a link to corresponding electronic document



Baltic - Record : 1/1

Back to map

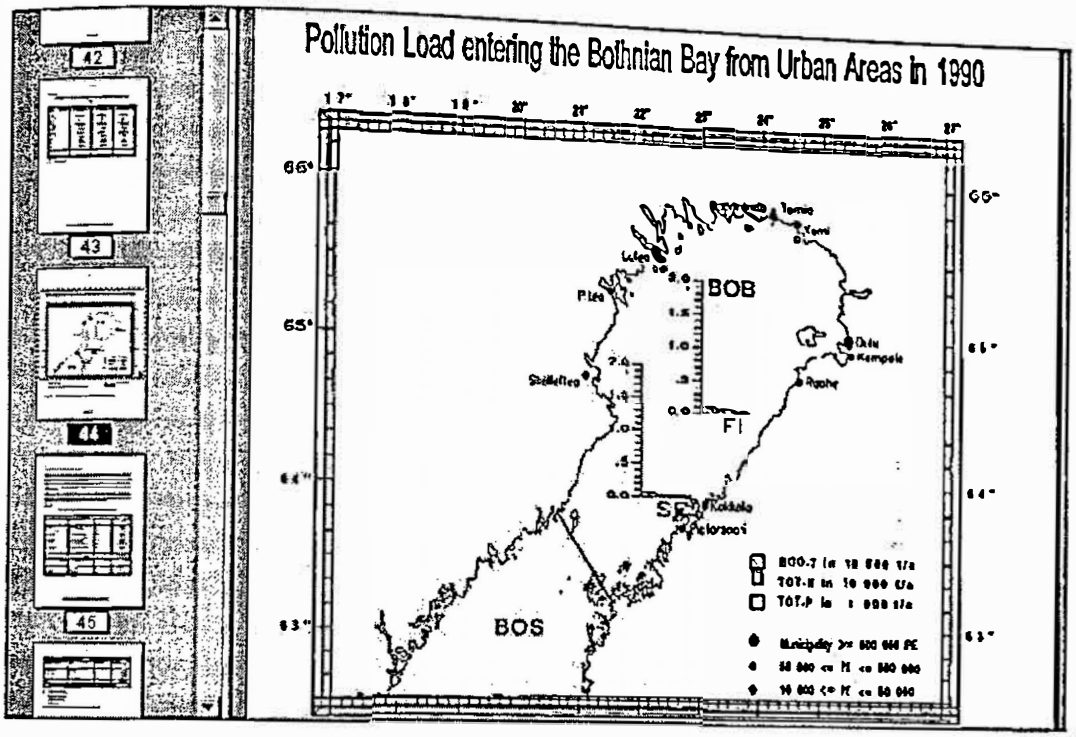
Output format: | Default (html) | With Contact Library information | Bibliographic reference | Short | Full

Title: Second Baltic Sea pollution load compilation
Publ. details: 1993. Baltic Marine Environment Protection Commission. Helsinki Commission, Helsinki. - 161 p.
Series: Baltic Sea environment proceedings, ISSN 0357-2994 ; 45
Abstract: This report represents a new step within the Helsinki Commission in estimating the pollution loads entering the Baltic Sea. The initial material for the report was collected according to a unified methodology and provided a reasonably substantial overview of the waterborne pollution that reached the Baltic Sea in 1990. We present short descriptions of the sampling, analysis and calculation methodologies used by the par-ticipating states and attention is drawn to the shortcomings that have been detected. In addition, summarized information is given on the pollution loads on a sub-region by sub-region basis, as is an overview of the problems to be solved before work can start on a third Pollution Load Compilation.
Keywords: waste water, water pollution, river discharge, runoff, domestic wastes, industrial wastes, nitrogen, phosphorus, organic carbon
Free terms: Bothnian Bay, Bothnian Sea, Archipelago Sea, Åland Sea, Gulf of Finland, Northern Baltic Proper, Western Gotland Basin, Eastern Gotland Basin, Gulf of Riga, Gdansk Basin

Article above is available in Adobe Acrobat Reader™ PDF format.

The software needed for viewing the documents is freely available from the Internet and the link to the downloading site is given. Adobe Acrobat Reader allows browsing the document e.g. with help of the thumbnail images of the pages (Figure 5). References in the database include also links to other relevant electronic full text documents on the Internet.

Figure 5. Original document as retrieved from the Baltic Marine Environment Information System.



DISCUSSION

By offering environmental information on the Baltic Sea through a user-friendly and well-structured geographical interface, end-users will have more direct access to the Baltic Marine Environment Database. For example, officials in state and local governments frequently need information on regional environmental problems for decision making. The geographical user interface of the BALTICSEAWEB will provide a tool for accessing this kind of information. Because of the varying quality of the availability of Internet services it was decided to offer two versions of the GIS interface: the simple clickable map and the more sophisticated Java based high resolution GIS.

The documents referenced in the Baltic database have been selected by national focal points. Information about research on the Baltic Sea also appears in other databases depending on the subject matter. Comparisons made have, however, proven that 75% of the material in the Baltic database is unique. The Baltic database obtains much of the material directly from authors, institutes and libraries and to a lesser extent from monitoring journals and serials, which is the main method in the case of large international databases.

In addition to bibliographic references most end-users are interested in also retrieving the original full-text documents. Because of the large number of references (currently more than 11,000) and because of copyright problems all documents cannot be inputted into the system. Scientific journals published by commercial publishers normally do not grant copyright for scanning articles and offering electronic access to them. Reaching thousands of authors for copyright requests is another problem. It seems, however, that a considerable amount of documents can be obtained and converted into electronic form both within the project and afterwards. In addition the printed original

documents are available in the contact libraries in the countries around the Baltic Sea and there is an option in the output forms to obtain the address of the contact library responsible for the particular reference.

Several file formats are possible for storing original documents electronically. Commonly used formats are postscript, pdf, tif and word-processing formats e.g. MS Word or WordPerfect. Printed documents can be transferred into electronic form by scanning. However, scanned documents cause technical problems. The files are often large, they are difficult to handle and their retrieval via the Internet can be time consuming. It would be preferable to receive documents in electronic form from the authors. In the future it would be desirable if the authors, when submitting their manuscripts for publishing in printed journals, would retain a copyright of the electronic manuscript, "compuscript" with themselves, so that it could be offered electronically in information retrieval systems.

BALTICSEAWEB complements a number of other relevant projects, such as MARIS, BALLERINA and EDMED. It can be concluded that the database of the Baltic Marine Environment Protection Commission offers a concise and important source of information related to the Baltic Sea area in a user-friendly way.

ACKNOWLEDGEMENTS

The following organisations have sponsored the development of the Baltic database: The Baltic Marine Environment Commission and the Nordic Council of Ministers. The present BALTICSEAWEB project is being jointly financed by the European Commission within the Libraries sector of the Telematics Applications Programme and by Technical Research Centre of Finland, the Swedish Environment Protection Agency, the Federal Fisheries Research Institute and the Federal Maritime and Hydrographic Agency in Germany.

Proceedings of the 7th Biennial Meeting of EURASLIC, Athina, Greece, 6-8 May 1998, p.181-186

Attaching databases to Web pages

by

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ABSTRACT

An outline is given of the two separate approaches to the publication of databases via the World Wide Web adopted by the NERC Institute of Freshwater Ecology. One approach takes a piece of third-party software to recreate a database (the library catalogue) in web-searchable form, the other uses a script to retrieve individual lines of text from a data file which has had HTML (hypertext mark-up language) codes previously inserted.

INTRODUCTION

One of the most useful applications of the World Wide Web (WWW) is that of facilitating access to local databases. It is also one of the hardest tasks for those new to the creation of web pages. Two approaches adopted by the Institute of Freshwater Ecology (IFE) have proved successful, and they are detailed below.

The first method was applied to the catalogue of the NERC Culture Collection of Algae and Protozoa. When the 1995 edition of the catalogue was published, it was felt that a WWW version would be a useful complement, and an appropriate method of achieving this was sought. As no one involved in the project had any of the programming experience required for building an interface to a database, the web was searched to find out how others had approached the same problem. The result was a simple piece of script, which is placed in the cgi-bin directory of a Unix web server, and is linked to as if it were a standard html file. It can easily be customised to suit local requirements. The data file to be searched can be produced by printing the contents of the database to an ASCII text file, one record to a line, with the appropriate html codes added. In the case of the CCAP data, which was held in a Microsoft Access database, this was achieved by writing a report format, which put the <p> tag at the beginning of each line and a <br> tag between each field. The italic codes around the species names were already present in the database, as were the hyperlinks to the culture media recipes. Six sample records are reproduced below.

<p>Anabaena ambigua Rao 1937
CCAP 1403/7
Isolator: Mitra
Origin: Freshwater; India
Culture: Medium JM; B; cryopreserved
Other: Orig. desig. "Mitra 2"; =SAG 1403-7; =UTEX 1616 as A. sphaerica

<p>Anabaena catenula (Kutzing) Bornet & Flahault 1886
CCAP 1403/1
Isolator:

```
Manten<br>Origin: Soil; botanic garden, Utrecht, Holland<br>Culture: Medium <a
href="http://wiua.nwi.ac.uk/ccap/mediarecipes2.html#jm">JM</a>; B; cryopreserved<br>Other:
Orig. desig. "P36"; =SAG B1403-1; =UTEX 375
<p><i>Anabaena circinalis</i> Rabenhorst 1852<br>CCAP 1403/18<br>Isolator: Fitzsimons
1972<br>Origin: Freshwater; Lough Henney, N. Ireland<br>Culture: Medium <a
href="http://wiua.nwi.ac.uk/ccap/mediarecipes2.html#jm">JM</a>; B<br>Other:  Orig. desig. "FBIU
X6"
<p><i>Anabaena circinalis</i> Rabenhorst 1852<br>CCAP 1403/25<br>Isolator: Jaworski
1980<br>Origin: Freshwater; Blelham Tarn, Cumbria, England<br>Culture: Medium <a
href="http://wiua.nwi.ac.uk/ccap/mediarecipes2.html#jm">JM</a>; B<br>Other:  Orig. desig. "FBA
L351"
<p><i>Anabaena cylindrica</i> Lemmermann 1896<br>CCAP 1403/2A<br>Isolator: Chu
1939<br>Origin: Freshwater; pond, Surrey, England<br>Culture: Medium <a
href="http://wiua.nwi.ac.uk/ccap/mediarecipes2.html#jm">JM</a>; B; and cryopreserved<br>Other:
=SAG 1403-2; (?)=UTEX 1611; =PCC 7122
<p><i>Anabaena cylindrica</i> Lemmermann 1896<br>CCAP 1403/2B<br>Isolator: Forest
1964<br>Origin: Freshwater; England<br>Culture: Medium <a
href="http://wiua.nwi.ac.uk/ccap/mediarecipes2.html#jm">JM</a>; B; cryopreserved<br>Other:
=UTEX 1609; derived from CCAP 1403/2A
```

The script which searches the data file is reproduced here:

```
#!/bin/sh
echo Content-type: text/html
echo
if [ $# = 0 ]
then
  echo "<HEAD>"
  echo "<TITLE>Strain Data search</TITLE>"
  echo "</HEAD>"
  echo "<BODY bgcolor="#ffffff">"
  echo "<H1>Strain Data search</H1>"
  echo "Enter your search term(s) in the search field.<P>"
  echo "You may search for genus, species, authority or any word that may appear in the record.<br>"
  echo "This is a case-insensitive substring search."
  echo "<ISINDEX>"
  echo "<a href="/ccap/ccaphome.html"><img src="/ccap/ccapsml.gif"></a>"
  echo "</BODY>"
else
  echo "<HEAD>"
  echo "<TITLE>Result of search for \"$*\".</TITLE>"
  echo "</HEAD>"
  echo "<BODY bgcolor="#ffffff">"
  echo "<H1>Result of search for \"$*\".</H1>"
  grep -i "$*" StrainData
  echo "<hr><h1>New Search</h1>"
  echo "<isindex>"
  echo "<a href="/ccap/ccaphome.html"><img src="/ccap/ccapsml.gif"></a>"
  echo "</BODY>"
fi
```

When opened by a web browser, each line beginning with the word echo is sent back to the browser, so the embedded codes produce an html file, with the <isindex> tag producing a form. The first half of the file (down to the line else) produces a page that looks like figure 1.

The term entered in the box is searched against the text file previously exported from your database, and any lines containing that term are returned in a new page (figure 2).

The second approach adopted was to download a piece of third-party software via the WWW. This package, WebSuite Start, is (at the time of writing) freely available to any library from the URL http://www.bestseller.com/

WebSuite operates by generating a set of index fields from a tagged data file. The IFE library catalogue is currently held in a CDS/ISIS database, and a print format was written to produce a complete listing of the database contents in a tagged format, such as:-

Title :The restoration of the Clyde River
Author(s) :Hammerton D.
Date :1997
Source :River quality: dynamics and restoration (ed. Laenen A., Dunnette D.A.) p423-433. Boca Raton, Lewis Publishers.
Subject code(s) :7G1 : 9F4 : 9G2
Shelfmark :RI.F7.274
Category :BL/RL
Waterbody :Strathclyde: Clyde River
Region :Scotland

Title :Solving turbulent flows using finite elements. [Closure]
Author(s) :Finnie J.I.
Date :1992
Source :Journal of Hydraulic Engineering 118(12) 1700-1701
Subject code(s) :1D0

Title :COSHH in laboratories
Author(s) :Environment, Health and Safety Committee of the Royal Society of Chemistry
Date :1996
Publisher :Cambridge, Royal Society of Chemistry, 32p
Subject code(s) :9EN0
Shelfmark :B2.12C(131)

Title :Phosphorus removal and recovery technologies
Author(s) :Brett S., Guy J., Morse G.K., Lester J.N.
Date :1997
Publisher :London, Selper Ltd, 152p
Subject code(s) :9ES0 : 9ES7
Shelfmark :RI.F6.30
Category :RL

WebSuite takes this file and creates a set of index files and html files from it. These are simply transferred to the web server. An initial search page is created automatically (figure 3), from which one search index is selected, *e.g.* author, title, *etc.* The records retrieved are displayed ten titles at a time, each title being a hyperlink to the complete record. One bonus of this approach is that index terms can be designated as hyperlinks themselves, enabling the user to retrieve other records using

the same term at the click of a mouse. This has proved particularly useful at the IFE, where water body names are added to the catalogue records using the standard ASFIS arrangement (*e.g.* Cumbria: Duddon River) (figure 4).

The two approaches detailed above have worked well at the IFE, in two different applications. The first, where it was possible to construct a relatively small database (ca. 2,000 records) with html codes placed in the records themselves, and the second for a much larger database (150,000 records) which would have been far too large for the first approach. It must be emphasised that many other methods of publishing databases on the web are available, some commercial, others not. The WWW is itself a rich source of information on this subject, with increasingly inventive and innovative solutions being applied.

Figure 1

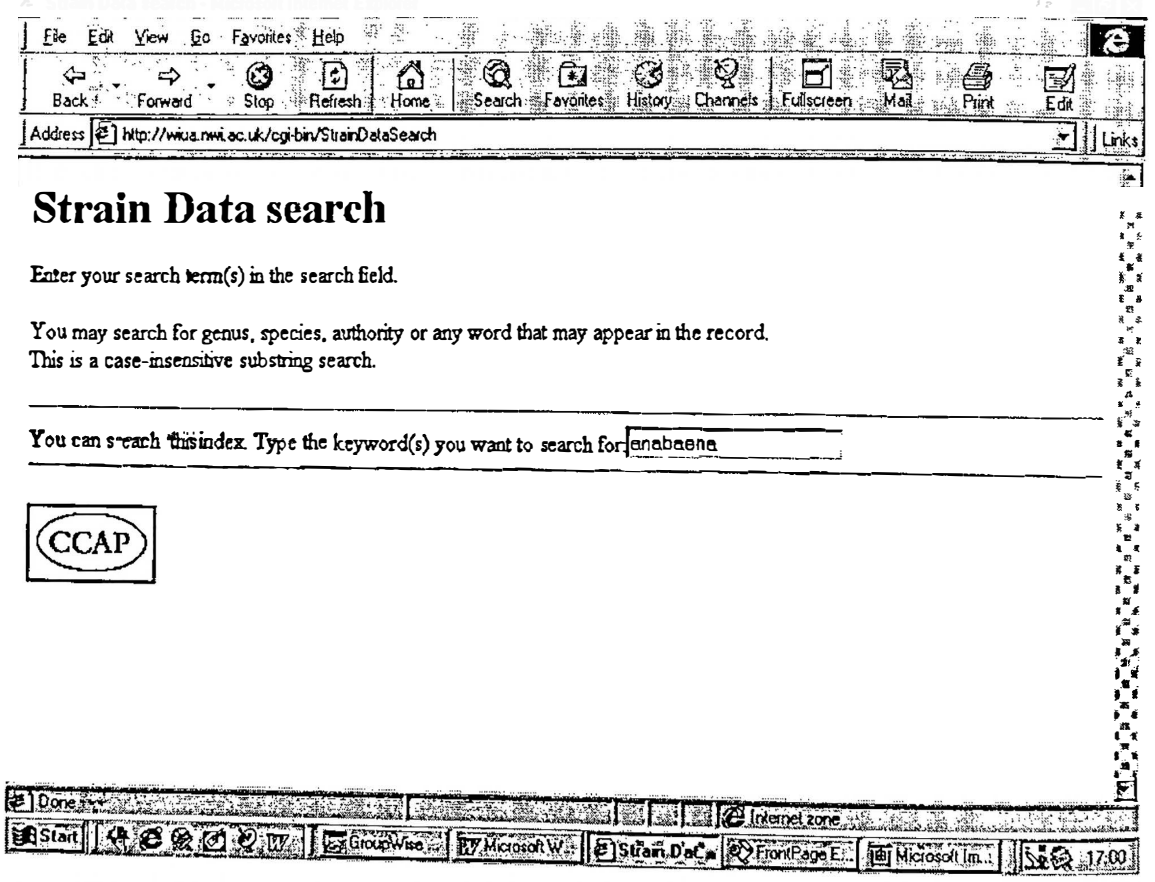


Figure 2

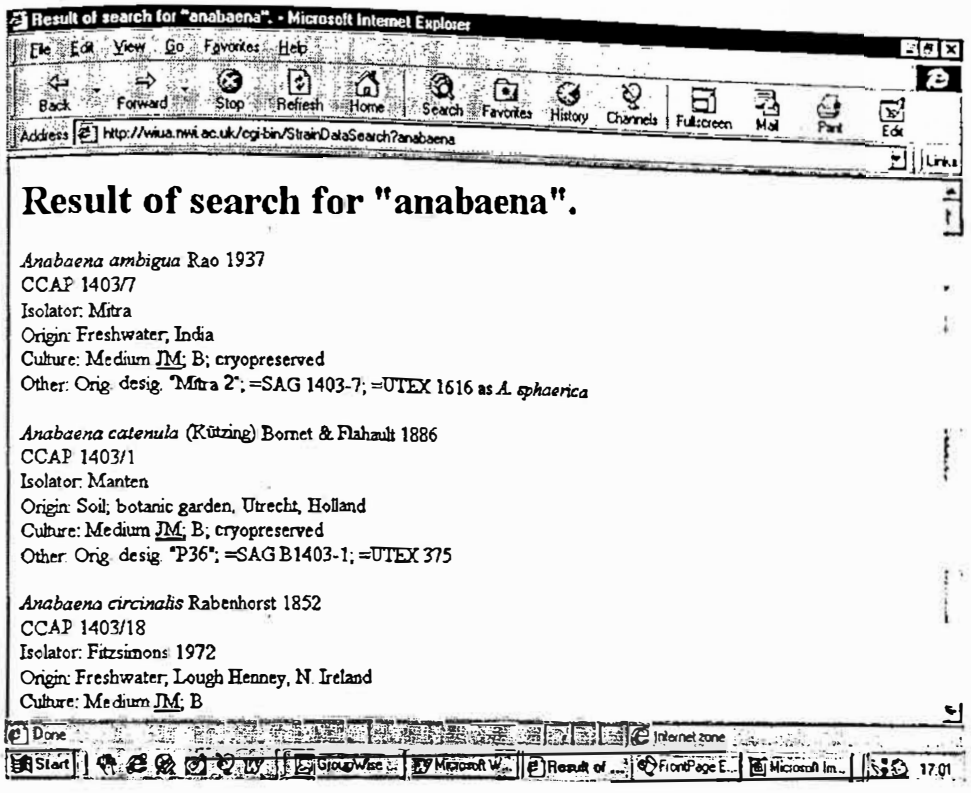


Figure 3

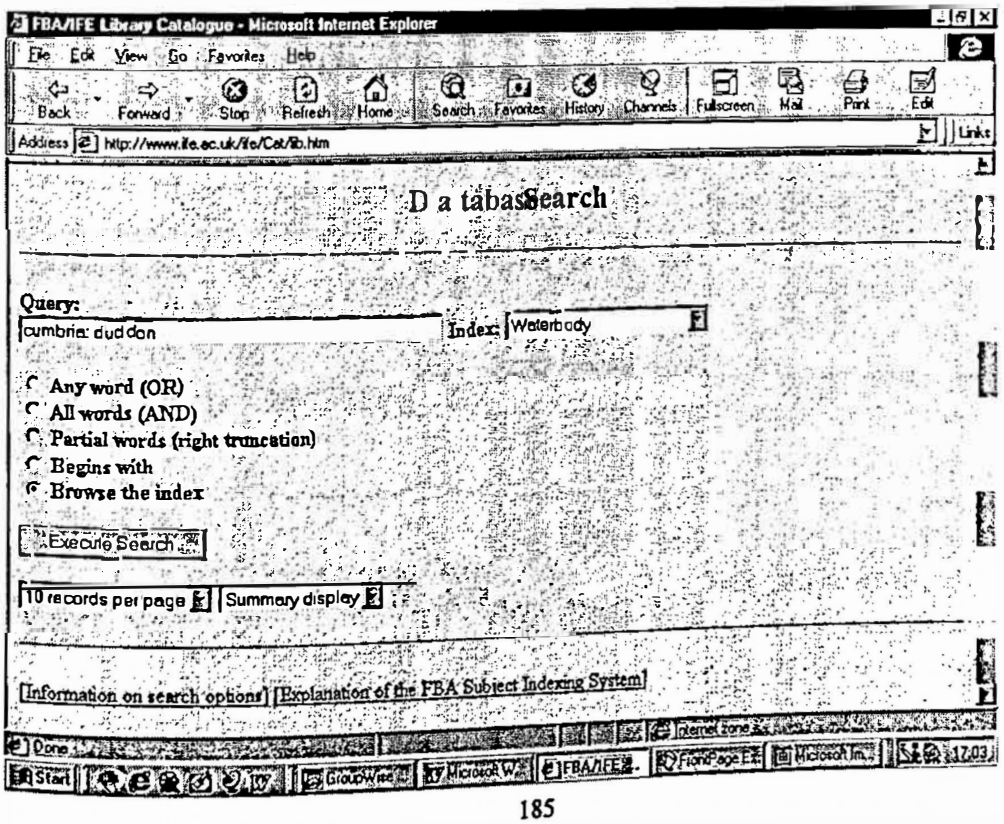
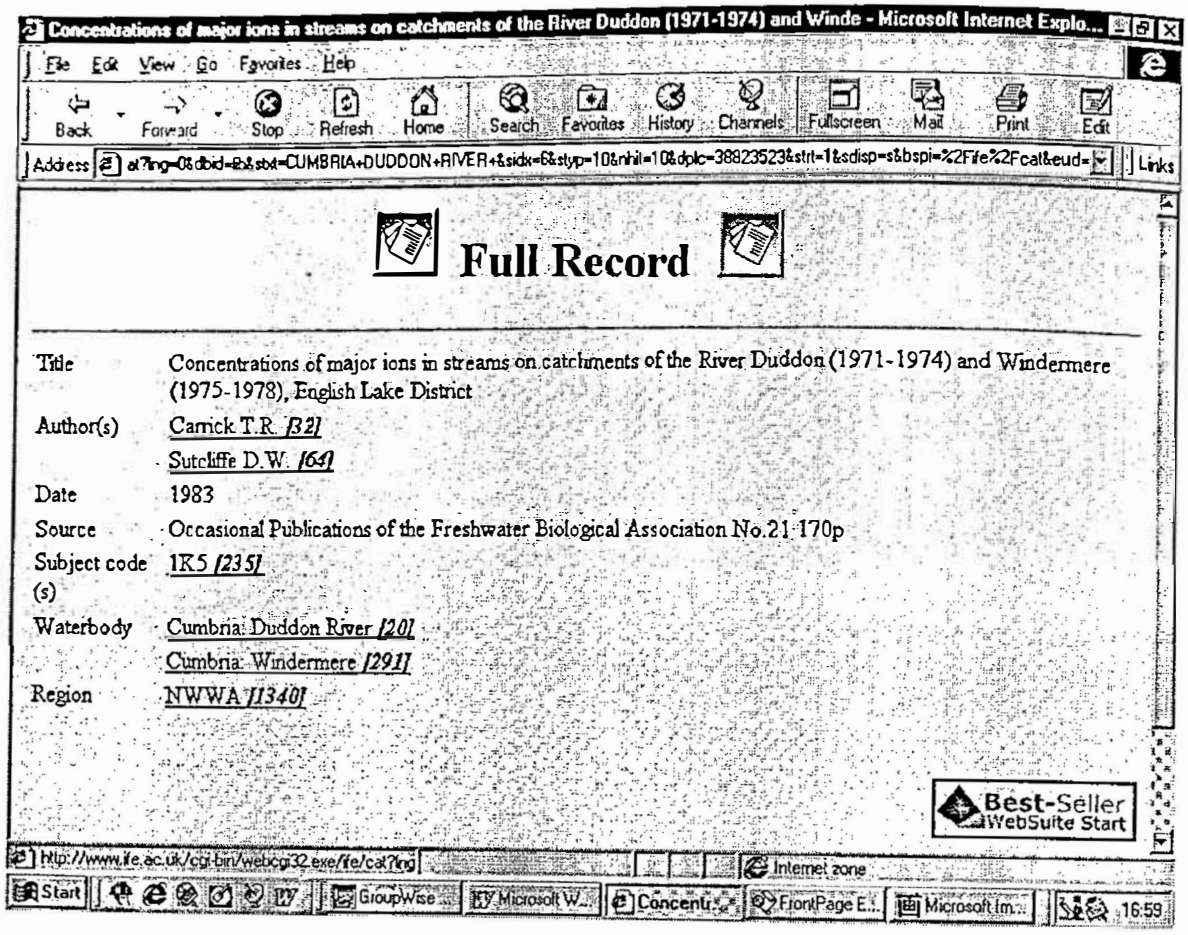


Figure 4


Concentrations of major ions in streams on catchments of the River Duddon (1971-1974) and Winde - Microsoft Internet Explo...
File Edit View Go Favorites Help
Back Forward Stop Refresh Home Search Favorites History Channels Fullscreen Mail Print Edit
Address
Links
Full Record
Title
Concentrations of major ions in streams on catchments of the River Duddon (1971-1974) and Windermere (1975-1978), English Lake District
Author(s)
Carrick T.R. [32]
Sutcliffe D.W. [64]
Date
1983
Source
Occasional Publications of the Freshwater Biological Association No.21 170p
Subject code (s)
1K5 [235]
Waterbody
Cumbria: Duddon River [20]
Cumbria: Windermere [291]
Region
NWWA [1340]
Best-Seller WebSuite Start
http://www.ife.ac.uk/cgi-bin/webcgi32.exe/ife/cat?ing
Internet zone
Start
GroupWise
Microsoft W...
Concentr...
FrontPage E...
Microsoft Im...
16:59

Country and Institution Reports

Proceedings of the 7th Biennial Meeting of EURASLIC, Athina, Greece, 6-8 May 1998, p.189-190

Scientific Library of the Institute of Biology of the Southern Seas National Academy of Sciences of Ukraine

by

Olga Akimova
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The Scientific Library of the Institute of Biology of the Southern Seas (IBSS) is the oldest among the Academic Libraries of Ukraine. It was founded in 1871. From early days the principal aim of acquisition has been collecting every book or paper published about the hydrobiology and ecology of the Black and Azov Seas. Another aspect is complementing the stock with publications related to hydrobiology, oceanology, ichthyology, microbiology, parasitology, radioecology and pollution of the Worlds Oceans. The treasured possessions of the library are contributions from private libraries made by prominent hydrobiologists. The oldest portion of the main stock comprises books published in Russia and abroad between 1766-1880. Native and foreign journals have been collected for a long time. The scientific literature stock represents a rich diversity of disciplines and related aspects and numbers 150,000 titles including 75,000 in foreign languages.

The library offers services to researchers from every concerned Institute or Institution, students, schoolchildren and non-governmental ecological organisations.

Information databases of the library divide into internal and external:

•Internal information databases contain traditional catalogues and card files. Several reference books have been compiled and printed, namely "The Biology of the Black and Azov Seas" covering relevant literature published in 1917-1988 -- "Anthropogenic eutrophication of the Black Sea and its effects."; "Hydrogen sulfide of the Black Sea." Creation of electronic databases started in 1995 (software CDS/ISIS) and includes "The Library catalogue", "The catalogue of works of researchers of IBSS", "The catalogue of publications of Sevastopol Biological Station - Institute of Biology of the Southern Seas." and the List of Serials.

•External information databases comprise journals of *Abstract of VINITI* (ALL-Union Institute for Scientific and Technical Information, Moscow, Russia), the last issue dated 1994; *ASFA* (Aquatic Sciences and Fisheries Abstracts) paper version published in 1971-1995; *Current Contents: Agriculture, Biology and Environmental Sciences* (paper version for 1990-1996); CD-ROM ASFA (*Aquatic Sciences and Fisheries Abstracts*) electronic information and *reference database* covering the period of time from 1988 to 1996 Scientific Library of IBSS has an access to INTERNET.

INVOLVEMENT OF THE LIBRARY IN INTERNATIONAL ORGANISATIONS

The Library is a member of the working group on the preparation of bibliographic data for the database of the monthly abstract journal ASFA (*Aquatic Sciences and Fisheries Abstracts*) printed as a paper version and as a CD-ROM version. Organisations involved in the work are the Aquatic Sciences and Fisheries Information System (ASFIS), the Food and Agriculture Organisation of the United Nations (FAO/UN), the Intergovernmental Oceanographic Commission (IOC), the United Nations Educational Scientific and Cultural Organisation (Unesco), the United Nations Environment Programme (UNEP) and the publisher, Cambridge Scientific Abstracts.

The library of IBSS is an associate member of the European Association of Aquatic Sciences Libraries and Information Centres (EURASLIC).

The staff work at keeping in order and exploring diverse materials and photocopies of documents related to the history of IBSS and its Scientific Library.

A recent contribution is the manuscript "*From intention to implementation: how Sevastopol Biological Station was founded and developed into the Institute of Biology of the Southern Seas*" submitted by Alevtina G. Sivtsova, an enthusiastic supporter of the library. Among recent publications on the past and the present of the institute's library are the following:

- Sivtsova, A.G., and O.A. Akimova, 1996. 125 years of scientific Library and Institute of Biology of the Southern Seas, *Bibliotechni visnik*, no.4, p.27-30. (in Ukrainian)
- "The Bibliography of Publications of Sevastopol Biological Station - Institute of Biology of the Southern Seas National Academy of Sciences of Ukraine (1871-1996)", *Gydrobiologicheski zhurnal*. -1996, **32(6)**:84-105 (in Russian).
- Akimova, O.A. and O.V. Klimentova (1996). Institute of Biology of the Southern Seas and its Scientific Library: 125 years of Tradition and Progress. In: Moulder, D.S., Djorup, K. and Heath, S. (eds) *Proceedings of the Sixth Meeting of the European Association of Aquatic Sciences Libraries and Information Centers (EURASLIC)*, Valletta, Malta, 25-26 April 1996. Plymouth: Plymouth Marine Laboratory. p.105-106.
- Akimova, O.A. (1996). "Marine and Aquatic Libraries of Ukraine - Today". *"Information Across the Waves: The World as a Multimedia Experience"* Proceedings of the 21-st Annual Conference of IAMSLIC held 8-12 Oct., 1995 at Southampton, England - Fort Pierce, Florida: IAMSLIC, 1996. - p. 45-47.

Ms. Akimova gives much time to developing international relations with the aim to benefit from the experiences gained by her colleagues in the West and to inform them about Marine Scientific Libraries of the Ukraine. The Scientific Library is now the centre destined to unite marine libraries of Ukraine into a well-coordinated system. The recent project outlines the range of works and services to be provided by marine libraries to institutes of Ukraine. The most urgent goals to be achieved are wider employment of computers and computer-based techniques and development of home on-line networks.

Staff in the library comprise six trained librarians with a knowledge of English, French and German.

Use of Computer Systems:

Computers: AMD K5-100, 8 Mb, and HDD 850 Mb
AMD K5-70, 8 Mb, and HDD 320 Mb

Software: Word-processing: Word for Windows version 7 0

Library databases: CDS/ISIS version 3.7

Proceedings of the 7th Biennial Meeting of EURASLIC, Athina, Greece, 6-8 May 1998, p.191-192

Greece: country report

by

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INTRODUCTION

The NCMR/Library covers the following subjects: oceanography, marine geology, environment, pollution, ichthyology, ichthyopathology, fisheries, limnology and aquaculture. Its main objective is to collect and disseminate scientific information on aquatic sciences.

The Library's mission is to serve the Greek and International scientific community on aquatic sciences, who are: marine scientists and technologists; policy makers and managers; graduate and postgraduate students engaged in research work; and the general public.

1996-1998 LIBRARY ACTIVITIES

In order to provide integrated support to our users, especially to NCMR scientific personnel that work in both buildings[1] the Library uses a set of bibliographic databases using CD-ROMS and specific programs. The CD-ROM database includes among others:

a) Aquatic Sciences and Fisheries Abstracts

b) Marine Geological and Geophysical Data. Deep-Sea Drilling Project

c) Oceanographic Literature Review

Furthermore, GEAC's Advance supports library holdings and collections such as books, periodicals, reprints and special collections on Greek waters and expeditions. This integrated software supports all library functions in a machine-readable form such as cataloguing, acquisitions, circulation and serial control, and OPAC. Up to now 10,000 entries can be found in the database and our effort of retrospective cataloguing is still in progress.

In addition to the activities that the Library is currently engaged in we were able in the last couple of years to achieve the following:

- Access to library's catalogue via Internet
- Access to library services via WWW
- Compilation of bibliographies using the Library's bibliographic databases
- Information on new acquisitions via Electronic Information Bulletin (Intranet)
- Interlibrary Loan Services including obtaining copies of scientific papers through the Greek Scientific Libraries Network as well as directly from distribution Centres abroad
- Availability of the Greek Waters database in print or on-line

[1] With a 12km distance from each other

- Offering bibliographic seminars on Aquatic Sciences
- Worldwide distribution of NCMR publications

A special initiative began at the end of 1997, to become an Input Centre to ASFA[2] our contribution is the selection and documentation of publications printed and published in Greece.

Finally, the Library participates in the following projects either as a national partner or as an end-user:

- **Library Support at the National Centre for Marine Research:** The objective of the project is the installation of an advanced information system to give to the final user prompt valid and contemporary information.
- **European Marine Directory Project**: Greek participation in the creation of the European Directory of Marine Institutions and Researchers.
- **UNIVERSE**: TELEMATICS Project for direct access to Libraries' Union Catalogues for research, ordering and dissemination of information.

With such an organisation and the previously mentioned activities we expect that not only do we fulfill our task as a scientific library but we also satisfy the needs of the aquatic community in Greece and abroad.

[2] Aquatic Sciences and Fisheries Abstracts Database

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Athina, Greece, 6-8 May 1998. p 193-194

Germany: country report.

News from the Arbeitsgemeinschaft der Meereskundlichen Bibliotheken (AMB)

by

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AMB HOMEPAGE ON THE WEB

Since Autumn 1996 the AMB has its own homepage on the WEB: http://www.fh-wilhelmshaven.de/terramare/amb.htm

AMB MAILING LIST

In Autumn 1996 AMB decided to build up its own mailing list. This list is of great use for all member libraries and helps them improve their services for their clients.

AMB JOURNALS CATALOGUE

Thanks to Bernd Stickfort from the Max-Planck-Institut for Marine Microbiology, Bremen, the AMB Journals Catalogue is published as database on the Web: http://www.gwdu64.de/amb (or via the AMB Homepage).

When the Max-Planck-Institutes Journals' Catalogue was transformed into a WEB database at the Max Planck Computing Centre in Goettingen, it was Bernd Stickfort's idea to use the same program on the AMB's Catalogue[1], which has recently, became an active database.

All AMB members are very pleased with this development, and as it is a great help in exchanging literature it has been decided by AMB that EURASLIC libraries shall also be allowed to use the catalogue.[2]

BIOLOGISCHE ANSTALT HELGOLAND

Since the 1st of January 1998, the Biological Institution Helgoland, Hamburg, became connected with the Alfred-Wegener-Institute for Polar and Marine Research in Bremerhaven.

[1] That could only be used as an alphabetical list.
[2] Interested libraries can contact Barbara Schmidt (Institute for Marine Sciences, Kiel) for conditions, registration, and passwords.

Therefore, the Biological Institution has to move to Bremerhaven and will merge and vanish into the Alfred-Wegener-Institute.

The library of the BAH is the oldest marine science library in Germany. Until today, there appears not to have been any realistic practical plans for the move and further development of this wonderful library. Neither concerning the question of where to place the library, nor concerning the questions of the future management of the two libraries and finally the question of how the integration will be conducted.

This unforeseen development is a big problem for the head of the library, Inka Renckhoff, and for all other AMB members. The reason being is that they fear in the future there will be a large number of gaps in their literature and information exchange.

LIBRARY SOFTWARE

Another current problem for several AMB libraries is the question of a new library software. Ten of them are working with BIS-LOK, (a software), that was developed and supplied by DABIS, a German company in Hamburg.

In 1997 DABIS had to sell the company. The new owner is ExLibris[3] from Tel Aviv, Israel. ExLibris/ExL has its own library software called ALEPH/ALEPH 500, which is an integrated software for large university libraries and their local network. BIS-LOK will be kept for small libraries, it will only be slightly developed, and there will be no changes to its present functions. This is the present situation that AMB libraries have to deal with, and the decision seems to be a hard one. Therefore they are thinking of creating software that would allow them to build up a union OPAC, which would be a great step forward to improve literature and information exchange.

BIBLIOGRAPHY OF THE HISTORY OF THE OCEANS

The "*Bibliography of the History of the Oceans*" is a supplement to the newsletter "*History of Oceanography*" and was compiled by Mrs. Carpine-Lancre from Monaco until she retired last year.

Now, the compilation of the bibliography is carried out by Mrs. Deborah Day, of Scripps Institution, California. As materials from Germany, Scandinavia, and Eastern Europe are difficult to find, Mrs. Day asked AMB members to help and care for the input of these materials. This would be a huge task for one library/librarian because of the geographically wide range and all the different languages.

Therefore, the AMB suggests that regional libraries collect the Scandinavian and the East European materials, while Mrs. Annemarie Schroeder will collect the German materials[4].

[3] The name of the German group is ExL

[4] Baltic Sea Research Institute, Rostock-Warnemuende

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Poland country report (1996-1998)

by

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In the last two years much attention has been given to the computerisation of card catalogues in all Polish EURASLIC member aquatic sciences libraries. In some of them this process has been completed already, while in the rest it will be finished at the end of 1998.

In April 1997, the 27th annual Meeting of the ASFA Advisory Board was held, for the first time in the history of this institution, at the Sea Fisheries Institute in Gdynia, Poland. All Polish members of EURASLIC participated in this meeting as observers.

As a result of recent organisational and structural changes and a new financial regime introduced by the new Polish government, most of the aquatic science libraries and information centres are faced with many difficulties, which considerably reduce their activities. For example, the budget for 1998 of the SFI in Gdynia has been reduced to 50% compaired to that of previous years and the work of the Library and Information Centre and the ASFA Input Centre have been combined.

In the last two years the library of SFI, as well as the other Polish aquatic sciences libraries, has made good use of the EURASLIC Interlibrary Loans and Lending System, particularly in obtaining those information sources which were not available in Polish libraries. My fellow Polish librarians wish to express their thanks to all those who have helped them in this field.

On the 1st of January 1998 the chief of the Information Centre and Library of the SFI, Henryk Ganowiak, retired after 43 years of professional activity. He has been replaced by Mrs. Brozena Janusz who is well known to members of EURASLIC since the Meeting held in Gdynia in 1994.

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Athina, Greece. 6-8 May 1998, p.197-198

Estonia: Country Report

by

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Estonian libraries are undergoing an intensive transition to the modern information technologies.

In 1995 seven major public and research libraries (the National Library of Estonia, the Library of the Literature Museum, the Library of the Tartu University, the Estonian Academic Library, the Library of the Tallinn Technical University, the Library of the Tallinn Pedagogical University, the Library of the Agricultural University) signed an agreement to establish ELNET, the consortium of Estonian library network. The Government in 1996 approved its Charter. The goal of the Estonian Library Consortium is to organise and co-ordinate the work on library information system design and to solve organisational, legal, financial and other questions which will arise in the course of the work. The INNOPAC system has been selected as the unified integrated system for research libraries.

The development of the Library of the Estonian Marine Institute is bound up with the development of the whole Institute. In April 1998 a new director of the Estonian Marine Institute was nominated. To overcome the permanent financial problems experienced by the Institute during the past few years, a programme to optimise the Institute activities by structural changes accompanied by some staff reduction is being implemented. One more problem that is going to be solved within the next few months is to move the Institute into a renovated building. The Library intends to create better conditions for users and staff as well as for the safety of the collections and hardware at the new location. Unfortunately, the possibilities to enlarge the acquisition amount as well as to purchase the necessary library furniture and equipment are missing until the financial situation at the Institute improves. During the intersessional period (1996-1998) the Library has followed the prestated development strategy. As a result of collaboration with the CDS-ISIS distributor in Estonia two library databases had been modified. Firstly, BIB - the unified database including the data on books and articles from the library collections as well as the publications of the institute scientists irrespective of whether the publications are available in the library (there is a special field in the database worksheet for the mark reflecting the item availability in the library collection). Secondly, PKAT - the database including the data on the library serials holdings. The worksheets of both databases also have a special field for the loan notes.

Starting from Spring 1997 the Library has had access to the Internet. This considerably broadens searching and communication possibilities.

Since September 1996 the Library of the Estonian Marine Institute is the operative Estonian ASFA input Centre. A representative from Estonia has participated in the ASFA Advisory Board Meeting in 1996 and 1997. The decision of the FAO in the Spring of 1998 concerning the direct forwarding of the Estonian input to the Cambridge Scientific Abstracts, omitting FAO checking procedure, is a an acknowledgement of Estonian input quality.

In the area of interlibrary co-operation a number of new exchange agreements have been set up with other aquatic libraries. In 1996 the Estonian Marine Institute librarian visited Finnish libraries (the Library of the Finnish Institute of Marine Research and the Library of the Finnish Environmental Institute). The librarian was invited by the Finnish side to exchange experiences and discuss future co-operation.

An annotated bibliography including scientific publications of the Estonian Marine Institute scientists from 1996 was prepared for the Helsinki Commission. A bibliography including the publications of the MEI scientists from the years 1993-1997 has been prepared for the 5th anniversary of the Institute.

The development of collaboration with other Estonian research and special libraries (the Library of the Institute of Meteorology and Hydrology, the Library of the Institute of Ecology, the Library of the Vortsjarve Limnological Station, the Library of the Ministry of Environment, Estonian Environment Information Centre, Estonian Maritime College) engaged to some extent in aquatic information handling is planned for the near future. The programme of collaboration includes:

- encouraging wider participation in EURASLIC activities by distributing the membership brochure and sharing news about experiences obtained;
- exchange of publications and duplicates;
- compiling a union list of serials and databases;

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Country report for Latvia: library of the Latvian Fisheries Research Institute

by

Ludmila Mihejeva and **Danute Uzars**
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ABSTRACT

This report covers the period from the second half of 1996 to the beginning of 1998 the time between the sixth and seventh EURASLIC Meetings. During this period some changes in the activities of the library were made to enable regular use of the computer for routine tasks such as the preparation of library catalogue, using the UNESCO CDS/ISIS software. The most recent development is that the library now has access to the Internet. Our e-mail address is: library@latfri.lv.

INTRODUCTION

The Latvian Fisheries Research Institute (LATFRI) is the government fisheries research institute. The institute has a tradition in the study of fish biology and ecology, fish farming and fisheries oceanography. The research monitors variability in fish population abundance as well as environmental processes. The institute is involved in international research projects and programmes related to investigations of the Baltic Sea ecosystem. Co-operation is maintained with the International Council for the Exploration of the Sea (ICES), the International Baltic Sea Fisheries Commission (IBSFC) and the Helsinki Commission - Baltic Sea Marine Environmental Protection Commission (HELCOM). Commercial and research vessels, historical fish biology databases, scientific staff and the library support the research activities.

The library collection includes about 12,000 books and current regular series of marine and freshwater fisheries science publications. The periodicals collection consists of 550 titles. The archive contains reports and "grey" literature sources related to this region since 1945.

LIBRARY AND INFORMATION ACTIVITIES

Since1990 the library has been very restricted in being able to subscribe to journals and to purchase scientific books. The funds for the purchase of new books have lately not exceeded $2,000 per annum.

The library has been enriched mainly through donated (free) sets of current publications. With support and help from ICES the main Council publications are available in the library. The Library has at its disposal journals from the UK (*Journal Fish Biology*), Germany, Poland and Finland. Publications of HELCOM and other core publications on oceanography are stored. Customers can

include: students, scientific researchers fishermen and administrators involved in fisheries management.

Up to 1997, our library was functioning in the traditional manner. During recent years it was felt there was an increasing need for access to information and the exchange of documents regarding international fisheries research. Activities for developing of marine information services have found support from the institute's authorities and funds were provided by the National Fishery Foundation. The computerisation of the institute's library was the first step. Now there is a computer (Pentium 166 mHz, 32MB, 1.7,CD, Sound, 17' Monitor) with printer, modem and scanner in library. The computer has a connection to Internet and to the local network of the institute. Our scientists and other users have the opportunity to use the information, entered into the library computer in their working places. The library was provided with the computer program Micro CDS/ ISIS Ver. 3.07C UNESCO 1993. Through the efforts of our programmers the program was adopted for work in the Latvian, Russian and English languages. We have joined the members of the Internet "Discussion group" of the program UNESCO Micro CDS/ISIS users.

After installation of the program CDS/ISIS, all periodicals of the library were entered into a database. At present we are preparing publications lists of the institute scientists. Export and Import functions of the CDS/ISIS program provide the possibility to exchange information with marine libraries. The creation of an electronic catalogue of the library is aimed at in the near future. This year we intend to install the WIN/ISIS program. This will allow users to become familiar with the software, thereby minimising training requirements. Some problems related to program distribution were debated in the "Discussion group" some time ago.

The Institute had the possibility to subscribe to *Aquatic Science and Fisheries Abstract* (ASFA) database on CD-ROM for the years 1978-1997. The users of the database find it very useful, because ASFA on CD-ROM allows quick access to the international aquatic literature.

The library of LatFRI co-operates in information exchange with larger libraries in our country, including the Academic Library and the Latvian National Library. We participate in creating bibliographic indexes of foreign periodicals, which form the basis for interlibrary loans.

The Library of the institute offered its facilities and services to small aquatic libraries such as the library of the Institute of Aquatic Ecology, University of Latvia, and the library of the Hydrometeorological Agency.

Since the last Meeting our activities have been concentrated on the introduction of electronic equipment, and the installation of suitable software and CD-ROM technology in the library. Now most of the users have become aware of the need for current information and fast access to it. Access to the Internet system highlighted some problems. Firstly, lack of experience and the need of certain training to get used to the new type of work, secondly, restricted possibilities to pay a subscription at a high fee for access to a Web Site (we only have access to the full text of the *Canadian Journal of Fisheries and Aquatic Sciences*, which is available free on the Internet).

Since we met in Malta the information services in our library are essentially improved. It would be desirable in the future to establish a co-operative network of regions aquatic libraries. The close co-operation among the institution members of EURASLIC allows us to unite information resources and to integrate small libraries with international systems and electronic networks.

ACKNOWLEDGEMENTS

We would like to take this opportunity to express our sincere thanks to Mr David Moulder and all members of EURASLIC for valuable sponsorship for attending VI and VII EURASLIC Meetings. Mr. Peter Pissierssens is thanked for providing the library with the computer program UNESCO/CDS/ISIS.

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New information service projects in Finland

by

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The Finnish Ministry of Education launched a two way strategy document in order to promote the information society and information technology. The strategies are:

- "Education, Training and Research in the Information Society" (1995)
- "Towards a Culture-oriented Information Society" (1996).

Here are some examples of Finnish information technology projects based on these strategies.

The Virtual Library Project

The numbers of Internet and web-sites has heavily increased during the past few years. There have been many national and international efforts to create easy ways to find valid information in various fields of science. More significantly librarians have been worried about the disorder prevailing on the Internet.

In Finland, the Internet has become very popular and Finland is actually the leading country for Internet users[1]. Finnish Internet users often find global subject indices and search engines too general to satisfy the needs of the Finnish scientific community. Therefore, there was need for more specialised services. The virtual libraries constructed by the Virtual Library project (http://www.jyu.fi/~library/virtuaalikirjasto/engvirli.htm) form a foundation for a Finnish field-specific subject index or subject gateways.

There were at first five Finnish university libraries in this project in 1996. The grant for the project was about 400,000 FIM for the year 1996. There came three new partners at the beginning of the 1997 and the grant of that year was 650,000 FIM.

This year there is no Ministry grant and each of the partners have their own budget for their project.

The aim of the project was to improve and increase the use of net data especially in higher education in Finland. The project carried out an inventory of data available on the net and developed user-friendly, subject-specified virtual libraries.

The main material types which are collected and evaluated in the Virtual Library, are

1. Journals and other electronic publications
2. Databases and bibliographies

3. Experts organisations
4. Newsgroups and mailing lists
5. Link collections.

The Virtual Libraries are used in real information searches, but they are also very useful as self-study materials. They are a guided way to learn the networks and may encourage independent information searching. They are an efficient and easy-to-use way to learn networks and electronic materials. Learning by doing is more efficient than lectures and demonstrations.

The Finnish Virtual Library Project is a good example of a national cooperation between libraries representing various fields of sciences. The project will continue this year.

National Electronic Library

Finland is already well along the road in the field of telematics. We have a very effective network between special, university and public libraries. The aim of the project National Electronic Library is to add the well-arranged scientific data corresponding to the needs of the users to the net connections and other technical infrastructure. The information is both national and international, including special databases and reference databases, electronic documents from multimedia to electronic learning materials and also other net material. The practical coordination is in the hands of the national library, the Helsinki University Library, and the administration is carried out by the Ministry of Education.

ELEKTRA

ELEKTRA electronic publishing and network access of publications (http://linnea.helsinki.fi/elektra/english.html) - is a joint project by libraries, publishers, learned societies and copyright organisations. It aims at enhancing both the services and the technical and contractual conditions of electronic publishing and providing network access to electronic publications in Finland.

These three projects are mainly coordinated by the university libraries. What about the area of my own, the special libraries in Finland at the moment? The special libraries in the area of aquatic and environmental sciences have their own ministries and budgets, not the common Ministry of Education, as the university libraries. This is a problem but also a challenge. As an example the Finnish Environment Institute is a part of the Ministry of Environment and Finnish Institute of Marine Research belongs to the area of the Ministry of Traffic. Special libraries depends more upon active voluntary cooperation e.g. information services, interlibrary loans, new projects, like using electronic journals, and we also keep each other up-to-date and give mental support. Our vision is to make a Finnish environmental web-site with national environmental information, e.g. OPACs of each special library. The first step is almost reached; many of the special libraries have already a collection database in the net. Our second aim is to become more closely connected with university libraries, because we all have the same target in the national information policy and partly the same clients; students and the personnel of universities.

Library and information service in Finnish Environment Institute: a country report

Finnish Environment Institute (FEI) is a centre for environmental research and development. It provides information about the environment, development of the state of the environment and environmental impacts. It evaluates alternative trends of development and means to act. FEI is also an environmental information centre. It compiles, maintains and gives informative material, which is related to environmental administration issues. Environmental administration is formed by FEI the Ministry of Environment, Regional Environment Centres and also the Ministry of Agriculture and Forestry on matters concerning water resources. There are approximately 500 people working in FEI. The Ministry of Environment also has a library, which mainly offers facilities for the ministry personnel. Additionally, there is a library in each of the 13 Regional Environment Centres.

The library and information service of FEI is scientifically specialised library open for everyone. It works in a close co-operation with other similiar libraries. There are 10 people working in the library. In the library collection there are about 80,000 volumes, about 550 Finnish and international journals and magazines and about 150 video recordings and material in electronic form. The collections contains a set of environmental education for the use of teachers, lecturers and advisers to promote environmental awareness.

Library databases use the TRIP system and they are available on the environmental administration intranet. It will be available on the Internet soon. We provide training for FEI personnel on the use of TRIP databases, Internet and CD-ROM databases and for paying outside customers. The training days in "How to get environmental information from the Internet" have been very popular. In general can be said that the development in library and information service has been very rapid during the past two years. Intranet has became a very important tool for us in sending information for our institute.

The library and information service is the Finnish Centre of Infoterra and the Finnish contact point for the European Topic Centre on Catalogue of Data Sources (ETC/CDS) of the European Environmental Association (EEA). Infoterra is a worldwide environmental information network, which is subordinate to the UNEP, United Nations Environmental Programme.

This year the library and information service has to develop a new concept for customer service. This means, because the task of FEI is to promote environmental awareness in the whole society, we have a lot of outside customers. In the future we have to concentrate more on our institute. For the outside customer we put environmental information on Internet. We have to also strengthen other environmental information distribution channels (e.g. public libraries and schools) in our society.

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Library of the Southern Scientific Research Institute of Marine Fisheries and Oceanography

by

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YugNIRO is a unique Ukraine complex marine fisheries scientific research institute. It carries out scientific investigation of Ukrainian fisheries and fish resources all over the World Ocean, which are of interest for Ukraine. YugNIRO acts as a key institute in Ukraine for all marine fisheries problems, it carries out research in the Black and Azov Seas, on vast areas in the Atlantic, Indian and Pacific Oceans, and in the Antarctic waters. It was established in 1921 as Kerch Ichthyological Laboratory, then in 1933 it was reformed into the Azov Black Sea Institute of Marine Fisheries (AzCherNIRO), and in 1988 it was renamed the Southern Scientific Research Institute of Marine Fisheries and Oceanography (YugNIRO).

The Institute has branches in Odessa, Sevastopol and Berdyansk and many coastal observation stations on the coast of the Black and Azov Seas. Areas of YugNIRO scientific activity include:

- The study of fish resources and resources of non-fish species and oceanographic conditions for the formation and distribution of their commercial concentrations;
- The study of the biological state of the main commercial target species;
- Scientific justification of the rational utilisation and conservation of biological resources in the Azov and Black Seas;
- Ecological control over the state of marine ecosystem;
- Mariculture research;
- The development of technologies for dietary products and feed stuffs, medicinal prophylactic preparations and biologically active matters extracted from water organisms, ecological technologies.

YugNIRO SCIENTIFIC TECHNICAL LIBRARY

The library was established at the same time as the institute - in January 1921. Part of collections in 60 volumes came from the Kerch Branch of the Russian Society for Fisheries and Pisciculture and served as a basis of library. In 1921 the Kerch Branch of People Education donated

to the library books on fisheries (some books were bought, some books were donated by individuals). By the autumn of 1921 there were 611 volumes of books and 37 charts and diagrams in the library.

In 1922, under the order of the Office GLAVRYBA Mr. Meisner, the Kerch Ichthyological expedition received the collections of the deceased ichthyologist F.F. Kavraisky. This collection was bought by GLAVRYBA. This collection comprised 979 volumes in Russian, 911 volumes in English and German, and 82 pages of charts.

In 1925 the library comprised a total of 3670 books and journals. The books on applied ichthyology and fisheries formed the core of the library, with items for the Black and Azov Seas in the majority. At the same time the YugNIRO library had no separate room and it was stored in 6 bookcases in the conference hall. Mrs. Polina E. Sirotko, junior scientist, acted as the librarian and worked in this library for more than 30 years. During the World War II the library was destroyed and the collections were lost.

In 1943 the restoration of the library began when the collections comprised 150 books. The following organisations contributed to the restoration of the library: The All-Union Institute of Marine Fisheries and Oceanography (VNIRO), Moscow, The Arctic Institute (St. Petersburg), institute's staff. Books were bought in second-hand book shops in Moscow and St. Petersburg., and by 1946 the library included 1570 items.

In the coming years the library was greatly enlarged by subscriptions for national and foreign publications and target book' buying. The other sources were gifts from institute staff, similar organisations, international organisations (FAO, UNESCO), and the national centres of many countries (USA, Japan, Holland, Germany, etc.). The library collections include dozens of books and journals published in Great Britain, Germany, Spain, Russia and other European countries at the end of the XIX - beginning of XX century. The origin of those books is unknown.

In 1997 the number of books, journals, manuscripts and other papers was 77413 items. During the last year about 2000 people were serviced.

During the last year the catalogue of the library was increased by 887 cards and it now includes 459282 cards.

At present the YugNIRO library is the main component in the general system of collection, storage and dissemination of information, for YugNIRO activities and subscribers from the other organisations. Besides YugNIRO staff, the scientific technical library provides services for users from the other organisations in the city and Ukraine: commercial fisheries organiations (corporation "Yugrybpoisk", association "Kerchrybprom"), fishery protection authorities (KrymAzCherrybvod), educational institutes (Kerch Marine Technological Institute, Institute of Economics and Economic Law, secondary schools, Odessa and Simferopol State Universities), the Kerch ship repairing plant, and fish processing enterprises (Kerch fish cannery, fish cooperatives). Every week reference days take place, exhibitions of new publications are arranged, and inquiries of personnel via Inter-Librarian Subscription are serviced.

In 1995 YugNIRO joined ASFA as a national partner on the behalf of Ukraine. YugNIRO had first expressed its wish to join ASFA in 1992. After preliminary contacts followed by successful negotiations with the FAO in 1994, and other procedures (preparation of the list of Ukrainian journals to be included in the system of YugNIRO monitoring) the "Partnership Agreement Providing for Cooperation in the Preparation and Publication of the Aquatic Sciences and Fisheries Abstracts (ASFA) and for the Reconstitution of the Advisory Board" was received in February 1995. "Partnership Agreement..." and duly signed by the director of YugNIRO. The signing of the agreement finished de-facto the procedure of formal legalisation of YugNIRO status as a national

partner of ASFA on the behalf of Ukraine. After the signing of the agreement, the preparation of abstracts and accompanying bibliographic information for articles in Ukrainian scientific journals for ASFA began.

YugNIRO library, as a national partner, has available the following ASFIS products: printed ASFA journals, SilverPlatter CD-ROMs 1978-87, 1988 till now, the software WinSPIRS, providing the quick search of required information by any searching criteria. YugNIRO is establishing a network of national collaborating partners. They contribute input for the ASFA Database. The Library of the Institute of Southern Seas (IBSS), Sevastopol, was the first organisation which expressed its wish to join in the work and now it is the first collaborating partner for information preparation for ASFA in Ukraine.

At present YugNIRO and IBSS control and review 17 periodical editions published in Ukraine. Those editions which publish the essays associated with water sciences. They are as follows:

- Algology
- Zoology Herald
- Herald of the Academy of Science of Ukraine
- Geological Journal
- Hydrobiological Journal
- Reports of the Academy of Science of Ukraine
- Microbiological Journal
- Marine Hydrophysical journal
- Proceedings of the Zoological Museum of the Odessa State University
- Native Nature
- YugNIRO Proceedings
- Ukrainian Botanical Journal
- Ukrainian Biochemical Journal
- Ukrainian Geographical journal
- Chemistry and Technology of Water
- Cytology and Genetics
- Ecology of Sea

As a result of the ASFA programme a new computer has been acquired for the library.

At the present time the library faces great difficulties in finding funds for replenishment. The main sources of obtaining the literature are exchange with foreign scientific centres, assistance of international organisations, rather scarce subscriptions, gifts from international scientific centres, and ASFA products. However, we hope that with the development of the Ukrainian fisheries the library will develop more intensively.

The next stages in the library development should be the computerisation of the library catalogue, Internet access, fostering of links between scientific research libraries within the country. And it is likely to expand the coverage and quality of information for subscribers.

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Recent developments relevant to the aquatic sciences in the United Kingdom - April 1996 to April 1998

by

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ABSTRACT

A summary of the overall national position for both the sciences and the libraries is given. This is followed by an outline of the developments in the UK aquatic libraries over the two year period in the government, private and academic sectors. A short section on International matters precedes the concluding remarks.

INTRODUCTION

This report covers the period April 1996 to April 1998. It is not a comprehensive review but it will indicate some of the developments and major trends in Britain and Ireland during the period April 1996 to April 1998.

We will start with a summary of the overall national position for both the sciences and the libraries.

The April 1996 to April 1997 period saw a continuation of the policies under the Conservative government reported at the last EURASLIC conference (1). There was a change of government at the end of April 1997 when the Labour Party was elected with a large majority. Unfortunately, even those scientists who supported the Labour Party recognised that they were unlikely to see any real immediate improvements in the funding and support for science. The increases in the Science Budget have continued to be below the level of inflation and the figures for 1998/99 show an increase of only 0.6 per cent, inline with the plans of the former Conservative government.

However, there have been some small positive moves.

- The new government has announced its intention of rejoining UNESCO.
- Virtually all the members of the new Select Committee on Science and Technology of the House of Commons have qualifications in either science or engineering This growing representation of scientists in parliament has generally been welcomed.
- The pressure to privatise science laboratories has eased although "rationalisation" of laboratories is still being pursued.

In 1995 the Office of Science and Technology was moved from the Department of Education to the Department of Trade and Industry, reflecting the Governments position that science should be harnessed to industry and commerce, not academic intellectual endeavour. In February 1998 a panel of environmental experts has recommended that OST be transferred to the Cabinet Office to be "at the centre of government".

At the national library level there has been a high level of activity despite or even because of funding difficulties.

The last report noted the formation of the government's new body - the Library and Information Commission – although it was too early at that time to assess the effectiveness of this organisation. In general, the British library community has responded enthusiastically to the reports that it has produced for the government over the last two years. These reports have stressed the impact, values and economic benefits of investment in libraries. It is hoped that the new government's response to these reports will be positive. Final proposals on a national library research strategy were put to government in March 1998 and are awaiting approval. The document "*Prospects: a strategy for action*" is available at http://www.ukoln.ac.uk/services/lic/research.

The British Library's move to the new building at St Pancras started in Dec.96 and it scheduled to finish in mid-1999. During this period the library will move some 12 million books, manuscripts and other items and transfer nearly 1000 staff from other London sites.

By the end of the century all British Library services will be offered from three sites: St. Pancras and Colindale (Newspaper Library) in London and Boston Spa in West Yorkshire.

We are grateful to David Hyett and Sarah Honeywood of the Centre for Environment, Fisheries and Aquaculture Science (CEFAS) Lowestoft for resurrecting the Britain and Ireland Association of Aquatic Sciences Libraries and Information Centres (BIASLIC) after a six year break. The 19th Meeting was held at CEFAS on 20th and 21st November 1997 and all those who attended found it to be a useful and productive meeting. A report appeared in *EURASLIC Newsletter* No 17, April 1998.

Although recovery and growth in libraries and information centres is patchy and slow, the general atmosphere seems to be a more optimistic one. This seems to be the case in all sectors; government, academic and the private water supply sector.

The following is an outline of the developments over this two year period in each of these sectors.

GOVERNMENT SECTOR

In my last report (1), I mentioned the 1995 government laboratories "Prior Options" Review which was to re-examine the possibility of selling off these laboratories. This review was split into three parts and the report of the first group was due in early April 1996, the second in July and the third in December 1996. Initially, the government withheld the recommendations from these reports. At the end of January 1997 a wave of relief tinged with irritation flowed through the laboratories at the news that after such a lengthy and disruptive exercise (1993 – 1997), the government had decided not to transfer the laboratories to the private sector. However, there are still some plans being investigated now to amalgamate some laboratories so that they can be run more "effectively".

The Research Councils

All of the marine and freshwater institutes remaining in the research councils are still involved in some aspect of restructuring and rationalisation.

The library services of each Institute have survived so far and they continue to try and push developments ahead despite the unknowns. Within the Natural Environment Research Council both

the Centre for Ecology and Hydrology (CEH) and the Centre for Coastal and Marine Sciences (CCMS) have been looking at library cooperation between their separate Institutes. The CEH has bought the "SIRSI Unicorn" Library Management software to run across all the libraries of its four Institutes

One of the policies of the Conservative Government was to combine Research Institutes and University Departments to create 'Centres of Excellence'. The Institute of Oceanographic Sciences Deacon Laboratory was relocated, with the NERC Research Vessel Services and the Oceanography and Geology Departments of the University of Southampton to a newly built Waterfront Campus called The Southampton Oceanography Centre (SOC). The SOC is a jointly funded venture by the Natural Environment Research Council and the University

Ministry Laboratories

The Scottish Office Agriculture and Fisheries Department, Marine Laboratory in Aberdeen became an Executive Agency of The Scottish Office on the first of February 1997. So far, this has had little impact on the Library. The closing of the Torrey Research Station, Aberdeen in 1996 and the transfer of 14 of their staff to SOAFD Marine Laboratory broadened the subject coverage of the library to include various aspects of fisheries food sciences.

The Centre for Environment, Fisheries & Aquaculture Sciences library at Lowestoft underwent an Information Services review in late 1997 and the outcome was due as this report was being prepared.

PRIVATE SECTOR ORGANISATIONS\WATER SUPPLY

The librarians from the water supply and regulatory bodies of England, Wales and Scotland continue to meet on an annual basis. The last meeting was held in July 1997. Although moves and changes are still the norm, the general impression is one of slow growth.

The Environment Agency is in the process of expanding the Library and Information Services that it provides to both the staff and the public. Existing national and head office libraries will become part of the National Library and Information Service and library services will be established in the regions that did not have them. The new service was due to be implemented in April 1998.

In Scotland the Scottish Environmental Protection Agency, which was established in 1996, has been developing its Library and Information Services both at its Head Office and its three regional offices.

UNIVERSITY/ACADEMIC SECTOR

Despite many problems, research in British universities is flourishing. A survey in 1997 by Sir Robert May, the government's chief scientific adviser, showed that in many fields the quality of research is second only to the USA. Towards the end of 1997 the report of the National Committee of Inquiry into Higher Education under Sir Ron Dearing not only paved the way for the introduction of student fees (ending the British tradition for free university education) but also contained important recommendations for University research. The government is due to respond with a policy statement as this report was being compiled.

As mentioned in the Government Sector section above, the National Oceanographic Library of the Institute of Oceanographic Sciences Deacon Laboratory was moved to Southampton in October 1995 and took on a hybrid role of supporting the University students, staff and academics plus continuing its role as a national research resource.

INTERNATIONAL ORGANISATIONS

IAMSLIC Iceland 20 –25 September 1998

For the first time IAMSLIC is holding its annual conference jointly with the Polar Libraries Colloquy. The theme of the conference is "Electronic Information and Publications : looking to the electronic future, let's not forget the archival past" and intends to cover the new electronic developments challenging our profession but at the same time acknowledging the tried and tested traditional methodologies, and the importance of archive management in our collections. The conference will provide a unique opportunity for dialogue between the marine and polar sciences information community.

ASFIS

The Library and Information Service at Plymouth Marine Laboratory continues its role as UK national input centre for *Aquatic Sciences and Fisheries Abstracts* (ASFA) and co-ordinates the input of the other three UK input organisations, the Centre for the Economics and Management of Aquatic Resources (CEMARE), the Freshwater Biological Association (FBA) and the Scottish Office Agriculture, Environment and Fisheries Department (SOAEFD).

CONCLUSIONS

The conclusions to the last UK country report stated:

> *We live in a world where the ability to cope with change is essential for survival. The aquatic library and information services in the United Kingdom are in the throws of major changes of their science organisations. Until these changes to the science structure are clarified, it will be difficult for the libraries to respond in logical ways and restructure themselves to reflect the new reality. This they will have to do before the new millennium. It is to be hoped that they will consider the total European picture during this process.*

This statement is as true for this report. It is interesting to see the beginnings of European co-operative science programmes and agreements in the marine and freshwater fields just coming to the fore as the aquatic librarians celebrate the tenth year of their European organisation. There are still many interesting developments for us to plan, implement, evaluate and celebrate.

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Institute of Marine Biology, Crete (IMBC): library report

by

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OVERVIEW

The IMBC Library was created in 1989 when the newly established Institute moved to the present harbour site in the port of Heraklion City in the Island of Crete and constitutes the second library in Greece on the aquatic sciences. Provision was made for its collection of marine science literature to be housed in a very small library. It was not an easy time to set up a library as soaring costs for books and journals forced the rationalisation of library resources on a worldwide scale.

However, some small-scale funding for the collection had been forthcoming from the NATO Science for Stability programme FISHECO and so a start was made.

LIBRARY RESOURCES

In Greece, aquatic libraries are attached to research institutions and generally are rather small. New establishments concentrate on collections of journals specific to scientific user needs.

The IMBC hard copy collection remains very small, roughly 600 books, more than 5000 reprints and 18 journals. The major areas covered are:

- aquaculture
- environment impact assessment
- environmental studies
- fisheries biology and management
- fisheries technology
- marine biology
- marine chemistry
- marine ecology
- marine geology
- marine mammals
- marine microbiology
- marine pollution
- oceanography

It also contains two CD-ROM databases

- World Biodiversity
- Aquatic Sciences and Fisheries Abstracts (ASFA)

No computerisation development was possible until 1993 when IMBC was linked to the University of Crete library database, transforming the situation overnight. The outpost down in Heraklion harbour at last had the opportunity to join the ARIADNE Network of Greek academic and research centres and ARIADNET, which links Greece to the rest of the world.

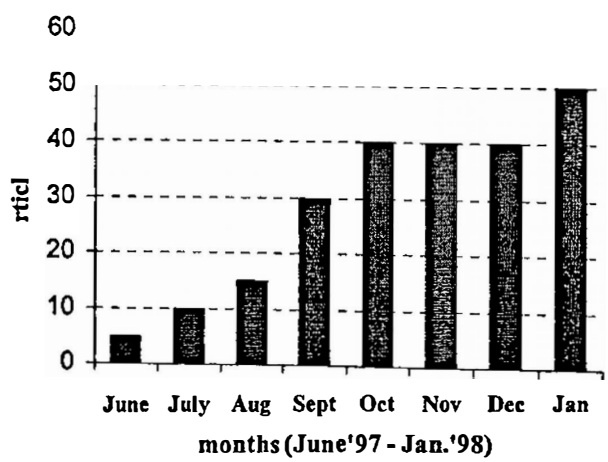
IMBC COLLECTED REPRINTS

Two volumes of Collected Reprints (1987-1991, 1993-1994) have already been compiled, with a third volume (1995-96) almost ready for distribution. These have been widely distributed throughout Europe. The IMBC is seeking to establish links in collaboration in the exchange of journals and publications with other libraries, which specialize in marine sciences. Towards this end, in a new initiative for the Greek research libraries the IMBC has made the abstracts of these volumes available on-line and provided easy facilities for ordering reprints.

ONLINE BIBLIOGRAPHIC SERVICES

Within two months of the construction of the IMBC World Wide Web site (November 1995), a decision was made to provide free online access to abstracts from workshops, seminars, and symposia hosted by IMBC. To date, the extended abstracts from the MAST MTP workshop (Feb 1996), the 28th EMB Symposium and MEDCOAST 95 have been made available in this way, enabling hundreds of users throughout the world to have direct access to these materials.

Recently the IMBC library has been linked with the HERMES information system, created by the Greek National Documentation Centre This system contains the Union Catalogue of Scientific Periodicals in Greek Libraries. This database can be used online to locate details of journals held in more than 100 scientific libraries in Greece. Article requests during this latest period are presented in the following figure:



LIBRARY PROJECT

Since October 1996 the IMBC Library has participated in the EPET Programme run by the General Secretariat for Research, Industry and Technology. The aim is to extend and upgrade the existing infrastucture, mainly in the state-of-the-art electronic equipment nowadays essential to cover future needs for participating in national and international networks in the 21st century. In the framework of the above mentioned Programme the library has purchased:

- New building 60 m²
- Library furniture from BTJ
- Installation server (Sun Ultra-1 @167MHZ)
- Installation software to the server
- Library software Geac Advance V6.7, Z3950 server Geopac
- Installation system RAID 8GB to the server
- (RAID = system of hard disk with security level without loosing the data even if destroyed one hard disk is destroyed)
- Installation CD-ROM Server 7 units to share CD-ROMS with LAN
- Installation WEB server
- Optical scanner: Fujitsu 3097 E with ADF
- Rank Xerox 5334 copier
- 1 Laser printer HP 5si MX
- 1 Epson stylus color 800
- 1 DOT –MATRIX Star LC24-10
- 1 Bar-code scanner

LIBRARY TOOLS

The library uses the following tools:

- Anglo-American Cataloguing Rules, 2nd Edition 1998 Revisions&1993 Amendments Electronic Version 1.0/ CD-ROM Format
- DEWEY for Windows CD-ROM Version and DDC –21 print version
- CDMARK Bibliographic
- CDMARK Subjects
- CDMARK Names

Proceedings of the 7th Biennial Meeting of EURASLIC.
Athina, Greece, 6-8 May 1998, p. 217

Committee for Technogenic Safety of Russia

by

Alexander I. Vasilyev
Informcentre VNIRO and Committee of Technogenic Safety of Russia (VKTB), 105523 Moscow,
16th Parkovata, 55-1-172, Russia.

SUMMARY

The problem of preserving the aquatic environment is one of the most dramatic problems of today, making it necessary, more than ever before, to share knowledge and information related to the increasingly destructive effects of technogenic factors on nature, society and mankind.

The global character of the problem of securing technogenic safety is reflected in the acceleration of the frequency and scale of damage caused by technogenic accidents and catastrophes, including those in zones of military conflicts. The comments of EURASLIC members are invited in respect of the activities of the Committee of Technogenic Safety of Russia, pertinent to the technogenic safety of the rivers and seas of Russia and Northern Europe, and the radiation contamination of the environment.

The VNIRO Informcentre and the Committee on Technogenic Safety are developing an appropriate database, and have identified a need for an international encyclopaedic glossary of terms related to technogenic safety of the aquatic environment. The assistance of EURASLIC members in the compilation of such a glossary would be of great value.

Libraries and information centres furnished with the most modern communication facilities are the best instruments for sharing knowledge, and they have a major role in impressing governments and peoples of the world of the imporatance of securing technogenic safety.

The following collection of papers written by Dr. Vasilyev on various aspects of technogenics were made available at the meeting.

1. Problem of securing technogenic safety within the branches of scientific and technical knowledge.
2. Concept of technogenic safety of Russia: theoretic and organisation-legal foundations of elaboration and embodiment.
3. Criminal-legal guarantees of technogenic safety of rivers in the European North of Russia.
4. Dual character of scientific-technical progress consequences.
5. Legal instruments of preventing radioactive contamination of environment.
6. Limitations of legal status of the individual in conditions of state of emergency of technogenic nature.
7. On the government programme of educating prople to the essentials of technogenic safety.
8. Purposes, tasks, principles and basic trends of government policy in the field of securing technogenic safety of Russia.

Poster Session

Proceedings of the 7th Biennial Meeting of EURASLIC,
Athina, Greece, 6-8 May 1998, p. 221-225

WebWaves: a poster paper

by

Audrey Conroy
Fisheries and Oceans, St. John's, Newfoundland, Canada.

Fisheries and Oceans Canada | Pêches et Océans Canada

webWAVES

FRANÇAIS

Audrey Conroy, Fisheries and Oceans, St. John's, NF, CANADA

SUBJECT box	TITLE box	AUTHOR box	ADDITIONAL FIELDS	FIELD CONNECTOR	SORT BY
abstract/resume ASFIS environment codes geographic names (some ASFIS) proper names ASFIS sea codes species (DFO thesaurus) ASFIS subject terms title	conference other title series title uniform title	associations authors editors conferences government series symposia translators	special collections ISBN/ISSN language notes document numbers	AND OR NOT	date relevancy title author series descriptors

Home | Indexes | Help

WAVES

The Catalogue of the Libraries of Fisheries and Oceans Canada

Subject [And] [ ]

Title [And] [ ]

Author [And] [ ]

Date [Equals] [ ]

Begin Search

Clear Search

Additional Search Fields

[CATNO] [And] [ ]

Restrict to ☐ Monographs ☐ Serials

Select Libraries [All Libraries]

Field Connector [And] Sort [Date] Sort Order [Descend]

NUMBER OF RECORDS IN WAVES DATABASE as of 01-04-98 **161,850**

DATE COVERAGE: WAVES is 20 years old & covers documents back to the early 1900's

SUBJECT COVERAGE

The WAVES database covers fisheries and aquatic sciences with emphasis on Canadian works and items relevant to Canadian interests including:

aquaculture
environmental issues
extended jurisdiction
freshwater and marine fisheries
freshwater and marine sciences
oceanography

MATERIAL COVERED

The WAVES database contains references to published literature and unpublished documents including:

books
committee papers
(from international fisheries organizations)
conference proceedings
consultant reports
government reports
technical reports
theses

WAVES DOES NOT INDEX JOURNAL ARTICLES
however holdings for some journal titles are included in the database

PREVIOUS EURASLIC PAPER

Conroy, Audrey (1995) *WAVES: the European Connection* in Proceedings of the European Association of Aquatic Sciences Libraries and Information Centres (EURASLIC) held at the Sea Fisheries Institute, Gdynia, Poland, 28-29th April 1994.
Moulder, David S and Varley, Allen, eds. P. 73-80

SOFTWARE

The webWAVES software, BASIS WEBserver Gateway version 2.0. has the following features:

Separate French/English search interfaces

One search screen, i.e. no separate novice/experienced screens

Search screen contains several pop-up search boxes

WAVES field help files are directly linked to the name of each search box

Software help files are available at the "Help" button

Sorting by a variety of fields in ascending or descending order

DISPLAY OF BIBLIOGRAPHIC RECORD WITH ABSTRACT WITH LOCATION INFORMATION

CATNO	196172
Title	An evaluation of the extent of income fluctuations in the fishery of the Newfoundland Region
Author	Nowak, R.
Corporate Author	Canada. Dept. of Fisheries and Oceans. Economic Analysis and Statistics Division
Imprint	Ottawa : Communications Directorate, Dept. of Fisheries and Oceans, 1989
Date	1988
Pagination	iii, 45 p.
Series	Economic and commercial analysis report. 2
Descriptors	Canada;Newfoundland;income maintenance programs;income distribution;commercial fishing;fishermen
Collection Spec	DFO
Abstract	This paper examines the extent of income fluctuations and the need for income stabilization measures in the fishery of the Newfoundland Region. Both processing and harvesting sectors are analyzed. The analysis of the harvesting sector examines income variability and is based on data for an "average" enterprise and on time series of landed values. The analysis of the processing sector examines the variation of processing sector incomes compared to incomes in the manufacturing sector as a whole. Variability of incomes is analyzed using four techniques: standard deviation, coefficient of variation, annual percentage change and deviation from average.
Numbers	DSS cat. no. Fs 66-5/2E
ISBN	0662172035
ISSN	08435626
Language	eng

Copies of CATNO=196172

Location	Copy	Call No	Description	Availability
DOFI	1	SH 334 E19 no. 2 D		SHELF

Expected release on Internet May 1998

To obtain the URL for webWAVES see Audrey Conroy

DOCUMENT DELIVERY

All records in the WAVES database are currently held by one or more of the **eleven** Canadian Fisheries and Oceans libraries. Library **location codes** are listed with each record. The "copies" screen states whether the item is currently on the "shelf" or signed "out" to a user. There are many more **copies (412,590)** as there are **records (161,850)** as WAVES is a union catalogue.

Requested items are either photocopied FREE for the requesters retention or are loaned for two weeks use. The turnaround time for document delivery will vary from library to library.

LIBRARIES OF FISHERIES AND OCEANS CANADA

BNP Pacific Biological Station Nanaimo, BC V9R 5K6
Telephone: (250) 756-7071 FAX: (250) 756-7053 E-mail: library@pbs.dfo.ca

BVAFI Library Fisheries and Oceans Canada 300-555 West Hastings Street Vancouver, BC V6B 5G3
Telephone: (604) 666-3851 FAX: (604) 666-3450 E-mail vanwelym@dfo-mpo.gc.ca

BVIEM Institute of Ocean Sciences P.O. Box 6000 Sidney, BC V8L 4B2
Telephone: (250) 363-6392 FAX: (250) 363-6749 E-mail: Libraryios@ios.bc.ca

MWFW Eric Marshall Aquatic Research Library Freshwater Institute 501 University Cr Winnipeg, MB R3T 2N6
Telephone: (204) 983-5170 FAX: (204) 261-7686 E-mail: library@FWI.DFO.CA

NBAB Library symbol: Biological Station Library St. Andrews, NB E0G 2X0
Telephone: (506) 529-5909 FAX: (506) 529-5862 E-mail: sta-library@mar.dfp-mpo.gc.ca

NBMF Gulf Fisheries Centre Library 343 Archibald Street Moncton, NB E1C 9B6
Telephone: (506) 529-5909 FAX: (506) 529-5862 E-mail: sta-library@mar.dfp-mpo.gc.ca

NFSF Regional Library P.O. 5667 St. John's, NF A1C 5X1
Telephone: (709) 772-2020 FAX: (709) 772-2575 E-mail:kenny@athena.nwafc.nf.ca

NSDB Bedford Institute of Oceanography P.O. Box 1006 1 Challenger Drive Dartmouth, NS B2Y A42
Telephone: (902) 426-3683 or (902) 426-6224 FAX: (902) 426-7827 or (902) 426-2256
E-mail: BIO Library@maritimes.dfo.ca

OBUC Canada Centre for Inland Waters 867 Lakeshore Road, BOX 5050,Burlington, ON L7R 4A6
Telephone: (905) 336-4982 FAX: (905) 336-4428E-mail: eve.dowie@cciw.ca

OOFI Library Policy and Services 200 Kent Street Ottawa, ON K1A 0E6
Telephone: (613) 993-2938 FAX: (613) 990-4901 E-mail:lasalled@dfo-mpo.gc.ca

QQPSM Institut Maurice-Lamontagne 850, route de la mer C.P. 1000 Mont-Joli, QC G5H 3Z4
Telephone: (418) 775-0552 FAX: (418) 775-0542 E-mail: biblioIML@dfo-mpo.gc.ca

Proceedings of the 7th Biennial Meeting of EUROSLIC
Athina, Greece, 6-8 May 1998, p 227-229

Britain and Ireland Association of Aquatic Science Libraries and Information Centres (BIASLIC)

by

David Hyett
The Centre for Environment, Fisheries and Aquaculture Science

ABSTRACT

The aims and history of BIASLIC are reviewed. The future role aims and role of the Group, since its re-launch in 1997 are discussed

BIASLIC exists to bring together librarians and information workers in marine biology, oceanography, fisheries and aquatic ecology, freshwater scientific and technological research.

HISTORY

Founded in 1969 at the Marine Biological Association in Plymouth, the Group has met nineteen times in total. The title of the Group has changed a number of times and has varied in recent years from the UK Marine Librarians Group to the present name, BIASLIC.

The general structure of all meetings has been informal with reports from libraries on recent trends and future developments. Over the years, issues relevant to the time have been discussed, including financial constraints, library co-operation, exchanges and charging policy. Many of these topics are still as relevant today. The Group has produced a number of useful publications, including several versions of the Union Serials List and the Directory of Marine and Freshwater Scientists and Research Engineers in the United Kingdom in 1992. The idea of a European Librarians Group was first floated at the 1986 meeting at Pitlochry and the First European Librarians Meeting in 1988 was combined with the Fifteenth BIASLIC meeting.

After a poorly attended meeting in 1991 in Amsterdam, the date and place of the next meeting was left open and there was a six year gap before the nineteenth meeting was held at Lowestoft in 1997. During the intervening period, re-launching the Group was often mentioned, but pressure of work made it difficult to find the time to do it. The nineteenth meeting had the following simple aims:

- To review the future structure and aims of the Group.
- To exchange information with colleagues.

Meeting Number	Meeting Year	Host	Number of Delegates	Major Outcomes
1	1969	MBA, Plymouth	10	
2	1970	Marine Lab., Aberdeen	?	
3	1972	NIO, Wormley	?	
4	1973	FBA, Windermere	15	
5	1974	MAFF, Lowestoft	18	
6	1975	IOS, Taunton	14	
7	1976	IOS, Wormley	?	
8	1977	?	?	
9	1978	Marine Lab., Aberdeen	14	
10	1979	IMER & MBA, Plymouth	22	
	1981	IOS, Bidston		Could not host
11	1982	FBA, Windermere	19	
12	1983	MAFF, Lowestoft	8	
13	1985	IOS, Wormley	13	
14	1986	DAFS, Pitlochry	16	
15	1988	MBA, Plymouth		Combined meeting with 1st European Aquatic Librarians
16	1989	Dublin	8	
17	1990	Paris	8	
18	1991	Amsterdam	6?	
19	1997	CEFAS, Lowestoft	8	

THE FUTURE

The meeting was reasonably attended and provided an opportunity to exchange information on developments over the last five years. In addition, a number of useful topics, including charging policies for external users and performance indicators were also discussed.

The meeting was a success and it was agreed that BIASLIC still had a useful role to perform, providing a useful forum for the exchange of ideas and fostering co-operation. It was agreed that there should be a return to annual meetings. Issues for the twentieth meeting planned for November 1998 in London have already been identified as:

- Is BIASLIC the most appropriate name for the Group?
- Should the Group continue with the present informal structure or is a more formal structure now appropriate?
- Are bye-laws needed for the Group?
- Who should be included in the membership?
- Which BIASLIC publications should be updated and in what format, i.e. paper based or Web versions?

Clearly there is plenty to discuss at the next meeting, which should prove to be challenging and interesting.

A new Committee was elected at the nineteenth meeting, consisting of the following officers:

- Chair – Pauline Simpson, Southampton Oceanography Centre
- Treasurer – David Hyett, The Centre for Environment, Fisheries & Aquaculture Science
- Secretary – Sarah Carter, The Centre for Environment, Fisheries & Aquaculture Science

In the interim, the new Committee will start to address the membership and bye-laws issues. Pauline Simpson has also agreed to put a proposal together to produce an updated Union Serials List on the Web.

In conclusion, re-launching the Group has proved worthwhile. The pressures faced in the UK by scientific organisations makes the existence of such a group even more necessary. Finding the time for such activities often proves difficult, but not finding the time may prove even more costly in the long run.

Proceedings of the 7th Biennial Meeting of EURASLIC, Athina, Greece, 6-8 May 1998. p 231-232

Archives of the Marine Biological Association: a poster paper

[The poster displayed included photographs and illustrations]

by

Allen Varley

Marine Biological Association, Citadel Hill, Plymouth PL1 2PB, United Kingdom

INTRODUCTION

The Marine Biological Association of the United Kingdom (MBA) was founded in 1884 with the support of leading Victorian scientists and with the aims of promoting scientific research into all aspects of life in the sea. Thomas Henry Huxley was the Association's first President and Queen Victoria's son, Edward, the Prince of Wales, was Patron.

The Plymouth Laboratory opened in 1888 and enjoys an international reputation for excellence in research, both by its resident staff and by the many British and overseas visiting workers. (Southward and Roberts, 1987).

THE ARCHIVES COLLECTION

The Archives Collection, maintained by the Library, contains documents, files and records relating to the history and development of the Association and its Laboratory, the research programmes, staff, visiting workers and membership, the buildings, ships, library, aquarium, *Journal*, finance and administration. Personal and scientific papers, letters, notebooks and documents, together with drawings, paintings, illustrations, photographs, glass negatives and slides are included, and the material reflects the history not only of the MBA, but also the origins and history of British marine science. In recent years efforts have been made to identify, sort and list archival materials which should be preserved, and to catalogue and make them accessible.

The work was accomplished with the aid of funding from the Baring Foundation through the British Library's scheme of grants for cataloguing and preservation, and a grant from the Pilgrim Trust in 1996 supported the preparation and publication of a printed catalogue (Varley, 1997).

Archives database

The material is listed in a microcomputer database using Unesco CDS/ISIS software. Data structures are compatible with those recommended by the International Council on Archives for MARC-type formats for Archives Management and Control (AMC) (Cook, 1993). Cataloguing procedures ensure that documents remain in sets reflecting their origin and context, and records are structured with links enabling them to be displayed hierarchically.

Compact disc

In 1997 an experimental compact disc was produced containing the images of 100 photographs of historic interest of MBA scientists, ships, buildings, equipment and related subjects. Most are in black-and-white though a few are from colour transparencies. Indexes are not included on the disc, however it is planned that in-house equipment now available will be used to convert and store many more images with relevant text.

Printed Catalogue

The *Catalogue of the Archives of the Marine Biological Association* was published in June 1997. It is arranged in three sections:

- Institutional papers, arranged by office or department;
- Personal and scientific documents of members of the Plymouth staff and other researchers having close links with the Association;
- The correspondence of Edward Thomas Browne (1866-1937), a visiting researcher, authority on *Medusae* and hydroids, and benefactor of the MBA.

The printed *Catalogue* was distributed to institutions on the MBA's publications exchange list, and copies may be purchased from the MBA Library.

REFERENCES

1. Cook, M., 1993. *Information management and archival data.* xiv,210p. London: Library Association Publishing.

2. Southward, A.J. and Roberts, E.K., 1987. One hundred years of marine research in Plymouth. *Journal of the Marine Biological Association of the United Kingdom*, 67, 465-506.

3. Varley, A., *compiler and editor*, 1997. Catalogue of the archives of the Marine Biological Association. *Occasional Publication, Marine Biological Association*, No. 5, 64p.

Open Forum

and

EURASLIC 2000

Proceedings of the 7th Biennial Meeting of EURASLIC,
Athina, Greece, 6-8 May 1998, p. 235-237

Open Forum

Convenor:

Joan Baron

Centre for the Economics and Management of Aquatic Resources, University of Portsmouth, Locksway Road, Portsmouth PO4 8JF, United Kingdom.

Panel members;

Sarah Heath

Marine Laboratory, PO Box 101, Victoria Road, Aberdeen AB11 9DB, Scotland, United Kingdom.

Marine Kalenchits

Estonian Marine Institute, Lai Str. 32, EE0001 Tallinn, Estonia.

Ian Pettman

Institute of Freshwater Ecology and Freshwater Biological Association, The Ferry House, Ambleside, Cumbria LA22 0LP, United Kingdom.

Barbara Schmidt

Institute of Marine Sciences, Library, Duesternbrookerweg 20, 24105 Kiel, Germany.

The Open Forum was convened to provide members of EURASLIC with the opportunity to discuss the future direction and development of the Association. Prior to the Conference several issues had been put forward for discussion and during the course of the Conference several others were raised. The issues raised and discussed are summarised below.

Regional Groups

The creation of Regional Groups within EURASLIC was suggested, e.g. for the Baltic and Mediterranean, as well as possible Specialist Groups, e.g. Single-handed libraries or libraries specialising in the same subject area. The various pros and cons were discussed and the general agreement of the meeting was that as EURASLIC itself is actually a regional group within IAMSLIC, to further divide EURASLIC into smaller regional groups on a formal basis could be divisive. It was also felt that in some areas there were already regional groups in existence and that these might provide an appropriate solution for each areas needs. That apart, the Association would encourage cooperation between EURASLIC libraries and members in specific regions.

Involvement in EU Projects

This discussion point was specifically raised in relation to involving more former Eastern European and former Soviet Bloc countries in EU projects, and those countries waiting to be integrated into the EU. It was felt that awareness of the needs of libraries in these countries needed to be raised, possibly through the *EURASLIC Newsletter* and via the EURASIC Web Site, and the planned EURASLIC Discussion List. The discussion became more general and a number of issues related to access to information about funding opportunities were raised. Progress on the proposed *EURASLIC European Directory of Aquatic Institutions and Scientists* was reviewed and debated. Various participants volunteered to monitor and distribute information about funding opportunities which passed into their hands, once again, if all members signed up to the proposed EURASLIC Discussion List this could be the most appropriate avenue for disseminating this type of information, and those not yet connected to the Internet could arrange for a colleague in a connected institute to relay the information to them.

Pan-European Aquatic Library and Information Service

The vision of a Pan-European Aquatic Library and Information Service was raised. It was felt that this would be a natural extension of the objectives of a group such as EURASLIC, however to develop such a service would involve considerable administration, and have a high cost in both time and money. It was generally felt that the best way forward on this issue would be through the EURASLIC Web Site and associated links and that between now and EURASLIC 2000 members would put their thoughts to this issue.

A Permanent Office for EURASLIC

The possibility of setting up a permanent EURASLIC office was raised for discussion. The EURASLIC Board are being charged with an increasing number of tasks between each meeting, and the result is that not all of them can be accomplished. It was thought that a permanent office with perhaps a part-time 'Executive Secretary' might solve this problem. Such an office might have ensured more rapid progress, for example, with the proposed *EURASLIC European Directory of Aquatic Institutions and Scientists*, and could lead to greater involvement in EU funded projects. This was the first suggestion of this type put to the membership and there was heated debate about the pros and cons of such a move. EURASLIC has no experience of seeking core funding, which would be needed for such a venture, and it was generally felt that the Association was not ready for this type of development, but that advice could be sought from like organisations, and we could perhaps learn from their experience.

EURASLIC Web Site

The future of the EURASLIC Web Site having been raised was then further discussed. It was originally set up in Plymouth by David Moulder, but he had now moved to Sweden. Information about the EURASLIC Conference had been loaded on the Web by NCMR. Whilst in theory, a EURASLIC Web Site could be located on a server at any of the existing EURASLIC institutes, and could be moved quite easily, it was suggested that to raise the profile of the Web Site and to make it more easily accessible it should have a simple, permanent and easy to remember URL, this could be

achieved by using a commercial host. There was tacit agreement from the floor and Peter Pissierssens of IOC volunteered to investigate the cost and viability of this option.

EURASLIC Directory

The future of the EURASLIC Directory had been raised in the Business Meeting and between then and this Open Forum, interested parties met in plenary to discuss various options to move this issue forward. At the Open Forum participants were presented with a Joint Proposal from IOC and NCMR to collaborate in producing an updated printed version of the EURASLIC Directory as well as an online version, and this proposal was accepted by members.

Proceedings of the 7th Biennial Meeting of EURASLIC
Athina, Greece, 6-8 May 1998, p 239

EURASLIC 2000: the Millennium conference. A presentation

by

Sarah Heath
Marine Laboratory, PO Box 101, Victoria Road, Aberdeen AB11 9DB, Scotland, United Kingdom.

SUMMARY OF PRESENTATION

The VIIIth Biennial Meeting of the European Association of Aquatic Sciences Libraries and Information Centres is to be held at the Fisheries Research Services Marine Laboratory, Aberdeen during May 2000. The Millenium Conference host, Sarah Heath, gave a short presentation which included an overview of the research and other activities carried out at the Marine Laboratory and some information about Aberdeen and the surrounding area, she went on to give participants a brief taster of some of the social events that might be arranged, e.g. a traditional ceilidh (Scottish folk dancing evening) and perhaps a visit to a typical Scottish castle.

The suggestion for the inclusion of an increased number of scientific papers at the Millenium conference was well received, a recognition of the importance that participants at EURASLIC Conferences attach to improving and enhancing links with scientists.

Commercial Presentations

Proceedings of the 7th Biennial Meeting of EURASLIC,
Athina, Greece, 6-8 May 1998, p. 243-246

Swets and Zeitlinger
SwetsNet: the single source for the electronic journals

by

Diogenis Kalogeridis
SWETS Subscription Service, Swets & Zeitlinger BV, P.O.Box 197, 1000 AD Amsterdam, The Netherlands

AGENDA

- ✓ *Electronic age*
- ✓ *Electronic journal*
- ✓ *SwetsNet*
  - ➔ product description
  - ➔ prices
- ✓ *Future*
- ✓ *Questions*

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- ✓ *SDI - profiles*
- ✓ *Integration with OPAC, reference databases (Z39.50)*

FINALLY

- ✓ *Increasing number of Electronic Titles*
- ✓ *Need for an intermediary*
- ✓ *SwetsNet - the single source for electronic serials*

Author Index

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AUTHOR INDEX

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