

**INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
(of UNESCO)**

**Twenty-first Session of the IOC Committee on International Oceanographic Data and
Information Exchange (IODE-XXI)
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OceanDocs and Aquatic Commons

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OceanDocs

1. REPORT ON ACTIVITIES CARRIED OUT DURING THE INTER-SESSIONAL PERIOD

IODE's OceanDocs is designed to capture and make freely accessible the research output from members of the IODE, Ocean Data and Information Networks (ODINS). It is a thematic digital repository of organization publications, scholarly materials, grey literature and other documents submitted by scientific researchers and librarians. It is an international, multi-institution open-access repository network, focused at present on marine and oceanographic literature. The OAI software employed is DSpace version 1.6 which was upgraded recently.

OAI (Open Access Initiative) promotes free and open access to literature. In the international science community it is hoped to enhance scientific communication, make local and regional grey literature available on a worldwide scale, and facilitate publishing of research finds, specifically for scientists in developing countries to promote their research and increase access to the international research forum.

Development of the repository network

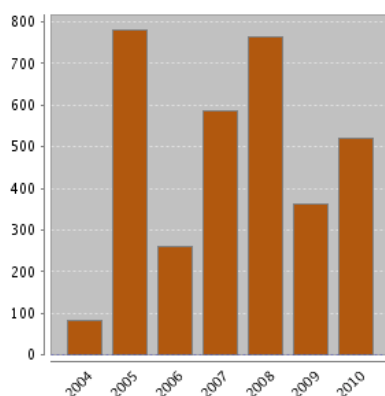
The OceanDocs repository contains at the moment 31 institutes in Africa and Latin America. During this intersession IODE and GEOHAB have added their publication collections to OceanDocs. The repository contains 3,359 submitted documents. In 2009, 362 documents were submitted an increased submission in 2010 to 520 documents is noted.

Documents submitted to OceanDocs

Submitted per year

Year	Items
2004	84
2005	779
2006	262
2007	587
2008	765
2009	362
2010	520

Total: 3,359



Interest in the repository is growing. During the October, 2010 IAMS LIC (International Association of Marine and Aquatic Information Centers) a pre-conference training session in OceanDocs for Latin

America was conducted, along with a presentation of the Upgraded features in DSpace 1.6. It is hoped that several additional partners will participate in OceanDocs.

Usage: After analyzing the statistics and eliminating crawler downloads (30.5% of the downloads), we have had 403,520 downloads of OceanDocs documents in 2010. This can be attributed to harvesters like OAIster and AVANO, but mainly through search engines like Google.

General overview of documents and downloads 2010	Docs	Downloads
Africa	1494	208033
Latin America	1364	181640
International Oceanographic Data and Information Exchange - IODE	491	14568

Africa: 5 most downloaded collections	Docs	Downloads
KMFRI - Kenya Marine and Fisheries Research Institute	89	19436
Institut National des Sciences et Technologies de la Mer	80	17522
NIOMR - Nigerian Institute for Oceanography and Marine Research	76	15286
National Institute of Oceanography and Fisheries	80	15232
Direction des Pêches Maritimes / CRODT	120	14346

Latin America: 5 most downloaded collections	Docs	Downloads
Instituto Nacional de Investigación y Desarrollo Pesquero (INIDEP)	254	60337
Centro de Investigaciones Pesqueras - Minist. de Industrias Pesqueras	170	32142
Instituto Oceanográfico de la Armada	249	23138
INVEMAR - Instituto de Investigaciones Marinas y Costeras	271	8927
Centro de Bioproductos Marinos	31	6867

The following presentations related to OceanDocs were conducted during the intersession 2008-2010:

Development of OceanDocs and Repository in Pacific Islands, *13-17 May, 2008 Oostende, M. Goovaerts*
 OceanDocs Network Policies, ODINECET Meeting, *Oostende, October 2008 Goovaerts*
 AgriOceanDspace, OceanDocs update - *Mar Del Plata, October 2010 Pre-IAMSLIC Workshop*
Cristiani/Pikula

VOAR3, *Mar del Plata October 2010 IAMSLIC Conference L.Pikula*

OceanDocs -ASFA Mini-Conference - *Mar Del Plata October 2010 A. Cristiani*

OceanDocs and Open Science Directory: two facets of the information policy of UNESCO/IOC-IODE:

Presented by M. Goovaerts at:

- *ETD Conference, Pittsburg, June 10-13 2009*
- *IAMSLIC, Bruges, September 30 2009*
- *DSpace User Group Meeting, October 14-16 2009*
- *D4Science meetings, Rome, November 25-26 2009 and December 16-17 2010*

Capacity Building:

IODE has conducted workshops to assist ODIN members and other IODE members in determining their repository goals, OAI software selection and offering participation in OceanDocs to those choosing not to develop their own repositories.

The following ODIN Members have now developed their own repositories:

- Russian repository "Manakin" (<http://dspace.vniro.ru>) on DSpace– 1700 docs
- IBSS(Sevastopol – Ukraine): <http://repository.ibss.org.ua/dspace/> On DSpace - 1418 docs
- CEEMAR (OdinECET) (<http://www.ceemar.org/>) On DSpace – 814 docs
- NIO (Goa-India): <http://drs.nio.org/> - On DSpace - 3725 docs
- ODINPimris (<http://pimrisregional.library.usp.ac.fj/>) – On Greenstone – 352 docs
- ODIN Westpac started their own repository (<http://221.239.0.193:8080/jspui/>). They will be invited to join the OceanDocs network in 2011.

All these repositories are OAI-compliant. Some effort is still needed at NIO and OdinPimris to follow the metadata standards of OceanDocs.

2. PROPOSED WORK PLAN AND TIME TABLE FOR THE NEXT INTER-SESSIONAL PERIOD

For the further development of OceanDocs and its network some actions will be initiated. They will be in full development in 2011. First IODE, GEMIM has proposed to install a Coordination Group/ Steering Committee for OceanDocs. They will be in charge of the global policy and strategy of OceanDocs. Every ODIN involved will have a representative. The group will also contain some experts and representatives of AVANO (IFREMER), Aquatic Commons (IAMSLIC), Hasselt University, Aquatic Science and Information Abstracts (ASFA) and others.

The DSpace software will be upgraded to 1.7. This will be included in the new version of OceanDocs, which will be ready in the first quarter of 2011. This will be realized in cooperation with FAO of the United Nations and result in the product AgriOcean DSpace (see below). The main goal is to strengthen the network of OceanDocs, besides simply following the technical evolution. The new version will include harvest functionalities which will make it possible to include the collections of partners in OceanDocs. Additionally, an easy-to-install version of OceanDocs will make it much easier for smaller institutions to set up their own repository, while still being compatible with the OceanDocs standards. Another feature of this easy-to install version will be library catalogue functionality. This will make it easier for smaller institutions to develop their own collections and should result in a larger volume of documents available in Open Access in marine, oceanographic and related topics.

AgriOcean DSpace - Cooperation with FAO-KCEW

The United Nations agencies of FAO and UNESCO-IOC have announced a joint initiative to provide a customized version of DSpace using standards and controlled vocabularies in oceanography, marine science, food, agriculture, development, fisheries, forestry, natural resources and related sciences.

The collaboration between FAO and UNESCO-IOC/IODE has the following goals:

- Promoting open access to scientific information on the topics of food, agriculture, development, fisheries, forestry, natural resources and related sciences for FAO and oceanography and marine sciences for UNESCO-IOC/IODE.
- Ensuring the metadata quality of repositories and the use of thesauri and other forms of authority control.
- Contributing to the development of sustainable repositories by the use of tools to make scientific publications (and later data) more accessible and visible
- Removing access barriers by encouraging the creation of new service providers based on existing and mature metadata and semantics technology.

The Hasselt University Library produced a customized version of DSpace called OceanDocs for the International Oceanographic Data and Information Exchange (IODE) and adapted it to the standards of

the Oceanographic community. The OceanDocs Network, created in 2004, now has some 50 members. The Food and Agriculture Organization (FAO) of the United Nations customized DSpace using the AGRIS Application Profile (AP) and is developing a plug-in for the use of controlled vocabularies such as AGROVOC for communities in food, agriculture, development, fisheries, forestry, natural resources and related sciences.

The communities supported by FAO and UNESCO-IOC/IODE are synergistic and the standards on metadata and controlled vocabularies are similar for both. A common repository development is a logical result. Hasselt University Library will create for FAO and UNESCO-IOC/IODE a new version called AgriOcean DSpace. It will integrate the previous developments of both Agencies in one customized version of DSpace 1.7, using the new features authority control, Solr based statistics and harvesting. The developments of FAO on AGRIS AP and thesaurus integration will complete AgriOcean DSpace. Finally an easy-to-install Windows-based version of AgriOcean DSpace will be distributed. AgriOcean Dspace will be available in the first quarter of 2011.

OceanDataPub (now POD)

IOC/IODE is, in cooperation with SCOR, setting up a data repository for long-term archiving of data sets related to publications in open access available in OceanDocs, Aquatic Commons or other aquatic repositories. The idea is to collect the data sets behind specific publications for conservation. They will be linked to the open access publications enhancing its scientific value. OceanDataPub will be available in March 2011.

VOA3R – European project

OceanDocs is part of the VOA3R project with the Hasselt University Library as a project partner.

VOA3R is the innovative research project for digital libraries and stands for: "Virtual Open Access Agriculture & Aquaculture Repository: Sharing Scientific and Scholarly Research related to Agriculture, Food, and Environment". The general objective of the VOA3R project is to improve the spread of European agriculture and aquaculture research results by using an innovative approach to sharing open access research products. That will be achieved by carrying out innovative experiments with open access to scientific agriculture and aquaculture contents and by developing and providing services that integrate existing open access repositories and scholarly publication management systems by means of a federation approach.

Under a strict open access policy, the VOA3R service will connect libraries, archives and other publication systems by providing advanced search interfaces that include the specifics aspects of research work (methods, variables, measures, instruments, techniques, etc.) that are specific of the particular domain. The users of the VOA3R service are academics and researchers but also students and practitioners who either want to search for or to publish scientific research results (for these roles, learning material related to the application of scientific outcomes is also considered, as a sub-product of research). The project is targeted to the domain of Agriculture & Aquaculture, as it re-uses previous domain models for these domains, but the technology and models integrated are to a large extent transferable to other academic disciplines.

The VOA3R platform aims at reusing existing and mature metadata and semantics technology to deploy an advanced community-focused integrated service for the retrieval of relevant open content and data that includes explicit models of the scholarly methods and procedures used and of the practical tasks targeted by applied research (which represent a principal information need expression for practitioners). The service will enable researchers to formulate their information needs in terms of elements of the scientific methods established in their field (variables, techniques, assessment methods, kinds of objects of interest, etc.) combined with topical descriptions as expressed in metadata. The community approach will enable the enhancement of information seeking with extended evaluation elements (as for example, ratings, public reviews, social tagging and links to supporting or conflicting reports) that complement and go beyond the traditional, anonymous peer review process which results are not made available openly. The technology used will itself become open source, so that the model of the service can be adopted by

enterprises (including SMEs) or other kinds of institutions as a value-added, community-oriented model for open access content.

- **Project type:**
European Research Consortium Project (ICT-PSP Programme of the European Commission)
- **Project partners:**
UDE; University of Alcalá, Spain; Agricultural University of Athens, Greece; Greek Research & Technology Network, Greece; Swedish University of Agriculture Sciences, Sweden; University of Minho, Portugal; Hasselt University, Belgium; International Centre for Research in Organic Food Systems, Denmark; French National Institute for Agricultural Research, France; Czech University of Life Sciences, Czech Republic; ACTA Informatique, France; Agricultural Research Institute, Cyprus; Consorzio Interuniversitario, Italy; Technological Educational Institute of Athens, Greece; Food and Agriculture Organization of the United Nations (FAO)
- **Project duration:**
06.2010 - 05.2013
- **Project website:**
<http://www.voa3r.eu> (under construction)
- **Funding:**
European Commission
- **Project budget:**
3,600,000 Euro

OpenOcean Collaboration – Under discussion for future 2011

UNESCO Open Access Collaboration – Under discussion for future 2011

D4 Science- Meetings attended in 2009, 2010 for collaboration, closed.

Aquatic Commons

1. REPORT ON ACTIVITIES CARRIED OUT DURING THE INTER-SESSIONAL PERIOD

In December 2010, within the framework of the long-standing collaboration between IAMSLIC and the IOC's International Oceanographic Data and Information Exchange ([IODE](#)) the IOC Project Office for IODE in Oostende, Belgium agreed to host Aquatic Commons as part of its efforts to promote free and open access to marine scientific information to the global community (which also includes its' own OceanDocs). The cooperation includes technical support. IODE hosting began with implementing EPrints Version 3.2.4 with the official re-launch on 01 January 2011.

The Aquatic Commons is a thematic digital repository of published and unpublished research, organizational publications and scholarly materials contributed by researchers and librarians. It covers the **natural marine, estuarine /brackish and fresh water environments**. It includes all aspects of the science, technology, management and conservation of these environments, their organisms and resources, and the economic, sociological and legal aspects.

It is directed by the International Association of Aquatic and Marine Science Libraries and Information Centers ([IAMSLIC](#)) to provide visibility, usage and impact through global access to digital publications from worldwide marine and freshwater organizations that do not have access to an institutional repository of their own.

The implementation of Aquatic Commons was completed in 2007 under contract by the Florida Centre for Library Automation (FCLA) who hosted and developed the Repository to November 2010. Aquatic Commons is powered by EPrints open source software developed by the University of Southampton in the UK.

Management for Aquatic Commons is now administered by a multi-national joint IODE/IAMSLIC Aquatic Commons Management Board. IAMSLIC and IODE believe that this hosting arrangement will promote the synergistic resource sharing efforts of both organizations and permit further development of joint repository services.

Within the Aquatic Commons Board framework, three Working Groups operate: AC Metadata, AC Collection Development, and AC Technical Development. All communication is by e-mail.

The Metadata Group has: monitored the Issuing Agency Authority List which has more than 75 Agencies represented. Geographically, contributions have been made from Issuing Agencies in USA/Canada 44, Latin America/Caribbean 12, Asia 6, Africa 8, Europe 5, and Oceania 1; Defined Deposit Agreements for individuals which is particularly useful for theses and dissertations; Defined new Object types and specified metadata formats

Collection Development Initiatives: In addition to individual deposits several collections are being added. The FAO Fisheries Library staff is acknowledged for their dedicated efforts to increase the availability of African documents in Aquatic Commons under the ASFA Trust Fund Project. This ongoing project aims to retrospectively scan grey literature from developing countries for inclusion in the Aquatic Commons (AC) repository, add links to those documents already cited in the ASFA database, and create new ASFA records where they are missing. A copy of the publications in digital format is also supplied back to the originating institution.

The first batch of URLs of about 480 newly created Aquatic Commons records and the corresponding ASFA record numbers have been sent to the publisher CSA Illumina, to enable full text linking from ASFA to the Aquatic Commons. The possibility of importing metadata directly from Aquatic Commons into the ASFA software is under consideration.

Under this project, digitization started of the Conference Proceedings of the Fisheries Society of Nigeria (FISON); 24 volumes have been published since 1981.

Also, FAO is digitizing and uploading documents from the Lake Victoria Fisheries Research Project (1998-2000), reports published by the Nigerian-German (GTZ) Kainji Lake Fisheries Promotion Project between 1994 and 2004 and issues of the *Bulletin of the Institute of Marine Biology and Oceanography*, based in Freetown, Sierra Leone, published between 1976 and 1993.

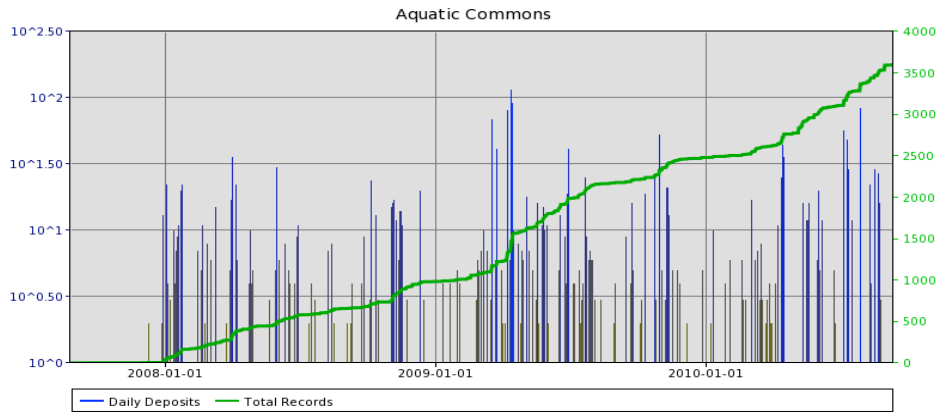
In addition, Germany are adding the fishery series *Informationen aus der Fischereiforschung = Information on Fishery Research* which was initially published by the Bundesforschungsanstalt für Fischerei and from 2010 onward by the Johann Heinrich von Thünen-Institute, Federal Research Institute for Rural Areas, Forestry and Fisheries. There are currently 299 issues of this series in Aquatic Commons.

Tech Group: Technical enhancements based on the 2008 FAO FishCode Programme funded requests were completed. The following enhancements to the Aquatic Commons functionality are now in place.

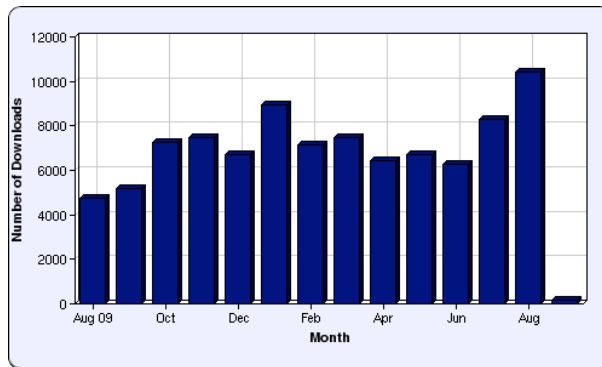
- Public search, deposit and help screens in French and Spanish
- The Issuing Agency field is now browseable and re-indexed each evening. Consistency in the name is prerequisite for comprehensive retrieval.
- “AC in a flash” is a standalone offline, batch input program which was developed for contributors with low bandwidth and unstable internet connectivity. Written by Liang Zhong of FLCA, this programme allows an individual to fill in the metadata fields and upload the accompanying digital file on a flash drive and then send the drive to an editor for uploading into the repository. Digital files should be created on the user’s workstation before uploading to the flash drive. 40 flash drives containing this programme have been delivered to the FAO Fisheries Library in Rome. Its official release was at the 2010 IAMSLIC Conference.

STATISTICS ON THE AQUATIC COMMONS REPOSITORY

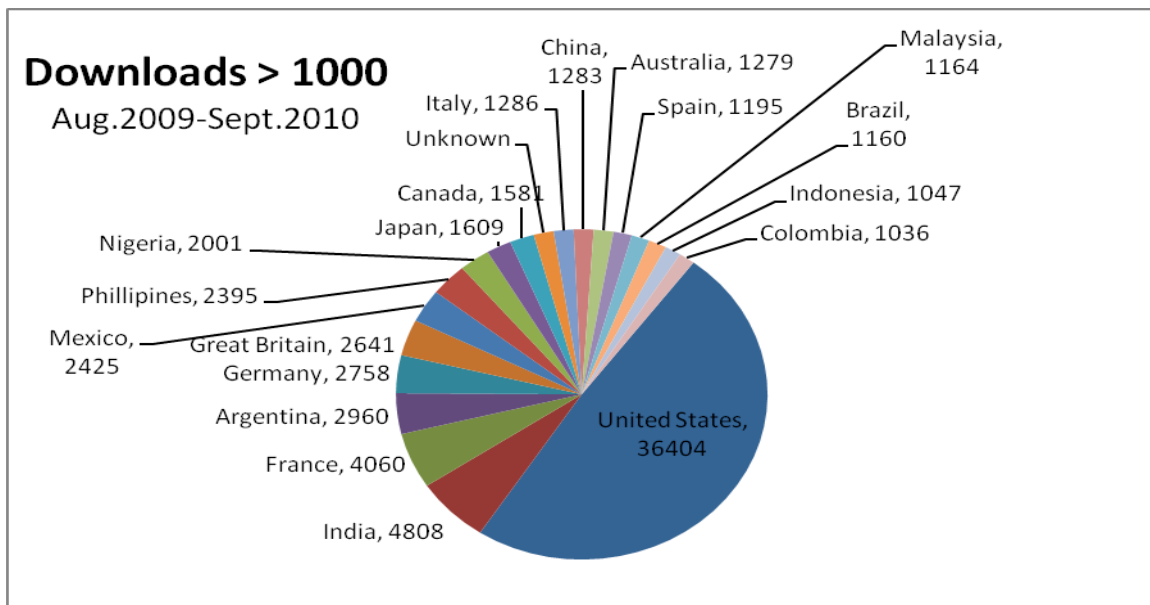
This graph from ROAR [<http://roar.eprints.org/cgi/export/eprint/54/ROAR%3A%3AActivity/roar-eprint-54.png>] shows the rate of deposit of items. As of December 2010, Aquatic Commons had over **3999** items in the repository.



The total of file of individual **downloads** from August 2009 to September 2010 was **93,348**. The chart below indicates downloads per month to Sep 2010.

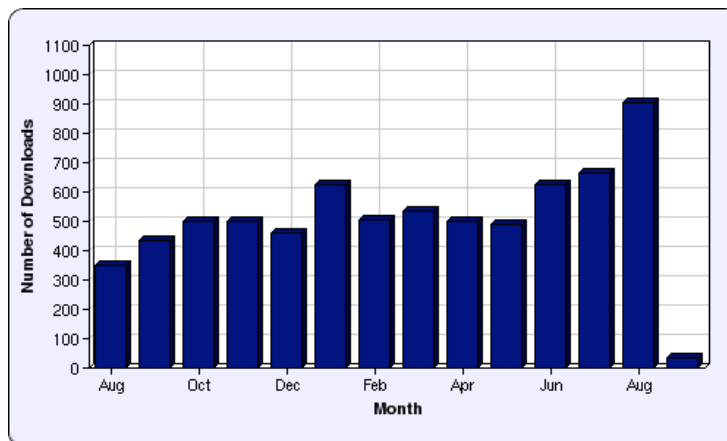


Downloads by country are shown below.



Total unique visitors are shown in this graph.

In August 2009 there were approximately **380** visitors; in August 2010 there were **900** visitors.



The **search terms** that were used most frequently during Jun-Sep 2010 included:

<u>Search Terms</u>	<u>Count</u>
Fish culture	119
Pond construction and design	86
All	86
Florida department of natural resources	34
Fish culture in india	33
What is fish culture	26
Condrictios	33
Earth pond construction	20
2417	17
Recirculatory system	17

Rankings:

In July 2010, Aquatic Commons was ranked **182** in the Ranking Web of World Repositories: Top 800 Repositories [http://repositories.webometrics.info/top800_rep_inst.asp]

In 2009, Aquatic Commons was ranked **259** in the World Ranking of Top 400 Repositories

2. PROPOSED WORK PLAN AND TIME TABLE FOR THE NEXT INTER-SESSIONAL PERIOD

The ASFA Trust Board Project Fund will continue to enable the scanning of historical grey literature from developing countries, as well as from the Freshwater Biological Association, UK, who are digitizing approximately 500 FBA Technical Reports and other grey literature. Digitized copies of these documents along with metadata will be submitted to the Aquatic Commons repository between November 2010 and April 2011

The critical activity in December 2010 was the migration of the Aquatic Commons to its new host. The Aquatic Commons will remain an [IAMSLIC](#) product and content will continue being managed by

IAMSLIC. It will be hosted and technically supported at the IODE Project Office in Oostende, Belgium, overseen by a joint Aquatic Commons Management Board. Thanks to Aditya Kakodkar, IT Expert at IODE and FCLA's Priscilla Caplan, Liang Zhong and Bill Kuntz it was a seamless migration and transition process.

IODE have already implemented an upgraded version of the EPrints repository software and during the inter-sessional will cover upgrading to any new versions of EPrints. New functionality or bespoke customization of the software will be discussed and agreed with IAMSLIC.

Hosting both Aquatic Commons and OceanDocs repositories, gives IODE the opportunity to develop new products and services and implement new linking procedures – a close horizon may be text and data linking.

The exciting VOA3R European Project involving OceanDocs may offer an opportunity for Aquatic Commons as well as OceanDocs to contribute toward building this resource for the greater aquatic and marine community.

3. REQUESTED FUNDING FOR THE NEXT INTER-SESSIONAL PERIOD

OceanDocs

Recommendation to approve the creation of an OceanDocs Steering Committee and establish funding for the first meeting of the Steering Committee.

Aquatic Commons

Aquatic Commons is a joint undertaking of IAMSLIC and IODE. It has been agreed that any developments to AC will be jointly funded. A contingency amount of US\$3000 should be allocated to cover IODE staff, training, version upgrades and bespoke customization.

4. TEXT FOR THE ACTION PAPER

Ms. Linda Pikula will introduce this Agenda Item by referring to Document IOC/IODE-XXI/23(OceanDocs and Aquatic Commons).

OceanDocs

IODE, GEMIM has proposed the implementation of a Coordination Group/ Steering Committee, which will guide the global policy and strategy of OceanDocs. The group will contain some experts and representatives of AVANO (IFREMER), Aquatic Commons (IAMSLIC), Hasselt University, Aquatic Science and Information Abstracts (ASFA) and others and each ODIN involved will have a representative.. The ODIN representatives will provide support to organizations within their own regions. The OceanDocs Coordination Group will also support the actions in the VOA3R project.

The OceanDocs software is upgraded in a common effort of IOC/IODE and FAO of the United Nations. Further developments in the next two years can be realized in the framework of VOA3R.

The focus in the next two years will be in the distribution of the easy-to-install version of AgriOcean DSpace to organizations who want to control their own repository collections. At the same time OceanDocs will integrate these local collections in the central repository through the new harvesting/mirroring functionality in DSpace. Finally the possibilities to integrate and interlink OceanDocs with other IOC/IODE products will be the main challenge for the next years.

Aquatic Commons

In December 2010, within the framework of the long-standing collaboration between IAMSILIC and the IOC's International Oceanographic Data and Information Exchange ([IODE](#)) the IOC Project Office for IODE in Oostende, Belgium agreed to host Aquatic Commons, the IAMSILIC thematic digital repository, as part of its efforts to promote free and open access to marine scientific information to the global community (which also includes its' own OceanDocs). The cooperation includes technical support. IODE hosting began with implementing EPrints Version 3.2.4 with the official re-launch on 01 January 2011.

The Aquatic Commons repository is expected to continue in growth and use. Upgrading and customisation to the software will be carried out during the next inter-sessional period. The IODE/IAMSILIC Aquatic Commons Management Board will work with the OceanDocs Steering Group to maximize interoperability and mirroring of such things as metadata fields and vocabularies and the planning of products and services which utilize the content and functionality of both repositories.

Management for Aquatic Commons is now administered by a multi-national joint IODE/IAMSILIC Aquatic Commons Management Board. IAMSILIC and IODE believe that this hosting arrangement will promote the synergistic resource sharing efforts of both organizations and permit further development of joint repository services.

Recommendation 1: *It is recommended that the implementation of OceanDocs Coordination Group and Steering Group will be agreed at IOC/IODE-XXI. It is intended that the groups of representatives will meet during e-meetings. However, it will still be necessary to have face-to-face meetings on a periodical base (every two years ?). It is recommended that a first meeting for one week be held during the period June – September 2011. This first meeting will focus on the OceanDocs structure and policy and on the participation in the VOA3R project.*

Recommendation 2: *It is recommended that an amount of US\$20000 be allocated for the organization of the OceanDocs Start Up meeting, to cover the travel cost and per diem of the participants as well as the organization costs. The VOA3R Project can contribute US\$10000.*

Recommendation 3: *It is recommended that an amount of US\$5000 be allocated for the software used in the OceanDocs Network (AgriOcean DSpace) to be kept up to date. VOA3R provides a framework of standards. The OceanDocs Coordination Group will define the future needs. (VOA3R funding: US\$5000).*

Recommendation 4: *It is recommended that a formal agreement is established between IODE and the International Association of Aquatic and Marine Science Libraries and Information Centres(IAMSILIC) defining Aquatic Commons, ownership, stewardship, hosting and technical responsibilities and Terms of Reference for the new Aquatic Commons Management Board.*

Recommendation 5: *It is recommended that an amount of US\$3000 be allocated to co-fund with IAMSILIC developments to the Aquatic Commons; to cover IODE staff, training, version upgrades and bespoke customization.*