DIVING INTO OUR DIGITAL FUTURE: DEFINING IAMSLIC'S DIGITAL ARCHITECTURE

Panel members:
Stephanie Haas, Facilitator;
Pauline Simpson, Head of Information Services, Southampton Oceanography Centre;
Steven G. Watkins, California State University, Monterey Bay;
Daniel Belich, Ernst Mayr Library, Harvard;
and Jean Collins, FAO, Rome

The introduction and notes on Pauline's, Steve's and Stephanie's sessions were written by Janet Webster with clarification by the speaker; Daniel Belich and Jean Collins submitted their own summaries.
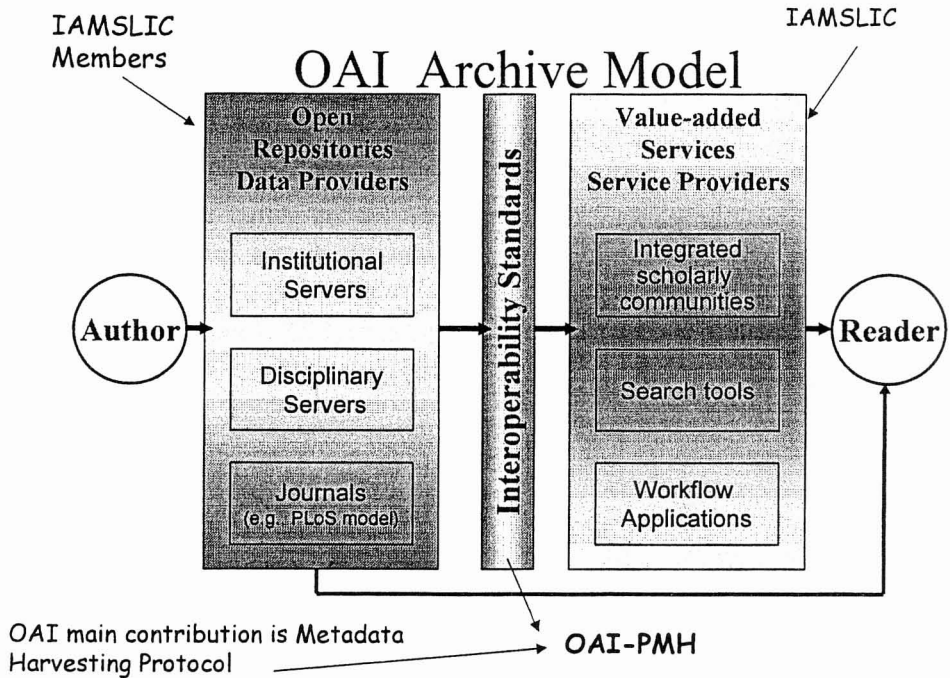
Introduction:

There are a number of digital initiatives that are of current interest to IAMSLIC including the UN Atlas of the Oceans, INFOMINE subject guides, digitization of IAMSLIC publications, the Z39.50 Distributed Library, ASFA's linking to digital content, and institutional e-prints. There are so many and such varied projects that it is difficult to know where to focus. Yet, IAMSLIC as a whole can do much to move initiatives forward in ways that expand out digital future as a community. Some of these initiatives are described here with discussion on IAMSLIC's and its members' roles.

Institutional Repositories – Pauline Simpson

Pauline followed up on her 2002 proposal that all IAMSLIC members should implement OAI compliant e-Print archives. She used the e-Print service, **e-Prints Soton**, at the University of Southampton as an example of one approach to an institutional repository (IR). The concept of an IR is to build open access to the world's research literature, institution by institution. Another model builds this access through subject-based repositories. Both approaches are credible and not exclusive and are in use globally.

The first e-Print software was GNU Eprints, but new free IR software is developing rapidly with DSpace being one of the most visible products. Others include CDSWare developed by CERN, ARNO, and bPress used by the University of California's eScholarship program. All such software is OAI compliant to ensure open access and interoperability. [A October 2003 study by the Open Society Institute, *A Guide to Institutional Repository Software*, technically reviews five systems: CDSware, DSpace, Eprints, i-Tor, and MyCoRe. http://www.soros.org/openaccess/software/]

The model of institutional e-print servers would look like this:

IAMSLIC Members | OAI Archive Model | IAMSLIC

Open Repositories Data Providers — Institutional Servers, Disciplinary Servers, Journals (e.g. PLoS model)

Interoperability Standards

Value-added Services Service Providers — Integrated scholarly communities, Search tools, Workflow Applications

Author → Reader

OAI main contribution is Metadata Harvesting Protocol → OAI-PMH

IAMSLIC Members would be Data Providers and adopt the OAI technical framework as a means of exposing metadata about their content (held in institutional repositories)
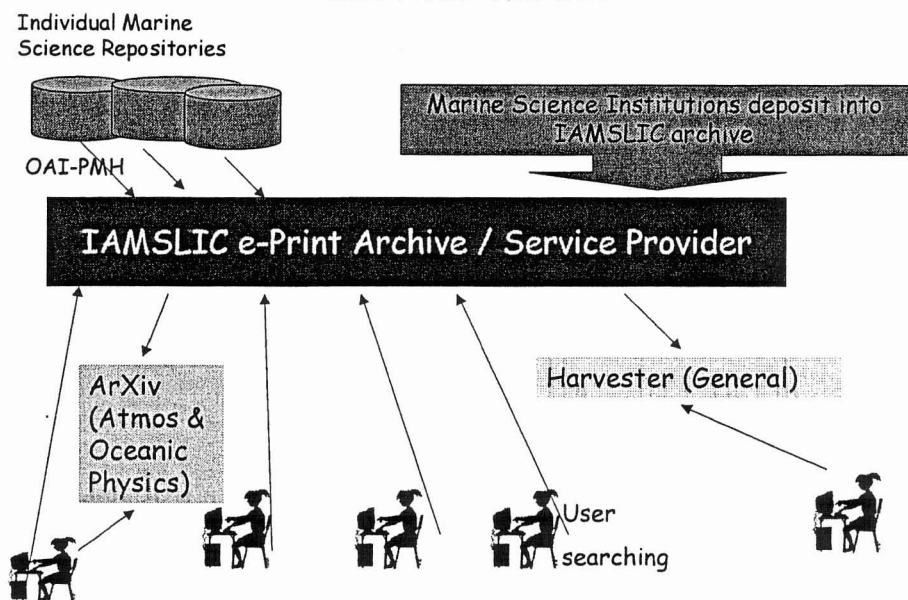 –OAI conformant
  –OAI registered
  –OAI namespace-registered

IAMSLIC would be a Service Provider harvesting metadata from Data Providers using the OAI protocol and using the metadata as the basis for value added services

Whatever system is used locally, the power of IRs is the ability to harvest information from any of them. Pauline suggests that IAMSLIC could help build a marine and freshwater science IR using one of two models. The first has IAMSLIC taking an active role by providing a marine and freshwater science e-Print service that also links to existing marine science IRs as well as possible regional repositories (e.g. ODINAfrica.). The second model suggests a broader role with IAMSLIC hosting an e-Print server (Digital Repository) as well as a Cross Search Service harvesting marine and freshwater

science information using software such as PKP OAI Harvester (www.pkp.ubc.ca/pkp-harvester/). Either approach would require a commitment by a core group of IAMSLIC members as well as some funding. This is well worth exploring. A schematic of this model is shown below:

IAMSLIC Marine e-Print Archive – another model

Individual Marine
Science Repositories

Marine Science Institutions deposit into IAMSLIC archive

OAI-PMH

IAMSLIC e-Print Archive / Service Provider

ArXiv
(Atmos &
Oceanic
Physics)

Harvester (General)

User

searching

Pauline emphasized the benefits of IRs as well as the complexity of organizing one. IAMSLIC would have to address these issues seriously before moving ahead. Issues include policy decisions such as scope, contributors, structure and formats, software decisions, expertise in IT and information management, and organizational support. There are also technical decisions to be made – metadata, mandatory fields, file formats, subject hierarchies, and quality control. The process for depositing materials would have to be described and then promoted. IAMSLIC could take a large step forward if we decide how to participate in an IAMSLIC Digital Repository for marine and freshwater sciences research output.

FAO Digital Projects – Jean Collins

Before commenting on the broader subject of IAMSLIC's digital future, I outlined three of FAO's digital products in which IAMSLIC could play an important role and in which FAO is seeking collaboration, namely:

UN Atlas of the Oceans http://www.oceansatlas.com. The idea of IAMSLIC collaboration on the Atlas had been sent to the Board for comment in June, when it was

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agreed that existing committees are overstretched and broader feedback from the membership was needed. The inclusion of a presentation at Conference by Dr. John Everett (Chief Editor of the Atlas), gave the opportunity to discuss the possibilities and constraints for IAMSLIC collaboration, either by individual members or as an association.

The issues which had been presented: a potential partner must have information products and/or expertise which it wants to share with the Atlas, and which Atlas users want; the Atlas should not duplicate what the partner does well already but ideally synthesise and enhance it; the collaboration should add value to the Atlas as well as to the partner; IAMSLIC has expert competence in information management as well as general competence on substantive issues.

Ideas for IAMSLIC collaboration were: accepting responsibility to review areas of the Atlas and to evaluate the content e.g. suggest improvements, identify gaps, identify potential partners to fill these gaps; accepting responsibility for the maintenance of a substantive section of the Atlas, for instance the ABOUT section, or an IAMSLIC presence dealing with information management, resource-sharing, marine information resources etc.

It was suggested that individual members with an interest in collaboration would contact John Everett directly and that Steve Watkins would send an IAMSLIC response on possible collaboration to Serge Garcia, FAO.

Aquatic Science and Fisheries Abstracts (ASFA): Richard Pepe, Chief Editor of ASFA, has suggested that contact with an ASFA advisory group or committee within IAMSLIC would help to ensure that the views of users were taken into consideration when there were proposed changes to the database. He suggested the setting up of a small IAMSLIC ASFA committee, preferably of people with cataloguing and search expertise, as most of the questions are in this area i.e. if the way of entering the data is changed will it improve or worsen retrieval. A willing ASFA contact person(s) would be able to direct questions to appropriate IAMSLIC members for advice or opinion if their expertise was more relevant.

Subsequent to the panel session, discussions were held with various people and it was agreed to respond with the following proposal: Amelia Chavez, CICESE (Mexico) agreed to be the contact person for ASFA and with her two colleagues from UNAM (Mazatlan) and UABC would provide the first analysis and response to ASFA queries. This would be sent to Steve Watkins for additional comment and further review as necessary.

I suggested that an additional role for IAMSLIC would be to lobby CSA on behalf of all members particularly those with restricted Internet access. An example would be the announcement made the previous day that CSA would not renew its contract with Silverplatter/OVID to produce the ASFA CD ROM. This decision will have serious implications for many CD ROM users and, although CSA assured the Conference that they would find an alternative solution, IAMSLIC is in a position to represent its members and ensure that the solution is satisfactory.

AGORA -- Access to Global Online Research in Agriculture is an initiative to provide free or low-cost access to major scientific journals in agriculture and related biological, environmental and social sciences to public institutions in developing countries. Launching on the 14th October 2003 in Rome, AGORA will provide access to over 400 journals from the world's leading academic publishers. Led by the Food and Agriculture Organization of the United Nations, the goal of AGORA is to increase the quality and effectiveness of agricultural research, education and training in low-income countries, and in turn, to improve food security. Researchers etc. will have access to high-quality, relevant and timely agricultural information via the Internet. The fisheries and aquaculture sectors are well covered with over 50 aquatic science journals and many more relevant titles in the environmental, economics, food and nutrition journals. Over 800 institutions in eligible countries, some 25% of them fisheries, have already been contacted. The launch of AGORA is of course only the beginning - the real work will be in awareness raising, training, helping libraries to lobby for better internet access and strengthened library resources, bringing in more commercial publishers, for example the many Societies which publish fisheries journals, identifying gaps etc. All of these are areas in which IAMSLIC can play an important role via its membership and as a focal point for the dissemination of AGORA information.
http://www.aginternetwork.org/en/index.php

DIGITAL FUTURE: It is in FAO's interest to ensure that there is provision for the fisheries literature, and in particular for the grey literature published in developing countries, in relation to developments in open archives, digital repositories, metadata harvesters and other necessary tools of the digital age. FAO hopes to collaborate with IAMSLIC initiatives in these areas and to contribute to the development of guidelines and standards in order to facilitate the improved dissemination of fisheries information and the sharing of information resources. It is hoped that Janet Webster, Hatfield Marine Science Center at Oregon State University, will spend part of her sabbatical year on the FAO Visiting Expert Programme during 2004 and that we can work with IAMSLIC partners on these developments.

INFOMINE and Marine Science Subject Guides – Speaker and Summary by Dan Belich.

The Web Subject Directory Committee has arranged a pilot program with INFOMINE to create a database of records pertaining to aquatic sciences. Members of the committee tried inputting metadata about relevant web sites into INFOMINE using its iVIA software program. This program will automatically assign keywords and subject headings culled from the site. Dan, as the key contact, then reviews each submission and passes it along to the editors of INFOMINE for final approval. A minimum of 400 sites is required before a separate category for aquatic sciences can be created on INFOMINE.

As the project is in its infancy, we are still considering other options. An attendee at the conference suggested we take a look at the Internet Scout Project's "Toolkit" software, which fulfills a similar purpose as INFOMINE.

Notes on this session by Janet: Peter Pissiersens of IOC reminded the group of the existence of OceanPortal, a portal to over 4000 web sites on ocean science. This was based on Oceanpilot and continues to be maintained by IOC. It is not currently OIA compliant nor does it use Dublin Core, both of which would facilitate harvesting in the current environment. IAMSLIC was encouraged to use OceanPortal rather than start a new site. Another site would still be needed to collect aquatic sites as IOC's mandate is ocean. Are there other subjects that are not currently covered by OceanPortal that would need to be addressed?

Z39.50 Distributed Library – Steve Watkins

This highly successful project links IAMSLIC members' library catalogs, making cross searching possible. It has facilitated resources sharing. However, it is only one piece of the digital puzzle. IAMSLIC needs to explore other options to link beyond the catalog records to other digital content. For example, Oxford University has a project using Z39.50 that incorporates XML protocol to link in to new repositories. Z39.50 is one standard, and serves IAMSLIC well in our Distributed Library. Its limitations suggest we should explore other protocols and solutions to searching digital content and resource sharing.

Defining IAMSLIC's Digital Future – Stephanie Haas

IAMSLIC has implemented many successful digital initiatives. These include the e-delivery of our quarterly newsletter, the digitization of our proceedings and newsletters, the Z39.50 Distributed Library, electronic voting and the redesign of our web page. We are faced with many more possibilities as described above. Discussion of the possibilities suggests that IAMSLIC could help its members by adopting standards as well as funding projects. Specifically, the members asked for guidance in setting metadata standards and technical scanning standards for both access and archival applications. It was also suggested that a student be hired to input web sites already identified by IAMSLIC members. Members also agreed to share digitization grants.