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**The Global Directory of Marine and Freshwater Professionals:  
OceanExpert**

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## 1. Introduction - 1997-2001: GLODIR

OceanExpert started as the Global Directory of Marine (and Freshwater) Professionals (GLODIR) in 1997 after the IODE Group of Experts on Marine Information Management (GE-MIM) had noted that the International Directory of Marine Scientists project, developed and maintained in the 1970s and 1980s by several UN agencies had been stopped despite its high appreciation by the ocean research community.

The first version of the new GLODIR was launched in 1997 as a web product enabling experts to enter and edit their information. Whereas the first version used the full ASFA subject descriptor set to enable experts to define their expertise, this was quickly dropped as experts showed little enthusiasm to spend the time required to pick descriptors from this extensive list. It was therefore decided to use a far more limited list of subject descriptors.

In 1999 a number of IASMLIC members agreed to cooperate in GLODIR as national or regional 'input coordinators'. This led to a rapid increase (doubling!) in the number of entries and GLODIR passed the size of 10,000 records at the end of 1999. At that time it was decided to add the citation field enabling experts to include short descriptions of their most important and/or recent scientific publications. This also proved to be a success as within a year over 15,000 citations were added.

Once a year all experts registered in GLODIR received an email inviting them to update their record. On average 30-40% of the experts responded to this request. A big problem turned out to be the password required for editing records: in many cases the registered experts forgot this password and needed to obtain it from us.

Another problem was that experts who had not provided an email address (or who had been registered by the national/regional coordinators without an email address): although we attempted to send out printed update requests to over 3000 experts this proved to be an impractical, expensive and time consuming exercise that could not be maintained. By the year 2002 the number of records reached 13,500, of which 3000 did not have an email address.

## 2. 2002: OceanExpert

Early 2002 the need to re-engineer GLODIR was assessed. It was found that the technical solution on which GLODIR was based until then (Filemaker database served over the internet

with Lasso as middleware) had reached its limits with response times of up to 2 seconds. In addition the mailing function of GLODIR (sending out email to all or part of GLODIR addresses) caused crashes or serious slowdown of the server when the number of addressees exceeded 1000. It was therefore decided to migrate GLODIR to a more robust and flexible solution. A contractor was hired to re-engineer GLODIR during the summer of 2002.

The following new features were specified:

- (i) easy registration with 'forgot my password' function that emails the forgotten password;
- (ii) enable registered expert to send emails to others in the same country and/or with the same research interest ("community subscribe" function to receive such mails and "community mail" function to send such mails);
- (iii) citation alert: to receive an email alert when an expert with your research interest submit a citation. In addition, to respond to the request to also provide a 'directory of research institutions' the system now uses a 'controlled' institution list whereby new experts can choose from a list of institutions previously entered.

The technology solution chosen is based on the open source MySQL database management system and PHP programming language. Last but not least we decided to rename GLODIR to a more intuitive 'OceanExpert' and the domain name [www.oceanexpert.net](http://www.oceanexpert.net) was registered. The new OceanExpert has been launched officially on 1 November 2002. The 3000 addresses that do not have an email address were also removed.

### 3. Recommendations of GEMIM-VIII related to OceanExpert

The Eighth Session of the IODE Group of Experts on Marine Information Management (GEMIM) was held at CSIRO, Hobart, Australia in September 2004. The Session reviewed the implementation of its 7th Session decisions and prepared a comprehensive work plan for the next inter sessional period. One of the focuses of the session was the further development of the OceanExpert.

It was noted that the most significant effects of the new OceanExpert are:

- Increased maintainability and flexibility: the code is now much simpler to understand and alter, making the implementation of new features much easier.
- Permissions system: members of OceanExpert can now be given permission to edit other people's records. This enables a user to take responsibility for editing a group of records, using only their own login.
- Groups system: members can be specified as members of multiple 'groups', allowing specialised views on the system which appear to be separate sites but operate from the same underlying database.

The application had furthermore been migrated to a new Linux server, significantly improving search speed. Several methods of searching the database are currently available. From the "Simple Search" page, users can run a quick query querying the database by Surname or Country. In addition users can browse by country or by Subject (area). The Advanced Search page provides more options and allows the user to combine criteria in order to achieve more specific results.

Discussions at IAMSLIC 2003 did not lead to volunteers offering to coordinate data entry and editing for individual institutions. As such data entry remained limited to voluntary entries by individual professionals. There is a considerable need for updating and validating of records. Ms. Suzie Davies reported 381 records for Australia. Many are out of date. Ms Davies has been promoting the product but the number of records remains unsatisfactory. There are a few

marine related associations in Australia that jointly represent about 1500 experts. Few of the members are included in OceanExpert.

**The Group noted** that the system has not sent out update requests for the past five years and this probably made people loose track of OceanExpert.

The Group had extensive discussions on the need of OceanExpert. It was observed that today's Internet enables people to easily find full address information of fellow experts, whereas such information, in the near to distant past, was only partially available from journal articles. In addition experts have access to electronic discussion lists that cover a wide variety of scientific subjects. It was observed that these new technologies have made a global directory, from the individual expert point of view, rather obsolete.

**The Group noted** however, that from the national science manager point of view, a directory is still very valuable as it will enable national scientific committees to monitor the number of experts in a given subject area. The Directory could also be useful for employers to identify available expertise. In this regard the Group recommended the addition of field "skills and expertise".

The Group summarized OceanExpert's current and required features as follows:

OceanExpert provides:

- personal/contact information;
- information on job carried out by individual
- information on papers published by individual
- organizational contact information
- list of national organizations
- list of experts at country or regions level
- list of experts at subject level
- search ability by language

OceanExpert also needs to provide:

- information on individual expertise and skills
- possibility to search by region (draw a box? List of countries)
- facility to advertise job opportunities
- list of experts sorted by organizations
- general: set of standard reports, nicely formatted
- search and report on publications
- unique and universal expert identifier

**The Group noted with regret** that only the sub-directories (such as AFRIDIR, CARSADIR, HABDIR, etc.) had been maintained and updated regularly. The Group concluded that management of records can only be manageable if the directory is sub-divided in smaller groups by subject area or country, and that each of these groups is managed by individual managers.

**The Group expressed** its disappointment that the administrative function that allowed individuals to manage groups of records (institutional, national, regional) was no longer available in the new version of the software, and instructed the Secretariat to re-instate this function.

**The Group further instructed** the Secretariat to enable searching OceanExpert by every field.

**The Group stated** that it should also be able to generate a variety of reports (eg list of organizations in country x). The Group **instructed** its Chair, in consultation with members, to identify necessary reports and send instructions to the Secretariat.

**The Group noted** that OceanExpert should also provide a “job opportunities” service on its web site and instructed the Secretariat to develop this feature.

**The Group recommended** that a link is added in OceanExpert to ASFA in each individual results page). Users can then manually search ASFA, if they are subscribing to it.

**The Group considered** that it would be useful to have unique identifiers for individual authors in ASFA as this would enable a link in OceanExpert to ASFA to generate a list of publications by that person.

**The Group considered** that OceanExpert could become an authority list for ocean experts providing each author with a unique and universal identifier. This identifier could then link to any content created by that author (eg data sets, publications, projects etc). The databases of such content could be created and maintained by any external content provider but the personal/contact information would be maintained in OceanExpert. MathSciNet can be used as an example of an authority list.

A similar approach may need to be applied for organizations.

With regard to subject categorization in OceanExpert, **the Group recommended** to add scope notes for the 12 top level categories. This could be done by a link to a document that provides the full list or as a mouse over for each category that then displays the scope notes (=sub-levels).

**The Group further recommended** adding a field “suggested category” on the record entry form to enable users to point out gaps in the top-level categories.

**The Group established** an inter-sessional working group, composed of Ms. Suzie Davies, Ms. Pauline Simpson, Mr. Peter Pissierssens and Mr. Benjamin Sims to (i) follow-up the implementation of the technical recommendations; (ii) prepare a brief management plan that will describe the terms of reference of OceanExpert, as well as a more detailed plan for future development. The inter-sessional group was tasked to complete its technical work (i) by April 2005. The document on future developments will be prepared early 2005 for submission to IODE-XVIII. (The action was not done due to the Indian Ocean Tsunami event and full occupation of Mr. Peter Pissierssens by the related problems).

**The Group recommended** to proceed with OceanExpert as described above and to evaluate the product at its next Session. The Group further recommended that financial resources be made available to maintain OceanExpert.

#### 4. Proposed Activities

The OceanExpert has grown steadily since its recreation in 2002, receiving more than 7500 visits in 2004 with more than that expected in 2005. However its big database is currently in need of review and data validation. Similarly, the software system requires some maintenance in response to requests from users for feature improvements and based on the comments of the GEMIM group.

## 5. Budgetary Requirements

Budget requirements for the project are for the software maintenance (\$3,000) and data cleaning and maintenance (\$3,000) for period 2005-2007. The funds will come from the IODE Regular Programme.