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Editorial



The 34th Annual Conference of International Association of Aquatic and Marine Science Libraries and Information Centers is coming soon!

Rapid environmental changes place emphasis on the increasing importance of marine information worldwide and this is recognized and supported by national governments and international organizations. Marine information managers and librarians play a key role in collecting, processing, archiving and disseminating relevant information to stakeholders and the general public. Communication is essential to ensure that work is effective and of a high standard. This is especially important for the South Pacific region which lacks professionally trained library staff, slow bandwidth or no internet connection in the libraries and little or no security of marine library collections from natural disasters.

The PIMRIS Coordination Unit has been very busy with preparations and local arrangements for the IAMSLIC Conference which will take place from 14-18 September 2008 in Suva, Fiji. The conference theme is "Sustainability in a Changing Climate". Sessions will include presentations by scientists and panels of library and information professionals. They will focus on climate change and fisheries as well as changes occurring in libraries. A Pacific Islands Regional Group meeting is included in the program.

We invite you to join us for this important conference. Details can be found on the IAMSLIC web site at www.iamslc.org.

Maria Kalenchits, PIMRIS Coordinator

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Photo credit: Viliamu Iese

Directory

PIMRIS is a cooperative network of fisheries and marine resources libraries and information centres in the Pacific. Participants include ministerial libraries and the regional agencies listed below. For additional information contact the Coordination Unit or a specific agency.

Pacific Regional Environmental Programme (SPREP)

Peter Murgatroyd
*Information Resource Centre Manager
and PEIN Coordinator*
peterm@sprep.org
www.sprep.org

Secretariat of the Pacific Community (SPC) / Secrétariat général de la Communauté du Pacifique

Jean-Paul Gaudechoux
*Fisheries Information Adviser
/Conseiller en information halieutique*
JeanPaulG@spc.int

&

Eleanor Kleiber
Librarian / Bibliothécaire
EleanorK@spc.int
www.spc.int

South Pacific Applied Geoscience Commission (SOPAC)

Dorene Naidu
Library Services Officer
Dorene@sopac.org
www.sopac.org

South Pacific Forum Fisheries Agency (FFA)

Eddie Marahare
Information Officer
Eddie.Marahare@ffa.int
www.ffa.int

University of the South Pacific (USP), PIMRIS Coordination Unit

Maria Kalenchits
Librarian/PIMRIS Coordinator
with
Frances Chute & Sofie Kubuwai
Library Assistants
pimris@usp.ac.fj
www.usp.ac.fj/library/pimris.htm

New Faces, New Places



Vaiola Maiava has worked as a Librarian in the FAO Sub-regional Office for the Pacific Islands (SAPA) since 2007. Vaiola was one of the participants of the PIMRIS/ PEIN Training Workshop on the Migration of Moana Database of Pacific Marine Resources to Greenstone Library

software that took place on 12th of March 2008 in SPREP Training Facilities (see more information about Workshop on p 7)



Ataban Kapule was appointed Librarian at the Solomon Islands Ministry of Fisheries and Marine Resources in March 2008. Ataban's main challenge is to re-establish the fisheries library and information services in the Ministry. Ataban has already received in-country training from the PIMRIS Coordinator and will be installing Koha software to manage their collection shortly with the assistance of FFA staff. Ataban Kapule has been granted a 3-year IAMS LIC membership.

Lisi Wu, a Student Assistant, joined the PIMRIS Coordination Unit for three weeks in December to help with various tasks, including: scanning materials for Moana database, shelving and minor book repairs. Lisi is studying accounting and finance at USP. Thank you Lisi for your assistance.



SPC Coastal and Oceanic Fisheries Digital Library

Franck Magron

*Reef Fisheries Information Manager
SPC, Noumea, New Caledonia
FranckM@spc.int*

The Secretariat of the Pacific Community (SPC) has been involved in marine resource management since its creation, 60 years ago. Since then, thousands of papers and reports have been produced by, for, or in collaboration with SPC, and have been archived over the years by SPC's library.

These documents are invaluable for retracing past records of marine resource exploitation in the Pacific Islands region, providing information that is no longer available anywhere else; for example, commodity export figures for the 1920s and 1930s. While digging through 60-year-old reports can be a thrilling experience, it requires considerable time and physical access to documents. In practice, old reports and meeting papers are rarely accessed and are not easily searchable.

Recent documents have been made available electronically on SPC's website, but they are scattered in different places and not searchable through a common interface. Moreover, not all fisheries officers in the Pacific have access to the Internet; and those that do sometimes have difficulty downloading documents because of limited bandwidth.

The challenge of this project was to resurrect historical documents and make them, as well as more recent papers, available to the largest audience possible — whether they have access to the Internet or not — and provide search and retrieval tools for thousands of documents collated into a digital library.

A strong collaboration between SPC's library, the Fisheries Information Section and the Reef Fisheries Observatory (with funding from the European Union through the Pacific Regional Oceanic and Coastal Fisheries Project) made it possible to create both a DVD (with annual releases) and an online version of the fisheries library that can be accessed from the Internet <http://www.spc.int/mrd/fishlib.php>

The first part of this article describes the general process of creating a digital library, while the second part reviews its practical uses.

Building a digital library

Building a digital library is a process that involves scanning and performing optical character recognition (OCR) on historical documents so that they are searchable in full text. This process also attaches additional information (metadata) such as title, author or year of publication to each electronic document to improve searches and provide relevant results. Archived documents must be indexed using full text and metadata so that they can be searched and retrieved.

Figure 1 depicts this process, and shows that entering metadata and proofreading documents are tasks that require considerable staff time, whereas optical character recognition is a computer intensive operation that can be automated and requires little human intervention.

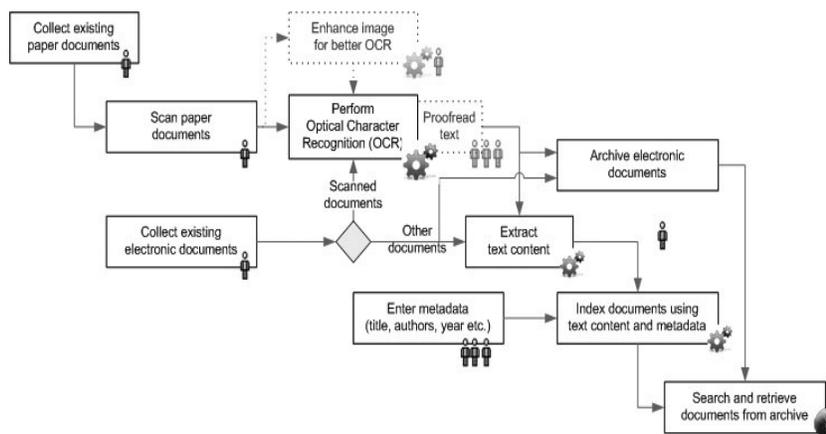


Figure 1: Task flow for building the digital library.

Optical character recognition of scanned documents

Optical character recognition (OCR) is the process of analyzing pages of a scanned document and recognizing the text, possibly introducing typos and errors that cannot be corrected automatically. We chose not to proofread the recognized text and to save scanned documents as “PDF/Image over text”, a file format in which the original page is displayed as an image, while the underlying text is indexed and searchable.

Performances and the possibility of running automated tasks were evaluated for several OCR applications. We finally selected FineReader™, which performs well on most documents.

Performance, however, is poor for older documents where ink may have faded, bled or diffused through the paper. A typical black and white scan of a text page, for example, uses a threshold to separate text from background, which produces highly contrasted text but wipes out faded characters. The same page scanned as a “grayscale” image can, on the other hand, be enhanced using image processing as shown in Figure 2.

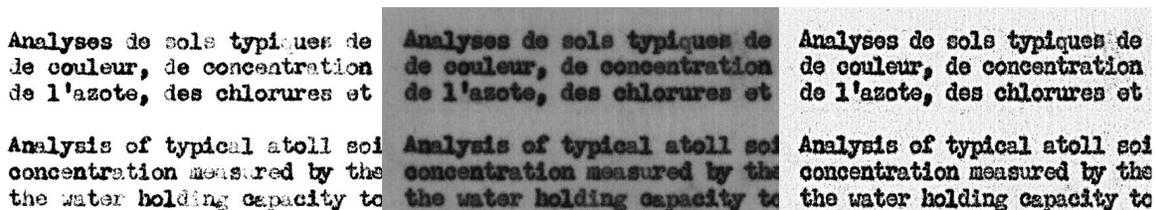


Figure 2: Document scanned as black and white text, as a grayscale image, and the latter after image enhancement.

Because grayscale image enhancement takes much more human and computer time than the standard process, it is only used when a document cannot be otherwise scanned or text recognised.

Finally, the quality of text recognition by OCR software is better if the language is correctly set before the recognition is performed. The reason is that the software uses intrinsic properties of each language, such as the probability that a given character follows another, and word lists.

For example, a document in French recognised with English settings will be poorly recognised, which is an issue for SPC’s conference papers that are available in both French and English, and for other bilingual documents. Figure 3 shows the impact of language settings on recognition.

- (1) Moreover, **our** informations **about** phyllosomas and pseudibacus of the genus Scyllarides are summed up, and an **attempt** of a key for **the** identification (...)
Dans un article **precedent**, paru dans les **manes** Cahiers (CROSNIER, 1972), nous avons **etudie** les larves phyllosomes et les post larves de Panulirus
- (2) Moreover, **oui-** informations **aboul** phyllosomas and pseudibacus of the genus Scyllarides are summed up, and an **attempt** of a key for **ihe** identification (...)
Dans un article **precédent**, paru|dans les **mêmes** Cahiers (CROSNIER, 1972), nous avons **étudié** les larves phyllosomes et les post larves de Panulirus

Figure 3: The same bilingual document recognised with English (1) and French (2) settings.

Note that it is possible to detect the language of a document a posteriori using recognised text statistical properties, and checking to ensure the language settings were correct, or redoing the recognition with corrected settings. Bilingual documents are more difficult to process automatically. One solution could be to perform the recognition in both languages and then merge the two documents line by line after language detection; however, this has not yet been routinely implemented in our system.

Metadata, text processing and classification

Attaching metadata to each document can be time consuming, but it is essential both for displaying search results and for determining the relevance of “hits”. For example, the presence of search terms in titles or other metadata fields of a document means it is probably more relevant than other documents where the search terms just occur within the text.

Restricting searches to a certain category of documents is also made possible by metadata. For example, displaying articles from a specific bulletin published during the last three years, or searching documents written by specific authors, is feasible if the information for year of publication, journal and authors has been previously recorded.

Metadata includes:

- Normalised bibliographic elements (MARC, Dublin Core) used to cite the document. These elements can generally be extracted directly from a library catalog such as Koha or bibliographic management programs (e.g. ProCite, Reference Manager, EndNote).
- Keywords and other information about the intrinsic content of the document. Keywords can either be provided by librarians and domain specialists, or they can be inferred automatically by text classification. The pertinence of keywords depends on the broader context of the digital library thematic. For example the keyword fisheries brings very little information in the context of the coastal and oceanic fisheries digital library, and could even interfere with a search. In the context of all SPC documents on the other hand, it can be used to restrict the search to fisheries-related documents.
- Information about the context of the document such as:
 1. links to other articles and papers from the same bulletin issue or workshop
 2. links to other publications from the same author(s) in the digital library
 3. list of other publications where the document is cited
 4. list of other publications cited by the document
 5. list of closest documents in the digital library (measure based on text and metadata)
- Location and properties of electronic files. The same document can be distributed in several formats such as PDF and DjVu or even split into parts to ease Internet download, but all of these files share the same bibliographic and content-related information.

When doing a full text search, metadata is complementary to the text. Because a full text search will look for all occurrences of searched terms in the document and evaluate their importance based on their number of occurrences relative to the length of the document, there is little to gain by adding the very same terms to the keyword list. Yet the relevance of results can be improved by adding synonyms, broader concepts, and disambiguating terms when necessary.

For example, it is possible to search for documents relating to islands or countries that either go by different names or different spellings — Chuuk or Truck, PNG or Papua New Guinea, New Hebrides or Vanuatu — by injecting synonyms during the indexation of documents and the transformation of quoted expressions in queries.

Classification and text analysis can also be used to automatically create additional keywords and give more weight to some terms when evaluating the relevance of results. An additional metadata field with country name for example, makes it possible to restrict a search to documents related to a specific country and improves the relevance of search results that include a country name. This field can be generated automatically based on the geographic names in the title and full text, for example Kiribati will be inserted if the title contains Gilbert Islands or Tarawa.

Finally, disambiguation is the process of analysing the context of the document to determine the meaning of an expression before it is used for classification or replaced by synonyms. For example *T. gigas* can refer to *Tridacna gigas* but also to *Tricornis gigas* or *Tetraedron gigas*. The presence of the term *Tridacna* indicates that *T. gigas* will be expanded to include *Tridacna gigas*.

The creation of synonyms and additional keywords is not mandatory to create a digital library and it complicates the indexing process, however, it greatly improves the results and user experience.

Producing a DVD and online version of the digital library

When metadata and searchable electronic documents have been produced, they must be imported into a system that indexes text and selected metadata and provides an interface to search and retrieve the documents.

For the current DVD version (Digital Library 2006), we used Greenstone 2.71 (available from www.greenstone.org), an open source software that we customized for use of sub-collections indexes, hierarchical browsing of documents, and to provide an SPC fisheries look and feel. Greenstone is freely redistributable, has a simple search interface, and can be launched from a DVD without any software installation.

For the online version, we developed our own interface using Lucene, a powerful open-source indexer that we extended for multi-word synonyms and preprocessing of unquoted queries to transform list of terms such as American Samoa reef fisheries into quoted terms (“American Samoa” “reef fisheries”) and give more emphasis to documents that contain the quoted expressions. The online version currently provides access to more than 5000 documents, compared with 2600 documents for the 2006 Digital Library on DVD.

Because the technologies used for the online and DVD versions are not the same, the results for similar queries can be different, especially the order in which the results are displayed. The on-line search engine is designed to give the best top 10 results as possible for your query whereas the DVD version has more features to browse leisurely the documents.

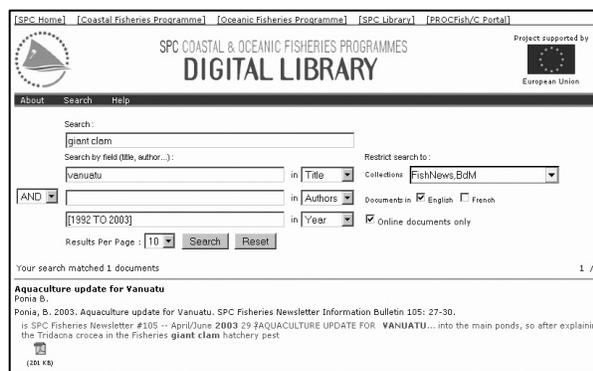
Using the fisheries digital library

Online digital library

The online digital library can be accessed from: <http://www.spc.int/mrd/fishlib.php>

A standard search is done on both full text and metadata, but it is also possible to search only specific metadata fields, and to restrict the search to specific collections (e.g. bulletins, manuals) and languages (e.g. English, French). The help page provides more details about advanced search features.

Figure 4 displays the result of a search on giant clams for the years between 1992 and 2003, where Vanuatu (or a synonym) appears in the title, and where the search is restricted to SPC’s Fisheries Newsletter and Beche de-mer bulletins in English. The search result shows the document title and author, its bibliographic reference, as well as the full text fragments where the searched terms appear.



The screenshot shows the SPC Coastal & Oceanic Fisheries Programmes Digital Library search interface. The search results show a document titled "Aquaculture update for Vanuatu" by Ponia B. from 2003, with a snippet of text mentioning "giant clam" and "Vanuatu".

Figure 4: Web interface of the online digital library.

About 50 documents are added every week by the SPC library with an expected completion of the scan of past SPC coastal and oceanic fisheries documents around mid 2008.

Digital library on DVD

The DVD version is made available to Pacific Island fisheries administrations that received several copies of the 2006 version, whereas the online version is accessible by the general public from anywhere in the world.

To launch the digital library, insert the DVD and press Enter Library. This starts the library, launches your favourite Internet browser, and opens the library home page. Once you have entered the library, you can either search the documents by title, authors, countries and text content, or browse the documents by collection (bulletins, meetings, manuals, posters, etc.), title, authors and countries. Finally, you can open the PDF document by clicking on its thumbnail or PDF icon.

Help on queries is provided when clicking on the Help button on the top right of the document. A new DVD will be released in 2008 with an updated version of the digital library containing around 5000 electronic documents.

Original source: SPC Fisheries Newsletter No.122 – July/September 2007. Reproduced with permission.

PIMRIS/PEIN Joint Workshop on the Migration of Moana database of Pacific marine resources to Greenstone library software



Working together to improve access to full text documents online was the theme of a joint workshop facilitated by the coordinators of two of the Pacific's biggest environment information networks.

The Pacific Environment Information Network (PEIN) and the Pacific Islands Marine Resources Information System (PIMRIS) strengthened existing cooperation through a one day workshop based at Secretariat of the Pacific Regional Environment Programme (SPREP).

The training focused on the redevelopment of the Moana database of Pacific marine resources using

Greenstone library software. It was an opportunity to strengthen PEIN and PIMRIS relations while the PIMRIS coordinator was visiting Samoa.

The day was spent exploring ways in which the two information networks could work together with fisheries and environment departments to improve online access to marine information. Several factors were identified as critical to the future success of both information networks; taking full advantage of new technologies to provide full text access to documents and promoting the importance of sharing documents both within and between organisations.

Participants in the workshop included information officers from the Ministry of Natural Resources and Environment, Fisheries, Food and Agriculture Organisation, the National University of Samoa, the Department of Marine and Wildlife Resources, and SPREP.

The workshop was held on March 13, at the SPREP Compound in Apia, Samoa

Source: SPREP Press Release 14 March 2008. Sharing the Environment Information. By Peter Murgatroyd

IODE/PIMRIS Training Course and Workshop on Marine Information Management for the Ocean Data and Information Network for Small Island States in the Pacific Region,

During a one-week Workshop sponsored by the UNESCO/IOC Project Office for IODE PIMRIS Agency, participants discussed and agreed on a draft version of the proposal for a Pilot Project for a Regional Network of Pacific Island Marine Libraries (ODIN-PIMRIS).

Further networking of marine related libraries and information resources in the Pacific region can be done by strengthening relationships and integrating activities amongst the major regional agencies. The pilot project aims to focus on specific aspects of that broader task, by using the PIMRIS Coordinating Unit as facilitator and coordinator with the support of the IOC/IODE. The ODIN-PIMRIS pilot project will contribute to the objectives of PIMRIS, by focusing on: i) establishing a regional information portal, ii) creating capacity at the national and institutional level to use and contribute to the portal, iii) promoting the portal as a valuable information source for managers and decision makers. Workshop participants agreed on a 2008-2010 work plan for the project.



The workshop was held 13-17 May 2008, at the IOC Project Office for IODE, Oostende, Belgium

Forum Fisheries Agency Library Report

The FFA Library was established at the same time as the Forum and with the objective of providing marine and fisheries information to staff and Fisheries Divisions of the 17 member states.

Today the library is one of several in the region using the KOHA library system software in addition to full internet and email facilities. These technologies support the work of information management and allow fast communication throughout the region.

The FFA Library is one of the key partners of PIMRIS and CLAIM: CROP Library & Archives Information Management Group. The PIMRIS partnership has as its primary aim the sharing of fisheries information to improve accessibility of information in the region. On the other hand the CLAIM Group membership simply advocates the idea of cooperation and harmonization of library goals and capacity building.



The FFA recruitment of a full time librarian in September 2006 signaled a positive step in the development and improvement of its library. The librarian is mandated with the task of managing about 10,000 items comprising mainly FFA publications and reports, as well as other relevant marine and fisheries information available in a variety of formats, including books, CD ROMs and DVDs, and serials.

The FFA library recently adopted a collection development strategy that focuses more on tuna fisheries literature. This evolved in line with the changing role of FFA as a key player in the management and development of the region's tuna fisheries resource.



Tuna fisheries have become a very important industry in the social and economic development of many Pacific Island countries. Therefore the management of information on tuna fisheries could also be classified as significant for the region. The FFA library is currently housing one of the largest tuna fisheries literature collections in the region.

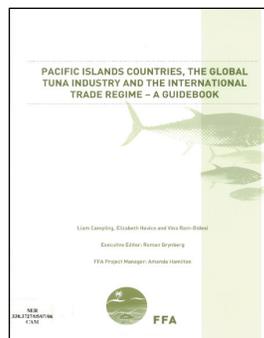
Please see the attached list of the technical reports, meeting and workshop papers that were published by FFA in 2007 and which are now available in the library.

A major development at the end of 2007 was the physical relocation of the library to a new air conditioned room. For 2008, the FFA library aims to have its catalogue available online before end of the year.

FFA reports published in 2007

- 2007/01 FFA Brief to the Joint Tuna RFMO Meeting 22-26, Kobe-Japan / FFA Secretariat.
- 2007/02 US Treaty 19th Annual Consultation Meeting. Vanuatu, 14th-16th March 2007 / US Treaty.
- 2007/03 The Legal Implications of Decisions of the Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific for Cook Islands / Jean Gordon.
- 2007/04 The Legal Implications of Decisions of the Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific for Vanuatu / Jean Gordon.
- 2007/05 Tuvalu Fisheries Offences / by Jean Gordon.
- 2007/06 Pacific Island Countries: The Global Tuna Industry and the International Trade Regime. A Guidebook. April 2007 / Amanda Hamilton.
- 2007/07 Review of FFA Services / Douglas Smith.
- 2007/08 Parties to the Nauru Agreement - Twenty Sixth Meeting; Parties to the Palau Arrangement-Twelfth Meeting; Parties to the FSM Arrangement-Twelfth Meeting, Wellington, NZ, 21-23 May 2007 / Kaburoro Ruaia.
- 2007/09 Forum Fisheries Agency Review of Business Plan, June 2007 / Far North Strategies.
- 2007/10 Construction of New Mezzanine Level at FFA Headquarters. Audit Report 2007 / AMA SI Ltd.
- 2007/11 FFA Knowledge & Information Management - Project Scope Review Draft, December 2006 / Ken Filewood Consulting.
- 2007/12 A Guide to Implementing an Ecosystem Approach to Fisheries Management (EAFM) within the Western and Central Pacific Region / Rick Fletcher.
- 2007/13 Report on the Tuna Fisheries of Vanuatu Using the EAFM Approach / FFA Secretariat.
- 2007/14 MCS Fellowship Report / Kalolaine Manuopangou.
- 2007/15 Forum Fisheries Agency Legal Fellowship 2007 / Derek G. Futaiasi.
- 2007/16 Third International Consultation on the Establishment of the South Pacific Regional Fisheries Management Organization. Santiago, Chile / FFA Secretariat.
- 2007/17 VDS Workshop 12 June 2007, Port Moresby / Kaburoro Ruaia.
- 2007/18 VDS Workshop. Majuro, Marshall Islands 19-21 June 2007 / Kaburoro Ruaia.
- 2007/19 A Guide to Implementing an Ecosystem Approach to Fisheries Management (EAFM) within the Western and Central Pacific Region - Overview / Rick Fletcher.
- 2007/20 An Assessment of Development Options in the Longline Fishery / Peter W. Philipson.
- 2007/21 Gender Issues in the Pacific Islands Tuna Industry.
- 2007/22 An Assessment of Opportunities for Increasing Utilization and Value Adding from Shark By-Catch in Tuna Longline Fisheries of FFA Member Countries / Mike A. McCoy.
- 2007/23 A Business Manual on Value added Products from Tuna and Tuna By-Catch / Robert Stone.
- 2007/24 FFA Brief for the third Regular Meeting of the WCPFC / Lara.
- 2007/25 Report on Residential Rental Review /Howell Facilities.

- 2007/26 Regulation of Transshipment by the Western and Central Pacific Fisheries Commission: Issues and Consideration for Member Countries / Mike A McCoy.
- 2007/27 Pacific islands Forum Fisheries Agency Vessel Monitoring System Review Report / Kaz.
- 2007/28 Addressing Shark Finning in FFA Member Countries: Issues and Consideration /Mike A McCoy.
- 2007/29 Incidental Capture of Seabirds in Pelagic Longline Fisheries of the Tropical and Subtropical Pacific Islands Region and Draft Pacific Islands Regional Plan of Action for Reducing the Incidental Catch of Seabirds in Pelagic Longline Fisheries / Eric Gilman.
- 2007/30 Application of the Ecosystem-Based Approach to Fisheries Management in Tuna Fisheries at the Western-Central Pacific Ocean /Samson Sauni, Moses Amos.
- 2007/31 Pacific Islands Forum Fisheries Agency Annual Report 2006 / FFA Secretariat.
- 2007/32 FFA Security Plan Jan-2007 /Mark Korsten.
- 2007/33 FFA Security Radio Network-Feasibility Study /Peter Thomas.
- 2007/34 UFF Implementation Review Report /FFA Secretariat.
- 2007/35 FFA Cost Recovery Review / FFA Secretariat.
- 2007/36 Capturing Wealth from Tuna / Kate Barclay & Ian Cartwright.
- 2007/37 Summary Record of Discussion of the Fourth Meeting on the Establishment of the South Pacific Regional Fisheries Management Organization for Non-Highly Migratory Fish Stocks /FFA Secretariat.
- 2007/38 FFA Brief Working Group of the Pacific Islands Parties Technical Meeting & Broader Cooperation Talks. San Diego, CA / FFA Secretariat.
- 2007/39 FFA Brief for the fourth Meeting of the Western and Central Pacific Fisheries Commission. Tumon, Guam, USA. FFC 66 Special Meeting /FFA Secretariat.
- 2007/40 Key Reference Documents for WCPFC4 /FFA Secretariat.
- 2007/41 Attachments -FFA Brief for the Fourth Meeting of the Western and Central Pacific Fisheries Commission / FFA Secretariat.
- 2007/42 FFA Brief for the Third Regular Session of the Western and Central Pacific Fisheries Commission's Technical and Compliance Committee / FFA Secretariat.
- 2007/43 Forum Fisheries Committee Special Sixty Fifth Meeting- Summarized Record of Proceedings /FFA Secretariat.
- 2007/44 First Meeting of the Parties to the Niue Treaty on Co-operation on Fisheries Surveillance and Law Enforcement in the South Pacific Region. Rarotonga, Cook Islands, 7th October 2007 / FFA Secretariat.
- 2007/45 FFA Fourth Management Options Workshop. Rarotonga, Cook Islands 10-12 October 2007 /FFA Secretariat.



New Information Resources

Library Project: Climate Change Portal for Pacific

The NOAA Central Library, in cooperation with the National Ocean Service, other NOAA offices, and national and international partners, is developing a *Virtual Library* of climate change resources for coastal managers in the Pacific Islands. The *Virtual Library* will contain websites, reports, data sources, geospatial tools, and other decision support resources to help coastal managers effectively use climate information to make decisions. The project's initial phase targets the information needs of managers in two Pacific Islands, with the intention of expanding the scope to other islands and coastal areas. The Pacific Islands are already facing and beginning to address the impacts of climate change. Factors such as sea level rise, ocean temperature change, intensified storm activity, and ocean acidification will greatly impact coral reefs, the safety of communities, the health of natural resources, and the growth of local economies. The Climate Change Portal *Virtual Library* will help decision makers understand the potential impacts of climate variability and change, and implement adaptation strategies that will increase the resilience of communities and coasts to the impacts. The *Virtual Library* will be completed in October 2008. For more information, contact Mary.Lou.Cumberpatch@noaa.gov, NOAA Central Library, Carrie.Hall@noaa.gov, NOAA Office of Coastal and Resource Management, or Stephanie.Fauver@noaa.gov, NOAA Coastal Services Center

By M.A. Cumberpatch, Librarian, NOAA Central Library.

(Source: Earth System Monitor, vol. 16, no. 2, November 2007)

New newsletter



Vai Pacifika - Joint Newsletter of the Pacific Islands Observing Systems

Announcing the release of the first issue of Vai Pasifika, the joint electronic newsletter of the Pacific Islands Global Ocean Observing System (PI-GOOS), the Pacific Islands Global Climate Observing System (PI-GCOS) and the Pacific Hydrological Cycle Observing System (Pacific Hycos). The newsletter will be distributed quarterly by email and will contain news and articles from all three observing programmes. An electronic copy of the newsletter will also be available for download from the SOPAC website at <http://www.sopac.org/tiki/tiki-index.php?page=Vai+Pasifika>. To subscribe or unsubscribe to Vai Pasifika please send an email to vai.pasifika@sopac.org with either 'Subscribe to Vai Pasifika' or 'Unsubscribe to Vai Pasifika' in the subject line.

Vai Pasifika is produced jointly by SOPAC (Secretariat of the Pacific Islands Applied Geoscience Commission, www.sopac.org) based in Suva, Fiji, and SPREP (Secretariat of the Pacific Regional Environment Programme, www.sprep.org) based in Apia, Samoa. Vai (or Wai) means 'water' in many of the languages spoken in the Pacific islands, and provides a connecting theme to all three observing programmes.

For further information on the newsletter or the observing programmes, please contact: Paul Eastwood, PI-GOOS Coordinator (paul.eastwood@sopac.org), Dean Solofa, PI-GCOS Coordinator (deans@sprep.org). Peter Sinclair & Llyod Smith, Pacific Hycos Coordinators (peter@sopac.org, llyod@sopac.org)

(Source: IAMSLIC Newsletter No 107, Feb 2008)

New Publications

Pearl oyster health management: a manual

By: Bondad-Reantaso Melba G., McGladdery, S.E., Berthe F.C.J. FAO Fisheries Technical Paper No. 503. Rome, 2007, 132 pp., color plates ISBN 978-92-5-105896-1 ISSN 0429-9345 TC/M/A1496/E FAO 109045 USD 40.00

This publication provides guidance on the management of pearl oyster health and reviews pearl oyster mortalities and disease problems that will be useful for designing programmes aimed at reducing the risks from diseases. Part 1 consists of pearl oyster health - the current interest in it and an overview of the cultured marine pearl industry. Part 2 examines pearl oyster health management: husbandry and handling, hatchery production, diseases, field collections of samples, laboratory protocols, national strategies... Certain countries in the pearl oyster producing regions have acquired a great deal of experience in health management of cultured species. Experiences from Australia, the Cook Islands, Japan, French Polynesia, the Philippines, China, the Persian Gulf and the Red Sea are included in Part 3 which also contains a general review of pearl oyster mortalities and disease problems.

Sharks, Rays and Chimaeras. International plan of action for the conservation and management of sharks. FAO Species Identifications publications excerpts on CD-ROM. Rome, 2007 ISBN 978-92-5-105905-0 TC/C/A1515/E FAO109038 USD 30.00

This CD-ROM is a compilation of several FAO species identification publications dealing with Elasmobranchs (Sharks, Rays and Chimaeras). It includes complete publications such as the Catalogue of sharks of the world, the Field guide of sharks and rays of the Mediterranean and Black Seas and the Field guide of sharks and rays of the Red Sea and Gulf of Aden. It also includes excerpts dealing with elasmobranchs from several regional guides:

Eastern Central Atlantic, Western Indian Ocean, Southern Ocean, Mediterranean and Black Seas, Eastern Central Pacific, Western Central Pacific and Western Central Atlantic. [Browsing document system requirement: Adobe® Reader® for Windows®, Linux® or MacIntosh®]

Disaster response and risk management in the fisheries sector

By: Westlund, L., Poulain, F., Bage, H., van Anrooy, R. FAO Fisheries Technical Paper No. 479 Rome, 2007, 70 pp. ISBN 978-92-5-105765-0 ISSN 0429-9345. TC/M/A1217/E FAO108937 USD 26.00

Over the last few decades, natural and human-induced disasters have become more frequent and increasingly destructive. Populations depending on fisheries and aquaculture for their livelihoods have become more and more vulnerable and have been seriously affected by loss of life and property.

This document gives an overview of FAO's work with regard to such disasters in the fisheries and aquaculture sectors, together with the lessons learned and experience gained on how to improve disaster response, preparedness and prevention in these sectors. One of the main purposes of this document is to support policy- and decision-makers involved in disaster response and disaster risk management by increasing their effectiveness in addressing the needs of fishers and coastal communities in relation to disasters.

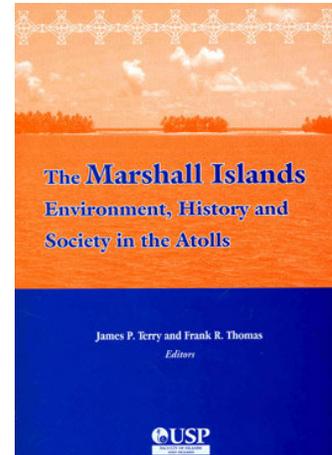
Climate, environment, and society in the Pacific during the last millennium

By: Patrick Nunn, University of the South Pacific, Suva, Fiji. Elsevier, 2007, ISBN 978-0-444-52816-2 USD 145.00

The nature of global change in the Pacific Basin is poorly known compared to other parts of the world. The book describes the climate changes that occurred in the Pacific during the last millennium and discusses how these changes controlled the broad evolution of human societies, typically filtered by the effects of changing sea level and storminess on food availability and interaction. Covering the entire period since AD 750 in the Pacific, this book describes the influences of climate change on environments and societies during the Medieval Warm Period and the Little Ice Age, focusing on the 100-year transition between these – a period of rapid change known as the AD 1300 Event.

The Marshall Islands environment, history and society in the atolls

Published by the Faculty of Islands and Oceans, the book covers a wide range of topics on the Marshall Islands, including chapters on the geography and physical environment, the ecosystems and flora, early human settlement and post-colonial history, traditional Marshallese medicine, and topics on modern applied science related to the exploitation of sand, gravel and rock aggregate, waste management, and the use of geographical information systems (GIS) for socioeconomic analysis. Authors of chapters include James Terry, Randy Thaman of USP, the Director of the USP Marshall Islands Campus Irene Taafaki, former USP lecturer John Morrell, and staff of SOPAC. The book is the second in a series focusing on USP member countries coordinated by Dr. Terry and the School of Geography, the first being *Niue Island: Geographical Perspectives on the Rock of Polynesia*.

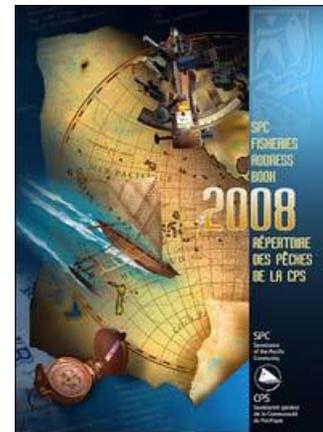


2008 SPC fisheries address book

The latest annual SPC Fisheries Address Book produced by the Fisheries Information Section of the SPC Marine Resources Division has been published and distributed widely in the region.

The FAO/UNDP Regional Fisheries Support Programme (FAO/RFSP) used to publish the well-known 'Addresses useful to Pacific Islands fisheries personnel' which was much appreciated in the region. In 1992, the FAO RFSP ended and the SPC Fisheries Information Section was asked by member countries to carry on publication of the Address Book. In addition to more than 1,300 addresses covering 50 countries, the 2008 Address Book includes Exclusive Economic Zone areas, and population estimates provided by the SPC Demography Programme. If you wish to be considered for inclusion in the annual SPC Fisheries Address Book, please contact the Information Section: cfpinfo@spc.int. The book can also be downloaded from the SPC website at:

http://www.spc.int/coastfish/news/Address_Book/Address_book.htm

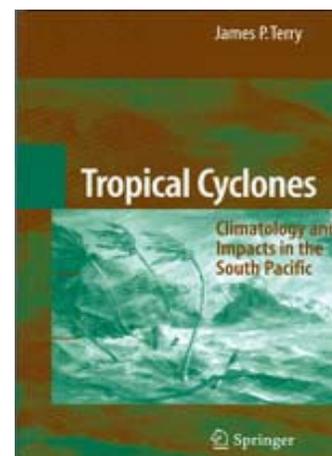


Tropical cyclones: climatology and impacts in the South Pacific. By James P. Terry

This book describes the behavior of tropical cyclones in the South Pacific and investigates the broad range of disturbance effects these violent storms have on the physical environments of the islands that lie in their path and the people who live on them. It is the first book to link these two themes – the characteristics of cyclones and their landscape impacts.

The volume is divided into two complementary parts. The first part explains the nature of tropical cyclones, their genesis, structure, behavior, and extreme meteorological conditions. Future cyclone activity related to climate change is also considered. Part two deals with geomorphological and hydrological responses to tropical cyclones on South Pacific islands. Attention is focused on the effects of cyclones on coral reefs, coasts, slopes and rivers, which often lead to profound landform changes and have lasting influences on both island evolution and on the lives of the Islanders.

James Terry is an Adjunct Professor and a former Head of the School of Geography at the University of the South Pacific in Fiji.



Conference Notices

- 13-18 Jul 2008** Marine Microbes. Gordon Research Conference. Lucca (Barga), Italy
<http://www.grc.org/programs.aspx?year=2008&program=marinemicro>
- 18- 22 Aug 2008** Coast to Coast Conference 2008, Darwin, Australia.
<https://www.coast2coast.org.au/>
- 25-29 Aug 2008** 4th International Symposium on GIS/Spatial Analyses in Fishery and Aquatic Sciences, Rio de Janeiro, Brazil. www.esl.co.jp/Sympo/4th/index.htm
- 16-21 Oct 2008** International Pacific Marine Educators Conference, Townsville, QLD, Australia <http://www.ipmen.net/>
- 20-24 Oct 2008** 5th World Fisheries Congress - "Fisheries for Global Welfare and Environmental Conservation", Yokohama, Japan <http://www.5thwfc2008.com/>
- 11-15 Nov 2008** World Conference on Marine Biodiversity, Valencia Spain
<http://www.marbef.org/worldconference/>
- 1- 5 Dec 2008** 4th Deep Sea Coral Symposium 2008, Wellington, New Zealand.
coral2008.niwa.co.nz/index.php
- 17-19 Feb 2009** 29th Symposium on Sea Turtle Biology & Conservation, Brisbane, QLD, Australia. <http://www.turtlesbrisbane2009.org/>
- 11-15 May 2009** World Ocean Conference, Manado, Indonesia.
www.woc2009.org/home.php
- 2009** World Aquaculture Society Congress 2009, Boca Del Rio, Veracruz, Mexico.
<http://www.mccn.org.au/events/detail/1225>
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