

# SOPAC NEWS

SPC Applied Geoscience and Technology Division (SOPAC)



Interns at work, feeding information into newly scanned and digitised hard data. Stacked behind them are hard data to be digitised

## INSIDE

INTEGRATED WATER RESOURCE MANAGEMENT IS THE KEY TO SOLUTIONS TO WATER WOES

OCEAN AND ISLANDS PROGRAMME CONTINUES TO SERVE MEMBER COUNTRIES

DISASTER REDUCTION PROGRAMME CONTINUES TO HELP MEMBERS

SPC/SOPAC DIVISION ON THE INSIDE

## 40 YEARS OF GEOSCIENCE DATA PACKAGED FOR MEMBER COUNTRIES AND SPC

Ever wondered what had become of all the data and samples gathered and collected for analysis from the earlier research cruises of the 1970s?

Well, other than it being analysed and used, the raw data has been in well cared for storage in various repositories within the SOPAC compound and databank in Geoscience Australia.

Yes, we are talking about 40 years of data some gathered from before most of the nations of the Pacific became independent. All these data are now being digitised, catalogued and packaged for each SOPAC (the Commission) island members under what is called the SOPAC Compendium Project.

The SOPAC Compendium Project is of a special nature due to the consequences of the Forum Leaders decision to merge the functions of SOPAC into the Secretariat of the Pacific Community as of January 1, 2011.

The SOPAC Compendium will be a digital collection of the entire body of knowledge of SOPAC from 1972 to 2010. Given this length of time, around half of the data is still in hard copy format and scattered across the various repositories in the Secretariat.

The type of work SOPAC undertakes has required the establishment of various datasets on geoscientific information on the region. The Compendium Project is

therefore a bringing together of these datasets under one collection for cataloguing and packaging for the Member Countries of SOPAC and for the receiving organisation SPC.

At the Annual Session in 2010, a presentation was made on work completed thus far. Work on the Compendium Project begun in July 2009, when a pilot phase of the project began with Vanuatu.

The pilot phase determined the methodology and process by which the rest of the countries data could be packaged. The pilot phase involved consultation with staff of the Secretariat on the best possible method of extracting information details from the datasets and the best system to facilitate this packaging. This set the process for the production of the rest of the country data packages.

A team of four interns were recruited in October 2010 to facilitate this work and they began to sift through and sort the collection of large format charts by country and type, (cruise track plots, bathymetry, navigational charts, hydrography, physiography, topography and so forth) for digitising; data entry of the digitised hard copy formats into Geonetwork – an interactive portal for maps, GIS datasets, satellite imagery and related applications on coastal, nearshore and offshore non-living resources; and the categorising and entering of documents of SOPAC's current three technical programme areas into an Electronic Data Management System (EDMS).

The nature of the Compendium Project involves a range of systems and repositories, some of which are closed collections while others will be a living and evolving system such as the EDMS and the maps and spatial data repository accessible through the SOPAC website.

Together with staff from the Publications and Library Unit (PLU) and Information and

Communications Technology (ICT), the Compendium Team has been hard at work with the research, collating, cataloguing, digitizing and the development of the best system to facilitate the packaging of each Country Compendium.

To date progress has been made with the digitising of the large format charts and its subsequent entry into Geonetwork for Guam, Northern Mariana's, Papua New Guinea, Palau, Solomon Islands and Vanuatu. Research for the compendium content for SOPAC's work has been completed for Vanuatu and Niue and in process for QA/QC for the Federates States of Micronesia, Marshall Islands, Nauru, Samoa and Tuvalu.

In addition, documents from the Water Programme and the former Energy Programme were entered into the EDMS.

A sample of the magnetic tapes containing bathymetry data has been sent off to Korea as they have the appropriate technology to read the tapes. Talks are currently underway for the entire collection to be shipped over for reading through a partnership arrangement with the Korea-South Pacific Ocean Research Centre.

Towards the end of the first quarter, an additional intern from the Solomon Islands joined the compendium team and is currently researching SOPAC's work in the Solomon Islands.

As of the second quarter of 2011, the following member country compendia are being compiled, Cook Islands, Kiribati, Guam, Papua New Guinea and Solomon Islands. Keep an eye out for an update in the next issue.

Opinions expressed in this publication are not necessarily those of the Secretariat of the Pacific Community, neither does the mention of any firm or licensed process imply endorsement by SPC.

Director : Russell Howorth  
Email : [director@sopac.org](mailto:director@sopac.org) / [russellh@spc.int](mailto:russellh@spc.int)



The compendium website where all digitised data is updated, managed and stored.

# INTEGRATED WATER RESOURCE MANAGEMENT IS THE KEY TO SOLUTIONS TO WATER WOES



SOPAC Water and Sanitation Programme staff attend to students at the national World Water Day celebration at the Civic Auditorium, Suva, Fiji.

On March 22nd, 2011 the Water and Sanitation Programme of the SOPAC Division of SPC in partnership with UN-HABITAT contracted the Water Authority of Fiji to host the annual World Water Day in Fiji. Invitations were sent out to stakeholders for display and exhibition under the Pacific theme of “Working Together for Water Management in Pacific Urban Communities.”

The theme revolved around the global World Water Day theme of “Responding to the Urban Water Challenge” The challenges noted with urban centres are competition for water use, water wasting (water leaks and ruptured water pipes), wastewater (storm run-off), squatter settlements, water supply, sanitation and hygiene, (WASH) issues, local flooding and population growth.

Key messages and solutions revolved around the wise usage of water, proper household water storage and handling of water, proper wastewater management, proper drainage, promoting of rainwater harvesting to provide alternative water source for secondary work such as gardening and improved sanitation and hygiene.

UN-HABITAT is supporting several training workshops focused on water and sanitation in informal settlements in Suva, Lautoka and Labasa through Live & Learn Environmental Education. Also recently, the Water and Sanitation Programme has been part of a joint

collaboration with WHO and AusAID in an effort to prioritise safe drinking water in the Pacific.

As a result, eight countries are participating in developing and implementing Drinking Water Safety Plans (DWSP) introduced by the WHO as a clear, simple, risk assessment and risk management process that addresses the many challenges faced in providing safe drinking water.

Though each country has its own challenges, the unifying issue is that water quality from catchment, through water plants to the pipes that ultimately lead to households is analysed to determine the point of contamination.

Once a hazard is discovered, solutions are deduced on a country by country basis. Furthermore, as part of the DWSP process, a monitoring schedule has been introduced to verify that the hazards identified are brought under control.

Furthermore, a message initiated by the Integrated Water Resource Management (IWRM) programme at SOPAC has “gone mobile” in Fiji with a launch of a bus advertisement driving home a reality message that “Water is Everybody’s Business” painted down the length of one side. Finally, the same sentiments of proper water management were again echoed in the Republic of the Marshall Islands Water Summit in Majuro on March 23rd, 2011.





Students perform a water-related item at the national World Water Day, Suva, Fiji.

The summit was supported by the Water and Sanitation Programme through the EU-funded IWRM Planning Project as well as the Global Environment Fund Pacific IWRM Project. The main concerns were the availability of water, distribution, quality and management.

The summit ended with agreement and support for forming a solid policy platform and investments for water that would also provide important input at regional and international level. Summit outcomes are also expected to inform the regional initiative to revise the Pacific Regional Action Plan on Sustainable Water Management.

## OCEAN AND ISLANDS PROGRAMME CONTINUES TO SERVE MEMBER COUNTRIES

Increase in sea surface temperatures due to climate change are expected to result in more extreme weather patterns such as tropical cyclones that contribute to extreme wave conditions that in turn impact coastal areas.

Yet climate change trends are not expected to be uniform and vulnerabilities of coastal areas will vary locally. This uncertainty is exacerbated by the fact that there is a poor knowledge base on coastal topography, shoreline positions, coastal morphology and nearshore wave climate and bathymetry.

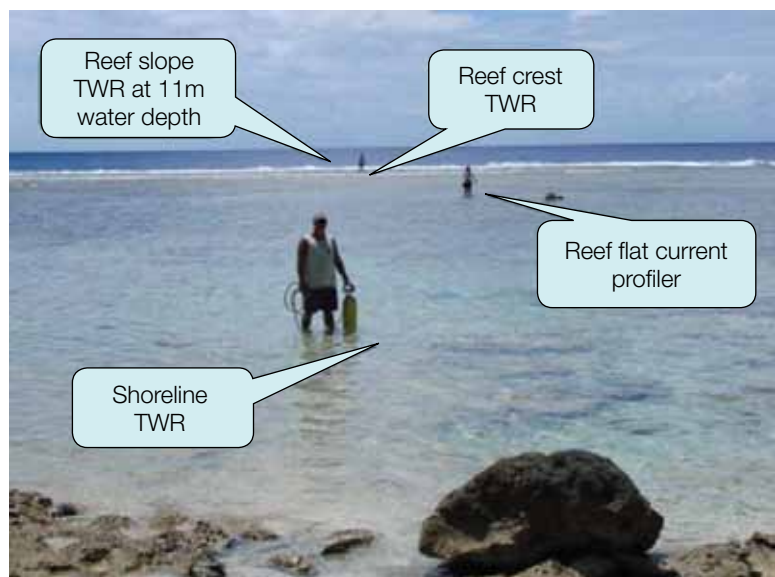
An Ocean and Islands Programme survey team set out on a mission to acquire baseline information to support a risk-based approach to climate change adaptation and variability in the coastal zone of Mangaia Island, Cook Islands, in December 2010 to February 2011.

This involved a comprehensive study of Mangaia Island bathymetry, topography, oceanography, offshore wave climate, extreme event analysis (via a statistical model on cyclone wave scenarios based on historical cyclone data) and coastal wave hazards. Analysis of the data collected will take several months and it is hoped the results will be delivered to the Cook Islands in October.

At the request of the Ministry of Marine Resources (MMR) Cook Islands, the marine survey team

also embarked on a mission to derive a benthic habitat map as well as to investigate the water flow (speed and direction) through Muri Lagoon, Rarotonga, by deploying instruments to collect three months of oceanic data. These surveys produced a base-line habitat map of Muri Lagoon using standard image processing techniques by a combination of high resolution spatial imagery and benthic field data.

It also was an opportunity to build the capacity of MMR staff members to create benthic maps



Location of deployed instruments along reef flat and slope on Mangaia Island, Cook Islands.



of coral reef environments and to improve their understanding of water circulation within Muri Lagoon. Complete data analysis and results will be provided to MMR in the form of a full technical report with metadata, data files, interpretation and maps in May.

A European Union funded Deep Sea Minerals (DSM) Project commenced with the recruitment of the Project Team Leader in early 2011, Mr Akula Tawake formerly a Senior Geologist at SOPAC.

In addition, Hannah Lily, a United Kingdom based lawyer has accepted the position of Legal Adviser and she will take up the position in October. The recruitment of the DSM Project staff has been completed with the recent appointment of Vira Atalifo as Project Assistant.

The inaugural regional workshop for the Project took from the 6th to the 8th of June in Nadi Fiji. This regional workshop drew representatives of participating countries, implementing partners, world renowned experts on issues relating to deep sea minerals, and other interest groups.

Additionally, a meeting of the Steering Committee for an assessment of regional marine mineral resources based on previous scientific studies and exploration was held back-to-back with the June workshop. This meeting is part of a broader SPC-UNEP/GRID-Arendal collaboration under the auspices of the DSM Project to deliver a number of outputs for the benefit of participating countries.

The overall objective of the DSM Project is to expand the economic resource base of

Pacific ACP States by developing a viable and sustainable marine minerals industry.

The SPC-SOPAC Division Geonetwork website (<http://geonetwork.sopac.org>) gives a first order understanding of the valuable data the Ocean and Islands Programme holds. All the information held is owned by Members from which data has been gathered. These datasets include bathymetry, sea-level monitoring information, maritime boundaries, exclusive economic zones, marine habitat maps, hydrographic, deep sea mineral resources survey, coastal geological information, and remote sensing and baseline information such as satellite images and aerial photographs.

Geonetwork allows users to view and also easily download these datasets. However as the SPC/SOPAC Division holds these datasets on behalf of Members, certain restrictions are placed on sensitive datasets, that require the permission from the Members before they can be released.

Currently Geonetwork has been assisted and complemented by the Compendium Team, who now are also involved in the populating of the Geonetwork. This work involves scanning at a high resolution the historical hard copy marine survey maps and photographs that have been archived within SOPAC for over three decades.

This work requires the cataloguing of the maps using the ISO 19115 geospatial metadata structure on Geonetwork. So far, this has contributed to the large collection of marine information held on Geonetwork amounting to 6,168 items in 329.8 GB of digital space.



Brief look into the SOPAC Geonetwork website.

# DISASTER REDUCTION PROGRAMME CONTINUES TO HELP

On January 20th, 2011, following a request from Emergency Management Cook Islands, SOPAC Disaster Reduction Programme through the Disaster Risk Management Project helped draft a feasibility assessment for options available to the Government of the Cook Islands to establish an Emergency Fund for disasters in the Cook Islands.

The main challenge was to develop a concept note and detail the various options that can realistically establish an Emergency Fund that is both sustainable and self-sustained.

In February 2011, members of the policy and planning team of the Disaster Reduction Programme undertook a mission to Vanuatu to finalise an implementation programme for the Disaster Risk Reduction (DRR) and Disaster Management National Action Plan (DM NAP) for the period 2011-2013. This work evolved from a workshop conducted in December 2010 when the Disaster Reduction Programme SOPAC Division presented on the economic impact of disasters.

Another important outcome of the mission was the endorsement from the Climate Change focal point and the Director of the Vanuatu Meteorological and Geohazards Department for the integration of the implementation programmes for the DRR & DM NAP with those for both the Vanuatu National Adaptation Programme of Action (NAPA) and the Climate Change Policy.

This will ensure a more coherent and coordinated approach to dealing with these related issues of natural hazard risk within Vanuatu.

In Samoa the Ministry of Natural Resources & Environment in its capacity as the Chair of the Disaster Advisory Committee invited SPC/SOPAC Division Disaster Reduction Programme to participate in the national stakeholder workshop to review the National Disaster Management Plan of Samoa.

The review progress was broken down into a series of stakeholder consultations to ensure that all relevant stakeholders are consulted and that their views considered and addressed.

The availability of baseline data was identified as an overall crucial issue in normal as well as in times of disaster. Baseline data on local resources, location of vulnerable people and so forth would be essential particularly in terms of a disaster.

Furthermore, States in FSM will receive a new Emergency Operation Centre (EOC) outfitted with early warning communication equipment. This is made possible through funding from the Disaster Risk Reduction Project (B-Envelope Project) implemented by SOPAC and funded by the European Union.

The new EOCs will provide each State with a dedicated operational centre to coordinate responses in the event of a disaster as well as accommodate communication equipment and office space which can be transformed into an operational centre to coordinate responses to hazards. The Project will be investing Euro 1.4 million to upgrade infrastructure and strengthen early warning systems throughout the Federated States of Micronesia.

The SOPAC-based Pacific Disaster Risk Management (Training) Program (PDRMP) in collaboration with the Fiji NDMO delivered for the first time training for officers from the city and town councils in the Central and Eastern divisions.

The Introduction to Disaster Management (IDM) course was delivered for officers from the Suva City Council, Lami Town Council, Nasinu Town Council, Nausori Town Council, and the Levuka Town Council. Also participating were officers



Head of Samoa National Disaster Management Office going through the priorities for action at the National Stakeholders Workshop in Apia, Samoa.



from the Ministry of Local Government, Town & Country Planning, Department of Environment, the Nausori Chamber of Commerce, and NDMO staff.

The participants expressed much appreciation as the course provided them an opportunity to work through identifying the hazards their municipality are vulnerable to; determining the level of vulnerability and risks for each of the hazards that could impact their municipality among others. The Fiji NDMO has plans for 3 more similar training workshops this year to cover city and town councils in the Western and Northern divisions of Fiji.



Group photo at the Disaster Risk Management training for local municipal Government officials, Fiji.

## SPC/SOPAC DIVISION ON THE INSIDE

With the RIF discussions done and dusted, SOPAC's merge with SPC involves dealing with the immediate issues of integration and adaptation/adjustments to new processes. What was known as the Pacific Islands Applied Geoscience Commission (SOPAC) is now integrated into the Secretariat of the Pacific Community (SPC) as its new Applied Geoscience and Technology Division (SOPAC) – SOPAC "The Commission" is now SOPAC "The Division"; maintaining the SOPAC brand name.

An aspect of integration that was always of paramount interest to staff was the pay scales at SPC; and the terms and conditions of employment in SPC in comparison to SOPAC. The RIF exercise of moving about a 100 staff to SPC contracts with staff wondering about how to adjust to the new pay monthly/bi-monthly periods was further complicated by a CROP pay harmonisation process which was undertaken at the same time.

For several weeks toward the end of the last quarter of 2010, staff toiled at being trained by the SPC Change Manager on how to compose Key Result Areas (KRAs) for their Job Descriptions with respective managers that would ultimately lead to proper sizing of the job using the new SP10 methodology for placement into the 'bandings' of supposedly harmonised pay scales across some of the regional organisations within CROP. The two processes running parallel probably caused more heartburn than necessary among staff; and the facilitators had to repeatedly caution staff that the CROP harmonisation exercise was as much about a job describing and as a job sizing. While the outcome of the SP10 CROP harmonisation generally found the

majority of SOPAC staff sitting in their correct job band and therefore paid in the expected salary range; there were difficulties that management had to resolve.

The next fuss was the 'perceived' discrimination against local (Fiji) support staff due to the fact that while local professional staff were tax-exempt on entering in SPC in 2011, local support staff were tax-adjusted. Explanations and definitions provided so far has failed to satisfy SOPAC local support staff; and this is probably a matter that they will raise with the SPC Staff Representative Committee as this aspect of staff welfare is very big in SPC with its own Constitution. It will also be raised during the review of terms and conditions of positions advertised locally to be undertaken mid-year.

Something that will take some adjusting to is the status of SPC as a bi-lingual organisation. Watching the translators in action at the SOPAC last session in Nadi in October 2010 home the fact that SOPAC would have to deal with this issue in its new home. Given that SOPAC is located in Fiji, there is no requirement to translate every item prepared for release into the public domain, into French. The SOPAC Division Strategic Plan 2011-2015 is fully translated into French and so are the name (business) cards of travelling staff.

At the close of the first quarter of 2011, SOPAC Division staff are grappling with a new Performance Development System in SPC, which requires staff to think beyond their day-to-day tasks and operations to the bigger picture so they have an idea where they fit in the whole of SPC context and how their work contributes to





New SPC SOPAC banner at the gate entrance.

the goals of SPC. The system is more elaborate than the performance management system used by SOPAC, so the application of it in the transition period will be interesting especially with respect to the clearly spelt out corporate values and behaviours and how those would be evaluated at individual level.

The SOPAC work programme implementation proceeds as professionally as ever. Surveys must be conducted, data must be analysed, meetings must go on, funding must continue to be secured, solutions must be devised, real sustainability achieved, publications produced; all in all regardless of issues and bumps along the

way, SOPAC staff continue to strive to provide exceptional service and now even to the wider Membership of SPC. Kudos to fellow SOPACers!

An idea from the communications and publications front within the Division is to revive the popular quarterly SOPAC News – so if you’ve read this far, this newsletter is the first issue of SOPAC News from SOPAC in its new form. Hopefully we can keep you abreast of the latest work, surveys and meetings happening in your countries; or the latest piece of technology SOPAC is using to undertake and provide the measurements and analysis that will now contribute to SPC’s technical advice to its Members.

## SEND TO:

### News Desk

SOPAC News Writer - Lore Ratuyawa  
Graphic Artist - Sailesh Kumar Sen  
Editor - Lala Bukarau

