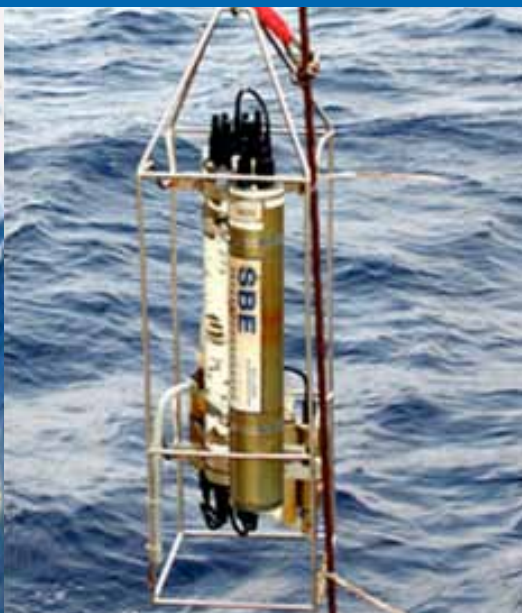


SOPAC NEWS

SPC Applied Geoscience and Technology Division (SOPAC)



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FIRST SOPAC DIVISION MEETING SET TO ROLL MID OCTOBER

The first meeting of the SPC Applied Geoscience and Technology Division will be held in Nadi, Fiji, from 16 to 22 October 2011. The meeting will be hosted by the Government of the Cook Islands.

The meeting was to have been held in the Cook Islands; however, the Rugby World Cup (RWC) being hosted in New Zealand put paid to those intentions as delegates would have had to travel through Auckland to and from the Cook Islands and the RWC-inflated expense of accommodation in transit couldn't be justified.

With the Government of the Cook Islands agreement the meeting was moved to Nadi, Fiji, at the same place the final meeting of the SOPAC Governing Council was held in 2010.

For those familiar with the earliest history of SOPAC; the meeting in theory will return to a format resembling the old Technical Advisory Group with Member technical representatives, scientists and secretariat participating as equals discussing the work programme.

One of the first matters to come up early in the meeting will be a Terms of Reference for the meeting itself. A draft terms of reference has been prepared and along the same lines that other SPC technical divisions run their meetings. The meeting is anticipated to be engaged in discussion on Member's expectations; the format, representation, and frequency of the SOPAC Division technical meetings.

Outcome of discussions will help the members and SPC management refine the Division structure to ensure optimum configuration to deliver the strategic goals of the Division Strategic Plan; within the context of its niche in the new SPC.

In conjunction with the SOPAC Division meeting; the Science, Technology and Resources Network (STAR) and the Circum-Pacific Council of Minerals and Energy Resources will meet first. At the time of writing (30 September) there were 34 papers and the same number of talks in a full programme. The Chair of STAR anticipates a discussion on laying the



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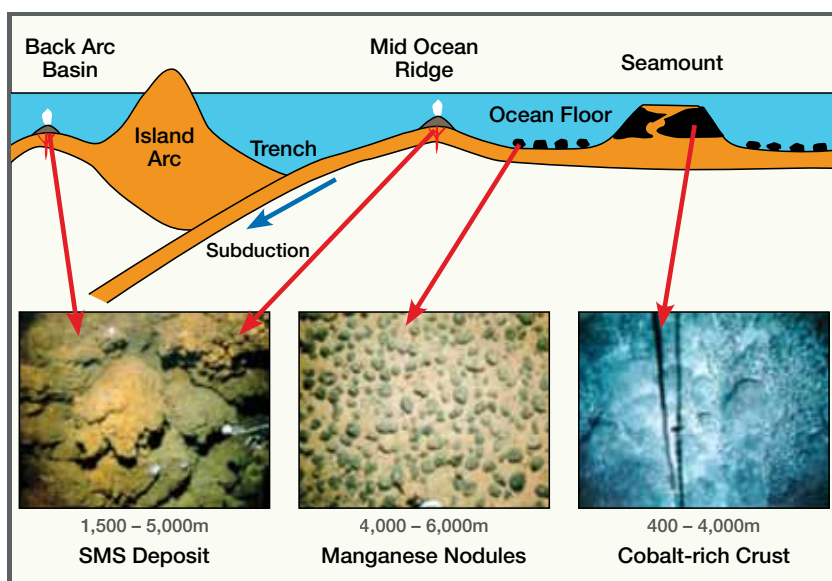
platform for a new “premier scientific meeting” for the Pacific region where Pacific perspectives and experiences are heard first and take precedent.

Director of the Division, Dr Russell Howorth, is of the view that Members should at this time still be able to recognize the ‘old’ SOPAC within the Division at this early stage and is in favour of keeping certain features of the first SOPAC Division meeting as close as possible to the format of the SOPAC

Council meetings. The Director General of the SPC Dr Jimmie Rodgers has commissioned reviews and is rethinking the overall structure of the “new” SPC for presentation to CRGA also in 2011; hence whatever the outcome of the first meeting of the SOPAC Division, it will have to be contextualized within the whole of the near SPC bigger picture.

Lala Bukarau

EU FUNDS DEEP SEA MINERALS PROJECT: A RESURGENCE OF INTEREST IN PACIFIC DEEP SEA MINERALS



A schematic diagram of the seafloor showing different geological environments in which Manganese Nodules, Cobalt-rich Crust and Seafloor Massive Sulphides occur.

research and development of these and other resources. This was the *raison d'être* for the existence of SOPAC – the regional organisation that started operating from 1 January 2011 as the newest Division of the SPC – Applied Geoscience and Technology Division.

The SPC Division of the Applied Geoscience and Technology is host to the SPC-EU EDF10 Deep Sea Minerals (DSM) Project at a time when the world is experiencing a resurgence of interest in the mineral potential of the world's oceans.

The Pacific region includes 22 Pacific island countries and territories, whose combined marine space covers over 30.5 million square kilometres. Marine resources are of great economic, social and cultural importance to all island countries, and for many, the only natural resources of any real economic significance, with development potential.

Although some Pacific island countries have the potential for vast resources within their large Exclusive Economic Zones (EEZ) knowledge of this resource is virtually unknown.

Most of the world's deep-sea mineral discoveries to date have been made in the Pacific Ocean. The extent and known occurrences of deep-sea mineral resources throughout the Pacific Ocean make this the most likely region to be at the frontier of deep sea mining when it commences in the near future.

It is therefore important for Pacific island nations to know their offshore mineral resources; however, most of these countries do not have the expertise, technology or financial resources to explore and evaluate their deep-sea mineral resources themselves. Consequently, they are reliant upon others to work in partnership for marine scientific

The DSM Project officially commenced with the signing of the Contribution Agreement between the European Union (EU) and SPC on the 6th of August, 2010 and commenced operation on the 1st of February 2011 with objectives to strengthen the system of governance and capacity of Pacific ACP States in the management of deep-sea minerals through the development and implementation of sound and regionally integrated legal frameworks, improved human and technical capacity and effective monitoring systems.

The three project staff have been recruited and include Mr Akuila Tawake (Project Team Leader), Ms Hannah Lily (Legal Adviser) and Ms Vira Atalifo (Project Assistant).

The exclusive work programme feature in this issue is the DSM project – its rationale, objectives, main activities and progress thus far.

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

Rationale

Existing legislative instruments that define and govern the marine spaces of the Pacific Islands region equate to sovereign rights and ownership of the non-living resources of the seabed and subsoils within the region's Exclusive Economic Zones (EEZs) and potential extended continental shelf areas but do not necessarily provide the required legal and policy frameworks to govern these resources. Regional legislation that dovetails with offshore resources are usually silent on the management of seabed minerals and are more often designed to administer the ocean's living resources such as fisheries. By comparison, most of the active mineral and mining legislation in the region is applicable only to onshore exploration and exploitation with little or no mention of the offshore resources.

Apart from the lack of policies, legislation and regulations to govern mineral exploration in the marine environments of the region, specific technical capability and human resources that will enable countries to effectively participate in the development and management of these new ocean resources and related benefit streams are lacking. Thus the ability of countries in the region to effectively regulate and monitor offshore exploration and mining, manage revenue streams and monitor and mitigate environmental impacts is weak. There is also a general lack of understanding in many Pacific island countries of the nature and

Participating Countries

The project is to be implemented in 15 Pacific ACP States: Cook Islands, Federated States of Micronesia, Fiji, Marshall Islands, Nauru, Niue, Palau,

Project Goals and Objectives

The goal of the project is to expand the economic resource base of Pacific ACP States² by facilitating the development of a viable and sustainable marine minerals industry. The objective is to strengthen the system of governance and capacity of Pacific ACP

Key Result Areas and Main Activities

The Project has four Key Result Areas: (1) Development of Regional Legislative and Regulatory Framework(s) (RLRF) for offshore minerals exploration and mining; (2) Formulation of National policy, legislation and regulations; (3) Building national capacities; and (4) Effective management and monitoring of offshore exploration and mining operations.



DSM Brochure 1 of 6

economic potential of these mineral deposits as well as factors that are going to affect the viability of any possible mining operations.

Offshore mining has the potential to generate significant wealth and the equitable and sustainable management of these new revenue streams, capitalising on new employment opportunities and other indirect economic benefits is of critical importance. It is therefore crucial for Pacific island countries to put in place enabling mechanisms that safeguard the interests of the country and its people while at the same time encourage investment in offshore minerals exploration and mining in the region.

Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu, Kiribati, and Timor Leste.

States in the management of deep-sea minerals through the development and implementation of sound and regionally integrated legal frameworks, improved human and technical capacity and effective monitoring systems.

With the Project assistance, the RLRF can be used by individual Pacific ACP States to develop their national frameworks for the management of their marine mineral resources. The work is of critical importance if Pacific ACP States are to have effective environmental, fiscal and social management instruments in place for the exploration and exploitation of deep-sea minerals.

Beneficiaries and Benefits

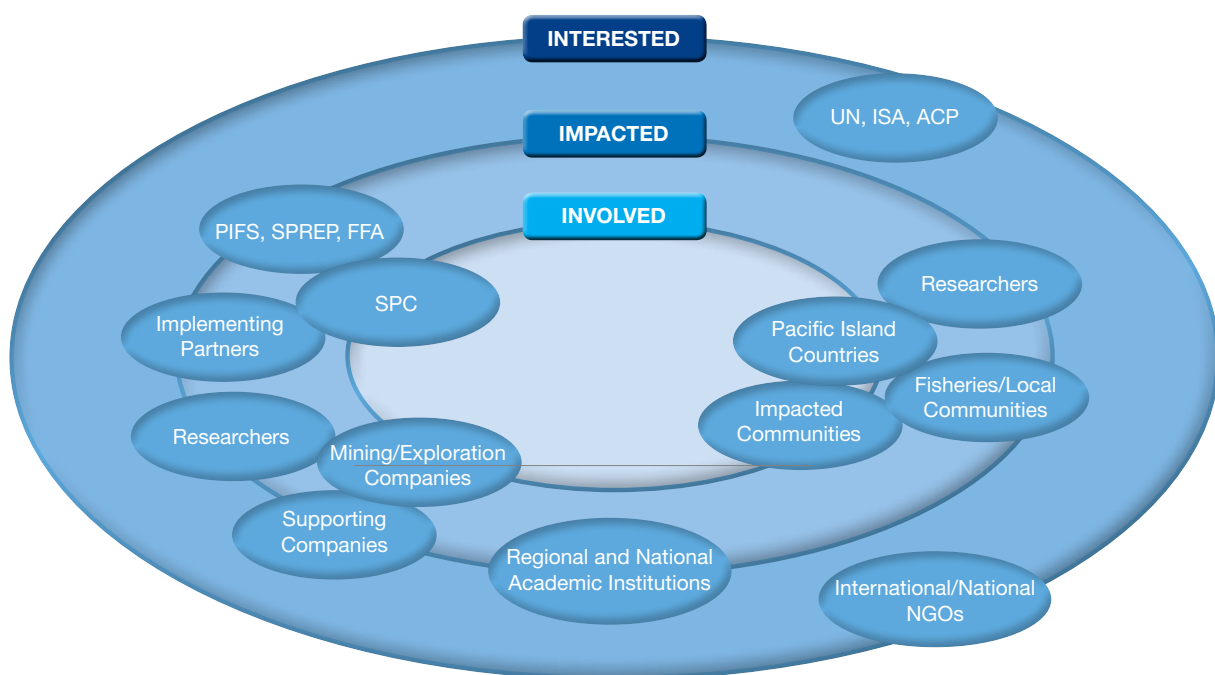
The main beneficiaries of the project are

- National Government of Pacific ACP States:
 - a regional framework for the harmonisation of national policies and legislation;
 - robust policy, legislation and regulations for the management of seabed mineral resources;
 - increased human and technical capacity;
 - improved ability to optimise revenues from mining;
 - increase employment, mechanism in place for equitable sharing of wealth generated from mining.
- Potentially Impacted Local Communities;
 - Legal platform for engagement with government and other stakeholders
 - Knowledge strengthened through regular awareness programme
 - Avenues available for more sustainable distributed royalties if mining occurs
 - Employment and business opportunities

Other beneficiaries include:

- Private sector:
 - Legal framework to guide them
 - Collaboration opportunities
 - Information/data to improve operation
- Marine scientific research community:
 - Legal framework governing scientific research
 - Opportunities for scientific studies and monitoring
 - Collaboration opportunities
- National and Regional Institutions:
 - Collaboration opportunities
 - Opportunities for students
- Non-state Actors:
 - Legal framework to guide them
 - Information to guide advocacy programme
 - Potential opportunity for funding
 - Work opportunities
 - Promote good governance practices

Summary of Stakeholder Involvement



Implementation Partners

The Project will work in partnership with national and regional organisations and Non-State Actors. Relevant government agencies of Pacific ACP States including the Mines or Natural Resources Departments are expected to be key national partners. Additionally, the assistance of relevant experts of various disciplines associated with offshore minerals will be sought. The SPC is aware that

collaboration with national and international agencies will be a crucial factor in providing the best possible assistance to the Pacific ACP States. Potential technical implementing partners include the International Seabed Authority, the Commonwealth Secretariat, UNEP/GRID-Arendal, International Marine Minerals Society, Geoscience Australia and many others.

INAUGURAL MEETING GATHERS DELEGATIONS AND EXPERTS FROM AROUND THE GLOBE

Close to 100 delegates from around the world including some of the world's leading experts on issues relating to deep sea minerals attended a 3-day inaugural workshop for the DSM Project which was held at the Tanoa International Hotel, Nadi, Fiji from Monday 6th to Wednesday 8th June, 2011. The workshop was titled, "High Level Briefing on the Status of Deep Sea Minerals in the Pacific Islands Region and Planning for a Regionally Integrated Way Forward".

Organised by SPC/SOPAC Division, and funded by EU, the workshop's main objectives were to present the SPC-EU Deep Sea Minerals (DSM) Project and provide an opportunity for country representatives to be briefed by presenters, including the experts, on various aspects of deep sea minerals.

In opening remarks, the SPC-SOPAC Division's Director Russell Howorth reminded the delegates that the specific purpose of the the DSM Project is to "strengthen the system of governance and the capacity of Pacific ACP states in the sustainable management of their potential deep-sea mineral resources." He further encouraged the delegates "that the correct way forward in the workshop was strategic, built on inclusiveness and interactive dialogue, which would then lead to incremental actions." He added that "sustainable use of deep sea minerals can proceed for the benefit of all within known levels of acceptable risk."

The importance of mine development was reflected in the workshop discussions, where presentations highlighted many aspects related to mining the seabed, including environmental and conservation, legal and regulatory, fiscal, and technologies. Delegates from Member governments, many of whom had limited knowledge about what needs to be considered in extracting the mineral resources that are located in the seabed within their respective Pacific Island Countries.

The workshop concluded with delegates being asked to define the issues challenging seabed mining. A number of workshop outcomes were agreed to that will guide the implementation of the DSM Project in the next 4 years.



Dr Arthur Webb presenting at the DSM Workshop.

International, regional and national agencies represented were: Commonwealth Secretariat, Duke University, European Union, IFM-GEOMAR, International Seabed Authority, International Union for Conservation of Nature (IUCN), Korea Ocean Research & Development Institute (KORDI), National Institute of Water & Atmospheric Research (NIWA), Pacific Islands Forum Secretariat (PIFS), Pennsylvania State University, Secretariat of the Pacific Regional Environment Programme (SPREP), UNEP/GRID-Arendal, United States Geological Survey (USGS), and World Bank.

The following private sector and civil society entities were also represented: Anindilyakwa Land Council, BECA International Limited, Centre for Environmental Law and Community Rights Inc, Eco-Strategic Consultants, Envi-Green Pacific Consultancy Limited, Fiji Environmental Law Association, GeoPacific Limited, Greenpeace Australia Pacific, Kontiki Capital, Minerals Policy Institute, MUSKITS Law, Nauru Ocean Resources Inc (NORI), Nautilus Minerals Inc, North-South Environmental Law, and the World Wildlife Fund (WWF).

The first meeting of DSM Project Steering Committee was also held at the Tanoa Hotel in Nadi during this workshop. The meeting was chaired by the Director of the SOPAC Division, SPC and attended by representatives of participating countries and the DSM Project staff as well as a representative each from the EU Delegation and the Secretary General of the Pacific Islands Forum Secretariat (PIFS) as the Regional Authorising Officer.

DSM Partners with UNEP GRID Arendal to Dig into the Past

The DSM Project is also working in partnership with the United Nations Environment Programme (UNEP) collaborating centre (GRID-Arendal) located in Arendal Norway.

This partnership is expected to establish a regional marine minerals database with national nodes or access points in conjunction with partners such as UNEP-GRID and international data centres.

The partnership is also expected to develop appropriate regional environmental monitoring guidelines including a framework for environmental management.

The first meeting of the technical steering committee was held back-to-back with the DSM Project regional workshop in Nadi on the 9th and 10th of June. Some of the goals of this technical steering

committee are: “introduction of roadmap of the project; finalise thematic scope and transform into chapter headers to guide content development; discuss the main deliverables (print edition, digital

edition, facilitation workshop) and their formats; identify/appoint chapter leads; identify possible authors for chapters; general administrative issues”.

Deep Sea Minerals Exploration Surge ignites interest from non-regional Countries

Apart from the region’s traditional development partners Korea has shown great interest in exploring the potential of the regions seabed resources for mining.

A well known innovative research and development Korean agency in ocean science and technology, KORDI (Korean Ocean Research and Development Institute) was well represented during the DSM based regional workshop in Nadi in June.

Six KORDI scientists attended the workshop and made two presentations focusing on KORDI’s environmental studies for deep sea mining and mineral exploration activities in the Pacific region. KORDI has been around conducting oceanographic, geological and environmental surveys in places such as the Clarion-Clipperton Zone, the Manus Basin in Papua New Guinea,



KORDI scientists on a side meeting with Russell Howorth.

Tonga and the North Fiji Basin within the last decade. KORDI’s association with SOPAC can be traced back to more than a decade, mainly due to the similar roles the two organisations play in applied marine and geosciences.

Papua New Guinea first in the Pacific to Plunge into Gathering Treasures from the Deep

A major step in the development of seabed mining in the Pacific is now in place with the granting of a mining lease to Nautilus Minerals for the development of the Solwara 1 project in the Bismarck Sea in Papua New Guinea.

Mining at the site at a depth of 1600 metres, is expected to begin by the end of 2013 with the extraction of ‘high grade’ seafloor massive sulphide deposits that contain copper, gold, silver, and zinc. Whilst the Nautilus’ Solwara project is expected to be the Pacific’s first seabed mine, lease arrangements in itself are a reflection of the evolving legislative and regulatory process in Papua New Guinea since the 1970’s.

The DSM Project was thus asked to do a rapid preliminary review of the draft Papua New Guinea Offshore Mining Policy as part of the Project’s assistance to Papua New Guinea. A copy of the draft policy was made available after the workshop in June and it was subsequently reviewed and sent to the Director of the Mineral Policy and Legislation Division in Papua New Guinea.



A configuration of the planned Nautilus Minerals Seafloor Mining System (Nautilus Minerals, 2009)

SOPAC Director's added role a Boost to the Pacific Islands Countries

Dr. Russell Howorth, Director of SPC-SOPAC Division, was appointed to the Legal and Technical Commission of the International Seabed Authority (ISA) in August 2011. According to Ambassador Peter Thomson, Permanent Representative of Fiji to the United Nations, this appointment "will ensure the interest of Fiji and the Pacific Island Countries are addressed;"

The election of representatives to the ISA Legal and Technical Commission members is based on personal qualifications relevant to exploration, exploitation and processing of minerals resources, oceanography, economic and/or legal matters concerning ocean mining and related fields.

The Legal and Technical Commissioners are entrusted with various functions relating to activities

in the deep seabed area of international waters, including the review of applications for plans of work, supervision of exploration or mining activities, assessment of the environmental impact of such activities. Commissioners also provide advice to the International Seabed Authority's Assembly and Council on all matters relating to exploration and exploitation of non-living marine resources.

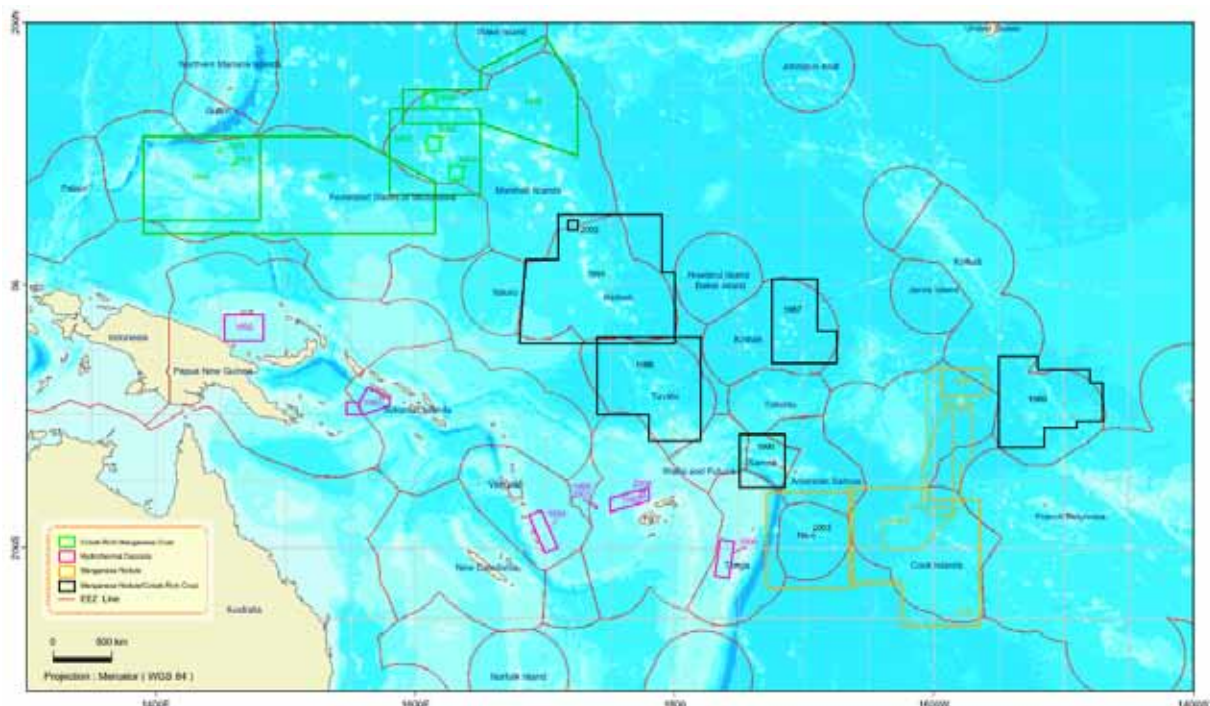


Dr. Russell Howorth

Nauru and Tonga overcome the odds to Win Approval of the International Seabed Authority

Despite extended opposition from prominent countries, Nauru and Tonga's applications for seabed exploration have been approved by the ISA. A statement from Fiji Ministry of Foreign Affairs and International Cooperation stated that the applications were recommended for the ISA Council's approval by the Legal and Technical Commission of the Authority with strong support from Ambassador Peter Thomson, Permanent Representative of Fiji to the United Nations.

The applications of both countries relate to work plans for exploration for polymetallic nodules in the Clarion-Clipperton Zone in the eastern-central Pacific Ocean. Polymetallic, manganese nodules contain varying amounts of manganese, cobalt, copper and nickel.



Japan-SOPAC Cooperative Study on Deep Sea Mineral Resources in the South Pacific 1985 - 2005

MEET YOUR DEEP SEA MINERALS PROJECT STAFF



Project Team Leader
Mr Akuila Tawake

Appointed in December and officially started the post on the 1st February 2011. Akuila brings fourteen years of working in the field of geology and minerals in Fiji and the region to the Project with hands-on mining industry experience.



Legal Adviser
Hannah Lily

Appointed in April, Hannah Lily recently took up the Legal Adviser position to the Deep Sea Minerals Project on October 3rd. Ms Lily brings with her a wealth of legal and management skills and experience to the Project.



Project Assistant
Vira Atalifo

Appointed in May. Previously, Vira was a Trainee on attachment with the Ocean and Islands Programme at the SOPAC Division soon after graduating from the University of the South Pacific.

The Lighter Side

Geologist's joke

The problem with geologists is that they are always looking for faults!

Geologist's Song by Brenna Lorenz

Come all ye lads and you will hear
About the life that we love dear,
Geologists all bold and strong,
We are the subject of this song.

We get up with the rising sun
And map until the day is done.
We walk two hundred miles a day,
And study rocks along the way.

We fight our way through brush and trees
And slog through bog up to our knees.
When flies are thick, then we don't walk,
They carry us from rock to rock.

We swing our hammers with a whack,
Take home an outcrop on our backs.

Nine hundred pounds of rock or more
Is just an average daily score.

If we run out of food to eat
There's always rock beneath our feet.
There's nothing quite like granite stew
'Though graptolites are some good, too.

In the evening to the clubs we flock,
To drink Dominion and Old Stock.
Here's to your health and our health, too,
May your life prove as good to you.

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