

APPENDIX 5

STAR CHAIR'S REPORT TO COUNCIL 2005

Chair of SOPAC, Excellencies, Distinguished National representatives and Delegation members, representatives of Institutions and Organisations, Ladies and Gentlemen.

I. INTRODUCTION

Thank you for this opportunity to formally report on STAR's activities. As the Minister explained in his opening address this morning, STAR is the Science, Technology and Resources Network associated with SOPAC and it acts as an interface between the SOPAC Secretariat and its member nations and the international scientific community. It does this in several ways. At intervals, an international scientific workshop or meeting may be convened by STAR, or held under its auspices, on a broad theme relevant to the SOPAC region. STAR members also correspond and tender advice during the intervening periods.

Each year, a meeting at which scientific papers are presented and discussed, and thematic Working Groups meet, is held prior to this Annual Session of the SOPAC Governing Council. This year, the 22nd meeting of STAR was held on September 24th to 27th at this hotel. This is STAR's 21st birthday meeting and, coincidentally, its very first meeting in 1984 was also held in Apia.

II. STAR PRESENTATIONS

The theme of this year's STAR meeting was: *Disaster risk reduction, particularly with respect to natural events in the SOPAC region.*

As unfortunate events at the close of 2004 and during this year have shown, this was a particularly apt choice. The theme was well developed, with 20 presentations, and there were a range of other papers on topics relevant to the region. During the meeting, 49 scientific papers were presented orally and 21 others by the posters displaying research results some of which you see displayed at the back of this room. Abstracts of these are published in *SOPAC Miscellaneous Report 603*. As is always the case for STAR meetings, the information presented covered a broad range and I

recommend the volume of abstracts as a guide to the material covered and as a source of much useful information.

Let me briefly outline the scope of the presentations for you, to indicate the variety. During the Tectonics session, papers covered aspects of the geology of tectonic plate boundaries and of other onshore and offshore structural features such as mid-ocean rises. Disaster Risk Reduction presentations covered a wide range of topics, including planning and management, public awareness, specific hazards such as landslides and tsunami, and medical and economic aspects.

Oceans & Coastal papers looked at data collection, coastal and seafloor mapping, and lagoon circulation. Papers dealing with water were presented in conjunction with planning meetings for the Pacific position paper for the 4th World Water Forum, and this was also a strong area of the meeting.

Other sessions looked at aggregate and energy, including the replacement of diesel fuel from indigenous sources, and at deep sea mineral deposits in the region.

III. WORKING GROUPS

In addition to the scientific presentations, several groups also met. These working groups offer an important opportunity for STAR delegates to bring to the attention of Council items of particular scientific and technical importance to the region.

This year, working groups met to discuss:

- Developing Ocean Science Education for Sustainable Development in the Pacific,
- Economic aspects of natural disasters and disaster risk reduction,
- Energy,
- Habitats,
- Ocean products, and
- Water.

I will report only briefly on their main recommendations here but the full reports with supporting arguments for the conclusions are appended and I commend these for your perusal.

Developing Ocean Science Education for Sustainable Development in the Pacific

This Working Group:

- Emphasised the need for Education for Sustainable Development and Capacity Building [especially ocean/coastal science and related ocean/coastal-hazard education in primary and secondary schools, tertiary/professional training institutions and in the general community] across the SOPAC region at Ministerial Level –in each of the Ministries responsible for Education, Natural Resources, Fisheries, Environment, Tourism, Public Works, Disaster Management, Meteorology and Geology;
- Recommended work towards implementing appropriate Ocean Science Materials into individual Pacific Island Country School Curricula. Ideally, the ocean science materials will be regionally generic and adapted to suit each country's environment AND education curriculum;
- Recommended work towards improving ocean science education at the general public level, including the adoption of World Ocean Day in the Pacific;
- Recommended the region maintain and continue the commitment by international researchers to give Public Seminars when visiting Pacific Ports [eg. USA Ridge 2000 in Suva, 2005]; and
- Recommended the selection of one to five STAR delegates every year to present a talk on their work and implications for sustainable development in the Pacific [and especially ocean science related work] to local schools, training centres and institutions in the host country of the Annual STAR Session.

Economic aspects of natural disasters and disaster risk reduction

This Working Group recommended:

- That SOPAC Governing Council consider the importance of the economic impacts of disasters, and the need to implement and integrate economic assessment tools into a 'whole of government' approach to disaster risk reduction;
- It strongly encouraged national governments to mainstream disaster risk

reduction into the national planning and budgetary system;

- It encouraged SOPAC Governing Council to endorse the need to improve the coordination and integration of related data collection, data management and data sharing, in order to improve decision-making;
- The Working Group recognised that capacity building is needed in economic assessments and analyses related to disaster risk reduction at the national level and so:
- Recommended that the SOPAC Secretariat work with CROP and its other partners to further develop both human capacity and the tools for this process, and integrate them with other existing decision-making tools.

Energy Working Group

The Working Group on Energy:

- Noted that the Pacific Island Energy Policy has been revised and agreed by the Regional Energy Meeting in Madang in 2004, commended by the CROP heads in August 2005, and will be submitted to the Pacific Islands Forum in October 2005 for adoption by the Leaders. The Energy Working Group hopes that this document will serve as an opportunity to provide direction for action;
- They noted that, in the context of the Pacific Plan, energy has a major impact on all the four pillars of the Pacific Plan, namely, Economic Development, Security, Sustainable Development and Governance, and therefore believe that energy should feature prominently in the Pacific Plan;
- They recognised that lack of affordable, reliable and clean supplies of energy threatens the existence of Pacific island communities;
- In the interim, they are encouraged by the efforts of the Pacific Islands Forum Secretariat to reduce the supply cost of fuel by bulk purchasing for the region. The current economic burden on Pacific island communities requires action now;
- They applauded the progress made by the SOPAC Community Lifelines Programme on energy policy, biofuels, wind energy and energy efficiency and conservation. They encourage SOPAC Community Lifelines

Programme to continue to assist member countries with the implementation of the energy policy and application of appropriate technologies; and

- They also welcomed the progress of the CROP Energy Working Group (EWG) members (including SPREP, SOPAC, UNDP, PPA and USP) on addressing Energy Issues in the region, and believe that it is important that the EWG members seek new opportunities to use their specialist skills in a co-operative way to facilitate Pacific island communities' access to affordable, reliable and clean energy supplies.

Habitats Working Group

The Habitats Working Group made the following recommendations:

- Progress by SOPAC to develop the marine benthic habitat-mapping workshop to take place in Fiji in 2007 should continue, but seeking partnership for the workshop with the CPC and GeoHab;
- Efforts be made to process SOPAC backscatter data, which then can be used in marine benthic habitat mapping;
- Follow through on the 2003 working group's recommendation that a pilot marine benthic habitat-mapping project be done in Kiribati or elsewhere using multibeam data collected by SOPAC, including processing of backscatter data and interpretation of marine habitats from these data;
- Coordination between regional geologists and biologists be undertaken when doing coastal mapping in order to facilitate a holistic scientific approach and increase benefits of the surveys; and
- Collaboration should be encouraged with other regional agencies (e.g., SPREP, FFA, SPC) to implement demonstration projects by integrating swath-mapping data with fisheries and ecological knowledge.

Ocean Products Working Group

This Working Group addressed the processes of translating ocean observation data into useful products and applications for Pacific Island Countries. The Group recognised the usefulness of oceanographic data and its applications to the SOPAC Member Countries and associated community interests, in particular for:

- 1) Improving meteorological and oceanographic forecasting; and
- 2) Understanding variations in ocean conditions.

Both of these could assist with the development and sustainability of the fisheries and marine tourism industries.

The Working Group encouraged:

- SOPAC Member Countries (with assistance from the SOPAC and PI-GOOS Secretariats and the international research community) to develop their capabilities to collect and analyse oceanographic data for:
 - 1) The benefit of their communities; and
 - 2) Assisting the international research institutions in carrying out research in the region.
- The SOPAC and PI-GOOS Secretariats to proactively find an efficient mechanism where the information relating to various planned MSR and oceanographic surveys and development of platforms for the storage and sharing of results and data between SOPAC Member Countries and the international scientific community; and
- All other institutions carrying out research in the region to share their results with the SOPAC Member Countries, within a reasonable timeframe, and also to work with SOPAC and PI-GOOS to strengthen the Oceanographic and MSR Capability in the region.

Water Working Group

The Working Group recognised progress had been made under the Pacific RAP and identified 5 key areas for future action to progress sustainable water management in the Pacific Island Countries. These are recommended to council for endorsement.

- Pacific Island Countries (PICs) should be supported to develop a sustained knowledge and skill base in the field of water and wastewater management. A particular difficulty in the PICs is that specialised knowledge and experience often rests in the hands of few people and that capacity can easily be lost. Donor agencies and governments should be encouraged to commit to repeat and ongoing training;
- The Integrated Water Resources Management (IWRM) concept is considered a key mechanism for achieving sustainable wa-

ter management. IWRM should be promoted and work towards its implementation emphasised. The removal of obstacles to inter-agency cooperation should be encouraged;

- Novel approaches to dealing with the lack of economies of scale in the Pacific should be promoted. The small populations, isolation and limited resource bases that characterise many of the PICs make it difficult to realise efficiencies in the water and sanitation sector. Cost recovery is also challenging. Programmes to address unaccounted for water, benchmarking and engendering a maintenance culture within utilities should be supported;
- Resources should be sought to implement the Drinking-Water Quality and Health Framework for Action which complements and builds on the Pacific RAP; and
- As the Pacific is a region of the world that is impacted by climate variability and change it is considered imperative to integrate modern seasonal climate forecasting into water management. Efforts to integrate the work of meteorological services, hydrological services and water managers should be encouraged.

Early Warning Special Interest Group

In addition, a group of interested STAR participants met and discussed the Draft Framework for Action 2005-2015 and particularly theme 5 of this Framework: "A draft strategy for enhancing early warning for Pacific Island Countries".

They proposed the following for consideration:

- A formal STAR "Pacific Framework for Action" Working Group be established;
- That this Working Group interact with Community Risk Programme staff at future STAR meetings, and whenever else is possible, to provide science and technology advice and support in the implementation of National Action Plan priorities;
- Where possible members of STAR provide in-kind short term capacity building support in their area of expertise or existing programs that align with agreed National priorities, and participate in the monitoring of the implementation of the framework; and
- STAR promotes the use of integrated holistic Disaster Risk Reduction approaches

that are consistent with the objectives of the regional Framework of Action.

IV. Other Issues from the STAR Meeting

This year saw the introduction of the Programme Monitoring and Evaluation Groups. These groups of TAG scientists met with SOPAC Programme Managers in Suva immediately prior to the STAR meeting. They gave their impressions of the process to the STAR meeting, and will report more fully to Council later in the meeting.

The STAR meeting also discussed the proposal in Council Agenda Item 10.4, to hold STAR every other year. A resolution was passed emphasizing the delegate's view of the importance of holding STAR meetings every year in association with meetings of this Council, and that resolution will be tabled later.

V. General Comments from Chair of STAR

At this point, I would appreciate the opportunity to convey some personal impressions of this STAR meeting.

A clearly applied direction to research has always been a particular feature of STAR and delegates have informally discussed mechanisms for increasing the provision of quality technical advice to member governments throughout the year, not just at these meetings. STAR scientists are a resource that is available to SOPAC member nations and we are actively seeking ways to ensure that optimal use is made of this resource.

A second point and related issue is the large volume of quantitative data coming from a range of monitoring and remote sensing systems. We heard, as just one example, about the oceanographic information from the more than 300 Argo floats operating in the South Pacific that is freely available within 24 hours of collection. As was mentioned a number of times both in STAR presentations and in working group discussion, incorporating such vital and up-to-the-minute but voluminous information into research and policy will be a continuing challenge for us all.

Finally, this year about a third of the STAR presentations were from scientists based within the SOPAC region and many others dealt with collaborative research between people within and without the region. At the STAR meetings

we continue to see genuinely global research with a strong Pacific base.

As usual, STAR is indebted to staff of the SOPAC Secretariat for their cheerful and untiring efforts that make the meeting possible. In that respect, STAR noted this will be the last STAR/SOPAC meeting that Russell Howorth attends in an official capacity. Apart from his own research efforts that have included providing invaluable baseline data for many islands, Russell has been a staunch supporter of STAR throughout and the organization recognised his contribution with a motion of thanks.

And finally, Mr Chairman, as Chair of STAR and speaking on behalf of all the scientists, may I thank our hosts, the Government and people of Samoa.

That concludes my address. Thank you.

John Collen, Chair, Science Technology and Resources Network (STAR), Apia, Samoa, 28 September 2005

VI. ANNEX

Minutes of STAR Working Groups

*'Developing Ocean Science Education for Sustainable Development in the Pacific'
Working Group Precursor Meeting, Sunday
8.30am*

Co-ordinated by Sarah Grimes, PI-GOOS Co-ordinator, SOPAC

Preamble: The ocean is central to the lives of most Pacific Island residents. Aside from the threat of coastal hazards from physical processes such as storm surge and tsunamis, the sea provides a source of food and medicines, a medium for transportation and is a dominating influence on the weather and climate of the region which influences both tropical cyclone generation and longer-term changes in sea level. Most importantly, it plays a key role in the fisheries, aquaculture and tourism industries- integral to the economic and sustainable development of the region. Despite this, most Pacific Island residents are unaware of the "science" of the sea, knowledge of which has value and relevance to everyday life in the region. PI-GOOS has already focused on improving Ocean Science Education via the US-Argo and UNESCO funded SEREAD Program [Scientific Educational Resources and Experience Associated with the Deployment of

Argo] in Samoa and the Cook Islands since 2002. SEREAD aims to generate awareness, discussion, and understanding by Pacific Island students of the ocean's role in the climate system and sea level rise using local and practical examples. In 2006 it will be extended to include a multi-hazard unit that promotes understanding the processes and effects of coastal flooding and erosion from tropical cyclones, storm surge, tsunamis, spring tides, sea level rise due to climate change, and the potential interactions between these. The unit will also address how this information is useful in preparation for potential coastal hazards in the Pacific. The SEREAD material is free, able to be translated into local languages and publicly available from the new PI-GOOS and the USP-PRIDE [Pacific Regional Initiative for the Delivery of Basic Education] Resource Websites. It is the only dedicated Ocean Science Resource Material available that has been specifically developed for the South Pacific region.

In January 2005, at the inaugural Conference of the UN Decade of Education for Sustainable Development [2005-2015] the statement was made that there is a desperate global need to improve the teaching and understanding of coastal and marine science education for sustainable development at the school and community levels, with local and practical examples. The recent Regional All Hazards Workshop held in Suva this month and hosted by SOPAC also noted the need for improved ocean and coastal science education to assist regional disaster preparation.

Recently, a regional vision for improving ocean science education across the Pacific has been developed and is available for download from the new PI-GOOS Web Key Documents Page [accessible via the SOPAC Home Page www.sopac.org]. The Key Recommendations indicated that a longer-term strategic goal to effectively improve lifelong knowledge of ocean processes and its implications for sustainable livelihoods in the region will require the implementation of ocean science curricula [using materials such as SEREAD] at the primary and secondary levels as well as promotion amongst the general community via public education channels. For this to occur, the profile of Environmental Education for Sustainable Development first needs to be emphasised in individual PICs. The effective development and integration of ocean science material into the curricula of at least six Pacific Island Countries by 2010 will require approximately US\$50K pa. PI-GOOS is

searching for assistance and advice, both in-kind and financial to assist the development of such a crucial initiative to the region.

The attendees of the SOPAC STAR Ocean Science Education Working Group were invited to learn of and provide comments on the Vision for Ocean Science Education in Primary and Secondary Schools and discuss ways in which the recommendations might be achieved. The Working Group also brainstormed ideas for the input required to improve and integrate ocean science knowledge into the general community as well as improve access to marine science opportunities at the tertiary level.

Education Ocean Science Working Group 1.30-2.30pm Tuesday Sept 27, 2005

Attendants at Precursor Working Group (Sunday 8.30am) general discussion:

Mr Massasinge Arurang – Ministry Lands and Survey, Palau; Dr David Kennedy – Wellington Uni, NZ (coastal geomorphology and coral reefs); Dr Kazu Kitiazawa – JAMSTEC, Japan (Physical oceanography); Prof Chuck Fisher – Ridge 2000, Uni. Penn. State (deep sea marine biology/tectonics); Mr Marion Henry, FSM (and on behalf of Micronesian Colleagues); Mr Russell Nari – Vanuatu; Dr Peter Nielson – UQ Engineering Dept (hydraulic engineering in atoll environments); Mr Lameko Talia – Samoa, Ministry Natural Resource and Environment (meteorology/geology); Mr Kabure Tamariti – Kiribati

Attendants at the Main Working Group (Tuesday 1.30pm)

Dr Robert Bell – NIWA, NZ; Dr Dave Callaghan, – UQ, Australia; Mr William Erb – IOC, Perth; Ms Marie Fatiaki – Live and Learn, Fiji; Prof Chuck Fisher – Penn State Uni, USA; Dr David Kennedy – Uni Wellington, NZ; Dr Kazu Kitiazawa – JAMSTEC, Japan; Mr Kelepi Mafi, – Ministry of Lands and Survey, Tonga; Dr Peter Nielson – UQ, Australia; Mr Alf Simpson – ASAP Consulting, Australia; Mr Lameko Talia – Samoa Ministry Natural Resource and Environment; Mr Akuila Tawake – SOPAC.

Aims:

1. To brainstorm, discuss and determine the regional and individual Pacific Island Country's [PIC] needs for ocean science education [especially the translation of physical

science into material that is useable at the school and general public level].

2. To suggest ways to improve training in Physical Oceanography and its implications to the region [eg. Currents, navigation, hydraulic flushing of aquaculture areas such as coral atolls] at the University and Professional Levels throughout the region.

Immediate Recommendations to the SOPAC Council For Endorsement:

Emphasise the need for Education for Sustainable Development and Capacity Building [especially ocean/coastal science and related ocean/coastal-hazard education in primary and secondary schools, tertiary/professional training institutions and in the general community] across the SOPAC region at Ministerial Level –in each of the Ministries responsible for Education, Natural Resources, Fisheries, Environment, Tourism, Public Works, Disaster Management, Meteorology and Geology;

Work towards implementing appropriate Ocean Science Materials into individual Pacific Island Country School Curricula. Ideally, the ocean science materials will be regionally generic and adapted to suit each country's environment AND education curriculum;

Work towards improving ocean science education at the general public level, including the adoption of World Ocean Day in the Pacific;

Maintain and continue the commitment by international researchers to give Public Seminars when visiting Pacific Ports [eg. USA Ridge 2000 in Suva, 2005]; and

Select one to five STAR delegates every year to present a talk on their work and implications for sustainable development in the Pacific [and especially ocean science related work] to local schools, training centres and institutions in the host country of the Annual STAR Session.

Working Group on Economic Aspects of Disaster Risk Reduction

Preamble

During the 22nd STAR Session in 2005 a Working Group was formed to consider economic aspects of natural disasters and disaster risk reduction.

The true costs of natural disasters are rarely

identified. Only through a better understanding of these costs can Pacific Island Countries make good decisions and policies for disaster risk reduction. Informed investment in disaster risk reduction can limit the negative impacts of disasters on present and future generations in the Pacific, and lower the burden of the cost of response, relief and recovery.

The Working Group recognised the importance of improving knowledge of the social, economic and environmental impacts of disasters in Pacific island nations and communities to increase the effectiveness of disaster risk reduction measures.

The Working Group emphasised the importance of disaster risk reduction in the context of climate change and associated impacts.

The Working Group welcomed the development of economic assessment tools to improve knowledge in this area by the SOPAC Secretariat and its partners, and recognised the potential for beneficial use in the region.

The Working Group also acknowledged the expertise of STAR to support SOPAC and its CROP partners in this process.

Recommendations:

The Working Group recommends that the SOPAC Governing Council consider the importance of the economic impacts of disasters, and the need to implement and integrate economic assessment tools into a whole of government approach to disaster risk reduction;

The Working Group strongly encourages national governments to mainstream disaster risk reduction into the national planning and budgetary system;

The Working Group encourages the SOPAC Governing Council to endorse the need to improve the coordination and integration of related data collection, data management and data sharing, in order to improve decision-making;

The Working Group recognises that capacity building is needed in economic assessments and analyses related to disaster risk reduction at the national level; and

The Working Group recommends that the SOPAC Secretariat work with CROP and its

other partners to further develop both human capacity and the tools for this process, and integrate them with other existing decision-making tools.

STAR Working Group on Energy - Report to STAR Chair

Working Group Members:

Andrew Matthews (NIWA), Thomas Jensen (UNDP-Samoa), Keu Mataroa (Cook Islands); Atatoa Herman (Cook Island), Fonoti Perelini (ASPA), Peter Nielsen (University of Queensland), Marion Henry (FSM Dept. of Economic Affairs), Moefaano Taputoa Titimaea (Samoa Water Supply), Russell Nari (Vanuatu Ministry of Lands & Natural Resources), Paul Fairbairn (SOPAC), Jan Cloin (SOPAC), Apologies: Solomone Fifita (SPREP), Gordon Chang (PPA).

Facilitator: Fonoti Perelini

Rapporteur: Andrew Matthews

Working Group Report & Recommendations:

The members of the STAR working group on energy agreed the following recommendations should be submitted to the SOPAC Governing Council for the benefit of the Community Lifelines Programme (CLP) and individual Member Countries. In making this report it is noted that a number of recommendations from 2004 still remain relevant and continue to be advanced.

The Working Group on Energy:

- I. Noted the Pacific Island Energy Policy has been revised and agreed by the Regional Energy Meeting in Madang in 2004, commended by the CROP heads in August 2005, and will be submitted to the Pacific Islands Forum in October 2005 for adoption by the Leaders. The Energy Working Group hopes that this document will serve as an opportunity to provide direction for action;
- II. We note in the context of the Pacific Plan that energy has a major impact on all the four pillars of the Pacific Plan, namely, Economic Development, Security, Sustainable Development and Governance. We therefore believe that energy should feature prominently in the Pacific Plan;

- III. We recognise that lack of affordable, reliable and clean supplies of energy threatens the existence of Pacific island communities;
- IV. In the interim, we are encouraged by the efforts of the Pacific Islands Forum Secretariat to reduce the supply cost of fuel by bulk purchasing for the region. The current economic burden on Pacific island communities requires action now;
- V. We are pleased with the progress made by the SOPAC Community Lifelines Programme on energy policy, biofuels, wind energy and energy efficiency and conservation. We encourage SOPAC Community Lifelines Programme to continue to assist member countries with the implementation of the energy policy and application of appropriate technologies; and
- VI. We also welcome the progress of the CROP Energy Working Group (EWG) members (including SPREP, SOPAC, UNDP, PPA and USP) on addressing Energy Issues in the region. We believe that it is important that the EWG members seek new opportunities to use their specialist skills in a co-operative way to facilitate Pacific island communities' access to affordable, reliable and clean energy supplies.

Report of the Benthic Habitat Mapping Group

On Tuesday, September 26, 2005 the Ad Hoc Benthic Habitat Mapping Group informally met at the Kitano Hotel, Apia, Western Samoa to discuss the contributions that SOPAC can make to the assessment and management of the ocean's living resources, especially to fisheries. Five scientists were in attendance. The last formal meeting of this working group was held Monday September 22, 2003 at the Niue Sports Club, Niue. Eleven scientists participated in that working group. It was noted that the importance of marine benthic habitat mapping has not declined since the first marine habitat conference was convened in Noumea, New Caledonia in 1997, a workshop held in New Caledonia to acknowledge the multidisciplinary ZoNeCo programme that since 1993 has been assessing both the living and non-living resources of New Caledonia's EEZ, and sponsored by SOPAC, ORSTOM, and IFREMER. In fact, the ad hoc habitat mapping group pointed out that marine benthic habitat has now become a mainstream science of its own

right and that SOPAC has an opportunity to become a major contributor to the science and most likely the primary shallow water contributor in the Pacific region. Mapping products will form an integral part of sustainable management plans for marine resources

In review of the notes from the 2003 working group meeting it was apparent that little has been done by SOPAC in regard to marine benthic habitat mapping, although data useful in this activity is regularly being collected. The conclusion reached by the 2003 working group that the activities SOPAC is charged with, including coastal geophysical mapping for aggregate assessment, hazards analyses, and effluent discharge, applies as well to the living resources was endorsed by the ad hoc working group. Therefore, habitat mapping as an appropriate mechanism for applying geoscientific studies to marine living resources evaluation is still viable. Another recommendation made at the 2003 working group meeting, and endorsed by the 2005 ad hoc working group, is that consideration be given to developing a habitat-mapping workshop for the SOPAC region in the near future, in a similar fashion and for the same purposes as was done for the 1997 Noumea workshop. The ad hoc working group was informed that preparations were being made by SOPAC to undertake such a workshop in cooperation with the Circum-Pacific Council and tentatively scheduled to take place in Fiji in March of 2007.

The ad hoc working group noted that an ever increasing amount of multibeam and backscatter data have been collected, and continues to be collected, in the SOPAC region that can be used to map marine benthic habitats. Again, as mentioned in the 2003 working group meeting, although backscatter data has not been processed, it has been collected and could be processed once methodologies and funds needed to support software are identified. The ad hoc working group strongly encourages SOPAC to obtain this software, plus ensure data are properly archived for future processing.

Mentioned at the 2003 working group meeting, and again repeated here, the ad hoc working group suggests that SOPAC facilitate coordination between regional geologists and biologists when involved in coastal mapping so that habitat information beneficial to ecological assessment can be collected at no, or little, extra cost. The benefit of such coordination is that sensitive ecological habitats may be identified

designations for marine protected areas and in areas that, for example, may be earmarked for aggregate mining may be avoided. Thus the mining activity may be shifted or selected elsewhere to prevent adverse impact to a critical habitat.

Recommendations:

1. Progress by SOPAC to develop the marine benthic habitat-mapping workshop to take place in Fiji in 2007 should continue, but seeking partnership for the workshop with the CPC and GeoHab;
2. Efforts be made to process SOPAC backscatter data, which then can be used in marine benthic habitat mapping;
3. Follow through on the 2003 working group's recommendation that a pilot marine benthic habitat-mapping project be done in Kiribati or elsewhere using multibeam data collected by SOPAC, including processing of backscatter data and interpretation of marine habitats from these data;
4. Coordination between regional geologists and biologists be undertaken when doing coastal mapping in order to facilitate a holistic scientific approach and increase benefits of the surveys; and
5. Encourage collaboration with other regional agencies (e.g., SPREP, FFA, SPC) to implement demonstration projects by integrating swath-mapping data with fisheries and ecological knowledge.

Attendees: Mike Gawel – Guam; Gary Greene – USA; Yves Lafoy – New Caledonia; Andrew Matthews – New Zealand; and Dick Pickrill – Canada

STAR Working Group 'Translating Ocean Observation Data into Useful Products and Applications for Pacific Island Countries'

Co-ordinated by Sarah Grimes, PI-GOOS Co-ordinator

Preamble: The Regional Workshop "Potential Applications for Ocean Observations for the Pacific Islands Region" held in Fiji, 2002 resulted in a Summary Document [hereafter referred to as "PAOOP 2002"] with recommendations to address the Ocean Observation Product and Service needs for Pacific Island Countries [PICs]. Two of the major outcomes of this document were to establish:

- 1) A full-time co-ordinator of the UNESCO Pacific Island Global Ocean Observing System [PI-GOOS]; and
- 2) A website whereby ocean information was easily accessible to PICs.

The commencement of Dr Sarah Grimes as PI-GOOS Co-ordinator occurred in September 2004 and since May 2005, the first regional Ocean Information Web-portal has been developed and is now accessible by the SOPAC homepage: www.sopac.org [PI-GOOS Link]. These two outcomes also underpin aspects of the Pacific Island Regional Ocean Information System [PIROIS] and Pacific Island Regional Ocean Policy [PIROP] strategic frameworks.

In consultation with regional and international stakeholders and also guided by "PAOOP 2002", the PI-GOOS Co-ordinator has developed a strategic PI-GOOS Program 2006-2007. The overarching aim is to improve the capacity in the region to carry out ocean science, monitoring and management activities to assist sustainable development and self-reliance. The Program strives towards the immediate goals of:

- 1) Improving access to ocean and marine science education at school, community and tertiary institutions throughout the region;
- 2) Developing useful ocean and coastal products for the region; and
- 3) Developing a central node of accessible ocean information [including the new ocean and coastal products] via the new regional Ocean Web-portal and a revamped Marine Scientific Research [MSR] database.

This Working Group provides an opportunity for local, regional and international stakeholders to:

- 1) Provide comments on the current relevance of the "PAAOP 2002" recommendations; and
- 2) Further identify the regional priority needs for Ocean Observations and their potential application to marine safety, health, tourism, fisheries, and education in the region.

Discussions being sought through this process will assist planning for the Regional PI-GOOS Missions in 2006/2007 whereby individual PICs will have an opportunity to develop, strengthen and commence using ocean products and services.

To assist, please complete the GOOS Questionnaire, located on the PI-GOOS Website

[PI-GOOS Activities Page, Data and Information]. For individual representatives, please use B1 Single Entry Form. For those completing the questionnaire for themselves AND on behalf of others in their country, use the B1 Main Entry Form.

All background documents to the Working Group are located and available for download on the new PI-GOOS Website Key Documents Page [PAAOP 2002; Pacific GOOS Strategy 2001; PIROP; and PIROIS].

Attendants at the Working Group (Sunday 6.30pm) : Dr Andrew Matthews – NIWA, NZ; Dr Kazu Kitiazawa – JAMSTEC, Japan.

The questionnaire was also delivered to representatives from Fiji, Guam, Tonga for individual follow-up after the STAR.

Statement and Recommendations to the SOPAC Council For Endorsement:

The Ocean Products Working Group recognised the usefulness of oceanographic data and its applications to the SOPAC Member Countries and associated community interests, in particular for:

- 1) Improving meteorological and oceanographic forecasting; and
- 2) Understanding variations in ocean conditions.

Both of these could assist with the development and sustainability of the fisheries and marine tourism industries.

The Ocean Products STAR Working Group encourages:

- SOPAC Member Countries (with assistance from the SOPAC and PI-GOOS Secretariats and international research community) to develop their capabilities to collect and analyse oceanographic data for:
 - 1) The benefit of their communities; and
 - 2) Assisting the international research institutions in carrying out research in the region;
- The SOPAC and PI-GOOS Secretariats to proactively find an efficient mechanism where the information relating to various planned MSR and oceanographic surveys and development of platforms for the storage and sharing of results and data between SOPAC Member Countries and the international scientific community; and

- All other institutions carrying out research in the region to share their results with the SOPAC Member Countries, within a reasonable timeframe, and also to work with SOPAC and PI-GOOS to strengthen the Oceanographic and MSR Capability in the region.

Water Working Group

Planning Meeting for the Pacific Position Paper for the 4th World Water Forum

Co-ordinated by Alf Simpson (ASAP) and Latu Kupa (KEW Consultant)

Preparations are now underway for the 4th World Water Forum (4WWF) which will be held from the 16-22 March 2006 in Mexico. As part of these preparations the STAR Water Working Group met in an extended session throughout most of Monday and Tuesday morning to reflect on the strategic developments and achievements in the water and sanitation sector over the past 3 years and review progress towards the implementation of the Pacific Regional Action Plan on Sustainable Water Management (Pacific RAP).

The outcome of this consultation will be a draft Pacific sub-regional position paper, which will be presented at the 4WWF as part of the Regional Position Paper for Asia and the Pacific.

The draft position paper will be circulated by the end of the week to the working group members and through the Pacific Water Partnership network for comment and review prior to the submission deadline of the 23rd of October.

The Working Group recognised progress had been made under the Pacific RAP and identified 5 key areas for future action to progress sustainable water management in the Pacific Island Countries. These are recommended to council for endorsement.

1. Pacific Island Countries (PICs) should be supported to develop a sustained knowledge and skill base in the field of water and wastewater management. A particular difficulty in the PICs is that specialised knowledge and experience often rests in the hands of few people and that capacity can easily be lost. Donor agencies and governments should be encouraged to commit to repeat and ongoing training;
2. The Integrated Water Resources Management (IWRM) concept is considered a key

mechanism for achieving sustainable water management. IWRM should be promoted and work towards its implementation emphasised. The removal of obstacles to inter-agency cooperation should be encouraged;

3. Novel approaches to dealing with the lack of economies of scale in the Pacific should be promoted. The small populations, isolation and limited resource bases that characterise many of the PICs make it difficult to realise efficiencies in the water and sanitation sector. Cost recovery is also challenging. Programmes to address unaccounted for water, benchmarking and engendering a maintenance culture within utilities should be supported;
4. Resources should be sought to implement the Drinking-Water Quality and Health Framework for Action which complements and builds on the Pacific RAP; and
5. As the Pacific is a region of the world that is impacted by climate variability and change it is considered imperative to integrate modern seasonal climate forecasting into water management. Efforts to integrate the work of meteorological services, hydrological services and water managers should be encouraged.

STAR Water Working Group Participants List

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Establishing a STAR Working Group on Science and Technology to support the successful implementation of the Pacific Disaster Risk Reduction and Disaster Management Framework for Action, 2005-2015

A group of interested STAR participants met and discussed both the Draft Framework for Action 2005-2015 and theme 5 of this Framework: "A draft strategy for enhancing early warning for Pacific Island Countries."

Draft Pacific Framework for Action, 2005-2015

The group discussed and agreed on the following recommendations for consideration:

- That a formal STAR "Pacific Framework for Action" Working Group be established;
- That the Working Group interact with Community Risk Programme staff at future

STAR meetings and whenever possible to provide science and technology advice and support in the implementation of National Action Plan priorities;

- Where possible members of STAR provide in-kind short term capacity building support in their area of expertise or existing programs that align with agreed National priorities;
- STAR promotes the use of integrated holistic Disaster Risk Reduction approaches that are consistent with the objectives of the regional Framework of Action; and
- STAR members participate in the monitoring of the implementation of the framework.

Enhancing Early Warning for Pacific Island Countries

The group discussed the draft strategy and provided comments, which have been included in the latest draft.