

# Snapshots

## DISASTER REDUCTION PROGRAMME

Snapshot 83

March – August 2013



The Applied Geoscience and Technology Division (SOPAC) through the Disaster Reduction Programme is committed to working with officials and communities around the Pacific to strengthen the ability of countries to protect people as much as possible from the impact of natural and manmade disasters

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Applied Geoscience and Technology Division (SOPAC)

# From the Managers Desk



Mosese Sikivou

We finally turned the corner with our major consultative event for 2013: the Joint Meeting of the Pacific Platform for Disaster Risk Management & Pacific Climate Change Roundtable which was held in Nadi, Fiji from 8<sup>th</sup> – 11<sup>th</sup> July, preceded by a series of 5 separate technical meetings from 1<sup>st</sup> – 5<sup>th</sup> July also in Nadi. It took us about 8 months to make preparations and I think this paid off – big time!! A number of participants from around the region and from other parts of the world were pleased to be able to participate and to achieve really good outcomes such as the re-commitment by the region to integration and the articulation of some key areas of challenge and interest which will be used to help shape a strategy for disaster and climate resilient development for the region by 2015.

This is the second issue of Snapshots for 2013 and we have for you a number of interesting stories. We cover some of the results of the meetings in July and also the work that is on going on DRM within our Pacific island countries and territories. We showcase some of the exciting work being done at the regional level and also work done by our partners whom we are proud to work with.

Last but not least we are now also inviting our partners to contribute to future editions of Snapshots and look forward to receiving updates on their efforts in DRM implementation in the Pacific island countries and territories.

I hope you enjoy this issue

*Mosese Sikivou*

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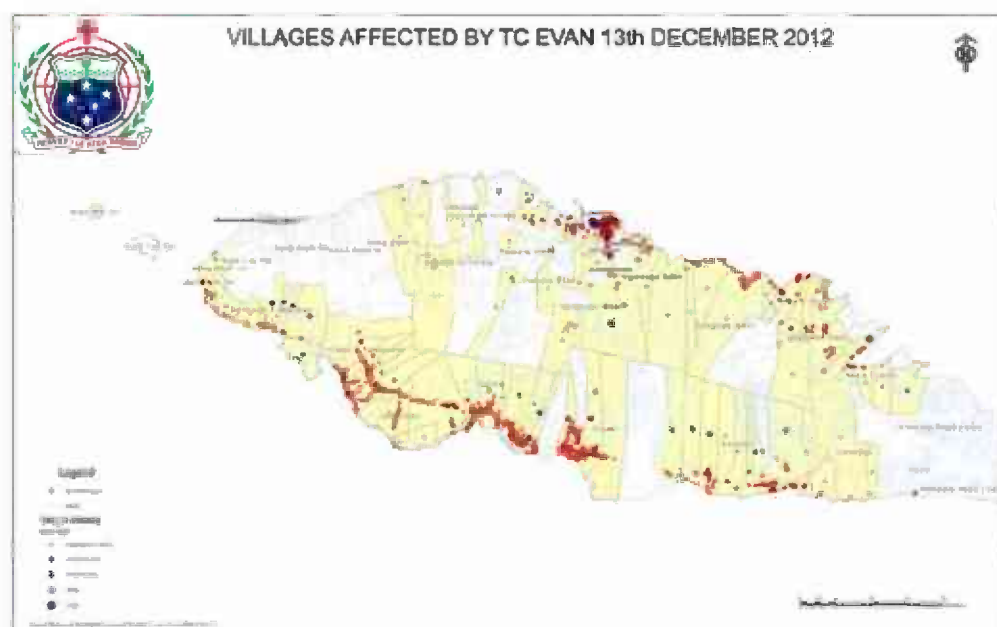


# Assessing the cost of natural disasters: Post Disaster Needs Assessment of Cyclone Evan in Fiji and Samoa

In December 2012, Tropical Cyclone Evan ravaged both Samoa and parts of Fiji causing extensive damage to infrastructure, crops, livestock, buildings and the environment. It also caused five deaths in Samoa. A Post Disaster Needs Assessment was requested by the two respective Governments to the Secretariat of the Pacific Community that in turn collaborated with the World Bank to secure funding support as well as the availability of sector experts to assist with the conduct of damage and loss assessments. The methodology used was first developed by Economic Commission for Latin America and the Caribbean (ECLAC) then adapted by the Global Facility for Disaster Reduction and Recovery (GFDRR). The support of the key Government Ministries, partners and donors was instrumental in the successful development of a recovery needs framework at the end of the PDNA for both countries.

In Samoa the extent and magnitude of the effects of Cyclone Evan on the economy were substantial. The value of damage and loss was equivalent to US\$203.9 million, approximately 29 percent of the country's gross domestic product (GDP). Fiji, on the other hand, reported total economic costs of US\$108.4 million which is equivalent to approximately 2.6 percent of the GDP (USD (a 0.1 per cent decrease in the forecasted GDP for 2013)).

The Government of Fiji has made a commitment to using the PDNA methodology for assessing losses from future large disasters. The Ministry of Strategic Planning, National Development and Statistics has now overall responsibility for PDNA. Training on the PDNA methodology will be conducted by the Secretariat of the Pacific Community to train key sector staff in 2013.



# Samoa reviews Cyclone and Tsunami Early Warning System

The Samoan Government, led by its Meteorology Division and Disaster Management Office, with the support of UNESCO/IOC and the SPC, conducted a review of Samoa's national early warning systems for tropical cyclone and tsunami hazards from 27 February – 5 March, 2013. The review process commenced internally between staff members of the two lead agencies and was later extended to members of the National Disaster Advisory Committee. The main highlight of the review was a one day public consultation which was attended by over 90 representatives from various villages within Upolu and the business sector.

The review was prompted by the 2009 Tsunami and lately by Tropical Cyclone Evan which caused widespread damage in both Upolu and Savaii. Ms Filomena Nelson the Assistant CEO – Disaster stated that “the early warning system for cyclone and tsunami had been in place for a number of years and it needs strengthening to reflect the increase in frequency and intensity of these hazards”. Mr Lameko Talia who is in charge of tsunami warning stated that “the 2009 tsunami provided a great challenge to his team since the waves had arrived before the PTWC were able to provide the warning”.

In opening the community consultations, Mr. Mulipola Ausetalia Titimaea encouraged representatives from villages and businesses to give their true reflections on the language used in the warnings, the adequacy of the communications means used to disseminate the warnings and the frequency of warnings so that they improve to better meet the end receivers' expectations”.

The feedback and suggestions from the village and business community was particularly interesting and highlighted the difficulties people face with present Early Warning Systems (EWS), especially when it comes to the language of the warning bulletins. Community representatives commonly requested advice on how to prepare during Warning phases. For example, what should the public do during ‘Watch’, ‘Warning’ and ‘Advisory/ Information’ phases? It was agreed that warnings were easier and more rapidly communicated using SMS texts but that there was a need to increase national capacity in this system. Discussions also highlighted the need for greater awareness of both the warning systems and how to best respond to save lives and property.



Evident wind damage



Comparison of flood heights recorded in the lower Vaisigano against 1D model 1:100 year floods.



# Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI) – Phase 3

The Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI) has provided Pacific Island Countries (PICs) with disaster risk assessment tools. These have been developed with the financial and technical assistance of a number of partner agencies such as the World Bank, Asian Development Bank, AIR Worldwide, GNS Science New Zealand and Pacific Disaster Center working with SPC-SOPAC over a 2 year period from 2010. Since then a number of applications have been developed and rolled out in Phase 3. These include the establishment of the online Pacific Risk Information System, protocols for rapid post disaster damage estimations, a feasibility study to establish a catastrophe risk insurance pool and guidelines for urban planners.

The Pacific Risk Information System contains detailed, country-specific information on assets, population, hazards, and risks; a comprehensive regional historical hazard catalogue and historical loss database for major disasters, country-specific hazard models that simulate earthquakes (both ground shaking and tsunamis) and tropical cyclones (wind, storm surge, and excess rainfall) and risk maps showing the geographic distribution of potential losses for each country. These deliverables provide the basis for a number disaster risk assessment applications and are available via the online Pacific Risk Information System [pcrafi.sopac.org](http://pcrafi.sopac.org).

In December 2012, the first rapid post-disaster damage estimation was calculated for Samoa and Fiji following Tropical Cyclone Evan providing an initial loss calculation for areas affected. Discussions to improve the service and the underlying information have been had between the partners involved and further collaborations are still required in the coming year. This service provides the loss calculations required to determine whether or not countries involved in the Pacific Catastrophe Risk Insurance Pilot are eligible for a pay-out.

On January 17, 2013, the Pacific Catastrophe Risk Insurance Pilot was launched as part of the Pacific Disaster Risk Financing and Insurance Programme. The 2-year pilot, with funding support from the Government of Japan, will test the feasibility of establishing a catastrophe risk pool in the Pacific. The 5 pilot countries are Marshall Islands, Samoa, Solomon Islands, Tonga and Vanuatu.

Rapid urbanisation in the Pacific has resulted in settlements and development in hazardous locations. The Asian Development Bank, UNHABITAT, SPC-SOPAC and key urban planning agencies will collaborate on developing tools using PCRAFI to help integrate climate and disaster risk information into urban and infrastructure planning processes.

# Tongatapu Tsunami Wave Inundation Model presented to Cabinet and National Emergency Management Committee

In March this year, Dr Michael Petterson of SPC presented the results of a Tongatapu tsunami wave inundation model developed jointly by the Government of Tonga (Geoscience Service Unit of the Ministry of Lands, Survey Climate Change and Environment), SPC and Geoscience Australia (GA) through the Pacific Public Sector Leadership Program (PPSLP).

Dr Petterson advised that the model was made possible by the availability of good topographic and bathymetric data. The tsunami model is based on a magnitude 9 earthquake originating from the centre of the Tonga trench. It reveals that only four high points in Nuku'alofa would not be inundated if such an event occurred. Cabinet and National Emergency Management Committee (NEMC) members have accepted the findings of the model. Further, the model also reveals that the eastern coast of Tongatapu will receive the first impact of the wave due to the Piha passage.

In acknowledging the presentation, the Hon Prime Minister Lord Tuivakanō indicated that the Government of Tonga will need support to construct access ways to some parts of Nuku'alofa so that the local community can quickly evacuate in the future.

Members of the Cabinet and NEMC expressed thanks to GA and SPC for the model, noting that it will provide valuable information for tsunami preparedness and long term planning for the Nuku'alofa Central Business District. The community is keen to see the evacuation route so that evacuation planning and simulations can be organised.

The Tonga Geographical Information System (GIS) Team through Mr Richard Kautoke is leading the development of the tsunami evacuation map which will be further strengthened by GA, SOPAC Division and New Zealand's Ministry of Civil Defence and Emergency Management later in the year.



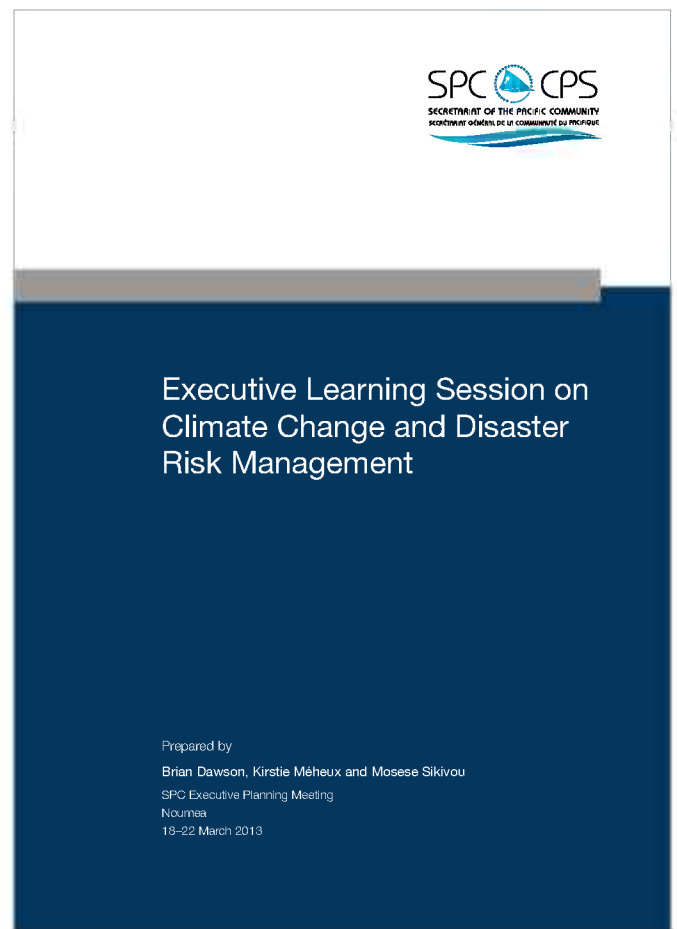
Evident wind damage



# Disaster Risk Management and Climate Change training for SPC Executive

Working in partnership with SPC's Climate Change Team, the SOPAC Division's Disaster Reduction Programme recently delivered a half-day training session introducing the fundamental principles of Disaster Risk Management (DRM) and Climate Change (CC). The training was designed for SPC's Executive Management team (Director General, Deputy Director Generals, Division Directors and Country Office Managers) to create a common understanding of both DRM and CC, highlighting the causes of disasters and climate change, ways to address disaster and climate risk and the processes to integrate DRM and CC to everyday business. Equipped with this knowledge the Executive were challenged to identify ways to integrate DRM and CC across the work of SPC and its eight Technical Divisions (Applied Geoscience and Technology; Economic Development; Education, Training and Human Development; Fisheries, Aquaculture and Marine Ecosystems; Land Resources; Public Health, Statistics for Development, Strategic Engagement, Policy and Planning). The training concluded with a presentation of the outcomes of a recent in-house workshop with SPC's technical staff to draft an Action Plan for the integration of climate change and disaster risk management at SPC. The Executive were asked to review the Action Plan and identify priorities for implementation through collaboration between Divisions.

The course has created a heightened awareness of DRM and CC among SPC's Executive and has sparked a series of discussions regarding the ways in which the Disaster Reduction Programme and Climate Change team can work across SPC to support the integration of DRM and Climate Change regionally. The course will soon be made available to SPC staff in Suva and Nouméa as part of a professional development strategy to raise awareness and capacity in DRM and CC across the organisation.





# Tsunami hazard in Wallis and Futuna: enhanced knowledge, improved protection

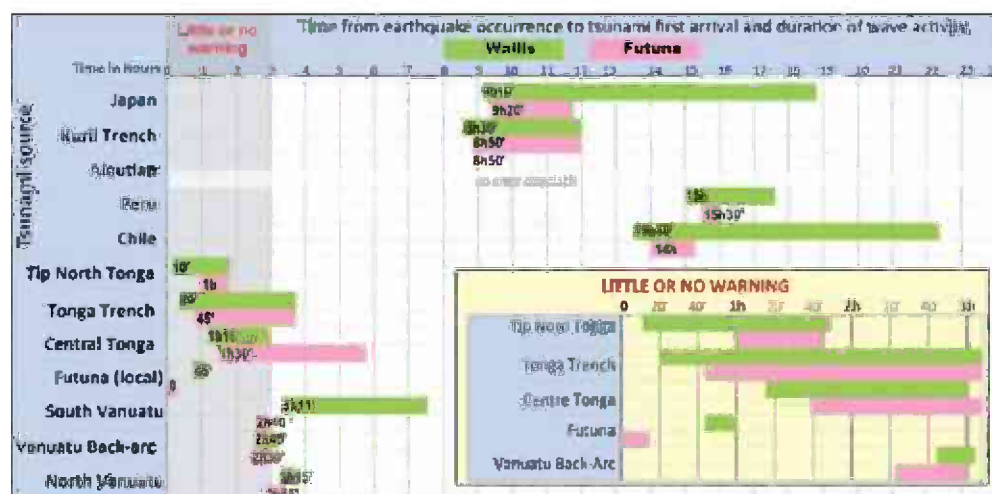
A study shedding more light on the tsunami hazard on the islands of Wallis and Futuna was recently completed. A multi-agency effort, the study was facilitated by SPC and led by the NZ National Institute of Water and Atmospheric Research (NIWA) and the Nouméa-based Institute of Research for Development (IRD), with the support of EU funding.

Like most Pacific islands, Wallis and Futuna faces the risk of tsunami, two of which hit the island of Futuna in 1993 and 2009. Knowledge of the tsunami hazard remains limited as it requires extensive knowledge of the seafloor topography and of wave dynamics, particularly in coastal areas.

The study benefited from several research projects undertaken between 2009 and 2012 including: the investigation of geological evidence of past tsunamis on the islands (with the expertise of the University of New South Wales); the characterisation of potential tsunamigenic earthquakes around the Pacific region; the development of numerical models of the generation and propagation of tsunami; and the identification of the resulting inundation on coastal areas in Wallis and Futuna. This data allowed scientists to generate maps of tsunami propagation and inundation for a number of tsunami scenarios impacting the islands of Wallis and Futuna.

Three type of tsunamis were investigated: (1) ocean-wide tsunami generated by earthquake sources such as Chile or Japan; (2) regional tsunami, where the tsunami arrival is within two hours of its source, such as Tonga Trench or Vanuatu; and (3) local tsunami, where the source is less than 100 km from the local coast with an arrival of only a few minutes after the earthquake such as the Futuna Transform.

Based on the research conducted during this study altogether 14 earthquake sources were considered capable of generating tsunamis large enough to affect Wallis or Futuna.



In addition to warning time (see illustration above), the study identified the zones most likely to be impacted by tsunamis on Wallis, Futuna and the smaller island of Alofi. As most of the population lives a few metres above sea level, inundation can be catastrophic. A red zone, indicating high relative tsunami hazard, was identified along the coasts separating Futuna and Alofi where the channel amplifies wave height, putting the Futuna airport runway at risk.



Relative tsunami hazard at Futuna from the estimated likely maximum wave height.

The Administration of Wallis and Futuna was quick to use the results generated by the study to update their tsunami preparedness plan and improve their early warning system, securing additional tsunami sirens for example. Similarly, the territory launched a community preparedness and evacuation program which benefited from the extensive data emerging from this study. Under this initiative, the location of evacuation routes and shelters were revised based to take into account risky zones.

While the studies were acknowledged to be useful, scientists noted some limitations such as the lack of precision on the seafloor topography, in particular the very shallow, intertidal depths (<10m). In the same vein, factors such as population and infrastructure distribution were not included in the present study which focused on the tsunami hazard. The inclusion of such data will continue to strengthen the territory's capacity to mitigate the risk of tsunami.

# Tsunami warning and public alerts at the heart of SPC's regional exchanges

Over 8 to 12 March 2013, representatives of the French Pacific territories (French Polynesia, New Caledonia and Wallis and Futuna) met to discuss tsunami risk - one of the most significant natural hazards facing their territories.

This work, made possible with the support of European funding, was conducted in collaboration with scientists from the French Institute of Research for Development (IRD), the Geophysics Laboratory (CEA) and the French Naval Hydrographic and Oceanographic Service (SHOM) under the guidance of SPC. A delegate from the French Polynesian Corporation for the Promotion of Municipal Districts and a representative of the French Ministry of Overseas Departments and Territories (délégation générale à l'outre-mer) also took part in the meeting.

The participants exchanged and shared scientific knowledge of tsunami risk, lessons learnt and the wide range of responses used to protect communities, such as e.g. educational and public awareness measures, communication material, signage, sirens and other public alert systems.



Workshop participants

The conclusions of this weeklong working session was elaborated at the 2013 Joint Meeting of the Pacific Platform for Disaster Risk Management and Pacific Climate Change Roundtable.



# New Provincial Emergency Operation Centres in Solomon Islands

With increasing risk and frequency of natural disasters, efforts are being made towards building resilient communities to reduce the risk of damage and loss of property and human life.

The European Union is presently supporting the construction of provincial Emergency Operation Centres at Lata, Kirakira and Gizo Provincial Headquarters in the Solomon Islands through the implementation of the Disaster Risk Reduction project (B-Envelope), implemented by the SPC. Construction has already been completed at Lata and Kirakira with the building at Gizo scheduled for completion around October 2013.

The Provincial Emergency Operation Centres will greatly enhance the capacity of the provinces in disaster management particularly in coordinating relief efforts in the event of a disaster. The Director of the National Disaster Management Office, Loti Yates, said “The provinces now have a dedicated operations centre that will strengthen the Provincial Government’s capacity to deal more effectively with disaster management. We are grateful for the support of the European Union for making these funds available through this project. The Solomon Island Government is contributing through staff housing and equipment of the Emergency Operation Centres.” Mr Yates further stated that other provinces stand to benefit with similar infrastructure support in the future.

SPC has been working closely with the National Disaster Management Office, Ministry of Environment, Climate Change, Disaster Management and Meteorology in implementing this project since 2008. During the early planning stages, the Provincial Governments made available land for their respective Emergency Operation Centres. SOPAC and now SPC via its SOPAC Division coordinated with the Solomon Island Government to identify land to be surveyed, develop architectural plans, award contracts to supply building materials and construct buildings. Over the last two years, SPC, in support of the Ministry of Infrastructure and Development, has been heavily involved in supervising the construction and addressing the challenges of constructing at remote locations.

Moses Sikivou of SPC, states “Our efforts focus on ensuring that people are better prepared for disasters. Climate change is real and is already affecting us. A lot of communities in the provinces are exposed to hazards and we can help by making them aware of the risks and the actions to take to minimize those hazards turning into disasters for local communities”.



Newly completed EOC at Kirakira.



# New Seismic Network in Papua New Guinea

The Port Moresby Geophysical Observatory (PMGO), a Branch of the Department of Mineral Policy and Geohazards Management (DMPGM), has just completed installation of a new, 10-station seismic network in Papua New Guinea. This has been made possible with the help of funding from the European Union (EU) through a “Disaster Risk Reduction Project” implemented by the SPC. The new seismic network accounts for about 30 per cent of a total of €3.3 million which has been allocated by EU to strengthen early warning systems in Papua New Guinea.

The ten seismic stations have been installed at strategic locations in Papua New Guinea and these will monitor earthquakes and related hazards (notably tsunamis). Locations of the new seismic stations are: Wewak, Tabubil, Mount Hagen, Lae, Port Moresby, Alotau, Misima, Buka, Kavieng and Kimbe. Dr Russell Howorth of SPC stated earlier that: “The focus of the project in PNG is to build resilience in communities and strengthen early warning systems and communications. These seismic stations will transmit real time earthquake data to PMGO Headquarters in Port Moresby using Telikom PNG’s communications infrastructure. In turn this will be a very important development for the National Disaster Centre as they will be better informed by PMGO to issue early warnings to areas that may be affected by earthquake related hazards such as tsunamis.”

The Secretary for DMPGM, Shadrach Himata, observes that: “Deployment of the new seismic network is a significant achievement, fulfilling part of DMPGM’s vision of creating a state-of-the-art geohazards monitoring system in PNG by 2015. The next challenge is sustaining the network, for which GoPNG financial support is vital”. Most of the new seismic stations have been established at Telekom sites in the Provinces and use Telekom infrastructure to relay seismic data to PMGO. Telekom PNG Acting CEO, Charles Litau, observes: “Telikom as a national company is pleased to be part of this project. By making the Telekom infrastructure available for early warning communications, Telikom is assisting in the provision of a valuable service to communities in PNG that are threatened by hazards related to earthquakes.”

Pacific Network Limited (PNL) a PNG-based ICT solutions integrator was engaged to design, construct and implement engineering and communications components of the project and to provide logistical support for PMGO. PNL Technical Director, Nombri Dulume, stated: “Pacific Network Limited is very pleased that it was able to contribute to the seismic network project.”

Geoscience Australia (GA) helped PMGO in the overall design of the network and guided the early stages of the network deployment program. Geophysical Network Section Leader of GA, Tim Barton, said: “Establishment of the new seismic network in PNG has been a major capacity-building exercise. It is hoped that in time the data feeds from the network will be shared with other agencies in order to grow a strong seismic monitoring network for the southwest Pacific region.”



Newly installed seismic equipment.

# Solomon Islands move toward an Integrated National Framework for Disaster Risk Management and Climate Change

Building on restructuring of the Solomon Islands Government decision to integrate the National Disaster Management Office, the Meteorology Office and Climate Change Division under a single Ministry, the Government of Solomon Islands has developed a Strategic Note to convey their intention to establish an integrated national framework for Disaster Risk Management and Climate Change. Following a 2-day multi-stakeholder consultation in March 2013, a Strategic Note was developed by the Ministry for Environment, Climate Change, Disaster Management and Meteorology and Ministry for Development Planning and Aid Coordination that conveyed messages from Solomon Islands Government representatives from a number of sector ministries, representatives of NGOs and

church groups and representatives of Council of Regional Organisations of the Pacific and donor agencies relating to the proposed integrated framework and specific Disaster Risk Management and Climate Change priorities needing to be addressed, including implementation of the 2009 National Adaptation Programme of Action (NAPA), the 2010 National Disaster Risk Management Plan and the 2012 Climate Change Policy. The intended audience for the Strategic Note is representatives of the Solomon Island Government.

The Strategic Note outlining the Solomon Islands Government to establish an integrated framework contains a number of recommendations. The major recommendation is to establish a National Framework for Resilient Development that runs in parallel with the National Development Strategy (NDS). This would allow a focussed effort on reducing risks to sustainable development posed by disaster and climate risks. The Strategic Framework will identify key climate change and disaster risks that are likely to undermine the achievement of the NDS objectives and identify approaches to reduce these risks.

The key strategic areas of the proposed Framework include:

- Strengthening Governance and Coordination Structures for DRM/CCA
- Risk analysis and integration into planning
- Mainstreaming CCA/DRR considerations into development
- Legislation Reform
- Enhanced Monitoring & Evaluation
- Communication & Advocacy



Solomon Islands NDMO Director Loti Yates, Climate Change Division Acting Director Hudson Kauhiona and Acting Permanent Secretary for MECDM Frank Wickham opening the workshop.



Participants undergoing mapping exercise of Climate Change and Disaster Risk Management institutions in Solomon Islands.

# Busy months for DRM trainers

The Disaster Risk Management training team has been hard at work in recent months delivering training across the region. Following is a summary of the courses conducted.

## Introduction to Disaster Management, Ha'apai and Vava'u, Tonga

Working with Tonga's National Emergency Management Office, regional trainers facilitated the delivery of the Introduction to Disaster Management (IDM) course in Ha'apai and Vava'u to members of the islands' disaster management committees. This is the first time the IDM course has been offered at an island level in Tonga aimed at providing the local committees with a strong foundation in disaster risk management to assist further development of their local arrangements and relationships for DRM. The training was facilitated by regional trainers: Irene Prasad, Jowana Koroitunikelo, Noa Tokavou and Anthony Blake, assisted by national trainers Maliu Takai and Mafua-'i-Vai'utukakau Maka. In total 44 individuals participated in these two courses.



## Emergency Operations Centres, Apia, Samoa

In April, the Emergency Operations Centres (EOC) course was offered in partnership with Samoa's Disaster Management Office. The training provided an excellent opportunity for representatives from government departments and the national Red Cross society to reflect on their EOC experiences during their recent response to Tropical Cyclone Evan, identifying areas for improvement and strengthening the relationship between individuals expected to work in the EOC in the future. A particular feature of this course was the participation of several DMO personnel, recruited just before Tropical Cyclone Evan struck the country, and the Department of Statistics staff who play a critical role in the timely provision of baseline data and analysis of incoming data on damage sustained during an event. In total 19 people participated in the course which was facilitated by regional trainers: Kathryn Hawley, Anthony Blake, Kirstie Meheux and Tipa Lau'pue.



## Exercise Management, Suva, Fiji

Recognising the need to increase the number of personnel available to design and conduct Exercises, the National Disaster Management Office in Fiji requested support for the delivery of Exercise Management training. The course, held in May, provided 19 participants from across government, Fiji Red Cross and NGOs with an understanding of the steps involved in the design, development and conduct of emergency exercises. Participants developed their own exercises during the training and set timelines for their learning to be put into action with an 'Exercise' tentatively scheduled for November 2013.

## Evacuation Centre Management, Suva, Fiji; Honiara, Solomon Islands; and Rarotonga, Cook Islands

The revised Evacuation Centre Management course has been delivered in Fiji, Solomon Islands and the Cook Islands. The review of the course materials was conducted following requests from countries to provide them with support to strengthen the quality of management of evacuation centres. The course provides participants with an introduction to the basic principles of evacuation centre management, encompassing appropriate building requirements, facilities and equipment and the functions or services that should be provided to evacuees. The course can also be used as a basis to develop national guidelines and/or standard operating procedures (SOPs) for evacuation centre management. In Fiji the course was followed with a one day workshop led by RedR to kick-start the drafting of national guidelines for evacuation centre management. In total 70 people have attended this training [Fiji (23), Solomon Islands (22) and Cook Islands (25)].



## Disaster Risk Reduction, Rarotonga, Cook Islands and Pohnpei, Federated States of Micronesia

The Cook Islands and the Federated States of Micronesia have become the fifth and sixth countries to participate in the new Disaster Risk Reduction training. The course provides participants from across government, national Red Cross societies and civil society organizations with an introduction to disaster risk reduction terminology,



concepts and key processes. The course is designed to sensitise people from across all sectors to the value of incorporating disaster risk reduction into project planning and implementation, equipping them with basic tools and information on sources of information and support. Cook Islands had 24 participants attend the training with 20 participating in Federated States of Micronesia. This brings the total number of people in the region who have completed this training to 88.



## Understanding Disaster Risk Management and Climate Change, Secretariat of the Pacific Community, Suva, Fiji; Honiara, Solomon Islands; and Pohnpei, Federated States of Micronesia

In support of efforts to mainstream disaster risk management and climate change across the Secretariat of the Pacific Community, a series of half-day trainings have been conducted in SPC offices (Solomon Islands Country Office in Honiara, the Regional Office in Suva and the North Pacific Regional Office in Pohnpei). There have been 53 participants from across the organisation who have attended the training, which provides a basic overview of the causes of disaster and climate change, their impacts on different sectors, how disaster and climate risk can be reduced and how all staff at SPC can work to mainstream DRM and CC into their own office work plans. The training will also be conducted for staff at the SPC headquarters in Noumea in late August.

# Regional Disaster Risk Management and Climate Change Meetings



# The first Joint Meeting of the Pacific Platform for Disaster Risk Management and the Pacific Climate Change Roundtable

The inaugural Joint Meeting of the Pacific Platform for Disaster Risk Management and the Pacific Climate Change Roundtable was held at the Sofitel Resort and Spa in Denerau, Fiji, from 8th to 11th July 2013.

The four day meeting, hosted and Chaired by the Fijian Government, was jointly organised by the Secretariat of the Pacific Community (SPC), the United Nations Office for Disaster Risk Reduction (UNISDR) and the South Pacific Regional Environment Programme (SPREP).

The meeting was officially opened by the Acting Prime Minister of the Republic of Fiji, Mr Aiyaz Sayad-Khaiyum who recalled the urgent need for action, in view of increasing risks caused by climate change and natural disasters: "Rising sea levels, of course, are one thing. By far the most pressing immediate issue is the manner in which climate change is already producing wild extremes in our weather, including an increase in the number of hurricane strength cyclones".

The meeting was also attended by various Ministers from the Pacific including Hon. Mark Brown, Minister for Finance and Economic Management of the Cook Islands, Hon. Thomas Laken, Minister for Planning & Climate Change Adaptation of the Republic of Vanuatu as well as by Ms Margareta Wahlstrom, Special Representative of the United Nations Secretary-General for Disaster Risk Reduction.

The meeting of the disaster risk management (DRM) and climate change (CC) communities aimed to progress discussions and political commitment on the development of an integrated regional strategy on disaster risk management and climate change by 2015. Over 300 participants representing a wide variety of stakeholders and interest groups, including Pacific national representatives at different levels of government, NGOs, civil society organisations, the private sector, the scientific community, regional, international and donor organisations attended the meeting. Numerous technical sessions and side events provided opportunities for stakeholders to share knowledge, experience and perspectives, thus contributing to the formulation of the new strategy.





Ms Wahlstrom commended the development of the strategy, stating that: “The development of an integrated Pacific regional strategy for disaster risk management and climate change into a single overarching policy framework by the end of 2015 is an ambitious and necessary framework that will benefit millions of people and avert the loss of hundreds of millions of dollars in economic losses”. She further added that “The outcome of this roundtable and the Pacific expertise will be shared with the rest of the world and will inspire other regions to look for innovations and practical solutions for impact”.

Most countries in the Pacific region have already started taking concrete steps to address disaster and climate risks in an integrated manner. For example, through the development of Joint National Action Plans for DRM and climate change (JNAPs) or by making institutional reforms to ensure that the responsibilities for DRM and climate change sit under the same government agency. An integrated approach to addressing disaster and climate risks is more effective at reducing risks to sustainable development as it can make better use of existing national and regional capacities and resources to address multiple hazards or phenomena, whether climate-related or geological, sudden or slow onset. It also contributes to improving policy coherence and coordination of donor-assisted investments. The new strategy currently under formulation will translate the integration process at the regional level and provide an overall framework to guide and support climate and disaster resilient development in the Pacific.





# Pacific Island countries lead the world on integration of disaster risk management and climate change adaptation

Michael Petterson, Director of the Secretariat of the Pacific Community (SPC) Applied Geoscience and Technology Division, says the joint meeting demonstrates the fact that the region is now leading on the integration of disaster risk management and climate change adaptation efforts.

‘For several years our Disaster Reduction Programme has been working in close collaboration with regional partners, such as the UNDP Pacific Centre and the Secretariat of the Pacific Regional Environment Programme, to help Pacific Island countries develop joint national action plans for disaster risk management and climate change adaptation,’ he explained.

Mr Petterson went on to say that joint national action plans (JNAPs) integrating climate change and disaster risk management provide countries with a powerful planning tool to help them consider disaster and risk across a range of ministries.

‘At the end of the day, if your house falls down because of a climatic or another type of disaster, you don’t care initially about the cause – you just want help. Experts in climate change and disaster risk management are seeking ways to work together to make the Pacific a safer place. The JNAP offers a roadway for deciding priorities, actions and partnerships, and several [country representatives] have shared their personal satisfaction with how this tool is now supporting a whole raft of government thinking,’ he commented.

Charles Carlson, Director of Emergency Management in Cook Islands, explained that disaster risk management and climate change are now managed under the Office of the Prime Minister, reflecting the priority now placed on disaster risk management and climate change in Cook Islands. Mr Carlson says the country is now looking to develop joint legislation to cover all future climate change and disaster risk management activities.

‘There is no template for developing this legislation, so we’ve got to create the template ourselves, and that’s what we are currently doing with the support from SPC’s Disaster Reduction Programme,’ he stated.

He says that the objectives of the JNAP are to ensure that the people of Cook Islands are prepared for disasters and climate change impacts, and to reduce these impacts.

Mr Carlson went on to explain that ‘The plan itself states that it is designed to provide a roadmap to achieve “a resilient and sustainable Cook Islands where our people are resilient to disasters and climate change and able to achieve sustainable livelihoods”.

He added that the recovery costs from the cyclones that hit Cook Islands in 2005 amounted to NZD 20 million. Given the economically debilitating costs of natural disasters, Cook Islands is likely to gain substantial economic benefits from investing in the implementation of the JNAP.

‘I think it’s a better approach because you’re actually sharing resources, which is critical in small countries like ours. By bringing climate change and disaster risk management together, our approach can be much more focused and concentrated,’ he says.

Mr Carlson stated that disaster risk and climate change management are now seen as a core responsibility across all government sectors in Cook Islands.

‘In the past, anything to do with disaster management – people would look at us and say it was our responsibility, but what we’re saying now is that it’s everybody’s responsibility. For example, if you look at our Ministry of Infrastructure, it is clearly their job to make sure that our infrastructure is climate or disaster proof,’ he says.

Across the Cook Islands Government, he continues, efforts are being made to include JNAP implementation as a core function of not only the Office of the Prime Minister but of each implementing agency.

‘This includes providing criteria for disaster risk reduction, climate change, environmental risks and resilience in each of our agencies’ business plans, and establishing policy and legislative frameworks that recognise these linkages,’ he says.

Mr Carlson also acknowledges that the SPC Disaster Reduction Programme has already provided support for Pacific Island countries to shift disaster management efforts toward towards a greater focus on prevention rather than response.

‘SPC has been the backbone in developing disaster risk management within the region. I’ve been to a couple of the global conferences, and I can see that the region is quite advanced compared to other regions, and I think that is largely due to the support provided by SPC’s Disaster Reduction Programme,’ he commented.



# Bringing Together Disaster and Climate Change Networks: Historic Meeting in the Pacific

Article by: *Elizabeth Ferris, Co-Director, Brookings-LSE Project on Internal Displacement, Senior Fellow, Foreign Policy*

I recently participated in the Joint Meeting of the Pacific Platform for Disaster Risk Management and the Pacific Climate Change Roundtable July 8-11th in Nadi, Fiji which marked the first ever attempt to bring together different regional networks working on climate change and disasters. It was a rich and eye-opening experience to be present in this gathering of several hundred people representing governments, regional bodies galore, international organizations, academics, NGOs and civil society groups. The Pacific often seems very far from Washington, but exciting things are happening in this region that deserve more attention.

It is now generally accepted that one of the consequences of climate change will be an increase in the severity, intensity and unpredictability of weather-related disasters. And yet in most regions, there are separate networks of international and regional organizations working on climate change adaptation and on disaster risk management. On the surface it makes sense to bring these networks together: surely everyone can agree that one of the ways to adapt to the effects of climate change is to reduce the risk of disasters. How can risks from disasters be considered separately from risks posed by climate change? But it's not so simple. In this region (and everywhere), those working on disaster risk reduction are concerned not only about weather-related disasters but about geo-hazards – earthquakes, tsunamis, and volcanoes, for example. Different government ministries are involved in climate change negotiations than those who are managing national responses to cyclones and droughts. Different donors and funding mechanisms support climate change adaptation, on the one hand, and disaster management on the other. Bringing together different networks, and perhaps eventually merging networks, is easier said than done.

The meeting was an impressive gathering of many international and regional bodies. Jimmie Rodgers, Director General of the Secretariat of the Pacific Community, remarked that the convening of this meeting itself was a milestone. He noted that in 2005 two independent frameworks were adopted in the region – one on climate change adaptation and another on disaster risk management – and that it has taken eight years to bring these two together. Margareta Wahlström, Special Representative of the Secretary General of the United Nations for Disaster Risk Reduction, explained the relationship between this Pacific 'roadmap' to bring together these two networks by 2015 in the context of broader international efforts. 2015 will be a big year for new international frameworks, she noted, with three initiatives underway: the post-Hyogo disaster risk reduction framework, the post-Kyoto framework on climate change and new sustainable development goals. David Sheppard, Director General of the Secretariat of the Pacific Regional Environment Programme, began his comments by noting that while Pacific countries are responsible for three-tenths of one percent of the world's greenhouse emissions, the Pacific will be the first to 'go under' and expressed his hopes that this historic meeting would act as an example for the world.

A theme running throughout the meeting was a call for better understanding of the landscape – who is doing what in the area of disaster risk management and climate change? How do these organizations interact with

each other? Our initiative on “In the Neighborhood: The Growing Role of Regional Organizations in Disaster Risk Management” sought to provide some insights into this mapping exercise. We organized a side event, with support from the Australian Civil-Military Centre, to present the results of our study, “Roles of Pacific Regional Organizations in Disaster Risk Management” by John Hay, University of South Pacific – Cook Islands. I began by presenting a short overview of our earlier study on regional organizations, explaining that this was background for two studies we had commissioned on regional bodies – in the Caribbean and the Pacific. Among other things, the study on the Caribbean, by Mark Kirton of the University of the West Indies, had noted the overlapping membership of regional organizations in the Caribbean and called for institutional consolidation of these efforts. John Hay then presented his study on Pacific regional organizations which underscored the different capacities of these bodies in different aspects of disaster risk management. While Pacific organizations got high marks for their work in disaster risk reduction, their capacity to respond to disasters was much lower. Comments and reactions to the study were offered by representatives from the Secretariat of the Pacific Community, the Office for the Coordination of Humanitarian Affairs- Regional Office for the Pacific, the International Federation of Red Cross and Red Crescent Societies, the Caribbean Disaster Emergency Management Agency, and the University of the West Indies.

Discussion at this session, and indeed throughout the meeting, was animated. Would climate change funding become available to support disaster risk reduction activities? Would donor behavior be able to change to support this merger? What role do regional organizations play vis-à-vis international aid agencies? Representatives from the Caribbean pointed out similarities and differences between their region and the Pacific. Two representatives from African sub-regional organizations pointed out that in their organizations all of the funding for disaster risk reduction came from foreign sources, raising questions about whether this was a priority for African member states.

What is happening in the Pacific to bring together these networks is hard work. It’s probably more difficult to deal with power dynamics and institutional interests than with the substantive tasks of developing joint programs. But just as the effects of climate change are being felt first in the Pacific, perhaps the Pacific is also leading the way in dealing with the administrative and political obstacles that prevent a more holistic approach to these issues. It’s too early to tell whether these attempts will be successful, but it was a privilege to watch a small part of the process.



# Nadi catchment project shows benefits of integrating disaster risk and climate change management

Ms Margareta Wahlström, Special Representative of the United Nations Secretary General for Disaster Risk Reduction, says Fiji's work to address flooding in Nadi provides an example for developing countries on integrating management of disaster and climate related risks.

In the Pacific, cyclones account for nearly 80% of all reported disasters. They are frequently accompanied by floods, which cause further social and economic upheaval. According to current projections, climate change and variability will intensify, increasing the frequency of high rainfall and cyclone events.

Until recently, Pacific Island countries and territories have been reactive rather than proactive in dealing with flood preparedness and response. But this is changing.

The 2009 floods in Fiji caused an estimated FJD 330 million in damage and lost earnings, equivalent to approximately 7% of the country's GDP. In March 2009, just two months after the flood waters receded, the Fiji government launched its Integrated Water Resources Management (IWRM) demonstration project for the Nadi catchment. Managed by the Secretariat of the Pacific Community (SPC) through its Applied Science & Technology Division, the objective of this GEF/UNEP/UNDP project was to improve flood preparedness by introducing an integrated flood risk management approach within the Nadi basin.

The project built on an earlier flood response system by installing a network of hydrological monitoring stations and it has worked with communities to build grassroots capacity to coordinate an early response. Communities have been given assistance to develop their own disaster response plans and practise their implementation. The project has also helped coordinate the work of government and non-government agencies by setting up the Nadi Basin Catchment Committee.



The impact of the project was clearly demonstrated when Nadi again experienced serious flooding in January 2012. The availability of real-time hydrological data helped communities and disaster response agencies implement their response plans and minimise losses.

According to Joeli Cawaki, Commissioner for Fiji's Western Division, public and agency responses to the flood events improved significantly as a result of the integrated approach facilitated by the Nadi demonstration project.

'The integrated approach is working very well for Nadi, particularly in terms of the decision making – when to vacate the town, when to stop people moving in and out, and also to make people aware when the Nadi river is likely to burst its banks. The system is a success story for us. I think we need to do the same for the other big rivers in Fiji,' he says.

In addition, this data can provide guidance on land-use practices and whether to avoid development in particular areas. It can also be used to calculate how high floor levels should be to protect buildings from flooding.

Over the last decade, sugar cane cultivation has crept higher up the mountain basins and deforestation for timber and wood chips has devastated upstream watershed areas. The result is more sedimentation and storm runoff, increasing the risk of downstream floods and degradation of coastal reefs. The IWRM project is now helping to reduce the impacts of deforestation and poor agricultural practices in the upper catchment.

The Fijian government recognises that the GEF demonstration project will serve as the management model for other catchments in Fiji and legislation establishing an integrated approach to catchment management is currently awaiting proclamation.

# Meeting Seeks Progress on Basic Water and Sanitation Goals in the Pacific

The Pacific Regional Consultations on Water and Sanitation are being held at the Tanoa International Hotel, Monday 01-03 July 2013. Countries will be discussing how to progress action on the recent Statement by Pacific Heads of State and Heads of Delegations participating in the 2nd Asia-Pacific Water Summit in Chiang Mai, Thailand, 19-20 May, 2013.

Michael Pettersen, Director of the Secretariat of the Pacific Community's (SPC) Applied Geoscience and Technology Division (SOPAC), says the Chiang Mai Statement highlights the concern of Pacific Leaders that the whole Pacific region is struggling to meet its Millennium Development Goals relating to water and sanitation.

"This Statement recognises that sustainable water supply and safe sanitation underpins the very feasibility of Pacific Island Countries. It is clear that national and international development goals are unlikely to be met without increased advocacy and financial support for water and sanitation, which will require renewed leadership and investment at the national, regional and international level," he says.

Mr. Pettersen noted that efforts to improve water and sanitation in the Pacific region are not keeping up with the significant and growing impacts of population growth, urbanization, natural disasters and climate change.

"This weeks' consultation meeting is designed to help Pacific Island Countries support the development of a revised framework for Water and Sanitation for the region building on work already established through the Pacific Regional Action Plan on Sustainable Water Management which has been in place for the last ten years" he explained.

Mr Malakai Finau, the Director of the Fiji Mineral Resources Department and Chair of the Meeting, says one of the main objectives of the consultation is to increase understanding of the current status and future needs and prospects of the water and sanitation sector in Pacific Island countries and territories.

"This meeting is being held to coincide with the 2013 Joint Meeting of the Pacific Platform for DRM and Pacific Climate Change Roundtable. This will provide us with a useful opportunity to discuss the development of the revised Pacific Regional Action Plan on Sustainable Water Management with these other critical sectors," he says.

Mr. Finau acknowledged the pivotal role that water and sanitation plays in disaster risk management and climate change adaptation in the Pacific and the need for strengthened national coordination frameworks to enable an integrated approach between these areas.

Outcomes of the consultations will be provided as contributions to the 2013 Joint Meeting of the Pacific Platform for Disaster Risk Management and Pacific Climate Change Roundtable.

Water and sanitation is at the very front line of disaster response and risk management. Globally, more than 90% of natural disasters are water related, and recent years have seen the region face a number of serious floods and droughts, with significant impacts on national economies. The water sector has an important

role in helping build the resilience of communities through better anticipation and response to water related disasters, and the maintenance of safe drinking water, sanitation and hygiene during times of adversity.

Water is the primary medium through which climate change will impact on Pacific communities, and building the capacity to maintain and protect fragile drinking water supplies is key to successful climate change adaptation. By better responding to today's climate variability, Pacific communities will be far better prepared for the climate challenges of the future.



# Nadi Meeting Discusses Opportunities to Build Disaster Risk Management Capacity in the Pacific

The 19th Annual Meeting of the Heads of National Disaster Management Offices (NDMOs) of Pacific Island Countries and Territories (PICTs) was held from July 01-3 at the Tanoa International Hotel in Nadi, Fiji.

Moses Sikivou, Deputy Director of the SPC's Disaster Reduction Programme, said that the meeting would provide Regional Disaster Managers with the opportunity to discuss challenges and opportunities for institutional strengthening and capacity building.

Mr Sikivou stated that a main objective of the meeting was to provide Regional Disaster Managers with an increased understanding of the Disaster Risk Management services and products available to them from SPC and other partner organisations

"The meeting also allows SPC, as the regional body mandated to coordinate Disaster Risk Management capacity building, the opportunity to learn from participants and to focus its work programme to better meet the needs of the group," he explained.

This meeting also supported preparation for the 2013 Joint Meeting of the Pacific Platform for DRM and Pacific Climate Change Roundtable from July 08-11, also in Nadi.

Mr Sikivou says the Disaster Reduction Programme will also continue to play a critical role in supporting member countries to integrate Disaster Risk Management and Climate Change into all relevant regional and national planning and policy measures. He says that SPC's commitment to integrate climate change adaptation and disaster risk management efforts will help Pacific Island countries to improve the way they identify and manage a range of risks that their communities are exposed to.



“At community level, there is little practical difference between disaster risk reduction and climate change adaptation. Climate change adaptation and disaster risk reduction both aim to reduce the vulnerability of communities and contribute to sustainable development,” he commented.

Charles Carlson, Director of Emergency Management in the Cook Islands, remarked that there has been a big shift in the region towards reducing risks before a disaster actually happens.

“For the Cook Islands we are looking at developing a joint legislation for climate change and disaster risk management. I think it’s a better approach because you’re actually sharing resources rather than climate change and disaster risk management doing their own thing. So, if we can bring these two together, we can actually share resource and probably be more effective at the same time too,” he said.

“SPC has been the backbone in developing disaster risk management within the region. It provides us with a wide range of services from dealing with the governance and the legislation through to all the practical things needed to minimize disaster risks.

“When we looked at developing a disaster emergency trust fund after Cyclone Evan we didn’t have a template so we basically had to start from scratch, again with the support of SPC. It took us a whole year but the good thing is we got our trust fund established, the first in the Pacific,” he explained.

Greg Grimsich, from the United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA), believes more work is needed to ensure that capacity building efforts include both preparedness and emergency response.

The work SPC has done over the past decades has had a tremendous impact in increasing capacity for governments requiring external assistance from organisations like OCHA.

Mr Grimsich believes SPC’s capacity development work to improve preparedness in Pacific Island Countries would benefit from closer cooperation with partners like OCHA to assess how these training tools and services are being used in emergency response situations.

“Increasingly it would be really encouraging to see that SPC capacity be used also in disaster response. I think it would also complement the trainings are being done, how they are working, how they aren’t working and where they need to improve,” he remarked.

# Upcoming Events

- 12 – 16 August 2013: Regional Training and Consultation Workshops on “Strengthening Standard Operating Procedures for Tsunami Warning and the use of the ICG/PTWS PTWC New Enhanced Tsunami Products”, Wellington, New Zealand
- 23 August - Understanding Disaster Risk Management and Climate Change (a half day training for SPC staff), SPC, Noumea, New Caledonia
- 26 – 28 August: Introduction to Disaster Management training, Noumea, New Caledonia
- 29 – 30 August: Initial Damage Assessment training, Noumea, New Caledonia
- 3 – 4 October: Natural Disaster Facility Steering Committee meeting



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