



PACIFIC
METEOROLOGICAL
COUNCIL

*'Strengthening the resilience and security of Pacific communities
through an integrated approach to minimise weather, climate and water risks'*

Report of the Second Meeting of the Pacific Meteorological Council (PMC-2)

Novotel Hotel, Nadi, Fiji Islands, 01-05 July 2013



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- Vanuatu Meteorology and Geo-hazard Department;
- Tonga Meteorological Service;
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All the documentations relating to the PMC-2 Meeting can be downloaded from the website: <http://www.pacificclimatechange.net/index.php/eresources/climate-updates> or can be requested by e-mail from: PacMetDesk@sprep.org

GLOSSARY OF ACCRONYMS

ADB	Asian Development Bank
AMP	Aeronautical Meteorological Personnel
APAN	Asia Pacific Adaptation Network
APANPIRG	Asia Pacific Air Navigation Planning Implementation and Reporting Group
APEC	Asia Pacific Economic Cooperation
AR5	Fifth Assessment Report (of the IPCC)
AWS	Automatic Weather Station
BOM	(Australia) Bureau of Meteorology
BMTC	Australian Bureau of Meteorology Training Center
CAA	Civil Aviation Authority
CCA	Climate Change Adaptation
CCCC	Caribbean Community Climate Change Center
CCM	Climate Change Mitigation
CIMS	Cook Islands Meteorological Service
CNMI	Commonwealth of Northern Mariana Islands
ClIDE	Climate Database for the Environment
CLIMRAP	Climate Change Information for Risk and Adaptation
CoA	Centres of Action (for coordinating the GFCS and related efforts in the Pacific)
COSPPac	Climate and Oceans Support Programme for the Pacific
COMET	Cooperative Programme for Operational Meteorology, Education and Training
CSIRO	(Australia) Commonwealth Scientific and Industrial Research Organisation
CROP	Council of Regional Organisations of the Pacific
DCPC	Data Collection and Production Centres
DRR	Disaster Risk Reduction
DRM	Disaster Risk Management
ECMWF	European Centre for Medium Range Weather Forecasts
EMWIN	Emergency Managers Weather Information Network
ENSO	El Niño Southern Oscillation
FIR	Flight Information Region
FINPAC	Finland Pacific Project
FMI	Finland Meteorological Institute
FMS	Fiji Meteorological Service
FNU	Fiji National University
FSM	Federated States of Micronesia
GCOS	Global Climate Observing System
GFCS	Global Framework for Climate Services
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GISC	Global Information System Centres
GOOS	Global Ocean Observing System
GRUAN	Global Reference Upper Air Network
GSN	Global Surface Network
GTOS	Global Terrestrial Observing System
GTS	Global Telecommunications System
HF	High Frequency (Radio)
HYCOS	Hydrological Cycle Observing System
ICAO	International Civil Aviation Organisation
ICU	Island Climate Update
ICG	Intergovernmental Coordination Group (the PTWS is an ICG under IOC)
IGES	Institute for Global Environmental Strategies
IOC	International Oceanographic Commission
IP	Internet Protocol
IPCC	Intergovernmental Panel on Climate Change
ISDR	International Strategy for Disaster Reduction
ISO	International Organization for Standardization
IWRM	Integrated Water Resources Management
JCOMM	Joint WMO-IOCTechnical Commission for Oceanography and Marine Meteorology
KMS	Kiribati Meteorological Service
KPI	Key Performance Indicators
LDC	Least Developed Country
LoA	Letter of Agreement

LRIT	Low Resolution Information Transmission
MCO	Meteorology and Climate Officer
MDGs	Millennium Development Goals
M&E	Monitoring and Evaluation
MECDM	(Solomon Islands) Ministry of Environment, Climate Change, Disaster Management and Meteorology
METPI	Multi-model Ensemble Tool for Pacific Islands
MFA	(Finland) Ministry of Foreign Affairs
MHEWS	Multi-Hazards Early Warning Systems
MOU	Memorandum of Understanding
NC	National Centres
NCEP	National Centres for Environmental Prediction
NDMO	National Disaster Management Office
NIWA	(New Zealand) National Institute for Water and Atmospheric Research
NMHS	National Meteorological and Hydrological Services
NMOC	Australia National Meteorology and Oceanography Center
NMSs	National Meteorological Services
NOAA	(United States) National Oceanic and Atmospheric Administration
NTWC	National Tsunamis Warning Centre's
NWP	Numerical Weather Prediction
NWS	(United States) National Weather Service
NZAID	New Zealand International Aid Agency
NZ CAA	New Zealand Civil Aviation Authority
PACE-SD	Pacific Centre for Environment and Sustainable Development
PACIFIC HYCOS	Pacific Hydrological Cycle Observing System
Pacific RISA	Pacific Regional Integrated Sciences and Assessments
PACC	Pacific Adaptation to Climate Change (Project)
PACC+	Pacific Adaptation to Climate Change Plus Project
PACCSAP	Pacific Australia Climate Change Science and Adaptation Programme
PaCIS	(United States) Pacific Climate Information System
PCCR	Pacific Climate Change Roundtable
PACRAIN	Pacific Rainfall Database
PCCSP	Pacific Climate Change Science Programme
PCSP	Pacific Climate Services Panel
PDN	Pacific Disaster Network
PEAC	Pacific ENSO Applications Climate
PIC	Pacific Island Countries
PICCC	Pacific Islands Climate Change Cooperative
PICSF	Pacific Islands Climate Services Forum
PICSP	Pacific Islands Climate Services Panel
PIFACC	Pacific Islands Framework for Action on Climate Change
PIFS	Pacific Island Forum Secretariat
PI-GCOS	Pacific Islands Global Climate Observing Systems
PI-GOOS	Pacific Islands Global Oceanographic Observing Systems
PIMS	Pacific Islands Meteorological Strategy
PMC-1	First Meeting of the Pacific Meteorological Council
PMC-2	Second Meeting of the Pacific Meteorological Council
PMC-3	Third Meeting of the Pacific Meteorological Council
PMDP	Pacific Meteorological Desk Partnership
PPDRM	Pacific Platform for Disaster Risk Management
PRIMO	(United States) Pacific Risk Management Ohana
PTWC	(United States) Pacific Tsunami Warning Centre
PTWS	Pacific Tsunami Warning and Mitigation System
QMS	Quality Management Systems
RANET	Radio and Internet for the Communication of Hydro-Met and Climate Related Information
RBSN	Regional Basic Synoptic Network
RMSD	Regional Meteorological Services Directors
RSMC	Regional Specialised Meteorological Centre
RSMC Darwin	Regional Specialised Meteorological Center in Darwin, Australia
RSMC Nadi	Regional Specialised Meteorological Centre –specialising in tropical cyclones, in Nadi,
RSOIS	Radio-sonde Surface Observing Instrumentation System
SARPs	Standard and Recommended Practices
SCOPIC	Seasonal Climate Outlook for the Pacific Island Countries

SD	Sustainable Development
SIDS	Small Island Developing States
SIMD	Solomon Islands Meteorological Service Division
SIS	Small Island States
SOE	State Owned Enterprise
SOP	Strategic Operational Plan (also means 'Standard Operating Procedures') but can also mean Strategic Operating Procedure
SOPAC	Applied Geo-science and Technology Division of the Secretariat of the Pacific Community (SPC) (formerly South Pacific Geoscience Commission)
SPaRCE	Schools of the Pacific Rainfall Climate Experiment
SPC	Secretariat of the Pacific Community
SPCZ	South Pacific Convergence Zone
SPREP	Secretariat of the Pacific Regional Environment Programme
SPREP CCD	Secretariat of the Regional Environment Programme Climate Change Division
SWFDDP	Severe Weather Forecasting and Disaster risk reduction Demonstration Project
TAO-TRITON	Tropical Atmosphere Ocean/Triangle Trans-Ocean Buoy Network
TAC	Traditional Alphanumeric Codes
TCWC	Tropical Cyclone Warning Center
TDCF	Table-Driven Code Forms
TMCS	Tonga Meteorology and Coastal Watch Services
TuvMS	Tuvalu Meteorological Service
UKMO	United Kingdom Meteorological Office
UNDAC	United Nations Disaster Assessment and Coordination
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNFCCC	United Nations Framework Convention on Climate Change
USA	United States of America
USAID	United States Aid Agency
USP	University of the South Pacific
VCP	(WMO) Voluntary Cooperation Programme
VMGD	Vanuatu Meteorology and Geo-hazard Department
WCC	World Climate Conference
WIGOS	WMO Integrated Global Observing System
WIS	WMO Information System
WMO	World Meteorological Organization
WMO RAV	World Meteorological Organisation Regional Association V (Roman V South-West Pacific)
WMO RA-V TCC	WMO Regional Association V (Roman V)Tropical Cyclone Committee for the South Pacific and South-East Indian Ocean
WMO RIC	World Meteorological Organisation Regional Instrument Centre
WMO VCP	World Meteorological Organization Voluntary Cooperation Programme
WSO	Weather Service Office

OFFICIAL CEREMONY

1. The Second Meeting of the Pacific Meteorological Council (PMC-2) was held at the Novotel Hotel Conference Centre, Nadi, Fiji Islands from 1 to 5 July, 2013.
2. Members of the Pacific Meteorological Council (PMC) from the following countries and territories attended the meeting: American Samoa, Australia, Cook Islands, Federated States of Micronesia, Fiji, French Polynesia, Kiribati, Marshall Islands, New Caledonia, Wallis and Futuna, New Zealand, Niue, Palau, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, United States of America and Vanuatu. An apology was received from Papua New Guinea.
3. Observers, development and collaborating partners from the Finnish Meteorological Institute (FMI), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), Intergovernmental Oceanographic Commission of the United Nations Education, Science and Cultural Organisation (IOC-UNESCO), Secretariat of the Pacific Community (SPC), University of Oklahoma, University of South Pacific (USP), World Bank (WB) and World Meteorological Organization (WMO) attended the meeting. A list of participants is presented in as Annex 1 and the Agenda is presented as Annex 2.
4. Netatua Pelesikoti, Director of the Secretariat of the Pacific Regional Programme (SPREP) Climate Change Division (CCD), invited Reverend Savenaca Nakeke to open the meeting with a prayer.
5. Reginald White, Director of the Marshall Islands National Weather Service (NWS) and the incumbent PMC's Chair gave a welcoming address thanking delegates for attending the First Pacific Meteorological Council (PMC-1) in the Marshall Islands. He noted that this is just the beginning of a long journey towards the implementation of the Pacific Islands Meteorological Strategy (PIMS), 2012-2021 and thanked the supporting partners and agencies for giving much needed support. The PIMS is a great guide, but could only be fulfilled with cooperation and support of many.
6. Kosi Latu, Deputy Director General of SPREP, gave the key note address, commending the government of Fiji for providing critical services to the region. He noted the commitment of the Government of Fiji to cover cost of regional services and he expressed delight that the PMC's members and the Disaster Risk Managers were interacting throughout the week.
7. The Honourable Timoci Lesikivatukoula Natuva, Minister for Works, Transport and Public Utilities for Fiji welcomed the participants to Fiji. He re-iterated the commitment of the Government of Fiji to meteorology in Fiji and the region. He noted that the Government of Fiji is committed to climate, weather, and water services based on science, and that the Regional Specialised Meteorological Center - specialising in tropical cyclones, located in Nadi, Fiji (RSMC-Nadi) has been committed to providing regional meteorological and climate services since its establishment in 1977 and would remain committed for years to come. He reaffirmed that the Government of Fiji is committed to supporting its neighbouring countries, especially to those that have not yet in a position to set up their own national services and advised that the National Meteorological Services (NMSs) must work closely with their National Disaster Management Offices (NDMOs) to forecast hazards and take actions to save life and property. On this note, the Minister informed the meeting that the

Government of Fiji, Joint WMOIOC Technical Commission for Oceanography and Marine Meteorology (JCOMM) and WMO Commission for Hydrology (CHy) are implementing a Coastal Inundation Forecast Demonstration Project (CIFDP), with a goal of improving timely warnings on coastal inundation. The project is led by the Government of Fiji with support from collaborating and Development partners. It is anticipated that the lessons learned from the project will benefit other Pacific Island Countries (PICs). The Minister noted that Severe floods in January 2004 and 2012 resulted in transferring the responsibility of hydrological services to the Fiji Meteorological Services (FMS). Minister Natuva also announced that the seismic programme of the Mineral Resources and Mining Department would be transferred to the (FMS), to bring hydrological services, tsunami and seismic services under the FMS.

WORKING ARRANGEMENTS FOR PMC-2

Interim Rules of Procedures

8. The Secretariat introduced the Interim Rules of Procedures to guide the PMC-2. It was noted that these were interim rules to allow for the PMC-2 to commence until permanent Rules of Procedures for the PMC Meeting are discussed during the latter part of the PMC-2 Meeting.

9. New Zealand sought clarification in relation to the PMC-2 working arrangements, in particular, the preparation and circulation of PMC-2 meeting documents both in electronic and paper, interpretation services and provision communication facilities such as internet access for the meeting, as specified in Rule 9.1 and Rule 9.2 of the current Rules of Procedure of SPREP Meeting, adopted by the Eighth SPREP Official Council Meeting, Apia, Western Samoa (Samoa), 13 October 1995. The Secretariat noted that the Rules of Procedure of SPREP Meeting are specific to the SPREP Official Council Meeting (the SPREP Meeting), and for practical reasons, not all rules would be fully applicable to the PMC Meetings. In that regard the Secretariat proposed to adapt the Rules of Procedure to PMC-2, where appropriate, until the Rules of Procedure for PMC and its subsidiary bodies' meetings are discussed under Agenda Item 17.0. In relation to the point raised regarding hard copies of documents, the Secretariat informed the Meeting of recent practice at the SPREP Meetings implements has been to take a paperless approach.

10. Samoa raised a question over the legal status of the PMC. The Secretariat responded that the PMC is a properly constituted subsidiary body of the SPREP Meeting. The formation of the PMC was endorsed at the 2010 SPREP Meeting and its Terms of Reference (TOR) being developed and endorsed at the PMC-1 and tabled for adoption at the 2011 SPREP Meeting.

11. The meeting unanimously agreed to adopt the Rules of Procedure for the SPREP Meeting to be used as the Interim Rules of Procedure for PMC-2. Where the SPREP Rules of Procedure for the SPREP Meeting do not apply to PMC-2, the meeting recommended revising and adapting the rules to ensure smooth running of the PMC-2.

Election of Chair and Vice-Chair

12. Vanuatu nominated Fiji to chair the PMC-2 Meeting and was seconded by Samoa. The Meeting unanimously endorsed Fiji as Chair.

13. The outgoing Chair of the PMC, Reginald White (Marshall Islands) thanked the PMC for their support and cooperation during his tenure as Chair and encouraged participants at the Meeting to support the incoming chair in his work during the week and over the next two years.

14. The PMC-2 Chair thanked the outgoing Chair for his leadership and work over the last two years. He then called for nominations of the Vice Chair and volunteers for the meeting report's Drafting Committee.

15. Tonga nominated Cook Islands as Vice Chair. This was seconded by Australia. With no other nominees, the Meeting unanimously endorsed Cook islands as Vice-Chair.

Adoption of Agenda and Working Arrangements

16. The Chair of PMC tabled the provisional agenda and working arrangements for comments. No additional amendments were proposed and the agenda and working arrangements were adopted by consensus

Establishment of a Drafting Committee

17. The chair invited nominations for the drafting committee. An open ended committee was established under the leadership of the vice Chair (Cook Islands) with representation from Republic of Marshall Islands, Tonga, United States, SPC, and WMO.

WMO POLICIES ON WEATHER, CLIMATE AND WATER - FROM GLOBAL TO REGIONAL CONTEXT

18. Dr. Park Kyu Chung, WMO Regional Director for Asia and the South West Pacific, presented the WMO Strategy for the period 2012-2015, which is based on four building blocks; a strategic plan, an operating plan, a results-based budget and a monitoring and evaluation system. This Strategy was approved at the 16th World Meteorological Organization Congress in 2011. The Strategic Plan has five priority areas: (1) Global Framework for Climate Services (GFCS), (2) Aviation Meteorological Services, (3) Capacity Development, (4) Implementation of the WMO Integrated Observing System (WIGOS) and the WMO Information System (WIS), and (5) Disaster Risk Reduction (DRR). Five priority areas for the WMO Regional Association V (RA V - South West Pacific) were agreed to at its 15th session held in Bali, Indonesia in May 2011 and endorsed by subsequent RA V Management Group meetings since, and these include, ; (1) better climate services, (2) sustainable aviation services (3) capacity building, (4) improved infrastructure (data and information services) for weather, climate and water, and (5) improved end-to-end multi hazard early warning systems (MHEWS). The RA V priority areas are consistent with the overall WMO global priorities.

19. Noting the intervention by Samoa and Australia on the lack of projects submitted by PMC members to the GFCS programme, the meeting encouraged members to submit project proposals to the GFCS Office.

20. The meeting noted that the fifteenth session of the WMO RA V Tropical Cyclone Committee for the South Pacific and South-East Indian Ocean (RA V TCC-15) will not be held in conjunction with the Sixteenth session of the RA V in 2014. It was further noted that the RA V TCC-15 is planned to be held back to back with the next Meeting of the IOC-UNESCO Regional Working Group for Tsunamis Warnings and Mitigation Systems in the South-West Pacific. The intension of co-locating these meetings is to build over-arching resilience for these coastal hazards and work in conjunction with emergency managers.

21. The Meeting stressed the need to strengthen the linkages between the PIMS and the WMO RA V Strategic Operating Plan, noting the need for closer synergy between the two strategies at the operational and activities level.

22. The meeting recommended the establishment of a Panel comprising of PMC members to advise the PMC members on the GFCS developments. The meeting agreed that this proposal would need to be further discussed under the agenda item for the GFCS.

23. Alipate Waqaicelua (Fiji) is a member of the WMO Executive Council (EC) and subsequently a member of the WMO EC Task Team on the GFCS (ECTT-GFCS). The meeting urged Members that need advice on the GFCS updates and related information to contact Mr. Waqaicelua. New Zealand sought clarification on the role of the United Kingdom (UK) within the PMC that they are now a Member of SPREP. The Secretariat noted that an invitation was sent to the UK Met Office (UKMO) through the SPREP Focal Point system, but they regrettably could not send anyone. Furthermore, the meeting was informed that the secretariat and the UKMO have already established a working relationship.

24. Samoa sought clarification on the status of relocating the WMO Regional Office for Asia and the South West–Pacific, and asked if the PMC could consider the possibility of hosting the Office in the region. WMO informed the Meeting that an official letter would be distributed in August 2013 seeking views of governments interested in hosting the office.

25. The Meeting:

- **Noted** the vital and critical role WMO play in supplementing SPREP and other CROP agencies regional efforts to strengthen the capacity of PMC Members in weather, climate, water and related environmental matters
- **Urged** the PMC members to be more active and to fully participate in the development of WMO policies, programmes, strategic planning process including the implementation at the regional and national levels and
- **Encouraged** the PMC members to contribute to the formulation of detailed activities to support the Pacific Key Outcomes (PKOs) through approved work plans for individual WMO RA V subsidiary bodies as well as through the activities of the Scientific and Technical Programmes, Technical Commissions, and other WMO Working Groups, Task Teams and Expert Teams..

ACTIONS TAKEN ON MATTERS ARISING FROM FIRST PACIFIC METEOROLOGICAL COUNCIL (PMC-1)

26. The Secretariat reported on the progress of work since 2011, noting that over 80 percent of the recommendations from the PMC-1 and the 14th Meeting of the Regional Meteorological Services Directors (14RMSD) have been implemented by the Secretariat and partners.
27. The Pacific Meteorological Desk Partnership (PMDP) Secretariat had been strengthened through recruitment of a number of key positions within the SPREP, the formulation and endorsement of the PIMS and the signing of a Letter of Agreement (LoA) with the WMO..
28. It was noted that High Frequency (HF) Radio systems are very useful particularly for small island nations such as Tokelau, Tuvalu, Tonga and Kiribati. Samoa requested further information on this, noting that continuous support (rather than reliance on consultants) is needed.
29. USA NOAA advised the meeting that funding has been identified to strengthen the current HF radio systems regional network and to establish another regional hub. USA NOAA also proposes to re-establish the Pacific International (Meteorological) Training Desk Programme at RSMC Honolulu in Hawaii, which would include training on communication systems. This should help build the necessary capacities and capabilities of PMC members in the areas on communication systems.
30. SPREP informed the meeting that the Secretariat has purchased an Emergency Managers Weather Information Network (EMWIN) system with a view to enable assistance to resolve any EMWIN system issues countries might face.
31. The progress report was noted by the meeting.

SUMMARY OF COUNTRY REPORTS

Members of the PMC provided brief presentations outlining their works to date against the Pacific Key Outcomes (in the PIMS), gaps and opportunities in addressing their meteorological needs. Discussions and key points resulting from the presentations are outlined below. The full countries reports can be viewed from this site;<http://www.pacificclimatechange.net/index.php/eresources/documents?task=showCategory&catid=134>)

American Samoa

32. Mase Akapo, Meteorologist in Charge, presented regarding the American Samoa Weather Service Office. It is part of the US National Oceanic Atmospheric Administration National Weather Service (US NOAA NWS), managed by the Pacific Regional Headquarters, based in Honolulu, Hawai'i. The Office is responsible for weather, hydrology, aviation, marine and tsunami warnings, advisories and forecasts for the Territory of American Samoa. The Territory was recognised in 2012 as "Tsunami Ready" and is working towards obtaining

a weather radar and aspire to become a fully operational Weather Forecast Office with 24/7 capability.

33. American Samoa requested that they be considered to participate in the US NOAA NWS funded training for tropical cyclone forecasters provided through the Pacific International Training Desk Programme, hosted at the RSMC-Honolulu, Hawai'i.

34. It was noted that the microwave "hotline" to link Meteorological Offices in American Samoa and Samoa during disasters is a very valuable tool that should be re-established. A proposal was made to include disaster managers, communication service providers and SPREP at the next Samoa and American Samoa Tsunami Coordination Meeting to be held in Apia in August, 2013.

Cook Islands

35. Arona Ngari, the Director of the Cook Islands Meteorological Service, presented on the Cook Islands Meteorological Service (CIMS). The CIMS became part of the Ministry of Transport on 1 July 2011. The CIMS is a Member of the International Civil Aviation Organisation (ICAO), and providing aviation services in the Cook Islands sector of the Auckland Oceanic Flight Information Region (FIR). The CIMS' mandate is given by the Meteorological Act 1995/1996, with observations commenced in 1899 in the Cook Islands.

36. The Cook Islands advised that the training they received during the WMO Regional Association V (South Pacific) WMO Information System (WIS)/Table Driven Code Format (TDCF) Training Workshop (29 April – 3 May 2013) has provided them with the capacity to address the need to transition away from emailing of data.

Federated States of Micronesia (FSM)

37. Johannes Berdon, Officer in Charge of the Weather Service Office (WSO) in Chuuk, presented and noted there are three WSO's in FSM; Chuuk, Yap, and Pohnpei. Key achievements over the past 2 years include: one new meteorologist, a new Radio-sonde Surface Observing Instrumentation System (RSOIS) station using Global Positioning System (GPS) tracked radio-sondes, installation of Chatty Beetles for outer island Weather Stations and a new Hydrogen generator for all three WSO's.

Fiji

38. Aminiasi Tuidraki, Acting Director of the FMS, presented and highlighted that the FMS is providing weather forecasts for Fiji and many other Pacific Island Countries and Territories (PICTs). Core services are public weather, aviation weather, marine weather, climate and hydrological services. The mandate for flood warnings was transferred from the Fiji Water Authority (FWA) to the FMS in March 2012.

39. Fiji advised that it has not started working on cost recovery for regional services. Samoa suggested that Fiji should consider its role as an RSMC that is supported by development partners if it were to introduce cost recovery for provision of aviation weather services.

French Polynesia

40. Gerard Therry, Regional Director of Météo-France French Polynesia, presented and noted Météo-France French Polynesia is responsible for supporting disaster risk reduction management, services to air navigation, supporting the Armed Services, information to the public all rely on the core operations of observations, forecasting and climatology. They have a total staff of 84, and all funding is provided by Météo France. The Quality Management System (QMS) is certified ISO-9001 Standard by VERITAS since 2009. French Polynesia requested for future PMC Meetings to provide French interpretations.

Kiribati

41. Ueneta Toorua, Climate Officer of the Kiribati Meteorological Service (KMS) presented and highlighted that the KMS moved from the Ministry of Communication, Transport and Tourism Development to the Office of the Beretitenti. The KMS Strategy and Implementation Plan 2013-2018 has been developed. There is now 24/7 operation at the Kiritimati Island Aerodrome and improved climate archiving and services through the Climate Database for the Environment (CliDE), and the addition of one new Climate Officer funded by AUSAID and implemented by the Australian Bureau of Meteorology (BoM) under the Climate and Oceans Support Programme in the Pacific (COSPPac).

42. Kiribati noted that while training and weather forecasting tools have been provided by MetService New Zealand and others to the staff of the KMS, there is still a need to build the confidence of the staff in using these forecasting tools through in-country trainings.

43. The US NOAA requested that PICT's NMSs' prioritise training needs and also informed the meeting that International Pacific Training Desk Programme will be operational again soon, and prioritisation of training needs will help ensure that trainings are tailored to the needs of the region.

Marshall Islands

44. Reginald White, the Director of the Marshall Islands NWS, presented and reported that the Marshall Islands NWS has improved its upper air observations through the use of GPS tracked radiosondes and the installation of a new hydrogen generator. They are using Low Resolution Information Transmission (LRIT), EMWIN system and Radio Internet (RANET) Chatty Beetles, and have started incorporating climate data into the CliDE database.

New Caledonia and Wallis & Futuna

45. Phillippe Frayssinet, Regional Director of Météo-France New Caledonia and Wallis & Futuna Meteorological Services, presented and noted the Meteorological Service of New Caledonia is a joint authority between New Caledonia, and Meteo-France. Key duties are observations, weather forecasting and climate data archiving. Services are provided for the public, private, aviation and Ministry of Defence needs. They have a staff number of 70 people including 6 staff in Wallis & Futuna. The Meteorological Service of New Caledonia

and Wallis & Futuna relies heavily on Météo-France, for training, observation facilities, information systems, analysis and production tools, and research and development.

46. The partnership arrangement between New Caledonia and Vanuatu was highlighted and such partnership could be extended to other Pacific Island Countries (PIC's).

Niue

47. Sionetasi Pulehetoa, Director of the Niue Meteorological Service Department, presented Niue's progress. Most targets have been met in the national strategy and in the United Nations Environment Programme (UNEP) Climate Change Project and funding secured from the WMO to draft meteorology policy & a meteorological legislation, with support from SPREP. They plan to develop a new 5 year corporate plan for the Department. They have a total staff number of 7 with a budget of \$166k per year, but this is still under resourced for the cyclone season responsibilities. Planning is underway for a new tide gauge. Further assistance with training and general support to the department is still required. Niue noted that they still provide a HF radio service to mariners.

Palau

48. Dilwei Maria Ngemaes, Meteorologist In-Charge of the Palau WSO presented that the Office in Koror, Palau is operated in cooperation with the US NOAA NWS Pacific Region. They have a total of 9 staff with a 24/7 operations. The WSO Koror is undertaking a range of climate change projects, and looking forward to the construction of a new building at the international airport. Ms Ngemaes requested support for grant writing support and public education.

Papua New Guinea (PNG)

Papua New Guinea was not present at the PMC-2 due to an emergency but they have send in their report. The report can be viewed on the site provided above..

Samoa

49. Mulipola Ausetalia Titimaea, Assistant Chief Executive Office (ACEO) of the Ministry of Environment and Natural Resources (MNRE) -Meteorology Division, presented on the progress of the Samoa Meteorology Division, which is part of the MNRE.. Samoa Meteorology Division has a staff of 23 across its 4 sections (weather, climate and ozone, climate change, and Geo-science). Samoa has been an active participant in the WMO RA V Severe Weather Forecast and Disaster Risk Reduction Demonstration Project (SWFDDP).Current challenges including limited number of staff with technical knowledge, coping with increased overheads associated with essential equipment and, the timely issuance of advisories and warnings for weather, earthquakes and tsunami events.

Solomon Islands

50. David Hiba Hirasia, Director of the Solomon Islands Meteorological Service Division (SIMD), presented on their progress, which is part of the Ministry of Environment, Climate Change, Disaster Management and Meteorology (MECDM). It is mandated by the Meteorology Act of 1985 and consists of four sections; weather observation, weather forecasting, climate services and engineering. Major achievements over the past two years including the establishment of the Tingoa Meteorological Station and completion of the Henderson International Airport Meteorological Office and Meteorological Station. A "mock" audit was also carried out on the Quality Management System (QMS) for aviation weather services.

Tokelau

51. Kelemeni Navucu, Manager of the Environment Division, presented on the status of the meteorological activities in Tokelau. There is only 1 staff who is based in Apia and working on meteorology activities for Tokelau. Tokelau is still dependent on FMS and Samoa Meteorology Division for their essential weather and climate information. There was a drought in 2011 for 6 months, and there has been an increase in coastal erosion and temperature.

52. Tokelau requested assistance from New Zealand on installation of their Automatic Weather Station (AWS) and training of their Meteorological Officers. Tokelau noted support on the development of Tokelau Climate Change Strategy and the Tokelau Emergency Management Plan to improve early warning response.

53. Tokelau agreed to review the Memorandum, of Understanding (MOU) with Samoa to ensure continued support. Tokelau would consider requesting for manual observing equipments under the second proposal of the Pacific Adaptation to Climate Change Plus (PACC+) project. In addition, Tokelau requested further discussions with New Zealand, the USA and Samoa on continued support on the EMWIN System and the RANET Chatty Beetles.

Tonga

54. 'Ofa Fa'anunu, Director of the Tonga Meteorology and Coastal Watch Services (TMCS) presented the TMCS achievements since the PMC-1 and updated the Meeting on the planned activities for the next 2 years. They have 5 programmes; weather forecasts, weather observations, climate, coastal radio services and technical support. Their legislation is currently being developed to give the TMCS a legal mandate.

55. Niue sought clarification on participation costs of the Weather Observation Refresher Training Course planned by Tonga. Tonga responded that participants from other NMSs who wish to participate would have to meet their own costs.

56. Kiribati requested detailed information on the Sea Level Monitoring Network program in Tonga, relating to costs and technical assistant. Tonga would provide further detailed information on this at a bilateral level.

Tuvalu

57. Hilia Vavae, Chief Meteorological Officer of the Tuvalu Meteorological Service (TMS) presented on Tuvalu's achievements, noting that Tuvalu recently became a WMO member. Tuvalu proposed the development of a national strategy and implementation plan for the TMS. Tuvalu recently requested assistance from WMO for the drafting of their Meteorological Bill. Tuvalu requested assistance to develop and implement a QMS. Tuvalu reported that they do not have the capacity to issue their own tsunami warnings based on the new products from the Pacific Tsunamis Warning Centres (PTWC).

58. WMO noted that it is important to identify which countries in the region have legislation. Samoa noted that WMO undertook a survey in 1993, but many issues including legislation have not been addressed. WMO have been working with SPREP on the drafting of Meteorological Bills for Niue and Vanuatu and is supporting Tonga and Fiji to get their Meteorological Bills drafted. SPREP noted that Vanuatu could be used as a model and that cost recovery could also be included in the Bill. Niue offered a copy of their draft for reference.

Vanuatu

59. David Gibson, Acting Director of the Vanuatu Meteorology and Geo-hazards Department (VMGD) noted that they recently incorporated the Geo-Hazards division to become the VMGD. The Department's divisions includes; weather forecasting, climate services, project management unit/climate change adaptation, information, communication and technology (ICT), geo-hazards and weather observation. The forecasting section operates 24/7 and incorporates the Vanuatu Tropical Cyclone Warning Centre (TCWC). The Climate Section is active in climate research on processes such as El Niño Southern Oscillation (ENSO). Vanuatu also reported that they have established 3 volcano monitoring stations that is transmitting in real-time pictures of ash/plume data to the main data centre in Port Vila. Vanuatu also shares a seismic server with New Caledonia, providing information on earthquakes within 5 minutes after an event to assist with tsunami warnings and response.

Australia

60. Ram Krishna, the Acting Manager of International Affairs of the Australian Bureau of Meteorology (BoM), presented on BoM activities including;

- Three projects were implemented under the Pacific Public Sector Linkages on WIS, tsunami inundation modelling, and the QMS.
- Training activities accessible through the BoM Training Centre (BMTC);
- Guidance products from the National Meteorological and Oceanographic Centre (NMOC) and the RSMC-Darwin;
- BoM's role in hosting the WMO Regional Instrument Centre (RIC); and
- Activities which the BoM has supported directly through its core funding allocation and activities conducted under part cost recovery arrangements.

61. A summary and update was provided on COSPPac and Pacific Australia Climate Change Science and Adaptation Programme (PACCSAP, which are covered in more detail in agenda items 12.3 and 12.4.

62. Information was provided on the new Government Partnership for Development Facility of AusAID, and PMC members and SPREP are encouraged to seek funding of projects through this mechanism in collaboration with the BoM.

63. During the discussions on the 10th Southern Hemisphere Training Course on Tropical Cyclone, WMO clarified that it would be held in Nadi, Fiji, from 2 to 4 October 2013.

New Zealand

64. Penehuro Lefale, Pacific Manager of the Meteorological Service of New Zealand (MetService), and Alan Porteous, Group Manager, Climate, Data and Applications, NIWA, summarised New Zealand's past and on-going support in developing the capacity of NMHSs of Pacific Island Countries and Territories (PICTs). For over 50 years, New Zealand has played a pivotal role in the establishment, development and provision of weather, climate, water and related services in the South West Pacific. A re-alignment of New Zealand's Overseas Development Assistance in the mid-1980s changed New Zealand's role to one of direct support or back-up involvement (e.g. RSMC Wellington back up to RSMC Nadi during the tropical cyclone season) in the actual provision of weather, climate, water and related services to PICTs NMHSs. The focus of New Zealand's support since the mid-1980s has been to move away from directly managing selected PICTs NMHSs (Cook Islands, Fiji, Kiribati, Niue, Samoa, Tonga, Tuvalu and Tokelau) to providing advice and support on a 'project' basis jointly with PICTs and other development partners. Many of these projects are in the form of service provision, such as technical support and expert advice, and may last from a few months to a number of years. In this way, PICTs NMHSs are supported to become self-sufficient in directly managing and operating their own services with advice and specialist support available, if and when required. This support covers all four priority action areas of the PIMS and contributes towards achieving virtually all of the PIMS' Pacific Key Outcomes (PKO). New Zealand will continue, subject to availability of human and financial resources, to support PICTs NHMSs' efforts to implement the PIMS through advice and technical support where requested, with a primary focus on improving the following:

- Weather services, particularly in relation to aviation, marine and public
- Early warning systems
- Weather, climate and hydrological observations, monitoring and related support
- Climate services
- Capacity development of NMHSs staff.

65. The New Zealand/US NOAA Agreement to support the Pacific Island Global Climate Observing System (PI-GCOS) is likely to continue, subject to funding. Marshall Islands requested to be added to the countries included in the *Island Climate Update (ICU)*. NIWA confirmed they could be added into the list of countries, and further discussion would follow.

United States of America

66. Edward Young, Acting Director, US NOAA NWS Pacific Region, presented US NOAA activities in the region, including;

- The near completion of the upgrade/replacement of the EMWIN systems in the Pacific with the remaining upgrade in Kiribati to be completed in early July with the assistance of SPREP's PMDP and SOPAC Division of the SPC, and WMO;
- The relocation of all NOAA Offices in Honolulu (except RSMC-Honolulu and the Fisheries Observer Programme) to the NOAA Inouye Regional Centre in January 2014;
- NOAA NWS provided support to the US Navy Pacific Fleet's Pacific Partnership 2013 Mission to Samoa, Tonga, Republic of the Marshall Islands, Kiribati, Solomon Islands, and Papua New Guinea. NOAA NWS contributions included tsunami and marine meteorological information, subject matter expert exchanges to NMSs, and monitoring of meteorological observations from the six host nations;
- Noted the potential to work with Regional Fisheries Observer Programmes, and collaborate with national and regional fisheries agencies and organisations to explore the possibility of establishment of marine weather observation reporting programmes to fill in the data gaps recognised in the greater Pacific;
- Noted the success of the RANET Chatty Beetle Demonstration Project in the north Pacific, where outer island observers are now transmitting synoptic observations via satellite to the Marshall Islands, FSM and Palau WSOs, and the significant improvements in receiving these observations to be included in synoptic maps, models, and daily and monthly climate reports;
- Advised that enhance tsunami forecasting products from NOAA's PTWC are being experimentally delivered and vetted with PTWS member states and training provided in their use. It is anticipated these new PTWC products will begin to be operationally disseminated in the next year.

3rd JOINT MEETING OF THE NATIONAL METEOROLOGICAL SERVICES (NMSs) AND THE NATIONAL DISASTER MANAGEMENT OFFICE (NDMOs)

Introductory Remarks

67. The PMC Chair introduced the joint session between the PMC and Disaster Risk Management (DRM) officials. The Chair noted that this is the third Joint Meeting between NMSs Directors and National Disaster Managers Offices (NDMO) Officials and provides an opportunity to discuss and share challenges and successes to help communities more resilient to natural disasters that are becoming more severe in our changing climate.

Pacific Islands Meteorological Strategy (PIMS) 2012-2021, the Pacific Islands Framework Action for Climate Change (PIFACC) and the Regional Disaster Risk Reduction (DRR) and Disaster Risk Management (DRM) Framework for Action – Interface between the NMS and the NDMOs

68. NetatuaPelesikoti, Director of the Climate Change Division of SPREP presented on the linkages between existing frameworks (PIMS, PIFACC and DRM) in the Pacific and the roles of NMSs, NDMOs and Water Managers. Mosese Sikivou, Deputy Director of the Disaster Reduction Programme of the SOPAC Division of Secretary of the Pacific Community (SPC), thanked the PMC for the invitation and expressed hopes that these conversations, particularly on Multi Hazard Early Warning Systems, would contribute to a clear voice from PMC and DRM at the joint Meeting of the Pacific Climate Change Roundtable and the Pacific Platform for Disaster Risk Management (PPDRM), which would take place from 8-12 July 2013

National initiatives: Key Implementation Challenges and Opportunities Pertaining to NMSs and NDMOs Arrangements;

Tsunami Warnings and Responses – Solomon Islands

69. Loti Yates, Director NDMO presented on Tsunami Warnings and Responses in the Solomon Islands and discussed the tsunami warning system developed by BoM for the Solomon Islands. It was noted that the system used the PTWC warnings to calculate a threat assessment for the country and non-technical warning messages targeted at communities..

70. It was emphasized that in special instances, such as locally generated tsunamis, national authorities could not act on information available to them at the time. Continuous public awareness is the best option when quick actions are required. The Meeting noted that the PTWC tsunami early warning systems is designed to monitor and provide warnings for tsunamis that are generated and will have impacts away from the source region. PTWC forecast products are not as useful in near shore events that may have almost immediate impacts on a community and local authorities must understand and be prepared to react to both near shore and tele-tsunami events

71. US NOAA informed the Meeting that the cost of disseminating warnings via fax for Pacific basin wide tsunami events is extremely expensive and requested to be informed if communication by fax is still a preferred option or if other communication modes are available. In the least, US NOAA requested that each country limit the number of contacts designated to receive a fax.

Tropical Cyclone Warnings and Responses – Samoa

72. Ausetalia Titimaea, the ACEO of the MNRE Meteorology Division) and Filomena Nelson, the ACEO of the MNRE - Disaster Management Office presented on tropical cyclone warnings and responses during Cyclone *Evan* in December 2012, and stressed the importance of warnings must be in simple language for public to understand the situation. Flash flooding during Cyclone *Evan* caused great damage to infrastructure and there were

four casualties. Ten fishermen left port during the storm and are still unaccounted for. Samoa informed the Meeting that while the mandate for flood warning is with the Hydrology Division of the MNRE the Meteorology Division could only provide advice, thus linkages to flood warning systems needs to be improved. It was noted that the electricity power and internet outages during TC *Evan* resulted in communication difficulties with stakeholders and so facebook updates were provided as an alternative.

73. Samoa informed the meeting that they are developing visual educational materials to demonstrate the varying strengths of winds generated by cyclones. USA NOAA asked if a system to 'talk' was in place (e.g. on phone) and it could clarify issues with warnings more quickly. Samoa asked if there is a voice over IP system to communicate between Samoa and American Samoa. US NOAA responded that the hotline using the existing VHF microwave link between Samoa and American Samoa needs to be restored and that there is unused IP bandwidth available.

Integrated Water Resources Management (IWRM) – Nadi Demonstration

74. Vinesh Kumar, Manager of the Nadi Integrated Water Resources Management (IWRM) project presented an overview of the Nadi IWRM project and the challenges of working in a catchment with a diverse range of stakeholders and communities.

75. It noted that the experiences of the 2 flood events in 2012, and the importance of linking national DRR and Climate Change Adaptation (CCA) initiatives to national policies and government process. There is a need for collaboration between government agencies, public sector and civil society organisations. It was also emphasized the benefits of engaging with communities in risk assessments, and the design and implementation of DRR mitigation measures. There is also a need to ensure adequate long-term operations maintenance, monitoring and evaluation.

Drought Warning System and Response –Marshall Islands

76. Reginald White Director of the Marshall Islands NWS) presented and reported that the country is primarily dependent on rainwater catchments, groundwater resources, and occasionally used reverse osmosis units during drought periods.

77. The meeting was informed of the need to expand the number of weather observation stations on outer islands. The special roles communities with adequate resources and training can play in collecting weather and climate data was also emphasized. The current drought is very severe, with staple food sources severely affected. The United Nations Disaster Assessment and Coordination (UNDAC), USA Aid Agency (USAID), and other key partners provided vital support during the drought event. The NDMO's capacity needs to be increased with additional staff and training to help Marshall Islands to further improve responding to future drought events.

Severe Weather Systems Other Than Tropical Cyclones [and Large Waves not Associated with Tropical Cyclones] Events and Products – Vanuatu

78. David Gibson, Acting Director of the VMGD, highlighted the importance of the WMO SWFDDP in addressing severe weather forecasting and warning services not associated with tropical cyclones. Vanuatu demonstrated the application of the WMO SWFDDP's products and services they issue during such events to assist in the management of their associated risks. Vanuatu informed the meeting that the number of casualties associated with severe weather events which are not associated with tropical cyclones is far greater than those associated with tropical cyclones, and the need for the NDMOs and NMHSs to coordinate their efforts to manage and reduce the risk associated with these events. Vanuatu also highlighted the importance of the WMO's SWFDDP in providing guidance for NDMOs to respond effectively.

79. The meeting noted that SPREP is collaborating with WMO to secure funding and other support for the continuation and sustainability of the SWFDDP project.

Regional Initiatives: Key Implementation Challenges, Issues and Opportunities to Enhance Collaboration

Pacific Tsunamis Warning Center (PTWC) New and Enhanced Products for the Pacific Tsunami Warning System (PTWS)

80. Rajendra Prasad, the National Officer of the IOC-UNESCO, presented on the new and enhanced PTWC's warning products which would not use the current Warning and Watch system, and instead provide guidance products that each National Tsunami Warning Centre (NTWC) would use to determine threat level and criteria for their respective communities. . The Twenty-Fifth Session of the IOC/ICG/PTWS would make the final decision on the implementation timeline for these new products at its next Meeting, being held in Russia, 9-11 Sept 2013, after which it is up to each individual country to use the new products once they are made available.

81. Tonga asked if the Local Early Warning Systems (LEWS) were appropriate in situation where a strong earthquake is felt, then if that could be considered as the early warning system for local tsunamis. Concerns were also raised over the new wave height criteria, as wave properties change for each coastline.

82. Countries welcomed the new and enhanced PTWC's warning products, but some have reservations over their capacity to apply them, and as such, they requested that the existing PTWC's warning products continue in parallel with the new and enhanced warning products.

83. The Meeting:

- **requested** for SPREP to collaborate with IOC-UNESCO and the SPC to undertake a needs assessment of the NMS's capacities to use the new and enhance PTWC's warning products before the PTWC ceasing dissemination of its existing warning products.

WMO Regional Association V (South-West Pacific) Severe Weather Forecasting and Disaster risk reduction Demonstration Project (SWFDDP)

84. James Lunny, WMO Manager, MetService Ltd, summarised the progress made on the WMO SWFDDP in the South Pacific and its relevance to the PIMS. MetService explained that the SWFDDP aims are to improve the accuracy of forecasts and the lead time of severe weather warnings and to improve the interaction between NMS and NDMOs.

85. WMO highlighted that the SWFDDP is making a vital and significant contribution to DRR, climate change challenges as well as assisting the PICTs to fulfil their obligations under various international agreements and conventions such as the Millennium Development Goals (MDGs), UNFCCC, GFCS, etc. WMO commended all participating countries and contributors to the SWFDDP, which made it a success. WMO informed the meeting about the need to ensure the project continued as it moves from demonstration to operational stage. The meeting reinforced its recommendation under the agenda 6.3.5 that SPREP and other relevant CROP agencies work closely with WMO to secure financial resources from relevant development partners in supporting the SWFDDP, in particular, funding to sustain the MetConnect Pacific.

South-South Cooperation–Disaster Risk Reduction (DRR)

86. Karen Bernard, the Programme Specialist Disaster Risk Reduction at UNDP, gave an overview on the status and relevant achievements of the “South-South Cooperation Between Pacific and Caribbean Small Island Developing States (SIDS) on Disaster Risk Management and Climate Change Adaptation” project, the valuable new partnerships for NMSs and NMDOs in the Pacific and Caribbean, and its relevance to other countries not involved in this initial phase.

87. The meeting suggested to encourage donor agencies and development partners to provide critical funding support to Phase 2 of the project, and that a Concept Note for continuation and cooperation with the Caribbean Community Climate Change Centre (CCCCC), and the Indian Ocean Commission, and should find opportunities to showcase this inter-regional collaboration at the Small Island Development States (SIDS) 2014 Conference in Apia, Samoa.

88. The US NOAA advised that other opportunities are also available through US NOAA support to the Caribbean. The US NOAA also encouraged UNDP to continue playing a facilitating role and involve the CROP agencies and their respective Caribbean counterparts in the further development and discussions on Concept Paper for the Phase 2 of the project.

Pacific Climate Change Portal

89. Ms Makalesi Gonelevu, the Knowledge Management Officer of the SPREP presented the Pacific Climate Change Portal (www.pacificclimatechange.net) to the meeting outlining its value in identifying gaps in projects and initiatives of relevance to climate change in the region and planned activities for the next phase of the portal. A regional steering committee of the CROP agencies ensures the accuracy and quality of information posted onto the

Portal. Following the discussions, Palau requested SPREP that the NMSs be included in future trainings and meetings to ensure better coordination and sharing of information at the national level. The meeting encouraged SPREP to ensure more regular updating of the Portal by proactively seeking for inputs from the NMSs.

90. Australia recognised the importance of the Portal for aid coordination. The Secretariat advised the meeting that only information already approved or authorised by countries for public distribution would be placed on the portal. To date, only Fiji, Kiribati and Marshall Islands have responded to the request for national editors for the Portal.

HYDROLOGICAL SERVICES

91. Neville Koop, the Meteorology and Climatology Advisor of SPREP and Peter Sinclair the Water Resource Advisor of SPC-SOPAC presented on the need to strengthen the relationship between meteorology and hydrology in the region, citing recent floods and droughts as examples.

92. The meeting acknowledged the importance of coordination on operational issues, however it noted that there is a need for clarification over the current regional mandates of SPREP (on meteorology) and SPC-SOPAC (on hydrology).

93. The meeting noted that there are different arrangements at the national level for the provision of meteorological and hydrological services, but that coordination can be accomplished and improve, for example by including hydrological and meteorological data in CliDE. Following the discussion, Samoa used Tropical Cyclone *Evan* as an example, as the Meteorology Division had no access to stream flow data, which led to low quality of the flood forecast information.

94. The meeting:

- **Noted** the importance of a joint session between hydrology and meteorology at the next PMC in 2015 and invites SPC- SOPAC and SPREP to facilitate this.
- **Encouraged** the PMC members to consider in detail how meteorological and hydrological services could most efficiently and effectively collaborate in the future keeping in mind the commonalities they both share as regards data and services to users and
- **Requested** SPREP, in collaboration with SPC, WMO and other partners to investigate specific regional and national actions and activities designed to improve the capacity of Pacific Island Hydrological and Meteorological Services to provide improved and coordinated services to their respective governments, especially in the area of flood and drought management and warning.

OCEAN ISSUES

Improving Pacific Islands' Participation in IOC-UNESCO

95. Philip Wiles, Pacific Islands Global Oceans Observing System (PIGOOS) Officer of SPREP, presented and noted that several PMC members were not IOC-UNESCO (Nauru, Vanuatu, Federated States of Micronesia, Marshall Islands and Palau), and that there was little involvement of the PICs in the IOC-UNESCO mechanism.

96. The process of becoming a member of IOC-UNESCO was discussed, and the meeting noted that this is cost free, as all non-members from the PICs are already part of UNESCO. The IOC governing council concurrently convening in Paris, and voting new members on to its executive council.

97. The range of working groups was discussed, and it was noted that there are a number of technical working groups relevant to the PIC's including the South West Pacific Regional Tsunamis Working Group. The IOC-UNESCO representative, Rajendra Prasad, offered to provide more information to those requesting for it.

98. The Meeting:

- **Requested** the PMC members who are not IOC members to **encourage** their governments to join the organisation.
- **Encouraged** the PMC members to increase PIC representation on the IOC Executive Committee and involvement in its working group such as the tsunami warning and mitigation).

The status of the ENSO early warning system, TAO-TRITON

99. Philip Wiles, PIGOOS Officer of SPREP, presented on the importance of the Tropical Atmosphere Ocean/Triangular Trans-Ocean Buoy Network (TAO-TRITON) array, and the issues such as maintenance for the array transfers from research to operational institutions.

100. The Meeting endorsed the statement;

“The Pacific Meteorological Council recognises the value of the TAO-TRITON array in providing early warnings of El Niño and La Niña events and the associated seasonal climate forecasts that provide substantial benefit to Pacific Island Communities.”

“As such, the Pacific Meteorological Council strongly request that support for the TAO-TRITON array be maintained so these valuable services can be continued.”

EDUCATION, TRAINING AND RESEARCH

101. Arona Ngari Director of the Cook Island Meteorological Service(CIMS) presented on education training and research and noting the number of training opportunities available, the need for clear career paths for the NMSs personnel, and the need to be flexible with prerequisites for some trainings to allow for the Pacific SIDs participation. It was highlighted

that research is not explicitly included in the PIMS, although there is a great need for on-going collaborative research on climate drivers.

102. The meeting acknowledged the Pacific Australia Climate Change Science and Adaptation Programme (PACCSAP) for the role it has played mentoring in the area of research and the meeting requested for further funds for fellowships. Following the discussion, the NIWA (NZ) informed that meeting that they were waiting for confirmation of the New Zealand International Aid Agency NZAID for support of a mechanism for attachment and mentoring programme at NIWA. Samoa also informed the meeting that the Meteorological Research Group of the MNRE has been convening annually. The meeting commended the University of the South Pacific (USP) for their focus on weather and climate science and urged them to continue this effort.

103. The Meeting agreed training is of great importance, but it was difficult for smaller NMSs to utilise all opportunities. The meeting emphasised that trainings need to be tailored, as each NMS is unique. Coordination is important, and training gaps should be identified through mechanisms such as the Climate and Oceans Support Programme for the Pacific (COSPPac) training audit. Australia advised that some training courses include prerequisites, which are part of the QMS. The meeting recognised in-country training for some NMSs also need support from regional experts and recognition of the Training Programme for Meteorological Observer would also be of benefit. Fiji suggested collaboration between the WMO and USP to develop further relevant programmes.

104. US NOAA referred to the USA Country Report regarding the Pacific International Training Desk Programme at RSM-Honolulu, Hawai'i, and recommended the establishment of a Working Group to review training courses offered in the region and assess whether these would meet the PICTs NMSs requirements. There is a need to identify what progression of training activities are needed, and to identify where these can be undertaken, to meet the PICT's NMS staff development needs.

105. The Meeting

- **Encouraged** the development of career pathways for NMSs staff and as a result send appropriate staff to trainings that support that development and
- **Encouraged** training providers to consider flexible prerequisites for high level trainings.
- **Noted** previous and current opportunities for collaborative research, mentoring and attachments with developed country institutions and **requested** for these arrangements to continue and increase
- **Requested** that Cook Islands, Marshal islands and Federated States of Micronesia form a Working Group on Education and Training, and the PMD secretariat would facilitate the activities of the Working Group.

SUMMARY OF PROGRESS IN IMPLEMENTING THE PACIFIC ISLANDS METEOROLOGICAL STRATEGY (PIMS) 2012-2021

106. Salesa Nihmei, the Meteorology and Climate Officer of SPREP presented its report on progress by donors and partners of the PMC and the PMDP towards achieving the 14 Pacific Key Outcomes (PKO) of the Pacific Islands Meteorological Strategy (PIMS) 2012-2021. The

report captured all the activities known to have been implemented in the Pacific region to support the NMSs for the period from August 2011 to June 2013.

107. The meeting recognised that a number of activities and developments funded by bilateral or other budgets at national levels might not be reflected in the report, largely due to the challenge of collecting information on an annual basis from all the NMSs. The Secretariat also recommended that coordination between the PMDP and the Partners continues to be strengthened to allow information (data) collection to assist the Monitoring and Evaluation (M&E) framework (as presented under agenda item 11.0).

108. The Meeting:

- Noted the report on the summary of progress of implementing the PIMS in the PICT's NMSs.

MONITORING AND EVALUATION (M&E) FRAMEWORK FOR THE PIMS 2012-2021

109. Mark Graham, the Environment Monitoring and Planning Adviser of SPREP presented an overview of M&E processes and the proposed M&E framework for the PIMS.

110. The meeting also discussed other regional M&E efforts such as from the COSPPac, and outputs from these frameworks were offered to the secretariat to support the PIMS M&E process. The meeting emphasised that the PIMS M&E activities must link with WMO standards and the WMO Strategic Operating Plan. The meeting agreed to move to performance measures from quality and quantity.

PROGRAMMES, PROJECTS AND OTHER INITIATIVES TO SUPPORT NMS CAPACITY

The University of the South Pacific (USP) - Capacity Development Relating to Weather, Climate and Water

111. Elisabeth Holland, Director of Pacific Centre for Environment and Sustainable Development (PACE-SD of USP presented on courses offered and available at the PACE-SD relevant to meteorology and research. A particular highlight is the tropical meteorology course which was offered for the first time in 2013. This course was developed by the Cooperative Programme for Operational Meteorology, Education and Training (COMET), has been designed to meet WMO standards similar to those offered at other universities including the University of West Indies.

112. The meeting recognised that the tropical meteorology course is an important step for the Pacific region, being the first course offered in the region that included a strong fluid dynamics component to the atmospheric sciences. The meeting also discussed the synergy between USP and international training centres in meteorology and recognised the need to work more closely with them.

113. USP acknowledged the support of the Australian International Aid Agency (AusAID) in setting up PACE-SD. Special mention was made of scholarships available to the Pacific, including those working in the NMSs. USP also noted support from the NMSs in initiating new courses and that they were seeking successful case studies on the application of climate services, particularly for a workshop in October 2013.

114. USP informed the meeting that the undergraduate diploma in meteorology that had recently been offered by the Fiji National University (FNU) is no longer available and would be unlikely to be reoffered due to loss of staff. If this is the case, USP is interested in taking up this vacancy.

115. Several PMC members noted gaps between courses available at educational institutions in the region and prerequisites for courses offered by regional partners and WMO and encourage future interaction between the USP and the NMSs.

116. The Meeting:

- **requested** the PMDP Secretariat to report on these gaps and work with education institutes in the region to address them.

The World Meteorological Organisation (WMO) - Regional Components of WMO Programmes and Regional Programme for Region V, Including Policies

117. Henry Taiki, WMO Representative of the South-West Pacific, informed the meeting of the WMO Capacity Development Strategy Development Implementation Plan (CDSIP) and WMO activities in RA V, which addresses one of the strategic thrusts of the WMO Strategic Plan for the period from 2012-2015. It was highlighted that the CDSIP would provide a coordinated and cohesive approach to capacity development activities by the WMO

118. The Meeting:

- **Noted** the information on WMO assistance provided to its WMO Members in the Pacific region and the WMO activities for the period 2013-2015;
- **Encouraged** SPREP to work closely with the WMO through the PMDP and the PMC to assist PICT's NMSs of the Pacific Islands to further improve capacity development and delivery of meteorological services in the Pacific.

Climate and Oceans Support Programme in the Pacific (COSPPac)

119. Janita Pahalad, Manager of the COSPPac project, presented the work of COSPPac. The meeting commended the works of the COSPPac in assisting the PICTs' NMSs.. The Meeting requested that BoM work closely with the SPREP in relation to the implementation of COSPPac.

120. Samoa requested COSPPac to reconsider moving its Communications Officer from the SPC-SOPAC to SPREP to align itself with the PMDP, as a similar request has been made at the COSPPac's Steering Committee in April 2013.

121. While the meeting commended the Seasonal Climate Outlook for Pacific Island Countries (SCOPIC), particularly with building capacity within climate Services, Samoa noted

the low skill of SCOPIC for dry season forecasting. The Meeting agreed that an open source of SCOPIC would be advantageous.

122. It was noted that the COSPPac capacity mapping of the climate services would identify climate service capacities and stakeholders they want to engage with in terms of providing them with meteorological information, which leads to better targeted training.

123. COSPPac noted that they wanted to keep the focus of the COSPPac ocean portal separate from the SPREP's Pacific Climate Change Portal since products and services mainly focuses on climate variability, not climate change.

Pacific-Australia Climate Change Sciences and Adaptation Planning (PACCSAP)

124. Geoff Gooley, Director of the PACCSAP presented on work achieved during the PACCSAP programme and plans for the 12 month extension of the programme to June 2014. He noted that PACCSAP were planning for a second phase of the project and requested support from the NMSs and the CROP agencies for collaboration.

125. The meeting noted that the new 2013/2014 Science Programme would built on previous work done in the Pacific and that this is the first time that Pacific Island specific climate futures have been made available. A request was made to ensure the new Coupled Model Intercomparison Project Phase 5 (CMIP5) models from the upcoming Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5) would be included. The meeting also agreed for continued development and maintaining support for the CliDE databases. Samoa requested that another workshop on the South Pacific Convergence Zone (SPCZ) and rainfall indices be pursued, and commended PACCSAP for their work.

126. The Meeting:

- **noted** the importance of the PACCSAP for climate science in the region, and strongly advocated for a next phase of the programme.

Finland-Pacific (FINPAC) Project

127. Alberto Blanco Sequeiros, technical advisor of the Finish Meteorological Institute (FMI) presented a summary of the key activities covered under the FINPAC project.

128. Samoa requested for more than two Pacific Countries to be represented in the FINPAC Steering Committee, but the Secretariat noted that due to limited funds, it may not be possible. Documents for the FINPAC's Steering Committee meeting should be circulated before the commencement of the meeting for comment to enable inclusion in the proceedings. Australia applauded the FINPAC commitment to the Regional Basic System Network (RBSN) improvement, and agreed to consider the secretariat request to be a member of the FINPAC Steering Committee. SPREP would ensure all the necessary coordination is in place between the FINPAC and all other relevant projects.

129. The Secretariat advised the meeting that the FINPAC has not yet decided when the Severe Weather Training would take place, but it would be integrated into the WMO regional training activities. The Meeting urged all projects including FINPAC, COSPPac, PACCSAP, and SWFDDP to coordinate. WMO suggested that FINPAC should be represented on the Regional Management Team of the SWFDDP and vice versa. The new and full time FINPAC manager would be responsible for making these coordination's happen, and other Secretariats staff would also assist with the coordination and implementation of these programmes.

Radio Internet (RANET) Communication

130. Edward Young Acting Director of the US NOAA NWS Pacific Region presented on the Radio Internet (RANET) for the Communication of Hydro-Met and climate in the Pacific, EMWIN system, and Low Resolution Information Transmission (LRIT). RANET was established in 2003 and it is a collaboration between NOAA, MetService Ltd, BoM and SPREP to set up HF radio and satellite communication systems for dissemination of meteorological data to the internet. Upgrades of EMWIN and LRIT were completed across the Pacific during the period from 2011 to 2013 (except for Kiribati), and the Chatty Beetles have been deployed a number of Pacific Islands that had requested them. Expansion of initial Chatty Beetles was occurring in Micronesia to reach all outer island meteorological observers and others.. Fifteen RAPIDcast (RANET Asia Pacific Information Dissemination Broadcast) stations have been shipped to the Pacific and deployments will be determined in the coming months. The locations where of these assets deployed can now be seen on www.maptack.org, a new data portal to track the status of backup communication systems.

131. New Zealand informed the meeting that the meteorological data transmitted via the backup Pacific HF/RANET hub they host in Wellington are minimal and therefore not commercially viable to sustain it. New Zealand informed the meeting they are reviewing the future of the hub, including the possibility of co-locating it in the region. New Zealand however informed the meeting they would continue to keep the hub operational while future options are being considered. A new site has been identified as the Regional HF radio hub, which requires good power and connection to the internet, and was hoped to be operational by the end of 2013. Cook Islands requested a regional survey on the use of RANET FM radio for warning purposes, to identify the highest needs it addresses.

132. The expertise lost with recent retirements was identified as an issue, and the US NOAA informed the meeting that they intend to include training on communication systems in the new Pacific International Training Desk.

133. Tokelau noted with appreciation the joint US NOAA-NZ willingness to restore their observational programme via provision of basic meteorological equipment, chatty beetles and related services. Tokelau also thanked other development partners for providing assistance to help them draft a legislation bill. Tokelau thanked the Pacific Rainfall Database (PACRAIN) Programme of the University of Oklahoma for providing educational materials for schools.

134. The Meeting:

- **agreed** for each of the PMC members to Identify and submit national focal points and technical leads for the maptack.org initiative.
- **advocated** for the establishment of a regional 'messaging fund' to support on-going message and service costs of systems and infrastructure, such as the Chatty Beetle and RAPIDCast, to avoid administrative costs of per country payments and to provide longer term service stability.

Pacific Islands Climate Information System (PACIS)

135. John Marra, Regional Climate Services Director of US NOAA, presented the Pacific Climate Information System (PaCIS). This is a programme planning framework and mechanism to support an integrated system for climate services that address the needs of the Pacific Islands. The meeting noted the three priority actions; building a network of networks, assessments, and developing products and services.

136. Discussion was held on aligning climate activities to reflect the needs of the PICTs as well as the GFCs. The meeting noted that planning needs to be done for these different efforts, and an example could be the consolidation of climate teleconferences.

EMERGING AND ONGOING PRIORITIES

International Civil Aviation Organization (ICAO) Competency/Standards Including Forecasters and Training Requirements, Deficiencies in the MET Fields, Quality Management System (QMS) and Cost recovery for Aviation Weather Services

137. 'Ofa Fa'anunu, the Director of the TMCS explained that there are 2 documents of Standard and Recommended Practices (SARPs) listing standards each Meteorological Authority must comply with namely: Annex 3 to the ICAO Convention – Meteorological Services for International Air Navigation and WMO Technical Regulations No. 49.

138. The presentation also highlighted that States must comply with the Aeronautical Meteorological Personnel (AMP) competencies by 1 December 2013, and that the QMS must be in place by 15 November 2012. In addition, there are still long standing deficiencies of the NMSs filed at the ICAO in regards to aviation meteorological services.

139. The meeting was informed that the WMO has written to all of its Members not compliant with the relevant ICAO regulations in paragraph 2.2.3 of the ICAO Annex 3, emphasizing that it would be advisable to inform the ICAO of this fact using the standard procedure of filing a difference, stating also when and by what means they expect to become compliant to these regulations in the future. Such a notification will protect both the Member and the services from serious legal consequences in case of any weather related incident or accident that could be considered to be related to any non-compliance with the ICAO regulations.

140. The Meeting acknowledged that the FMS has been certified for the provision of aviation weather services in January 2012. The meeting also thanked the FINPAC, WMO, Météo-France and BoM for their support to the NMSs in developing the QMS and noted the

upcoming QMS training in Apia, Samoa in July 2013. The meeting urged the PMC members should include the cost of participating in the ICAO meetings in their NMSs cost recovery plans. The meeting also encourage PMC members to be aware of the implications of cost recovery when developing any future legislation. The meeting recognised that the certification and documentation to the ISO standards could be costly, but that these could be recovered from end users. It was noted that cost recovery for aviation weather services is complicated when more than one meteorological services provider is involved. These issues were left open for further discussion at future meetings. FMS as a meteorological services provider requested for efficient data exchange of accurate and timely information, between those NMSs they are providing services and also offered their assistance to other PICT's NMSs' for the QMS. Finland confirmed that the QMS training workshop would be held in Apia, Samoa, in July 2013.

141. PICTs NMSs are encouraged to work together with their respective Civil Aviation Authority (CAA) on issue pertaining to the QMS, and those NMSs who have not completed the QMS could seek mentoring assistance from those who have already completed and implementing the QMS.

142. The Meeting:

- **recommended** that service agreements to be formalized between NMS where applicable.
- **encouraged** the PMC members to use resources such as the Pacific Safety Office (PASO) when seeking certification to the ISO standards.
- **encouraged** SPREP member countries who are ICAO Members to become Members of the Asia Pacific Air Navigation Planning Implementation and Reporting Group (APANPIRG) and to attend the Annual MET Subgroup Meeting of the APANPIRG.
- **requested** SPREP to work more closely with WMO and other regional organizations to assist the PICTs to meet their Aviation Meteorology requirements and the implementation of the Pacific Regional Priority Activities under the PKO 1 of the PIMS

Implementation of the Global Framework for Climate Services (GFCS) in the Pacific Islands Region

143. John Marra, Regional Climate Services Director of US NOAA, reiterated the statements from PMC-1 in recognizing the importance of climate services in the region. He noted progress made in implementing climate services in the region since PMC-1 and observed that priorities identified under GFCS aligned with the PMC priorities. He requested the endorsement of a Pacific Islands Climate Services Panel (PICSP).

144. The Meeting noted the merit of the concept, and the need to include meteorological services and key development and collaborating agencies, and to take a cohesive, effective and efficient approach to training and capacity development, multiple information portals and seasonal outlooks. The meeting suggested that the PICSP to be within the WMO RA V, and emphasized that this is a structured approach to consultation.

145. Tonga, Solomon Islands and Samoa requested for an inception workshop to be held for the Pacific SIDS region on the GFCS.

146. The Meeting:

- **Noted** considerable progress has been made on the implementation of climate services in the PICTs since the PMC-1;
- **Noted** the outstanding support provided by SPREP and collaborating partners such as WMO to date towards advancing the implementation of the GFCS in the PICT's region;
- **Reaffirmed** the outcomes of the various meetings and workshops on the GFCS and related matters, in particular, the recommendation from the Majuro 2011 workshop to investigate organizational structures and functions to support robust and sustained climate services at the regional level and identification of Pacific Centers of Action (CoA) from the 2013 PICSF;
- **Noted** the critical need for a more strategic approach with greater alignment and coordination to support robust and sustained climate services' activities and investments in the PICT;
- **Endorsed in principle** the establishment of a PICS Panel to serve as the PMC's Advisory Committee on climate services matters in the Pacific region,
- **Requested a clear** Terms of Reference (TOR) for a PICS Panel, linking it to the GFCS and to existing and related mechanisms.
- **Requested SPREP:**
 - (1) To make the necessary arrangements for the establishment of the PICSP and to convene its first meeting as soon as possible after the designation of its members. In consultation with the Chair and Vice-Chair of the PMC, to determine the date and place of the first PICSP meeting. The Chairman of the PMC will preside over the first meeting until the PICSP elects its Chair or an equivalent, who would preside over the meeting;
 - (2) To provide support to the PICSP and seek funding and other support for its work;
 - (3) To keep the PMC members, SPREP Officials Meeting , and as appropriate, relevant partners, informed of progress and developments on the PICSP work;
 - (4) To bring this matter to the attention of all concerned.

Implementation of the Regional Plan for the WMO Information System (WIS) and Table Driven Code Format (TDCF) in Region V, especially in each Pacific Island NMS and the region

147. Henry Taiki, Representative for the South-West Pacific for WMO, presented on behalf of Russell Stringer, Lead WMO RA V Working on Infrastructure and outlined the WIS, the global infrastructure making weather, climate, water and related information available, and the migration of Traditional Alphanumeric Code (TAC) to the Table Driven Code Format(TDCF) by November 2014.

148. The meeting was informed that the WIS would provide the global infrastructure for managing and making available weather, climate, water and related information. It would satisfy the requirements of WMO Members for routine collection and automated dissemination of time-critical and operation-critical data and products, using the Global

Telecommunication System (GTS), and new data discovery, access and retrieval services for all weather, climate, water and related data and products provided by the various WIS centres of Member countries supporting of the WMO programmes. WIS has four structural components, namely: the Global Information System Centres (GISC), Data Collection and Production Centres (DCPC), National Centres (NC), and Data networks. The meeting urged the PMC members who yet connected to the GTS (which carries WIS), as this is the primary method of transmission for tsunami and weather warnings. The meeting was also informed that a country could have more than one NC (e.g. NMS and NDMO). US NOAA noted that the EMWIN system was part of the WIS, but had dropped off the GTS table as an official dissemination method.

149. The Meeting noted the recent useful RA V Training Workshop on WIS/TDCF in Melbourne Australia in April 2013, which was aimed at ICT staff of the NMSs. Samoa requested the next workshop to be held in the Country NMS. The meeting encouraged the PICT NMSs' were urged to continue to make efforts into understanding the WIS, be proactive as well as approaching the BoM for assistance in the development of the WIS and the migration of the Traditional Alphanumeric Codes (TAC) to the TDCF..

150. US NOAA noted that the November 2014 deadline to convert from the TAC to the TDCF could be problematic for some Pacific Island Countries.

Implementation of the Regional Plan of the WMO Integrated Observing System (WIGOS) for Region V, especially in each Pacific Island NMS and the region

151. Henry Taiki, representative of WMO in the South-West Pacific of) presenting on behalf of Russell Stringer, Lead on the WMO RA V Working Group on Infrastructure informed the meeting of the WIGOS, which brings the Global Climate Observing System (GCOS), GOOS and Global Terrestrial Observing System (GTOS) together into a single framework. Misaele Funaki, Manager of the RSMC Nadi provided a briefing on tropical cyclone activities during the previous two years and associated issues and requested feedback from the PMC members on the RSMC Nadi performance during this period.

152. The meeting commended the FMS on its role as an RSMC for tropical cyclones. IOC-UNESCO observed that Numerical Weather Prediction (NWP) models would provide guidance, but that these should be used with other related information.

153. The meeting acknowledged the work of the PACRAIN/ Schools of the Pacific Rainfall Climate Experiment (SPaRCE) programme of the University of Oklahoma in assisting the PICTs with enhancing their observation networks, and in augmenting and preserving the climate records in the region.

PMC STATEMENT TO THE JOINT MEETING OF THE PCCR AND PPDRM

154. The secretariat presented a draft PMC Statement that would be presented at the Joint Meeting of the PCCR and the PPDRM. Following the discussions, the meeting noted the unclear issue of the legal status of the PMC in relation to SPREP, and Samoa requested

for an additional agenda item to discuss this issue in the Third Meeting of Pacific Meteorological Council (PMC-3).

155. The meeting made amendments to the proposed PMC Statement to the Joint Meeting and approved it as presented in Annex 6.

PMC/PMDP WORK PLAN FOR JULY 2013 - JULY 2015

156. Salesa Nihmei, the Climate and Meteorology Officer of SPREP, presented a revised template for a PMDP work plan for the period 2013-2015, noting that commitments are required from the partners to populate the template.

157. The meeting noted that this template would raise the visibility of PMC activities in the region. SPREP informed the Meeting that the current known PMDP activities will be submitted to the Twenty-Fourth SPREP Officials meeting within the SPREP's Climate Change Division budget.

158. The Meeting:

- **agreed** to the revised format for the work plan that was presented; and
- **agreed** to provide information on activities and budget to SPREP to populate the template and circulate out of session for approval.

PMC/DONORS AND PARTNERS ROUNDTABLE (5TH JULY 2013)

159. The Secretariat informed that meeting that due to the lack of availability of a number of development and collaborating partners and donors, it was not possible to convene the PMC/Donors' Roundtable session on Friday, 5 July 2013. The secretariat also had informally discussions on the PMC/Donors' roundtable with those development and collaborating partners, and donors who were in Nadi during the week for a series of meetings were positive.

160. Samoa requested for SPREP to arrange a PMC/Donors and development and collaborating partners, roundtable at a later date and involve some PMC members, including the chair and vice chair. The meeting noted that the project concept document (annex WP_16.0.Att1) that would have been presented at the PMC/Donors roundtable builds on a needs analysis from analyses of gaps and needs from the country reports and the PIMS, but that these needs would be further prioritised to attract donors. A refined project concept document would be developed for the donor roundtable. The refined project concept would also recognise that instrumentation and infrastructure such as observations is a major gap in the region.

161. The meeting was informed that the only MoU for the PMDP partnership is between the SPREP and WMO. The secretariat encouraged other partners to the PMDP to develop similar MoUs with SPREP.

RULES OF PROCEDURE OF THE PACIFIC METEOROLOGICAL COUNCIL MEETING

162. Clark Peteru, the Legal Advisor to SPREP presented the proposed Rule of Procedure for the PMC.

163. Samoa noted some difficulties in the administrative operation of the PMC-2 and requested for a review of the existing institutional arrangement for consideration at the PMC-3.

164. The Meeting:

- **agreed** to adopt the "formal language" outlined in the SPREP publication "Taking the Floor, A Pacific Island Country Guide to Negotiating International Environmental Agreements" as guidance to PMC reporting especially on text for decisions.
- **adopted** the SPREP Financial Regulations insofar as these are applicable as the interim Financial Regulations of the PMC, until such time as the PMC adopts its own Financial Regulations.
- **adopted** the Rules of Procedure of the PMC as amended, and **requested** SPREP to present these to the 24th SPREP meeting for endorsement.

DATE AND VENUE OF THE THIRD MEETING OF THE PMC

165. The meeting decided that the PMC-3 meeting would be held 2015 in Tonga. Dates for the meeting would be decided in consultation with Tonga and the PMC members.

ANNEXES

ANNEX 1: List of Participants to PMC-2 (18 July 2013)

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ANNEX 2: AGENDA for the 2nd meeting of the Pacific Meteorological Council and the 3rd meeting of the national Meteorological Services and the National Disaster Management Offices

SUNDAY, 30 JUNE 2013

17:00 - 19.00PM Registration at Novotel Hotel

MONDAY, 1 JULY 2013

07:30-09:00 Registration at Novotel Hotel

09:00-10:00 **Agenda Item 1: Opening Ceremony(MC -NetatuaPelesikoti)**

- 1.1: Opening Prayer - *Ps. SavenacaNakeke*
- 1.2: Welcome Address - *Mr. Reginald White, Chair of the Pacific Meteorological Council*
- 1.3: Key Note Statement- *Mr. KosiLatu, Deputy Director-General, SPREP*
- 1.4: Opening Address - *Hon. TimociLesikivatukoulaNatuva, Minister for Works, Transport and Public Utilities, Government of Fiji*

Group Photo

10:00-10:15 *Refreshment*

10:15-10:50 **Agenda Item 2: Working Arrangements for the 2nd Meeting of the Pacific Meteorological Council (PMC-2)**

- 2.1: Interim Rules of Procedures (**Chair of PMC-1 and Secretariat**)
- 2.2: Election of Chair and Vice-Chair (**PMC-1 Chair**)
- 2.3: Adoption of Agenda and Working Arrangements(**Chair**)
- 2.4: Establishment of a Drafting Committee (**Chair**)

10:50-11:10 **Agenda Item 3: WMO Policies on Weather, Climate and Water - From Global to Regional Context (WMO)**

11:10-11:30 **Agenda Item 4: Report on Actions Taken on Matters Arising from the 1st Meeting of the Pacific Meteorological Council (PMC-1)(NetatuaPelesikoti, SPREP)**

11:30-12:30 **Agenda Item 5: Countries' Reports**

- 5.1: American Samoa(**Akapo K. Akapo, Meteorologist in Charge, American Samoa Weather Service Office**)
- 5.2: Cook Islands(**Arona Ngari, Director, Cook Islands Meteorological Service**)
- 5.3: Federated States of Micronesia (**Johannes Berdon, Officer in Charge, Chuuk-FSM NWS**)

12:30-13:30 **Lunch (SIDE EVENT: Integrating scientific and experiential knowledge & community preferences in making informed choices: PACC Cook Islands, Fiji and Vanuatu)**

13:30-15:30 **Agenda Item 5 (Continued)**

- 5.4: Fiji
- 5.5: French Polynesia(**GerrardTherry, Regional Director, Meteo-France French Polynesia**)
- 5.6: Kiribati(**Ueneta Toorua, Climate Officer, Kiribati Meteorological Service**)
- 5.7: Republic of the Marshall Islands(**Reginald White, Director, Marshal Islands National Weather Service Office**)
- 5.8: New Caledonia & Wallis and Futuna(**PhillippeFrayssinet, Director, Meteo-France New Caledonia & Wallis and Futuna**)

15:30-15:50 *Refreshment*

15:50-17:50 **Agenda Item 5 (Continued)**

- 5.9: Niue(**SionetasiPulehetoa, Director, Niue Meteorological Service**)
- 5.10: Palau(**Maria Ngemaes, Meteorologist in Charge, Palau National Weather Service**)
- 5.11: Papua New Guinea(**Samuel Maiha, Director, PNG National Weather Service**)
- 5.12: Samoa(**MulipolaAusetaliaTitimaea, Assistant CEO, Samoa Meteorological Service Division**)
- 5.13: Solomon Islands(**David HibaHiriasia, Director, Solomon Islands Meteorological Service**)

19:00-21:00 **Cocktail –Hosted by the Government of Fiji and SPREP**

TUESDAY, 2 JULY 2013

- 08:30-10:30 **Agenda Item 5(Continued)**
 5.14: Tokelau(MennyTavuto, Tokelau Environment Officer)
 5.15: Tonga(OfaFa'anunu, Director, Tonga Meteorological Service)
 5.16: Tuvalu(HiliaVavae, Chief Meteorological Officer, Tuvalu Meteorological Service)
 5.17: Vanuatu(David Gibson, Acting Director, Vanuatu Meteorological and Geo-hazard Department)
- 10:30-10:50 *Refreshment*
- 10:50-12:30 **Agenda Item 5 (Continued)**
 5.18: Australia (Ram Krishna, Acting Manager, International Affairs, Australian Bureau of Meteorology)
 5.19: New Zealand(Douglas Ramsay, Manager, Pacific Rim, NIWA and Penehuro Lefale, Pacific Manager, NZMet)
 5.20: USA(Mr. Edward H. Young Jr., Director, US NOAA – National Weather Service Pacific Region)
- 12:30 - 13:30 *Lunch*
- 13:30-15:50 **Agenda Item 6: 3rd Joint Meeting of National Meteorological Services (NMSs) and National Disaster Management Offices (NDMOs)**
- 6.1: Introductory Remarks (PMC Chair)
- 6.2: Pacific Islands Meteorological Strategy (PIMS) 2012-2021, the Pacific Islands Framework Action for Climate Change (PIFACC)and the Regional DRR and DM Framework for Action – Interface with NMS and NDMOs(NetatuaPelesikoti, SPREP)
- 6.3: National initiatives: Key Implementation Challenges and Opportunities Pertaining to NMSs and NDMOs Arrangements;
- 6.3.1: Tsunami Warnings and Responses – Solomon Islands(David Hiba and Loti Yates, Solomons NMS and NDMO)
- 6.3.2: Tropical Cyclone Warnings and Responses – Samoa (AusetaliaTitimaea and Filomena Nelson, Samoa NMS and DMO)
- 6.3.3: Integrated Water Resources Management – Nadi Demonstration (Vinesh Prasad, Fiji IWRM)
- 6.3.4:Drought Warning System and Response – Republic of the Marshall Islands (Reginald White, Republic of Marshall Islands NMS)
- 15:50 - 16:10 *Refreshment(Working)*
- 16:10- 18:00 6.3.5: Severe weather systems other than tropical cyclones [and large waves not associated with tropical cyclones] Events and Products – Vanuatu(David Gibson, Vanuatu NMS)
- 6.4: Regional initiatives: key implementation challenges, issues and opportunities to enhance collaboration;
- 6.4.1: PTWC Enhanced Products for the PTWS(Rajendra Prasad, IOC/UNESCO)
- 6.4.2: WMO Regional Association V (South-West Pacific) Severe Weather Forecast and Disaster Risk Reduction Demonstration Project (SWFDDP)(James Lunny, NZ-Met Service)
- 6.4.3: South-South Cooperation–Disaster Risk Reduction (DRR) (Karen Bernard, UNDP)
- 6.4.4: Pacific Climate Change Portal
- 6.5: Discussions and Closing Remarks
- 18:00 - 2100 **SUNSETSIDE EVENT: ENSO Animation Project Launch - UlaMajewski/Salesa K. Nihmei)**

THURSDAY, 4 JULY 2013

- 08:30-17:00 (i) PMC Members and/or Representatives Participating in the Pacific Islands Climate Change Roundtable (PCCR), Westin Denarau. PMC to refer to PCCR Programme.
(ii) Transport details was provided to attend the PCCR
(iii) PMC Drafting Committee convened to compile the PMC-2 report

FRIDAY, 5 JULY 2013

- 08:30-08:50 Agenda Item 15: (Continued)
- 08:50-09:10 Agenda Item 17: (Continued)
- 09:10-09:30 Agenda Item 18: Date and Venue of the Third Meeting of PMC
- 09:30-10:30 Agenda Item 19: Review and Adopt the Report of PMC-2
- 10:30-10:50 *Refreshment*
- 10:50-12:10 Agenda Item 19: (Continued)
- 12:10-12:30 Agenda Item 20: Closure of PMC-2
- 12:30-13:30 *Lunch*

ANNEX 3: Pacific Meteorological Council Statement to the Joint Meeting of the Pacific Climate Change Roundtable and the Pacific Platform for Disaster Risk Management

Preamble

1. Recognising the Pacific Meteorological Council (PMC) is the collective authoritative voice of SPREP Members' Meteorological Services. Its members are Directors, representatives and administrators of Meteorological Services. PMC works closely with other relevant partners such as WMO, IOC, SPC and other CROP agencies.

2. Noting, the NMSs have national mandates for the collection, quality control, dissemination and storage of weather and climate data. This data is the source for early warning information and services of weather, climate, water and related hazards. The application of meteorological and climate services also support economic development and social well being of our countries and territories. Therefore, climate adaptation, mitigation and disaster risk reduction activities and outcomes are dependent on the provision of reliable weather and climate services.

3. Noting that these services also contribute to key goals of poverty alleviation, gender equality, social cohesion and sustainable development in the Pacific Islands region at a time when the frequency and intensity of weather and climate related hazards are highly variable. PMC members are committed to developing and improving services with the goal to Strengthening the Resilience and Security of Pacific Communities through an Integrated approach to Weather, Climate and Water Risks.

4. Our work is strongly governed by the Pacific Island Meteorological Strategy (PIMS) (2012-2021), and supported by the SPREP Pacific Meteorological Desk Partnership (PMDP). The role of the PMDP is to coordinate PMC and partner activities for the effective implementation of the 14 Pacific Key Outcomes of PIMS. The PIMS has four key action priorities:

- i. Improved weather services, in particular aviation, marine and public weather services;
- ii. Improved end to end multi-hazard early warning systems (MHEWS);
- iii. Enhanced infrastructure (data and information services) for weather, climate and water; and
- iv. Enhanced development of climate services

5. Reiterating that the Pacific Islands Meteorological Strategy (PIMS) is the strategy document of the PMC, providing the priorities of the Pacific Island NMSs development. It contributes to the fulfilment of the Pacific region obligations to the UNFCCC, Global Framework for Climate Services (GFCS) and the Regional Strategic Operating Plan for WMO Region V (South-West Pacific).

Recommendations:

7. That PMC request that the PIMS be an integral component of the new Integrated Strategy for Disaster Risk Reduction and Climate Change (ISDRRCC).

8. Requests the Joint Roadmap to fully take into account the urgent funding needs of Pacific Island Meteorological Services they continually face to adequately meet their national mandates to provide timely and reliable multi-hazard (weather, climate, cyclone, flooding, drought, and tsunami) early warning services.

9. Recognising the Pacific Ocean is the dominant geographic feature in the Pacific related to weather, climate and water and consider an 'ocean' theme in the new strategy.