Report on the 2nd meeting of the Pacific Islands Climate Services (PICS) Panel

SPREP, Apia, Samoa, 7–8 May 2015

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Introduction

The first meeting of the PICS Panel in Nadi, Fiji, in August 2014 brought together selected experts on climate services and other social and economic development sectors, as well as relevant partners and practitioners supporting and/or using climate services, in the Pacific region. Its purpose was to facilitate discussions to achieve the objective of the meeting as follows:

> To develop an Action Plan, based on the draft Pacific Regional Implementation Roadmap for Strengthened Climate Services, for the next 3 years that will entail the following elements (not listed in any priority order):

a) Development of a Regional Climate Outlook Forum (RCOF) concept and its implementation in the Pacific region;

b) Implementation of National Climate Outlook Forums in the Pacific Island Countries;
c) Establishing a Regional Climate Centre (RCC) for and in the Pacific region;
d) Review of existing regional strategies and frameworks in relation to climate services in the Pacific region;
e) Conduct a gap analysis on the activities covered by existing programmes to support climate services in the Pacific region.

The outcome of this meeting was the development of an Action Plan, and the listing of the following Priority PICS Panel Actions and Recommendations:

Priority PICS Panel Actions

The following Priority Actions for the PICS Panel have been drawn from the Action Plan (see separate document):

	Priority Actions	Timeline	PICS Panel task leader*
1	Plan for and hold the first Pacific Islands Regional Climate Outlook Forum (RCOF) including a water resources sector focus	October 2015	Janita Pahalad
2	Conduct a gap analysis based on what climate services are currently being provided and the minimum set of services that are needed	Dec 2014	Andrew Tait
3	Review the structure, maintenance and use of the SPREP regional projects database and report to PMC	July 2015	John Marra
4	Draft an RA-V RCC-Network Implementation Plan, to be submitted to the RA-V Management Group (meeting at the WMO Congress)	May 2015	Andrew Tait
5	Review international standards on qualifications and competencies for climate services production and delivery and potential adaptation of them for the Pacific Region	October 2015	Elisabeth Holland

* Task leaders can form small teams from within and beyond the PICS Panel to assist with tasks.

Priority Recommendations from PICS Panel

The following Priority Recommendations from the PICS Panel have been drawn from the Action Plan (see separate document):

	Priority Actions	Timeline	Recommended lead agency
1	Review the Pacific Islands Meteorological Strategy (PIMS) in relation to the WMO RA-V strategic and operational plan, the Action Plan for Strengthening Climate Services	August 2015	SPREP

	in the Pacific, and regional sector strategies (e.g. water, agriculture, DRR, health, etc.)		
2	Review national strategies for delivering climate services (e.g. the establishment/formalization of National Climate Outlook Forums, NCOFs)	August 2015	All NHMSs
3	Identify countries that would like to/need to develop a national drought policy and make use of the WMO Integrated Drought Management Programme (IDMP)	May 2015	WMO (to report to 2nd meeting of the PICS Panel)
4	List all non-functional observing stations and necessary IT equipment (i.e. on outer islands)	May 2015	SPREP (presented to 2nd PICS Panel meeting)
5	Establish a Regional Training Centre for the Pacific Islands (this is a longer-term goal, but requires staged planning and interim goals)	August 2017	USP and WMO

Objectives of the 2nd PICS Panel Meeting

The second Meeting of the PICS Panel was expected to:

- Provide an update on the progress of implementing the PICS Panel's Action Plan;
- Finalize the Draft Pacific Regional Climate Outlook Forum (PICOF) Program;
- Discuss the status and ways forward for implementing a Regional Climate Center (RCC) in the Pacific region;
- Provide an update on National Climate Outlook Forums (NCOFs) and capture lessons-learned from Papua New Guinea, Tonga and Kiribati;
- Provide an update on other climate developments in the Pacific;
- Provide initial comments on the draft Nuku'alofa Roadmap for Strengthened Climate Services in the Pacific;
- Provide text to the Pacific Ministerial Meeting on Meteorology Communiqué expected to be endorsed during the meeting which is schedule to be held in Nuku'alofa, in Tonga on 24 July 2015.

Expected Outcomes of the 2nd PICS Panel Meeting

- PICS Panel Action Plan updated;
- Draft Program for the PICOF is finalized;
- Ways forward to implement RCC in the Pacific region are developed;
- PICS Panel contributions to the draft Nuku'alofa Roadmap for Strengthened Climate Services in the Pacific are developed and agreed upon;
- PICS Panel contributions to the Pacific Ministerial Meeting on Meteorology's Communiqué are developed and agreed upon;
- Clear direction on financing opportunities for regional project on climate services to implement the PICS Panel's Action Plan and the draft Nuku'alofa Roadmap on Strengthened Climate Services in the Pacific.

Pre-Meeting Concept Note

See Appendix 1 for the 2nd PICS Panel Meeting Concept Note prepared by SPREP in consultation with other PICS Panel members. The note includes background information and the Meeting Agenda.

Terms of Reference for the PICS Panel

See Appendix 2 for the revised ToR for the PICS Panel, as agreed upon at the 2nd PICS Panel meeting.

Minutes of the 1st PICS Panel Meeting

Day 1: Thursday, 7 May

Meeting Attendees:

Janita Pahalad, BOM	Salesa Nihmei, SPREP	Ofa Fa'anunu, Tonga Met
Andrew Tait, NIWA	Samuel Mahia, PNG Met	Ueneta Toorua, Kiribati Met
Bipendra Prakash, Fiji Met	Henry Taiki, WMO	John Marra, NOAA
Sunny Seuseu, SPREP	Netatua Pelesikoti, SPREP	Tamara Avellan, WMO (via skype)
Azarel Mariner, SPREP	Molly Powers-Tora, SPC	Pauli Jokinen, Finnish Meteorological Institute
Christina Leala-Gale, SPREP	Makelesi Gonelevu, SPREP	Dr Yen, APCC
David Hiba, Solomons Met	Jens Kruger, SPC	Tauala Katea, Tuvalu Met
Espen Rosenberg, SPREP (day 2 only)	Satui Bentin, SPREP (day 2 only)	David Sheppard, SPREP (day 1 only)

Session 1: Opening & Introduction

(i) *Opening Prayer*
The Tonga Met Director, 'Ofa Faanunu opened the PICS Panel Meeting with a prayer.

(ii) *Welcoming remarks (SPREP)*
SPREP Director General, David Sheppard, welcomed the participants, provided some background in the establishment of the PICS Panel, and emphasised the importance of climate services in the region. He reiterated the importance of the advisory role of the PICS Panel to address some of the pressing issues pertaining to communities and NMHSs.

(iii) *Opening Remarks (Chair of PICS Panel)*
The Chair of the PICS Panel, Andrew Tait, acknowledged the financial support of the FINPAC project, thanked the participants for coming, and welcomed everyone to the second PICS Panel Meeting.

Session 2: PICS Panel Action Plan – Progress on Implementing Key Activities

(i) *Overview of the PICS Panel Action Plan (Chair of PICS Panel)*
Andrew Tait summarised the Action Plan, and reiterated the Priority Actions and Recommendations decided upon at the first PICS Panel meeting (see tables above).

(ii) *Review of the structure, maintenance and use of the SPREP regional projects database (NOAA)*
John Marra summarised his report (see Appendix 3). He explained that member countries are the key gatekeepers of the information and are responsible for the type of information needed. Furthermore, he emphasised the need for National projects databases (e.g. the one currently used in Vanuatu), and the need for consistent database "fields" so that the information can be easily transferred from National to Regional and even to Global databases.

Makelesi Gonelevu (SPREP) explained that the current challenge faced with updating the Project Database and Pacific Climate Change Portal (PCCP) is keeping the information valid and current. She further elaborated that the PCCP will be undertaking an upgrade through support from the iCLIM project and would encourage feedback from the group to inform some of the recommended changes in the Project Database.

ACTION: PICS Panel to recommend 5-6 key criteria for projects/programmes to be included in national and regional project databases, and pass this information onto SPREP.

(iii) *Gap analysis (Chair of PICS Panel)*
Andrew Tait presented on his gap analysis. The two questions addressed were:

- What climate services are currently being provided?
- What is the minimum set of services that are needed?

The resources used for the assessment were:

- WMO RA-V WGCS questionnaire on agro-climatic services
- WMO RA-V WGCS questionnaire on capabilities and needs for a RCC
- Pacific regional implementation roadmap for strengthened climate services
- Regional expert roundtable on climate services for agriculture and food and nutrition security (Samoa, Feb 2015)
- Pacific Islands climate services dialogue (Cook Islands, Sept 2014)
- WMO mandatory and highly recommended functions for a RCC

His results are presented in Appendix 4. After some discussion, it was agreed that the regular holding of NCOFs (or similar stakeholder meetings) and the production of up-to-date climatologies should be moved from "desired extended services" to "required minimum services". Also, it was suggested that sea level information (from tide gauges), utilisation of social media (e.g. Facebook), summary reports of weather- and climate-related impacts, and satellite-based gridded rainfall products be included in the "desired extended services".

Lastly, it was agreed that improving the skill of 1-month climate outlooks should be included in the "gaps and needs" section of the report.

ACTION: Andrew Tait will finalise the report, to be presented at PMC-3.

(iv) *Review of International Standards on Qualifications and Competencies for Climate Services (Tonga Met Service, on behalf of USP)*

Ofa Fa'anunu presented two key discussion points:

- The Regional Training Centre (RTC) funding request was submitted to USAID and was declined.
- USP have noted that there is strong support from countries to have an RTC, but would like such support to be officially endorsed at PMC-3.

WMO agreed the proposal will need collective support of the countries.

(v) *Implementing an RCC in the Pacific Region (Chair of PICS Panel)*

Andrew Tait presented on work done so far on implementing an RCC in the Pacific Region. He reported that:

- There has been slow progress!
- He spent a few days at WMO (Geneva) talking to folks there about the RCC implementation and demonstration process;
- A plan for all the steps required has been drafted (See Appendix 5) – but we're still on Step 1;
- Have received some (NIWA, BoM and NOAA) feedback from a capabilities survey. The survey has also been sent to SPREP and SPC;
- There is little indication of the political willingness of potential host organisations;
- Question – is there a need to take a step back and query the need for an RCC (note, this is a line item in the PICS Panel Action Plan)?

After discussion, it was decided that as an RCC for the Pacific Islands Region is (in all likelihood) going to be endorsed at the upcoming meeting of the WMO Congress, which will include the endorsement of all Pacific Island Country members of WMO, then the PICS Panel should proceed in its work to progress the establishment of an RCC. It was also suggested that the capabilities survey be sent to Meteo France.

Pauli Jokinen, Finnish Meteorological Institute, also presented on the European RCC-Network setup.

ACTION: Andrew Tait will, before the PMC-3 meeting, send the capabilities survey to Meteo France and then review the combined survey results and draft a first cut PI RCC node/consortia structure.

(vi) *Finalising the agenda for the first PICOF (BoM)*

Janita Pahalad presented the draft PICOF concept note, which went through a number of iterations prior to the PICS Panel meeting (see Appendix 6). The current meeting structure is to have two parts (pre-PICOF training for three days, and the formal PICOF for two days).

Discussion on this concept note principally involved when water resource managers should be included in the PICOF. It was agreed that while it is certainly OK if water resources mangers come to all of the pre-PICOF, the first two days will be more relevant to NMHS staff. Day three of the pre-PICOF would have a distinct focus on the use of outlooks for water resources.

ACTION: The draft PICOF concept note will undergo further revision, led by SPREP and WMO.

(vii) *Outcomes from the Regional Expert Roundtable on Climate Services for Agriculture and Food and Nutrition Security (NIWA/SPC/SPREP)*

Andrew Tait briefly reported on this Regional Expert Roundtable, held in Apia, Samoa, 23 – 24 February 2015 (see separate meeting report document). He concluded:

- The roundtable was an excellent initiative of FAO, SPC, NIWA and SPREP;
- Workshop sessions included:

- Perspectives on the needs for climate information for agriculture
- Perspectives from national met services on successes and gaps
- Crop management decision time-line: a work flow model
- Presentation of an information flow model

- Drought was identified as the key climate factor that is of most interest to agriculture and food security;
- A GFCS project has been proposed (to the Partner Advisory Committee);
- Pilot countries identified: Tonga, Samoa, Solomon Islands and Vanuatu;
- Outcome of proposal currently unknown.

ACTION: The workshop meeting report and the GFCS concept proposal are to be circulated to the PICS Panel meeting attendees.

(viii) *Outcomes and updates from the USGS Conversation in RMI (NOAA)*

John Marra presented on updates from the workshop in RMI on Climate Indicators Conversation Series. The workshop included participants from the water sectors, disaster management unit and agro-forestry sector. Key discussions were to answer the following questions:

1) What information is available? and
2) What are the thresholds that will require actions from each responsible agency?

Specific indicators of interest included the number of dry days, number of rain days, days above normal temperature, mean sea level and Weekly and Monthly timescales. There is a high demand for country-level products (e.g. seasonal outlooks and climate summaries; plus indicators of impacts) that can be distilled into simple 1-page documents for dissemination and discussion (e.g. via NCOFs). There is a need to link information to action (e.g. based on triggers / thresholds; such as the Vanuatu Red Cross example).

(ix) *Strengthening Climate Services in the Pacific – the Canada Fund (WMO)*

Tamara Avellan provided an update on the Canada Fund and activities by WMO. In the ensuing discussion, it was noted the limited progress on the CWFDP in the Pacific (Coastal weather forecasting demonstration programme). It was agreed that an expert is needed to assist with the implementation of the CWFDP. NOAA will take lead with financial support by WMO. Details will be discussed more via email between NOAA and WMO.

Clarification was sought on the coastal inundation project and it was highlighted that budget constraints within the Fiji Met have led to difficulty achieving this action item. A donor roundtable to find additional funds to support this activity was suggested.

Attendance to the next CariCOF meeting will be discussed offline between WMO, USP and SPREP.

ACTION: NOAA and WMO discuss details of funding CWFDP activities.

(x) *COSPPac Transition (BoM)*

Janita Pahalad presented on transition plan for the COSPPac Project, outlining the distribution of activities and those taking lead and supporting roles. Refer to separate COSPPac documentation.

(xi) *Korea-Pacific Climate Prediction Services (SPREP/APCC)*

Sunny Seuseu provided the background on the APCC Project consisting of an estimated budget of 1.5M USD from 2014-2016. The primary beneficiaries are communities, end-users and NMS. The project will be implemented nationally by NMHSs and supported by APCC and SPREP.

Dr Yen explained the optimal translations of dynamic seasonal prediction models with other key components of the information that will be generated. The CLIK (Climate Information ToolKit) for the Pacific will focus on countries but noted the challenge of data availability. The focus will be on seasonal forecasts, plus a number of other parameters that will be included for simulations.

ACTION: SPREP/APCC to contact NIWA (Nicolas Fauchereau) to discuss common interests.

Day 2: Friday, 8 May

(xii) *Write-shop on Capturing Lessons Learned and Best Practices in Climate Information and Services in the Pacific (SPREP/FMI)*

Pauli Jokinen from FMI presented the plans for the FINPAC Project to conduct a regional write-shop to document lessons learned and best practices in climate information and services in the Pacific (see draft concept note, Appendix 7).

This initiative was noted with a recommendation that SPREP/FMI/WMO – Canada Fund consults with NOAA on similar work done as a result of the Climate Services Dialogues which have been implemented in the course of two years.

ACTION: FMI to distribute a template for collecting climate service case studies on best practices and lessons learnt in the region.

Session 3: Review of PICS Panel ToR

(i) *Review of PICS Panel ToR (All)*

Andrew Tait led the attendees through the existing ToR and some minor adjustments were made (see Appendix 2). Most notably, the membership breakdown was amended.

Session 4: PICS Panel at the Third Pacific Meteorological Council in Nuku'alofa, Tonga, 20 – 24 July

(i) *Discuss report from PICS Panel to the PMC (Chair of PICS Panel)*

It was discussed and agreed that the Chair of the PICS Panel will deliver the Panel's progress to the PMC. Key areas of the presentation will include the following:

1. Update on the establishment of the Pacific Regional Climate Centre (RCC)
2. Reports from the Key Task Teams of the PICS Panel
4. Terms of Reference

Note that there will be separate reports such as on the GFCS which will include relevant updates on the RCOFs and NCOFs.

(ii) *Discuss and develop contribution on climate services to the Pacific Ministerial Meeting on Meteorology (PMMM) Communiqué (Chair of PICS Panel)*

It was discussed that the PICS Panel's contribution to the development of the Communiqué for the PMMM will focus on:

1. Regional Climate Centre

2. Regional Training Centre
3. Communication, feedback capacity building initiatives (RCOFs and NCOFs)

(iii) *Role of the PICS Panel and contribution to the development and coordination of the draft Nukualofa Roadmap on Strengthened Climate Services (SPREP)*
The PICS Panel discussed and made changes to the draft Nukualofa Roadmap that will be presented to the PMMM in July.

The PICS Panel agreed that:
1. Andrew Tait will edit the document for circulation to members by end of May.
2. The document would also be translated to French and formatted for publication.
3. The PICS Panel Action Plan will be annexed.

ACTION: Andrew Tait to edit the draft roadmap by end of May 2015.

Session 5: Opportunities to Strengthen Climate Services in the Pacific

(i) *Opportunities under the Adaptation Fund and the Green Climate Fund (SPREP)*
Espen Rosenberg, Climate Change Advisor at SPREP presented key opportunities for the Pacific under the Adaptation Fund and the Green Climate Fund (GCF). The following provides a summary of points about the two funding opportunities.

Adaptation Fund:
Each Pacific Island country can submit a proposal to SPREP to the value of USD 10 million maximum for national adaptation projects
- SPREP is an Implementing Entity
- Implementation will be carried out by a focal point at the national level
- Consideration is given to 'Low Risk' projects

Green Climate Fund:
- Open for projects up to USD 50 million
- Inclusive of Mitigation projects
- Consideration is given to projects supporting the enhancement of resilience in Small Island Developing States (SIDS) e.g. food, water and health
- Links very well with climate services as there is a lot of scope for meteorological/ climate services/climate science however, it needs to be attached to a 'concrete' practical activity on the ground e.g. Samoa Climate Early Warning Systems would be eligible given its link to communities, agriculture and other sectors.

High level criteria of GCF investments
1. Impact potential
2. Paradigm shift potential
3. Sustainable development potential
4. Responsive to recipients needs
5. Promote country ownership
6. Efficiency and effectiveness

Role of SPREP

- Assist with development of national and sub/regional project proposals in consultation with members
- For the Adaptation Fund, SPREP can only be the Implementing Entity and not the Executing Entity
- For the GCF, SPREP can perform both roles
- The Regional Technical Support Mechanism (RTSM) available through the regional Pilot Programme for Climate Resilience (PPCR) is available to support technical project development

Moving Forward

- There is a need to develop a Project Pipeline and countries need to prepare proposals noting that assistance from SPREP in providing guidance is available
- A Sub- regional GCF meeting will be held in the Federated States of Micronesia (FSM) in mid July and one will be held for the rest of region in late July
- Proposals for the first round of funding will be due by early August 2015
- The GCF Board meeting for consideration of proposals will be held in October 2015

Discussions with the Panel noted the following:

- Proposals need to be done as early as possible
- Proposals can be developed by anyone as long as it is accepted or at least get a 'No Objection' from the national focal point
- The role of the PICS Panel would be as a sounding board for proposals, that is, providing sound advisory to support national proposals.
- The role of the Panel and the activities to be funded under these funding sources could be linked to the Action Plan
- SPREP Contacts: espenr@sprep.org and simonw@sprep.org

(ii) *Opportunities under the RTSM (SPREP)*

Satui Bentin, RTSM Specialist under the PPCR presented opportunities under the RTSM. The following outlines key areas to note:

- RTSM is the third component of the PPCR
- The two key outputs include the Registration of Technical Experts and the facilitation of the Rapid Response Fund (RRF)
- The RRF has an Advance facility of USD 200,000 due in May 2015
- The facility is called a RRF due to the vision of the whole process to be completed within 3 months
- RTSM is a network of technical experts that will provide timely and quality climate change technical assistance to PICS on a needs basis
- A manual is available to provide guidance on how the system works
- The Steering Committee is the Working Arm of Climate Change and Disaster Resilience (WARD)
- RTSM could evolve into a regional climate change financing facility
- For RRF Funds:
  - The PICS Panel could help the countries in filling in the Request for Assistance form
  - When you register as an expert you will be given a password
  - When you Request Assistance you won't need password
- The two key sectors targeted for this support is Food Security and Infrastructure

Actions for PICS Panel:

- All PICS Panel members are encouraged to register individually as experts
- Help the countries fill in the TA Request Form

- Email: rtsm@sprep.org

The session was then followed by the presentation of the Draft Climate Science Concept Note on Climate Science which will be submitted by SPREP to the GCF on behalf of the region in the first round. This session was facilitated by Netatua Pelesikoti of SPREP. Key points noted on the draft proposal include:

- This is a regional proposal
- The concept must be country driven, hence the heavy involvement of NMSs
- The GCF needs to clarify eligibility of Territories
- For this proposal, it is applying for the maximum funding available, (USD $50 million) to be implemented over a period of 5 years, at USD 10 million per year in all countries
- The United National Development Programme (UNDP) and the Global Environment Facility (GEF) are other Regional Implementing Entities (RIEs)
- The draft full project proposal will be submitted to the Pacific Meteorological Council (PMC) in July

The Chair concluded with acknowledgement for this session which was useful for the Panel to learn about the potential funding support available through these opportunities.

Session 6: Update on the NCOFs

(i) Update on the PNG NCOF

Mr. Samuel Maiha, Director of the Papua New Guinea National Weather Service Office presented the update on the NCOF which was recently held by their office in collaboration with the World Meteorological Organisation (WMO) through support from the Canada Fund.

The key outcomes from the NCOF in PNG include the following:

- Encouraged participation for a wide range of national stakeholders including Government departments, sectors, development partners, Non-Government Organisations (NGOs), Educational Institutions and Media.
- Established close collaboration with the media and other key partners such as NGOs
- This approach was taken with the sustainability aspect in mind, the Government has now offered to co-fund this activity on an annual basis
- Commitment from the University of PNG has been received to work with PNG Met Service to run an Observers Course

<u>Format/Structure of the NCOF</u>

The format or structure of the NCOF in PNG is outlined below:

- Pre NCOF Awareness
- Actual NCOF
  - Introduction
  - Met Service (provider) presents their services/products
  - User Feedback – open, constructive feedback
  - Users presentations to present on what they do and for Met Service to appreciate their work
  - It was an opportunity to understand and appreciate each other's work

<u>Key recommendations from the PNG NCOF</u>

- Simplification of terminology used in weather and climate forecasting is important

- Media awareness and workshops is key
- The SmartMet Forecasting System needs to be integrated with stakeholders observations (traditional knowledge) to ensure accurate forecasts are available for users of both weather and climate information
- Climate Services staff need their capability enhanced to be able to provide Prediction Outlooks up to nine months in advance (particularly for agriculture)
- Training for stakeholders on climate science
- Training on seasonal outlook categories (normal, above Normal and below normal)
- IT Capability is needed thorough continuous upgrade in order to meet the growing needs of stakeholders

Way Forward

- A clear Terms of Reference needs to be developed to guide future NCOFs
- NCOFs to be hosted by stakeholders in a rotating fashion
- MOUs to be signed between climate service providers and users
- Recommendations to be forwarded to the NEC via the National Disaster Committee
- Next NCOF to be held in September 2015
- NCOF will be part of the Government's annual plans

Lessons Learnt

- Invite more private sector stakeholders
- Services reaching those that need it most remains a challenge
- NGOs and Media are vital service dissemination partners to take the information to the last mile
- Provinces are receptive of the NCOF concept and are now recommended for it be extended to provincial levels

Discussion:

The Panel appreciated the update from PNG on its recent NCOF and noted commonalities with other projects such as the Climate and Oceans Support Programme for the Pacific (COSPPac) and the Finland-Pacific (FINPAC) Project on 'reduced vulnerability of Pacific Island Communities' livelihoods to the effects of climate change' in obtaining stakeholder feedback on climate and weather information services. It was further noted that:

- Some staff of the PNG National Weather Office were not too confident in the organisation of the NCOF particularly in the area of writing reports, notes and facilitation. The NCOF therefore was an opportunity to build the capacity of staff on organising such events.
- The NCOF has encouraged collaboration within Government to ensure sustainability for the forums.
- September has been chosen as the next NCOF to be in line with the seasonal outlook and national budgeting process.

(ii) Update from the Kiribati NCOF

Ueneta Toorua, Acting Director of the Kiribati Meteorological Service (KMS) then presented on the status of the planning for the Kiribati NCOF. It was noted that:

- The target sites for the NCOF planned for Kiribati would be in Tarawa Island for the Gilberts Island Group & Kiritimati Island for the Line and Phoenix Islands Group
- The NCOF will be a national platform to harmonize common understanding and obtaining user feedback
- Dates for Tarawa would be June 9th – 10th 2015
- Kiritimati Islands June 23rd – 25th 2015
- and November
- KMS is seeking a Technical Advisor to support the national team
- The cost would be approximately AUD$2,000 per island

Discussion

- It is useful to have a standard template for organising the NCOFs in the region
- The NCOF is an avenue to engage more with stakeholders
- Dates are selected by the country to ensure there is effective participation of all stakeholders
- Emphasis on Day 1 will be on Met Service providing information on their products
- It is good to have a wrap up session to capture key actions that can be followed up after the NCOF
- For PNG, staff will be involved in following up the key actions from the NCOF
- For Vanuatu NCOFs were built from Online Climate Outlook Forums (OCOFs) from which Standard Operating Procedures (SOPs) have been developed and key tasks have been built into staff ToRs.
- A Translation Team in between the users and the Met Service plays a key role in communicating the actions arising out of the NCOFs
- NOAA encouraged more use of the Climate Crab animation to help with raising awareness
- It was also important to note the key roles of Generators, Transformers and Transmitters (trusted messengers) of weather and climate information.

The Panel agreed that NOCFs are very useful in the region particularly in sharing information and obtaining feedback from users of information.

Session 7: Closing

The meeting concluded with the confirmation of dates for upcoming meteorological activities:

- Third Pacific Meteorological Council (PMC) and First Pacific Ministerial Meeting on Meteorology: 20-24 July 2015, Nukualofa, Tonga
- Pacific Climate Outlook Forum (PICOF): 12 -16 October 2015, USP Campus, Suva Fiji
- WMO – Regional meeting for all Directors, November 2015, Nadi, Fiji
- COSPPac Transition Committee Meeting – Week of 19 – 23 October2015
- Most favourable option for the next PICS Panel meeting was in conjunction with the WMO Regional Meeting with Met Directors and Henry will check with FMS on the possibility of moving it to November.

ACTION: Agree on a date and location for the next PICS Panel meeting.

In closing, the Chair acknowledged the work of the Panel. He also advised that Mr. Pene Lefale is currently carrying out consultations in the region on the reinstatement of the PIGCOS position. Andrew Tait will work on the meeting report and the key actions for sharing with the Panel in the next two weeks.

The meeting was closed at 3:40pm, 8 May 2015

Appendix 1: Pre-Meeting Concept Note

Second Meeting of the Pacific Islands Climate Services Panel

7-8 May 2015
SPREP Campus, Vailima Area, Apia, Samoa

SUMMARY

The Pacific Islands Climate Services (PICS) Panel was endorsed by the second Pacific Meteorological Council (PMC-2) in July 2013 and established in early April 2014 at the Regional Consultation on Climate Services in Pacific Small Island Developing States (SIDS), in Rarotonga, Cook Islands.

The PICS Panel aims to 'Improve coordination, continuity and integration of projects, programmes and initiatives that support climate services at national, regional and global levels; strengthen the basic and core functions and capabilities of NMHSs for robust and sustained data collection and management, analysis of data and quality assurance, production and dissemination of products, research and modeling; enhance avenues and modes of multi-way communication and feedback between climate services providers and users to enhance the uptake and use of relevant and tailored climate services down to the communities and individuals.'

The first PICS Panel was hosted by the Fiji Meteorological Service in August 2014. The meeting discussed a range of key issues to progress climate information and services in the Pacific. These discussions culminated in the development of a **PICS Panel Action Plan** to assist the Panel to provide advice to the PMC on climate services development in the region.

The **PICS Panel Action Plan** can be accessed through;

(https://app.smartsheet.com/b/home?mt=16&lx=DMiRgaLw89H5k9J7Qx6lhAxIsJQfxMtI-M1Kntpr_OY&wx=f5_y9Nw_c8Ew3NWP5cv1ZH0fEL0R0cZhrJKv8gvrmFI)

The first meeting of the PICS Panel also agreed to have the second meeting of the PICS Panel in May back-to-back with the 2015 Climate and Ocean Services Program in the Pacific (COSPPac) Planning and Steering Committee meeting in Apia, Samoa. The meeting is primarily to update on the progress of the implementation of key priority activities from the PICS Panel Action Plan and prepare for the Third Meeting of the Pacific Meteorological Council(PMC-3) and the Pacific Ministerial Meeting on Meteorology that are scheduled to held in Nuku'alofa, in Tonga from 20 to 23July 2015 and 24 July 2015, respectively.

The second PICS Panel meeting is supported by SPREP, WMO, Environment Canada, Australian Bureau of Meteorology, Ministry of Foreign Affairs of Finland and the Pacific Meteorological Council (PMC).

OBJECTIVES OF THE SECOND PICS PANEL MEETING

The second Meeting of the PICS Panel is expected to:

- Provide an update on the progress of implementing the PICS Panel's Action Plan,
- Finalise the Draft Pacific Regional Climate Outlook Forum (PIRCOF) Program.
- Discuss the status and ways forward for implementing a Regional Climate Center (RCC) in the Pacific region,
- Provide an update on National Climate Outlook Forums (NCOFs) and capture lessons-learned from Papua New Guinea, Tonga and Kiribati.
- Provide an update on other climate developments in the Pacific.
- Provide initial comments on the draft Nuku'alofa Roadmap for Strengthened Climate Services in the Pacific.
- Provide text to the Pacific Ministerial Meeting on Meteorology Communiqué expected to be endorsed during the meeting which is schedule to be held in Nuku'alofa, in Tonga on 24 July 2015.

EXPECTED OUTCOMES OF THE SECOND MEETING OF THE PICS PANEL MEETING

- PICS Panel Action Plan updated.
- Draft Program for the PICOF is finalized.
- Ways forward to implement RCC in the Pacific region are developed.
- PICS Panel contributions to the draft Nuku'alofa Roadmap for Strengthened Climate Services in the Pacific are developed and agreed upon.
- PICS Panel contributions to the Pacific Ministerial Meeting on Meteorology's Communiqué are developed and agreed upon.
- Clear direction on financing opportunities for regional project on climate services to implement the PICS Panel's Action Plan and the draft Nuku'alofa Roadmap on Strengthened Climate Services in the Pacific.

MEETING STRUCTURE

The meeting is arranged in the following broad sessions:

Session 1: Opening
Session 2: PICS Panel Action Plan

This session covers the PICS Panel Action Plan and is divided into 3 parts; progress, potential additional activites and new developments in climate services.

a) Progress on Implementing Key Activities

This is both an information and decision session. The information session will provide an overview of the PICS Panel Action Plan. The decision session will discuss the priority activities assigned to the PICS Panel team to carry out. These include a discussion on finalising the draft program of the first PICOF, the climate services gap analysis, an update on the review of the structure, maintenance and use of the SPREP regional projects database, progress on implementing a RCC in the Pacific region, and a review of international standards on qualifications and competencies for climate services production and delivery.

b) Potential Additional Activities

This is both an information and decision session. Discuss other opportunities such as the climate services and agriculture roundtable meeting and the NOAA workshop in RMI to contribute to the PICS Panel Action Plan.

c) Climate Services Developments and Implementation

This is an information session on new climate developments in the Pacific region. Opportunities will be given to partners to present new initiatives on climate services such as the write-shop to document lessons-learned and best practices of climate information and services; opportunities for development of drought policy; opportunities under the WMO/ Canada project; opportunities under the Finnish-Pacific (FINPAC) project) and an Update on the COSPPac transitional plans and other developments.

Session 3: Review of the PICS Panel Terms of Reference and Next Meeting

This is decision session, to review the PICS Panel Terms of Reference (ToR) to ensure it is current and new positive changes and lessons-learned can be integrated capturing the aspirations of the PMC.

Session 4: PICS Panel at the Third Meeting of the Pacific Meteorological Council (PMC-3), Nuku'alofa, Tonga, 20 to 24 July 2015

This is a decision making session. The PICS Panel is expected to report on their progress and provide advice to members of the PMC to progress the implementation of the GFCS. This session will develop, discuss and agree on the PICS Panel's report to the PMC; and develop, discuss and agree on the text on climate services to be incorporated into the draft Nuku'alofa Roadmap on Strengthened Climate Services in the Pacific and a Communiqué to be considered during the First Ministerial Meeting on Meteorology, in Nuku'alofa, Tonga, on 24 July 2015.

Session 5: Opportunities to Strengthen Climate Services in the Pacific

This is a decision session, to discuss financing opportunities for projects, for example; a regionally coordinated project on climate services to implement the PICS Panel's Action Plan and the draft Nuku'alofa Roadmap on Strengthened Climate Services in the Pacific.

This session will also look into detail at the opportunities under the Regional Technical Support Mechanism (RTSM) coordinated by SPREP.

Session 6: Update on the NCOFs

This information session will provide an opportunity for the selected NCOF pilot countries for the Pacific (Papua New Guinea, Tonga and Kiribati) to provide updates on their

progress. Discussions can also evaluate the implementation and value of the NCOFs and provide recommendations to these countries on how to promote NCOF at the national level and ways forward (structure, sectors, engagement, etc).

Session 7: Next Meeting and Closing

The session will confirm the dates and venue for the Third Meeting of the PICS Panel followed by closing remarks and wrap-up of the meeting.

PROVISIONAL AGENDA

The provisional agenda for the meeting is presented in Annex 1.

PARTICIPANTS

PICS Panel Members (NOAA, BoM, NIWA, SPC, USP, SPREP, WMO, representatives of PMC from Vanuatu, Niue, Palau, PNG and the sector representative from the Samoa Water Resources Division)

Potential Participants to be invited: Tonga Meteorological Service, Kiribati Meteorological Service, SPC-Water Sector, NIWA ICU

Other Participants are also welcomed as observers.

ANNEX 1: DETAILED PROVISIONAL PROGRAMME

Second Meeting of the Pacific Islands Climate Services Panel
(Training and Education Centre, SPREP Campus, Vailima Area, Apia, Samoa, 7-8 May 2015)

Day 1: Thursday, 07 May 2015

09:00 – 09:15: **Session 1 - Opening ceremony**

(iv) Welcoming remarks (SPREP)
(v) Opening Remarks (Chair of PICS Panel)

09:15 – 10:00: **Session 2: a) PICS Panel's Action Plan - Progress on Implementing Key Activities (45 mins)**

(i) Overview of the PICS Panel Action Plan (SPREP/ PICS Panel Chair)
(ii) Update of the review the structure, maintenance and use of the SPREP regional projects database and report to PMC (NOAA).

10:00 – 10:30: *Refreshment (PHOTO SESSION)*

10:30 – 13:00 **Session 2: a) PICS Panel's Action Plan - Progress on Implementing Key Activities *cont' (2.5hr)***

(iii) Presentation of the gap analysis based on what climate services are currently being provided and the minimum set of services that are needed (NIWA/Representative of RA-V WGCS).
(iv) Progress on the review of international standards on qualifications and competencies for climate services production and delivery and potential adaptation of them for the Pacific Region (USP)

13:00 – 14:00: *Lunch*

14:00 – 15:30 **Session 2: a) PICS Panel's Action Plan - Progress on Implementing Key Activities *cont'***

(v) Update on implementing an RCC in the Pacific region, to be submitted to the RA-V Working Group on Climate Services (NIWA/Representative of RA-V WGCS).
a. Presentation from FMI on the European RCC set-up (FMI)

(vi) Finalize the draft of the first PICOF with the water resources sector (BoM/SPC/WMO)

15:30 – 16:00: *Refreshment*

16:00 – 18:00 **Session 2: b) PICS Panel Action Plan – Potential Additional Activities**

(vii) Outcomes and update on the Regional Expert Roundtable on Climate Services for Agriculture and Food and Nutrition Security (NIWA-RAV-WGCS/SPC/SPREP)
(viii) Outcomes and updates from the NOAA workshop in RMI (NOAA)

Session 2: c) PICS Panel Action Plan - Climate Services Developments and Implementation

(ix) Strengthening Climate Services in the Pacific - Canada Fund (WMO)
(x) COSPPac Transition-the new Direction (BoM)
(xi) Korea-Pacific Climate Prediction Services (SPREP/APCC)
(xii) Write-shop on capturing lessons-learned and best practices in climate information and services in the Pacific (SPREP/FMI).

Day 2: Friday, 08May 2015

08:30 – 09:00: RECAP

09:00 - 10:00 **Session 3: Review of the PICS Panel Terms of Reference.**

(i) Review of the PICS Panel's ToR (All)

Session 4: PICS Panel at the Third Pacific Meteorological Council in Nuku'alofa, Tonga, 20 to 24 July

(i) Discuss report from PICS Panel to the PMC (Chair of PICS Panel)
(ii) Discuss and develop contribution on climate services to the Pacific Ministerial Meeting on Meteorology (PMMM) Communiqué (Chair of PICS Panel)

10:00 – 10:30: *Refreshment*

10:30 – 11:30 **Session 4: PICS Panel at the Pacific Met. Council in July *cont' (1 hr)***

(iii) Role of the PICS Panel and contributions to the development and coordination of the draft Nuku'alofa Roadmap on Strengthened Climate Services (SPREP/PICS Panel)

13:00 – 14:00: *Lunch*

14:00 – 15:30 **Session 5: Opportunities to Strengthen Climate Services in the Pacific (1.5 hrs)**

(i) Opportunities under the RTSM (SPREP)
(ii) Opportunities under the Adaptation Fund and the Green Climate Fund (SPREP)
(iii) Discussion on financing opportunities and way forward (All)

15:30 – 16:00: *Refreshment*

16:00 – 17:00 **Session 6 - Update on the NCOFs (30mins)**

(i) Papua New Guinea, Tonga and Kiribati to provide updates on their progress on NCOFs (Papua New Guinea, Tonga and Kiribati)
(ii) Discussion on the implementation and value of the NCOF and provide recommendation to the countries on how to promote NCOF and ways forward (structure, sectors, engagement, etc).

17:00 – 17:30 **Session 7: CLOSING**

(i) Confirm dates and venue of next meeting of the PICS Panel (opportunities at the PMC-3 20-24July and PICOF, 12-16October)

(ii) Closing Statements

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END

Appendix 2: Revised Terms of Reference

Pacific Islands Climate Services Panel
Terms of Reference

1. Introduction

1.1 The Pacific Island Climate Services Panel (PICS Panel) was endorsed by the Second Meeting of the Pacific Meteorological Council (PMC-2) to serve in the capacity of an advisory committee to the Pacific Meteorological Council (PMC) on climate services matters in the Pacific region (https://www.sprep.org/attachments/Publications/PMC-2_Meeting_Report.pdf).

2. Purpose

2.1. The purpose of the PICS Panelis to provide technical advice to the PMC on matters related to the implementation of GFCS and the strengthening and coordinating of climate services at the community, national and regional levels.

3. Role of the PICS Panel

3.1. The role of the PICS Panel, in consultation with other partners, is to provide technical advice to the PMC on the following:

a) The strengthening, coordination, continuity and integration of current and future programmes, projects and initiatives that support climate services at the community, national and regional levels.

b) The strengthening of the basic and core functions and capabilities of National Meteorological and Hydrological Services (NMHSs) for robust and sustained data collection and management, analysis of data and quality assurance, production and dissemination of products, research and modeling.

c) The enhancement of avenues and modes of multi-way communication and feedback between climate services providers and users to enhance the uptake and use of relevant and tailored climate services down to the communities and individuals.

d) The implementation of climates services-related priority activities outlined in the Pacific Island Meteorological Strategy (PIMS) 2012-2021.

e) The development, implementation and monitoring of a PICS Panel Action Plan based on the draft "Pacific Regional Implementation Roadmap for Strengthened Climate Services".

f) The implementation of climates services-related priority activities consistent with those of the RA V and the Pacific Islands Climate Services Forum (PICSF) and Centres of Action (CoA).

g) The review of regional Climate Services needs and capabilities in the areas of:
   - climate predictions and projections,
   - data services,
   - research and development,
   - coordination,
   - training,
   - implementation of GFCS including Regional Climate Centres (RCC), Regional Climate Outlook Forums (RCOFs) and National Climate Outlook Forums (NCOFs).

h) The regular reporting to the PMC members on the progress of the PICS Panel.

4. Membership

4.1. The PICS Panel membership will comprise of the climate services community of practice. There will be a core membership of a minimum of eight to a maximum of twelve, but at the same time it remains open-ended to allow for the PMC members to volunteer their experts to participate in the PICS Panel activities and for the PICS Panel to invite experts either from its PMC members or its partners or climate users to its meetings and discussions. The core membership of the Panel will comprise of:

a) Roving 4 member Representatives of the PMC to be selected by PMC.

b) 1 member from the WMO RA V Working Group on Climate Services, 5 members in total from regional organisations and institutions supporting climate observations, research, forecasting, operational services, information management and capacity building in the Pacific region.

c) 1 representative from the climate services user community from a national agencies and to be selected by PMC.

d) 1 representative of the World Meteorological Organisation.

4.2. The current core membership of the PICS Panel is given in Annex 1.

4.3. The PICS Panel will appoint its Chair, and if necessary a vice-Chair.

4.4. The PICS Panel may invite experts either from its PMC members or its partners or climate users to its meetings and discussions.

4.5. The PICS Panel may establish Task Team(s) to carry out specific time bound task(s) for limited time period.

4.6. Meetings of the PICS Panel shall be coordinated and convened by the Chair, with the support of Pacific Meteorological Desk Partnership (PMDP).

5. Review and Approval of Terms of Reference

5.1. The PICS Panel may revise its TOR where necessary.

5.2. The PMC to consider and approve amendments to the PICS Panel TOR including its core membership.

Annex 1: PICS Panel Core Members

Representatives	Number	Institutions
Roving 4 member Representatives of the PMC to be selected by PMC	4	Niue, Palau, Vanuatu, Papua New Guinea
Member of RA V Working Group on Climate Services	1	NIWA
Members from regional organisations and institutions supporting climate observations, research, forecasting, operational services, information management and capacity building in the Pacific region.	5	NOAA, BoM, SPC, USP, SPREP
Representative from the climate services user community from a national agencies and to be selected by PMC	1	Samoa Water Resources Division
Representative of the World Meteorological Organisation	1	WMO

Appendix 3: Report on Projects Database

Review of the Structure, Maintenance, and Use of the South Pacific Regional Environment Programme (SPREP) Pacific Climate Change Portal (PCCP)

Overview

The South Pacific Regional Environment Programme (SPREP) established the Pacific Climate Change Portal (PCCP) to assist its Pacific Island member states in accessing and sharing climate change project and activities information. SPREP is in the process of upgrading the technical capacity of the PCCP to build it in to a primary regional source for discovering, storing and accessing climate change project and activities information in the Pacific Islands.

The PICS Panel was tasked to deliver a brief review to the PMC Advisory Committee outlining the structure, scope, use, and maintenance aspects of the SPREP PCCP Projects Database and to summarize database integration factors and issues with other climate change project and activities information sources in the region. The results of the review suggest that:

- The PCCP has the potential to serve as the primary regional source for discovering, storing and accessing climate change project and activities information in the Pacific Islands;
- The primary limiting factor is related to data collection and maintenance – how to keep the content current;
- Minor improvements to the exposition layer, for example with respect to query functions are also warranted to enhance access and use.

Recommendation: Attention should be given to the establishment of regional information management protocols and interoperable database management platforms that would serve as a framework for the development of project and activities information repositories managed at the national or comparable level so as to enable regular harvesting the regional level and, in turn, facilitate broad access to timely information on climate change projects and activities in the Pacific Islands (e.g., Tonga, Fiji, and Vanuatu National Portals).

Background

Database Model

The SPREP PCCP Projects Database[1] is intended to store and provide details of climate change projects and activities related to the Pacific Islands Framework for Action on Climate Change (PIFACC) currently being implemented or having been implemented in the Pacific region since 2006.

Data themes utilized are: PIFACC and Sectoral

Primary data categories utilized are: Project Title, Project Type, Scope, Description/ Objectives, Project Sites, Agency/Project Contacts, Implementing Countries, Implementing Agencies, Start/End Date, and Status

[1] http://projects.pacificclimatechange.net/projectsearch

Secondary data categories utilized are: Development Partners, Donors, Budget, Duration, Documents, Links, and Comments

Features include: Keyword Search, Query by Example, Category Search, Read More (links to full project details), Sort Options, Download Options, and Print Options

Data Collection
There are three data collection mechanisms currently in place:

1) **Links with National Portals** – At present there are three pilot Pacific Island Countries and Territories (PICTs) - Tonga, Fiji, and Vanuatu. The PICTs have designated staff who have undergone training to be National Portal editors. Although the reality is that most have not uploaded content to the portal since the training due, in part, to competing commitments as they wear many hats in country. This situation will be addressed with the PCCP undergoing an upgrade in the coming months where this process will be automated to ingest project information from the 3 pilot national portals.

2) **Links with Regional Interest Groups** – At present there are two pilot groups: i) the PCCP Advisory Committee, comprised of representatives from partner organizations – Secretariat of the Pacific Community (SPC), German Federal Enterprise for International Cooperation (GIZ), University of the South Pacific (USP), and Pacific Islands Forum Secretariat (PIFS); and ii) the Development Partners for Climate Change (DPCC), a network of predominantly Fiji based donors who exchange information for improved delivery of climate change initiatives, such as enhancing climate change adaptation strategies in the Pacific region. Portal editors have been designated from these groups who are responsible for uploading content to the portal. Partners are allowed access to the user management function. This will be refined during the PCCP upgrade to also have a verification process.

3) **In-house data collection** - The PCCP staffs a full time Technical Assistant position whose tasks include collecting and publishing project information from various regional climate change information sources (such as PacificIslandsClimate.org) or when forwarded by SPREP staff or partner agencies. The PCCP Projects Database content has been populated by this method to date.

Data Entry
The completion of a standardized information form is required. Data entry can be done by the source provider or by PCCP staff. Aside from the logical data entry constraints in the fields, there is no form of verification at present. Data source providers are encouraged to review their content for completeness and accuracy. With the PCCP upgrade there will be an added step for verification where a designated person will be required to verify the content before it is published.

Database Input
Verified records that are generated from the project worksheets are input in to the Portal. Database input is restricted to the PCCP staff.

Database Verification/Updating
At present, the database is updated when a significant amount of new content is published. Ideally, regular database quality control will be conducted every 6 months where source providers will be notified to verify their content. The PCCP Technical Assistant may also conduct visits to source providers to assist them in verifying their content.

Database Staffing/Funding
At present, there are two full time staff under two year contracts working on the PCCP, part of which is the Projects Database. The positons are Knowledge Management Officer and Technical Assistant.

Regional Database Integration Factors and Issues

National and regional agencies and institutions in the Pacific region manage a substantial amount of climate change related project information and data. **The establishment of regional information management protocols and interoperable database management platforms would provide a stable and consistent framework for regional partners to effectively share information that could be easily accessed via linkages to the national level. Improved discoverability and access to information will strengthen communication and collaboration resulting in the leveraging of more climate change initiatives and innovation in Pacific region.**

Comparing the SPREP PCCP Projects Database[2] to the PacificIslandsClimate.org Projects & Activities ("piko") database[3]:
Both are databases with records generated from project worksheets that have custom categories and text fields. The databases share some common categories (i.e., Project Title, Description/Objectives, Project Status, Agencies, Contact Information, Links). However, the PCCP Projects Database focus is primarily based on the project framework (i.e., Sectoral Theme, Implementing Agencies, Development Partners, Implementing Countries, Begin/End Date). Whereas the PacificIslandsClimate.org Projects & Activities database is primarily based on climate science methodology (i.e., Essential Climate Variable, Capability Area, Focus Area, Time Frame Scale, Region/Locale).

It is not clear if these databases can be "seamlessly" integrated as-is. So a common taxonomy and granularity needs to be worked out. The information from each database would need to be cross-walked into another. The very first step would be to make these databases more accessible so they can be harvested by potential integration applications. While XML, CSV, etc. may be a good first step to expose a database, it is too raw and almost certainly will not capture the intended semantics of the database record that becomes only meaningful at the application level within the presentation layer. Therefore, **it is the presentation layer semantics that must be carefully formulated and exposed (not the database)**. It is best to use linked data (linkeddata.org) type of connection to begin this process.

Another option is to develop a standard and expose all data in that standard. The last option is for a database content manager to regularly sync records from each database into another manually. In fact, both the PCCP Projects Database and PacificIslandsClimate.org content has been populated by this method to date. This is not the most efficient method conceptually, although by default has proven to be the most practical and realistic method in terms of data collection, verification, publication and maintenance. It has met with limited success in achieving the goal of providing timely and accurate information about climate projects and activities in the Pacific Islands.

With respect to the database model and its linkage to the exposition layer, it appears that the while functions work the linkage to the database has not in all cases been coded correctly.

[2] http://projects.pacificclimatechange.net/project-search
[3] http://pacificislandsclimate.org/pawz/

Related to this is an observation that the query/search functions are accesses via a somewhat confusing and cluttered interface that yields unpredictable results. Improvements could be made in this area to facilitate easier access to more complete information, for example by incorporating some of the user interface elements from the “piko” database.

Note that ‘usage’ was not addressed in this review. This is a key element – who is using/or would use it for what and why - that warrants further investigation. Addressing this issue will help to drive both content and functional requirements and thus improvements in these areas.

Related Developmental Activities

Griffith University has been contracted by the Australian Commonwealth Department of Foreign Affairs and Trade for the **Pacific iCLIM Project – Supporting the Regional Management of Climate Change Information in the Pacific**[4]. This project commenced in March 2014 and will conclude in June 2016. It will support SPREP in implementing a regional approach to discover, store, access and utilize climate change information and data information management throughout the Pacific. Key project activities and outputs include:

I. **PCCP Review and E-infrastructure Upgrade** to determine use cases for the PCCP and scope the best and most regionally appropriate e-infrastructure for meeting these use cases; and
II. **Regional Information Management Protocols** to provide consistent guidelines for describing climate change data and information throughout the Pacific. The project is currently exploring this with Pacific-Australia Climate Change Science and Adaptation Planning (PACCSAP) data and information. Expanding this to other major Pacific region climate projects and activities sources such as PacificIslandsClimate.org is relevant.

[4] http://www.griffith.edu.au/research/research-excellence/pacific-iclim

Appendix 4: Gap Analysis

The two questions addressed are:

1. What climate services are currently being provided?
2. What is the minimum set of services that are needed?

Services currently being provided

- There is a wide range in the level of climate services provided in the region which is strongly related to the number of staff and financial resources of each NMHS.
- All countries are providing at least a basic level of climate service that includes data provision, summary statistics, and climate outlooks.
- Extended services include specific data analyses and reports, long-range warnings and watches (e.g. for TC, drought, sea level and coral bleaching risk), ENSO updates, and climate change information.
- Many countries have good internet pages which are kept regularly updated.
- Most countries have established good relationships with key stakeholders (e.g. Agriculture, Fisheries, DMO, Water Resources, tourism operators), but these could be strengthened.
- All countries are actively and frequently disseminating climate information (particularly monthly summaries and seasonal outlooks) via multiple mechanisms to multiple users, who all value the service.

Gaps and needs identified

- There is little or no feedback from users as how seasonal forecasts are being / could be used in decision making.
- There is a lack of awareness programs regarding the usefulness of climate information.
- There is a lack of understanding or training of climate for agriculture staff especially those who are out in the field with the farmers.
- There are not enough climate observation sites (or they do not provide real-time and accurate data), especially in agricultural areas.
- There is a need to develop more tailored / simplified products.
- There is a need more manpower / funding / training / equipment.
- There is a need for more research on the impacts of large-scale atmospheric/oceanic drivers/processes on the climate in the region (ENSO, lOD, MJO, etc.) on various timescales (including two-weekly and monthly).

- There is a need for more ways of communicating information (more than email and few face-to-face meetings). Could use SMS. Weather forecasts are now using “SmartMet” which could be adapted for climate information.
- More use could be made of GIS data/maps to show current conditions and the difference from normal.
- There is a need for more personal interaction / briefings with key end users (e.g. NCOF, video briefings, partnerships).
- There is a need for established pathways for the flow of information (products / data / advice / services).

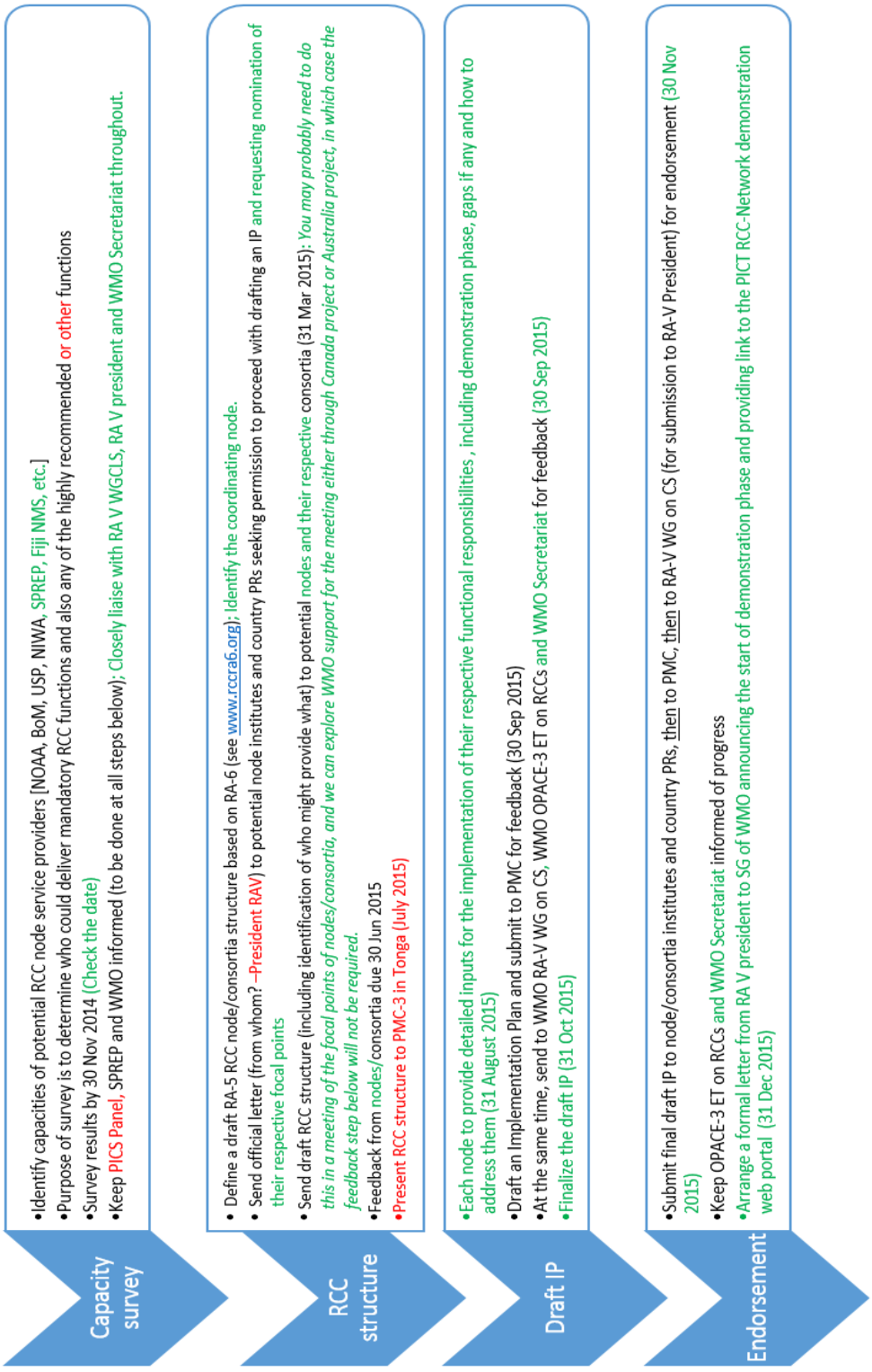
Minimum services needed

- Real-time data collection, storage and quality assurance
- Rescue and digitisation of historic data
- Up-to-date summary statistics (e.g. monthly reporting on temperature, rainfall, wind, sunshine, SST, extreme events)
- 3-month climate outlook (including temperature, rainfall, SST)
- Regular dissemination of information (via phone, webpages, email, briefings)

Desired extended services

- Specific data analyses and reports (end-user requests)
- Data homogenisation
- Long-range warnings and watches (e.g. for TC, drought, sea level and coral bleaching risk)
- ENSO updates (plus location of SPCZ)
- Assessment of accuracy of 3-month outlooks (incl. model diagnostics)
- Production of maps (incl. GIS datasets) and charts (real-time)
- User-specified tailored products (e.g. fire risk, disease risk)
- Hold regular national climate for a (e.g. NCOFs) and seek feedback on the value of climate information
- Up-to-date climatologies (e.g. based on 30-year period 1981-2010)
- Climate change assessment information (IPCC AR5)

Appendix 5: RCC Implementation Plan



Appendix 6: Draft PICOF Concept Note

DRAFT

FIRST PACIFICISLANDS CLIMATE OUTLOOK FORUM (PICOF-1)

(Venue: University of the South Pacific, Laucala Campus, Suva, Fiji, 12-16 October 2015)

CONCEPT NOTE (Updated Draft 28April 2015)

Initial zero draft with Comments from SPREP	04 March
Comments from Henry (WMO)	05 March
Comments from Andrew Tait (NIWA)	05 March
Comments from Cecilia Tamara (WMO)	07 March
Comments from Janita Pahalad (BoM)	10 March
Comments from Rupa Kumar (WMO)	06 April
Consolidation of comments by SPREP and the draft of the detailed tentative agenda and re-circulated	10 April
Comments from Andrew, Janita, and John (NIWA, BoM, NOAA)	13 April
Comments from SPREP	14 April
Comments from WMO	16 April
Comments from USP	17 April
Consolidation of comments by SPREP for re-circulation and including suggestions from USP (Games) and WMO (separate session for Key Note Speakers)	17 April
Comments from WMO (Henry Taiki)	20 April
Comments from WMO (Rupa Kumar)	21 April
Consolidation of comments by SPREP	28 April
Comments from WMO (Tamara Avellan) (mostly on para 10)	28 April

INTRODUCTION

1. The First session of the Pacific Islands Climate Outlook Forum (PICOF-1),with a special focus on the Water Sector is co-organized and co-supported by the Secretariat of Pacific Regional Environment Programme (SPREP), World Meteorological Organization (WMO), the Global Framework for Climate Services (GFCS), University of the South Pacific (USP), the Government of Canada, the Government of Finland, the Secretariat of the Pacific Community (SPC), National Oceanic and Atmospheric Administration (NOAA) Pacific ENSO Application Climate (PEAC) Centre, Australian Bureau of Meteorology (BoM), the New Zealand National Institute for Water and Atmospheric Research (NIWA), Asia-Pacific Economic Cooperation

Climate Centre (APCC) and the European Union-Global Climate Change Alliance (EU-GCCA). (will include more partners once confirmed).

2. The PICOF will be hosted by USP at the Laucala Campus in Suva, Fiji Islands from 12 to 16 October 2015.The forum will bring together national, regional and international experts on climate services and the water sector.

3. The main purpose and overarching objectives of the forum are (a) to bring together national, regional and international experts on climate services and water sector; (b) to discuss seasonal climate forecast guidance for the Pacific Islands (PI) region (e.g. SCOPIC, ICU, PEAC, APCC);(c) to discuss application of climate information to the water sector; and (d) to co-explore common approaches and best practices for climate services that can be extended throughout the PI Region.

4. The Global Framework for Climate Services (GFCS) was established in 2009, through a high-level declaration at World Climate Conference Three (WCC-3) organized by WMO and other United Nations agencies, Governments and partners to guide the development of climate services worldwide. The vision of the GFCS is to enable society to better manage the risks and opportunities arising from climate variability and change especially for those who are most vulnerable through the development and incorporation of science-based climate information and prediction into planning, policy and practices.

BACKGROUND

5. There are two distinct seasonal cycles in the PI Region, with contrasting features between the north and the south. Having the PICOF in October is ideal to provide information for the wet or tropical cyclone season (November to April)for the southern parts of the PI Region, while October marks the transition period to the dry season in the northern parts of the PI Region and ends around April. The distinct seasons provide sector opportunities and challenges for the different sub-regions in the Pacific. Variation of rainfall in the two seasons can also affect the environment, social and economic sectors of the country, such as hydroelectric power generation, water supply, groundwater recharge, rainwater harvesting and crop planting decisions and irrigation for some of the higher islands in addition to environmental/ecosystem and development services and functions that are water dependent.

6. A recent study undertaken in the Pacific from 1983-2012 by SPC showed that, of the 615 natural hazards recorded across the region during the period, 75% are hydro-meteorological related. The study also showed that tropical cyclones still constitute a major hazard in the region accounting for 42% of the region's disasters. (SPC, 2014[5])

7. The genesis of El Nino and Southern Oscillation (ENSO) events is in the Pacific and these events have had profound impacts from fisheries, agriculture and tourism to water availability, storage and power production. The 1997 El Niño brought prolonged periods of drought affecting the sugar industry in Fiji, mining and coffee

[5]SPC,(2014): Hydro-meteorological Disasters in the Pacific: Statistical Summary

production in Papua New Guinea, cattle farms in Vanuatu, forest fires in Samoa, and the list goes on.

8. Experiences from the Pacific on drought, tropical cyclones, flooding, and other impacts clearly shows the need for wider discussion between the meteorological communities and the different sector stakeholders to ensure information generated are appropriate and can be applied for decision making. The PICOF provides a unique opportunity for the water sector to communicate the outlook, discuss ways to improve the outlook and its communication for decision making. A climate and games approach will be used to create a sense of shared ownership of the PICOF and increase the effectiveness of the PCOF to guide decision making to link to and inform the seasonal climate outlook provide by the National Meteorological and Hydrological Services (NMHSs) and their partners.

The Regional Climate Outlook Forums (RCOF)

9. The Regional Climate Outlook Forums (RCOFs) are organized under the auspices of WMO, bringing together national, regional and international experts on climate services to produce climate outlooks based on inputs from NMHSs, Regional Climate Centers (RCCs) and Global Producing Centers (GPCs) of climate predictions. By bringing together countries with common climatological characteristics, RCOF ensures consistency in the access to and the interpretation of climate information. Through interaction with socio-economic sectors, RCOFs assess the likely implications of climate outlook on the most critical sectors in a given region or sub-region and explore ways in which these information could be used.It is part of a process promoted in many parts of the world to bring together users of climate information, climate researchers/scientists and climate information providers to discuss what climate information practically means for the different sectors (e.g. water sector) and encourages interaction and learning among those who provided the climate information and those who use it for planning and operations.

Pacific Island Climate Outlook Forum

10. In general, the aim of an RCOF is to provide a platform to consolidate seasonal forecasts from multiple sources by issuing a consensus outlook. This process allows its participants to better understand the science behind seasonal forecasts and to better appreciate the related uncertainties that are relevant for the measures applied to adapting and reducing risks to climate variations. For this first RCOF, the PI region intends to focus on comparing and contrasting existing information and approaches based on the long-standing experiences in issuing regional and national seasonal climate outlooks. The goal is to determine 'best practices' for the production, dissemination and interpretation of seasonal outlooks for the whole PI region. .

11. The concept of RCOFs has been implemented for several years in the PI region through online teleconferences offered under 3 separate arrangements;

i) Climate and Oceans Services Program in the Pacific (COSPPac) Online Climate Outlook Forum (OCOF): OCOF is a monthly teleconference, coordinated by the Australian Bureau of Meteorology (BoM) that began during the second phase of the Pacific Islands Climate Prediction Project in 2004.The participants include ten (10) Pacific Island Countries and staff from the BoM, and it is held during the first week of each month. The primary rationale for the OCOF is to continue training the NMHSs in the production of seasonal climate outlooks using a software that was developed for this purpose (SCOPIC). The forum covers the current El Nino and Southern Oscillation (ENSO) status and forecasts, the Islands' most recent one and three months rainfall observation, and their one-month lead seasonal climate outlooks. In addition, the Predictive Ocean Atmosphere Model for Australia (POAMA) outlooks are included with the statistical outlooks. The OCOF also provides an opportunity for general feedback, sharing and questions by NMHS staff, particularly in regard to experiences with clients, SCOPIC and the Climate Adaptation Projects. http://www.bom.gov.au/cosppac/comp/ocof/.

Countries participating in the OCOF include the Cook Islands, Fiji, Kiribati, Marshall Islands, Niue, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu, and Australia.

ii) Island Climate Update (ICU) Forums: Coordinated by New Zealand's National Institute of Water and Atmospheric Research(NIWA), the ICU summarizes the recent climate in the Pacific, evaluates all available dynamical seasonal outlook models and provides seasonal outlooks, including sea surface temperature, outgoing radiation and a Regional Water Watch, a region-wide assessment of rainfall anomalies and drought risk over the next three months. This bulletin, now in its 14th year of publication, is produced by NIWA in consultation with the Pacific Islands' NMHSs and other supporting meteorological organisations with a monthly teleconference forum. It is made possible with financial support from the New Zealand Ministry for Foreign Affairs and Trade Aid Programme, with additional support from SPREP. The ICU also coordinates a regional tropical cyclone outlook that is released around October before each cyclone season. https://www.niwa.co.nz/climate/icu.

Countries and institutions that participate in the ICU include Austral Islands, Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marquesas, New Caledonia, Niue, Papua New Guinea, Pitcairn Island, Samoa, Society Islands, Solomon Islands, Tokelau, Tonga, Tuamotu Islands, Tuvalu, Vanuatu and Wallis and Futuna, BoM, NIWA, SPC, SPREP and US National Oceans and Atmosphere Administration (NOAA).

iii) Pacific ENSO Application Climate (PEAC) Centre Forum: The PEAC Center was established in August 1994 as a multi-institutional partnership, to conduct

research and produce information products on climate variability related to the ENSO climate cycle in the U.S.-Affiliated Pacific Islands (USAPI).PEAC holds monthly teleconferences with its members to discuss the following; monthly rainfall reports and verifications of last season's forecast, reports from around the region, report on tropical cyclone activity, sea level, ENSO and climate diagnostics, forecast and drought monitoring updates. Countries and institutions that participate in the PEAC teleconferences include American Samoa, Federated States of Micronesia, Guam, Hawai'i, Marshall Islands, Palau, Guam, BoM, NIWA, NOAA, SPC, and SPREP.

iv) Pacific Climate Prediction Services (CliPS): CLiPS is a new program coordinated by SPREP and the Asia Pacific Economic Commission (APEC) Climate Centre (APCC). The project will develop a region-specific downscaling methodology and establish a climate prediction system. The work will consider the unique geographic features of the Pacific and build upon the programmes named above, utilizing APCC's real-time global climate prediction information and support from the Pacific Meteorological Desk Partnership.

The Water Sector in the Pacific

12. It is commonly known that water demand far exceeds water availability throughout the Pacific Islands. Population growth, urbanization, poor planning and agricultural use have increased demand for this limited and fragile natural resource. At the most basic level, people need freshwater supplies for drinking, but such resources are increasingly strained in some Pacific islands due to various causes (as mentioned earlier) and to changing climate. Water scarcity and poor quality water is a major problem, affecting one in three people around the world.

13. Climate data and information underpin the planning and management of surface and ground water supplies, calculations of the frequency and duration of heavy rainfall, the probable maximum precipitation, low-flow and flood forecasting, assessments of water resources, seasonal changes etc. in addition to demographic and land/development data give an estimation of how much water is available or can be accessible in a given time. Such data collected on weekly, seasonal and annual timescales and at national, regional and local levels are now more essential than ever to develop operational water management strategies, including flood and drought preparedness and response.

14. The Eighth Session of WMO Regional Association V (South-West Pacific) Working Group on Hydrology (New Zealand, 25 – 29 November 2013) noted that:
    i. The changes in frequency and severity of events (for example typhoons, cyclones, droughts in some areas) have had widely varying impacts;
    ii. The quality and uncertainties of the regional downscaling activities is becoming increasingly important as capabilities improve;
    iii. All countries face ongoing climate variability management issues and many of the practices and procedures are valid in a trending world, but need to be

adjusted and modified, for example improving water use efficiency, use of rainwater harvesting, desalinization plants;

iv. There are a wide range of projects being implemented amongst a number of different groups and over coordination of activities may become important in the future;

v. There has been an initial focus on coastal protection and also urban areas, with some studies of outer island issues;

vi. Climate change impacts on water security, infrastructure design information (hydrological design), protocols for storage operations are areas that have received attention;

vii. Most national planning processes are now taking climate change into consideration.

SPECIFIC OBJECTIVES OF THE FIRST PACIFIC ISLANDS CLIMATE OUTLOOK FORUM (PICOF-1)

15. The specific objectives of PICOF-1include the following:

i. To compare the various seasonal climate forecast guidance for the Pacific region and discuss how these are produced in terms of accuracy, utility, weaknesses and strengths of the regionally produced guidance;

ii. To compare and refine national level consensus-based climate outlooks for the upcoming season (November –December - January);

iii. To continue capacity building/human resource development activities for the Pacific region, particularly in seasonal prediction;

iv. To discuss how NMHSs are currently accessing and assessing these guidance, making them nationally-relevant and disseminating them to users and the use of games to assist in this effort;

v. To provide a platform for the stakeholders through the PICOF to share and exchange experiences and knowledge on wet/tropical cyclone season and its prediction;

vi. To discuss how representatives from the water resources sector are using or may use the guidance (or some derivative from it);

vii. To identify the needs of the water sector for climate services;

viii. To build collaboration and partnerships among NMHSs and the water resources sector;

ix. To discuss opportunities for integrating climate information into water planning and management.

EXPECTED OUTCOMES OF THE FIRST PACIFIC ISLAND CLIMATE OUTLOOK FORUM

16. The Forum is expected to improve the understanding of how seasonal climate outlooks are produced, how they are and can be made regionally and nationally relevant, and how they can be tailored to the needs of users from the water sector.

Emphasis at the meeting will be placed on looking for common approaches and best practices that can be extended throughout the Pacific Region. Specifically, the national level climate outlooks for the beginning of the wet/tropical cyclone season for the South Pacific and the dry season for the north Pacific will be discussed and used to develop localized guidance for the water sector.

STRUCTURE OF THE FIRST PACIFIC ISLAND CLIMATE OUTLOOK FORUM

17. The PICOF will be organized in two parts;

PART I: **Pre-PICOF Session: Training on Seasonal Climate Prediction**

A Pre-PICOF session for 3 days will consist of hands-on training of available global and regional forecasts, their diagnostics, understanding the skills and uncertainties, multi-model ensemble approaches and calibration techniques. Each NMHSs will then have the opportunity to compare how they develop their National Climate Outlooks using these different global and regional forecasts. TC outlooks for the season ahead will be discussed. The sessions will also include a review of the existing climate prediction tools used in the Pacific such as SCOPIC, CLIK (CLiPS) and METPI (ICU),culminating with the comparison and refinement of national level consensus outlooks on the 3rd day. The discussions will also include dissemination and uptake of information and how these can be addressed through specially designed games.

The Pre-PICOF is held in an informal setting and will target the NMHS's and the Water Sector participants invited for the workshop.

PART II: **Formal PICOF Sessions**

A formal PICOF will spread over 2 days consisting of global/regional/national presentations, keynote speakers on user perspectives and break-out sessions, culminating in a discussion of opportunities for integration of seasonal climate outlooks into the water resources activities for their application in communities, approaches for effective communications and uptake of climate information and recommendations on the way forward for future PICOF sessions.

The formal PICOF Session may have a ceremonial inaugural session, with the attendance from senior policy makers (e.g., minister), NGO's, university students, sectors and experts, interested parties and institutions.

18. Sessions in the Pre-PICOF and the formal PICOF

PART I: **Pre-PICOF Session: Training on Seasonal Climate Prediction**

Session 1: Opening of the Pre-PICOF and Overview

Session 2: Available global and regional forecasts, their diagnostics, understanding the skills and uncertainties

This session will provide an overview on the available global and regional forecasts, their diagnostics, understanding their skill, probability distribution functions and uncertainties, multi-model ensemble approaches and calibration techniques. This session will also discuss the past climate, ENSO status and other relevant background information required to develop a seasonal forecast and the tropical cyclone outlook for the seasons ahead.

Session 3: Capacity Building on Seasonal Climate Prediction Tools from SCOPIC, ICU, PEAC, and APCC

This is a training session that will allow participants from the PICTs to compare and contrast how regional level climate outlooks for the months ahead are produced. BoM, NOAA, NIWA and APCC/SPREP will be able to take the participants through the different tools developed for the region such as SCOPIC, METPI, CLIK and the dynamical models used by NOAA. Each of the sessions will include(as appropriate) discussion on the accuracy of each approach, as well as issues such as the need for a teleconference and the timeliness of the available information.

Session 4: Roundtable discussion on the production of national level seasonal outlooks and their use by PI NMHSs

This session will provide an opportunity for each of the countries to present their national level climate outlook for Nov-Dec-Jan(already prepared) and discuss the process they used to consolidate the different information using the different tools described in session 3. Challenges faced with dissemination and uptake of information in communities can also be covered under this session through climate games. The goal is to look for 'best practices' that can be shared and consistently implemented throughout the Pacific region.

PART II: Formal Pacific Island Climate Outlook Forum

Session 5: Official Opening of the Inaugural PICOF and Overview

This session will see high level representation by the University of the South Pacific as host, key institutions and government officials and key institutions to provide an overview and the opening of the inaugural PICOF.

Session 6: Key Note Speeches

This session will provide an opportunity for Key Note Speakers on the purpose and objectives of this PICOF, and allow for thematic topics to provide guidance on the PICOF discussions over the next 2 days.

Suggested topics:

- overview on the available global and regional forecasts
- past climate, ENSO status and other relevant background information required to develop a seasonal forecast and the tropical cyclone outlook for the seasons ahead
- Presentation of different tools developed for the region such as SCOPIC, METPI, CLIK and the dynamical models used by NOAA
- national level climate outlook for Nov-Dec-Jan (already prepared) and overview of the process they used to consolidate the different information

Session 7: Summary Presentation on the Status of the Climate and Outlooks for the PICTs

Keynote speakers will be presenting the summary on the current status of the climate for the audience present at the Forum as well as present a summary of the outlooks for each of the countries. Other outputs such as TC outlooks, drought and water availability outlooks will also be presented during this session.

Opportunities for questions and comments will be given at this session to ensure everyone is clear on the upcoming season's outlook for the Pacific.

Session 8: Translating the seasonal climate outlook to Water-Sector specific on the ground actions

This session will have both discussions and breakout sessions. It may start with a key note speaker giving the user perspective from the water sector and providing guidance for the breakout groups by sub-regions (North Pacific and the South Pacific).

It will include discussions on "user needs" identification with possible actions, then go backwards to identify how the guidance may help to inform decisions at community level.

Each group will make a presentation of the different actions that could and will take place after the meeting. Key actions will be captured and summarised for dissemination through appropriate mechanisms.

Session 9: Discussion on the importance of National Drought Management Plans

The focus of this session will be on drought as a hazard that often affects the water sector in most of the PICTs. WMO will provide an overview of the

global approach on drought as part of the Integrated Drought Management Programme and the Global Framework on Climate Services (GFCS), as well as on implementation aspects relevant to the region. Presentations from selected PICTs will also discuss different initiatives taken at the national level on drought management planning.

Session 10: Discussion on how to improve national and regional collaboration and information exchange

Discussions in this session will include the future of RCOFs and NCOFs in the Pacific in terms of their structure, approach to the priority sectors under the GFCS (Agriculture and Food Security, Water, Health and DRR), how to strengthen and maintain the collaboration and partnerships among the members of the NMHSs and water sector for mutual benefit and way forward.

Session 11: Closing.

Closing of the PICOF

DETAILED PROVISIONAL PROGRAMME

19. The provisional agenda for the workshop is presented in Annex 1 to this Concept Note.

PARTICIPANTS

20. Climate experts from the Pacific Islands as well as regional and global experts will participate. In order to facilitate the dialogue and promote the products developed in the PICOF by the climate sensitive user sectors, the Forum will also be attended by representatives of the water sector community.

The formal PICOF session will be attended by policy and decision makers as well as NGO's, University students and interested or invited institutions.

Appendix 7: Draft Write-shop Concept Note

Draft

WRITE-SHOP FOR THE PACIFIC REGION ON CLIMATE SERVICES

Documenting best-practices and lessons learned from the development of climate services in the Pacific

(Venue: Fiji Meteorological Service, Nadi, Fiji, 7-11 September 2015)

CONCEPT NOTE

Table to track comments

Date	Name	Comments
11 March	SPREP	Zero draft
16 April	WMO – Tamara	V 1.0
17 April	SPREP - Espen	V1.1
	SPREP -Tina	V1.2
20 April	SPREP - Tom	
21 April	FMI - Pauli	
22	SPREP-Neta	
30 April	SPREP - Tina	

INTRODUCTION

21. The write-shop is organised for the Pacific national meteorological services. It will be hosted in Nadi, Fiji Islands from 7 -11 September, 2015 at the Fiji Meteorological Service. The write-shop is, co-organized and co-supported by the Secretariat of Pacific Regional Environment Programme (SPREP), the Government of Finland, the Finnish Meteorological Institute (FMI), World Meteorology Organization (WMO), Environment Canada and the Pacific Islands Climate Services (PICS) Panel.

22. The main **objectives** of the write-shop are to compile lessons-learned and best practices on climate services in the Pacific region that would have been provided earlier for a publication. The write-shop will bring together national experts on climate services from the NMSs, selected climate service using sectors, mentors and resource personnel's for 5 days of discussion, writing, mentoring and compiling a document.

23. Emphasis at the write-shop will be placed on looking for common approaches and best practices that can be extended throughout the Pacific Region and shared with other regions through publications and on networks managed by SPREP.

BACKGROUND

24. The Global Framework for Climate Services (GFCS) provides a guide for developing climate services to realize its full potential in contributing to sustainable development. It also outlines the five components or pillars, namely identified: the user interface platform; the climate services information system; the observations and monitoring component; the research, modelling, and prediction component; and the capacity building component to address four priority areas (agriculture and food security, water, health and disaster risk reduction).

25. The NMSs in the region historically have been set up to fulfil the requirements for aviation and marine services as well as day-to-day forecasting services. Climate services and their activities were mainly focused on data entry. Many NMSs have picked up on their climate services responsibilities and are aligning their activities with the objectives as set out in the GFCS. Some of the initiatives taken in the region are very unique to the Pacific region given its circumstances and should be shared.

26. The geographic layout of the Pacific countries, the many languages and colourful cultures, and the different sizes of the NMSs, present themselves as challenges and opportunities for developing climate services in the region.

27. The WMO and the GFCS have collected stories from over 100 authors around the world relating to their work in weather, climate and water services at international, regional, national and local levels culminating in the fully illustrated 250-page book, Climate ExChange (http://library.wmo.int/pmb_ged/tudor-rose/#/66/). The Pacific had very little contribution to the document. The Small Islands Developing States of the Pacific region in their own way have come a long way in developing their own approaches to climate information and services and communicating information to remote communities in isolated islands, and these successes should be documented.

28. Many NMSs staff carrying out climate services duties may have little or no experience with the journal writing style required, nor with compiling documents such as the case studies in a structured way. This can be an enormous challenge. The write-shop will offer an opportunity for learning and for the NMSs, regional organisations, partners and relevant institutions to provide commentaries drawn upon experiences in the region reflecting how communities and sectors are using climate information to improve their lives.

29. The compendium of case studies will reflect the progress and challenges in climate services and information, highlighting good practices from across the region. The compilation of studies will amplify and contribute to the international, regional and national dialogues and bring visibility to these services in the region.

30. This initiative hopes to build capacity of the NMSs to produce quality case studies and they will gain an enhanced awareness of the process of writing papers. Furthermore, these new skills may be shared at the local level amongst peers.

Description

31. A 'write-shop' is a workshop that will provide an enabling environment for officials from NMSs to bring together stories, strategies, approaches, and targets from the NMSs or regional organisations and partners on implementation of climate services. The authors from the NMSs are supported by facilitators/mentors from developed NMSs in the region, regional organisations, collaborating institutions and the PICS Panel. The goal is to improve papers using a standard format provided so that it can contribute to the compendium of case studies.

32. NMSs are encouraged to provide more than one case study covering any aspect of their work in climate or weather services. Examples of stories can be drawn from the ClimateExchange publication. Participants who are selected to attend this workshop will be requested to work with their colleagues in the NMSs to collect and start compiling as many stories as possible prior to the write-shop. All the relevant authors (present and not present at the workshop) will be acknowledged in the publications.

33. Follow-up work between the participants and mentors will be necessary to get the papers finalized. A science editor will be hired to provide the final touches to the stories to ensure there is consistency and the product is of high quality. Opportunities should also be explored to publish some of the stories in peer-reviewed journals.

Preparation before the Write-shop

34. Participation requirements: Nominated participants by the NMSs must be committed to completing the papers on their case studies.

35. Prior to the write-shop, there will be some communication with the participants to ensure there is good progress made during the workshop and that each participant should at least have a case study ready before coming to the write-shop. A list of potential case studies will be collected in advance. The case study template should also be circulated way in advance to allow the NMSs to discuss with their colleagues and ensure that relevant information is collected. Stories should be accompanied by at least 3 high quality photographs showing activities, challenges or opportunities depicted in the case studies.

36. Each participant will be required to bring a laptop.

KEY LINKAGES FOR THE WRITE-SHOP

37. **The** Finland-Pacific **(FINPAC) Project** on reduced vulnerability of Pacific Island Country villagers' livelihoods to the impacts of Climate Change targets 14 Pacific

countries and has 2 main components supporting the NMSs to build their capacity and assist in communicating weather and climate information more effectively to the communities. The write-shop is supported by FINPAC as part of Component One under Activity 1.3 which supports Training in the Development and Communication of Climate Services in the region. FINPAC will provide financial and technical support through the Pacific Met Desk Partnership and the FMI for the write-shop.

38. **The Pacific Islands Meteorological Strategy** (PIMS), 2012-2021, developed strategic directions for sustainable weather and climate services in the Pacific. The Strategy defines Key Outcomes for meteorological services including improved early warnings systems for risks such as floods, droughts, severe weather and other climate related hazards. The PIMS also highlights the need to document the benefits of the different services offered by the NMSs (and to profile the NMSs as current and relevant addressing the needs in sustainable development.

39. The Environment Canada funded Programme **'Implementing the Global Framework for Climate Services (GFCS) at Regional and National Scales'** aims at enhancing resilience in social, economic and environmental systems to climate variability and climate change through the development of effective and sustainable Regional and National Climate Services under the GFCS in SIDS and Polar regions. It particularly supports South-South cooperation and knowledge exchange between SIDS regions. This project will also support the write-shop.

40. **The Pacific Islands Climate Services Panel** was endorsed by the Pacific Meteorological Council in July 2013 and was established in March 2014 at the SPREP/WMO workshop on implementing the GFCS in the Pacific, in Rarotonga, Cook Islands. Goals of the PICS Panel are to 'Improve coordination, continuity and integration of projects, programmes and initiatives that support climate services at national, regional and global levels; strengthen the basic and core functions and capabilities of NMSs for robust and sustained data collection & management, analysis of data and quality assurance, production and dissemination of products, research and modelling; enhance avenues and modes of multi-way communication and feedback between climate services providers and users to enhance the uptake and use of relevant and tailored climate services down to the communities and individuals.'

The PICS Panel Action Plan also identified as a priority activity the need to learn from experiences, identify opportunities and determine a set of best practices of communications in the region. The PICS Panel is tasked under activity 3.1 of its Action Plan to coordinate the compilation of a compendium of existing best practices in the region on how climate information is being applied to improve the socio-economic sectors

41. **The COSPPac Project**

xxxx

42. **PEAC-USAID Projects**

xx

OBJECTIVES OF THE WRITE-SHOP

43. The main objectives of the write-shop are as follow;

- bring together NMSs from around the region to discuss and share lessons learned on best practices around climate services;
- identify common **existing** challenges/obstacles in implementing climate services that need to be addressed collectively.
- provide guidance to NMSs on how they can document their own progress not only in climate services but other areas, and publish these in peer-reviewed journals; and,
- build capacity and confidence of the NMSs to be able to write similar high quality case studies that can also be published in peer-reviewed journals.

EXPECTED OUTCOMES OF THE WRITE-SHOP;

44. The write-shop is expected to collect and document relevant case studies from around the Pacific on best practices, challenges faced and how they are addressed reflecting some of the unique approaches taken in the Pacific to implement the GFCS. The case studies will form a compendium (book) for peer-reviewed publication, and the stories will also contribute to the global effort to implement the GFCS.

STRUCTURE OF THE WRITE-SHOP

45. The write-shop will be organized into x sessions, namely;

Session 1: Opening

xxxx

Session 2: Overview of the write-shop

This session will provide an overview of the program...xxxx

Session 3: Introducing the list of stories, template and the process (timelines)

This session will introduce the stories collected earlier, templates and explain the process for the whole week. xxxx

Session 4: Writing Sessions and Mentoring

xxxx

Session 5: Final compilation of drafts and presentation (way forward)

xxxxx

Session 6: Closing.

PROVISIONAL PROGRAMME

46. The provisional agenda for the write-shop is presented in Annex 1 to this Concept Note.

PARTICIPANTS

47. Climate experts from the Pacific Islands, as well as regional and international experts on climate services will participate.

ANNEX 1

WRITE-SHOP FOR THE PACIFIC REGION ON CLIMATE SERVICES
Documenting best-practices and lessons learned from the development of climate services in the Pacific
Fiji Meteorological Services, Nadi 7-11 September 2015)

PROVISIONAL PROGRAMME (Updated Draft)

ENSERT DETAILED PROGRAM HERE

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