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## Introduction

Regional Climate Outlook Forums have been held annually in the Pacific since 2015, allowing face-to-face dialogue and learning between the providers and users of climate information. Pacific Islands Climate Outlook Forums (PICOFO) are organized by the Pacific Meteorological Council's (PMC) Pacific Islands Climate Services Panel (PICS Panel), its secretariat SPREP and the WMO and supported by various international and regional organisations.

A recent review of the PICOFO found one PICOFO a year insufficient for providing much needed information on the state of ENSO and climate/ocean outlooks. From April 2020, two PICOFOs are held per year, one in April coinciding with the south west Pacific dry season (Apr-PICOFO) and one in October (Oct-PICOFO) at the beginning of the south west Pacific tropical cyclone and wet season. Due to limited resources (and COVID-19) a virtual Apr-PICOFO was proposed for 2020.

The sector theme of PICOFO-7 was Fisheries and Oceans. Sector experts joined the PICOFO on the second day to share case studies on linking climate services to fisheries and oceans operations and to discuss opportunities and gaps. The first day of PICOFO-7 was concentrated on NMHS and seasonal prediction delivery partners' discussion on review of the May-October 2020 climate and the climate and tropical cyclone season outlook for the coming season. Due to COVID-19, PICOFO-7 was held virtually and drew on lessons from the Apr-PICOFO which was also held virtually.

PICOFO-7 was organised around the following objectives:

- a) To present and summarise the climate and ocean observations in the last six months and model outlooks for the next six months;
- b) To compare forecast guidance for the Pacific region and discuss how these are produced in terms of accuracy, utility, weaknesses and strengths;

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- c) To discuss how NMHSs are currently accessing and assessing the available guidance, making them nationally-relevant, tailoring them for specific end users, and disseminating them to users; and
  - d) To build collaboration and partnerships among NMHSs, regional organisations and scientific institutions;
  - e) To continue capacity building/human resource development activities for the Pacific region, particularly in seasonal prediction;
  - f) To provide a platform for the NMHSs to share and exchange experiences and knowledge on climate and ocean services in the Pacific region.
  - g) To discuss how seasonal forecast products can be relevant to fisheries and oceans sector and how NMHS can work closely with this sector

A PICO-7 Regional Statement summarising climate and ocean conditions over the past months and seasonal outlook November 2020 - April 2021 (including tropical cyclone outlook) was produced as an output.

This report offers a short summary of material presented during the virtual meeting, the key discussion points, and any Meeting recommendations and action points.

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## PICOF-7 Day 1 Thursday 22nd October 2020

### Agenda Item 1: Opening and scene setting

The Director, Climate Change Resilience, SPREP, Ms Tagaloa Cooper Halo welcomed participants from the NMHSs, the PMC Chair, PICS Panel members, WMO representatives and partners to the Seventh Regional PICOF and announced a special award recognising the contributions of the previous PICS Panel Chair, Dr. Andrew Tait. The Director:

- **Acknowledged**, the crucial aspects that will be presented today including the current La Niña event and how this will impact the tropical cyclone season.
- **Acknowledged** the work of the PICS Panel members and co chairs and
- **Recognized** the former chair of the pics panel, Dr. Andrew Tait who lead the activities of the PICS Panel from 2014 to 2019 and championed the initiation of PICOF, Regional Climate Centre, Climate Services Roadmap among other significant achievements.
- **Awarded** Dr. Tait a special award acknowledging his contributions. Dr. Tait recalled the many satisfying accomplishments of his term including strong PICOFs as a forum to bring experts together

The PMC Chair Mr. Ulu Bismark Crawley provided opening remarks:

- **Acknowledged** PMC members and partners and PICS Panel member
- **Welcomed** participants to the PICOF-7.
- **Recognized** that the COVID-19 Pandemic makes 2020 a unique year, but that climate services remain crucial for averting disaster
- **Emphasised** that the PICOF is a crucial platform for generating and disseminating information to stakeholders regarding the current La Niña and for analysing how the ocean and fisheries sector can use climate information to build resilience to climate variability and change
- **Expressed** appreciation to partners for support and resources to make the PICOF possible.

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Tagaloa Cooper awarded Mr. Bismarck a special award to acknowledge contributions as PMC Chair

The PICS Panel Vice Chair Mr. Allan Rarai and Acting Director of VMGD overviewed the objectives of PICOF-7 as outlined above, and:

- **Overviewed** intended outcomes of PICOF 7 including improved understanding of climate and ocean drivers, outlooks, a regional statement and gaps and opportunities for engaging the fisheries and ocean sector

## Agenda Item 2: ENSO Updates

Presented by NIWA

### The Meeting:

- **Noted** that a moderate La Niña is in place with classical cooling in the central equatorial Pacific consistent with a typical canonical La Niña
- **Emphasised** that much of the rest of the globe is experiencing above average SSTs with Climate change and what is "normal" seems to be evolving in near real-time
- **Acknowledged** the 'ENSO tracker', a new WMO RAV Pacific Regional Climate Centre product developed by NIWA which tracks organisational ENSO classification into a 'one stop shop'
- **Encouraged** members to use and share the new ENSO tracker tool
- **Noted** the likely building of the La Niña until December/January (ACCESS-S forecast) where it may reach *moderate to strong La Niña event* and continuation until at least early 2021
- **Noted** that the forecast La Niña is different to the historical average. This may have implications for the upcoming season.

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- **Acknowledged** that each ENSO event comes with its own unique set of characteristics and the behaviour of this La Nina is likely to be somewhat different

### Discussion:

- PICS Panel Co-Chair asked how NMS may use the tracker as part of their work. NIWA reiterated the usefulness of the page to see up to date SOI values, updated ENSO classification of anomalies from the different organizations and how they classify the anomalies
- Fiji Met Service queried whether many countries who normally experience enhanced rainfall during La Niña will experience suppressed rainfall. Ben responded that the chart referred to relies on equatorial SSTs so it's meant to provide an overall picture. Further presentations will outline rainfall outlooks in more detail.

## Agenda Item 3: Review and evaluation of May-October 2020 Climate and Ocean

Presented by BoM (climate) and SPC (oceans)

### The Meeting:

- **Noted** that the ITCZ has been displaced northward and the SPCZ has been displaced southwest over the last few months and the pattern is typical of a La Nina situation
- **Noted** significant dry anomalies over the last six months (at or below the 10%tile) across equatorial Pacific, central Cook Islands, parts of northern and eastern French Polynesia, Pitcairn, most of FSM, northern RMI, Guam and southern NMI region and wet anomalies in parts of the south west Pacific including Fiji and Samoa, caused by south west displacement of the SPCZ and consistent with La Niña like conditions. Station observations from French Polynesia agree with satellite observations.
- **Noted** that air temperature anomalies matched SSTs, being warmer than normal in the western equatorial Pacific, extending to Fiji/Tonga and cooler than normal in the eastern Pacific gradually extending into the central Pacific

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- **Acknowledged** that temperature observations were generally consistent with PICOF-6 outlooks and that rainfall observations were consistent with outlooks for Nauru, Pitcairn and Saipan but inconsistent for Niue (wetter than expected) and American Samoa (also wetter than expected)
  - **Noted** that April to June saw warmer than normal SSTs in most countries, significant cooling occurred around August which is consistent with the evolving La Niña. Line islands experienced the most significant temperature drop
  - **Noted** that most countries experienced higher than normal sea level through August
  - **Noted** coral bleaching alerts beginning in mid-May intensifying towards the end of the period in the north west Pacific and strengthening in the northwest region of PNG.
  - **Noted** the reported case of coral bleaching from Palau and the possibility of coral mortality incidents as La Niña continues to strengthen.
  - **Noted** that chlorophyll concentration extended westwards over the last six months.
  - **Noted** that Sea Surface Salinity is higher than normal

### Discussion:

- Meteo France asked for clarification on how bleaching alerts are validated. Zulfi responded that the work is done in partnership with NOAA, national coral reef monitoring groups who ground truth alerts and impacts. The main indicator used for alerts is sea surface temperature
- Joanna GIO from Solomon Islands Media asked for clarification on what is considered normal sea level as well as sinking and rising air. Zulfi explained how sea level varies

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around the region depending on location, and that information used for products has been analysed from data collected over 30years. Simon explained the high and low levels of pressure systems and air circulations.

- Moera from Cook Islands media asked for areas of the Pacific where coral bleaching is predominant. Zulfi explained that the most affected area is the Northwest Pacific with records on bleaching incidents coming in from Palau and American Samoa. More information on this will be presented tomorrow.

## **Agenda Item 4: North Pacific Tropical Cyclone Outlook Verification for 2020**

Presented by NOAA

### **The Meeting:**

- **Noted** that in the northwest Pacific, through to September 2020 there were 14 named storms which is close to normal. This was consistent with the outlook which indicated a normal to above normal number of storms
- **Noted** that all major TCs occurred west or northwest of Micronesia, consistent with La Niña like conditions
- **Noted** that in the north east pacific to September 2020 there were 13 named storms
- **Noted** that information on verification will become available in the coming months

## **Agenda Item 5: Looking Forward - Seasonal and Intra-seasonal Pacific guidance for 2020/21**

Presented by APEC Climate Centre APCC (climate) and SPC (ocean)

### **The Meeting:**

- **Noted** that central and eastern Pacific may experience cooler and dryer conditions while western Pacific may experience warmer and wetter conditions



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- **Acknowledged** that there is strong consensus between dynamical models for rainfall outlook. Northern Cook Islands, Kiribati, Tuvalu and northern PNG can expect drier conditions (central equatorial Pacific) while wetter than normal conditions may be experienced in most other countries especially in sub-tropics.
  - **Recognized** that most climate prediction systems have high skill at this time of the year. However, the transition regions have lower skill.
  - **Noted** that for temperature outlooks, most models indicate warmer than normal western Pacific and cooler than normal eastern and central Pacific consistent with La Niña. Prediction skill for temperature is high at this time of the year.
  - **Noted** that SST outlooks show cool anomalies leading up to December/January when La Niña is likely to peak.
  - **Noted** that during La Niña the fisheries convergence zone is located more towards the western Pacific than normal.
  - **Noted** that sea level conditions are expected to be higher than normal in the tropical north central and far west Pacific and below normal in the central and eastern Pacific
  - **Recognized** that the impact of La Niña is different and experience from country to country can vary e.g. in Majuro the highest ever recorded water level in February was associated with a La Niña event in 2011 that caused significant flooding.
  - **Acknowledged** that coral bleaching alert and warning levels are in place in the western/north/west Pacific through to Jan 2021 and coral mortality is likely, although ocean temperature is not the only factor that causes coral bleaching. It is thus important to recognize that bleaching alerts are based on satellite observations only.
  - **Noted** that skill for sea temperature and level predictions is fairly high in central to eastern and good across all Pacific

### Discussion:

- SPREP asked for clarification on the MJO. WonMoo responded that they are not as confident in MJO as seasonal prediction but highly possible that MJO will be in phase 8 in early November. We may not expect very strong MJO related precipitation.

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- SPREP asked what the implications of La Niña are for TC activity in the Western Pacific. Response - TC activity may move more towards coral sea than in previous years.
  - PNG NWS noted that it is encouraging that global centres are showing consensus on the La Niña. PNG is experiencing drying in the northern part of PNG and this is consistent with La Niña. The wet season for PNG starts around early November but the outlooks for the north are for drier conditions. So what is the implication for the onset of the wet season? Response: PNG is a challenging region for predictions. We are going to see dry conditions in northern PNG as the season progresses. Most models see remote region is drier and Madang, Port Moresby and southern regions may experience wetter conditions earlier in the season.
  - Vanuatu asked for clarification to SPC on flooding in Majuro in 2011. SPC clarified that wave swell, king tides can cause problematic flooding. BoM added that the flooding was caused by higher than normal sea level and king tide in combination.
  - A participant asked a question on impacts of coral bleaching. SPC responded that if coral dies as a result of bleaching than impacts on ecosystems and physical barriers protecting shorelines will occur.
  - The Island Sun (Honiara) asked for elaboration on high tides. SPC responded that information about highest tides will be in tide calendars distributed next year by NMHSs. Low elevation areas will experience flooding when high tides coincide with higher than normal sea levels resulting from La Niña.
  - IRD asked for elaboration on skill assessments. BoM responded that the skill assessments evaluate how well the model performs in different regions at different times of the year. It is important to use skill maps in conjunction with seasonal forecasts so you can tell how much to trust the model in your particular area.
  - Radio New Zealand (Moirā) queried on coral bleaching and if there were any new areas of concern in the Pacific Region; SPC (Zulfi) confirmed that from models the North Western Pacific is the area of concern however Solomon Islands and Tuvalu are also appearing on models. SPC re-iterated that it is important to continue monitoring throughout the season.

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- PagoPago NWO asked whether coral bleaching models account for subsidence. BoM responded that coral reef watch are only SST based and satellite products are not great at measuring SSTs close to coast so may not pick up subsidence.

## Agenda Item 6: Tropical Cyclone Outlook

Presented by FMS

### The Meeting:

- **Noted** the different regions used by providers to provide seasonal outlooks
- **Noted** that the total and severe TCs experienced in the past season was consistent with the predictions
- **Acknowledged** that La Niña conditions influenced this year's TC Outlook; a near average cyclone season is most likely for the TSMC Nadi region, and; above average TC activity is likely in the western regional Coral Sea and North Tasman sea with high confidence (but with low confidence in the eastern region)
- **Noted** that TC risk for New Caledonia, and the north island of NZ has elevated risk

### Discussion:

- American Samoa asked why they do not have an outlook. FMS responded that they will have an outlook for American Samoa next season
- IRD asked whether the outlook is based on indices as forecasted in next months or on previous ENSO/TC based statistics. FMS responded that it's based on indices
- KMS asked for clarification on analogue method used. FMS explained that they look for similar past seasons and use these to statistically determine expected numbers
- Cook Islands Climate Change asked how TK can be integrated with scientific forecasts. SPREP responded that COSPPac have an ongoing project working with NMSs that is verifying various TK indicators to be integrated into seasonal forecasts. Vanuatu and Tonga have already integrated TK into some of their seasonal forecast products

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- Vanuatu asked why Vanuatu and New Caledonia have different risk? NIWA responded that elevated sea temperatures in the West are causing the higher risk for New Caledonia
  - IRD asked if the MJO is taken into account. FMS responded that not when outlooks are prepared on a seasonal timescale

## **Agenda Item 7: Introduction of WMO Approach to Objective Seasonal Forecasts**

Presented by WMO

### **The Meeting:**

- **Noted** that the last WMO executive council decision in a proposal was endorsed to operationalize objective seasonal forecasts and tailored products on sub-regional scale with country level service provision.
- **Noted** the publication of Guidance on Operational Practices for Objective Seasonal Forecasting
- **Noted** that the RCOFs are the platform used to roll out this approach.

### **Discussion:**

- IFRC asked whether the initiative has funding to support the regions to undertake capacity building etc. The WMO responded that parts of the plan are resourced.
- IFRC asked to what degree the operational seasonal forecasting approach is flexible to account for different institutional set-ups and capacities in different regions. The WMO acknowledged this comment and responded that the intention is for the approach to be fit for purpose for every context.

## **Agenda Item 8: Closing**

The PICS Panel co-chair closed Day 1 of the meeting.

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## PICOF-7 Day 2 Friday 23rd October 2020

### Agenda Item 1: Opening and Scene Setting

SPREP opened the meeting and welcomed participants. The PMC chair and Deputy Director, Oceanic Fisheries, SPC made opening remarks. The PICS Panel Co-Chair outlined day 2 objectives.

#### The Meeting:

- **Acknowledged** the participants from NMHS, and representatives from the media outlets, fish and marine sectors, regional partners
- **Welcomed** fisheries and ocean sector partners to the PICOF-7 and specially acknowledged the presenters
- **Acknowledged** the significance of fisheries to Pacific livelihoods and food security and national economies
- **Emphasised** that climate change represents an existential threat to fisheries

### Agenda Item 2: Pacific Case Studies on Linking Climate Services to the Fisheries and Ocean sector

Case studies were presented from Vanuatu, Cook Islands, French Polynesia and SPC on use of climate information in sector decision making.

#### The Meeting:

- **Noted** the innovative partnerships that have enabled the Van-KIRAP project and the central role of the Vanuatu Framework for Climate Services in structuring the project
- **Acknowledged** the range of priorities that have been identified through the Van KIRAP project for sector-specific climate information services.

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- **Noted** the Vanuatu Ocean Bulletin and its application in reducing risk in the fisheries and ocean sector and the contribution of traditional knowledge to reaching the last mile
  - **Noted** the contributions of the 'Next-Gen' projections for the western tropical Pacific initiative to elaborating climate change impacts in sectors in Pacific countries, including to the Cook Islands black pearl industry.
  - **Emphasised** a number of critical ocean and climate variable thresholds for pearl farming are affected by climate change including SSTs, aragonite saturation state and extreme rainfall events. Emission pathways make a significant difference to the timing and degree of impact to key variables
  - **Recognized** that projected changes in the future are likely to impact the pearl industry in the Cook Islands with flow on effects for livelihoods
  - **Noted** that key threats to coral reefs in French Polynesia are a combination of predators, human management, and climate related factors including bleaching, intense storms, and rain on high islands and that pearl farming has economic importance
  - **Noted** that coral bleaching watch and alerts are present in the Austral islands and south-east of Tuamotu for the coming season
  - **Recognized** that that reliable data on temperature, Ph, irradiance, frequency of intense tropical storms, and extreme rainfall are all important to future planning
  - **Acknowledged** the link between ENSO events and tuna catch, with eastward shift of equatorial purse seine fishery during El Niño and westward during La Niña. With the current La Niña, the spatial distribution, catchability and recruitment of pelagic fisheries are likely to be affected.
  - **Emphasised** information needs include improved historical simulations (hindcast/reanalysis) of physical-biogeochemical ocean conditions (temperature, currents, primary production, dissolved oxygen, pH) extended by seasonal to decadal forecasts.



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bulletins to inform coral bleaching monitoring and in particular to inform the tourism industry in Fiji; using data from SPC to inform adaptive management regimes for albacore at the national level in Fiji by the offshore fisheries division in Fiji; Navy using COSPPac SST products to inform illegal fishing patrolling in Fiji.

- **Recognized** the importance of establishing two way information flow between sector stakeholder groups and NMHSs to enable ground truthing of impact information,
- **Noted** the role of provincial authorities in communicating NMHS information to the fishermen at the last mile.
- **Noted** data and information gaps including: challenges with translating regional information to the national and community level; need for a regional bulletin incorporating seasonal outlook on pelagic fisheries to assist countries with critical decision making; understanding climate change impacts on fish species to inform policy and decision makers - most of whom do not have a scientific background; early warning bulletins tailored to communities and local fishers with simple terms; national studies on climate variability and change impacts on pearl farming; un-coordinated research and monitoring and sharing of data by different organisations across the region.
- **Noted** that the ocean portal provides a fisheries application that shows the boundary of salinity and SST and past and usual climatology boundary that can be used as a proxy to tell where fisheries may be rich. There is a need to go beyond that to include catch data. This is an opportunity at a regional level to develop a bulletin informed by real catches and an opportunity for collaboration.
- **Noted** the upcoming Third Pacific Ocean Climate Change Conference that will provide a further opportunity to share and ask questions.

## **Agenda Item 4: Media Feedback**

An opportunity was provided for members of the media to ask questions



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## The Meeting

- Fiji Sun asked about measures to protect and minimise coral bleaching impacts, and experts responded that the best way to reduce stress on coral is to reduce fishing efforts and pollution.

## Agenda Item 5: Closing

**SPREP and the PICS Panel co-chair closed the meeting, noting that**

## The Meeting

- Noted that the Seventh Pacific Islands Climate Outlook Forum May-October 2020 summary and November 2020-April 2021 climate and tropical cyclone outlook will be available by end-October

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## **Annex 1: Agenda Timeline**

**Monday 10 August 2020:** Pacific NMSs notified of upcoming virtual PICO F October 2020

**Tuesday 13 October 2020:** Listed agencies to send content to lead agencies to summarize

**Tuesday 20 October 2020:** Deadline for PowerPoint presentations to be send to the PICS panel members and secretariat.

**Thursday 22 October and Friday 23 October 2020:** Virtual October 2020 PICO F teleconference held (see proposed agenda below).

**Friday 23 October 2020:** Draft version of the October PICO F statement circulated to PICS panel for input/comments. Deadline Monday 26 October.

**Tuesday 27 October 2020:** Final draft of the October PICO F statement sent to the PMC members for approval, deadline for responses Thursday 29 October 2020.

**Friday 30 October 2020:** October 2020 PICO F statement released

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## Agenda

Virtual PICO2020 – Day 1		
Thursday 22 October 2020, 13:00-16:00hrs Samoa time (UTC Wednesday 21 October 23:00 -Thursday 22 October 02:00)		
[Lead agency for the session presented in bold. Lead agency to summarise guidance generated by other agencies listed. Agencies not listed are welcome to forward content to the lead agency to be included in the presentation]		
Chair: PICS panel co-chairs (Simon McGree)		
13:00-13:30	Registration and communications testing	SPREP to coordinate and provide all supporting details and documents prior
13:30-14:00	<b>Agenda 1: Opening &amp; setting the scene</b> <ul style="list-style-type: none"><li>· Opening prayer -Lloyd Tahani- Deputy Director Solomon Islands Met Services</li><li>· Welcome and meeting procedure -SPREP-- Tagaloa</li><li>· Award for Andrew Tait -Tagaloa</li></ul>	

14:00-14:10	<p><b>Agenda 1: Opening &amp; setting the scene</b></p> <ul style="list-style-type: none"> <li>· Opening remarks by PMC Chair (Ulu Bismarck Crawley)</li> <li>· PICO-7 meeting objectives – Allan Rarai- PICS Vice Chair Vanuatu</li> <li>· Group Photo</li> </ul>	
14:10-14:28	<p><b>Agenda 2: ENSO Updates</b></p> <p>ENSO Status and Outlook, introduction to ENSO tracker NIWA, BOM, NOAA, 12 minutes</p> <p>Question &amp; Answer (6mins)</p>	
14:28-15:08	<p>Agenda 3: Looking back- review &amp; evaluation of May-October 2020</p> <p>i. Climate</p> <p>Review of May to October 2020 climate, plus evaluation of the last outlook for both the north and south Pacific, NIWA/BOM/MeteoFrance/NOAA/SPREP, 12 minutes</p> <p>ii. Ocean</p> <p>Review of May to October 2020 ocean, plus evaluation of the last outlook for both the north and south Pacific, NOAA/SPC/BOM, 12 minutes</p> <p>Question &amp; Answer (12mins)</p>	

<p>15:08:15:20</p>	<p><b>Agenda 4: Northern Pacific Tropical Cyclone Outlook verification for 2020</b></p> <p>NOAA, 12 minutes</p> <p>Question &amp; Answer (6mins)</p>	
<p>15:20:15:66</p>	<p><b>Agenda 5: Looking Forward - Seasonal and Intra-seasonal Pacific guidance for 2020/21</b></p> <p>i. Climate</p> <p>NIWA/BOM/NOAA/APCC/SPREP, 12 minutes</p> <p>i. Ocean</p> <p>NOAA/BOM/NIWA/SPC, 12 minutes</p> <p>Question and Answers (12mins)</p>	
<p>15:56-16:12</p>	<p><b>Agenda 6: Tropical Cyclone Outlook</b></p> <p>South Pacific 2020/21 tropical cyclone outlook</p> <p>NIWA, FMS, BOM, 12 minutes</p> <p>Question and Answers (6 mins)</p>	

16:12-16:27	<p><b>Agenda 7: Introduction of WMO approach to objective seasonal forecasts and tailored products on sub-regional scales</b> (WMO -Wilfran Moufouma) -5 minutes</p> <p>Question and Answers (10 mins)</p>	
16:27-16:35	<p><b>Agenda 7: Closing</b></p> <p>Next steps, wrap up - Chair</p>	

<p><b>Virtual PICO2020 – Day 2,</b></p> <p><b>Friday 23 October 2020, 13:00-16:30hrs Samoa time (UTC Thursday 22 October 23:00 -Friday 23 October 02:00)</b></p> <p>(Chair – Dr Andrew Halford (SPC))</p>		
13:00-14:00	Registration and communications testing	SPREP to coordinate and provide all supporting details and documents prior

<p>14:00- 14:15</p>	<p><b>Agenda 1: Opening &amp; setting the scene</b></p> <ul style="list-style-type: none"> <li>· Opening prayer - Lloyd Tahani- Deputy Director Solomon Islands Met Services</li> <li>· Welcome and meeting procedure SPREP -Salesa</li> <li>· Remarks by SPC-Dr Graham Pilling, Deputy-Director Oceanic Fisheries</li> <li>· Fishers/Ocean sector engagement workshop objectives – PICS Co-Chair IFRC (Olivia Warrick)</li> </ul>	
<p>14:15- 15:35</p>	<p><b>Agenda 2: Pacific case studies on sub-seasonal climate and climate change – linking science to fisheries/marine sector</b></p> <ol style="list-style-type: none"> <li>i. Ocean/climate in fisheries/ocean sector in Vanuatu (Sunny Seuseu/Moira Matou/VMGD), 20 minutes</li> <li>ii. Future Climate Sectoral Applications: Case study pearl farming in the Cook Islands (Dr. Leanne Webb), 20 minutes</li> <li>iii. Pearl farming and coral bleaching in French Polynesia (Dr. Keitapu Maamaatuaiahutapu and Victoire Laurent), 20 minutes</li> <li>iv. Regional fisheries and ocean climate information needs (Dr Patrick Lehodey-SPC), 20 minutes</li> </ol>	<p>15mins agency presentations using guidance provided by SPREP &amp; 5mins on Question and Answers</p>

<p>15:35- 16:00</p>	<p><b>Agenda 3: Sector Feedback</b></p> <p>Discussion:</p> <p>what have we learnt from these presentations in terms of data and information needs and gaps?</p> <p>What are the opportunities and priorities for filling these gaps?</p> <p>How are national fisheries sectors using seasonal forecast guidance in decision making?</p> <p>What are some examples from country fisheries reps of partnerships with NMSs? Lessons and challenges</p> <p>What steps can be taken to strengthen information exchange between fisheries and oceans sector and NMSs?</p>	
<p>16.00- 16:15</p>	<p><b>Agenda 4: Media Feedback</b></p>	<p>Opportunity for members of the media to raise any questions.</p>
<p>16:15- 16:30</p>	<p><b>Agenda 5: Closing</b></p> <p>Next steps, wrap up – PICS panel chair</p>	



## Annex 2: Participants

List of Countries and Partners who have indicated to join the virtual Oct-PICOF 7

	Name	Organisation		Email
1	Elinor Lutu-McMoore	American Samoa	Meteorologist In Charge	elinor.lutu-mcmoore@noaa.gov;
2	Joseph LaPlante	American Samoa	Meteorologist	
3	Hans Malala	American Samoa	Meteorologist	
4	Jane Taifane	American Samoa	Meteorologist	
5	Theodora Meredith	American Samoa	Meteorologist	
6	WonMoo Kim	APCC	Research Scientist	WonMoo.Kim@apcc21.org
7	Yun-Young Lee	APCC	Research Scientist	yyalee@apcc21.org
8	Soo-Jin Sohn	APCC	Research Scientist	jeenie7@apcc21.org
9	Bo Ra Kim	APCC	Senior Project Manager	bkim@apcc21.org
10	Gillian Starling	APCP		gillian.starling@apclimatepartnership.com.au
11	Johson. J	APCP		j.johnson@c2o.net.au
12	Katie Frisch	APCP		katie.frisch@apclimatepartnership.com.au
13	Mr. Adi Ripaldi	BMKG	Head of Climate Analysis and Information BMKG	ripaldibmkg@gmail.com
14	Yuri Kuleshov	BOM	Scientist	yuriy.kuleshov@bom.gov.au
15	Grant Smith	BOM	Scientist	grant.smith@bom.gov.au
16	Simon mcGree	BOM	Scientist	simon.mcgree@bom.gov.au

17	Elise Chandler	BOM	Scientist	elise.chandler@bom.gov.au
18	Arone Ngari	Cook Islands NWS	Director	arona.ngari@cookislands.gov.ck
19	Natalie Mckelleher	DFAT		Natalie.Mckelleher@dfat.gov.au
20	David Power	DFAT		David.Power2@dfat.gov.au
21	Misaeli Funaki	Fiji	Director	misaeli.funaki@met.gov.fj
22	Bipen Prakash	Fiji	Climate officer	bipen.prakash@met.gov.fj
23	Arieta Baleisolomone	Fiji	Climate officer	arieta.daphne@met.gov.fj
24	Shweta Shiwangni	Fiji	Climate officer	shweta.shiwangni@met.gov.fj
25	Jasneel Chandra	Fiji	Climate officer	jasneel.chandra@met.gov.fj
26	Terry Atalifo	Fiji	Climate Manager	Terry.Atalifo@met.gov.fj
27	Simon Harding	Fiji	USP Institute of Marine Resources	simon.harding@usp.ac.fj
28	Timoteo Pamcim	Fiji	Vuda Marina Manager	timoneservice@gmail.com
29	Dilpreet Kaur	Fiji	USP	kaur_d@usp.ac.fj
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