Republic of Korea-Pacific Islands
Climate Prediction Services Project
Summary: February to April 2021 (FMA)
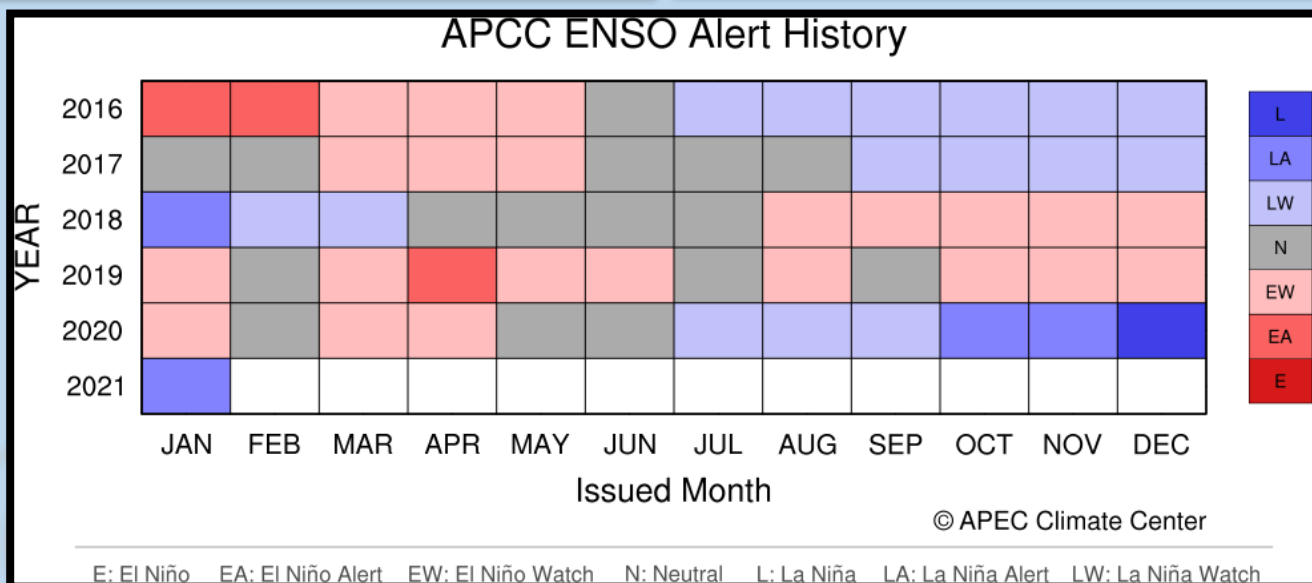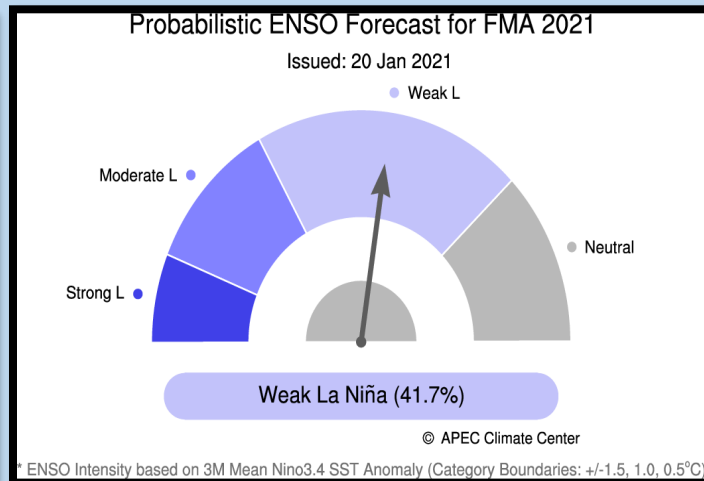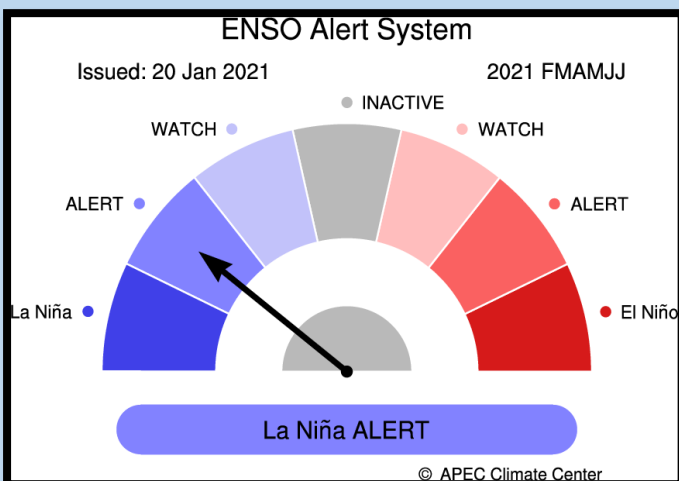
Climate Outlook for February ~ July 2021

- The APCC ENSO outlook suggests "La Nina ALERT".
- The prevailing ENSO phase is expected to be negative to neutral. Negative SST anomalies along the equatorial Pacific are predicted during February - April 2021, and the intensity is likely to be weakened during May - July 2021. Along with these spatial distributions, most of the dynamical coupled models predict negative Nino3.4 index which is expected to gradually increase from -1℃ to -0.17℃ through the whole forecast period.
- In summary, based on the running 3-month mean Nino3.4 index, the APCC ENSO outlook suggests La Nina conditions (76% chance) with weak intensity are dominant during February - April 2021. The conditions are expected to gradually decrease and a 48% chance of neutral conditions is expected during May - July 2021.
- Please see https://apcc21.org/ser/enso.do?lang=en for more information

ENSO

ENSO Alert System
Issued: 20 Jan 2021   2021 FMAMJJ
INACTIVE
WATCH   WATCH
ALERT   ALERT
La Niña   El Niño
La Niña ALERT
© APEC Climate Center

Probabilistic ENSO Forecast for FMA 2021
Issued: 20 Jan 2021
Weak L
Moderate L
Strong L   Neutral
Weak La Niña (41.7%)
© APEC Climate Center
* ENSO Intensity based on 3M Mean Nino3.4 SST Anomaly (Category Boundaries: +/-1.5, 1.0, 0.5°C)

APCC ENSO Alert History

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E: El Niño   EA: El Niño Alert   EW: El Niño Watch   N: Neutral   L: La Niña   LA: La Niña Alert   LW: La Niña Watch

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RAINFALL OUTLOOK

Model	PICASO	CLIK®
Status	**COUNTRY (Area)**	
Above Normal	**Cook Is -** (Rarotonga) **Fiji –** (Udu Point, Rotuma,Nabouwalu, Nadi Airport, Suva, *Ono-i-lau) **FSM –** (Yap, Pohnpei, Chuuk) **Marshall Is.** – (Majuro, Kwajalein) **Niue –** (Hanan Airport) **Palau –** (Koror) **PNG –** (Port Moresby, Momote, Misima,) **Samoa –** (Apia, Afiamalu, Lauli'i) **Solomon Is –** (Honiara, Henderson, Kirakira, Santa Cruz) **Tonga –** (Nukualofa, Lupepau'u, Haapai, Niuafoou) **Tuvalu –** (Niulakita) **Vanuatu**	**Cook Is –** (Rarotonga) **Fiji** **FSM** **Marshall Is** – (Majuro, Kwajalein) **Niue** **Palau** **PNG –** (Misima, Port Moresby, Nadzab) **Samoa** **Solomon Is** **Tonga** **Vanuatu**
Normal	**Kiribati –** (*Butaritari)	**Tuvalu -** (Niulakita)
Below Normal	**Cook Is -** (Penrhyn) **Fiji –** (*Ono-i-lau) **Kiribati –** (Tarawa, Kanton, Kiritimati, *Butaritari)**,** **Nauru** **PNG –** (Madang, Kavieng, Nadzab) **Samoa –** (Faleolo) **Solomon Is –** (Taro Is., Munda, Auki) **Tonga –** Keppel Mata'aho **Tuvalu –** (Funafuti, Nui, Nanumea)	**Cook Is -** (Penrhyn) **Kiribati** **Nauru** **PNG** – (Madang, Kavieng, Momote) **Tuvalu –** (Nui, Nanumea, Funafuti) **Tokelau**

*Note: * indicate stations that have <u>equal or similar probability </u>of getting Above normal, Normal and Below normal*

TEMPERATURE OUTLOOK

Status	COUNTRY	
	CLIK®	
Above Normal	**Cook Is (**southern group**), FSM, Fiji, Marshall Is, Kiribati -** (Tarawa, Butaritari), **Nauru, Niue, Palau, PNG, Solomon Is., Tonga, Vanuatu**.	
Normal	**Samoa**	
Below Normal	**Cook Is (**northern group**), Fiji –** (Rotuma), **Kiribati -** (Kanton, Kiritimati), **Tokelau, Tuvalu.**	

Republic of Korea-Pacific Islands
Climate Prediction Services Project
PICASO Regional Rainfall Forecast (FMA)

Lupepau'u, Tonga 2021 FMA
created by PICASO (2021-01-21)
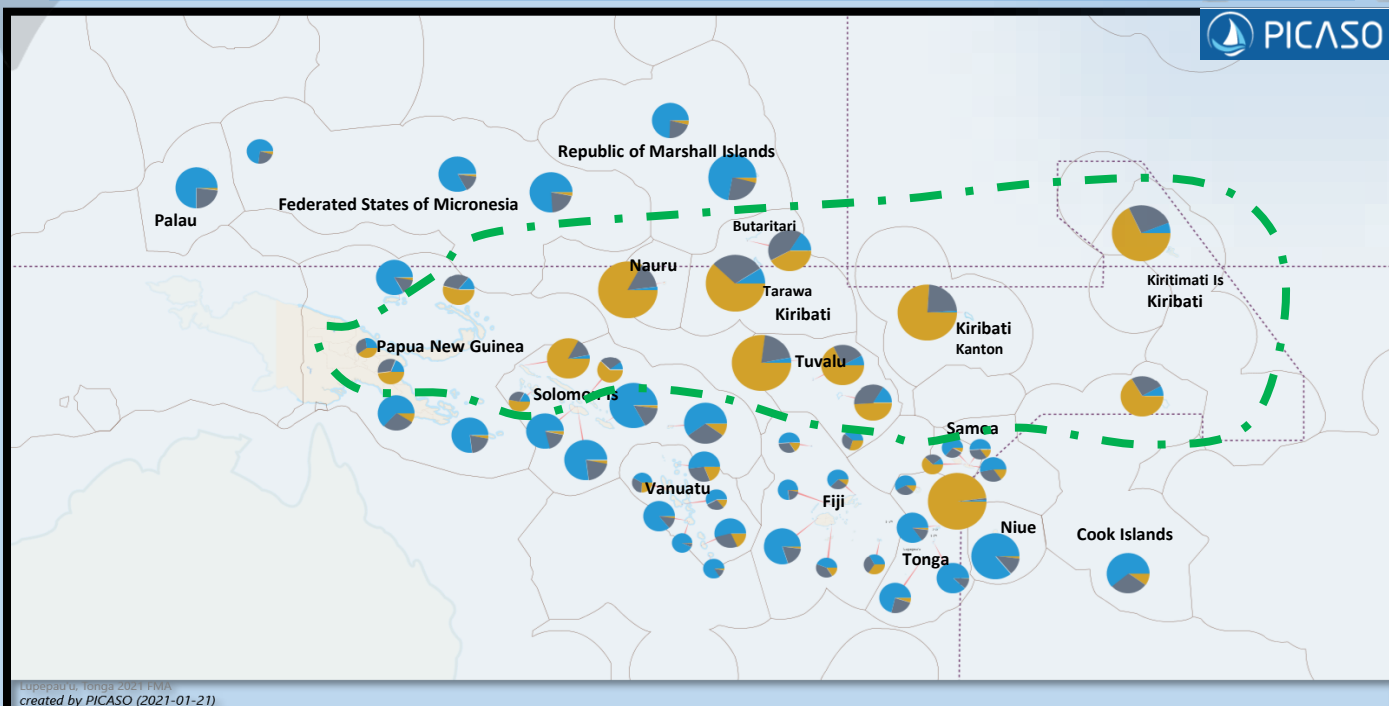
Figure 1: Regional outlook map of the Pacific. In general, all stations within the green-dash line is anticipated to have Below Normal (BN) rainfall. Normal (N) to Above Normal (AN) rainfall is predicted for stations above and below the green line. *(Note: the larger the pie chart the higher the forecast skills.)*

OUTLOOK TABLE BY COUNTRY

Station	Tercile Probability			Verification Score (LEPS)		Verification Score (HSS)	Hit/NearMiss/Miss		
Cook Islands	KEY	BN	N	AN					
Penrhyn		67%		25%	8!	20	High	70	12	2	1
Rarotonga	10	29%		61%	16.5	High	0	5	7	3
Fiji									
Rotuma	16%	33%		51%	-12.7	Very Low	-20	3	5	7
Udu Point	10	27%		63%	-3.9	Very Low	7.7	3	6	4
Nabouwalu	20%		77%		-9.7	Very Low	31.2	6	1	5
Nadi Airport	18%		80%		11.9	Good	30	8	4	3
Suva	16%	40%		44%	-4.8	Very Low	-20	3	11	1
Ono I Lau	35%	33%		33%	-0.6	Very Low	0	5	6	4
Kiribati									
Kiritimati		68%		26%	6	35.7	Excellent	40	9	5	1
Butaritari	42%	42%		16%	15.1	High	30	8	4	3
Tarawa		62%		29%	99	44.8	Excellent	90	14	1	0
Kanton		76%		23%		48	Excellent	60	11	4	0
Marshall Islands									
Kwajalein Bucholz Aaf	.	22%		74%	11.9	Good	20	7	6	2
Majuro	.	24%		72%	27.6	Very High	30	8	7	0

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Republic of Korea-Pacific Islands
Climate Prediction Services Project
PICASO Regional Rainfall Forecast (JFM)

Station	Tercile Probability				Verification Score (LEPS)		Verification Score (HSS)	Hit/NearMiss/Miss		
	KEY	BN	N	AN						
Micronesia										
☑ Chuuk WSO AP	15%		83%		10.5	Good	10	6	5	4
☑ Pohnpei	21%		76%		21.3	High	0	5	10	0
☑ Yap Island WSO Airport	23%		73%		3.2	Low	10	6	3	6
Nauru										
☑ Nauru		83%		15%	53.2	Excellent	43.8	5	3	0
Niue										
☑ Hanan Airport	12%		86%		30.7	Very High	35	8	6	1
Palau										
☑ Koror	23%		75%		17.8	High	25	7	6	1
Papua New Guinea										
☑ Madang	40%	33%	27%		-1.7	Very Low	25	6	2	7
☑ Port Moresby	9%	28%	63%		10.9	Good	40	9	3	3
☑ Momote	14%		83%		12.9	Good	0	5	8	2
☑ Nadzab	48%	33%	19%		2.7	Low	0	5	8	2
☑ Kavieng	54%	32%	14%		6.3	Moderate	25	7	5	3
☑ Misima	20%		77%		12.9	Good	20	7	5	3
Samoa										
☑ Afiamalu	15%	32%	53%		3.2	Low	0	5	7	3
☑ Laulii	15%	34%	51%		-7.7	Very Low	-28.6	2	7	5
☑ Faleolo	63%	27%	10%		-18.2	Very Low	0	5	2	8
☑ Apia	8%	28%	64%		-2.8	Very Low	30	8	4	3
Solomon Islands										
☑ Taro Island		83%		14%	16.6	High	0	5	9	1
☑ Munda	53%	30%	17%		-1	Very Low	10	4	7	4
☑ Auki	62%	28%	10%		1.6	Low	15	5	6	4
☑ Honiara	18%		79%		13.2	Good	20	7	5	3
☑ Honiara Henderson	20%		77%		22.5	High	30	8	6	1
☑ Kira Kira	15%		83%		31	Very High	30	8	6	1
☑ Santa Cruz	10%	30%	60%		15.2	High	40	9	5	1
Tonga										
☑ Niuafoou	12%	30%	58%		-8.2	Very Low	15	6	3	6
☑ KeppelMata'aho Airport		98%			36.4	Excellent	35	7	7	1
☑ Lupepau'u	13%		85%		9.9	Moderate	10	6	7	2
☑ Haapai	11%		88%		9	Moderate	10	6	7	2
☑ Nuku'alofa	5%	24%	71%		5.8	Moderate	25	7	4	4
Tuvalu										
☑ Nanumea		77%		20%	39.8	Excellent	50	10	4	1
☑ Nui		68%		24% 8%	15.3	High	30	8	5	2
☑ Funafuti	49%	35%	16%		14.9	Good	20	7	7	1
☑ Niulakita	30%	32%	38%		-4.8	Very Low	-10	4	3	8
Vanuatu										
☑ Sola (Vanua Lava)	19%	29%	52%		9	Moderate	4.5	4	6	1
☑ Pekoa Airport (Santo)	26%	32%	42%		-3.9	Very Low	-10	4	7	4
☑ Lamap (Malekula)	14%	28%	58%		-5.6	Very Low	5	4	6	5
☑ Bauerfield (Efate)	12%		86%		9.4	Moderate	10	6	5	4
☑ Port Vila	6%		93%		-0.1	Very Low	10	6	4	5
☑ White Grass Airport	18%	28%	54%		7.7	Moderate	35.7	8	4	1
☑ Aneityum	13%		84%		-8.9	Very Low	-20	3	8	4

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Republic of Korea-Pacific Islands
Climate Prediction Services Project
CLIK℗ Rainfall Forecast (FMA)
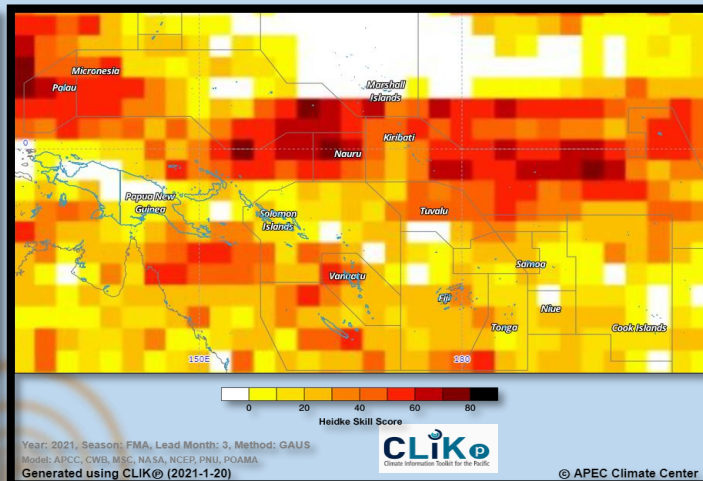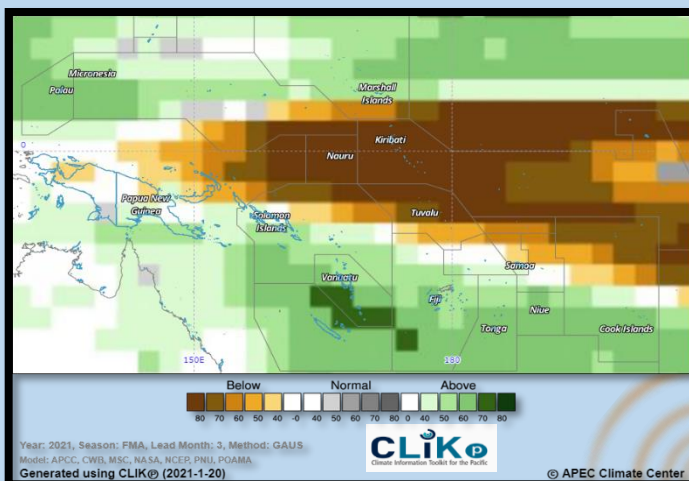
Figure 1: MME Rainfall Forecast for the Pacific Islands – FMA 2021 period

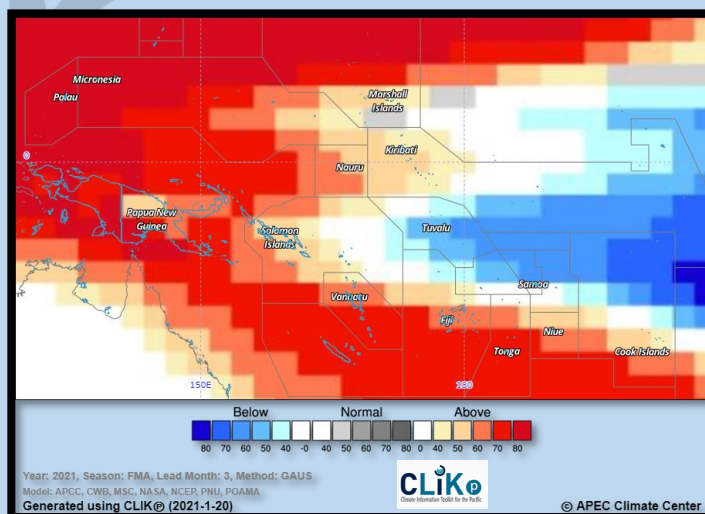*Figure 2:* Rainfall Forecast Skill for the Pacific Islands – FMA 2021 period

Country	Rainfall Outlook	Skill
Cook Islands	Below Normal for northern Islands Normal – Above Normal elsewhere	Moderate Very Low
FSM	Above Normal	Low – Moderate
Fiji	Normal to Above Normal	Low - Moderate
Kiribati	Below Normal	Moderate - High
Marshall Islands	Normal - Above Normal (central & Northern) Below Normal (Southern)	Very Low - Low
Nauru	Below Normal	High
Niue	Above Normal	Low
Palau	Above Normal	High
PNG	Normal – Above Normal (Port Moresby/Misima/Nadzab) Normal to Below Normal (Madang/Momote/Kavieng)	Low - Moderate Low /Moderate/High
Samoa	Normal - Above Normal	Low
Solomon Islands	Normal – Above Normal	Very Low - Low
Tonga	Above Normal	Low
Tokelau	Below Normal	Low
Tuvalu	Normal – Below Normal	Moderate – High
Vanuatu	Above Normal	Low - Moderate

Table 1: Rainfall Outlook and Skill for the Pacific Islands.
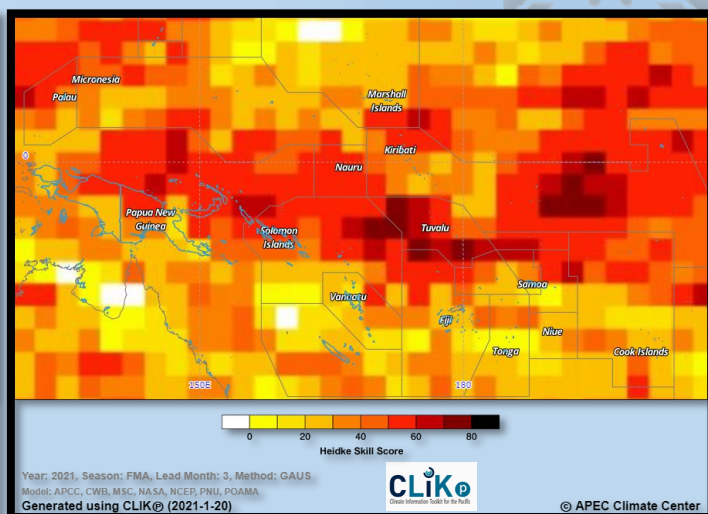
Note: *Variation in the skill is due to model agreement and data availability at each location.*

Republic of Korea-Pacific Islands
Climate Prediction Services Project
CLIK℗ Temperature Forecast (FMA)

Figure 3: *MME Temperature Forecast for the Pacific Islands – FMA 2021 period*

Figure 4: *Air Temperature Forecast Skill for the Pacific Islands – FMA 2021 period*

Country	Air Temperature Outlook	Skill
Cook Islands	Below Normal (north) Above Normal (south)	Low - Moderate
FSM	Above Normal	Low - Moderate
Fiji	Above Normal Below Normal (Rotuma)	Low High
Kiribati	Above Normal (Tarawa/Butaritari) Below Normal (Kanton/Kiritimati)	High
Marshall Islands	Above Normal	Low - Moderate
Nauru	Above Normal	High
Niue	Above Normal	Moderate
Palau	Above Normal	High
PNG	Above Normal	Moderate - High
Samoa	Normal - Below Normal	Low
Solomon Islands	Above Normal	Moderate - High
Tonga	Normal - Above Normal	Low - Moderate
Tokelau	Below Normal	High
Tuvalu	Below Normal	Moderate - High
Vanuatu	Above Normal	Low

Table 2: *Temperature Outlook and Skill for the Pacific Islands.*

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Republic of Korea-Pacific Islands
Climate Prediction Services Project

Important:
This publication is developed from information in PICASO and CLIK®, products of the Republic of Korea-Pacific Islands Climate Prediction Services Project (ROK-PI CliPS).

This resource is compiled to provide dynamical model data to support and complement information generated by Pacific Islands NMHS.

Contact your location Meteorology Service for site specific forecasts.

PICASO
PICASO (Pacific Island Countries Advanced Seasonal Outlook) is a PC-based seasonal prediction tool tailored for the Pacific Island countries jointly developed by APCC and SPREP through the ROK-PI CliPS project.

PICASO produces probabilistic forecasts of the seasonal mean rainfall of the given weather stations by customizing the data from the APCC dynamical seasonal prediction multi-model ensemble.

CLIK®
The rainfall and temperature forecasts are derived from a multi-model ensemble (MME) of all available Dynamical Models that are provided by WMO Global Producing Centers (GPCs) available on the Climate Services Toolkit for the Pacific (CLIK Pacific or CLIK®).

CLIK® is a product of the Republic of Korea-Pacific Islands Climate Prediction Services Project (ROK-PI CliPS).

Visit the CLIK® Online Climate Prediction System: clikp.sprep.org

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