

# Republic of Korea-Pacific Islands Climate Prediction Services Project

## Summary: October to December 2021 (OND)

2021-09 Edition



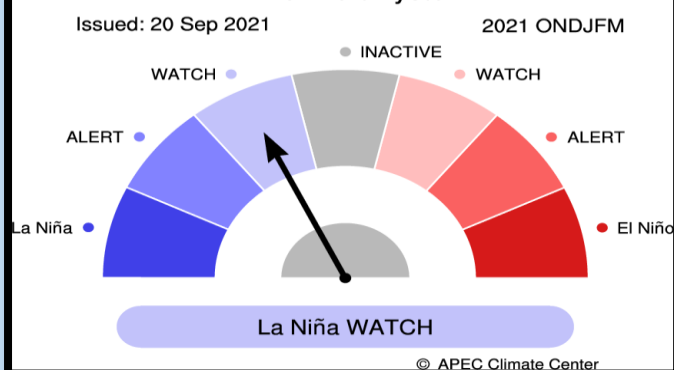
## Climate Outlook for October 2021 ~ March 2022

- The APCC ENSO Alert suggests **"La Niña WATCH"**. During August 2021, negative sea surface temperature anomalies were observed over the equatorial Pacific. The Niño3.4 index starting from  $-0.63^{\circ}\text{C}$  is expected to decrease to  $-0.82^{\circ}\text{C}$  and gradually increase to  $-0.19^{\circ}\text{C}$  during the forecast period. Based on the running 3-month mean Niño3.4 index, the latest APCC ENSO outlook suggests a 67% chance of La Niña conditions with weak intensity for October – December 2021, which gradually decreases. Meanwhile, ENSO-neutral conditions are likely to be gradually increasing and then dominant during January – March 2022.
- Strongly enhanced probability for above normal temperatures is predicted for Micronesia and Melanesia (excluding equatorial region), and southern Polynesia for October 2021 – March 2022.
- A tendency for above normal precipitation is predicted for the Pacific Islands (excluding equatorial regions) for the same period.
- Please see <https://apcc21.org/ser/outlook.do?lang=en> for more information.

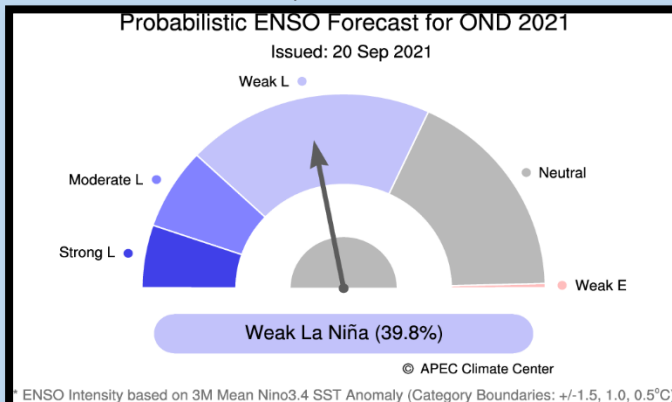
## ENSO

### Current Status

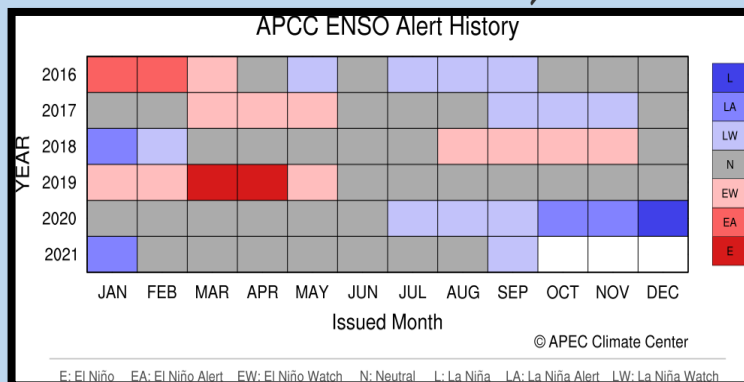
#### ENSO Alert System



### ENSO Forecast OND



### ENSO Alert History



# Republic of Korea-Pacific Islands Climate Prediction Services Project PICASO & CLIK® Summary



## RAINFALL OUTLOOK

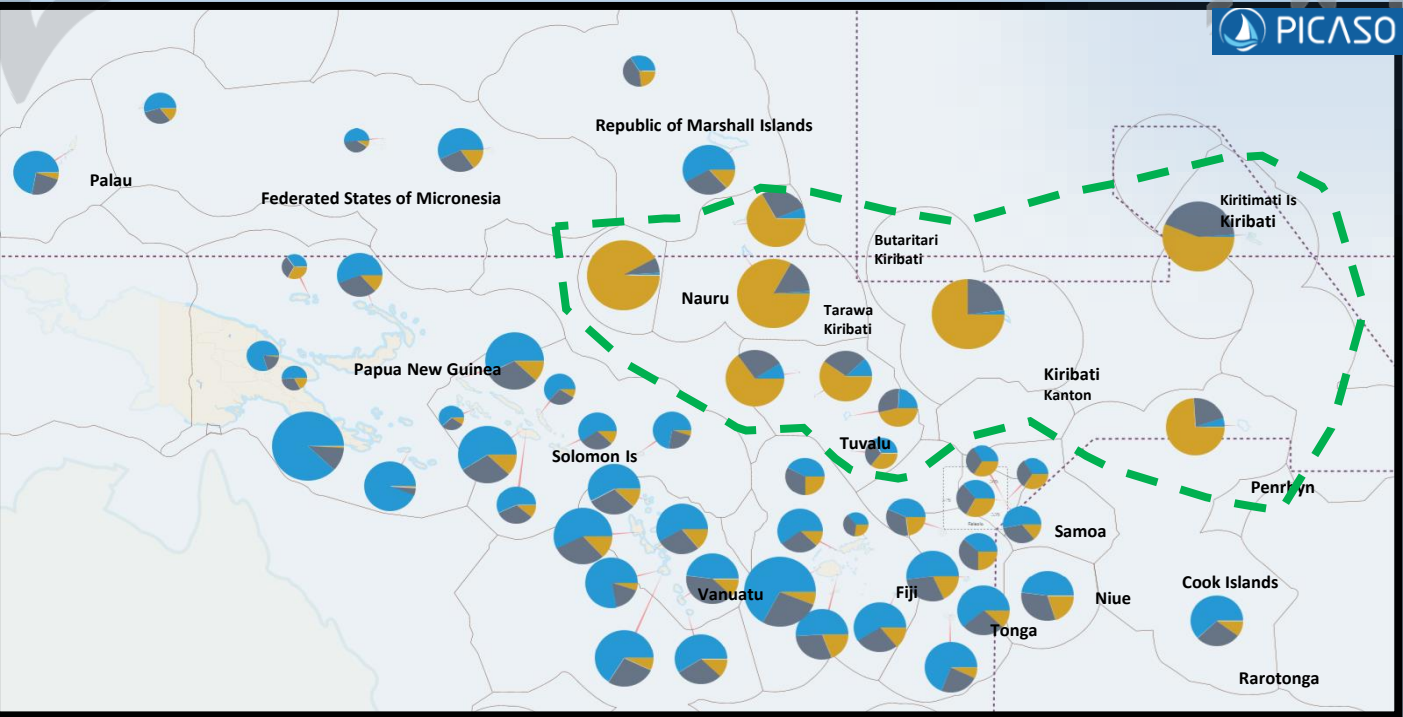
Model	PICASO	CLIK®
Status	COUNTRY (Area)	
Above Normal	<b>Cook Islands - (Rarotonga)</b> <b>Fiji – (Ono-i-lau, Nabouwalu, Nadi, Suva, Rotuma)</b> <b>FSM</b> <b>Republic of Marshall Island – (Majuro)</b> <b>Niue</b> <b>Palau</b> <b>PNG</b> <b>Samoa – (Afiamalu, Faleolo, *Apia, *Lauli'i)</b> <b>Solomon Islands</b> <b>Tonga</b> <b>Vanuatu</b>	<b>Cook Islands – (Rarotonga)</b> <b>Fiji</b> <b>FSM</b> <b>Republic of Marshall Island</b> <b>Niue</b> <b>Palau</b> <b>PNG – (Port Moresby, Misima, Nadzab, Madang)</b> <b>Samoa</b> <b>Solomon Islands</b> <b>Tonga</b> <b>Vanuatu</b>
Normal	<b>Fiji – (Udu Point)</b> <b>Republic of Marshall Island – (Kwajalein)</b>	
Below Normal	<b>Cook Islands - (Penrhyn)</b> <b>Kiribati</b> <b>Nauru</b> <b>Samoa – (*Apia, *Lauli'i )</b> <b>Tuvalu</b>	<b>Cook Islands - (Penrhyn)</b> <b>Kiribati</b> <b>Nauru</b> <b>PNG – (Momote, Kavieng)</b> <b>Solomon Islands – (Auki)</b> <b>Tuvalu</b> <b>Tokelau</b>

Note: \* indicate stations that have equal or similar probability of getting Above normal, Normal and Below normal

## TEMPERATURE OUTLOOK : CLIK® toolkit

Status	COUNTRY (Area)
Above Normal	<b>Cook Is (Rarotonga, southern group), FSM, Fiji, Republic of Marshall Is, Kiribati, Nauru, Niue, Palau, PNG, Samoa, Solomon Islands, Tonga, Tuvalu (Nui, Niulakita, Nanumea), Vanuatu.</b>
Normal	<b>Cook Is (Penrhyn, northern group), Tuvalu - (Funafuti), Tokelau</b>
Below Normal	

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



**Figure 1:** Regional outlook map of the Pacific. In general, all stations enclose within the green-dash line anticipated to have Below Normal (BN) rainfall. Normal (N) to Above Normal (AN) rainfall is predicted for stations outside the green-dashed 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										
Penrhyn	74%	21%	5%	30.1	Very High	55		9	4	2
Rarotonga	10%	28%	62%	24.5	High	50		10	4	1
Fiji										
Rotuma	25%	33%	42%	9.1	Moderate	40		9	2	4
Udu Point	27%	37%	36%	-3.3	Very Low	-9.1		3	5	3
Nabouwalu	12%	28%	60%	13.1	Good	31.8		6	3	2
Nadi Airport	6%	27%	67%	37.1	Excellent	60		11	4	0
Suva	19%	30%	51%	15.8	High	63.3		10	3	2
Ono I Lau	14%	27%	59%	19.5	High	46.4		9	5	0
Kiribati										
Kiritimati	56%	43%		43.8	Excellent	40		9	6	0
Butaritari	67%	27%	6%	27.7	Very High	40		9	6	0
Tarawa	83%	16%		59.1	Excellent	60		11	4	0
Kanton	75%	23%		39.3	Excellent	37.5		7	4	1
Marshall Islands										
Kwajalein Bucholz Aaf	23%	43%	34%	1.6	Low	10		6	9	0
Majuro	13%	29%	58%	20.3	High	30		8	5	2

# Republic of Korea-Pacific Islands

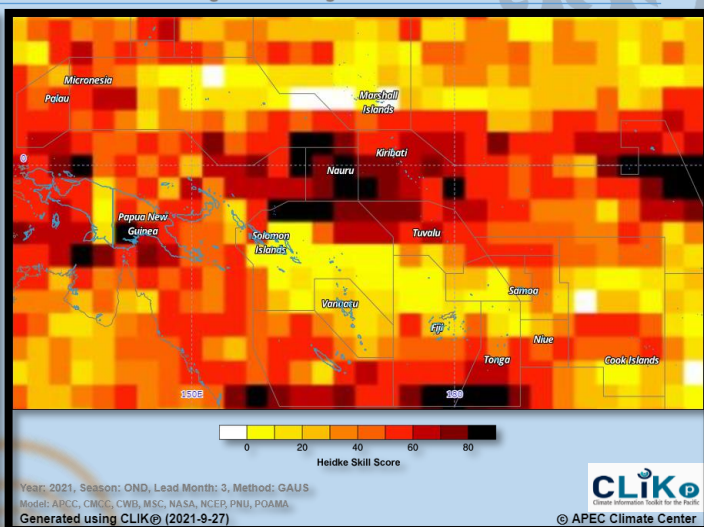
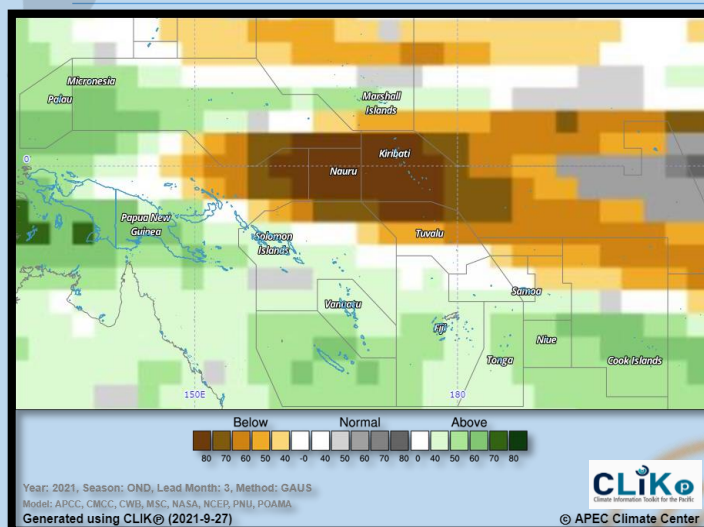
## Climate Prediction Services Project

### PICASO Regional Rainfall Forecast (OND)



Station	Tercile Probability				Verification Score (LEPS)	Verification Score (HSS)	Hit/NearMiss/Miss
	KEY	BN	N	AN			
<b>Micronesia</b>							
✓ Chuuk WSO AP	9%	39%	52%	-9.6	Very Low	-10	4 5 6
✓ Pohnpei	15%	28%	57%	11.9	Good	30	8 5 2
✓ Yap Island WSO Airport	14%	32%	54%	0.3	Low	15	5 4 6
<b>Nauru</b>							
✓ Nauru	92%	7%		55.5	Excellent	78.6	6 1 0
<b>Niue</b>							
✓ Hanan Airport	20%	32%	48%	23	High	65	11 2 2
<b>Palau</b>							
✓ Koror	5%	23%	72%	10	Good	10	6 7 2
<b>Papua New Guinea</b>							
✓ Madang	18%	80%		4.4	Low	-3.8	4 6 3
✓ Port Moresby	11%	88%		44.5	Excellent	46.4	9 5 0
✓ Mumote	33%	32%	35%	-6	Very Low	-12.5	2 3 9
✓ Nadzab	17%	32%	51%	-5.1	Very Low	14.3	6 4 4
✓ Kavieng	13%	31%	56%	11	Good	3.6	5 7 2
✓ Misima	5%	94%		22.6	High	14.3	6 7 1
<b>Samoa</b>							
✓ Afiamalu	14%	33%	53%	6	Moderate	20	7 7 1
✓ Lauli	34%	32%	34%	0.9	Low	10	6 6 3
✓ Faleolo	33%	31%	36%	6.6	Moderate	100	15 0 0
✓ Apia	34%	32%	34%	2.8	Low	10	6 6 3
<b>Solomon Islands</b>							
✓ Taro Island	12%	31%	57%	25.7	Very High	30	8 7 0
✓ Munda	9%	29%	62%	-23.2	Very Low	-20	3 7 5
✓ Auki	9%	28%	63%	3.3	Low	20	7 4 4
✓ Honiara	12%	29%	59%	26.8	Very High	30	8 7 0
✓ Honiara Henderson	11%	32%	57%	7.8	Moderate	20	7 6 2
✓ Kira Kira	12%	29%	59%	6.9	Moderate	0	5 7 3
✓ Santa Cruz	5%	23%	72%	5.8	Moderate	0	5 8 2
<b>Tonga</b>							
✓ Nukunono	23%	34%	43%	8.4	Moderate	20	7 5 3
✓ KeppelMata'aho Airport	25%	37%	38%	9	Moderate	14.3	6 8 0
✓ Lupepa'u	18%	30%	52%	19.4	High	60	11 3 1
✓ Haapai	12%	27%	61%	24	High	65	11 1 3
✓ Nuku'alofa	7%	24%	69%	18.7	High	-20	3 12 0
<b>Tuvalu</b>							
✓ Nanumea	65%	26%	9%	25.6	Very High	35	7 6 2
✓ Nui	60%	28%	12%	22.9	High	40	9 3 3
✓ Funafuti	46%	30%	24%	8.1	Moderate	-20	3 10 2
✓ Niulakita	36%	31%	33%	3.4	Low	0	5 6 4
<b>Vanuatu</b>							
✓ Sola (Vanus Lava)	12%	30%	58%	16.2	High	12.5	5 5 2
✓ Pekoa Airport (Santo)	13%	30%	57%	27.2	Very High	30	8 6 1
✓ Lamap (Malekula)	14%	28%	58%	20.3	High	20	7 6 2
✓ Bauerfield (Efate)	5%	17%	78%	19.8	High	30	8 6 1
✓ Port Vila	7%	27%	66%	31	Very High	50	10 4 1
✓ White Grass Airport	12%	40%	48%	16.2	High	20	7 6 2
✓ Anelyum	12%	29%	59%	16.2	High	20	7 6 2

# Republic of Korea-Pacific Islands Climate Prediction Services Project CLIK® Rainfall Forecast (OND)



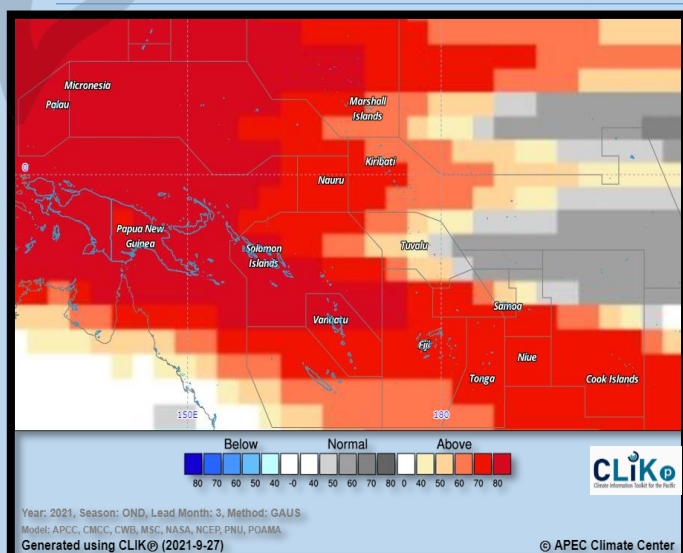
**Figure 1: MME Rainfall Forecast for the Pacific Islands – OND 2021 period** **Figure 2: Rainfall Forecast Skill for the Pacific Islands – OND 2021 period**

Country	Rainfall Outlook	Skill
Cook Islands	Below Normal - Penrhyn Above Normal - Rarotonga	Moderate
FSM	Above Normal	Low - Moderate
Fiji	Above Normal	Low – High
Kiribati	Below Normal	Moderate - High
Marshall Islands	Above Normal	Very Low
Nauru	Below Normal	Very High
Niue	Above Normal	Moderate
Palau	Above Normal	High
PNG	Below Normal – (Momote, Kavieng) Above Normal (Elsewhere)	Low/High Moderate – High
Samoa	Above Normal	Low
Solomon Islands	Above Normal	High for Munda and Taro Is. Very Low elsewhere
Tonga	Above Normal	Very Low - Moderate
Tokelau	Below Normal	High
Tuvalu	Below Normal	Moderate - High
Vanuatu	Above Normal	Low

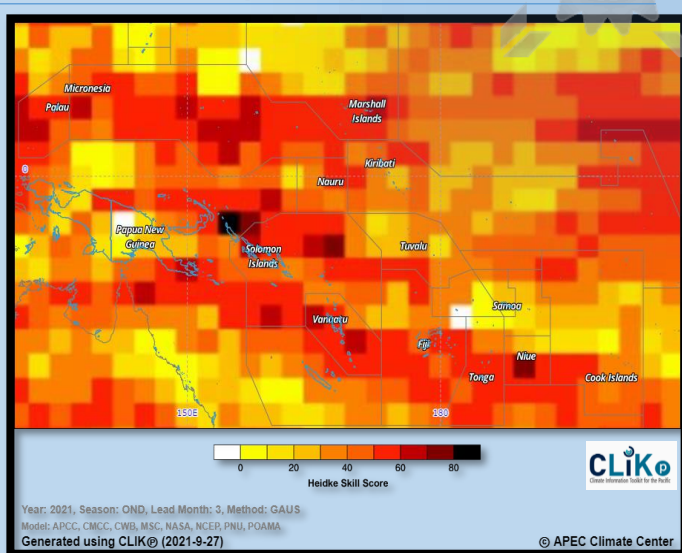
**Table 1: Rainfall Outlook and Skill for the Pacific Islands.**

**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 (OND)



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



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

Country	Air Temperature Outlook	Skill
Cook Islands	Normal (Penrhyn) Above Normal (Rarotonga)	Moderate
FSM	Above Normal	Moderate - High
Fiji	Above Normal	Moderate – High
Kiribati	Above Normal	Low - Moderate
Marshall Islands	Above Normal	High
Nauru	Above Normal	High
Niue	Above Normal	Very High
Palau	Above Normal	High
PNG	Above Normal	Low – Madang/Nabzab, High elsewhere
Samoa	Above Normal	Very Low
Solomon Islands	Above Normal	Moderate - High
Tonga	Above Normal	Very Low – Keppel Mataaho/ Niuafuou Moderate - High elsewhere
Tokelau	Normal	Moderate
Tuvalu	Normal – Funafuti Above Normal – Nui, Niulakita, Nanumea	Low - Moderate
Vanuatu	Above Normal	High

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

*A resilient Pacific environment, sustaining our livelihoods and natural heritage in harmony with our cultures.*

# 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).

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Visit the CLIK® Online Climate Prediction System: [clikp.sprep.org](http://clikp.sprep.org)

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## **CONTACT INFORMATION:**

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