

Summary: December 2021 to February 2022 (DJF)

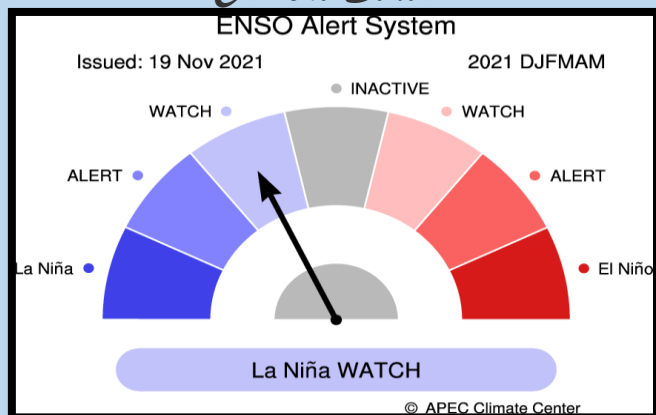
Climate Outlook for December 2021 ~ May 2022

- The APCC ENSO Alert suggests “La Niña WATCH”. During October 2021, negative sea surface temperature anomalies were observed over the equatorial Pacific. The Niño3.4 index below -1.1°C is expected to gradually increase to -0.2°C during the forecast period. Based on the running 3-month mean Niño3.4 index, the latest APCC ENSO outlook suggests an 87% chance of La Niña conditions with weak intensity for December 2021 – February 2022, which gradually decreases. Meanwhile, ENSO-neutral conditions are likely to be gradually increasing and then dominant during March – May 2022.
- Strongly enhanced probability for above normal temperatures is predicted for Micronesia and Melanesia (excluding equatorial region), and southern Polynesia for December 2021 – May 2022.
- Enhanced probability 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

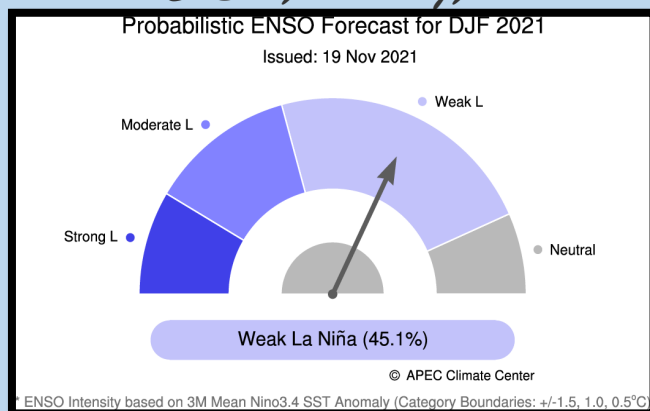
Current Status

ENSO Alert System



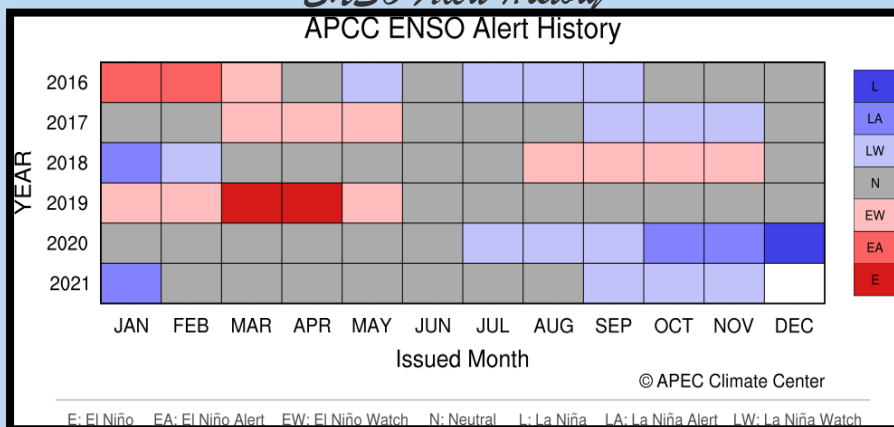
ENSO Forecast DJF

Probabilistic ENSO Forecast for DJF 2021



ENSO Alert History

APCC 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	Cook Islands - (Rarotonga) Fiji - (*Suva) FSM Republic of Marshall Island Niue Palau PNG – (Port Moresby, Misima) Samoa – (*Afiamalu, *Faleolo, Apia, Lauli'i) Solomon Islands (Auki, Honiara, Henderson, Kirakira, Santa Cruz) Tonga Tuvalu – (Niulakita) Vanuatu	Cook Islands – (Rarotonga) Fiji FSM Republic of Marshall Island Niue Palau PNG – (Port Moresby, Misima, Nadzab) Samoa Solomon Islands Tonga Vanuatu
Normal		
Below Normal	Cook Islands - (Penrhyn) Kiribati Nauru PNG – (Madang, Momote, Nadzab, Kavieng) Solomon Islands – (Taro Is., Munda) Tuvalu - (Nanumea, Nui, Funafuti)	Cook Islands - (Penrhyn) Kiribati Nauru PNG – (Momote, Kavieng, Madang) Solomon Islands – (Auki) Tuvalu Tokelau

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

TEMPERATURE OUTLOOK : CLIK® toolkit

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

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

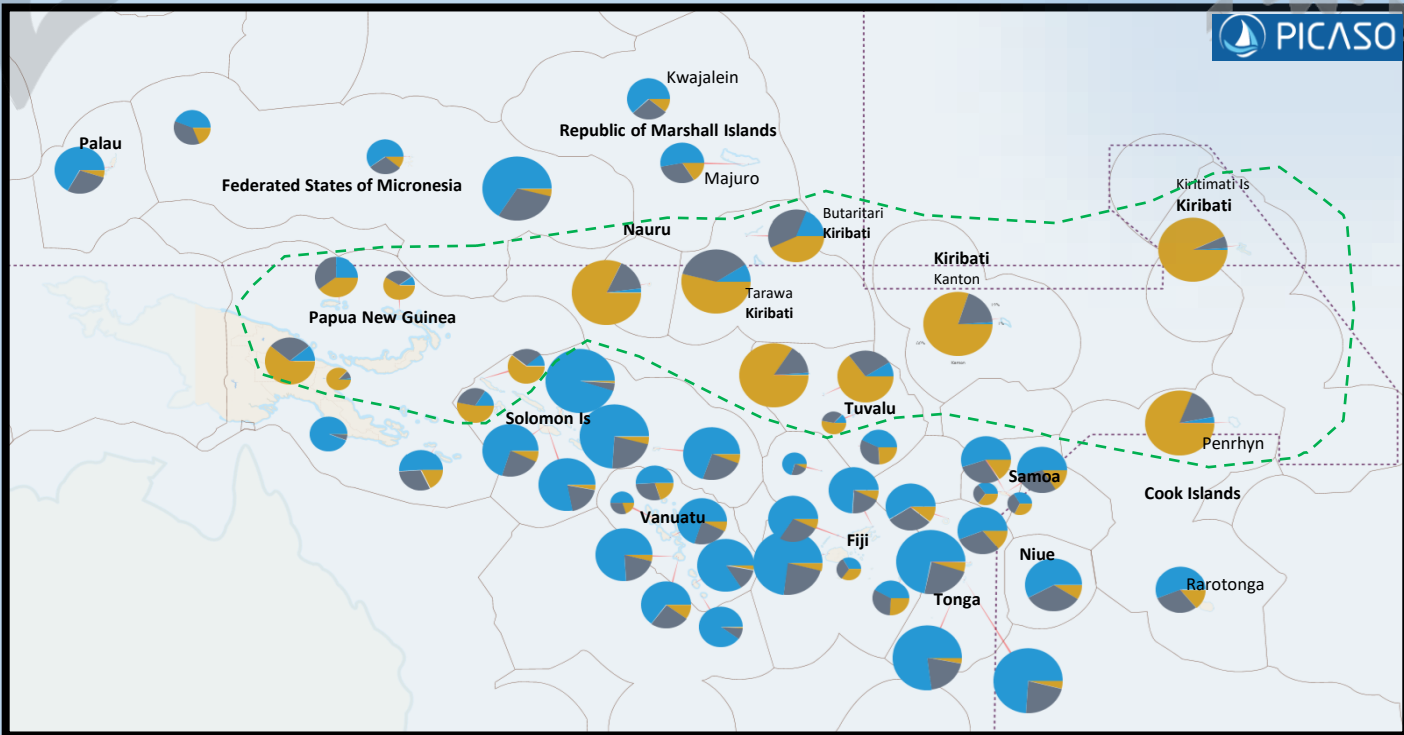


Figure 1: Regional outlook map of the Pacific. In general, all stations enclosed within the green-dash line anticipated to have Below Normal (BN) rainfall. Normal (N) to Above Normal (AN) rainfall is predicted for stations outside the green-dashed line. (Note: the larger the pie chart the higher the forecast skills.)

OUTLOOK TABLE BY COUNTRY

Station	Tercile Probability			Verification Score (LEPS)		Verification Score (HSS)		Hit/NearMiss/Miss		
	KEY	BN	N	AN						
Cook Islands										
Penrhyn		81%		16%	42.1	Excellent	50	10	5	0
Rarotonga		14%	30%	56%	19.2	High	30	8	6	1
Fiji										
Rotuma	7	22%		71%	-8.4	Very Low	-20	3	8	4
Udu Point	7	19%		74%	23.4	High	50	8	3	1
Nabouwalu	7	27%		66%	22.4	High	59.1	8	2	1
Nadi Airport		23%		73%	44.8	Excellent	70	12	2	1
Suva		35%	32%	33%	-1.9	Very Low	-30	2	5	8
Ono I Lau		26%	32%	42%	7.3	Moderate	25	7	3	4
Kiribati										
Kiritimati		93%		6	62.1	Excellent	60	11	4	0
Butaritari		43%	38%	19%	28.2	Very High	55	10	3	2
Tarawa		54%	37%	9%	57.1	Excellent	60	11	4	0
Kanton		80%		19%	52.4	Excellent	46.4	9	5	0
Marshall Islands										
Kwajalein Bucholz Aaf	11	27%		62%	10.3	Good	35	7	3	5
Majuro		16%	31%	53%	10.3	Good	-10	4	9	2

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



Station	Tercile Probability				Verification Score (LEPS)		Verification Score (HSS)		Hit/NearMiss/Miss		
	KEY	BN	N	AN							
Micronesia											
✓ Chuuk WSO AP	11%	29%	60%		9.5	Moderate	30		8	2	5
✓ Pohnpei	-	30%	66%		40	Excellent	55		10	5	0
✓ Yap Island WSO Airport	19%	37%	44%		5.3	Moderate	20		7	4	4
Nauru											
✓ Nauru		82%	16%		63	Excellent	78.6		6	1	0
Niue											
✓ Hanan Airport	99	33%	58%		28.3	Very High	65		10	3	2
Palau											
✓ Koror	!	28%	67%		22.7	High	10		6	7	2
Papua New Guinea											
✓ Madang		61%	28%	11%	21.5	High	25		7	5	2
✓ Port Moresby	!		94%		6.3	Moderate	3.6		5	5	4
✓ Momote		40%	35%	25%	10.1	Good	35.7		8	5	1
✓ Nadzab		87%		11%	-20.8	Very Low	-17.9		3	3	8
✓ Kavieng		59%	31%	10	4	Low	14.3		6	2	6
✓ Misima		18%	31%	51%	10.1	Good	14.3		6	6	2
Samoa											
✓ Afiamalu		32%	35%	33%	-6.5	Very Low	-25		2	7	6
✓ Laulii		16%	30%	54%	18.8	High	46.4		9	2	3
✓ Faleolo		35%	30%	35%	-0.5	Very Low	-10		1	3	11
✓ Apia		16%	29%	55%	18.4	High	50		10	4	1
Solomon Islands											
✓ Taro Island		61%	28%	11%	7.7	Moderate	15		6	5	4
✓ Munda		53%	31%	16%	8.3	Moderate	25		6	6	3
✓ Auki	-		95%		42.2	Excellent	30		8	7	0
✓ Honiara	7	23%	70%		33.5	Very High	40		9	5	1
✓ Honiara Henderson		19%	78%		26.3	Very High	40		9	4	2
✓ Kira Kira	-	22%	74%		38.4	Excellent	40		9	5	1
✓ Santa Cruz	6	24%	70%		31.3	Very High	30		8	7	0
Tonga											
✓ Nukunono	11%	30%	59%		19.7	High	20		7	7	1
✓ KeppelMata'aho Airport	14%	30%	56%		24.1	High	51.8		9	3	2
✓ Lupepau'u	!	23%	72%		40	Excellent	40		9	5	1
✓ Haapai	-	22%	74%		42.6	Excellent	60		11	3	1
✓ Nuku'alofa		20%	77%		43.6	Excellent	30		8	7	0
Tuvalu											
✓ Nanumea		84%	15%		37.7	Excellent	40		9	5	1
✓ Nui		65%	26%	99	27.2	Very High	30		8	5	2
✓ Funafuti		53%	34%	13%	-11.2	Very Low	-30		2	8	5
✓ Niulakita		24%	33%	43%	5.9	Moderate	15		6	4	5
Vanuatu											
✓ Sola (Vanua Lava)		20%	29%	51%	9.7	Moderate	0		4	6	2
✓ Pekoa Airport (Santo)		20%	30%	50%	-1	Very Low	10		6	3	6
✓ Lamap (Malekula)	7	23%	70%		19.4	High	40		9	4	2
✓ Bauerfield (Efate)	-	20%	76%		25.3	Very High	15		6	7	2
✓ Port Vila	10	25%	65%		21.5	High	20		7	5	3
✓ White Grass Airport	13%		84%		30.2	Very High	30		8	5	2
✓ Ancityum	99		90%		10.1	Good	10		6	5	4

Republic of Korea-Pacific Islands Climate Prediction Services Project

CLIK® Rainfall Forecast (DJF)

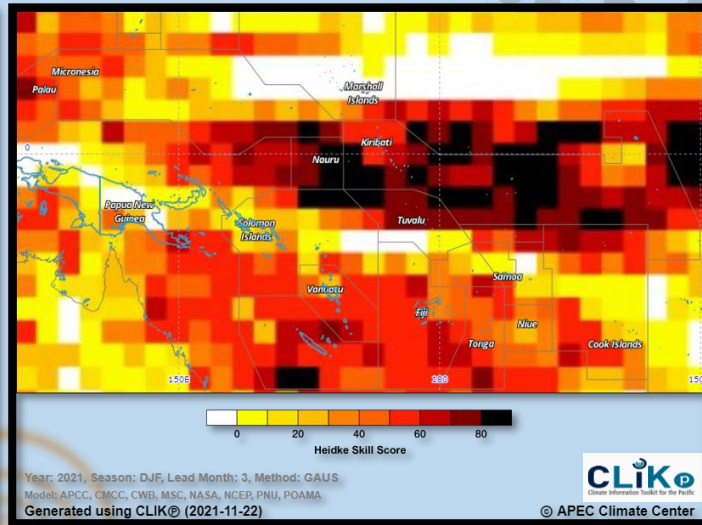
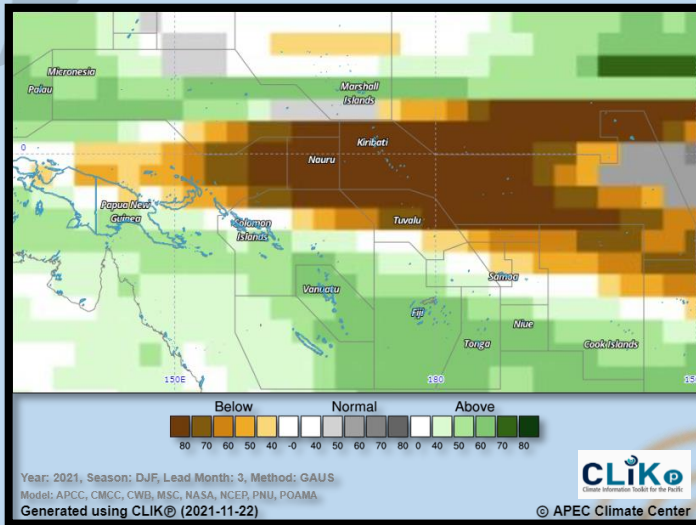


Figure 1: MME Rainfall Forecast for the Pacific Islands – DJF 2021 period **Figure 2: Rainfall Forecast Skill for the Pacific Islands – DJF 2021 period**

Country	Rainfall Outlook	Skill
Cook Islands	Below Normal - Penrhyn Above Normal - Rarotonga	Low - High
FSM	Above Normal	Very Low - Moderate
Fiji	Above Normal	Low - High
Kiribati	Below Normal	High – Very High
Marshall Islands	Above Normal	Very Low
Nauru	Below Normal	Very High
Niue	Above Normal	Low
Palau	Above Normal	High
PNG	Below Normal – Momote, Kavieng, Madang Above Normal – Port Moresby, Nadzab, Misima	Very Low - High
Samoa	Above Normal	High
Solomon Islands	Below Normal - Auki Above Normal - elsewhere	Very Low - Moderate
Tonga	Above Normal	Moderate - High
Tokelau	Below Normal	Moderate
Tuvalu	Below Normal	Very Low - Niulakita High - elsewhere
Vanuatu	Above Normal	Low - High

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 (DJF)

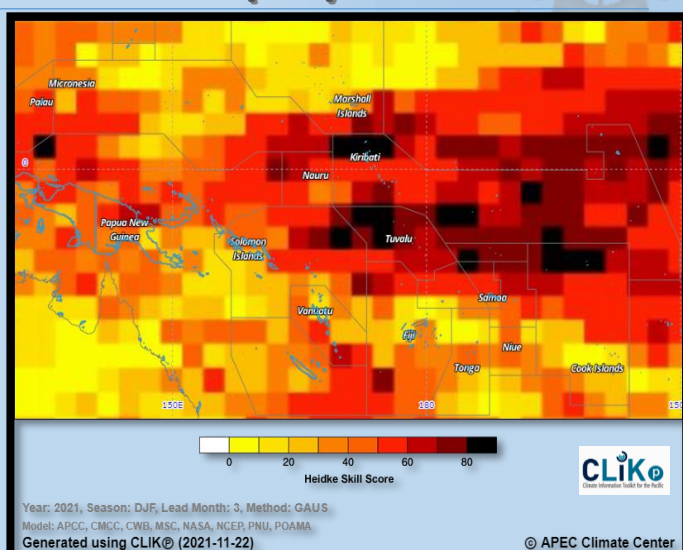
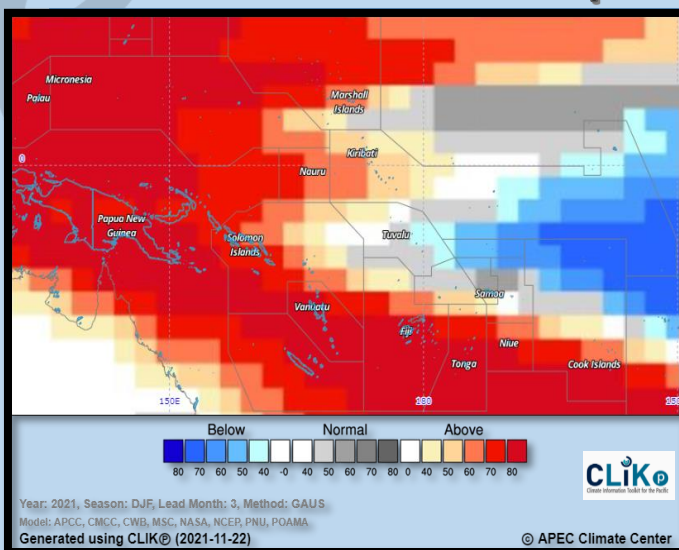


Figure 3: MME Temperature Forecast for the Pacific Islands – DJF 2021 period

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

Country	Air Temperature Outlook	Skill
Cook Islands	Below Normal (Penrhyn) Above Normal (Rarotonga)	High Very Low
FSM	Above Normal	Moderate
Fiji	Above Normal	Low – High
Kiribati	Above Normal – Tarawa/Butaritari Normal – Kiritimati/Kanton	High – Very High
Marshall Islands	Above Normal	Low - Moderate
Nauru	Above Normal	High
Niue	Above Normal	Moderate
Palau	Above Normal	High
PNG	Above Normal	Low - High
Samoa	Above Normal	Moderate
Solomon Islands	Above Normal	Low - High
Tonga	Above Normal	Very Low – Moderate
Tokelau	Normal	Moderate
Tuvalu	Above Normal – Nanumea Normal – Nui, Niulakita, Below Normal – Funafuti	High
Vanuatu	Above Normal	Low – 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).

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

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