

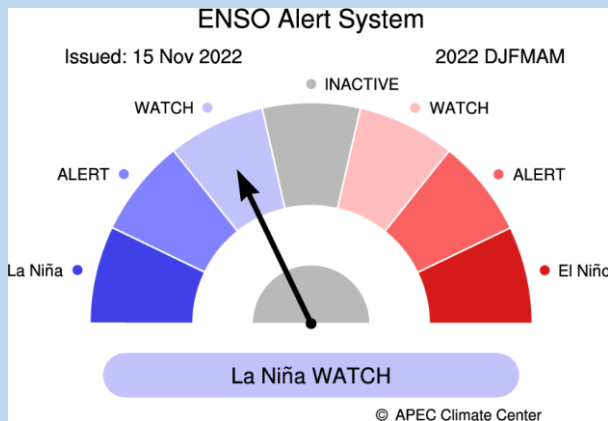
Summary: December 2022 to February 2023 (DJF)

Climate Outlook for December 2022 ~ May 2023

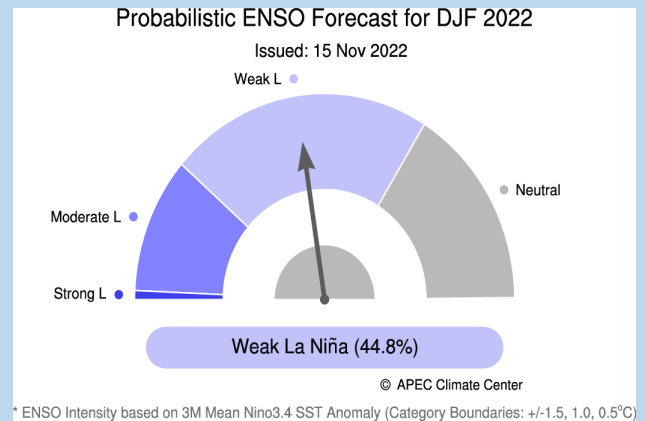
- The APCC ENSO Alert suggests “La Niña WATCH”. During October 2022, negative sea surface temperature anomalies were observed over the tropical Pacific. The Niño3.4 index is expected to be around -0.9°C and then gradually increase to 0.4°C through the whole forecast period. The probability for La Niña conditions is expected to be 67.6% during December 2022 – February 2023 and decrease. The chance of ENSO-neutral is expected to be dominant during the remaining periods.
- Strongly enhanced probability for above normal temperatures is predicted for Micronesia and Melanesia (excluding the equator), and Polynesia south of 15°S for December 2022 – May 2023. The probability above 80% for below normal temperatures for off-equatorial southern Polynesia is expected to decrease for the last half of the forecast period.
- Enhanced probability for above normal precipitation is predicted for Micronesia and Melanesia (excluding the boundary between them) from December 2022 – May 2023. Strongly enhanced probability for below normal precipitation is expected for the boundary between Micronesia and Melanesia, and off-equatorial southern Polynesia during the first half of the forecast period, which is likely to decrease during the remaining period.
- Please see <https://apcc21.org/ser/outlook.do?lang=en> for more information.

ENSO

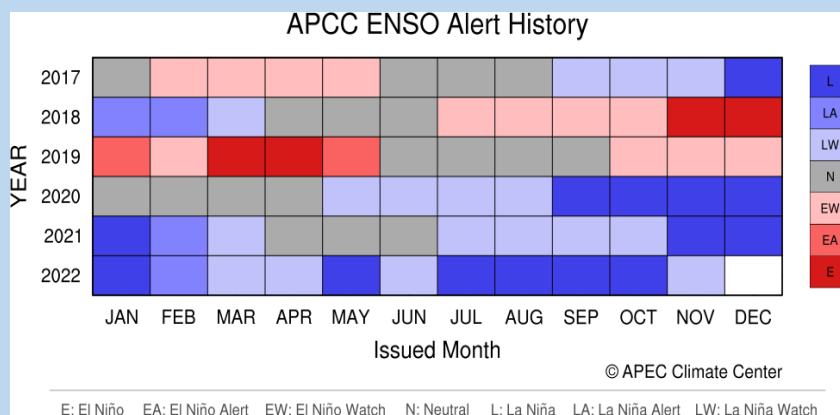
CURRENT STATUS



ENSO FORECAST



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, Nabouwalu, Nadi, Ono-i-lau, Udu Point, Rotuma) FSM (Chuuk, Pohnpei) Republic of Marshall Islands (Majuro, Kwajalein) Niue (Hanan) Palau (Koror) PNG (Port Moresby, Misima) Samoa (Apia, Afiamalu, Lauli'i, *Faleolo) Solomon Islands (Henderson, Kirakira, Honiara,, Auki, Santa Cruz) Tonga (Nukualofa, Keppel Mata'aho, Ha'apai, Lupepau'u, Niuafo'ou) Tuvalu (Niulakita) Vanuatu (Sola, Pekoa, Bauerfield, Port Vila, Whitegrass, Aneityum, Lamap)	Cook Islands – (Rarotonga) Fiji FSM (Yap, Chuuk, Pohnpei) Niue Palau (Koror) Republic of Marshall Islands PNG (Port Moresby, Nadzab, Misima) Samoa (*Apia, *Afiamalu, *Faleolo, *Lauli'i) Solomon Islands (Honiara, Henderson, *Santa Cruz, *Kirakira) Tonga (Nukualofa, Lupepau'u, Ha'apai, Niuafo'ou, Keppel Mata'aho) Vanuatu
Normal	Kiribati (Butaritari) FSM (Yap)	Fiji (Rotuma)
Below Normal	Cook Islands - (Penrhyn) Kiribati (Tarawa, Kanton, Kiritimati) Nauru PNG (Nadzab, Madang, Momote, Kavieng) Solomon Islands (Munda, Taro Island) Tuvalu (Nanumea, Nui, Funafuti)	Cook Islands - (Penrhyn) Kiribati (Butaritari, Tarawa, Kanton, Kiritimati) Nauru PNG (Momote, Kavieng, Madang) Solomon Islands (Auki, Munda, Taro Island) Tuvalu Tokelau

Note: * indicate stations that have an 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 , Kiribati (Tarawa, Butaritari), Republic of Marshall Is , Nauru , Niue , Palau , PNG , Samoa , Solomon Islands , Tonga , Vanuatu .
Normal	Fiji (Rotuma), Tuvalu (Nanumea)
Below Normal	Cook Is (Penrhyn, northern group), Kiribati (Kanton, Kiritimati), Tuvalu (Funafuti, Niulakita, Nui), Tokelau

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

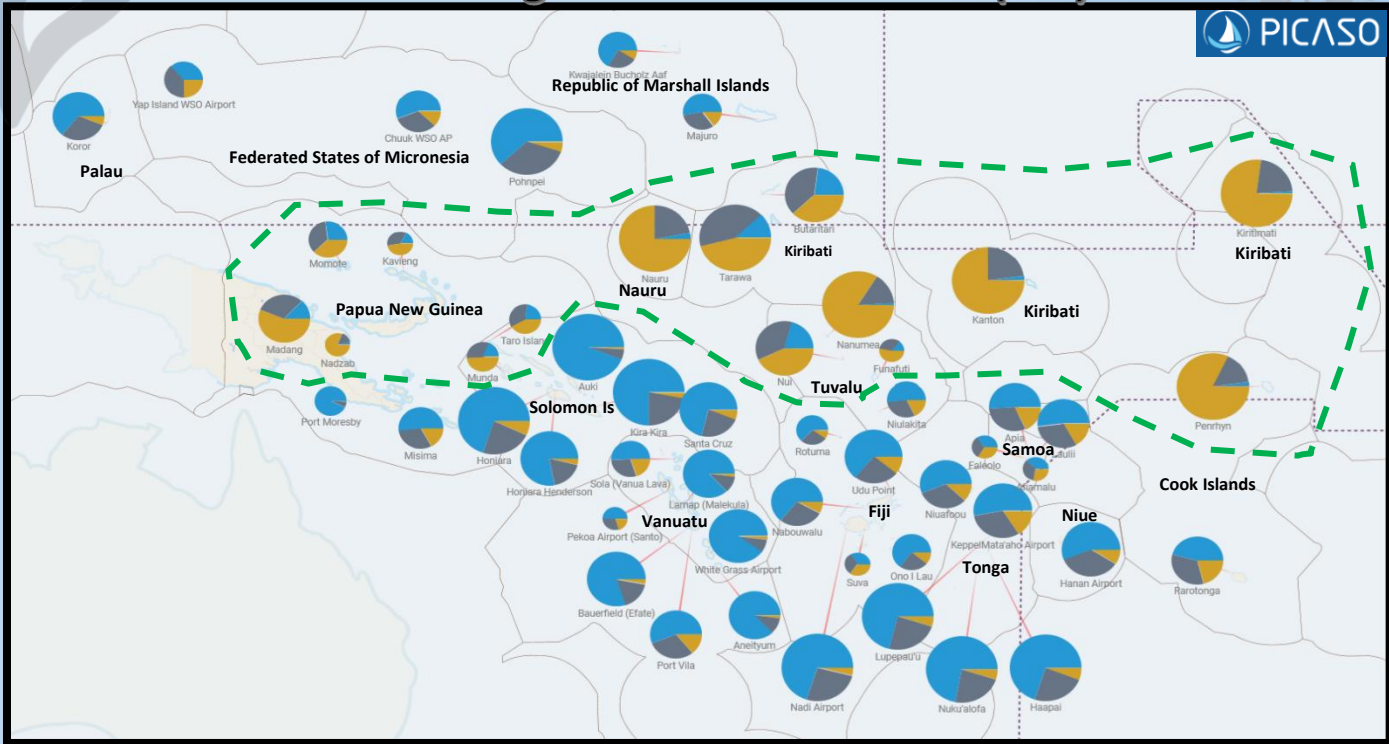


Figure 1: Regional outlook map of the Pacific. In general, all stations enclosed within the green-dash line anticipated to have Below Normal (BN) rainfall. Normal (N) to Above Normal (AN) rainfall is predicted for stations outside the green-dashed line. (Note: the larger the pie chart the higher the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

OUTLOOK TABLE BY COUNTRY

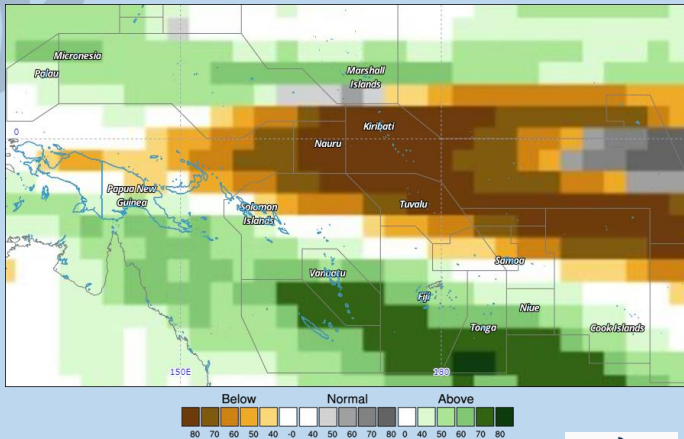
Station	Tercile Probability			Verification Score (LEPS)		Verification Score (HSS)		Hit/NearMiss/Miss		
	KEY	BN	N	AN						
Cook Islands										
✓ Penrhyn		82%		16%	40.8	Excellent	43.8	10	6	0
✓ Rarotonga		21%	33%	46%	21.1	High	34.4	9	6	1
Fiji										
✓ Rotuma	10	27%		63%	0.2	Low	-12.5	4	8	4
✓ Udu Point	11	25%		64%	27.3	Very High	53.8	9	3	1
✓ Nabouwalu	8	28%		64%	22.4	High	59.1	8	2	1
✓ Nadi Airport		26%		70%	46.6	Excellent	71.9	13	2	1
✓ Suva		35%	32%	33%	-1.9	Very Low	-31.2	2	5	9
✓ Ono I Lau	11	24%		65%	7.9	Moderate	30	8	3	4
Kiribati										
✓ Kiritimati		77%		22%	64.5	Excellent	62.5	12	4	0
✓ Butaritari		38%	39%	23%	27.8	Very High	57.8	11	3	2
✓ Tarawa		46%		42%	56	Excellent	62.5	12	4	0
✓ Kanton		75%		23%	52.4	Excellent	46.4	9	5	0
Marshall Islands										
✓ Kwajalein Bucholz Aaf	99	24%		67%	6.1	Moderate	29.7	7	3	6
✓ Majuro		15%	32%	53%	5.9	Moderate	-12.5	4	9	3

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	129	32%	56%		11.9	Good	34.4		9	2	5
✓ Pohnpei	1	33%	62%		38.8	Excellent	48.4		10	6	0
✓ Yap Island WSO Airport	25%	39%	36%		6.3	Moderate	25		8	4	4
Nauru											
✓ Nauru		75%	22%		63	Excellent	78.6		6	1	0
Niue											
✓ Hanan Airport	99	35%	56%		29.7	Very High	67.2		11	3	2
Palau											
✓ Koror	6	30%	64%		21.9	High	6.3		6	8	2
Papua New Guinea											
✓ Madang		56%	31%	13%	17.2	High	25		8	5	3
✓ Port Moresby	6		93%		4.5	Low	6.3		6	5	5
✓ Momote		38%	35%	27%	9.8	Moderate	25		8	7	1
✓ Nadzab		81%	16%		-26	Very Low	-21.9		3	3	10
✓ Kavieng		47%	36%	17%	-2.7	Very Low	6.3		6	2	8
✓ Misima		17%	31%	52%	10.9	Good	20		7	6	2
Samoa											
✓ Afiamalu		28%	35%	37%	-5.9	Very Low	-26.6		2	8	6
✓ Laulili		17%	31%	52%	18.3	High	40		9	3	3
✓ Faleolo		34%	31%	35%	-0.4	Very Low	1.6		1	3	12
✓ Apia		18%	31%	51%	19.8	High	53.1		11	4	1
Solomon Islands											
✓ Taro Island		42%	35%	23%	3	Low	10.9		6	5	5
✓ Munda		49%	32%	19%	4.8	Low	20.3		6	6	4
✓ Auki	1		94%		47	Excellent	34.4		9	7	0
✓ Honiara	7	23%	70%		35.5	Excellent	43.8		10	5	1
✓ Honiara Henderson	1	18%	78%		29.7	Very High	43.8		10	4	2
✓ Kira Kira		22%	75%		40.8	Excellent	43.8		10	5	1
✓ Santa Cruz	6	23%	71%		34.4	Very High	34.4		9	7	0
Tonga											
✓ Niuafuou	129	32%	56%		19.1	High	15.6		7	8	1
✓ KeppelMata'aho Airport	16%	31%	53%		25.4	Very High	55		10	3	2
✓ Lupepau'u	1	24%	71%		42.2	Excellent	43.8		10	5	1
✓ Haapai	6	24%	70%		44.6	Excellent	62.5		12	3	1
✓ Nuku'alofa	1	23%	72%		46.1	Excellent	34.4		9	7	0
Tuvalu											
✓ Nanumea		84%	15%		40.6	Excellent	43.8		10	5	1
✓ Nui		43%	36%	21%	29.3	Very High	34.4		9	5	2
✓ Funafuti		53%	33%	14%	-14	Very Low	-31.2		2	8	6
✓ Niulakita		18%	30%	52%	5.8	Moderate	10.9		6	5	5
Vanuatu											
✓ Sola (Vanua Lava)		20%	29%	51%	9.2	Moderate	-3.8		4	7	2
✓ Pekoa Airport (Santo)		20%	30%	50%	-1.1	Very Low	6.3		6	4	6
✓ Lamap (Malekula)	11		87%		22.8	High	43.8		10	4	2
✓ Bauerfield (Efate)		17%	80%		29.2	Very High	20.3		7	7	2
✓ Port Vila		14%	30%	56%	23.8	High	25		8	5	3
✓ White Grass Airport	8		90%		34.5	Very High	34.4		9	5	2
✓ Aneityum	11		87%		16.1	High	15.6		7	5	4

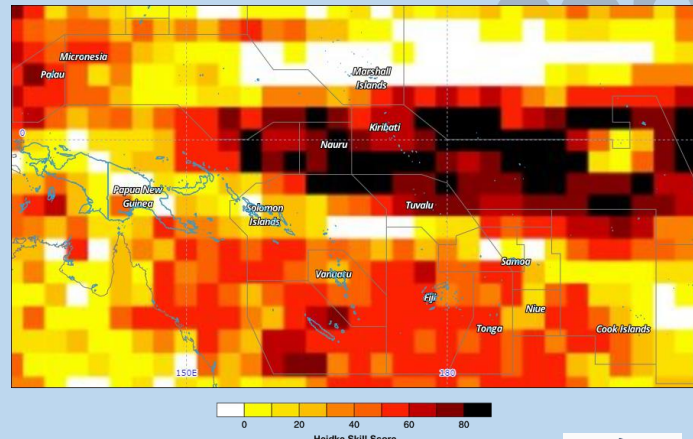
Republic of Korea-Pacific Islands Climate Prediction Services Project CLIK® Rainfall Forecast (DJF)



Year: 2022, Season: DJF, Lead Month: 3, Method: GAUS
Models: APCC, BOM, CMCC, MSC, NASA, NCEP, PNU
Generated using CLIK® (2022-11-30)

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Climate Information Link for the Pacific
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Figure 1: MME Rainfall Forecast for the Pacific Islands – DJF 2022 period



Year: 2022, Season: DJF, Lead Month: 3, Method: GAUS
Models: APCC, BOM, CMCC, MSC, NASA, NCEP, PNU
Generated using CLIK® (2022-11-30)

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Figure 2: Rainfall Forecast Skill for the Pacific Islands – DJF 2022 period

Country	Rainfall Outlook	Skill
Cook Islands	Below Normal - Penrhyn Above Normal - Rarotonga	Low - High
FSM	Above Normal	Very Low - High
Fiji	Normal - Above Normal	Low – High
Kiribati	Below Normal	High
Marshall Islands	Above Normal	Very Low
Nauru	Below Normal	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	Little guidance (Climatology)	High
Solomon Islands	Above Normal – Honiara, Henderson Below Normal – Auki, Munda, Taro Little guidance – Santa Cruz, Kirakira	Very Low - Low
Tonga	Above Normal	Moderate - High
Tokelau	Below Normal	High
Tuvalu	Below Normal	Low - High
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)

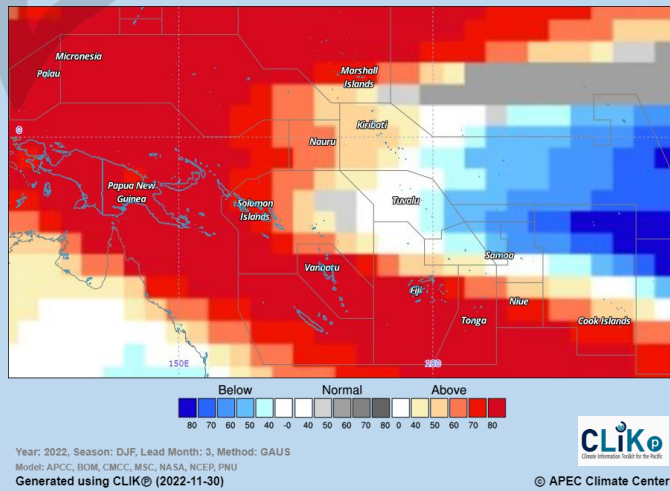


Figure 3: MME Temperature Forecast for the Pacific Islands – DJF 2022 period

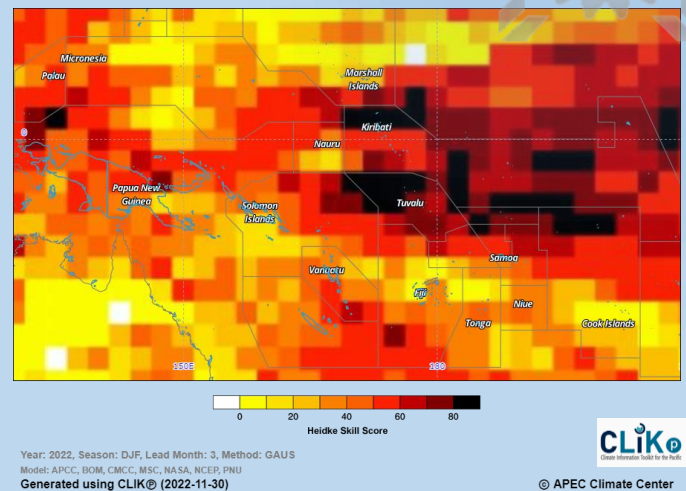


Figure 4: Air Temperature Forecast Skill for the Pacific Islands – DJF 2022 period

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

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

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

CONTACT INFORMATION:

For more information, please contact Mr. Tile Tofaeono, Climate Prediction Services Coordinator, SPREP tilet@sprep.org



PO Box 240, Apia, Samoa
E: sprep@sprep.org
T: +685 21929
F: +685 20231
W: www.sprep.org

