Republic of Korea-Pacific Islands Climate Prediction Services Project

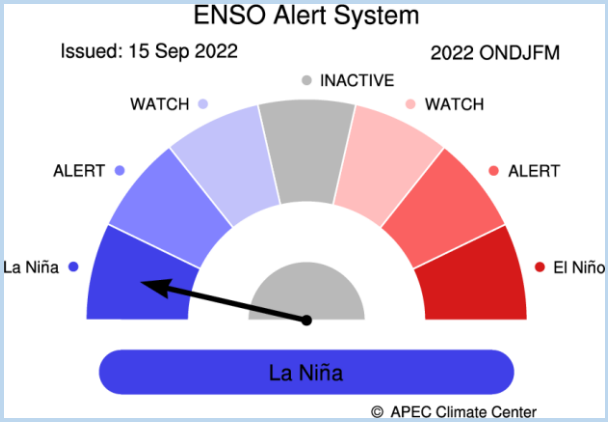
Summary: October to December 2022 (OND)

Climate Outlook for October 2022 ~ March 2023

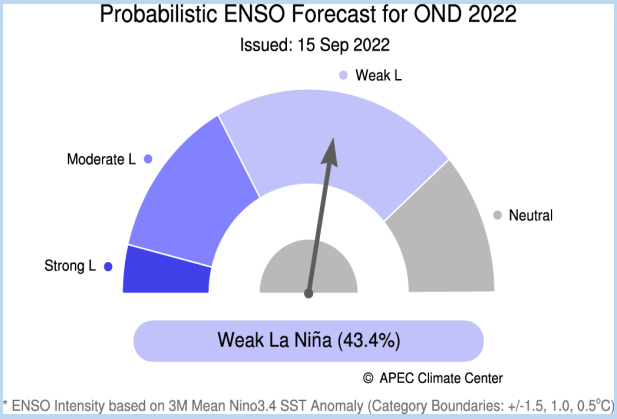
- The APCC ENSO Alert suggests “La Niña”. During August 2022, negative sea surface temperature anomalies were observed over the tropical Pacific. The Niño3.4 index is expected to be below -0.5ºC until December 2022 and then gradually increase to 0ºC. The probability for La Niña conditions is expected to be 77% during October – December 2022 and gradually decrease to 33% by January – March 2023. Its intensity is likely to be weak.
- Strongly enhanced probability for above normal temperatures is predicted for Micronesia and Melanesia (excluding the equator), and Polynesia south of 15ºS for October 2022 – March 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.
- Strongly enhanced probability for above normal precipitation is predicted for southern Melanesia during October – December 2022, which is likely to decrease during January – March 2023. Strongly enhanced probability for below normal precipitation is expected for southern Polynesia and the boundary between Micronesia and Melanesia during the first half of the forecast period, which is also likely to decrease during the remaining period.
- Please see https://apcc21.org/ser/outlook.do?lang=en for more information.

ENSO

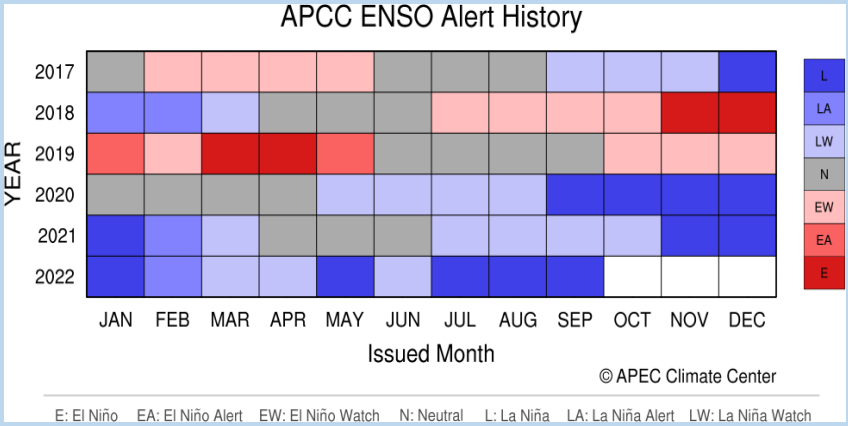
Current Status



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

Republic of Korea-Pacific Islands Climate Prediction Services Project

PICASO Regional Rainfall Forecast (OND)

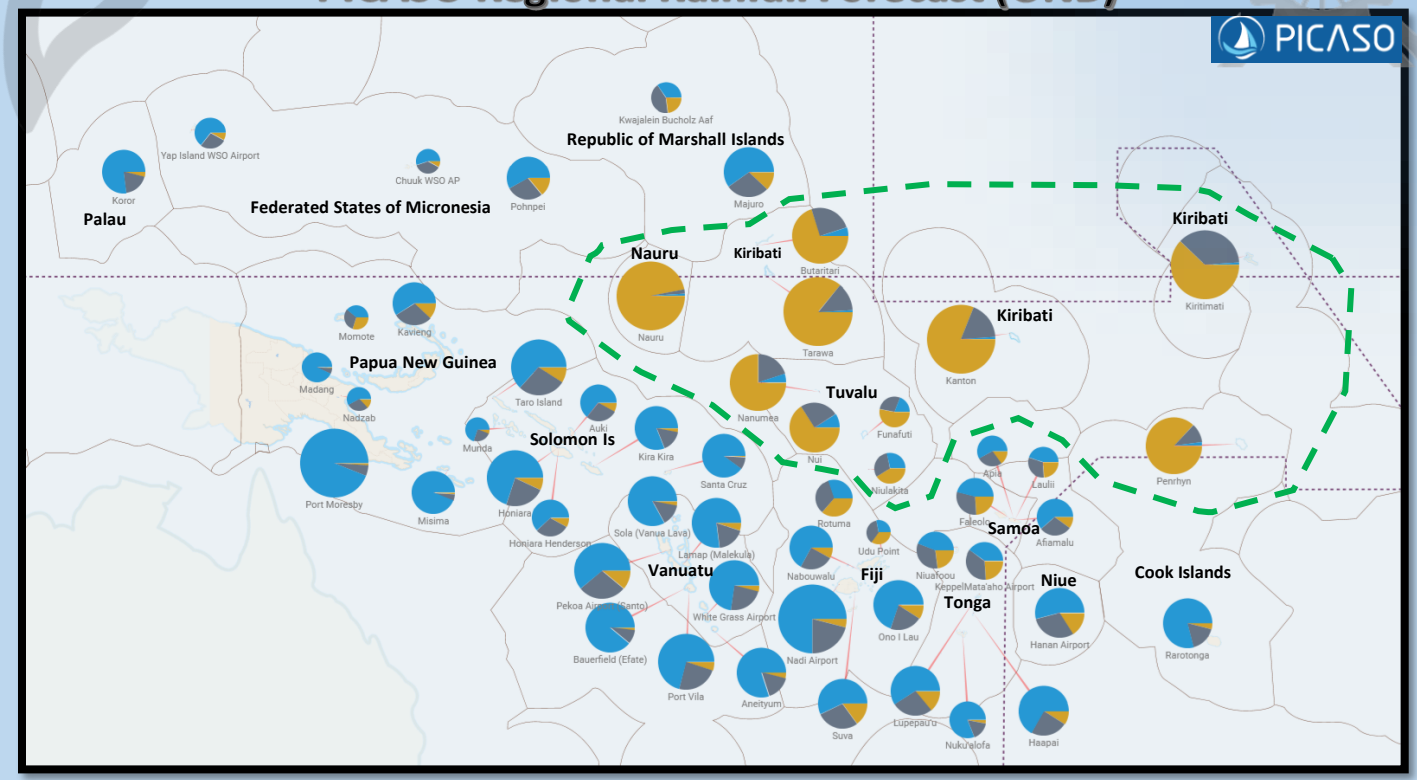


Figure 1: Regional outlook map of the Pacific. In general, all stations enclose within the green-dash line anticipated to have Below Normal (BN) rainfall. Normal (N) to Above Normal (AN) rainfall is predicted for stations outside the green-dashed line. *(Note: the larger the pie chart the higher the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

OUTLOOK TABLE BY COUNTRY

Station	Tercile Probability	Verification Score (LEPS)		Verification Score (HSS)	Hit	Near	Miss/Miss
Cook Islands	KEY: BN / N / AN						
Penrhyn	87%	32.6	Very High	57.8	10	4	2
Rarotonga	17% 79%	23.8	High	43.8	10	5	1
Fiji							
Rotuma	36% 34% 30%	7.4	Moderate	34.4	9	2	5
Udu Point	35% 37% 28%	-2	Very Low	-12.5	3	6	3
Nabouwalu	8% 25% 67%	13.1	Good	31.8	6	3	2
Nadi Airport	21% 75%	39.1	Excellent	62.5	12	4	0
Suva	15% 28% 57%	15.4	High	56.2	10	4	2
Ono I Lau	9% 21% 70%	18.8	High	40	9	6	0
Kiribati							
Kiritimati	62% 37%	44.4	Excellent	43.8	10	6	0
Butaritari	70% 25%	30.1	Very High	43.8	10	6	0
Tarawa	86% 13%	60.7	Excellent	62.5	12	4	0
Kanton	81% 18%	39.3	Excellent	37.5	7	4	1
Marshall Islands							
Kwajalein Bucholz Aaf	23% 42% 35%	1.9	Low	15.6	7	9	0
Majuro	12% 28% 60%	21.9	High	34.4	9	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)			
	KEY	BN	N	AN						
Micronesia										
Chuuk WSO AP	8	37%	55%		-6.2	Very Low	-3.1	5	5	6
Pohnpei	14%	28%	58%		14.2	Good	34.4	9	5	2
Yap Island WSO Airport	8	27%	65%		2.6	Low	20.3	6	4	6
Nauru										
Nauru		97%			55.5	Excellent	78.6	6	1	0
Niue										
Hanan Airport	16%	30%	54%		23.2	High	67.2	12	2	2
Palau										
Koror		19%	77%		14.4	Good	15.6	7	7	2
Papua New Guinea										
Madang	6		93%		4.9	Low	-7.1	4	7	3
Port Moresby	5		94%		47.8	Excellent	53.1	11	5	0
Momote		30%	31%	39%	-6.1	Very Low	-17.2	2	3	11
Nadzab	13%	29%	58%		-4.9	Very Low	6.3	6	6	4
Kavieng	12	29%	59%		11.2	Good	6.3	6	8	2
Misima	5		94%		12.4	Good	6.3	6	8	2
Samoa										
Afiamalu	10	29%	61%		5.8	Moderate	15.6	7	8	1
Laulii	24%	31%	45%		0.8	Low	20.3	7	6	3
Faleolo	24%	30%	46%		6.4	Moderate	100	16	0	0
Apia	15%	27%	58%		2.6	Low	20.3	6	6	4
Solomon Islands										
Taro Island	9	28%	63%		27.3	Very High	34.4	9	7	0
Munda	6	24%	70%		-23	Very Low	-21.9	3	8	5
Auki	8	28%	64%		7.8	Moderate	25	8	4	4
Honiara	7	23%	70%		28.4	Very High	34.4	9	7	0
Honiara Henderson	8	30%	62%		7.6	Moderate	15.6	7	7	2
Kira Kira		16%	81%		10.7	Good	6.3	6	7	3
Santa Cruz	9		90%		10.9	Good	6.3	6	8	2
Tonga										
Niuafoou	23%	33%	44%		6.3	Moderate	15.6	7	5	4
KeppelMata'aho Airport	24%	36%	40%		6.9	Moderate	10	6	8	1
Lupepau'u	14%	27%	59%		15.7	High	53.1	11	3	2
Haapai	9	24%	67%		23.5	High	57.8	11	2	3
Nuku'alofa		16%	81%		9.8	Moderate	-21.9	3	12	1
Tuvalu										
Nanumea		75%	20%	5	27.9	Very High	39.1	8	6	2
Nui		66%	25%	9	24.5	High	43.8	10	3	3
Funafuti		53%	28%	19%	4.8	Low	-21.9	3	10	3
Niulakita		41%	31%	28%	3.2	Low	-3.1	5	7	4
Vanuatu										
Sola (Vanua Lava)		14%	83%		18.9	High	19.2	6	5	2
Pekoa Airport (Santo)	11	28%	61%		28.6	Very High	34.4	9	6	1
Lamap (Malekula)	5	18%	77%		22.4	High	25	8	6	2
Bauerfield (Efate)	9		89%		23.8	High	34.4	9	6	1
Port Vila	5	24%	71%		33	Very High	53.1	11	4	1
White Grass Airport		23%	73%		17.5	High	25	8	6	2
Aneityum		16%	80%		18.7	High	25	8	6	2

Republic of Korea-Pacific Islands Climate Prediction Services Project

CLIK® Rainfall Forecast (OND)

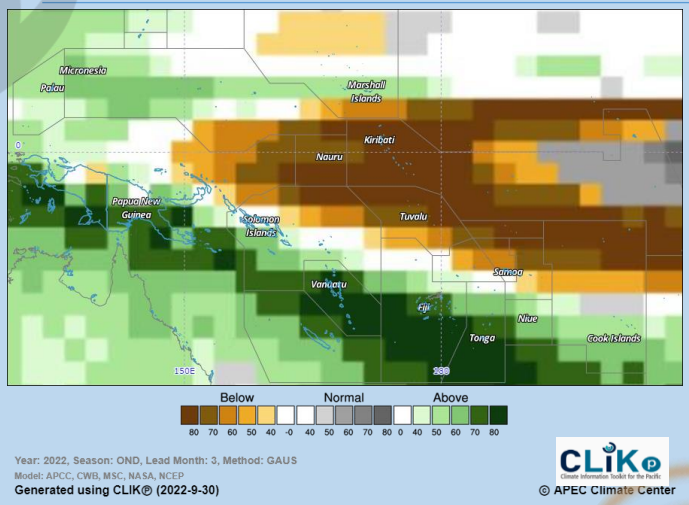


Figure 1: MME Rainfall Forecast for the Pacific Islands – OND 2022 period

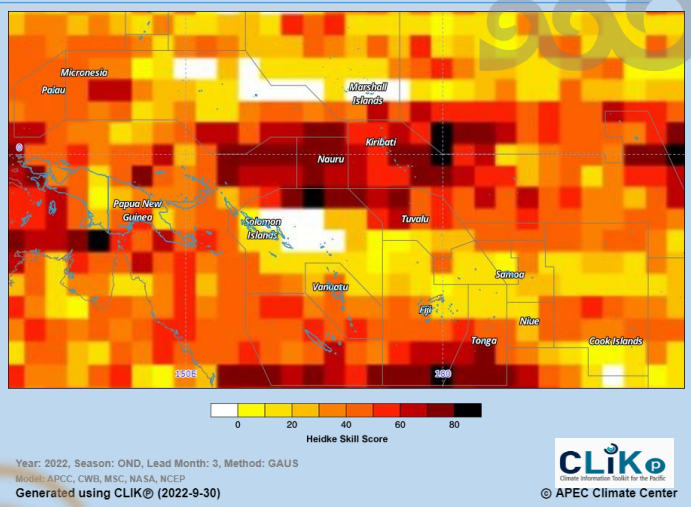


Figure 2: Rainfall Forecast Skill for the Pacific Islands – OND 2022 period

Country	Rainfall Outlook	Skill
Cook Islands	Below Normal - Penrhyn Above Normal - Rarotonga	Moderate
FSM	Above Normal	Moderate - High
Fiji	Above Normal except Rotuma(Climatology)	Low – Moderate
Kiribati	Below Normal	Moderate – High
Marshall Islands	Above Normal	Very Low – Low
Nauru	Below Normal	High
Niue	Above Normal	Low
Palau	Above Normal	Moderate
PNG	Below Normal –Momote, Kavieng Above Normal – Port Moresby, Nadzab, Misima, Madang	Low – High
Samoa	Below Normal	Low
Solomon Islands	Normal – Taro Is., Munda Above Normal – Honiara, Henderson, Kirakira Little guidance (Climatology) – Auki, Santa Cruz	Very Low - Moderate
Tonga	Above Normal	Low - Moderate
Tokelau	Below Normal	Moderate
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 (OND)

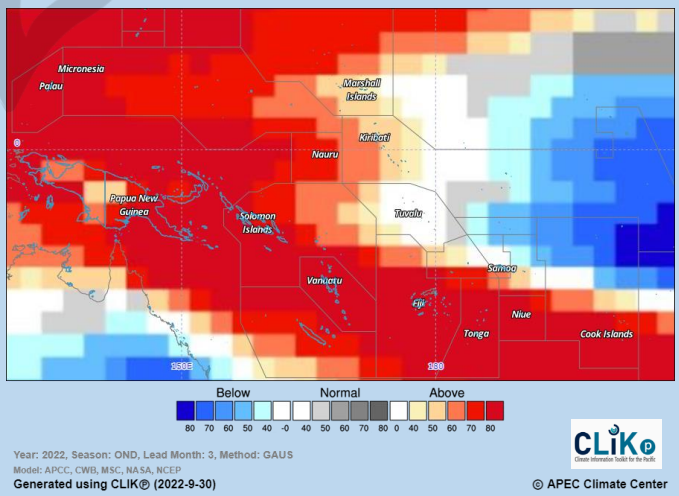


Figure 3: *MME Temperature Forecast for the Pacific Islands – OND 2022 period*

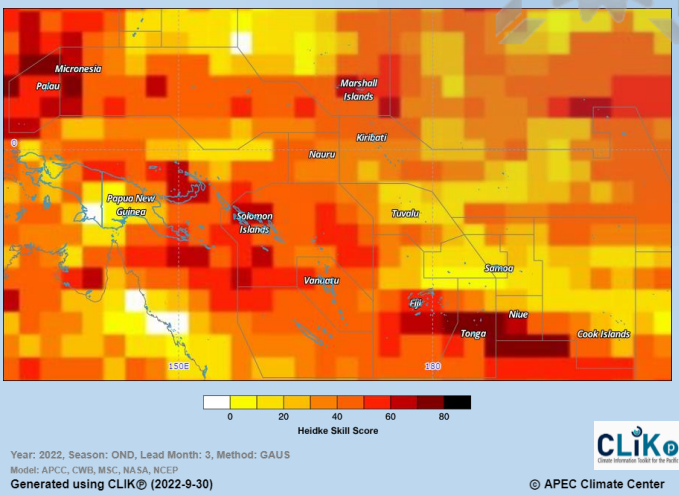


Figure 4: *Air Temperature Forecast Skill for the Pacific Islands – OND 2022 period*

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

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