

Republic of Korea-Pacific Islands Climate Prediction Services Project Summary: February to April 2023 (FMA)

2023-01 Edition

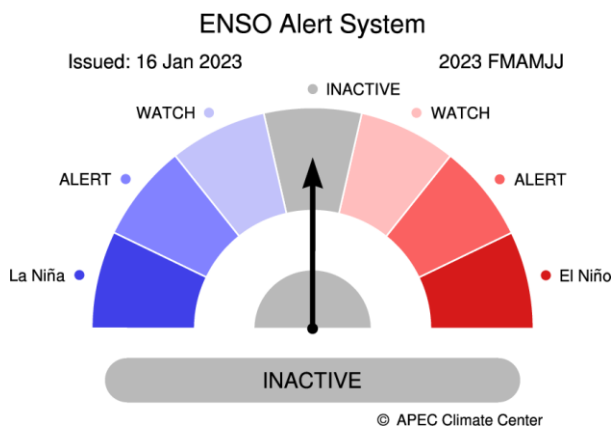


Climate Outlook for February ~ July 2023

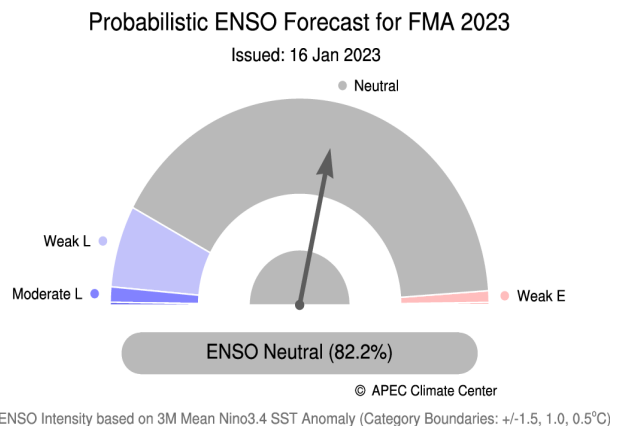
- The APCC ENSO Alert suggests “INACTIVE”. During December 2022, negative sea surface temperature anomalies were observed over the tropical Pacific. The Niño3.4 index is expected to gradually increase from -0.5°C to 1°C during February – July 2023. For the same period, the probability for ENSO-neutral conditions is expected to decrease. Meanwhile, the probability for El Niño is likely to increase and its intensity is expected to be weak.
- Strongly enhanced probability for above normal temperatures is predicted for Micronesia and Melanesia (excluding boundary between them near the Date Line), and Polynesia south of 15°S for February – July 2023. The equatorial region east of the Date Line is likely to experience near normal temperatures during February – April 2023 and a transition to above normal conditions during May – July 2023.
- Enhanced probability for above normal precipitation is predicted for Micronesia and Melanesia (excluding the equator) during February – July 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 persist in off-equatorial southern Polynesia during the remaining period.
- Please see <https://apcc21.org/ser/outlook.do?lang=en> for more information.

ENSO

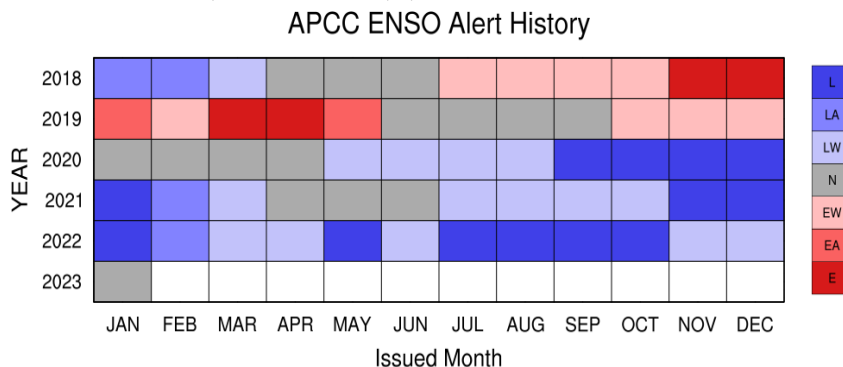
CURRENT STATUS



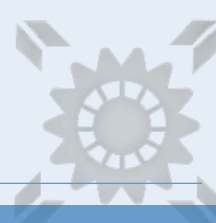
ENSO FORECAST



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

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

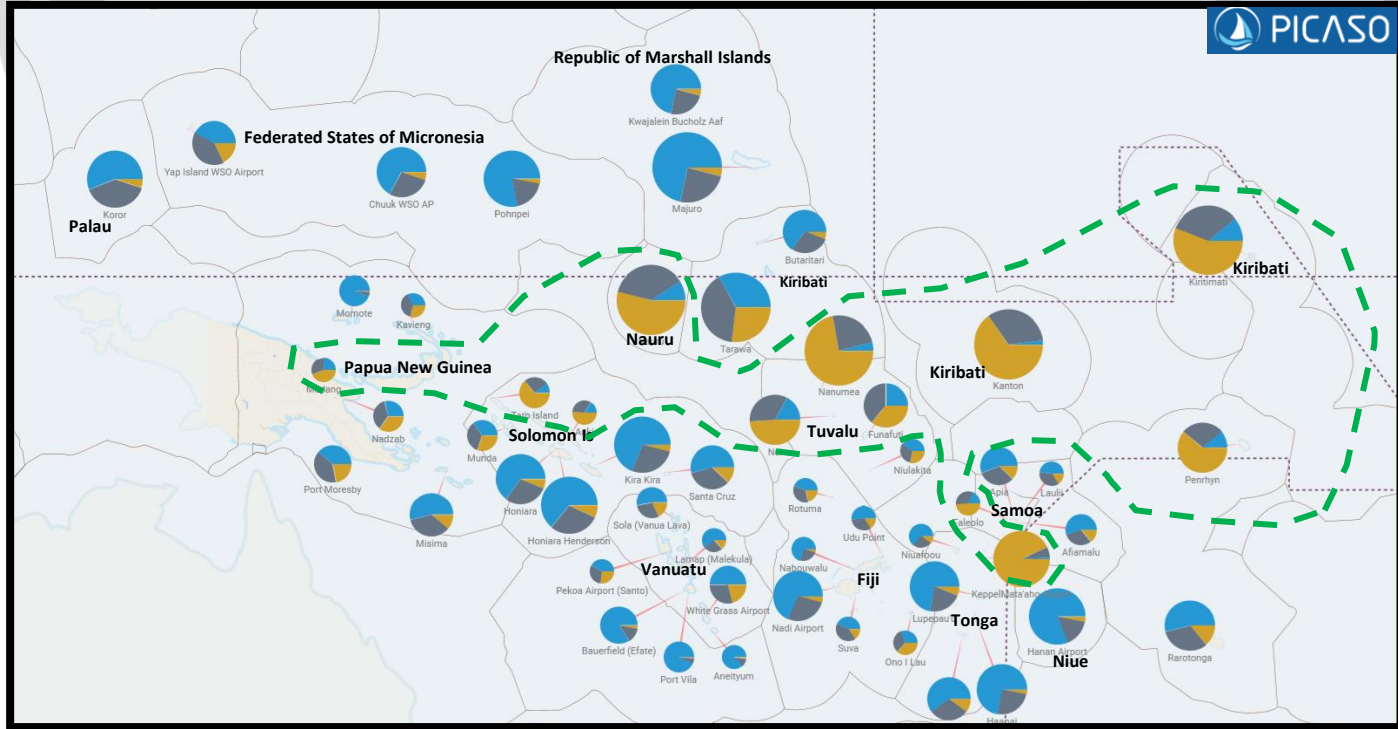


Figure 1: Regional outlook map of the Pacific. In general, all stations enclosed within the green-dash line anticipated to have Below Normal (BN) rainfall. Normal (N) to Above Normal (AN) rainfall is predicted for stations outside the green-dashed line. (Note: the larger the pie chart the higher the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

OUTLOOK TABLE BY COUNTRY

Station	Terile Probability				Verification Score (LEPS)		Verification Score (HSS)		Hit/NearMiss/Miss		
	KEY	BN	N	AN							
Cook Islands											
Penrhyn	61%		28%	11%	24.6	High	73.5		14	2	1
Rarotonga	14%	32%	54%		18.6	High	2.9		6	8	3
Fiji											
Rotuma	21%	35%	44%	-11.3	Very Low	-14.7			4	5	8
Udu Point	16%	32%	52%	-8.5	Very Low	0			3	7	5
Nabouwalu	5%	25%	70%	-9.7	Very Low	31.2			6	1	5
Nadi Airport	4%	28%	68%	15.3	High	29.4			9	5	3
Suva	16%	41%	43%	-4.3	Very Low	-23.5			3	13	1
Ono I Lau	37%	32%	31%	-0.6	Very Low	2.9			6	6	5
Kiribati											
Kiritimati	56%		33%	11%	39	Excellent	47.1		11	5	1
Butaritari	6%	29%	65%	13.4	Good	33.8			8	6	3
Tarawa	27%	40%	33%	44.2	Excellent	91.2			16	1	0
Kanton	65%		33%	48	Excellent	60			11	4	0
Marshall Islands											
Kwajalein Bucholz Aaf	4%	24%	72%	21.4	High	29.4			9	6	2
Majuro	4%	24%	72%	35.7	Excellent	38.2			10	7	0

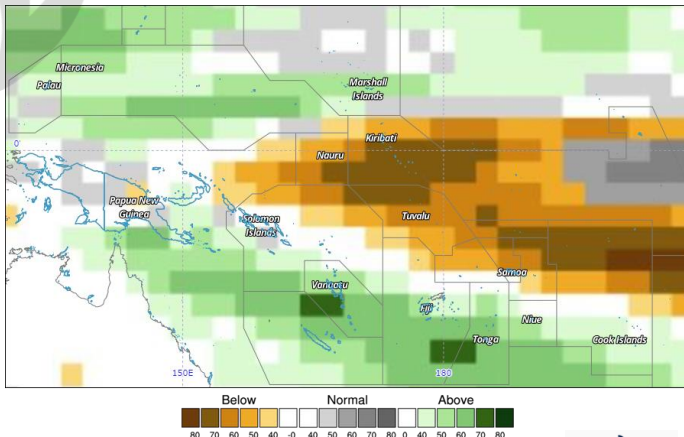
Republic of Korea-Pacific Islands Climate Prediction Services Project PICASO Regional Rainfall Forecast (FMA)



PICASO

Station	Tercile Probability				Verification Score (LEPS)		Verification Score (HSS)	Hit/NearMiss/Miss		
	KEY	BN	N	AN						
Micronesia										
<input checked="" type="checkbox"/> Chuuk WSO AP	5%	28%	67%		18.5	High	20.6	8	5	4
<input checked="" type="checkbox"/> Pohnpei	3%	19%	78%		30.9	Very High	11.8	7	10	0
<input checked="" type="checkbox"/> Yap Island WSO Airport	18%	40%	42%		10.4	Good	20.6	8	3	6
Nauru										
<input checked="" type="checkbox"/> Nauru	54%	37%	9%		53.2	Excellent	43.8	5	3	0
Niue										
<input checked="" type="checkbox"/> Hanan Airport	3%	16%	81%		33.2	Very High	33.8	9	7	1
Palau										
<input checked="" type="checkbox"/> Koror	5%	39%	56%		27.2	Very High	34.4	9	6	1
Papua New Guinea										
<input checked="" type="checkbox"/> Madang	44%	32%	24%		-3.2	Very Low	16.2	6	3	8
<input checked="" type="checkbox"/> Port Moresby	22%	39%	39%		9.7	Moderate	38.2	10	3	4
<input checked="" type="checkbox"/> Momote	5%	94%			2.9	Low	-5.9	5	9	3
<input checked="" type="checkbox"/> Nadzab	35%	36%	29%		4.3	Low	2.9	6	9	2
<input checked="" type="checkbox"/> Kavieng	29%	38%	33%		-0.9	Very Low	16.2	7	5	5
<input checked="" type="checkbox"/> Misima	11%	35%	54%		12.2	Good	15.6	7	6	3
Samoa										
<input checked="" type="checkbox"/> Afiamalu	14%	31%	55%		2.9	Low	-5.9	5	9	3
<input checked="" type="checkbox"/> Lauli	16%	36%	48%		-11.4	Very Low	-31.2	2	8	6
<input checked="" type="checkbox"/> Faleolo	49%	33%	18%		-20.6	Very Low	-5.9	5	3	9
<input checked="" type="checkbox"/> Apia	12%	32%	56%		7.5	Moderate	38.2	10	4	3
Solomon Islands										
<input checked="" type="checkbox"/> Taro Island	64%	26%	10%		2.8	Low	-5.9	5	9	3
<input checked="" type="checkbox"/> Munda	30%	35%	35%		2.3	Low	11.8	5	8	4
<input checked="" type="checkbox"/> Auki	51%	33%	16%		-6.2	Very Low	7.4	5	6	6
<input checked="" type="checkbox"/> Honiara	6%	29%	65%		20.3	High	29.4	9	5	3
<input checked="" type="checkbox"/> Honiara Henderson	7%	29%	64%		29.1	Very High	38.2	10	6	1
<input checked="" type="checkbox"/> Kira Kira	4%	27%	69%		28.4	Very High	20.6	8	8	1
<input checked="" type="checkbox"/> Santa Cruz	12%	34%	54%		12.9	Good	38.2	10	5	2
Tonga										
<input checked="" type="checkbox"/> Nukunono	10%	27%	63%		-14.3	Very Low	7.4	6	3	8
<input checked="" type="checkbox"/> KeppelMata'aho Airport	93%	6%			32.3	Very High	25	7	9	1
<input checked="" type="checkbox"/> Lupepa'u	6%	22%	72%		15.1	High	11.8	7	8	2
<input checked="" type="checkbox"/> Haapai	3%	25%	72%		20.2	High	20.6	8	7	2
<input checked="" type="checkbox"/> Nukunono	10%	30%	60%		13.4	Good	33.8	9	4	4
Tuvalu										
<input checked="" type="checkbox"/> Nanumea	72%	24%	4%		43.5	Excellent	55.9	12	4	1
<input checked="" type="checkbox"/> Nui	49%	34%	17%		21.2	High	38.2	10	5	2
<input checked="" type="checkbox"/> Funafuti	36%	39%	25%		11.9	Good	20.6	8	7	2
<input checked="" type="checkbox"/> Niukakita	28%	32%	40%		-4.4	Very Low	-5.9	5	3	9
Vanuatu										
<input checked="" type="checkbox"/> Sola (Vanua Lava)	18%	29%	53%		3.2	Low	-3.8	4	7	2
<input checked="" type="checkbox"/> Pelea Airport (Santo)	27%	31%	42%		-3.9	Very Low	14.7	4	9	4
<input checked="" type="checkbox"/> Lamap (Malekula)	13%	26%	61%		-1.8	Very Low	7.4	5	7	5
<input checked="" type="checkbox"/> Bauerfield (Efate)	3%	13%	84%		8	Moderate	11.8	7	5	5
<input checked="" type="checkbox"/> Port Vila	6%	93%			0.6	Low	11.8	7	4	6
<input checked="" type="checkbox"/> White Grass Airport	21%	29%	50%		5.8	Moderate	34.4	9	4	3
<input checked="" type="checkbox"/> Aniethum	11%	87%			-17.7	Very Low	-23.5	3	9	5

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



Year: 2023, Season: FMA, Lead Month: 3, Method: GAUS

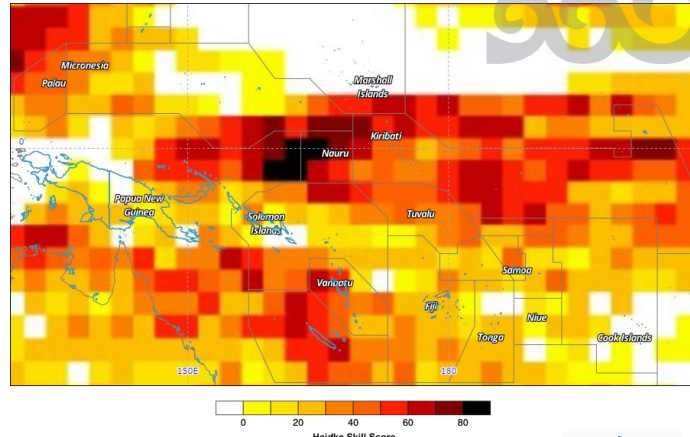
Model: APCC, BOM, CMCC, CWB, MSC, NASA, NCEP, PNU

Generated using CLIK® (2023-1-18)

Figure 1: MME Rainfall Forecast for the Pacific Islands – FMA 2023 period



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Year: 2023, Season: FMA, Lead Month: 3, Method: GAUS

Model: APCC, BOM, CMCC, CWB, MSC, NASA, NCEP, PNU

Generated using CLIK® (2023-1-18)

Figure 2: Rainfall Forecast Skill for the Pacific Islands – FMA 2023 period



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Country	Rainfall Outlook	Skill
Cook Islands	Below Normal - Penrhyn Above Normal - Rarotonga	Very Low - Moderate
FSM	Above Normal	Very Low - Moderate
Fiji	Above Normal Below Normal - Rotuma	Low
Kiribati	Below Normal	Low - High
Marshall Islands	Above Normal	Very Low
Nauru	Below Normal	High
Niue	Above Normal	Very Low
Palau	Above Normal	Moderate
PNG	Below Normal – Madang Normal – Nadzab, Momote Above Normal – Port Moresby, Misima Little guidance - Kavieng	Low – High
Samoa	Below Normal	Low
Solomon Islands	Normal – Honiara, Henderson, Munda, Taro Island Little guidance – Santa Cruz, Kirakira, Auki	Very Low - Moderate
Tonga	Above Normal – Ha’apai, Lupepauu, Nukualofa Little guidance – Keppel Mata’aho, Niuafo’ou	Very Low - Low
Tokelau	Below Normal	Low
Tuvalu	Below Normal	Moderate
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 (FMA)

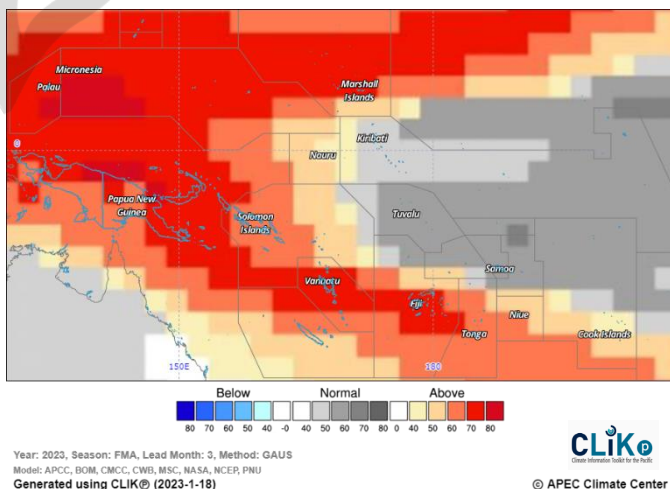


Figure 3: MME Temperature Forecast for the Pacific Islands – FMA 2023 period

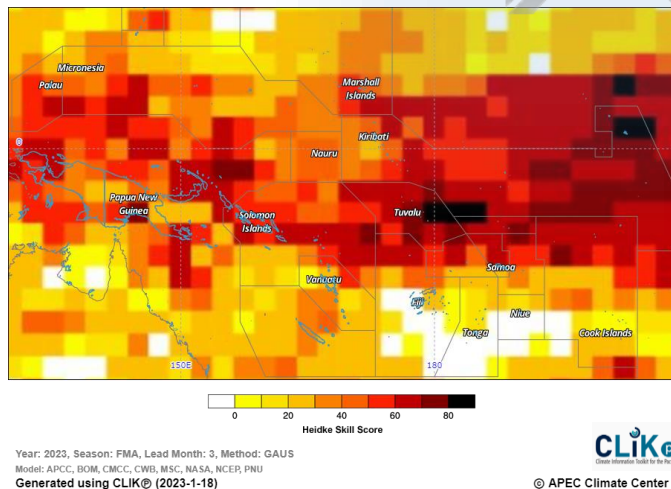


Figure 4: Air Temperature Forecast Skill for the Pacific Islands – FMA 2023 period

Country	Air Temperature Outlook	Skill
Cook Islands	Above Normal (Rarotonga) Normal (Penrhyn)	Very Low - High
FSM	Above Normal	Low - High
Fiji	Above Normal Normal (Rotuma)	Very Low - High
Kiribati	Normal	Moderate - High
Marshall Islands	Above Normal	Moderate
Nauru	Above Normal	Moderate
Niue	Above Normal	Very Low
Palau	Above Normal	Moderate
PNG	Above Normal	Low – High
Samoa	Normal	Low
Solomon Islands	Above Normal	High
Tonga	Above Normal (Ha'apai, Lupepauu, Nukualofa) Normal (Keppel Mata'aho, Niuafu'ou)	Very Low – Moderate
Tokelau	Normal	High
Tuvalu	Normal	High
Vanuatu	Above Normal	Very Low – Moderate

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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