

Republic of Korea-Pacific Islands Climate Prediction Services Project Summary: August to October 2022 (ASO)

2022-07 Edition

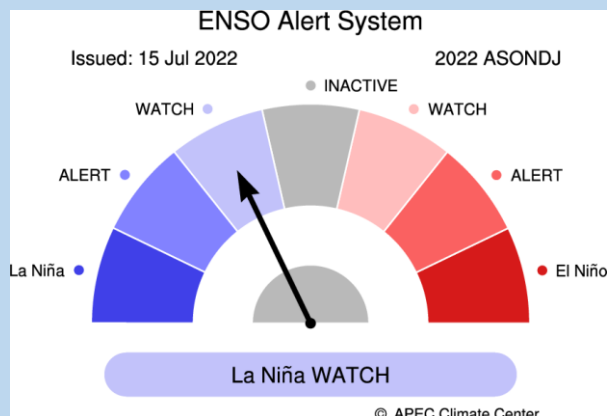


Climate Outlook for August 2022 ~ January 2023

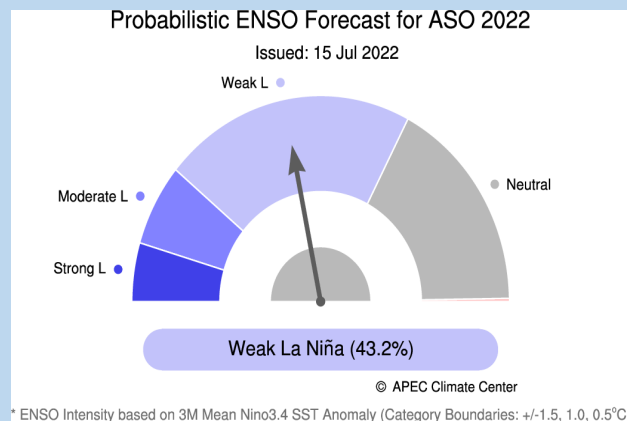
- The APCC ENSO Alert suggests “La Niña WATCH”. In June 2022, negative sea surface temperature anomalies were observed over the tropical Pacific. The Niño3.4 index is expected to be around -0.4°C to -0.8°C from August 2022 – January 2023. For the same period, the probability for La Niña conditions is expected to be above 60% and 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 10°S for August 2022 – January 2023.
- Strongly enhanced probability for above normal precipitation is predicted for southern Melanesia during August – October 2022, which is likely to gradually decrease during November 2022 – January 2023. Strongly enhanced probability for below normal precipitation is expected for off-equatorial Polynesia along 10°S and the boundary between Micronesia and Melanesia during the first half of the forecast period, which is also likely to gradually decrease during the remaining period.
- Please see <https://apcc21.org/ser/outlook.do?lang=en> for more information.

ENSO

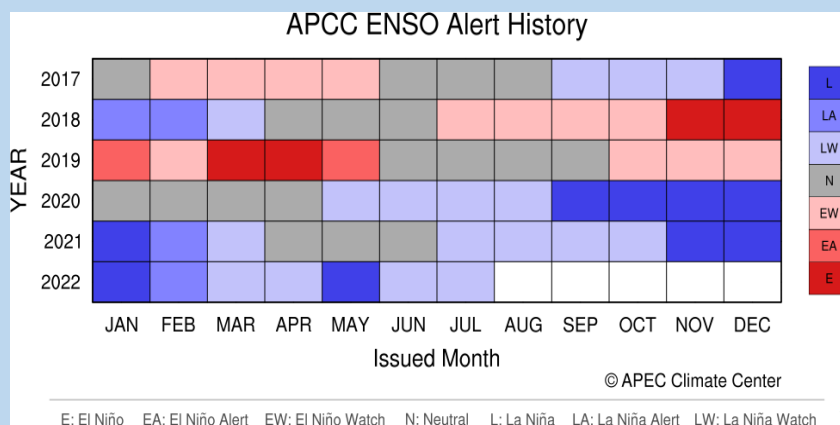
CURRENT STATUS



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

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

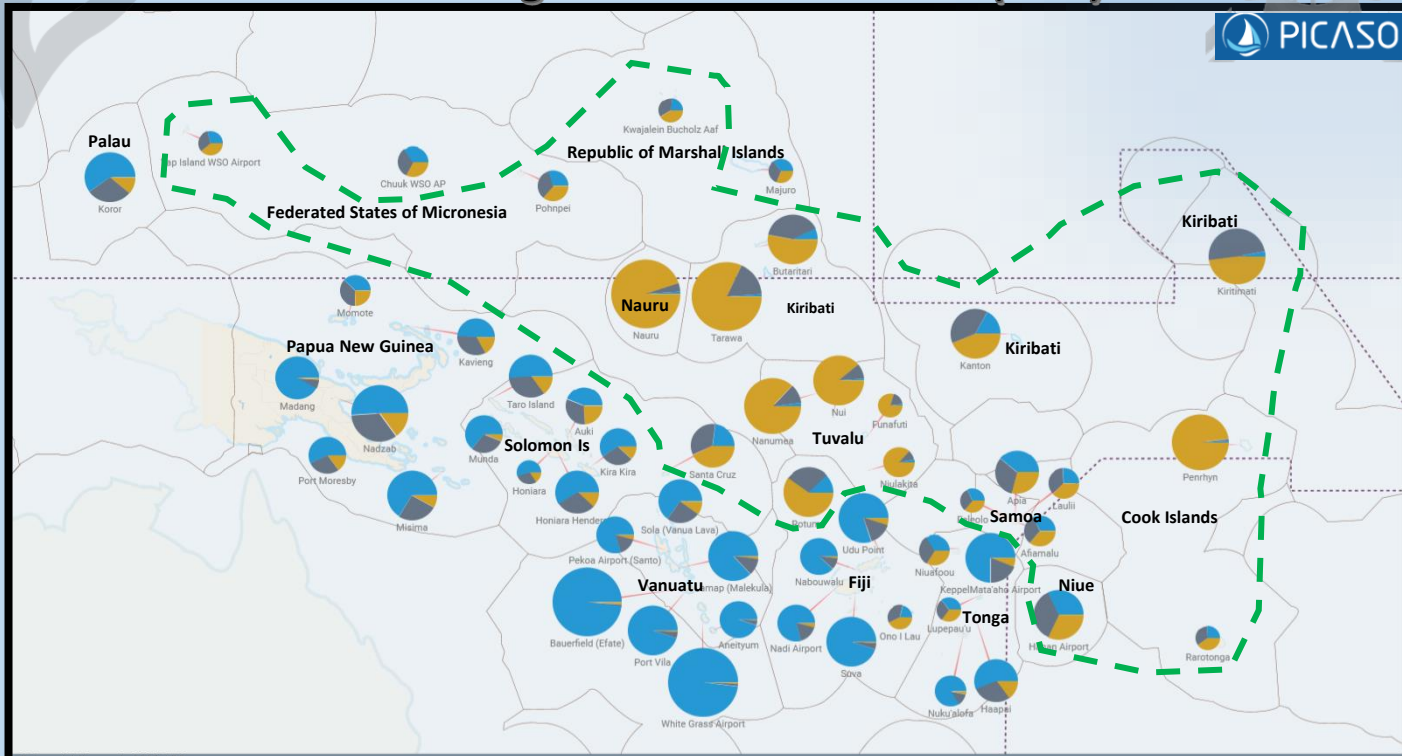


Figure 1: Regional outlook map of the Pacific. In general, all stations enclosed within the green-dash line anticipated to have Below Normal (BN) rainfall. Normal (N) to Above Normal (AN) rainfall is predicted for stations outside the green-dashed line. (Note: the larger the pie chart the higher the 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 | | 96% | | | 34.3 | Very High | 53.1 | | 11 | 3 | 2 |
| Rarotonga | | 40% | 34% | 26% | -4.9 | Very Low | -3.1 | | 5 | 4 | 7 |
| Fiji | | | | | | | | | | | |
| Rotuma | | 60% | 28% | 12% | 15.2 | High | 40 | | 9 | 3 | 3 |
| Udu Point | | 5% | 15% | 80% | 17.1 | High | 29.1 | | 6 | 6 | 0 |
| Nabouwalu | | 10% | 88% | | 7.2 | Moderate | -9.1 | | 3 | 7 | 1 |
| Nadi Airport | | 4% | 17% | 79% | 5.3 | Moderate | 15.6 | | 7 | 4 | 5 |
| Suva | | 4% | 95% | | 23.6 | High | 29.7 | | 8 | 7 | 1 |
| Ono I Lau | | 43% | 36% | 21% | -26.6 | Very Low | -20 | | 3 | 5 | 7 |
| Kiribati | | | | | | | | | | | |
| Kiritimati | | 48% | 49% | 3% | 29.9 | Very High | 25 | | 8 | 8 | 0 |
| Butaritari | | 53% | 40% | 7% | 24.4 | High | 6.3 | | 6 | 9 | 1 |
| Tarawa | | 82% | 17% | | 52.5 | Excellent | 53.1 | | 11 | 5 | 0 |
| Kanton | | 44% | 39% | 17% | 19.8 | High | 37.5 | | 7 | 4 | 1 |
| Marshall Islands | | | | | | | | | | | |
| Kwajalein Bucholz Aaf | | 41% | 36% | 23% | -0.2 | Very Low | -3.1 | | 5 | 6 | 5 |
| Majuro | | 11% | 33% | 36% | -3.9 | Very Low | -31.2 | | 2 | 6 | 8 |

Republic of Korea-Pacific Islands

Climate Prediction Services Project

PICASO Regional Rainfall Forecast (ASO)



| Station | Tercile Probability | | | | Verification Score (LEPS) | | Verification Score (HSS) | | Hit/NearMiss/Miss | | |
|------------------------|---------------------|------|-----------|-----------|---------------------------|-------|--------------------------|---|-------------------|--|--|
| | KEY | BN | N | AN | | | | | | | |
| Micronesia | | | | | | | | | | | |
| Chuuk WSO AP | 33% | 32% | 35% | 1.2 | Low | 62.5 | 10 | 0 | 6 | | |
| Pohnpei | 36% | 34% | 30% | 3.6 | Low | 29.7 | 8 | 3 | 5 | | |
| Yap Island WSO Airport | 39% | 32% | 29% | -13.7 | Very Low | -21.9 | 3 | 0 | 13 | | |
| Nauru | | | | | | | | | | | |
| Nauru | 95% | 4% | 51.4 | Excellent | 50 | 4 | 2 | 0 | | | |
| Niue | | | | | | | | | | | |
| Hanan Airport | 32% | 36% | 32% | 22.6 | High | 25 | 8 | 8 | | | |
| Palau | | | | | | | | | | | |
| Koror | 11% | 29% | 60% | 24.3 | High | 25 | 8 | 7 | 1 | | |
| Papua New Guinea | | | | | | | | | | | |
| Madang | 7% | 92% | 13.7 | Good | 30 | 8 | 5 | 2 | | | |
| Port Moresby | 15% | 28% | 57% | 7.2 | Moderate | 15.6 | 7 | 5 | 4 | | |
| Monote | 25% | 37% | 38% | 3.9 | Low | -3.1 | 5 | 9 | 2 | | |
| Nadzab | 15% | 34% | 51% | 26.4 | Very High | 48.4 | 10 | 4 | 2 | | |
| Kavieng | 17% | 34% | 49% | 5.9 | Moderate | 15.6 | 7 | 5 | 4 | | |
| Misima | 8% | 26% | 66% | 19.3 | High | 15.6 | 7 | 6 | 3 | | |
| Samoa | | | | | | | | | | | |
| Afiamalu | 36% | 32% | 32% | 1 | Low | 34.4 | 6 | 4 | 6 | | |
| Laullil | 38% | 36% | 26% | 2.3 | Low | 6.3 | 6 | 7 | 3 | | |
| Faleolo | 36% | 32% | 32% | -0.8 | Very Low | 6.3 | 6 | 6 | 4 | | |
| Apia | 29% | 32% | 39% | 12.3 | Good | 48.4 | 10 | 3 | 3 | | |
| Solomon Islands | | | | | | | | | | | |
| Taro Island | 15% | 34% | 51% | 14.4 | Good | 15.6 | 7 | 8 | 1 | | |
| Munda | 6% | 30% | 64% | 7.3 | Moderate | 6.3 | 6 | 7 | 3 | | |
| Auki | 24% | 32% | 44% | 6.8 | Moderate | 9.3 | 5 | 5 | 6 | | |
| Honiara | 16% | 29% | 55% | -2.4 | Very Low | 25 | 6 | 5 | 5 | | |
| Honiara Henderson | 12% | 29% | 59% | 13.8 | Good | 20.3 | 6 | 9 | 1 | | |
| Kira Kira | 12% | 29% | 59% | 8.1 | Moderate | -3.1 | 5 | 7 | 4 | | |
| Santa Cruz | 43% | 34% | 23% | 14.6 | Good | 34.4 | 9 | 7 | 0 | | |
| Tonga | | | | | | | | | | | |
| Niuafoou | 34% | 32% | 34% | 0 | Low | 48.4 | 7 | 3 | 6 | | |
| KeppelMata'aho Airport | 6% | 19% | 75% | 18.1 | High | 39.1 | 8 | 6 | 2 | | |
| Lupepa'u | 35% | 30% | 35% | -0.3 | Very Low | 62.5 | 6 | 5 | 5 | | |
| Haapai | 15% | 29% | 56% | 11 | Good | 43.8 | 8 | 6 | 2 | | |
| Nuku'alofa | 3 | 13% | 84% | 1.7 | Low | -3.1 | 5 | 6 | 5 | | |
| Tuvalu | | | | | | | | | | | |
| Nanumea | 87% | 11% | 32.9 | Very High | 34.4 | 9 | 6 | 1 | | | |
| Nui | 89% | 10% | 20.6 | High | 25 | 8 | 5 | 3 | | | |
| Funafuti | 80% | 18% | -25.8 | Very Low | -12.5 | 4 | 9 | 3 | | | |
| Niulakita | 87% | 10% | 2.6 | Low | 25 | 8 | 2 | 6 | | | |
| Vanuatu | | | | | | | | | | | |
| Sola (Vanua Lava) | 10% | 25% | 65% | 10.1 | Good | 13.5 | 5 | 6 | 2 | | |
| Pekoa Airport (Santo) | 4% | 16% | 80% | 8.9 | Moderate | 6.3 | 6 | 7 | 3 | | |
| Lamap (Malekula) | 11% | 87% | 16 | High | 10 | 6 | 6 | 3 | | | |
| Bauerfield (Efate) | 98% | 42.8 | Excellent | 34.4 | 9 | 5 | 2 | | | | |
| Port Vila | 4% | 95% | 22.6 | High | 53.1 | 11 | 2 | 3 | | | |
| White Grass Airport | 98% | 38.4 | Excellent | 43.8 | 10 | 4 | 2 | | | | |
| Anietyum | 4% | 95% | 9.5 | Moderate | 25 | 8 | 5 | 3 | | | |

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

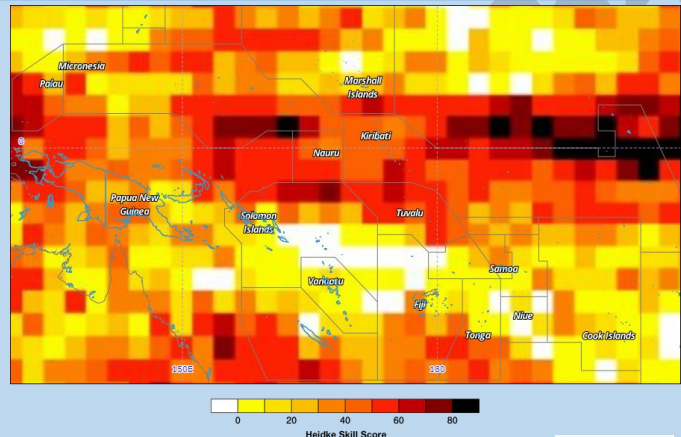
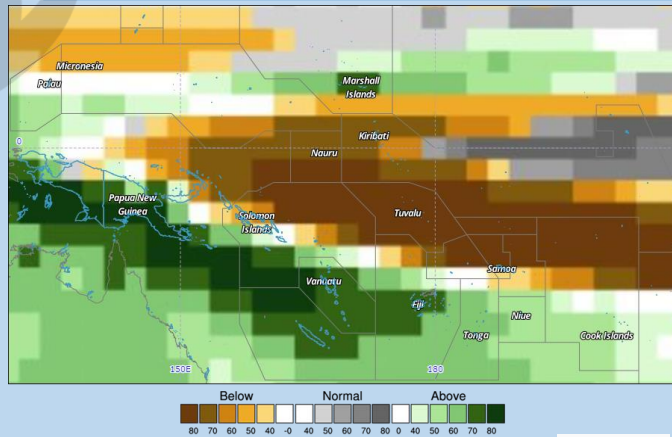


Figure 1: MME Rainfall Forecast for the Pacific Islands – ASO 2022 period

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

| Country | Rainfall Outlook | Skill |
|------------------|---|---------------------|
| Cook Islands | Below Normal - Penrhyn Above Normal - Rarotonga | Low |
| FSM | Above Normal – Pohnpei / Chuuk Below Normal – Yap | Low – Moderate |
| Fiji | Above Normal except Rotuma (BN) | Very Low - Moderate |
| Kiribati | Below Normal except for Kiritimati (N) | Moderate - High |
| Marshall Islands | Above Normal | Low |
| Nauru | Below Normal | Moderate |
| Niue | Above Normal | Very Low |
| Palau | Below Normal | Low |
| PNG | Below Normal – Momote, Kavieng Above Normal – Port Moresby, Nadzab, Misima, Madang | Low – Moderate |
| Samoa | Below Normal | Very Low |
| Solomon Islands | Below Normal – Taro Is., Munda, Auki, Santa Cruz Above Normal – Honiara, Henderson Little guidance (Climatology) – Kirakira | Very Low - Moderate |
| Tonga | Above Normal – Nukualofa, Ha’apai, Lupepau’u Little guidance – Niuafoou, Keppel Mata’aho | Very Low |
| Tokelau | Below Normal | Low |
| Tuvalu | Below Normal | Moderate - High |
| Vanuatu | Above Normal | Very Low - 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 (ASO)

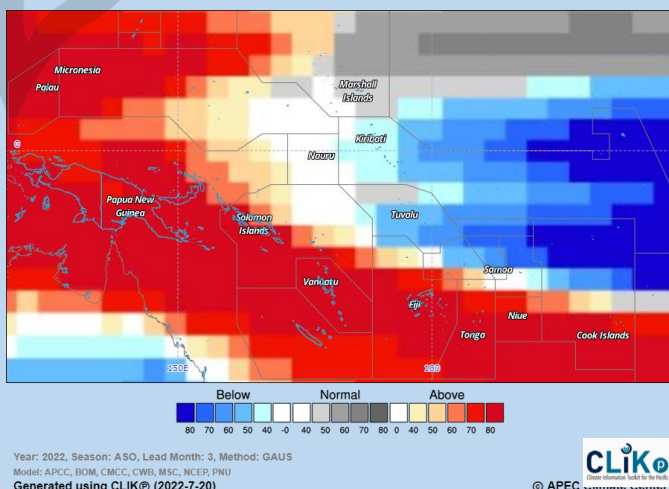


Figure 3: MME Temperature Forecast for the Pacific Islands – ASO 2022 period

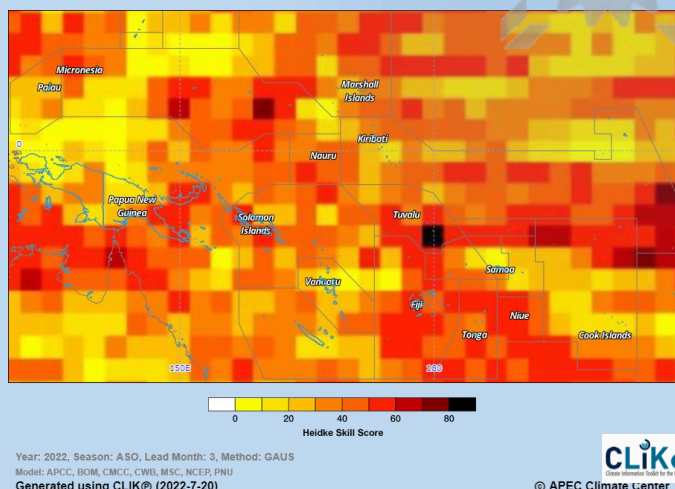


Figure 4: Air Temperature Forecast Skill for the Pacific Islands – ASO 2022 period

| Country | Air Temperature Outlook | Skill |
|------------------|--|-----------------|
| Cook Islands | Above Normal (Rarotonga) Below Normal (Penrhyn) | Low - High |
| FSM | Above Normal | Moderate - High |
| Fiji | Above Normal | Moderate - High |
| Kiribati | Below Normal | Low - Moderate |
| Marshall Islands | Normal | Low - High |
| Nauru | Below Normal | Moderate |
| Niue | Above Normal | High |
| Palau | Above Normal | Low |
| PNG | Above Normal | Low – High |
| Samoa | Above Normal | Moderate |
| Solomon Islands | Above Normal | Low – High |
| Tonga | Above Normal | Moderate – High |
| Tokelau | Below Normal | High |
| Tuvalu | Normal - Below Normal | Moderate - High |
| Vanuatu | Above Normal | Low – Moderate |

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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