

Republic of Korea-Pacific Islands Climate Prediction Services Project Summary: March to May 2022 (MAM)

2022-02 Edition

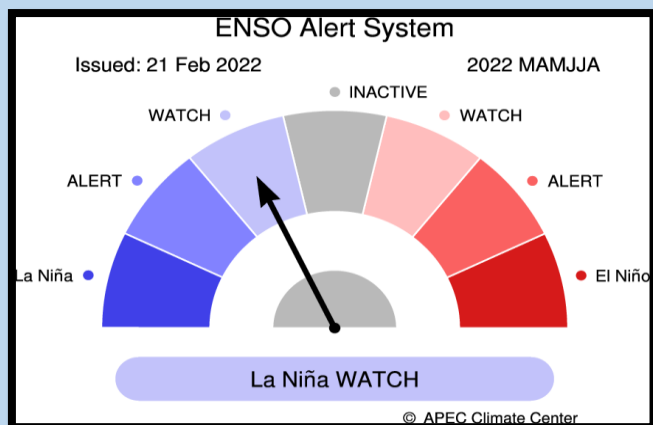


Climate Outlook for March ~ August 2022

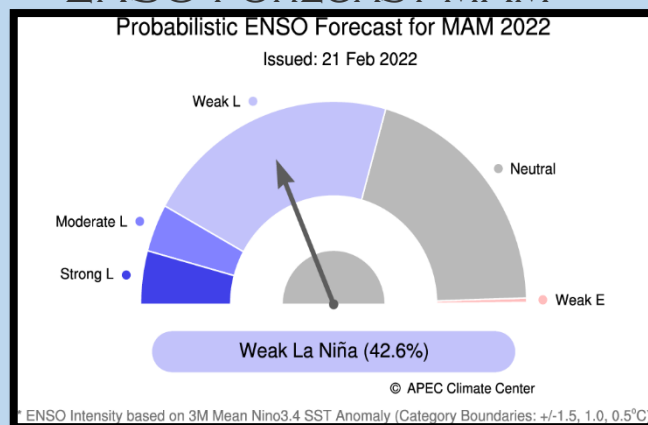
- The APCC ENSO Alert suggests “La Niña WATCH” for March-August 2022. During January 2022, negative sea surface temperature anomalies were observed over the central and eastern equatorial Pacific. The Niño3.4 index is expected to be below -0.5°C and gradually increase through the forecast period. Based on the running 3-month mean Niño3.4 index, the latest APCC ENSO outlook suggests an around 59% chance of La Niña conditions with weak intensity for March-May 2022, which gradually decreases. Meanwhile, ENSO-neutral conditions are likely to be gradually increasing and then dominant (~56%) during June – August 2022.
- Strongly enhanced probability for above-normal temperatures is predicted for Micronesia and Melanesia (excluding the boundary between them near the Date Line), and southern Polynesia for March-August 2022.
- Strongly enhanced probability for below-normal precipitation is predicted for the equatorial regions for the same period.
- Please see <https://apcc21.org/ser/outlook.do?lang=en> for more information.

ENSO

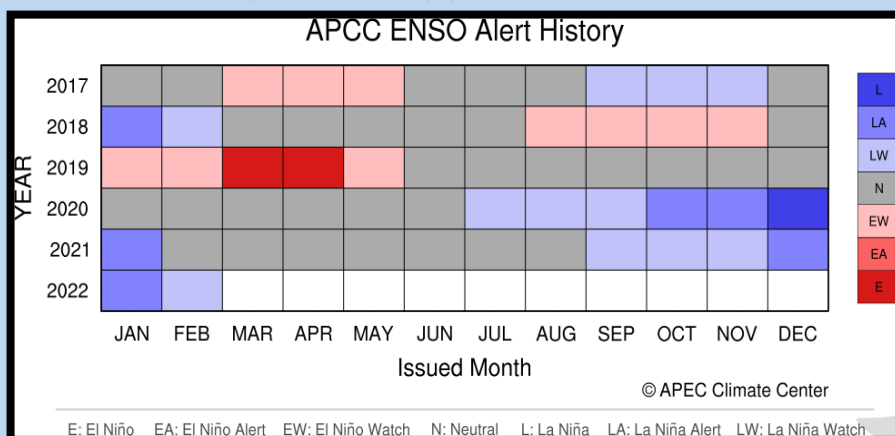
CURRENT STATUS



ENSO FORECAST MAM



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, Udu Point, Nabouwalu, Nadi, *Ono-i-lau) FSM Republic of Marshall Islands Niue Palau PNG – (Port Moresby, Madang, Momote, Misima, *Nadzab) Samoa – (Afiamalua, Apia, Laulii) Solomon Islands (Honiara, Henderson, Kirakira, Munda, Auki, *Taro Is.) Tonga (Nukualofa, 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) FSM Republic of Marshall Islands Niue Palau PNG – (Port Moresby, Nadzab, Misima) Samoa (*Apia, *Faleolo, *Afiamalua, *Laulii) Solomon Islands (*Honiara, *Henderson, *Santa Cruz, *Kirakira) Tonga (Nukualofa, Ha’apai, Lupepauu, *Keppel *Mataaho, *Niuafo’ou) Vanuatu |
| Normal | Kiribati - (Butaritari) | |
| Below Normal | Cook Islands - (Penrhyn) Fiji – (Rotuma) Kiribati - (Tarawa, Kanton, Kiritimati) Nauru PNG – (Kavieng) Samoa - (Faleolo) Solomon Islands – (Santa Cruz) Tonga (Keppel Mata’aho) Tuvalu - (Nanumea, Nui, Funafuti, *Niulakita) | Cook Islands - (Penrhyn) Fiji – (Rotuma) Kiribati Nauru PNG – (Momote, Kavieng, Madang) Solomon Islands – (Taro, Munda, Auki) 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 , Kiribati (Tarawa, Butaritari), Nauru , Niue , Palau , PNG , Samoa , Solomon Islands , Tonga , Vanuatu . |
| Normal | Kiribati (Kiritimati, Kanton), Tuvalu , Tokelau |
| Below Normal | Cook Is (Penrhyn, northern group) |

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

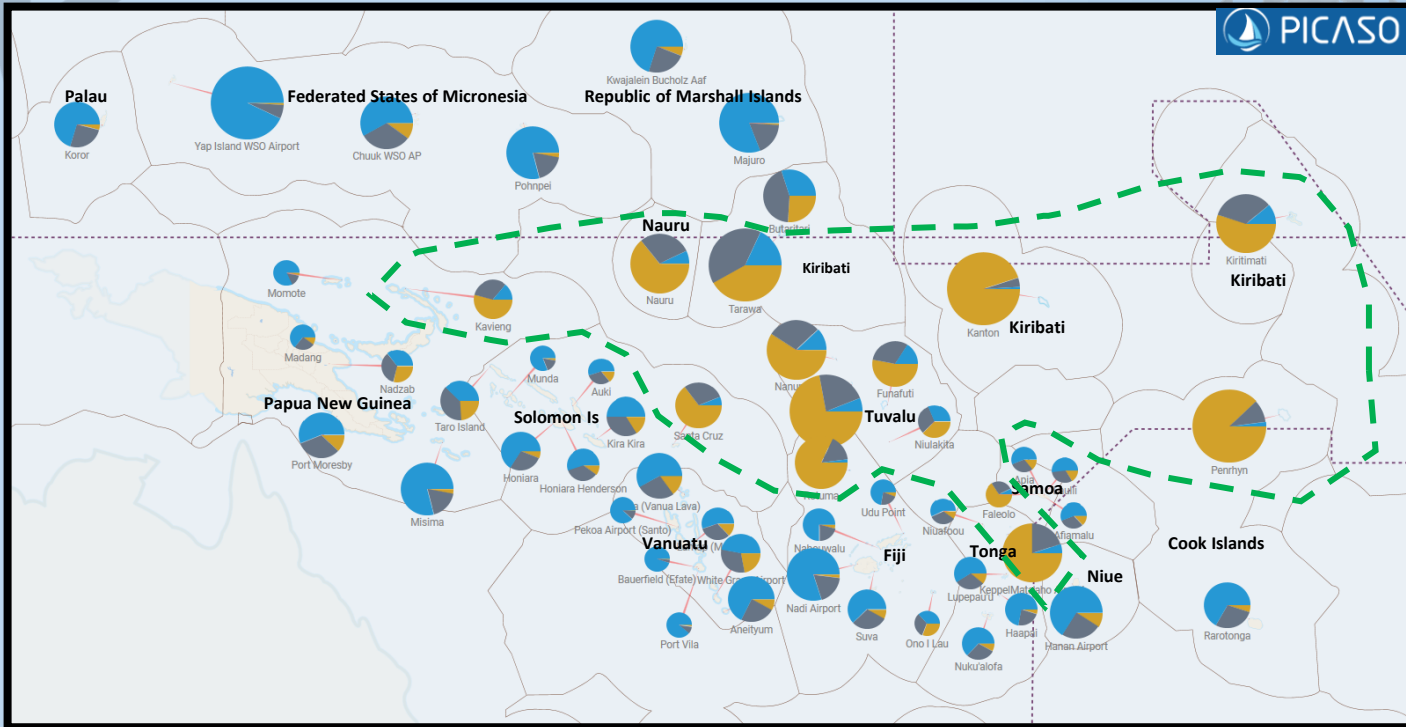


Figure 1: Regional outlook map of the Pacific. In general, all stations enclosed within the green-dash line anticipated to have Below Normal (BN) rainfall. Normal (N) to Above Normal (AN) rainfall is predicted for stations outside the green-dashed line. (Note: the larger the pie chart the higher the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

OUTLOOK TABLE BY COUNTRY

| Station | Tercile Probability | | | Verification Score (LEPS) | | Verification Score (HSS) | Hit/NearMiss/Miss | | |
|-----------------------|---------------------|-----|-----|---------------------------|-------|--------------------------|-------------------|----|------|
| | KEY | BN | N | | | | | | |
| Cook Islands | | | | | | | | | |
| Penrhyn | | 88% | | 10% | 36.6 | Excellent | 71.9 | 10 | 6 0 |
| Rarotonga | 5% | 28% | | 67% | 13.8 | Good | 6.3 | 6 | 7 3 |
| Fiji | | | | | | | | | |
| Rotuma | | 82% | | 16% | 24.9 | High | 25 | 8 | 5 3 |
| Udu Point | 6% | 22% | | 72% | -11.2 | Very Low | -7.1 | 4 | 5 5 |
| Nabouwalu | 4% | 21% | | 75% | 2.9 | Low | 12.5 | 5 | 5 2 |
| Nadi Airport | | 18% | | 80% | 18 | High | -3.1 | 5 | 10 1 |
| Suva | 8% | 30% | | 62% | 5.4 | Moderate | 6.3 | 6 | 6 4 |
| Ono I Lau | | 31% | 32% | 37% | -37.2 | Very Low | -20 | 3 | 3 9 |
| Kiribati | | | | | | | | | |
| Kiritimati | | 55% | | 34% | 11% | Very High | 26.5 | 10 | 4 1 |
| Butaritari | 26% | | 44% | 30% | 23.2 | High | 25 | 8 | 6 2 |
| Tarawa | 42% | | 40% | 18% | 36.7 | Excellent | 43.8 | 10 | 6 0 |
| Kanton | | 95% | | 4% | 48.6 | Excellent | 14.3 | 6 | 8 0 |
| Marshall Islands | | | | | | | | | |
| Kwajalein Bucholz Aaf | 6% | 24% | | 70% | 23.4 | High | 39.1 | 9 | 7 0 |
| Majuro | 18% | | | 81% | 33.2 | Very High | 15.6 | 7 | 8 1 |

Republic of Korea-Pacific Islands

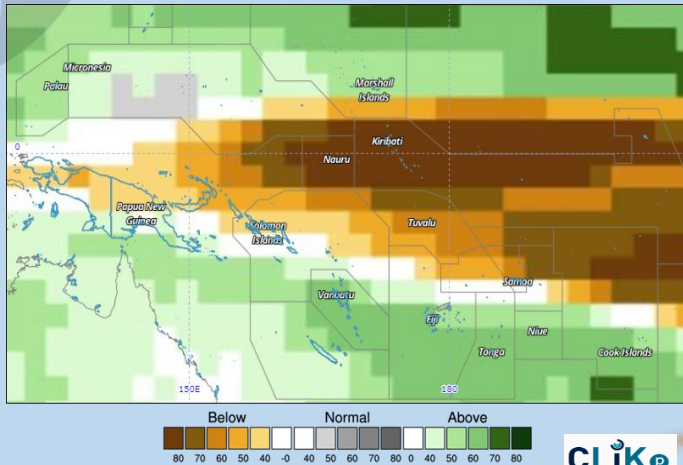
Climate Prediction Services Project

PICASO Regional Rainfall Forecast (MAM)



| Station | Tercile Probability | | | | Verification Score (LEPS) | | Verification Score (HSS) | | Hit/NearMiss/Miss | | |
|--|---------------------|-----|-----|----|---------------------------|-----------|--------------------------|--|-------------------|----|---|
| | KEY | BN | N | AN | | | | | | | |
| Micronesia | | | | | | | | | | | |
| <input checked="" type="checkbox"/> Chuuk WSO AP | 10% | 32% | 58% | | 23.7 | High | 53.1 | | 11 | 3 | 2 |
| <input checked="" type="checkbox"/> Polinpei | 3% | 18% | 79% | | 20.9 | High | 25 | | 8 | 6 | 2 |
| <input checked="" type="checkbox"/> Yap Island WSO Airport | 6% | 93% | | | 60.3 | Excellent | 90.6 | | 15 | 1 | 0 |
| Nauru | | | | | | | | | | | |
| <input checked="" type="checkbox"/> Nauru | 64% | 29% | 7% | | 30.3 | Very High | 43.8 | | 5 | 2 | 1 |
| Niue | | | | | | | | | | | |
| <input checked="" type="checkbox"/> Hanan Airport | 9% | 25% | 66% | | 21.9 | High | 43.8 | | 10 | 5 | 1 |
| Palau | | | | | | | | | | | |
| <input checked="" type="checkbox"/> Koror | 4% | 26% | 70% | | 10.9 | Good | 20 | | 7 | 6 | 2 |
| Papua New Guinea | | | | | | | | | | | |
| <input checked="" type="checkbox"/> Madang | 10% | 26% | 64% | | -5.1 | Very Low | -20 | | 3 | 6 | 6 |
| <input checked="" type="checkbox"/> Port Moresby | 12% | 32% | 56% | | 12.5 | Good | 34.4 | | 9 | 6 | 1 |
| <input checked="" type="checkbox"/> Momote | 3% | 15% | 82% | | -3.9 | Very Low | 15.6 | | 7 | 3 | 6 |
| <input checked="" type="checkbox"/> Nadzab | 29% | 35% | 36% | | 2.6 | Low | -12.5 | | 3 | 10 | 3 |
| <input checked="" type="checkbox"/> Kavieng | 54% | 32% | 14% | | 9.4 | Moderate | 1.6 | | 5 | 8 | 3 |
| <input checked="" type="checkbox"/> Misima | 3% | 18% | 79% | | 17.7 | High | -3.1 | | 5 | 11 | 0 |
| Samoa | | | | | | | | | | | |
| <input checked="" type="checkbox"/> Afiamalu | 13% | 31% | 56% | | -17 | Very Low | -17.2 | | 2 | 7 | 7 |
| <input checked="" type="checkbox"/> Laufi | 16% | 32% | 52% | | -15.2 | Very Low | -30 | | 2 | 7 | 6 |
| <input checked="" type="checkbox"/> Faleolo | 66% | 27% | 7% | | -10.1 | Very Low | -3.1 | | 5 | 4 | 7 |
| <input checked="" type="checkbox"/> Apia | 14% | 30% | 56% | | -13.3 | Very Low | 6.3 | | 4 | 5 | 7 |
| Solomon Islands | | | | | | | | | | | |
| <input checked="" type="checkbox"/> Taro Island | 24% | 38% | 38% | | 8.4 | Moderate | 15.6 | | 7 | 6 | 3 |
| <input checked="" type="checkbox"/> Munda | 3% | 16% | 81% | | -15.1 | Very Low | -21.9 | | 3 | 7 | 6 |
| <input checked="" type="checkbox"/> Auki | 14% | 31% | 55% | | -13.4 | Very Low | -17.2 | | 2 | 9 | 5 |
| <input checked="" type="checkbox"/> Honiara | 6% | 28% | 66% | | 5.1 | Moderate | 6.3 | | 6 | 6 | 4 |
| <input checked="" type="checkbox"/> Honiara Henderson | 10% | 35% | 55% | | 2.7 | Low | 10.9 | | 6 | 7 | 3 |
| <input checked="" type="checkbox"/> Kira Kira | 16% | 34% | 50% | | 7.1 | Moderate | 1.6 | | 4 | 8 | 4 |
| <input checked="" type="checkbox"/> Santa Cruz | 65% | 29% | 6% | | 12.3 | Good | -3.1 | | 5 | 7 | 4 |
| Tonga | | | | | | | | | | | |
| <input checked="" type="checkbox"/> Nukunono | 10% | 33% | 57% | | -10.1 | Very Low | -3.1 | | 5 | 8 | 3 |
| <input checked="" type="checkbox"/> KeppelMata'aho Airport | 75% | 20% | 5% | | 32.6 | Very High | 62.5 | | 12 | 2 | 2 |
| <input checked="" type="checkbox"/> Lupepa'u | 11% | 30% | 59% | | 3.7 | Low | -43.8 | | 9 | 5 | 2 |
| <input checked="" type="checkbox"/> Haapai | 5% | 23% | 72% | | 1.1 | Low | 6.3 | | 6 | 5 | 5 |
| <input checked="" type="checkbox"/> Nukunono | 8% | 29% | 63% | | 3.2 | Low | -21.9 | | 3 | 9 | 4 |
| Tuvalu | | | | | | | | | | | |
| <input checked="" type="checkbox"/> Nanumea | 59% | 29% | 12% | | 30.5 | Very High | 62.5 | | 12 | 3 | 1 |
| <input checked="" type="checkbox"/> Nui | 72% | 22% | 6% | | 36.4 | Excellent | 57.8 | | 11 | 3 | 2 |
| <input checked="" type="checkbox"/> Funafuti | 53% | 31% | 16% | | 11.8 | Good | 25 | | 8 | 5 | 3 |
| <input checked="" type="checkbox"/> Niulakita | 37% | 31% | 31% | | 4.1 | Low | 43.8 | | 8 | 5 | 3 |
| Vanuatu | | | | | | | | | | | |
| <input checked="" type="checkbox"/> Sola (Yanus Lava) | 15% | 27% | 58% | | 14.3 | Good | 12.5 | | 5 | 4 | 3 |
| <input checked="" type="checkbox"/> Pekoia Airport (Santo) | 11% | 88% | | | -9.3 | Very Low | -12.5 | | 4 | 8 | 4 |
| <input checked="" type="checkbox"/> Lamap (Malekula) | 13% | 32% | 55% | | 2.5 | Low | 29.7 | | 8 | 4 | 4 |
| <input checked="" type="checkbox"/> Bauerfield (Efate) | 4% | 95% | | | -2.1 | Very Low | -3.1 | | 5 | 7 | 4 |
| <input checked="" type="checkbox"/> Port Vila | 9% | 89% | | | -19.5 | Very Low | -31.2 | | 2 | 8 | 6 |
| <input checked="" type="checkbox"/> White Grass Airport | 22% | 31% | 47% | | 6 | Moderate | 20 | | 7 | 6 | 2 |
| <input checked="" type="checkbox"/> Anityum | 8% | 24% | 68% | | 13.8 | Good | 34.4 | | 9 | 3 | 4 |

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

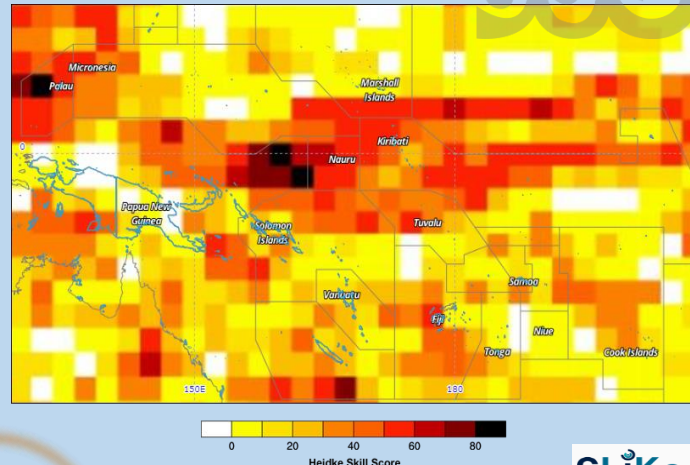


Year: 2022, Season: MAM, Lead Month: 3, Method: GAUS

Model: APCC, CMCC, CWB, NASA, NCEP, PNU, POAMA

Generated using CLIK® (2022-2-23)

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Year: 2022, Season: MAM, Lead Month: 3, Method: GAUS

Model: APCC, CMCC, CWB, NASA, NCEP, PNU, POAMA

Generated using CLIK® (2022-2-23)

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

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

| Country | Rainfall Outlook | Skill |
|------------------|--|---------------------|
| Cook Islands | Below Normal - Penrhyn Above Normal - Rarotonga | Very Low - Moderate |
| FSM | Above Normal | Very Low - High |
| Fiji | Above Normal except Rotuma (BN) | Very Low - High |
| Kiribati | Below Normal | Very Low - High |
| Marshall Islands | Above Normal | Very Low |
| Nauru | Below Normal | Very High |
| Niue | Above Normal | Very Low |
| Palau | Above Normal | High |
| PNG | Below Normal – Momote, Kavieng, Madang Above Normal – Port Moresby, Nadzab, Misima | Very Low - High |
| Samoa | Outlook offers little guidance as the chance of AN/NN/BN are similar. | Moderate |
| Solomon Islands | Below Normal – Taro Is., Munda, Auki Note – Outlook offers little guidance elsewhere. | Very Low - Moderate |
| Tonga | Above Normal – Nukualofa, Haapai, Lupepauu Little guidance for Keppel Mataaho, Niuafoou | Very Low - Low |
| Tokelau | Below Normal | Low |
| Tuvalu | Below Normal | Very Low - Moderate |
| 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 (MAM)

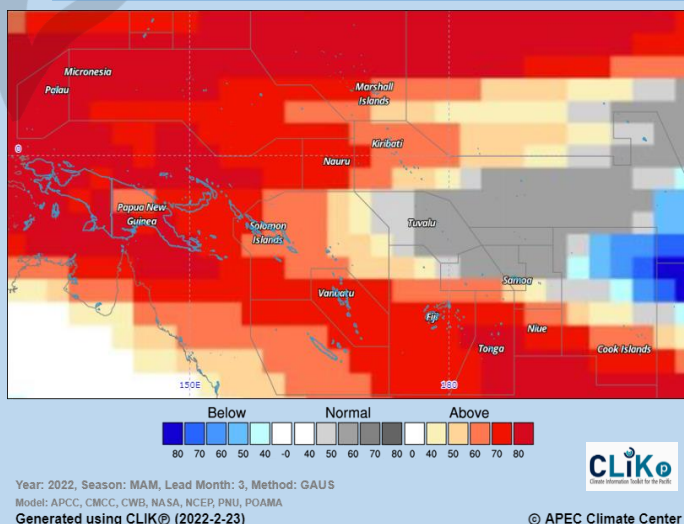


Figure 3: MME Temperature Forecast for the Pacific Islands – MAM 2022 period

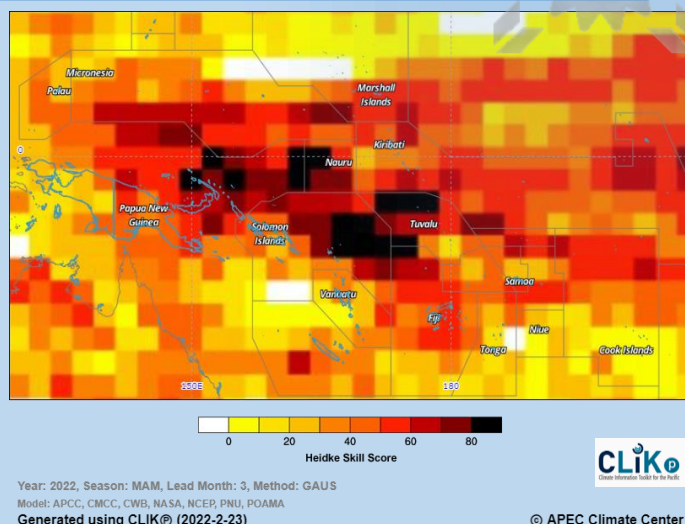


Figure 4: Air Temperature Forecast Skill for the Pacific Islands – MAM 2022 period

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