



The APEC CLIMATE CENTER Climate Outlook for Pacific Islands for May - October 2015

BUSAN, 23 April 2015 – Synthesis of the latest model forecasts for May - October 2015 (MJJASO) at the APEC Climate Center (APCC), located at Busan, Korea, indicates warming across the tropical/subtropical Pacific associated with the weak El-Niño. Anomalously warm conditions are generally expected over the whole region with exception of south-eastern parts of Polynesia. Throughout the whole forecast period, the above normal rainfalls are expected in Micronesia, while the negative precipitation anomalies are expected to prevail in Melanesia and Polynesia.

Sea Surface Temperature and ENSO Outlook:

Positive SST anomalies in the central and eastern equatorial Pacific associated with the developing El-Niño episode are expected to be enhancing through the summer-autumn 2015, with the Niño 3.4 index steadily increasing. However, increased uncertainty of forecast is reflected in larger spread among multi model forecasts compared to previous month.

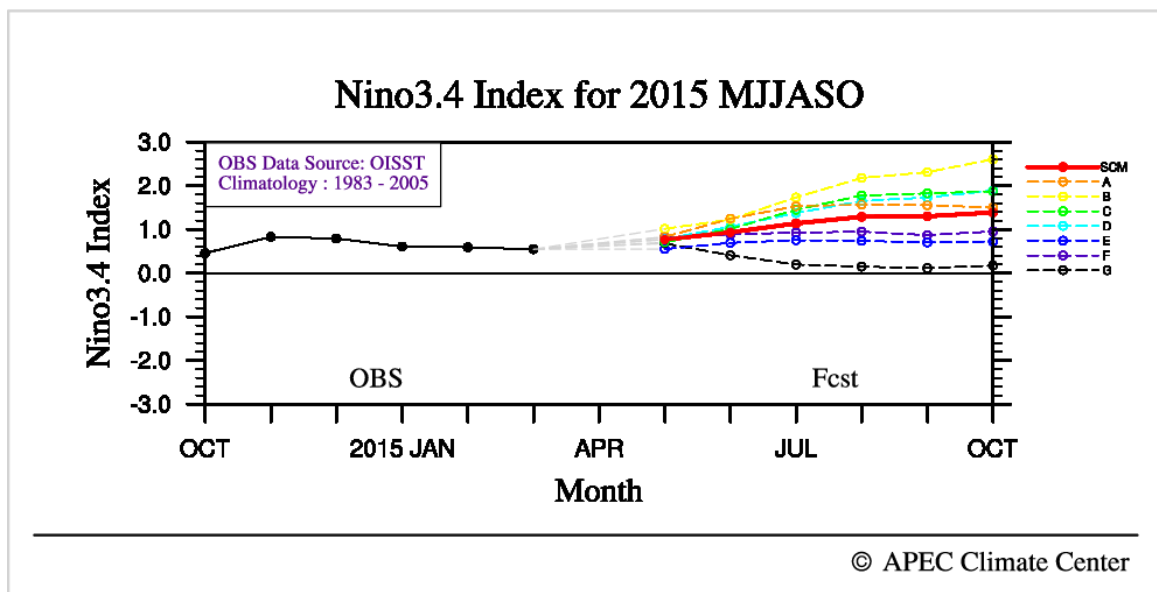


Fig. 1. Predicted Niño 3.4 Index. The predictions from the individual models are marked A, B, C, D, E, F and G while that from the simple composite MME method is marked as SCM.

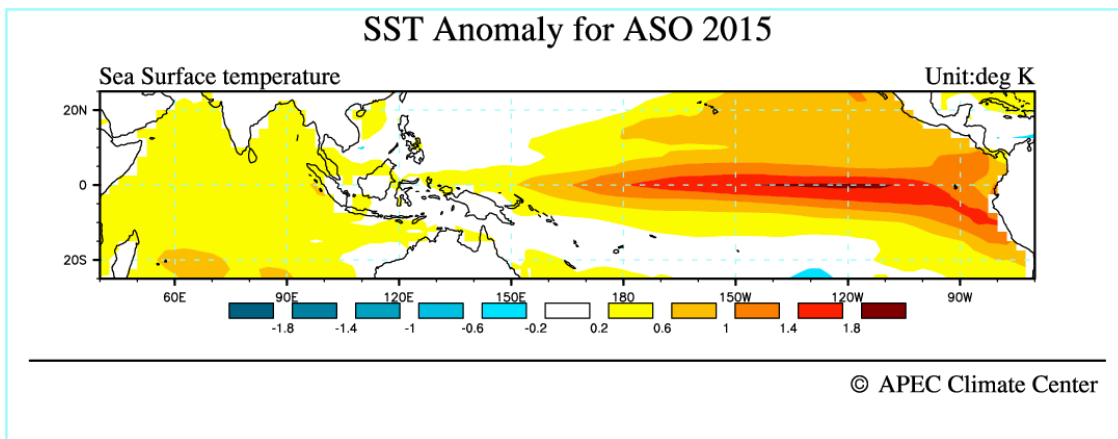
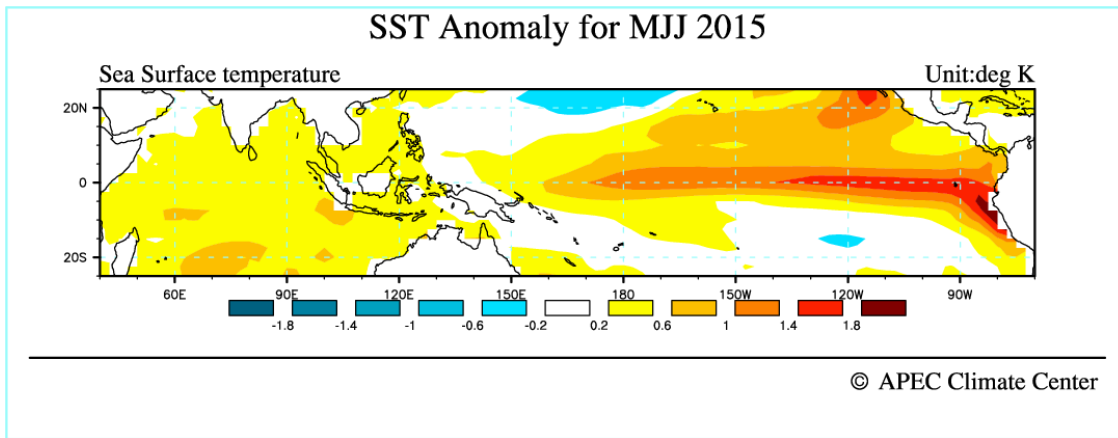


Fig. 2. Spatial distributions of forecasted SST anomalies for May – October 2015 over the tropical Indo-Pacific. Top panel shows SSTA forecast for May – July 2015 and bottom panel shows SSTA forecast for August – October 2015.

Temperature and Precipitation Outlook:

1. Forecast for May – July 2015

During May – July 2015 (MJJ), warmer than normal conditions are expected across Micronesia, Melanesia and north-western Polynesia, while near normal temperature is expected in south-eastern Polynesia. The Above normal rainfalls are likely over central Micronesia and equatorial Pacific eastward of it. Meanwhile, anomalously dry conditions are expected in Melanesia and Polynesia. Near normal precipitation is predicted for much of the Micronesia.

2. Forecast for August – October 2015

The broad warmer than normal conditions are highly probable to span Micronesia and northern Melanesia and Polynesia, with below normal temperature being likely in the south-eastern part of Polynesia. The rainfall band is expected to cover much of Micronesia, with the negative precipitation anomalies being probable over Melanesia and Polynesia.

3. Historical skill for APCC MME for MJJ and ASO 2015

Across the Pacific for the MJJASO period, the APCC MME is reasonably skillful in predicting both temperature and precipitation, as indicated by the Heidke Skill Score (HSS). The highest HSS values are featured by both temperature and precipitation predictions for Micronesia located in the equatorial Pacific. For Micronesia and Polynesia prediction skill slightly decreases.

The APEC Climate Center is a major APEC science facility, which was established in November 2005 during the leaders meeting of the Asia-Pacific Economic Forum in Busan, Korea. It produces seasonal and monthly forecasts of climate conditions for all seasons around the globe. APCC collects seasonal forecasts from 15 institutes in the APEC region: the Australian Bureau of Meteorology, Meteorological Service of Canada, Beijing Climate Center China, Institute of Atmospheric Physics China, Japan Meteorological Agency Japan, Korea Meteorological Administration Korea, Pusan National University Korea, Met Office United Kingdom, Euro-Mediterranean Center on Climate Change Italy, Hydrometeorological Research Center of Russia, Voeikov Main Geophysical Observatory of Russia, Central Weather Bureau Chinese Taipei, National Aeronautics and Space Administration USA, National Centers for Environmental Prediction USA, International Research Institute for Climate and Society USA, Center for Ocean-Land-Atmosphere Studies USA.

The APCC climate forecasts are based on model simulations from 15 prominent climate forecasting centers and institutes in the APEC region. These forecasts are collected and combined using state-of-the-art schemes to produce a statistically 'consensual' forecast. The APCC forecasts are based not just on the magnitude of the seasonal changes that are predicted, but also take into account their simulated probability. Further details as well as the verification for the forecasts on a long term basis are available at <http://www.apcc21.org>. Historical verification of the forecast performance is based on a retrospective forecast period of all the models for the period 1983-2005.

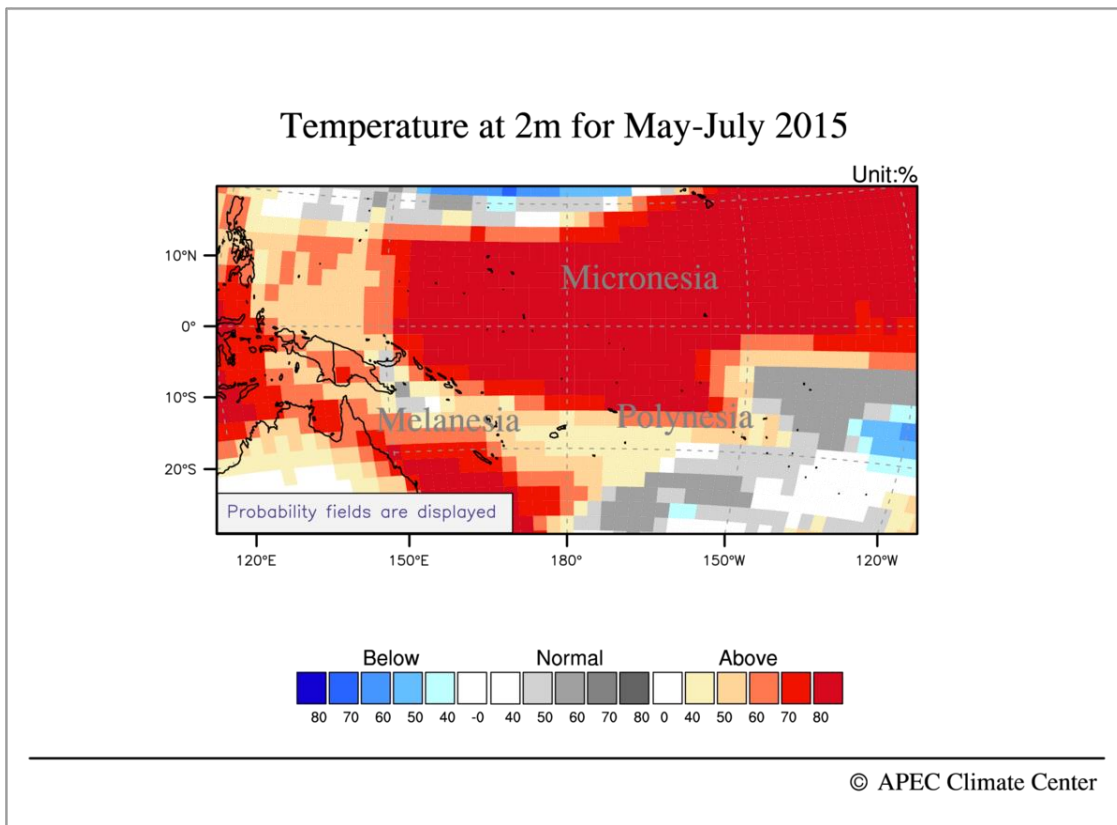


Fig. 3. Probabilistic MME seasonal 2m temperature forecast for May – July 2015.

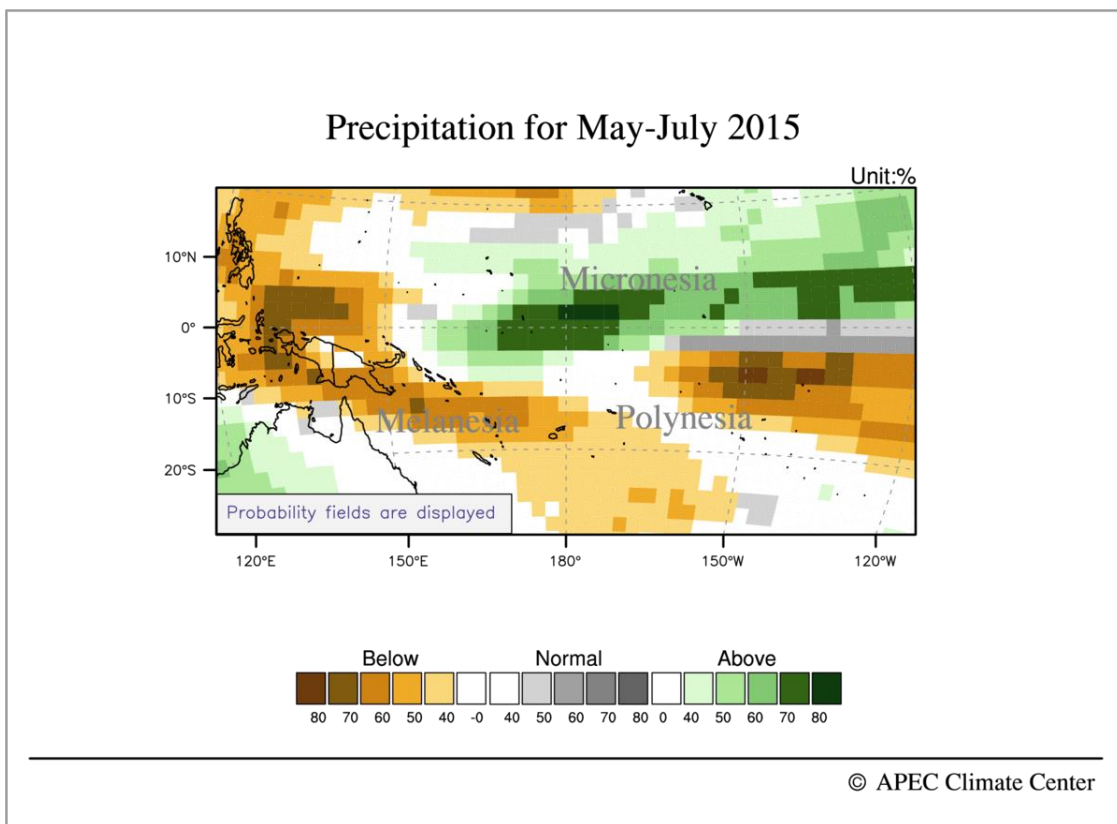


Fig. 4. Same as Fig. 3 but for precipitation.

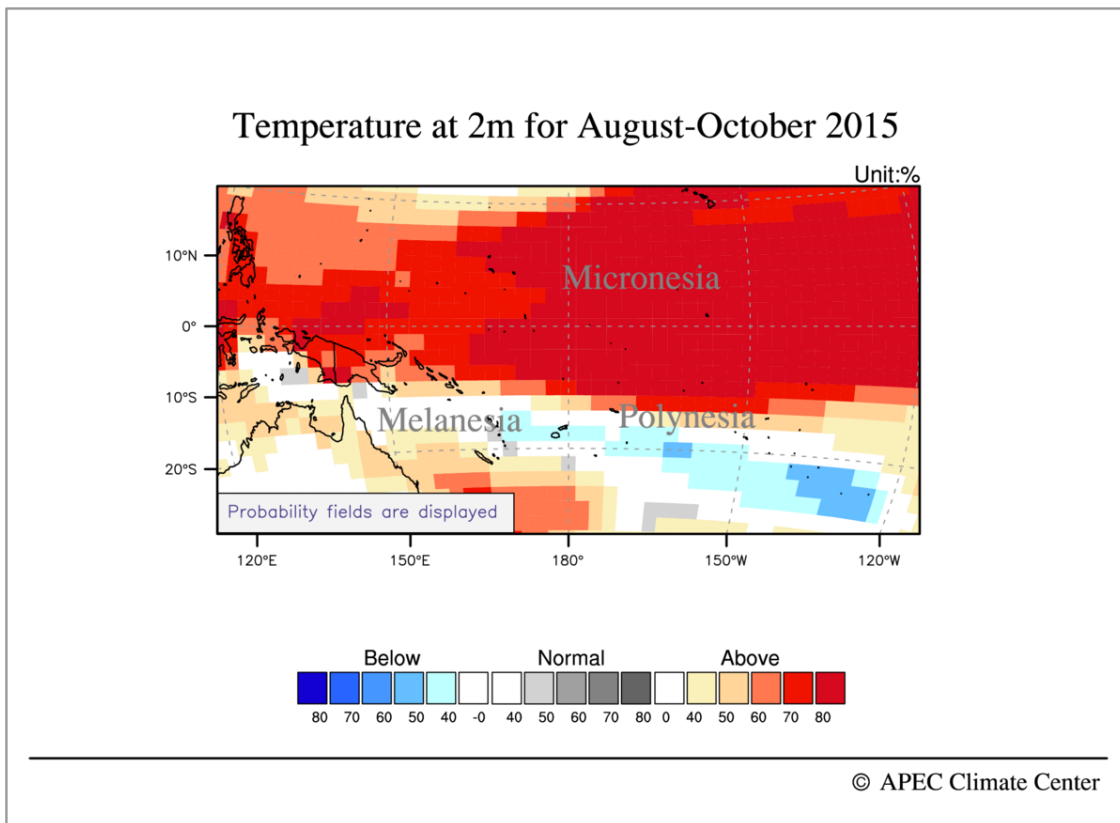


Fig. 5. Same as Fig. 3 but for August – October 2015.

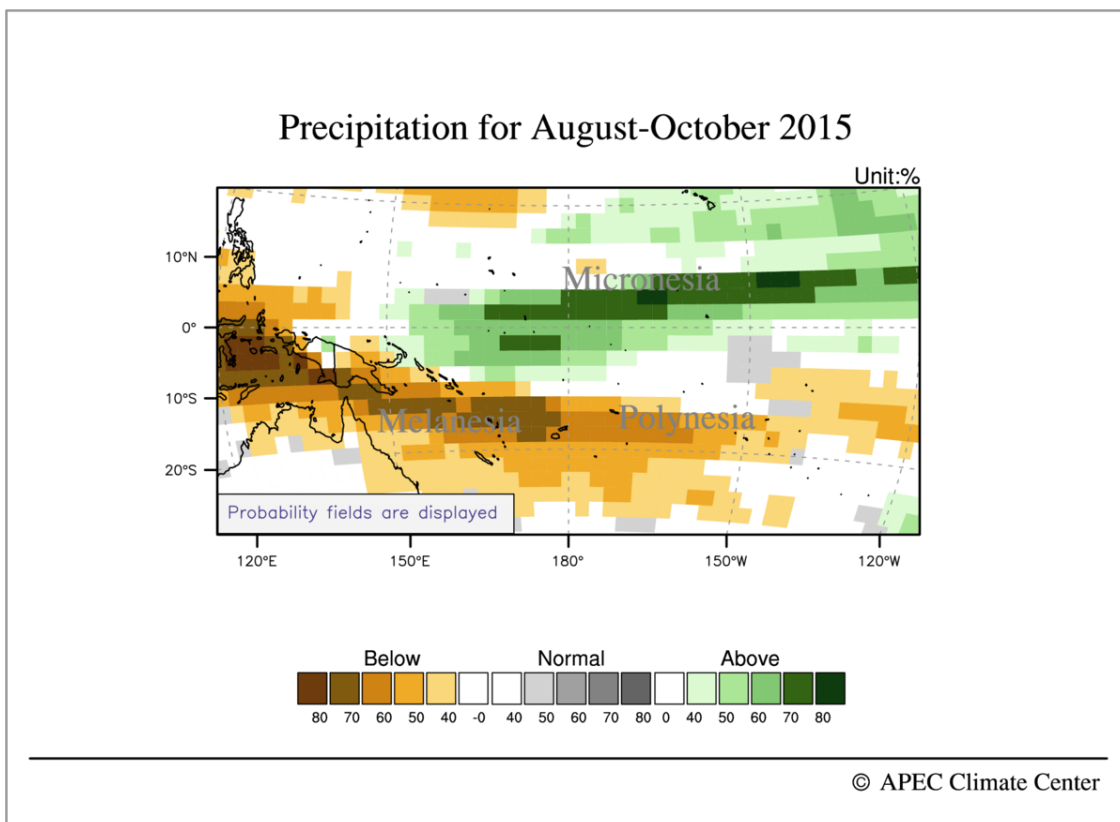
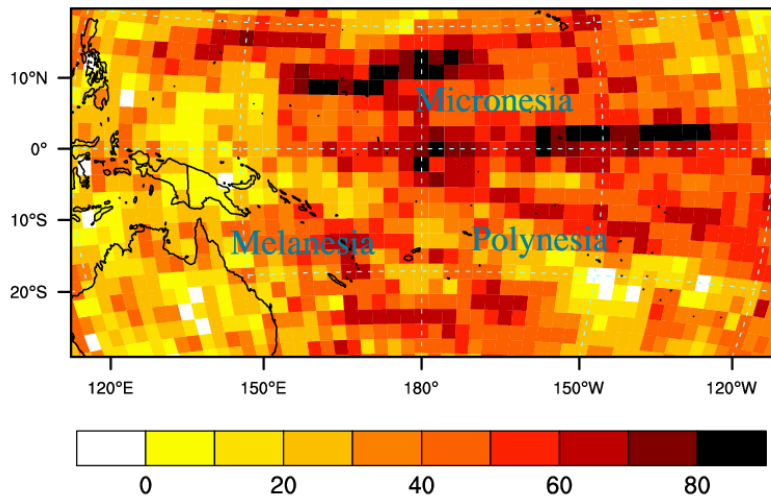


Fig. 6. Same as Fig. 5 but for precipitation.

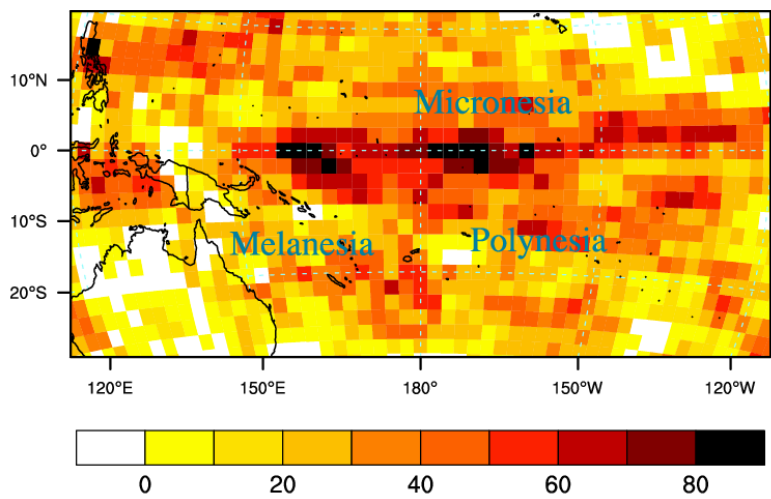
Heidke Skill Score : T2M, MJJ (1983-2005)



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Fig. 7. Heidke Skill Score for probabilistic MME seasonal 2m temperature forecast for May – July.

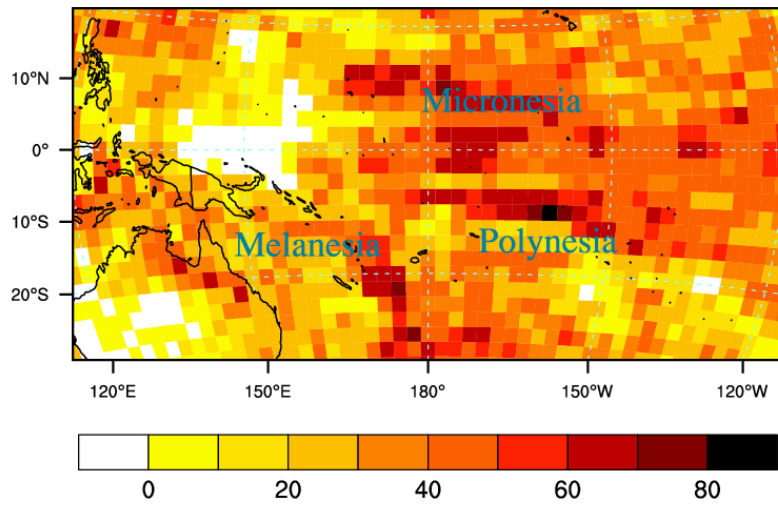
Heidke Skill Score : PREC, MJJ (1983-2005)



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Fig. 8. Same as Fig. 7 but for precipitation.

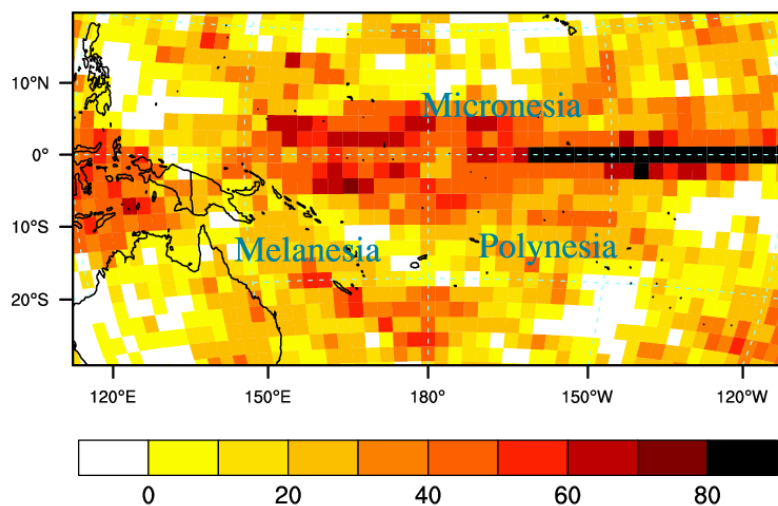
Heidke Skill Score : T2M, ASO (1983-2005)



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Fig. 9. Same as Fig. 7 but for August – October.

Heidke Skill Score : PREC, ASO (1983-2005)



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Fig. 10. Same as Fig. 9 but for precipitation.