The APEC CLIMATE CENTER

Climate Outlook for Pacific Islands for July – December 2017

BUSAN, 26 June 2017 – Synthesis of the latest model forecasts for July – December 2017 (JASOND) at the APEC Climate Center (APCC), located in Busan, South Korea, indicates the prevailing El Niño-Southern Oscillation (ENSO) phase to be positive. Above normal temperature is expected to prevail over the whole of Micronesia, Polynesia, and Melanesia for JAS 2017 and persist except for the equatorial belt of Micronesia and Polynesia for OND 2017. Above normal rainfalls are highly probable in western Micronesia for the whole forecast period, while the near normal rainfalls are probable for the equatorial belt of Micronesia and Polynesia for the same period.

Sea Surface Temperature and ENSO Outlook:

Positive Sea Surface Temperature (SST) anomalies in Pacific are expected to remain steady through the forecast period with the weak positive Niño 3.4 index.

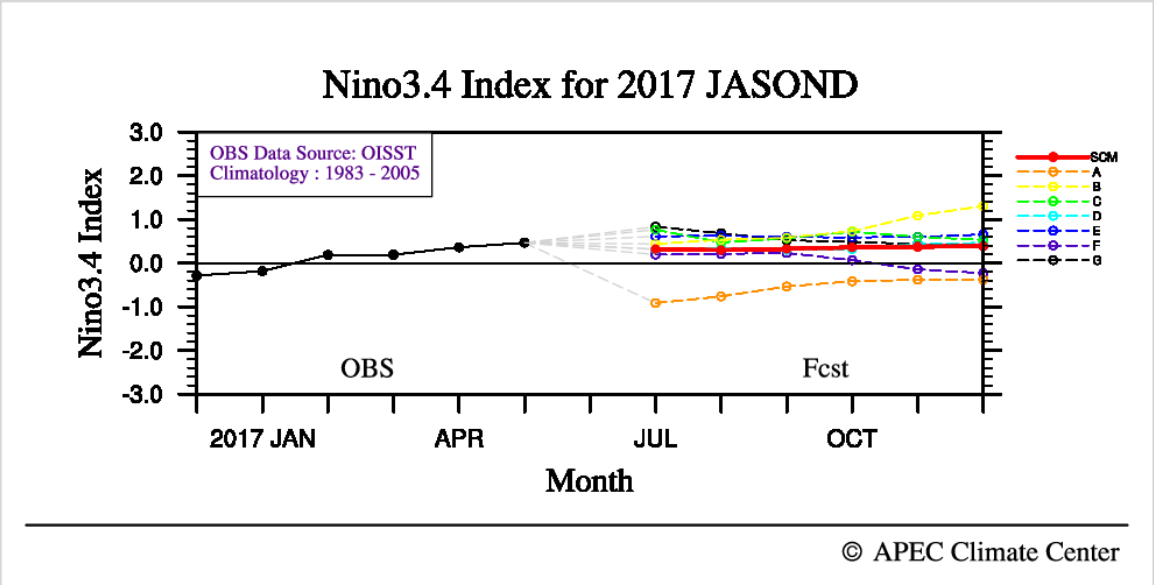
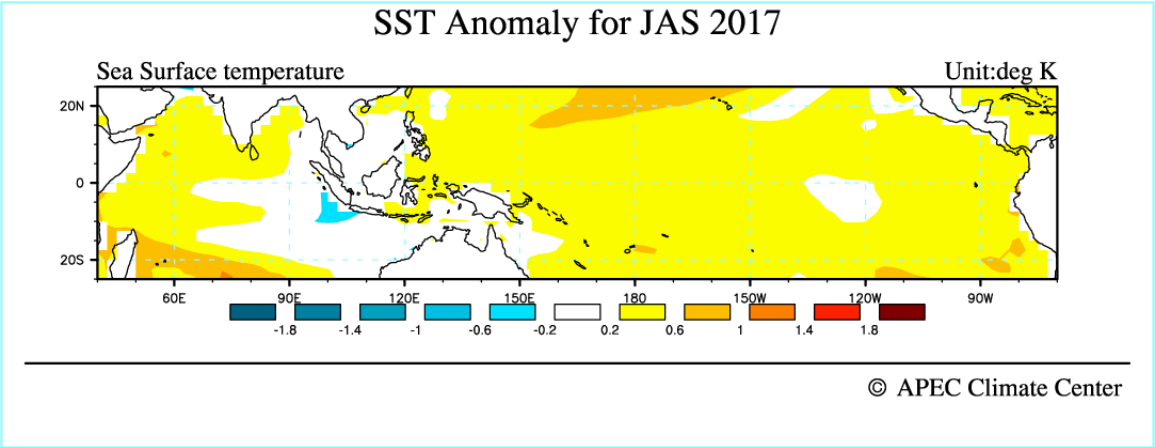


Fig. 1. Predicted Niño 3.4 Index from individual models (A, B, C, D, E, F and G) and the simple composite Multi-Model Ensemble (MME) method (SCM).



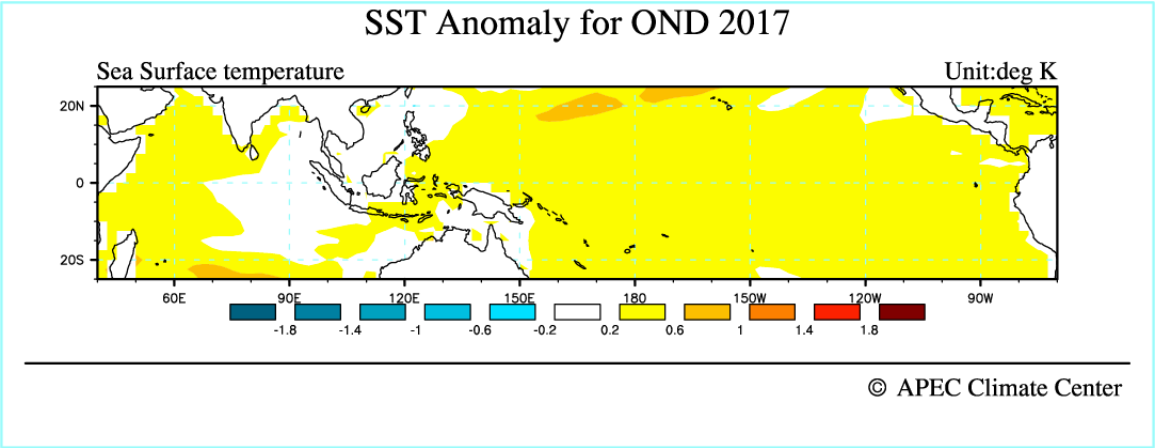


Fig. 2. Spatial distributions of forecasted SST anomalies July – December 2017 over the tropical Indo-Pacific. Top panel shows SST anomaly forecast for July – September 2017 and bottom panel shows SST anomaly forecast for October – December 2017.

Temperature and Precipitation Outlook:

1. **Forecast for July – September 2017**

Strongly enhanced probability for above normal temperature is predicted for Polynesia except for the equatorial region of it, Micronesia, and Melanesia. Enhanced probability for above normal rainfall is predicted for Melanesia and western Micronesia. Strongly enhanced probability for near normal precipitation is predicted for equatorial Polynesia. Over equatorial Micronesia the most probable precipitation category is near normal. A tendency toward below normal precipitation is predicted for off-equatorial Micronesia.

2. **Forecast for October – December 2017**

Strongly enhanced probability for above normal temperature is predicted for Micronesia and Polynesia, except in their equatorial belt, and all of Melanesia. A tendency toward near normal temperature is expected for the equatorial Polynesia. Enhanced probability for above normal precipitation is predicted for the most part of Micronesia. Enhanced probability for near normal precipitation is expected along the equatorial belt of Micronesia and Polynesia.

3. **Historical skill for APCC MME for JAS and OND**

Across the Pacific for the JASOND period, the APCC MME is reasonably skillful in predicting both temperature and precipitation, as indicated by the Heidke Skill Score (HSS). During JAS, the HSS values for temperature over Polynesia and the eastern Micronesia are higher than those over the other regions. The highest HSS values are featured by precipitation in the belt along the equatorial belt of Polynesia for JASOND.

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 16 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 16 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.

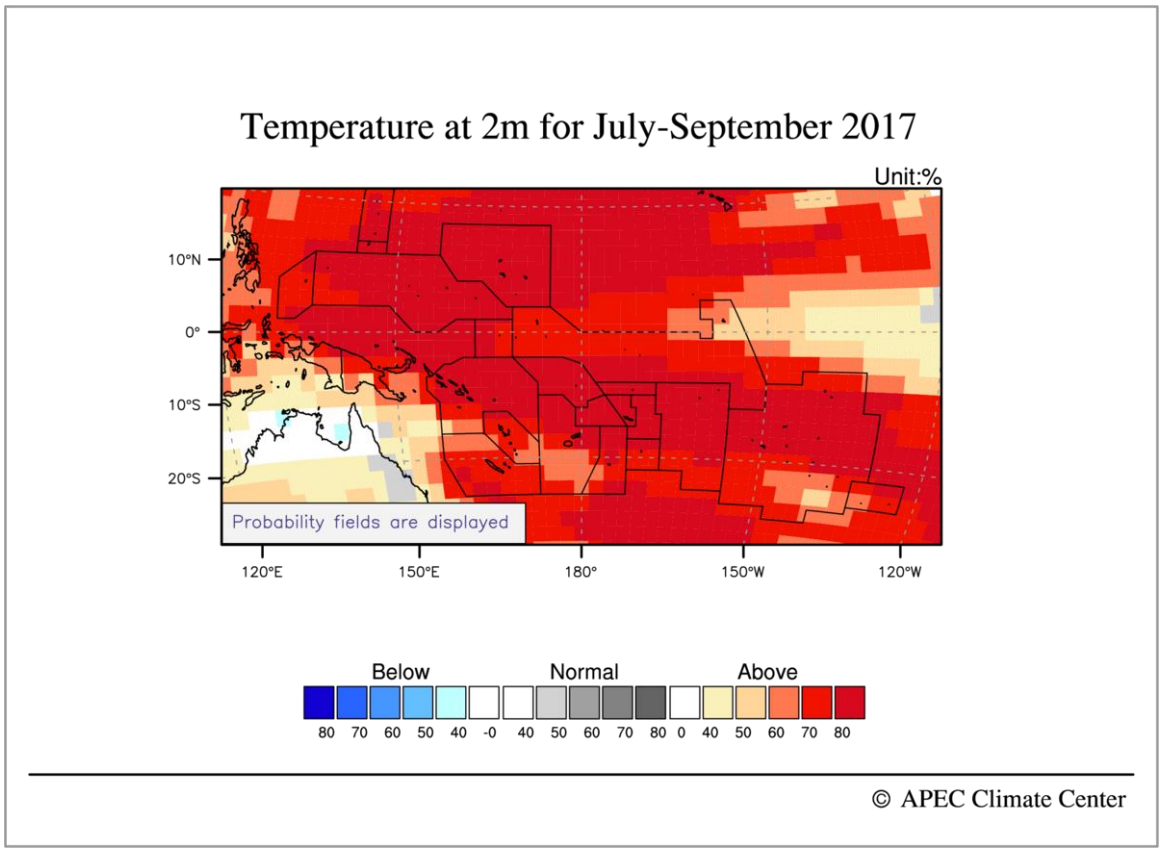


Fig. 3. Probabilistic MME seasonal 2m temperature forecast for July – September 2017.

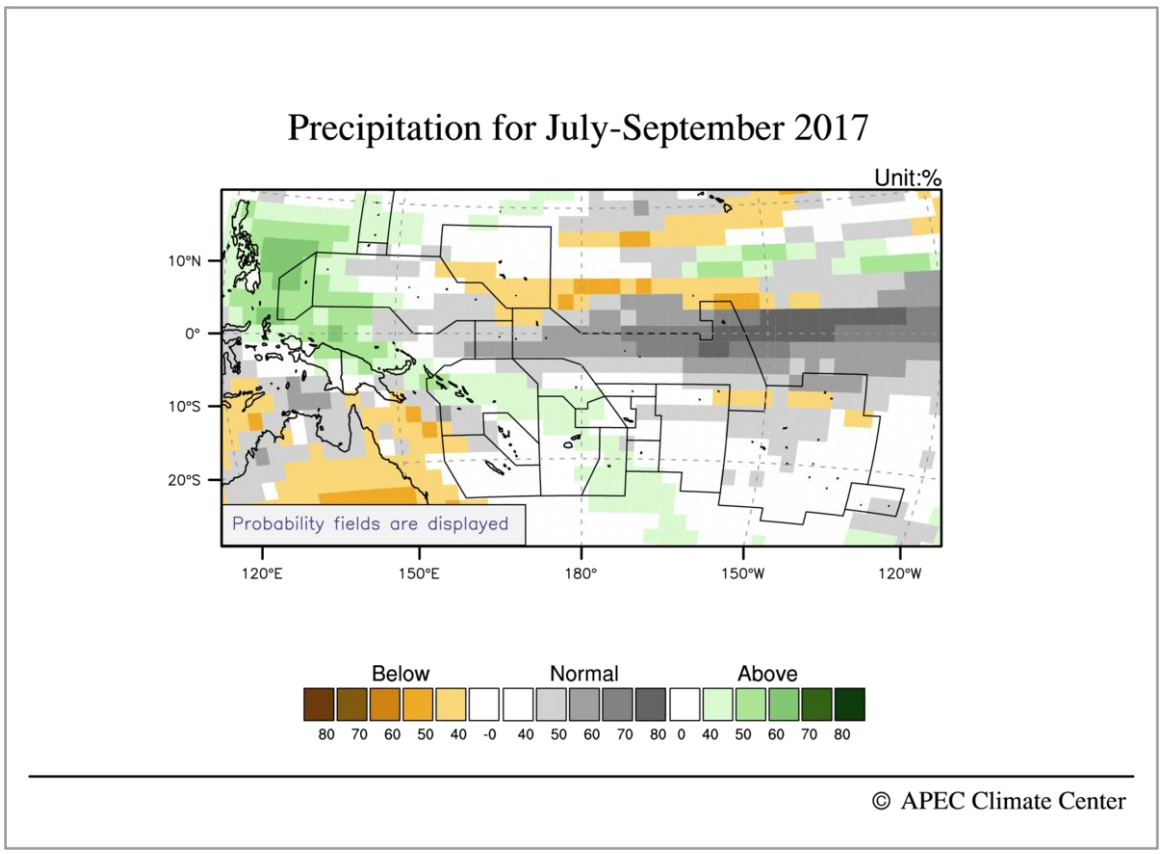


Fig. 4. Probabilistic MME seasonal precipitation forecast for July – September 2017.

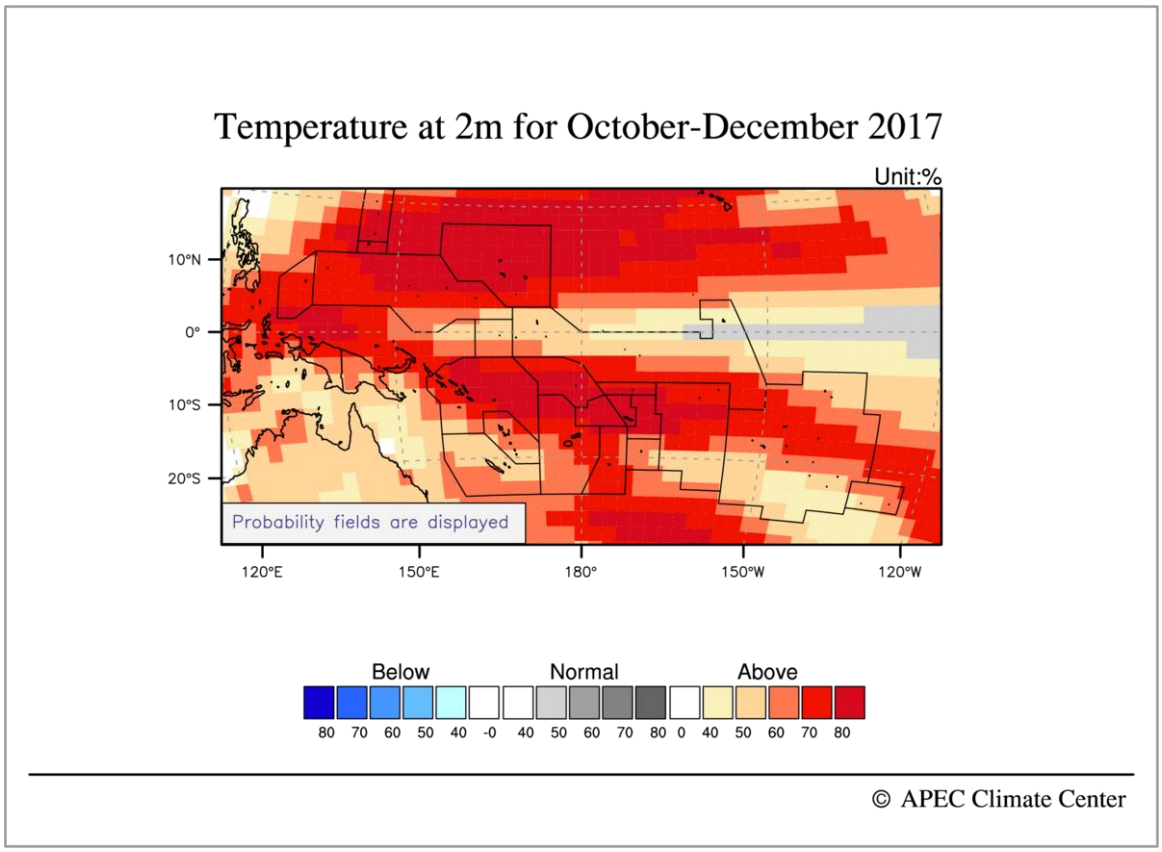


Fig. 5. Probabilistic MME seasonal 2m temperature forecast for October – December 2017.

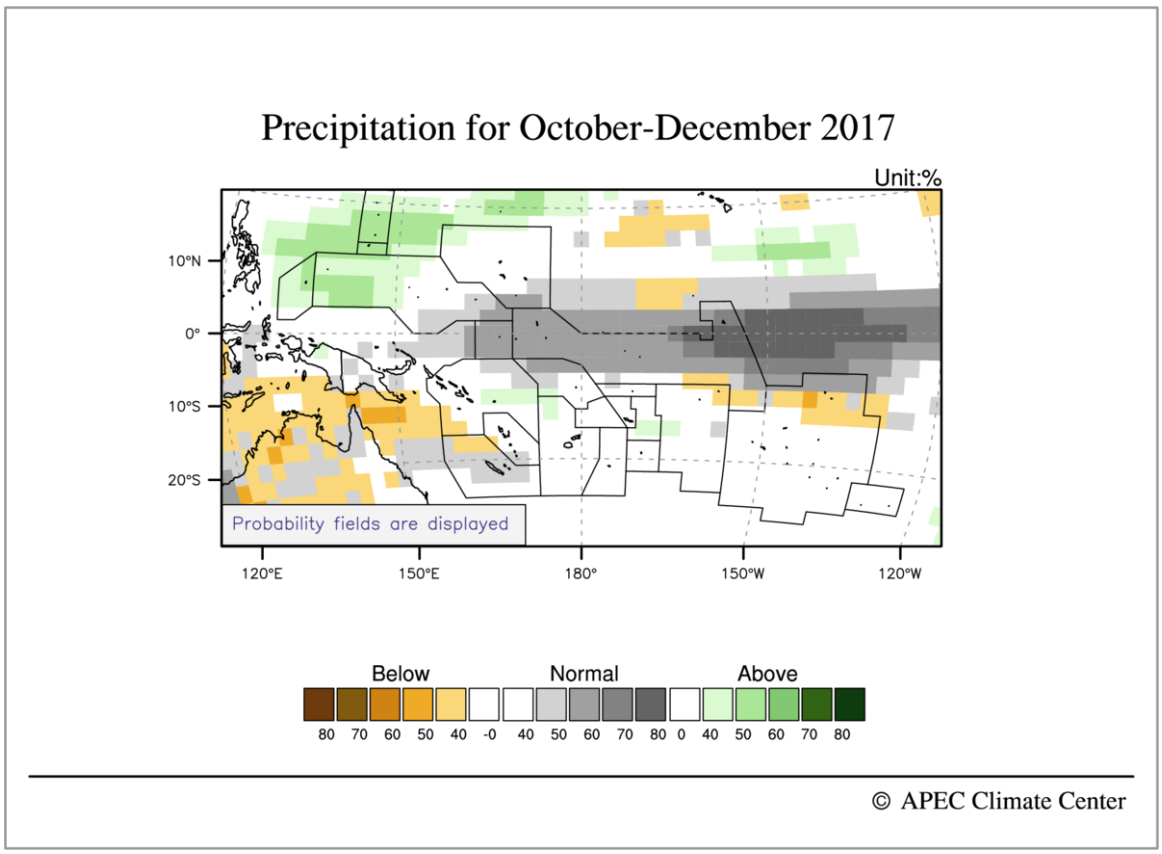


Fig. 6. Probabilistic MME seasonal precipitation forecast for October – December 2017.

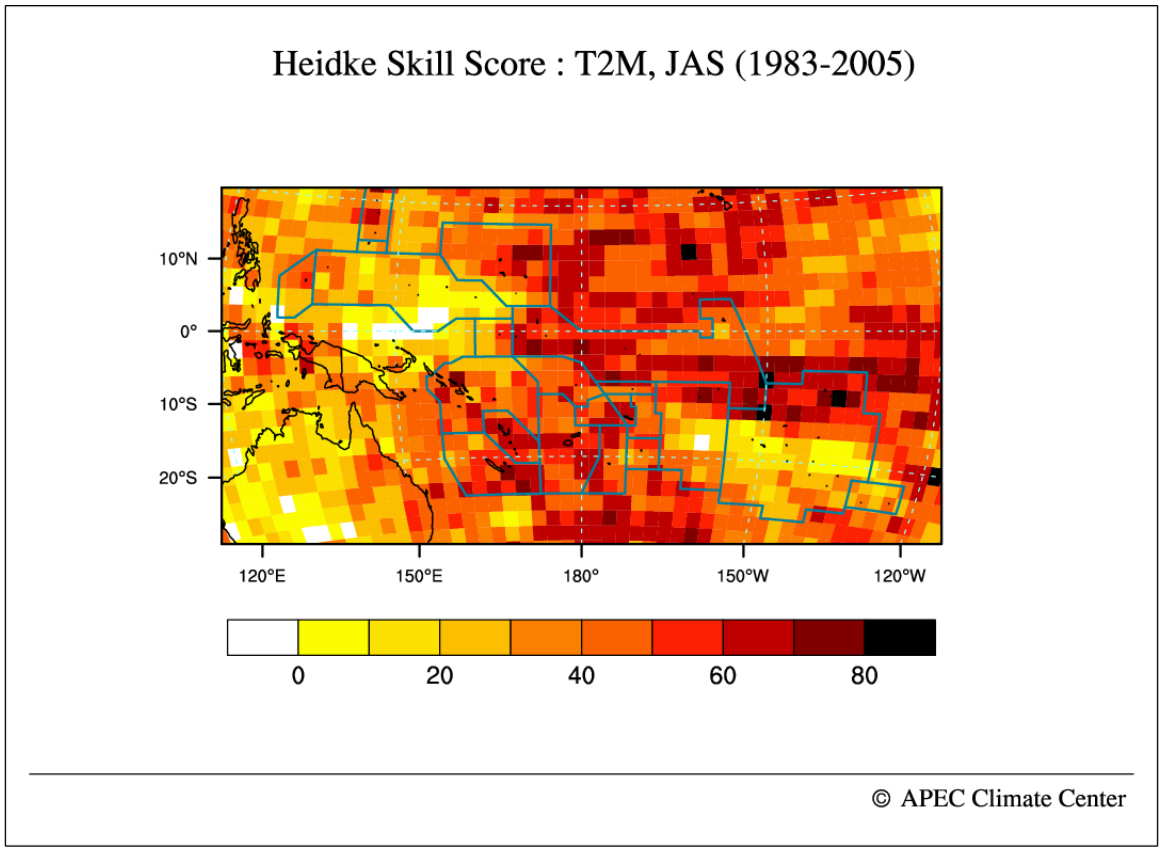


Fig. 7. Heidke Skill Score for probabilistic MME seasonal 2m temperature forecast for July – September.

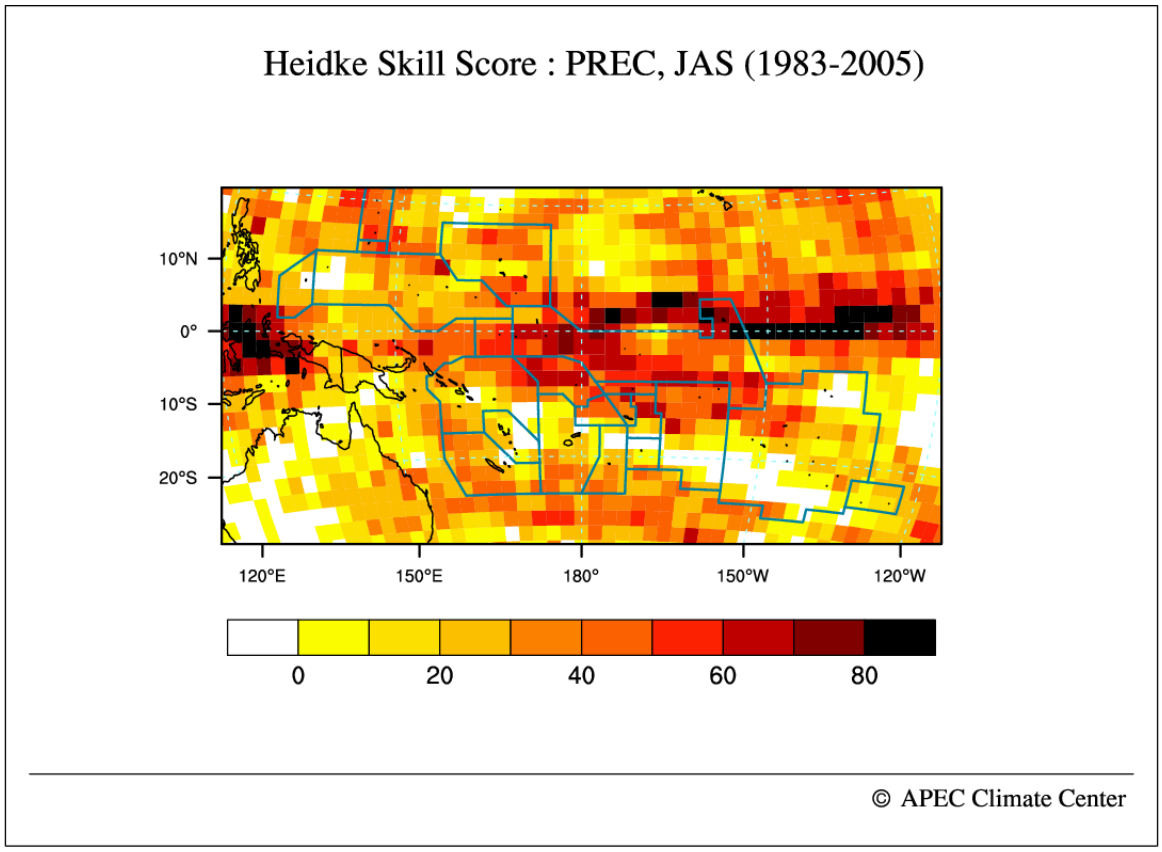


Fig. 8. Heidke Skill Score for probabilistic MME seasonal precipitation forecast for July – September.

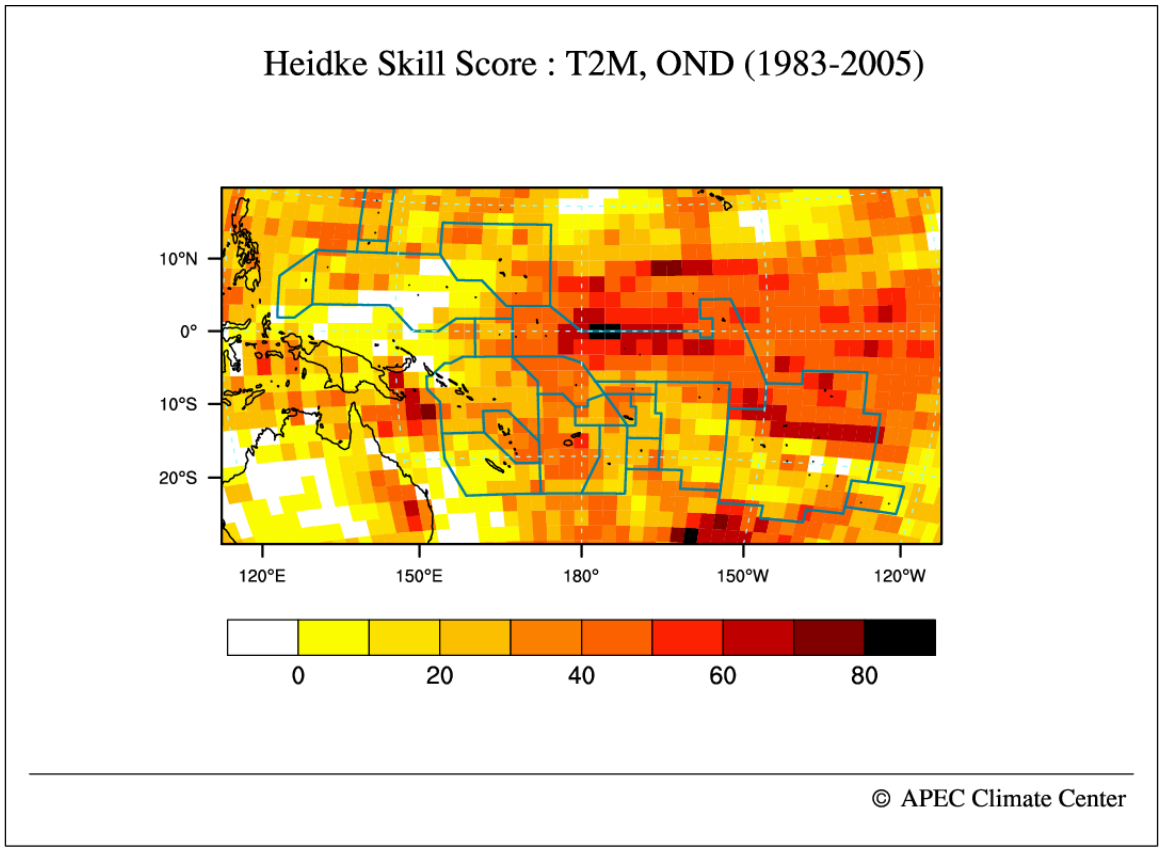


Fig. 9. Heidke Skill Score for probabilistic MME seasonal 2m temperature forecast for October – December.

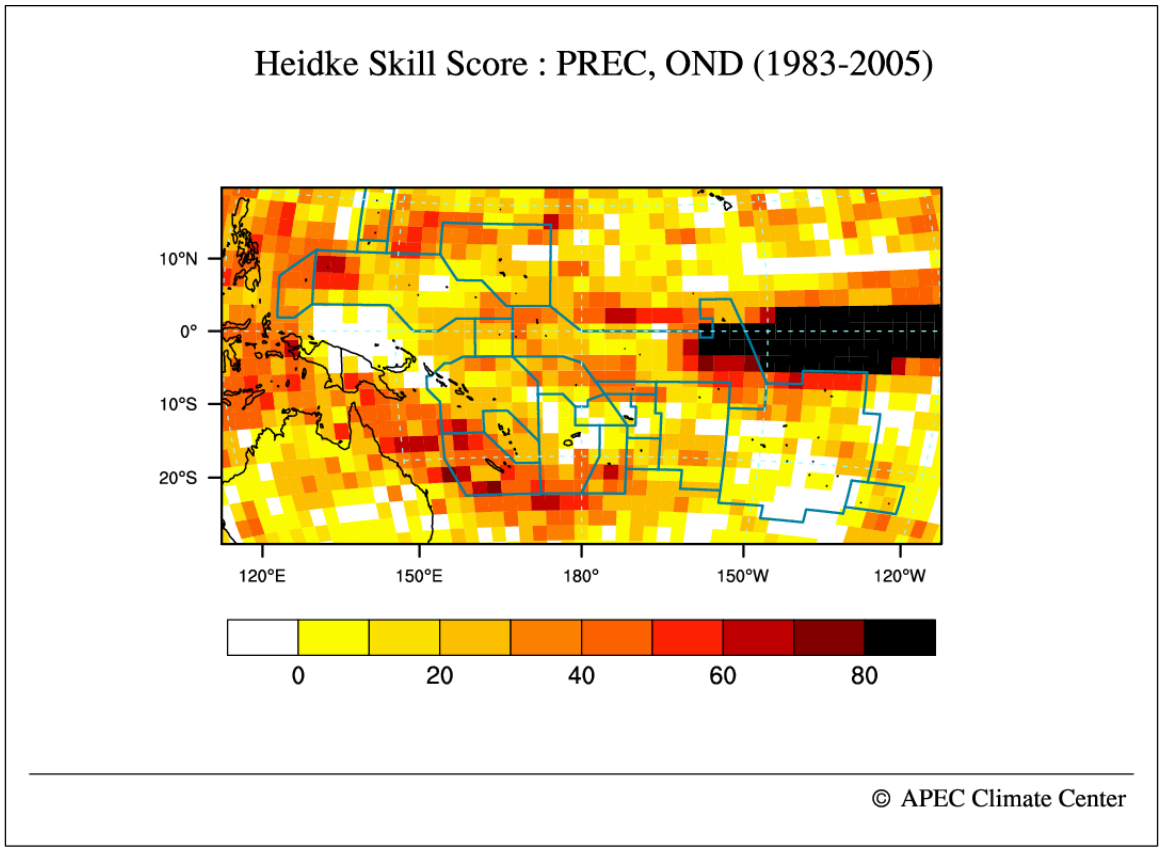


Fig. 10. Heidke Skill Score for probabilistic MME seasonal precipitation forecast for October – December.