



CLIMATE BULLETIN FOR SEA

Climate Monitoring Node – WMO-RCC-SEA – DOST-PAGASA

Issued: July 2023

CLIMATE WATCH FOR RAINFALL DEFICIENCY

Area Concerned:
Thailand, Cambodia, East Malaysia and Brunei

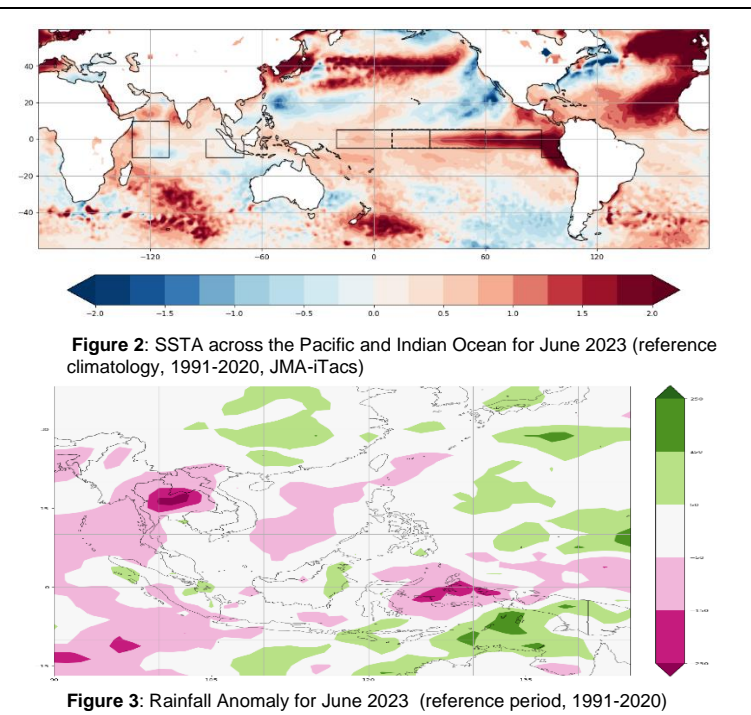
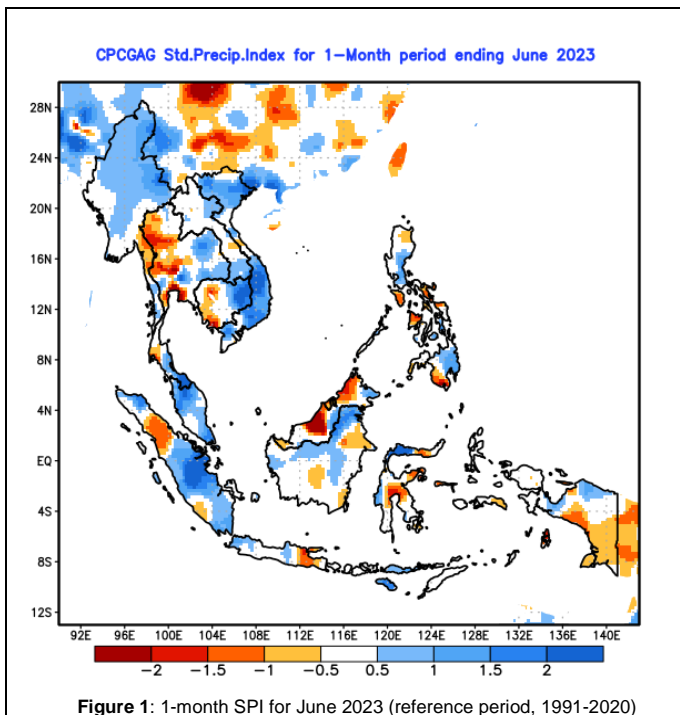
Areas of *moderate* to *severe* rainfall deficiencies have been observed in some parts of Southeast Asia region, in particular over Thailand, Cambodia, East Malaysia and Brunei, as shown in Figure 1: This dry condition was consistent with 3-month below-normal rainfall being experienced for the period April 2023 – June 2023 (see attached 3-month SPI). Other parts of Southeast Asia recorded *moderate* rainfall deficiencies, but these were not as extensive.

In June, above average sea surface temperature anomalies (SSTAs) across the central and eastern equatorial Pacific continued to strengthen with anomalies > 0.5°C and higher. Strong warming persisted at the eastern equatorial Pacific (more than 2.5 °C) anomaly and is expanding westward. However, negative SSTAs were observed around the Philippines and Indonesia.

The IOD remained within neutral levels for the month, with the western equatorial Indian Ocean showing slightly warmer than average than the eastern equatorial Indian Ocean.

Inactive phase of the Madden–Julian Oscillation (MJO) in Maritime Continent in June. Characterize with suppressed precipitation in most areas of the region.

MAPS





OUTLOOK:

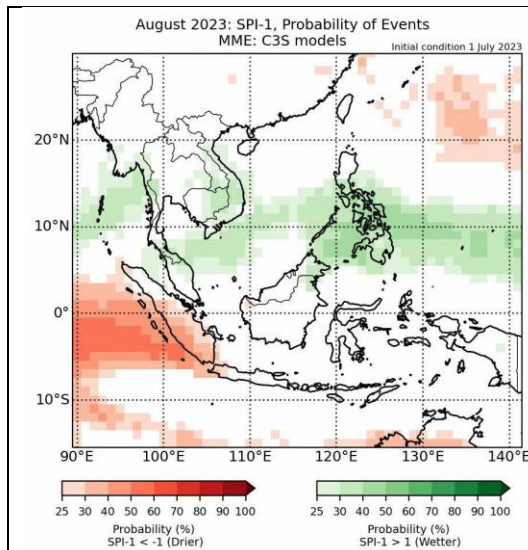


Figure 4: Probability of rainfall surplus or rainfall deficit based on the SPI-1 for August 2023. Red (green) shading shows increased chance of drier (wetter) conditions (based on ECMWF, NCEP, UKMO, JMA and ECCC seasonal models, downloaded from C3S)

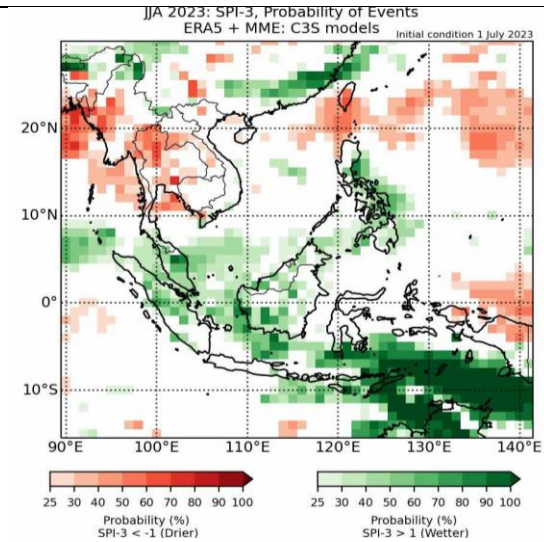


Figure 5: Probability of rainfall surplus or rainfall deficit based on the SPI-3 for June to August 2023. Red (green) shading shows increased chance of drier (wetter) conditions (based on ECMWF, NCEP, UKMO, JMA and ECCC seasonal models for July and August with ERA 5 for June, downloaded from C3S)

From the outlook of SPI-1 over the region (Figure 4), there is only a small chance of the rainfall deficit continuing over the areas mentioned above in August (less than 25% chance). For some these areas, including parts of the Malay Peninsula and Cambodia there is a chance of rainfall surplus (25 – 40%).

However, for Thailand and parts of Cambodia, when considering the longer-term conditions for June to August 2023 (SPI-3, Figure 5), there is still a chance of rainfall deficit (40-60%).

El Niño conditions are predicted to continue developing and strengthening in the Pacific in the coming months, along with the development of a positive Indian Ocean Dipole. Both positive Indian Ocean Dipoles and El Niño conditions can bring drier conditions to parts of Southeast Asia. These developing conditions are in line with increased chance of rainfall deficit in August (40-60%) over parts of the western Maritime Continent in Figure 4.

Next issuance will be on August 2023.



Attachment:

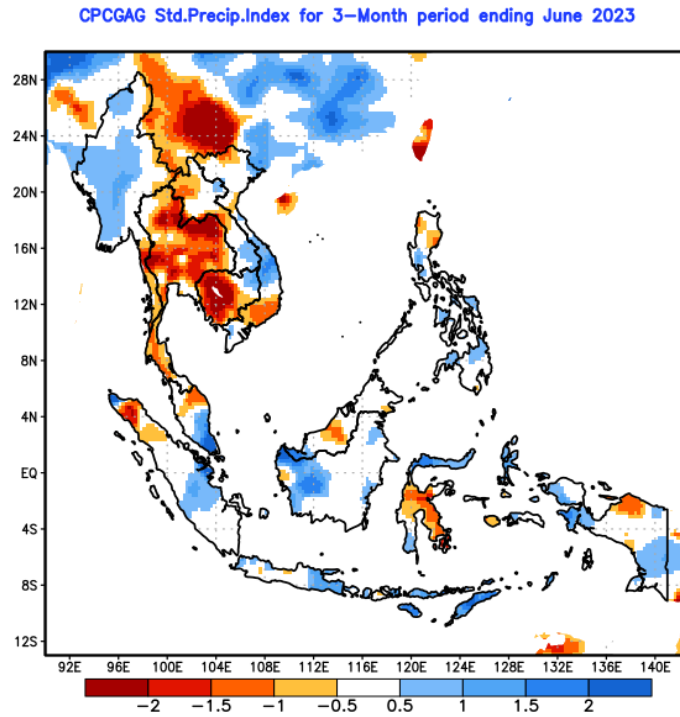


Figure 4: 3-month SPI for April - June 2023 (reference period, 1991-2020)

Table 1: McKee and others (1993) SPI value-classification table as recommended in World Meteorological Organization, 2012: Standardized Precipitation Index User Guide (M. Svoboda, M. Hayes and D. Wood). (WMO-No. 1090), Geneva.

Table 1. SPI values

2.0+	extremely wet
1.5 to 1.99	very wet
1.0 to 1.49	moderately wet
-.99 to .99	near normal
-1.0 to -1.49	moderately dry
-1.5 to -1.99	severely dry
-2 and less	extremely dry