



CLIMATE BULLETIN FOR SEA

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

Issued: September 2023

CLIMATE WATCH FOR RAINFALL DEFICIENCY – EL NIÑO

Areas of Concern:
Thailand, Cambodia, parts of Borneo, southern Sumatra, and the Eastern sections of Indonesia

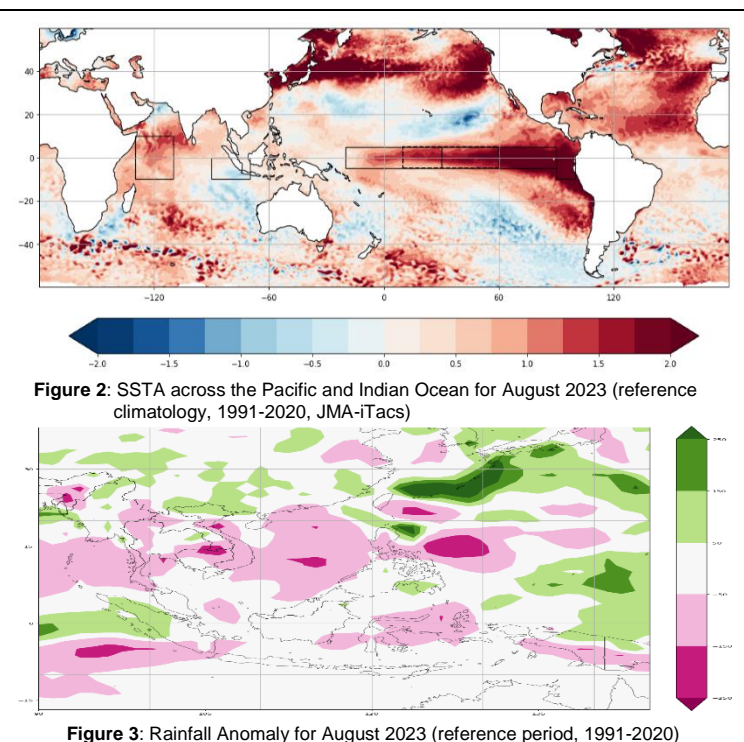
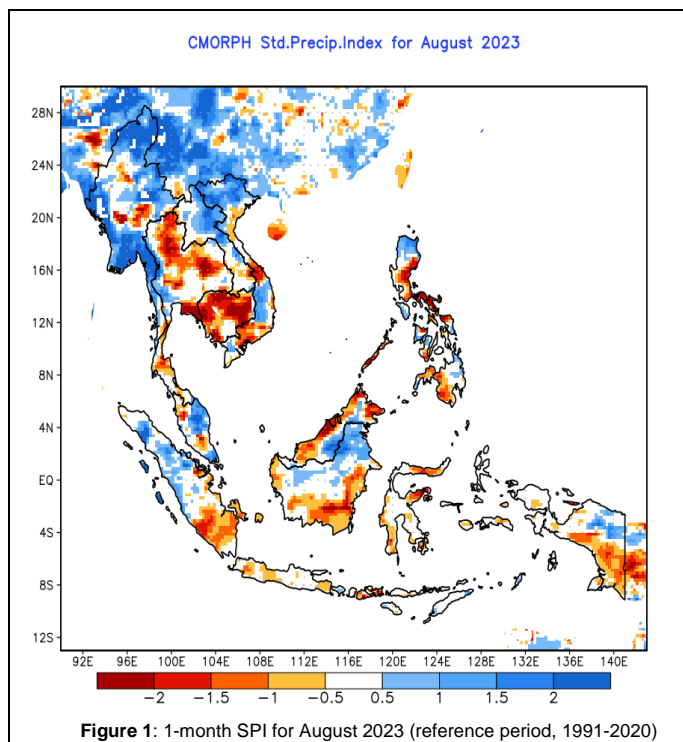
Areas of *moderate* to *severe* rainfall deficiencies have been observed in some parts of Southeast Asia region, over Thailand, Cambodia, parts of Borneo, southern Sumatra, and the Eastern sections of Indonesia as shown in Figure 1. This dry condition was consistent with the 3-month below-normal rainfall being experienced for the period June – August 2023 (see attached 3-month SPI). Other parts of Southeast Asia recorded *moderate* rainfall deficiencies and some have recovered because of adequate rainfall received in the month of August.

Sea surface temperature anomalies (SSTAs) across the central and eastern equatorial Pacific were above average (1.0°C - 2.5°C anomaly) during the month. The strong warming at the eastern equatorial Pacific were still observed but slightly cooled down and had expanded westward. However, the SSTAs in the western Pacific and over most of the Maritime Continent were also near average.

Positive IOD values were observed in August, as the western equatorial Indian Ocean was observed to be warmer than average while the eastern equatorial Indian Ocean was observed to be cooler than average.

Inactive phase of the Madden-Julian Oscillation (MJO) over the region in August was observed characterized by suppressed convection and precipitation in most areas.

MAPS





OUTLOOK:

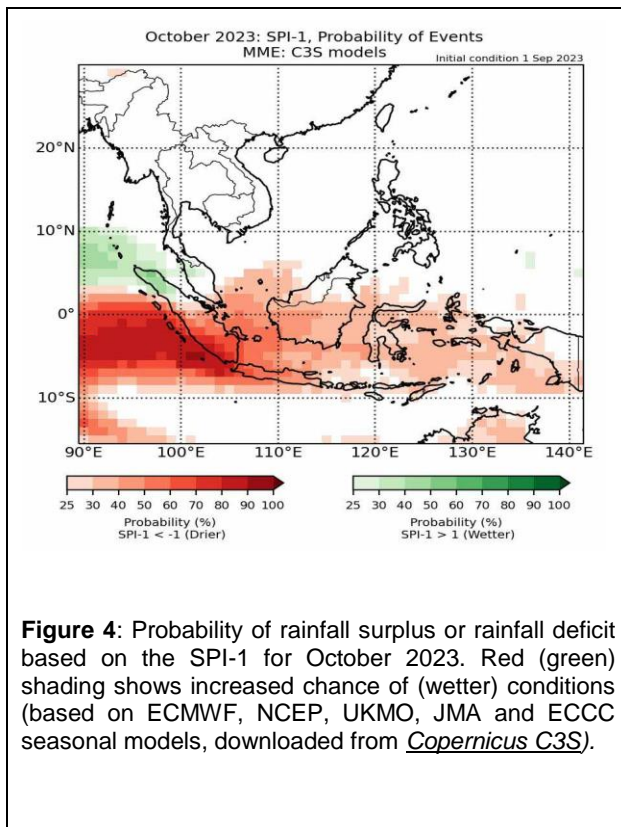


Figure 4: Probability of rainfall surplus or rainfall deficit based on the SPI-1 for October 2023. Red (green) shading shows increased chance of (wetter) conditions (based on ECMWF, NCEP, UKMO, JMA and ECCC seasonal models, downloaded from [Copernicus C3S](#)).

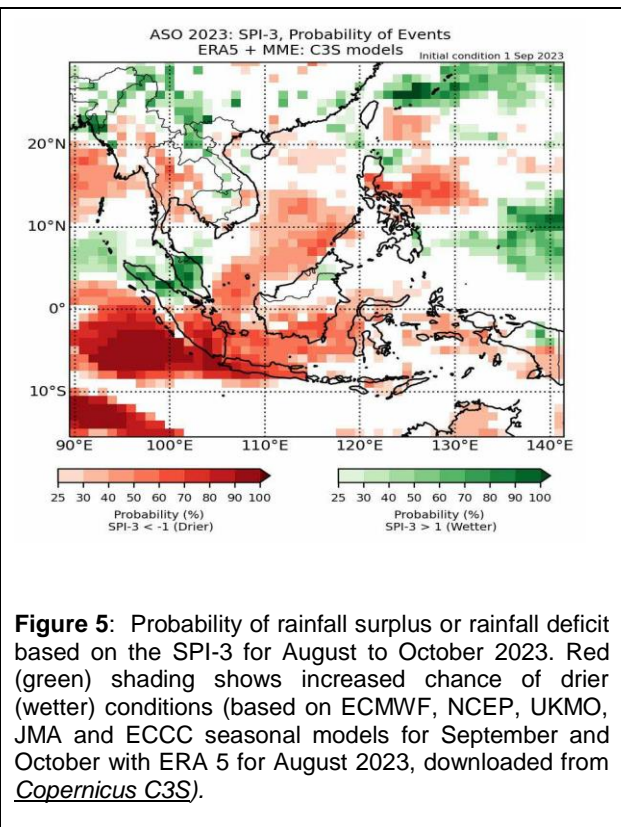


Figure 5: Probability of rainfall surplus or rainfall deficit based on the SPI-3 for August to October 2023. Red (green) shading shows increased chance of drier (wetter) conditions (based on ECMWF, NCEP, UKMO, JMA and ECCC seasonal models for September and October with ERA 5 for August 2023, downloaded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

From the outlook of SPI-1 over the region (Figure 4), there is some chance (25-40%) of rainfall deficit continuing over southern parts of Borneo and Eastern sections of Indonesia, and a high chance (>60%) of the rainfall deficit continuing over southern Sumatra in October 2023. For the other area of concern mentioned above, there is a small chance of the rainfall deficit continuing in October (less than 25% chance).

When considering the longer-term conditions for August to October 2023 (SPI-3, Figure 5), there is a high chance of rainfall deficit (>60%) for southern Sumatra, and moderate chance of rainfall deficit (40-60%) for southern parts of Borneo, Eastern sections of Indonesia, and parts of Thailand.

El Niño conditions are present and are predicted to strengthen in the Pacific in the coming months. A positive Indian Ocean Dipole has also developed and predicted to last until the end of the year. Both positive Indian Ocean Dipole and El Niño events can bring drier conditions to parts of Southeast Asia. These develop conditions are in line with increased chance of rainfall deficit (30-80%) in October over the southern ASEAN region, in particular over parts of the western Maritime Continent (Figure 4).

Next issuance will be on October 2023.



Attachment:

CMORPH Std.Precip.Index for 3-Month Ending August 2023

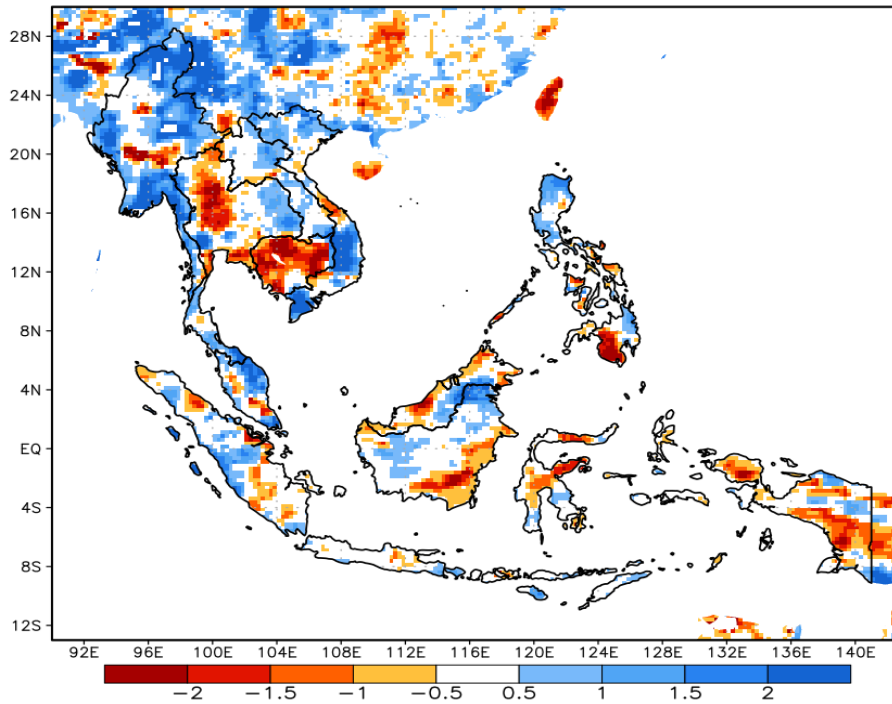


Figure 4: 3-month SPI for June - August 2023 (reference period, 1991-2020)

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