CLIMATE BULLETIN FOR SEA

Climate Monitoring Node – WMO-RCC-SEA – DOST-PAGASA **Issued: November 2023**

CLIMATE WATCH FOR RAINFALL DEFICIENCY – EL NIÑO

Areas of Concern: Philippines, Indonesia, Peninsular Malaysia and Sabah

Areas of *moderate* rainfall deficiencies have been observed in some parts of Southeast Asia region, particularly over most of the Philippines and Indonesia as shown in Figure 1, consistent with the 3-month below-normal rainfall being experienced for the period August – October 2023 (Figure 4). While some other parts of Southeast Asia (Peninsular Malaysia and Sabah) recorded *mild to moderate* rainfall deficiencies, most of the other region received adequate rainfall for the month of October.

Sea surface temperatures (SSTs) across the central and eastern equatorial Pacific were consistently warmer than average in October with anomalies greater than 1.5ºC on the average. The strong warming (>2.0ºC anomaly) was still observed over the eastern equatorial Pacific. However, the SSTAs in the western Pacific and over most of the maritime continent were near to below average, particularly around Indonesia.

Positive IOD levels were still observed during the month, as warmer than average SSTs were observed over the western equatorial Indian Ocean while the eastern equatorial Indian Ocean was cooler than average.

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

MAPS

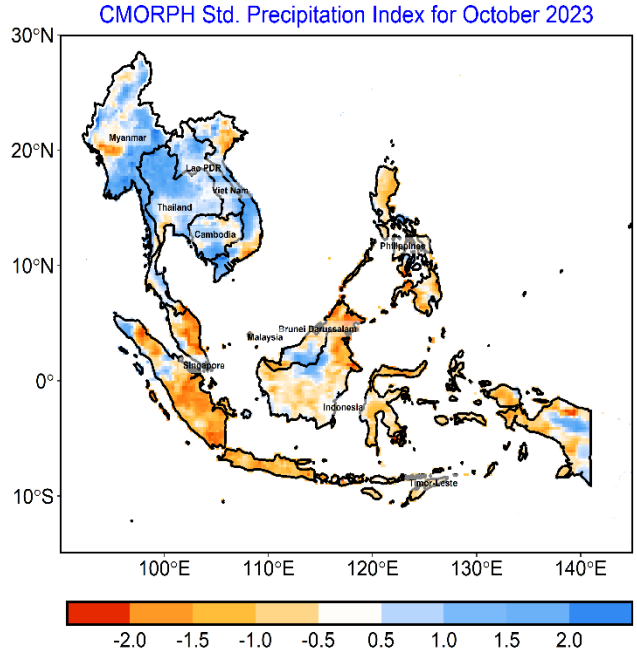

Figure 1: 1-month SPI for October 2023 (reference period, 1991-2020)

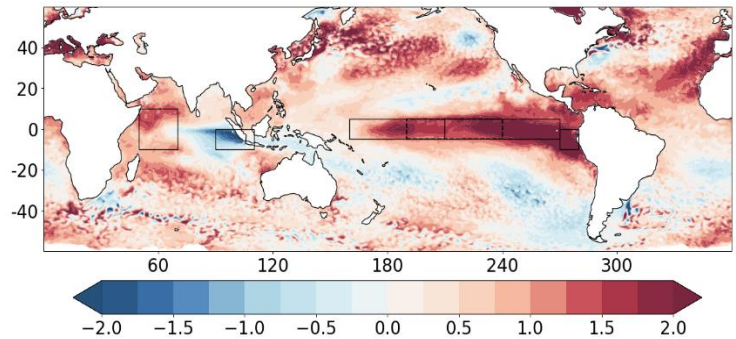

Figure 2: SSTA across the Pacific and Indian Ocean for October 2023 (reference period, 1991-2020)

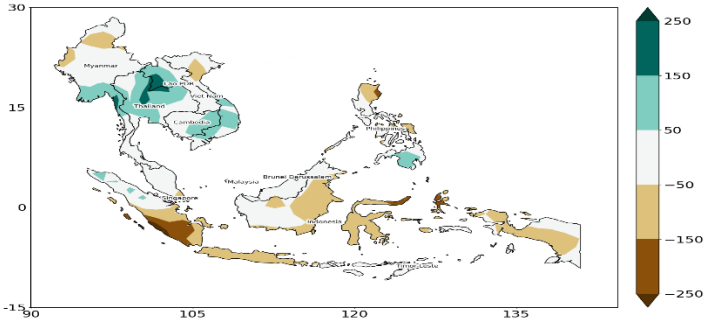

Figure 3: Rainfall Anomaly for October 2023 (reference period, 1991-2020)

OUTLOOK:

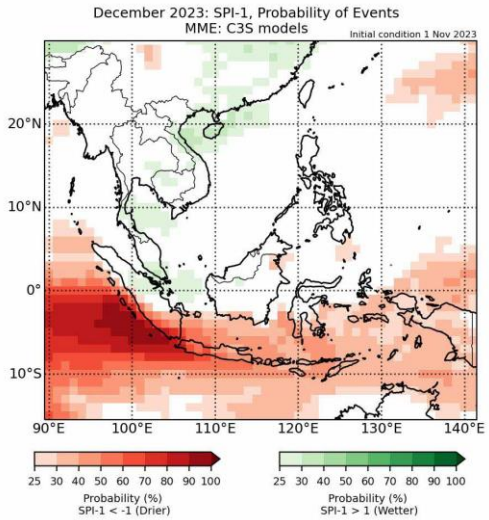

Figure 4: Probability of rainfall surplus or rainfall deficit based on the SPI-1 for December 2023. Red (green) shading shows increased chance of drier (wetter) conditions (based on ECMWF, NCEP, UKMO, JMA and ECCC seasonal models, downloaded from *Copernicus C3S)*.

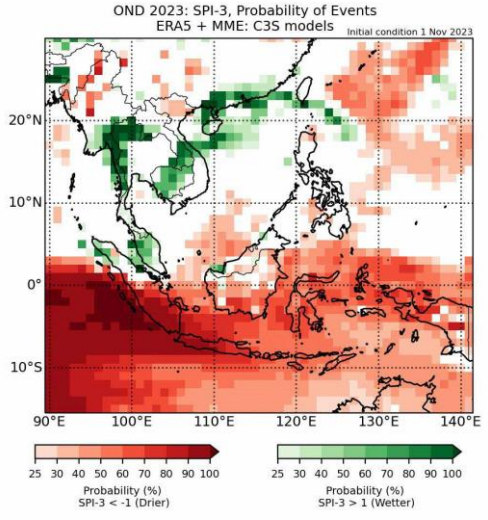

Figure 5: Probability of rainfall surplus or rainfall deficit based on the SPI-3 for October to December 2023. Red (green) shading shows increased chance of drier (wetter) conditions (based on ECMWF, NCEP, UKMO, JMA and ECCC seasonal models for November and December with ERA 5 for October 2023, downloaded 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 and eastern Indonesia, with moderate to high chance (50-80%) of the rainfall deficit continuing over southern Sumatra and western Java in December 2023.

When considering the longer-term conditions for October to December 2023 (SPI-3, Figure 5), there is a high chance of rainfall deficit (>60%) for central and southern Sumatra and western Java, and moderate chance of rainfall deficit (40-60%) for much of the rest of Indonesia.

For the other areas of concern (Philippines and Malaysia), there is low chance of rainfall deficit for December 2023 and for October to December 2023.

El Niño conditions are predicted to continue until at least February-March 2024. The positive Indian Ocean Dipole is predicted to last until the start of 2024. Both positive Indian Ocean Dipole and El Niño events can bring drier conditions to parts of Southeast Asia. These conditions are in line with increased chance of rainfall deficit (25-80%) in December over the southern ASEAN region (Figure 4).

Next issuance will be on December 2023.

Attachment:

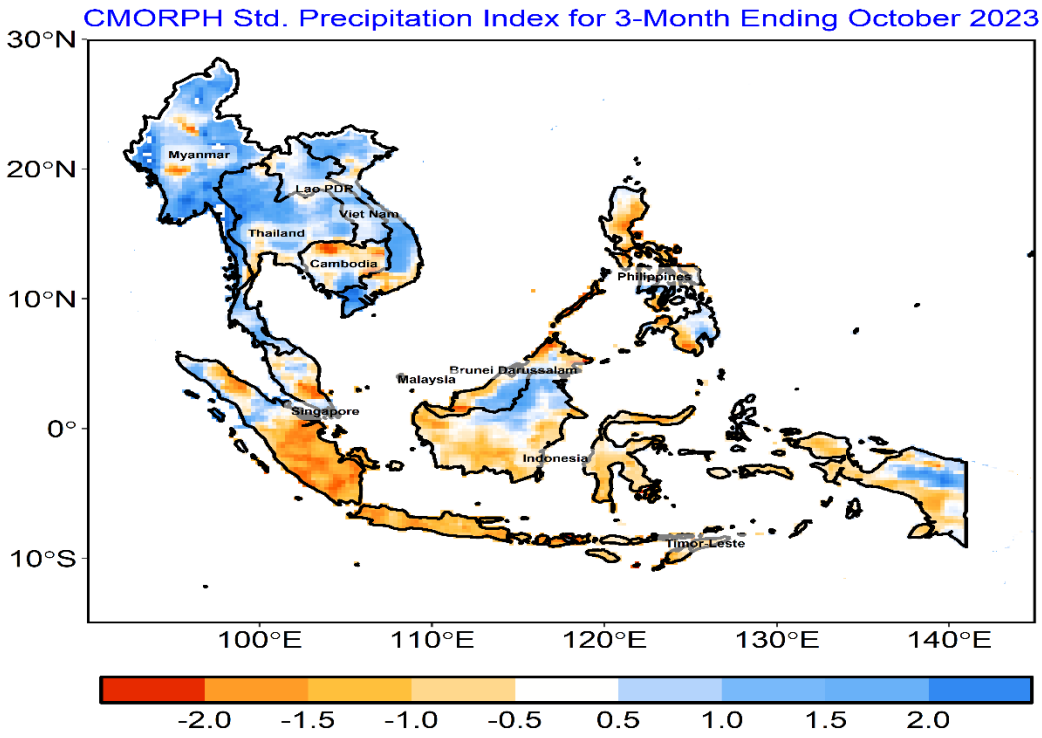

Figure 4: 3-month SPI for August - October 2023 (reference period, 1991-2020)

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