





CLIMATE BULLETIN FOR SEA

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

CLIMATE WATCH FOR RAINFALL DEFICIENCY – EL NIÑO

Areas of Concern: Indonesia and Philippines Area of *moderate* rainfall deficiencies have been observed in some parts of Southeast Asia region, particularly over eastern and southern areas of Indonesia, and north and central parts of the Philippines recorded *mild to moderate* rainfall deficiencies, while most of the other region received adequate rainfall for the month of December.

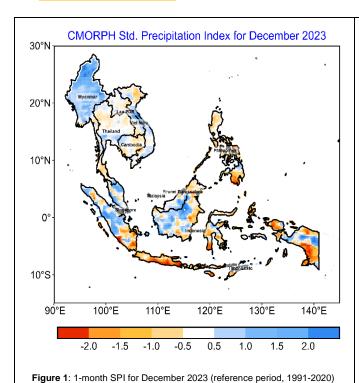
Issued: January 2024

The warmer than average sea surface temperatures (SSTs) across the tropical Pacific prevailed during the month and continued to be strong (anomalies greater than 1.5°C) in most of the Niño regions. However, the SST anomalies in the western Pacific and over most of the maritime continent were near to above average while the southern and eastern part of Indonesia exhibited below average SST anomalies.

Positive IOD levels were still observed during the month. Warmer than average SSTs were observed over the western equatorial Indian Ocean while the eastern equatorial Indian Ocean remained to be cooler than average.

A Madden–Julian Oscillation (MJO) signal was present through most of December, with the active phase over the Maritime Continent near the start of the month, and over the Western Hemisphere (characterized by suppressed convection and precipitation for much of Southeast Asia) towards the end of the month.

MAPS









OUTLOOK:

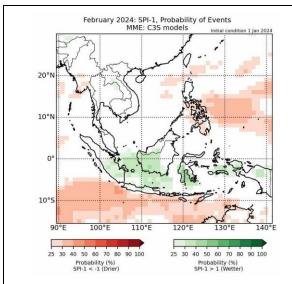


Figure 4: Probability of rainfall surplus or rainfall deficit based on the SPI-1 for February 2024. Red (green) shading shows increased chance of drier (wetter) conditions (based on ECMWF, NCEP, UKMO, JMA and ECCC seasonal models, downloaded from <u>Copernicus</u> C3S).

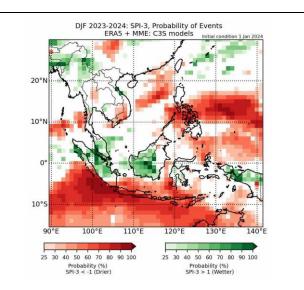


Figure 5: Probability of rainfall surplus or rainfall deficit based on the SPI-3 for December 2023 to February 2024. Red (green) shading shows increased chance of drier (wetter) conditions (based on ECMWF, NCEP, UKMO, JMA and ECCC seasonal models for December 2023 and January 2024 with ERA 5 for November 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 some parts of the Philippines in February 2024. There is low chance (<25%) of rainfall deficit over the area of concern in Indonesia for February 2024.

When considering the longer-term conditions for December 2023 to February 2024 (SPI-3, Figure 5), there is a high chance of rainfall deficit (>60%) for much of southern areas of Indonesia and central Philippines.

El Niño conditions are predicted to continue until at least March 2024. The positive Indian Ocean Dipole started to weaken in December 2023 and predicted to end during January-February 2024. El Niño events can bring drier conditions to parts of Southeast Asia. These conditions are in line with an increased chance of rainfall deficit (25-40%) in February 2024 over the northeastern Maritime Continent (Figure 4).

Next issuance will be on February 2024.







Attachment:

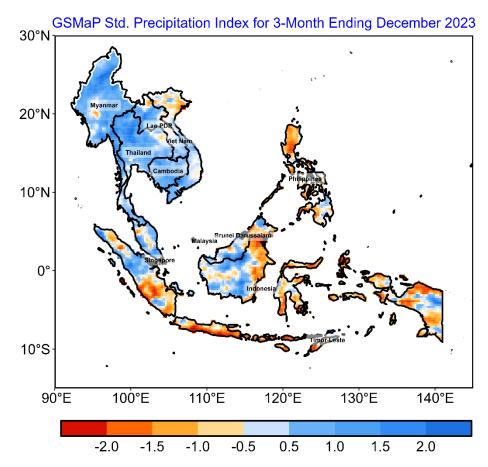


Figure 4: 3-month SPI for October - December 2023 (reference period, 1991-2020)

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