



CLIMATE BULLETIN FOR SEA

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

Issued: March 2024

CLIMATE WATCH FOR RAINFALL DEFICIENCY – EL NIÑO

Areas of Concern:
Cambodia, Thailand, southern Lao PDR, parts of Vietnam, southern Myanmar, Malaysia, Brunei Darussalam, parts of Indonesia, and Philippines

Area of moderate rainfall deficiencies have been observed in some parts of Southeast Asia region, particularly over Cambodia, most parts of Thailand, southern Myanmar, Malaysia, north and central parts of the Philippines, and parts of Indonesia (especially northern Sumatra, Java, and Papua). Southern parts of Lao PDR, parts of Viet Nam, and Brunei Darussalam also recorded mild to moderate rainfall deficiencies, while most of the other region received adequate rainfall for the month of February.

Strong warming of sea surface temperatures (SSTs) across the tropical Pacific prevailed during the month with anomalies greater than 1.0°C - 1.6°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.

IOD values were near average during the month as SSTs observed over the western equatorial Indian Ocean were slightly warmer than the eastern equatorial Indian Ocean. The SST over the eastern Indian Ocean has returned to near neutral.

A Madden-Julian Oscillation (MJO) signal was active through most of first half of February, with the active phase over the Western Pacific at the start of the month (characterized by suppressed convection and precipitation over the Maritime Continent) up to the middle of the month, followed by a period of no MJO activity. An MJO signal then emerged over the Indian Ocean at the end of the month.

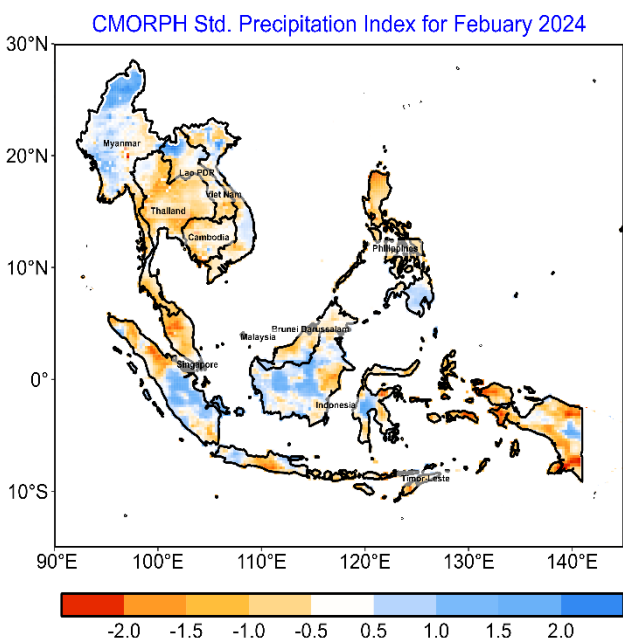


Figure 1: 1-month SPI for February 2024 (reference period, 1991-2020)

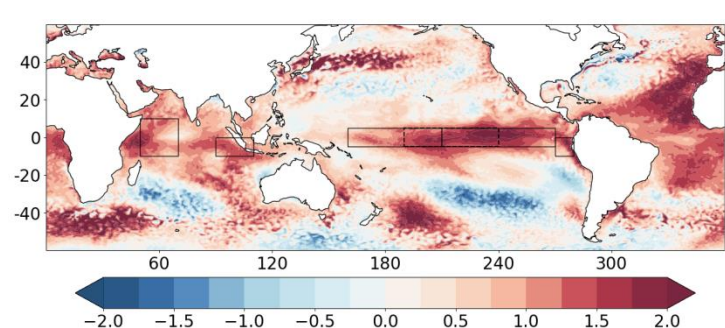


Figure 2: SSTA across the Pacific and Indian Ocean for February 2024 (reference period, 1991-2020)

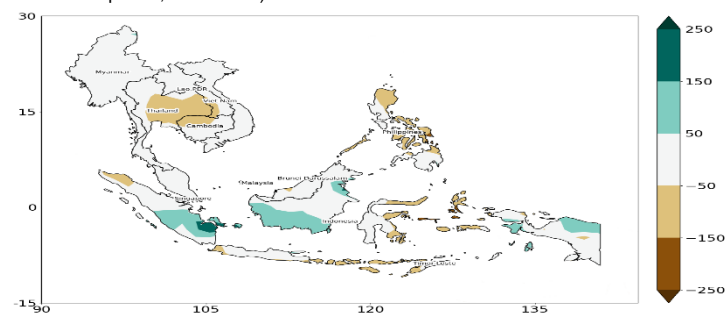


Figure 3: Rainfall Anomaly for February 2024 (reference period, 1991-2020)



OUTLOOK:

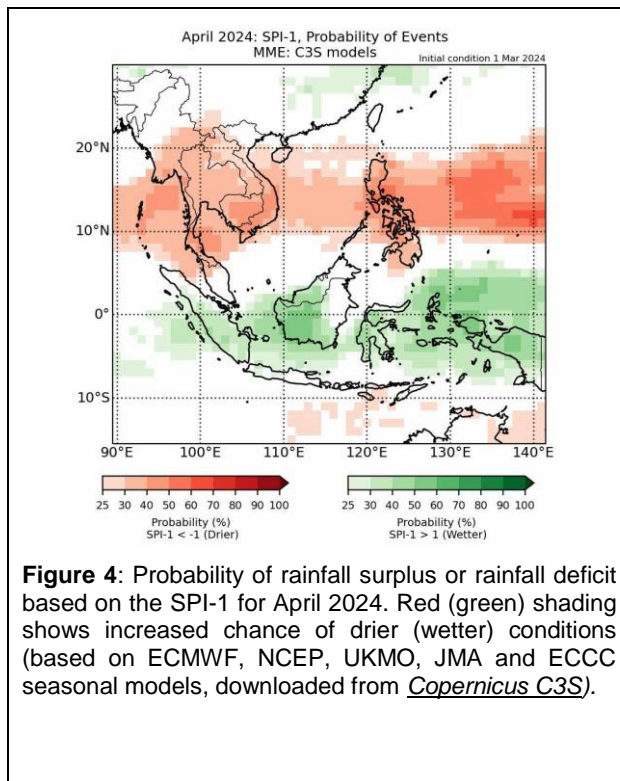


Figure 4: Probability of rainfall surplus or rainfall deficit based on the SPI-1 for April 2024. Red (green) shading shows increased chance of drier (wetter) conditions (based on ECMWF, NCEP, UKMO, JMA and ECCC seasonal models, downloaded from [Copernicus C3S](#)).

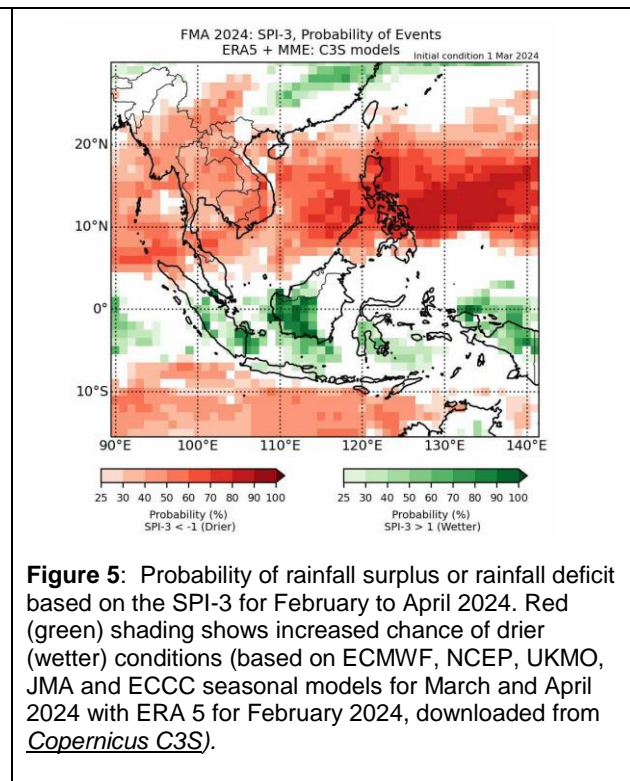


Figure 5: Probability of rainfall surplus or rainfall deficit based on the SPI-3 for February to April 2024. Red (green) shading shows increased chance of drier (wetter) conditions (based on ECMWF, NCEP, UKMO, JMA and ECCC seasonal models for March and April 2024 with ERA 5 for February 2024, downloaded from [Copernicus C3S](#)).

From the outlook of SPI-1 over the region (Figure 4), there is moderate chance (30-60%) of rainfall deficit continuing over parts of the Philippines in April 2024. There is also some chance (25-50%) of rainfall deficit continuing over Myanmar, Thailand, Lao PDR, and Viet Nam in April 2024. There is low chance (<25%) of rainfall deficit over the other area of concern for April 2024.

When considering the longer-term conditions for February to April 2024 (SPI-3, Figure 5), there is moderate chance of rainfall deficit (30-60%) over regions around Myanmar, Thailand, Cambodia, Lao PDR, Viet Nam, and high chance of rainfall deficit (>60%) for much of the Philippines.

El Niño conditions are predicted to continue weakening and likely to return to neutral during April-May 2024. The positive Indian Ocean Dipole (IOD) has ended. El Niño events can bring drier conditions to parts of Southeast Asia. These conditions are in line with an increased chance of rainfall deficit (25-50%) in April 2024 over the northern half of Southeast Asia (Figure 4).

Next issuance will be in April 2024.



Attachment:

CMORPH Std. Precipitation Index for 3-Month Ending Febuary 2024

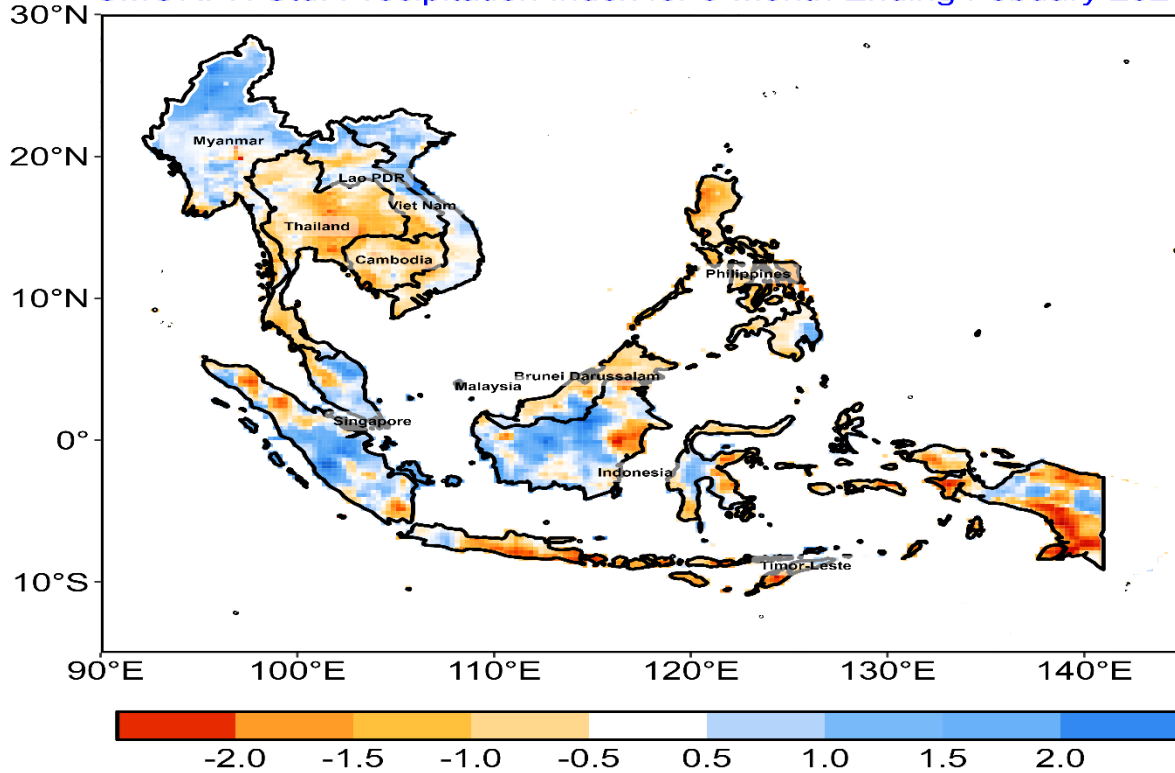


Figure 4: 3-month SPI for December 2023 - February 2024 (reference period, 1991-2020)

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