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Famine Early Warning Systems Network

Afghanistan Seasonal Monitor February 25, 2025

Timely precipitation in February and above-average temperatures may lead to earlier-than-normal wheat harvest

Key Messages

- As of February 20, 2025, deficit cumulative precipitation conditions (October 1, 2024, to February 20, 2025) were observed in all parts of the country.
- Below-normal snow water equivalent (SWE) conditions are seen over mid- to high-elevations in some parts in the north and central highlands while slightly above-average SWE conditions exist in some isolated central, southeastern, central highlands, and western parts of the country.
- Snow water volume (SWV) levels are below-average in all basins. SWV levels in the northeastern basins are close to their record minimums as of the reporting date.
- The **North American Multi-Model Ensemble (NMME**) predicts a transition to ENSO-neutral conditions during March – May 2025. Seasonal cumulative precipitation is expected to be below-average while country-wide above-average temperature conditions are expected throughout the 2025 season in the country.
- **CHIRPS-GEFS** based short-term forecasts of cumulative precipitation (October 1, 2024 – March 5, 2025) indicate country-wide below-average conditions except for average precipitation in some places in the northwest, central highlands, central, and east. **ECMWF** weekly forecasts indicate above-average cumulative precipitation conditions across most parts of the country through March 3, 2025. There is no strong tilt towards either above- or below-average cumulative precipitation conditions during the week ending March 10, 2025.
- Field reports indicate that winter wheat cultivated in the low elevation and plains is in advanced vegetative stages of growth, driven by above-average temperatures and precipitation. Consequently, wheat harvest activities may begin 2-3 weeks sooner than usual in parts of the country having sufficient moisture and fertilizer availability.
- Localized floods and landslides in the low- and mid-elevation areas of the northern, northeastern, central, and central highlands of the country may be experienced due to earlier-than-normal snowmelt caused by above-average temperatures in the coming months.
- Forecasts of above-average temperatures and below-average precipitation, along with below-normal water availability during summer may lead to moisture stress in rainfed crops and rangelands.

Update on Seasonal Progress

Field reports indicate that the distribution of precipitation across different parts of the country has been better than last year. Nonetheless, cumulative precipitation to date is insufficient to overcome the accumulated deficiencies in surface and groundwater resources. Wheat is in an advanced vegetative stage driven by above-average temperatures, especially

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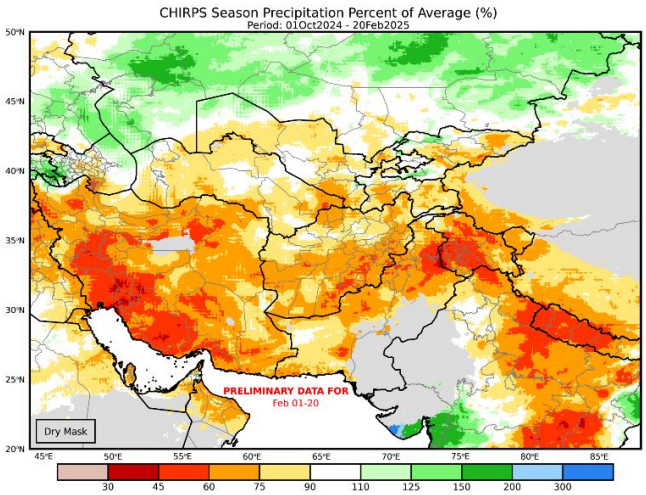
in places that have received average to above-average precipitation. It is expected that winter wheat harvest activities will begin sooner-than-normal in these areas.

Precipitation

In general, below-average cumulative precipitation (October 1, 2024, to February 20, 2025) conditions are observed in all parts of the country. As of February 20, 2025, cumulative precipitation on the order of only 45 to 75 percent of the average were seen in southeastern, southern, central, central highlands, and southwestern parts of the country. Cumulative precipitation mostly between 60 to 75 percent of average were seen in the northwestern, northern, and northeastern areas (Figure 1). There is an increased likelihood of localized flooding and landslides in northeastern, eastern, central, and central highlands because of the forecasted above-average precipitation through March 3, 2025.

Figure 1

CHIRPS seasonal precipitation percent of average (%)
October 1, 2024 – February 20, 2025

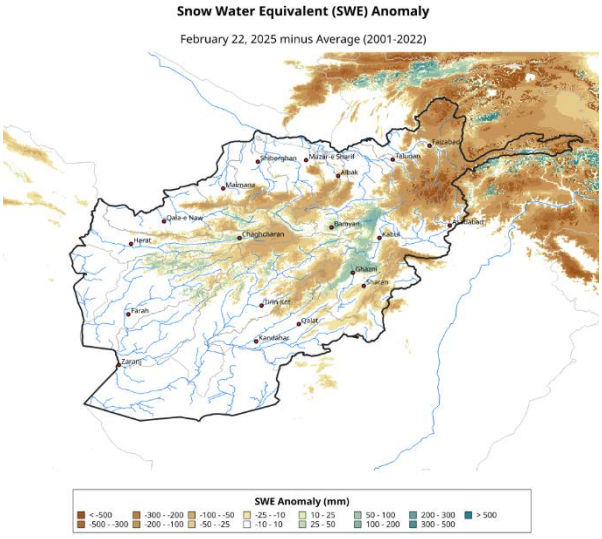


Light green to blue colors shows cumulative precipitation percent above normal while light brown to red colors shows percent of average below normal.

Source: UCSB CHC

Figure 2

Snow water equivalent anomaly (mm)
October 1, 2024 – February 22, 2025



As of February 22, 2025

Source: USGS/NASA

Snow water volume

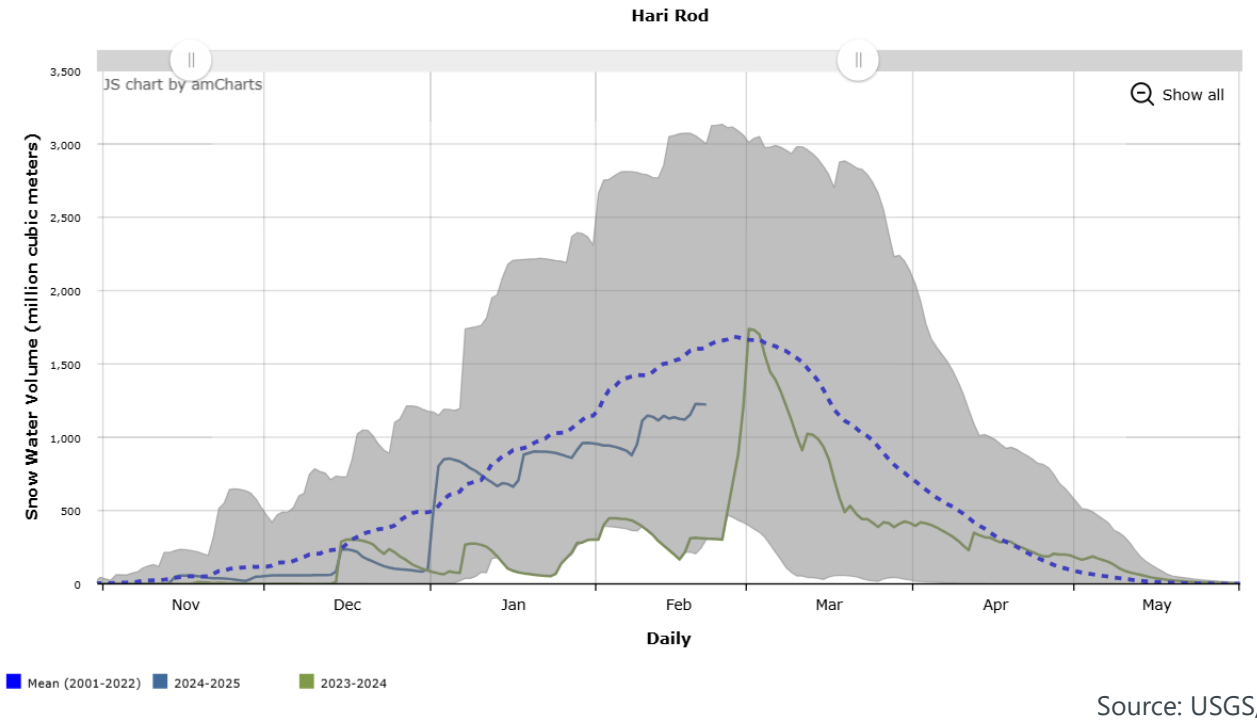
In general, persistent above-average temperatures coupled with below-average precipitation have prevented normal snowpack development over high elevations since the beginning of winter. SWE conditions have been below normal over higher elevations in the central, northern, northeastern, and eastern parts of the country, and over mid-elevations in the northern, central highlands, and southeastern regions. Above-average SWE conditions were seen in some limited areas of central, southeastern, and western parts of the country (Figure 2).

Snow water volumes are currently at near record minimum levels in Panj, Kokcha_Ab-i-Rustaq, Khanabad, Khulm, Sari Pul, and Shamal basins. On the other hand, SWV levels are slightly below normal in the Farah_Adraskan and Khash_Khuspas basins while they are around 50 percent of normal or less in Kunduz, Balkhab, ShirinTagab, Bala Murghab Kushk, Hari Rod, Helmand, Arghandab, Ghazni, and Kabul basins. Figures 3 (a-b) highlight the below-normal

level of snow water volume in the Hari Rod (west) and closer to near record minimum level in the Panj (northeast) basins as of February 22, 2025.

Figure 3a.

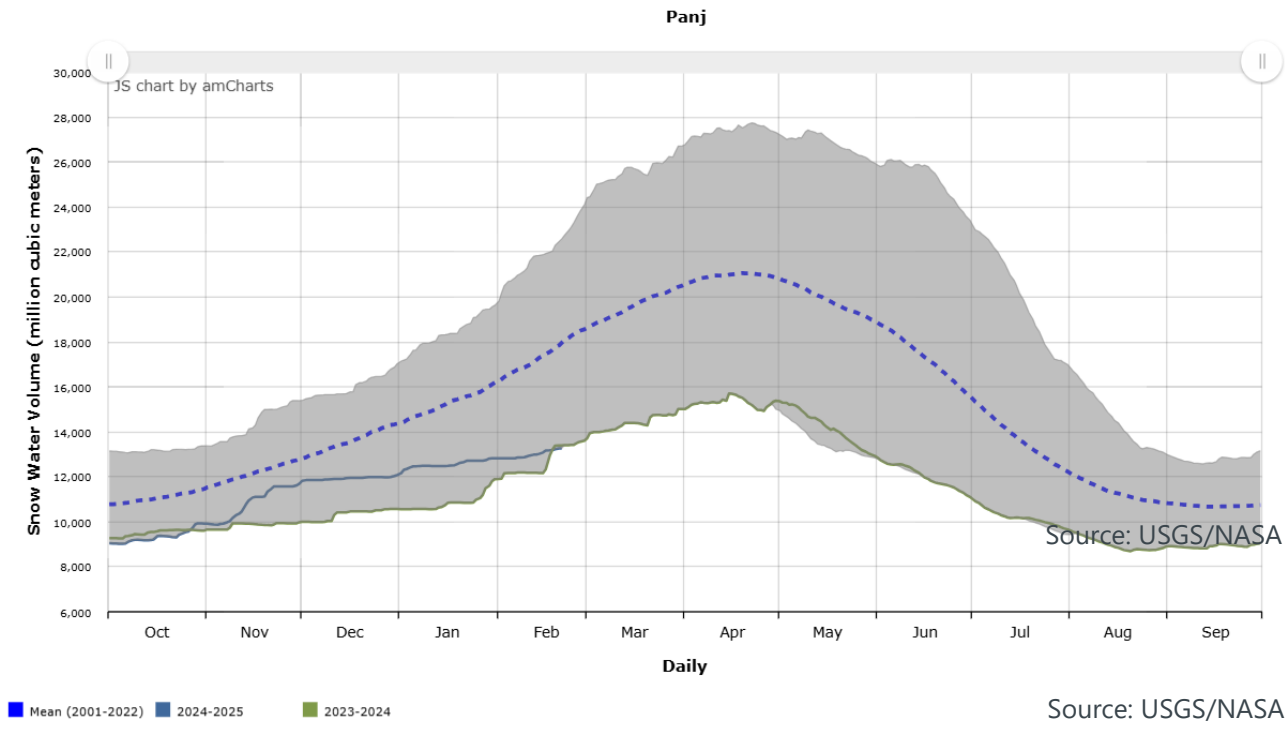
Seasonal snow water volume in 2023-24 (light green line), 2024-25 (dark blue line), and historical average (blue dotted line) as a function of time in Hari Rod (west) basin as of February 22.



Source: USGS/NASA

Figure 3b.

Seasonal snow water volume in 2023-24 (light green line), 2024-25 (dark blue line), and historical average (blue dotted line) as a function of time in Panj (northeast) basin as of February 22.



Source: USGS/NASA

Forecast

Precipitation

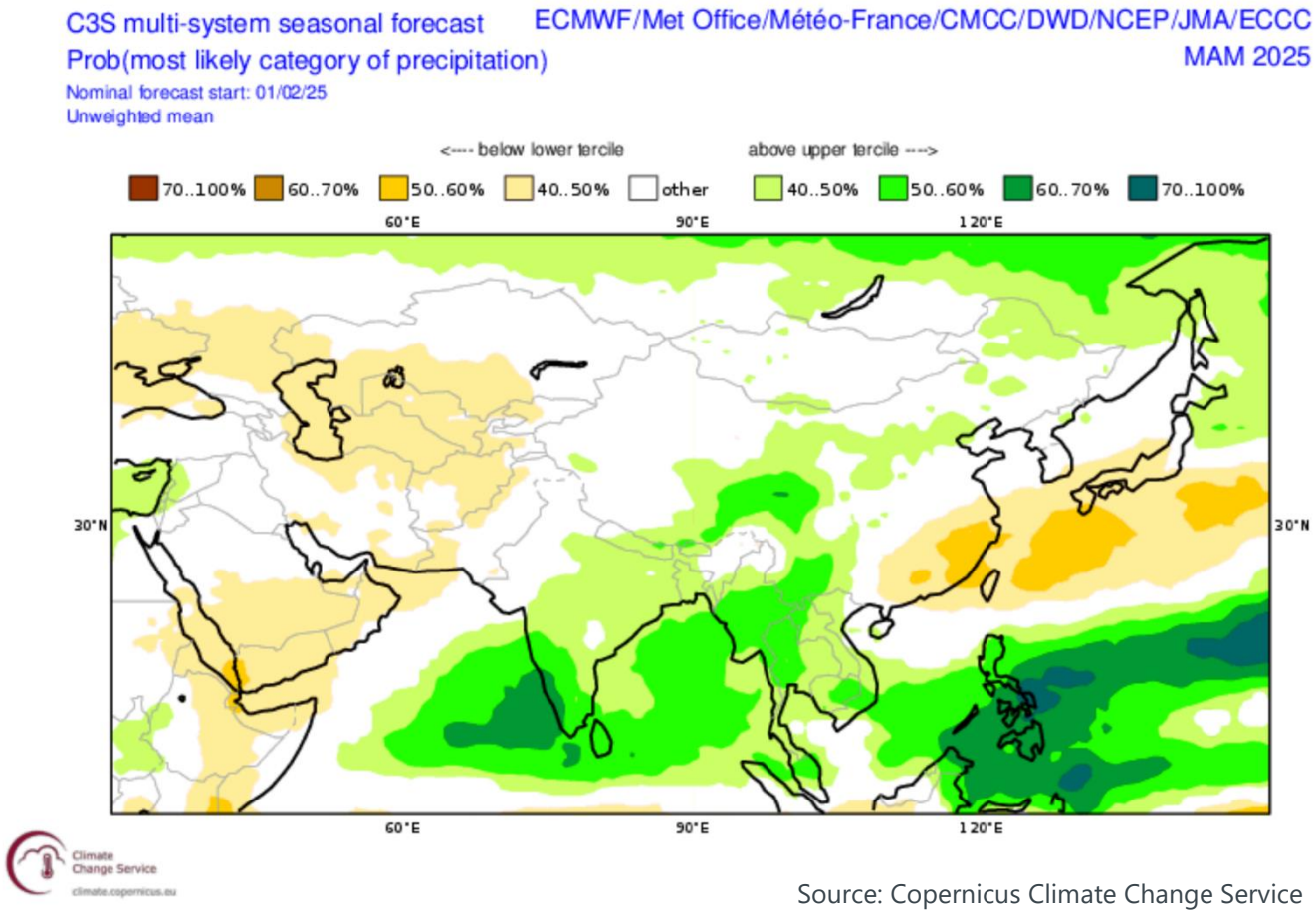
The precipitation forecast for March – May 2025 based on the Copernicus Climate Change Service (C3S) System in February 2025 indicates the probability of below average precipitation in most parts of the country (Figure 4). In general, there is a lower likelihood of major landslides and road blockages during spring, however localized floods, and landslides can always happen in the springtime. The forecast of above-normal precipitation through March 3, 2025, is likely to result in increased spring wheat planting during March 2025, which in turn has a potential to positively influence the outcome of total wheat production at the end of the 2024/25 season.

The **CHIRPS-GEFS** short-term cumulative precipitation forecast (October 1, 2024 – March 5, 2025) indicates a general decrease in precipitation deficits observed across the country. Cumulative precipitation (October 1, 2024 – March 5, 2025) along the areas bordering Iran and Pakistan (Figure 5a) in the southwest and south are expected to be 60 to 75 percent of average. The expected above-average precipitation during the last week of February 2025 may erase the cumulative precipitation deficits in some eastern, northeastern, northern, central, and western parts of the country. There is an increasing likelihood that some isolated locations in these regions may realize slightly above-average cumulative precipitation in some locations by the beginning of next month. (Figure 5a).

The **ECMWF** weekly precipitation forecasts between February 24 – March 3, 2025 indicates a high likelihood of above-average cumulative precipitation conditions in most parts of the country (Figure 5a, left inset). In the following week ending March 10, 2025, there is no strong tilt towards above- or below-average precipitation in most parts of the country except for an increased likelihood of below-average precipitation in some southeastern locations bordering Pakistan (Figure 5b, right inset).

Figure 4

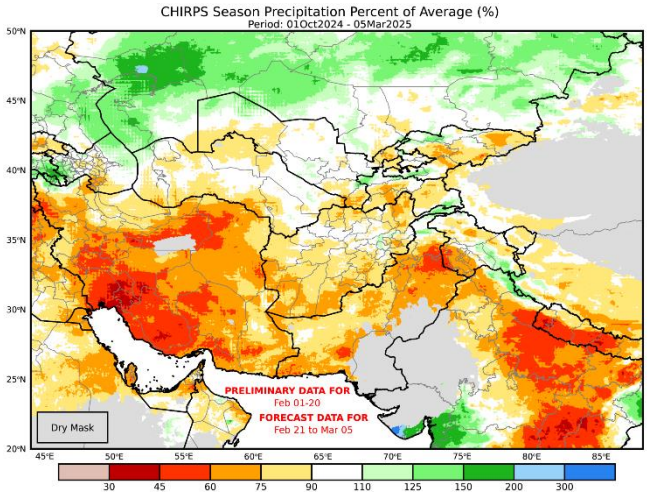
Copernicus Climate Change Service (C3S) multi-system seasonal precipitation forecast probabilities for March through May 2025 generated on February 1, 2025



Source: Copernicus Climate Change Service

Figure 5a.

CHIRPS forecasted cumulative precipitation percent of average (%)
October 1, 2024 – March 5, 2025

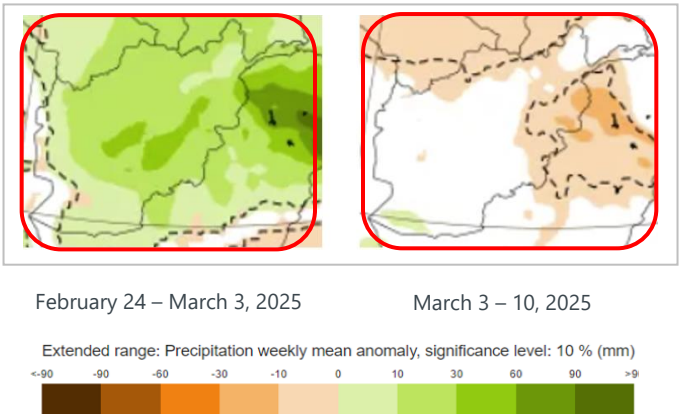


Light green to blue colors shows cumulative precipitation percent above normal while light brown to red colors shows percent of average below normal.

Source: UCSB CHC

Figure 5b.

ECMWF weekly mean precipitation forecasts for February 24 – March 3, 2025 and March 3 - 10, 2025 as of February 22, 2025



Light to dark green colors show cumulative precipitation anomalies in percent above-mean while light brown to dark red colors show anomalies in percent below-mean.

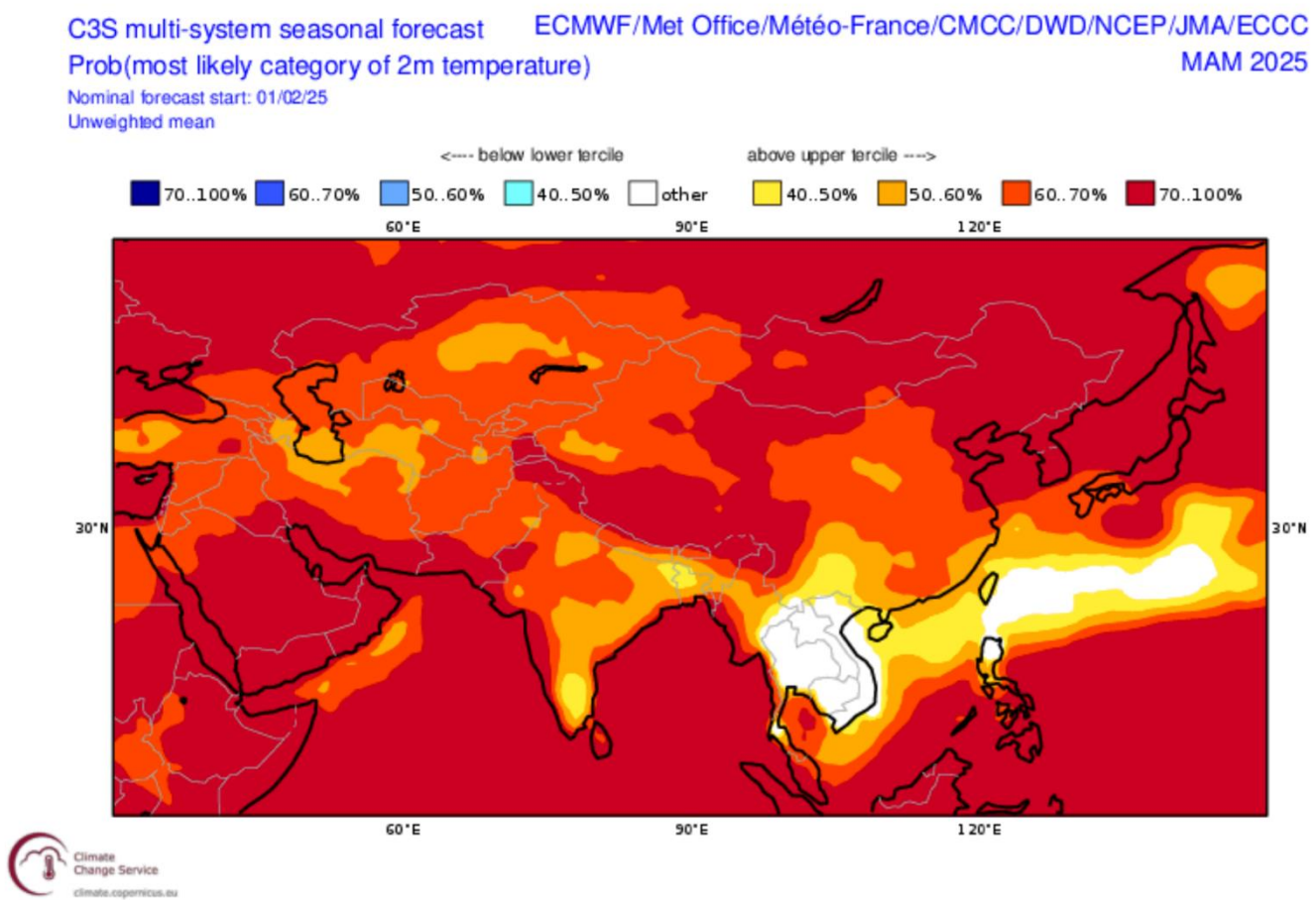
Source: ECMWF Forecast System

Temperature

There is a high probability of above-average temperatures for March – May 2025 in the forecast generated in February 2025 (Figure 6). Field reports indicate that wheat is in advanced vegetative growth stage in many parts of the country, and it is expected that the wheat harvest activity is likely to be undertaken at least 2-3 weeks earlier-than-normal. Under favorable circumstances, the above-average temperatures are also expected to help early germination of spring wheat that would be planted in March 2025. Field reports indicate that early snowmelt runoff has already begun in eastern and northeastern basins. The forecast of above-average day time temperatures may lead to reduced water availability for rainfed crops, moisture stress in rainfed crops and rangelands during the spring months. The extended forecast of above-average temperatures and below-average precipitation, in summer months, may adversely affect second crop cultivation. Declining groundwater levels remain a major concern as farmers will rely more on groundwater as a supplement in the coming months due to the below-average precipitation and above-average temperatures.

Figure 6

Climate Change Service (C3S) multi-system seasonal temperature forecast probabilities (2 m temperature) for March through May 2025 generated on February 1, 2025.



Light yellow to red colors show the likelihood of warmer temperatures in the upper tercile, while cyan to dark blue colors show the likelihood of cooler temperatures in the lower tercile.

Source: Copernicus Climate Change Service

About Seasonal Monitor

FEWS NET's Seasonal Monitor reports are produced for Central America and the Caribbean, West Africa, East Africa, Central Asia, and Somalia every 10-to-30 days during the region's respective rainy season(s). Seasonal Monitors report updates on weather events (e.g., rainfall patterns) and associated impacts on ground conditions (e.g., cropping conditions, pasture, and water availability), as well as the short-term rainfall forecast. Find more remote sensing information here.