



Afghanistan - Seasonal Monitor

December 31, 2024

Wheat planting progressed despite below-average cumulative precipitation through December; however, the germinated wheat may be at risk due to above-average temperatures in the coming months.

Key Messages

- As of December 25, 2024, below-average cumulative precipitation (October 1 – December 25, 2024) conditions were observed in most parts of the country except for near-average precipitation conditions in isolated locations in Badakhshan in the northeast, in Baghlan, Faryab, and Sar-i-Pul in the north and northwest, and in Kandahar in the south (**Figure 1**).
- Below-average snow water equivalent conditions were observed in all basins except for slightly above average conditions over isolated higher elevations in northern parts of Panj basin as of December 29, 2024 (**Figure 2**). Snow water volumes (SWV) are either below-average or close to record minimum levels across the country as of the reporting date (**Figures 3 a-d**).
- Cumulative precipitation is expected to be mostly below-average in the western and southwestern parts of the country while the near-average precipitation may be likely elsewhere through the end of 2024/25 wet season (**Figures 4**). Precipitation during the March to May rainy season may be below-average across the country with some localized areas receiving near-average precipitation during this period. In general, below-average snowpack development, snow depths, and snow water volumes (SWV) may be seen throughout the 2024/25 season. This forecast is related to conditions in the tropical Pacific Ocean that resemble La Niña and lead to similar effects, even if a La Niña is not officially declared.
- CHIRPS-GEFS** based short-term precipitation forecasts indicate that the average to above-average cumulative precipitation conditions (October 1, 2024 - January 10, 2025) are most likely in the northwestern, central highlands, northern, northeastern, eastern, and southeastern parts of the country, while the status of cumulative precipitation deficits might remain the same in the southern and southwestern areas as of January 10, 2025 (**Figure 5a**). **ECMWF** weekly forecasts indicate higher likelihood of above-average precipitation across most areas through January 6, 2025 (**Figure 5b, left inset**). However, during the following week, ECMWF forecasts a higher likelihood of below-average precipitation along with no tilt of above- or below-average precipitation in isolated southeastern areas bordering Pakistan (**Figure 5b, right inset**).
- As per the field reports, 2024/25 wheat planting progressed well despite below-average cumulative precipitation through the end of December 2024. Field reports indicate that this may be due to better spatial distribution of precipitation between October 1, 2024, and December 15, 2024. Farmers may continue to rely heavily on groundwater resources for spring wheat planting and crop water use contingent to the lack of sufficient surface water during spring and summer. The end-of-season 2024/25 wheat production may be below-average if the shortfall in winter wheat areas planted is not complemented by normal to above-normal spring wheat planting.
- Above-average daily mean temperatures are forecast country-wide from December 2024 – February 2025 (**Figure 6**) with some below-average temperatures possible till the end of 2024/25 spring season. Consequently, snowpack development in the mid- and high-elevation areas might be adversely affected leading to reduced snowmelt and below-normal surface water availability in most basins in the country.
- Above-average temperatures during April-May 2025 may cause moisture stress in rainfed crops and rangelands and reduce water availability for crop water use in these areas. It is important to note that despite the forecasts of above-average temperatures, crop water availability may be variable across the country depending on the regional storms during 2024/25 spring and summer months in the country.

Update on Seasonal Progress

Current conditions

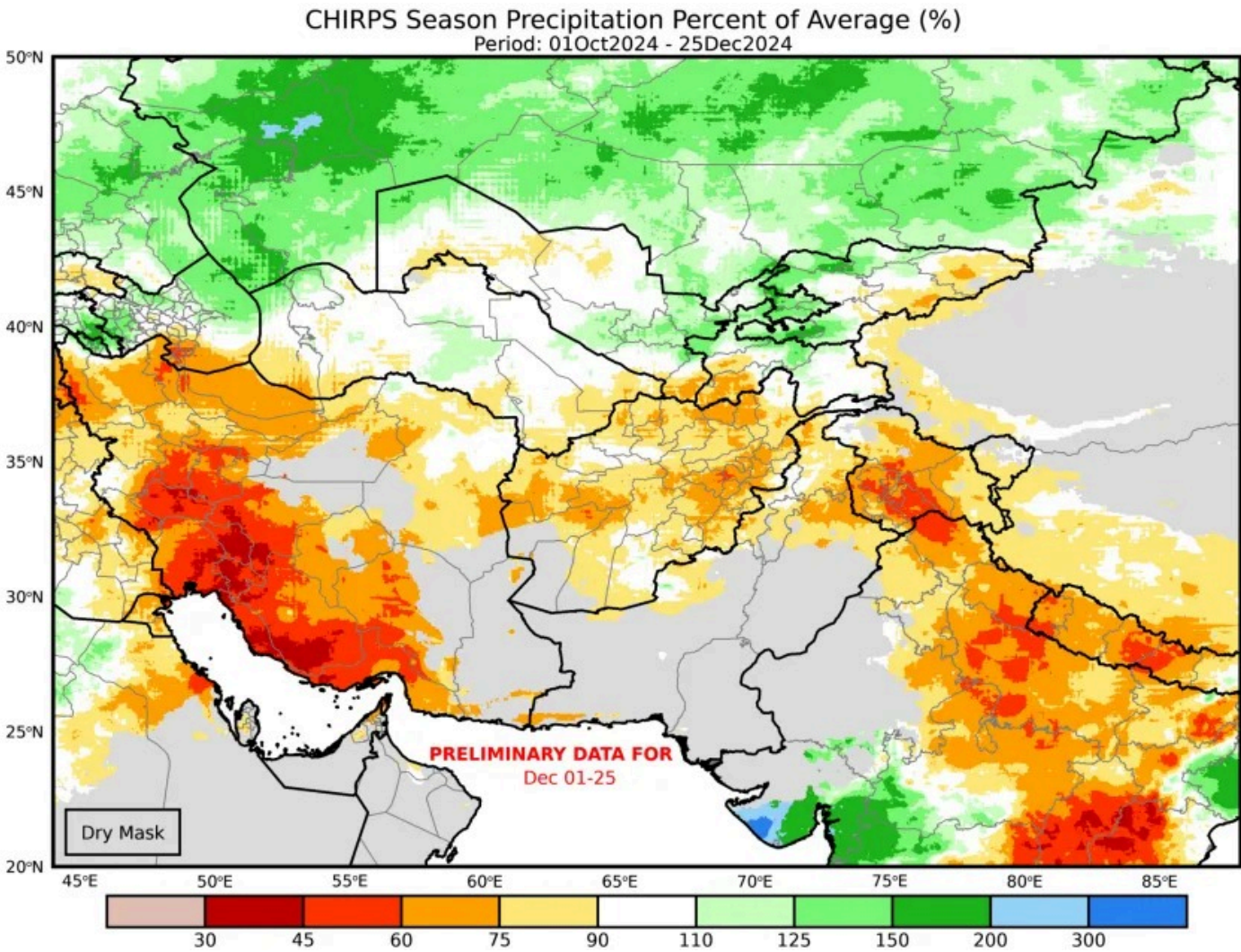
As per field reports, winter wheat planting activities have been supported by better precipitation, soil moisture, and water availability conditions during the current season than during last year as of the reporting date. Field reports also indicate increased farmer concern regarding health of germinated wheat and its normal development in view of the forecast of below-average precipitation and above-average temperatures until the end of the winter wet season.

Precipitation

Cumulative precipitation from October 1 to December 25, 2024, has been below-average except for near-average precipitation conditions in isolated parts of Badakhshan in the northeast, Baghlan, Faryab, and Sar-i-Pul in the northwest and in Kandahar in the south. Most of the northwestern, northern, central, northeastern, eastern, and southern areas received 60 to 90 percent of average (**Figure 1**). Considering the expectation of above-average temperatures and below-average precipitation, Afghanistan is expected to experience a milder-than-normal winter in the coming months.

Figure 1

CHIRPS cumulative precipitation as percent of average for October 1 - December 25, 2024

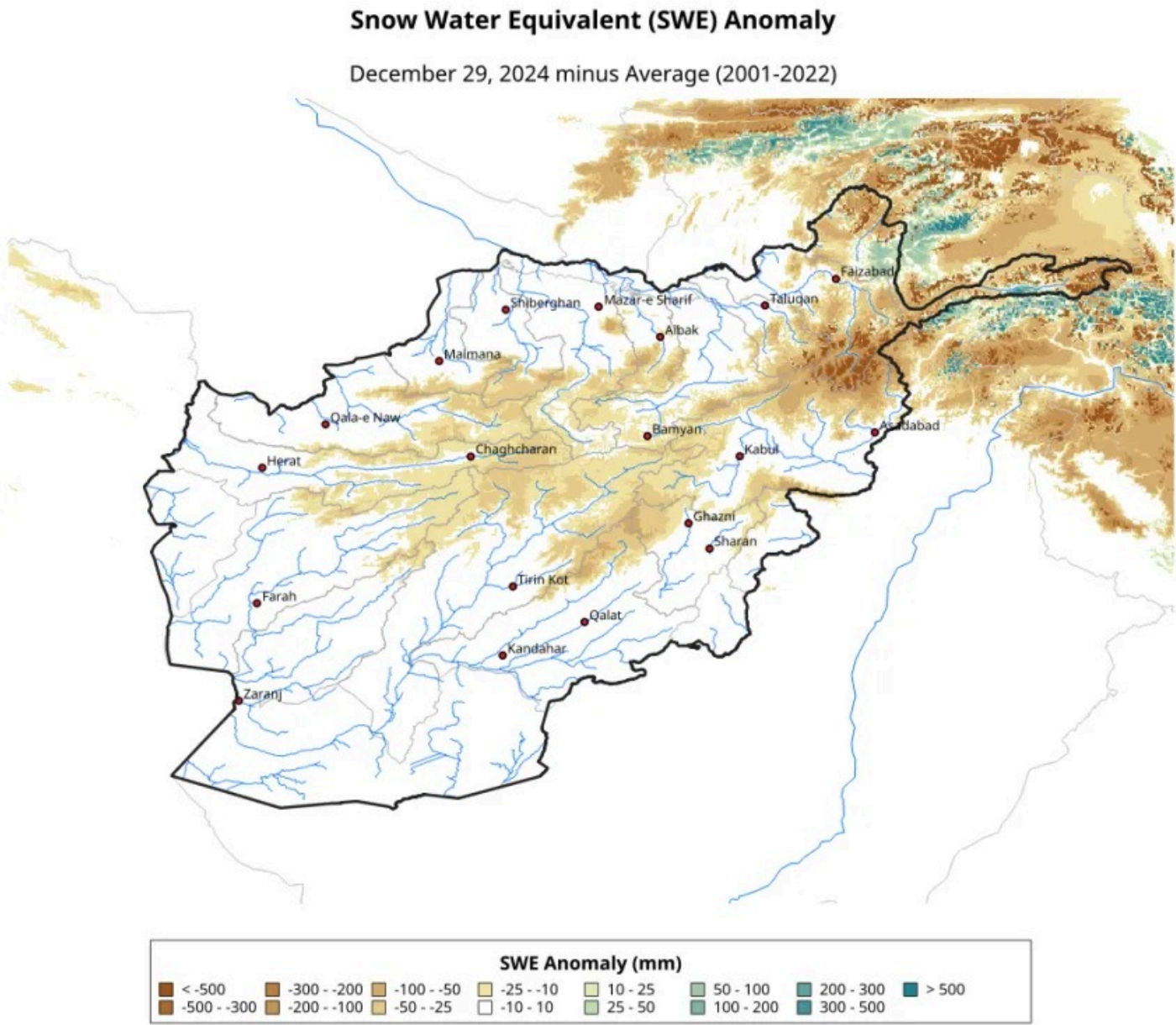


Snow water volume

Below-average snow water equivalent conditions were seen across most watersheds in the country except for isolated above-average locations at higher elevations in Panj basin (Figure 2). Currently, it is the fourth year in-a-row that below-average snow water equivalent conditions are present during the early portion of the water year. **Snow water volumes** (SWV) are currently either below-average or closer-to-record minimum levels in various basins. As of December 29, SWV levels were below-average in Hari Rod basin in the west, Helmand basin in the south, and Panj basin in the northeast, and closer-to-record minimum level in Kabul basin in the east (Figures 3 a-d).

Figure 2

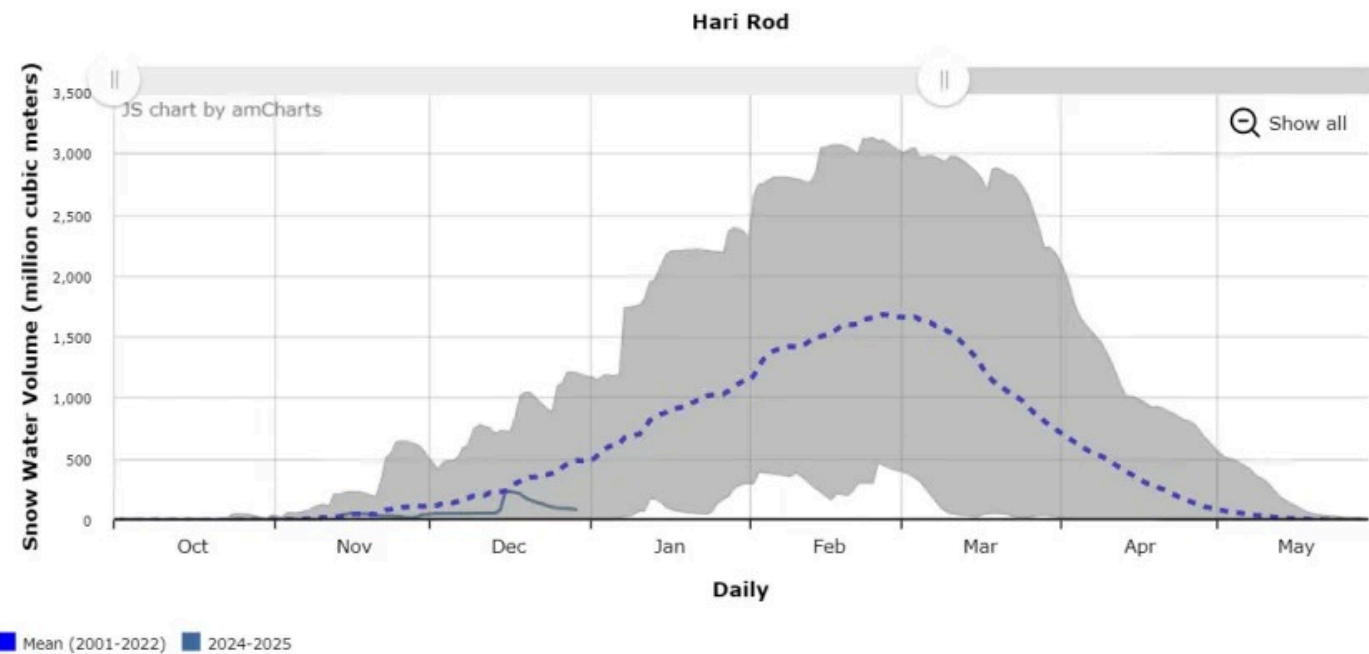
Snow water equivalent anomaly (mm) relative to the average of 2001-2022



Source: USGS/NASA

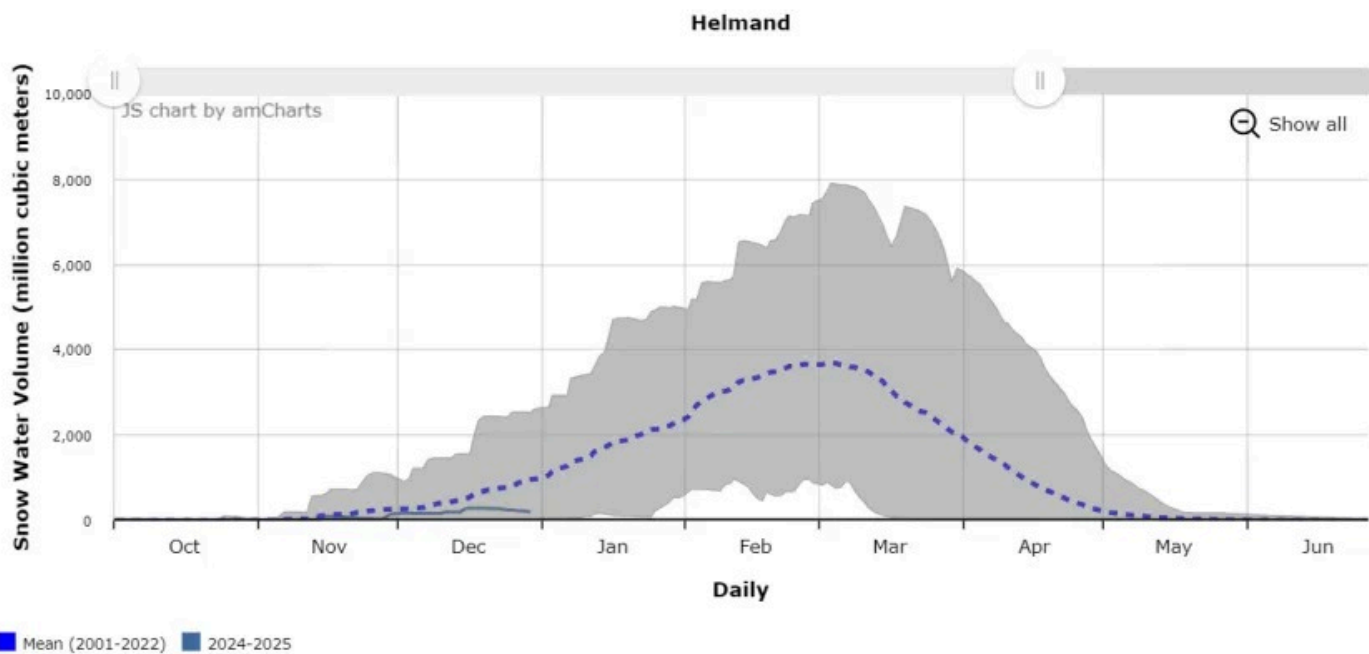
Figure 3

Figure 3a. Seasonal snow water volume (solid line) and historical average (blue dotted line) as a function of time in Hari Rod basin (west) as of December 29, 2024



Source: USGS/NASA

Figure 3b. Seasonal snow water volume (solid line) and historical average (blue dotted line) as a function of time in Helmand basin (south) as of December 29, 2024



Source: USGS/NASA

Figure 3c. Seasonal snow water volume (solid line) and historical average (blue dotted line) as a function of time in Kabul basin (east) as of December 29, 2024

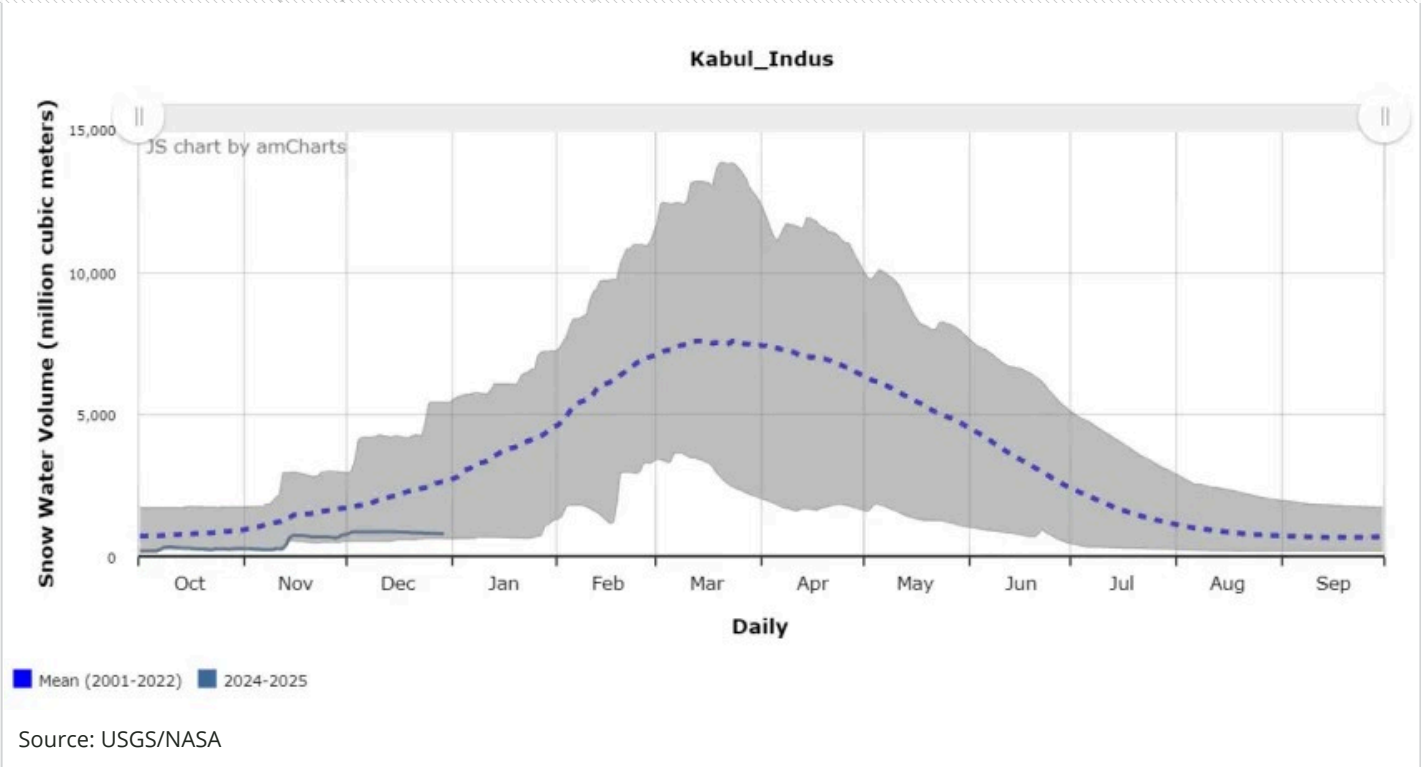
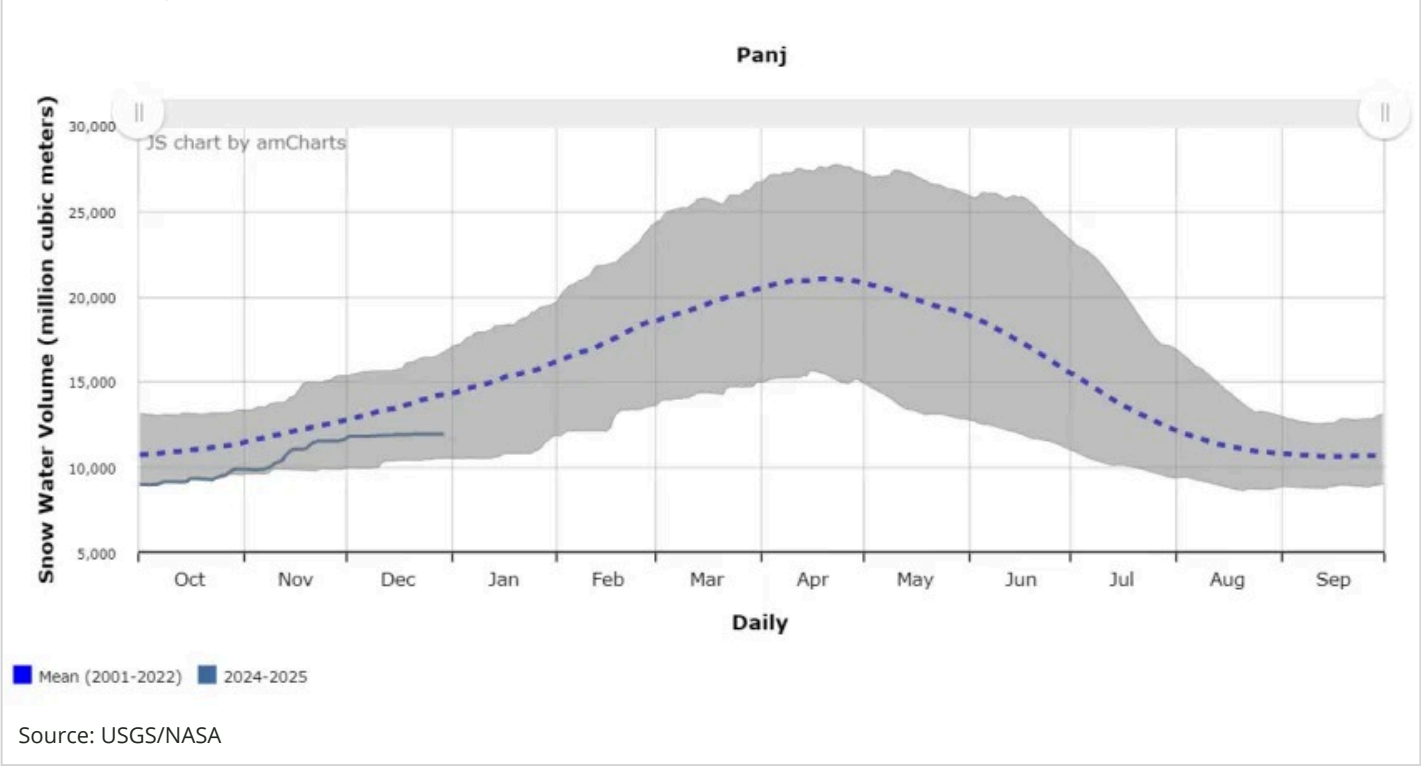


Figure 3d. Seasonal snow water volume (solid line) and historical average (blue dotted line) as a function of time in Panj basin (northeast) as of December 29, 2024



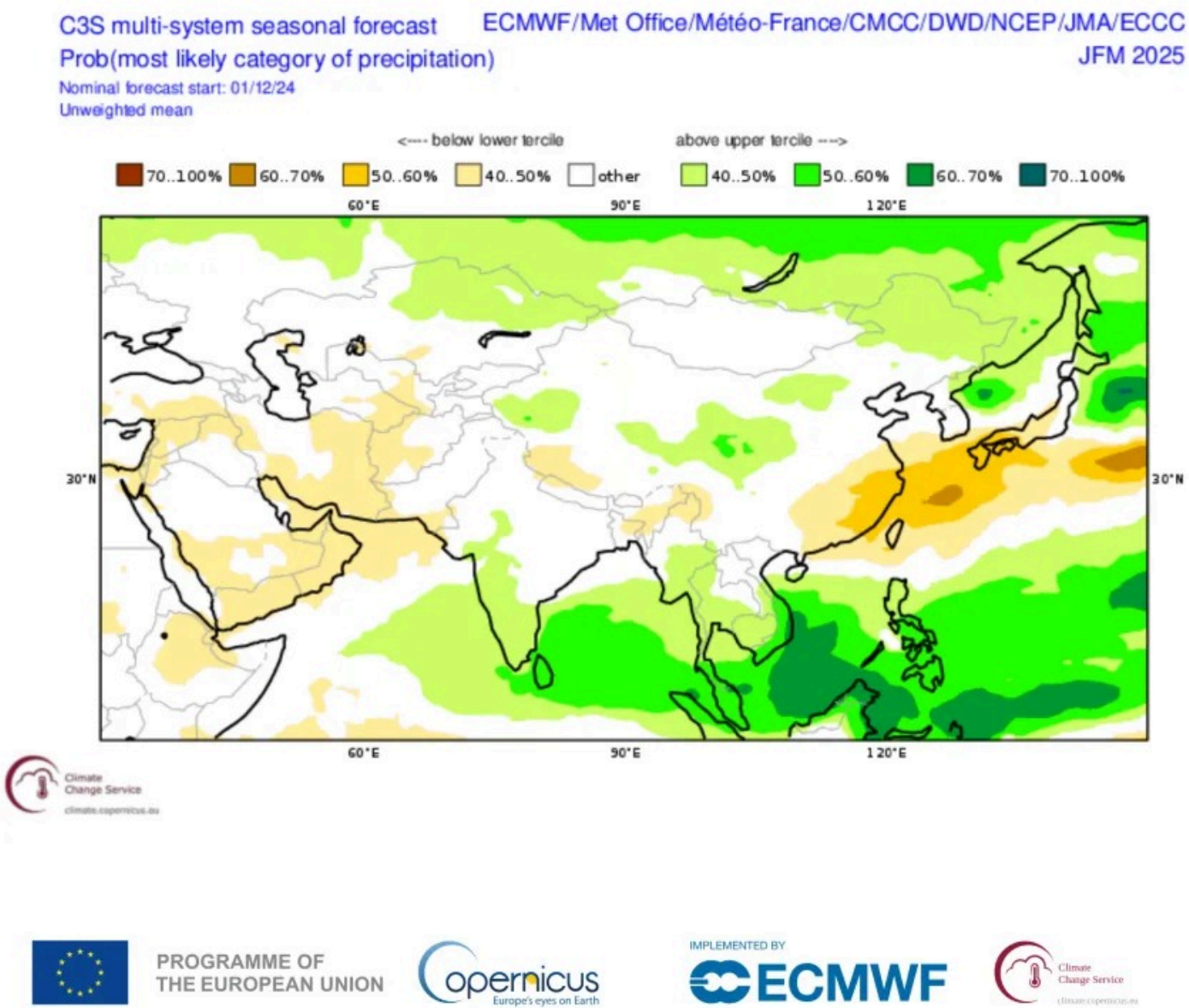
Forecast

Precipitation

Precipitation forecast for January – March 2025, generated in December 2024, indicates increased probability of below average precipitation in the western and southwestern parts of the country while there is no tilt towards above- or below-average precipitation in the rest of the country (**Figure 4**). Consequently, expectations for a milder-than-normal winter are likely and this could lead to a lower likelihood of landslides and road blockages through the 2024/25 winter season. **CHIRPS-GEFS** based short-term cumulative precipitation (October 1, 2024 – January 10, 2025) forecast indicates a significant improvement in precipitation conditions in the northern, northwestern, central highlands, northeastern, and southeastern parts of the country. Average to above-average cumulative precipitation conditions are likely in the above areas by January 10, 2025, however, there might not be any significant improvement in the deficit conditions in the southern and southwestern parts of the country as of January 10, 2025 (**Figure 5a**). **ECMWF** weekly precipitation forecast through January 6, 2025, indicates an elevated probability of above-average precipitation over most of the country except in the southwest (**Figure 5b, left inset**). However, there is an increased likelihood of below-average precipitation in most parts of the country in the following period ending January 13, 2025 (**Figure 5b, right inset**). A wide range of possible outcomes are possible during the 2024/25 winter wet season in view of the highly variable bi-weekly actual precipitation forecasts and long-term cumulative precipitation forecasts.

Figure 4

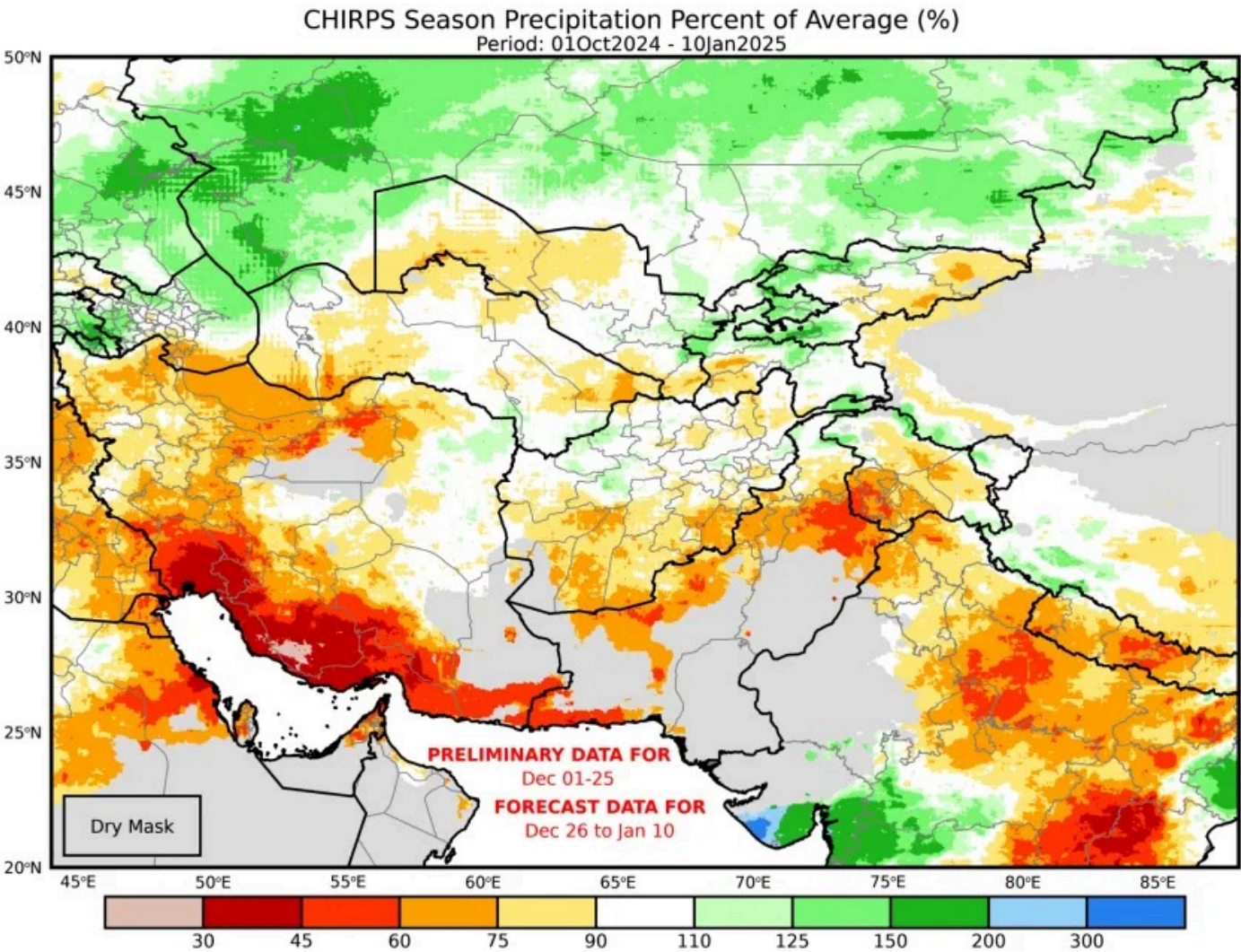
Copernicus Climate Change Service (C3S) multi-system seasonal precipitation forecast probabilities for January through March 2025 as of December 1, 2024



Source: Copernicus Climate Change Service

Figure 5

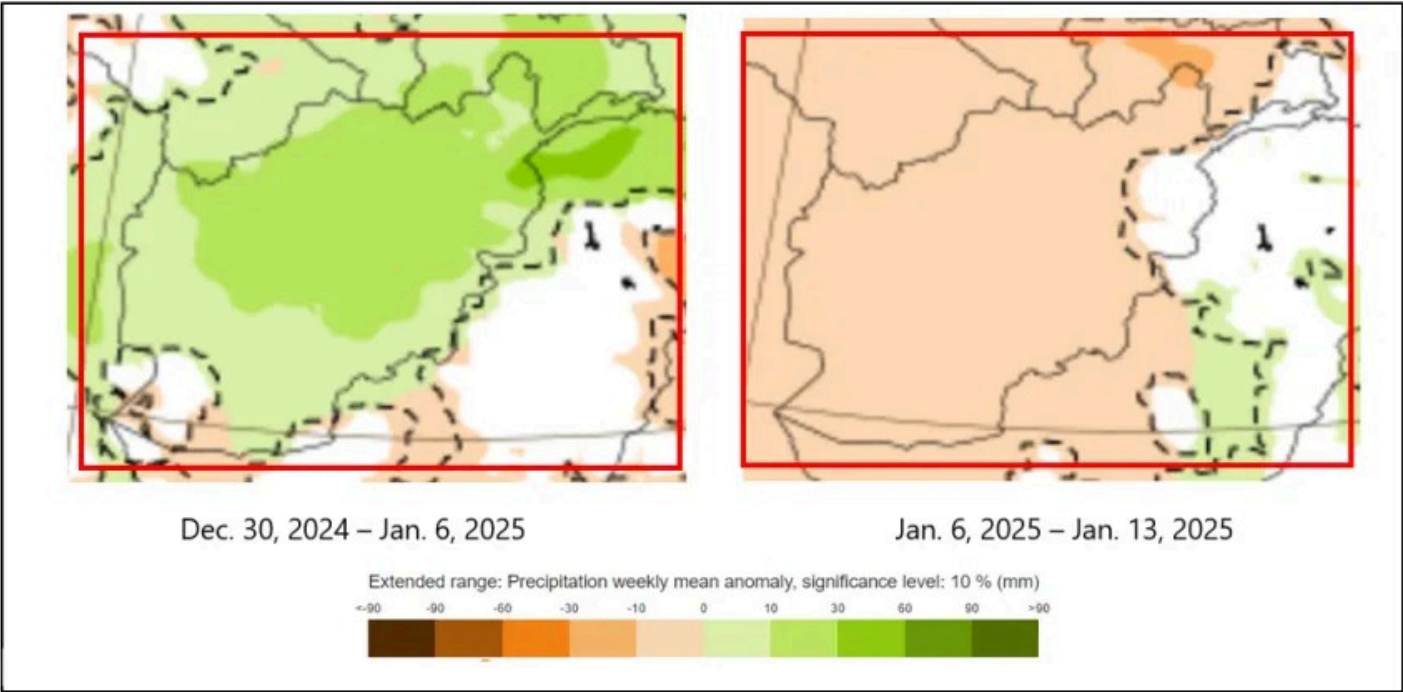
Figure 5a. CHIRPS-GEFS based forecast of cumulative precipitation as percent of average for October 1, 2024 – January 10, 2025



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

Source: UCSB CHC

Figure 5b. Weekly mean precipitation forecasts made for December 30, 2024 to January 6, 2025, and January 6 to January 13, 2025, made on December 27, 2024



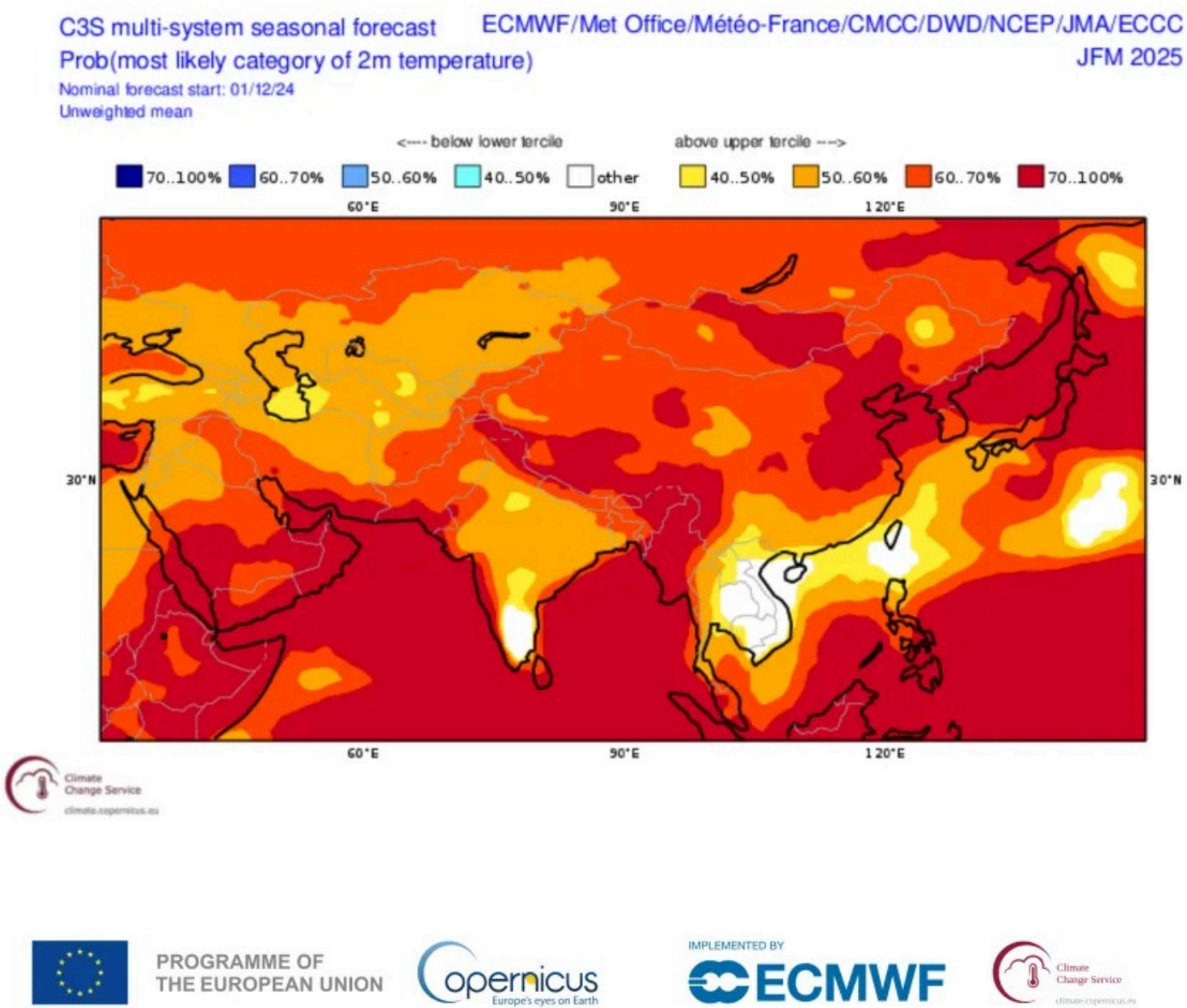
Light to dark green colors indicate cumulative precipitation anomalies in percent above-mean while light brown to dark brown colors indicate anomalies in percent below-mean.

Source: ECMWF Forecast System

Temperature

Temperature forecasts for January – March 2025, generated in December 2024, indicate high probability of above-average temperatures (**Figure 6**). As per field reports, the normal winter wheat planting ends by mid-December but the forecast of above-average day time temperatures may extend the planting window through the end of December. On the other hand, persistent above-average temperatures could lead to early snowpack depletion, resulting in reduced water availability for irrigated crop water use, and moisture stress in rainfed crops and rangelands during spring and summer months. Despite progressively lower recharge rates over the past few years, farmers are likely to rely more on groundwater to supplement crop water use, which in turn may lead to further deterioration of water quantity and quality in different regions of the country.

Figure 6
Climate Change Service (C3S) multi-system seasonal temperature forecast probabilities (2 m temperature) for January through March 2025 as of December 1, 2024.



Light yellow to red indicates the likelihood of warmer temperatures in the upper tercile, and cyan to dark blue indicates the likelihood of cooler temperatures in the lower tercile.

Source: Copernicus Climate Change Service

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](#).