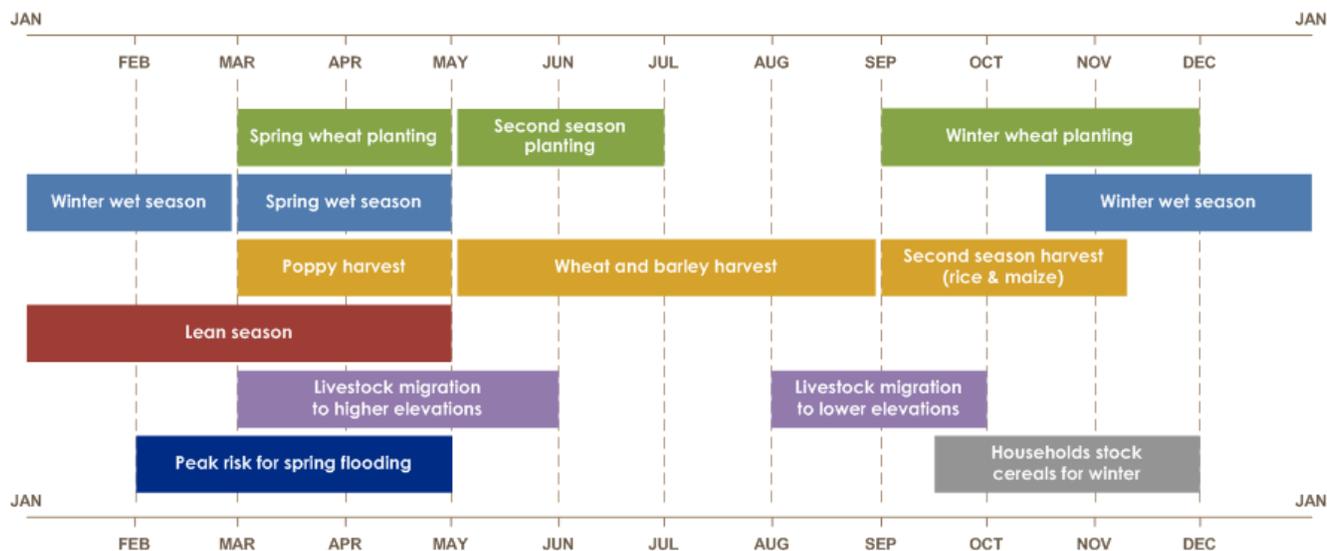


*Sufficient moisture conditions prevail over most of the country at the peak of the winter wet season.*

**KEY MESSAGES**

- The winter wet season has produced above-average precipitation, in the range of 115 percent to over 145 percent of normal over the central, eastern, and northern parts of the country, consistent with the existent weak El Niño. However, the southwestern part of the country is experiencing precipitation deficit of up to 70 percent of normal.
- In response to above-average precipitation, snow accumulation is also increasing, although the spatial distribution remains isolated and mostly concentrated to high-elevation areas of the northeastern and central highlands (e.g. Kabul, Kokcha, Kunduz, Balkhab, Bala Murghab). While snow water storage over the northeastern basins is above-average, it is average to below-average over the southern basins which contain premium irrigated croplands (e.g. Farah, Khash, Helmand, Arghandab).
- During the months of February, March, and April, both precipitation and temperatures are expected to be above-average. The prevailing temperatures during this period will be key in defining the risk of flooding or maintenance of the water storage for irrigation in the spring and summer.

**SEASONAL CALENDAR IN A TYPICAL YEAR**



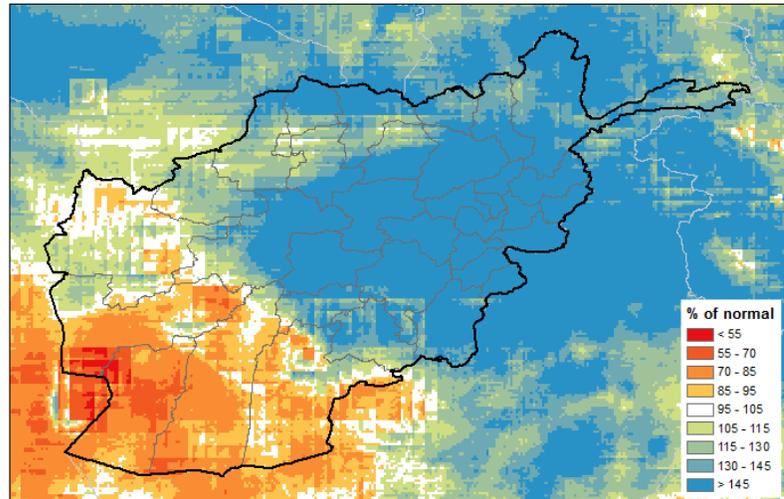
Source: FEWS NET

**UPDATE ON SEASONAL PROGRESS**

**Precipitation anomalies:**

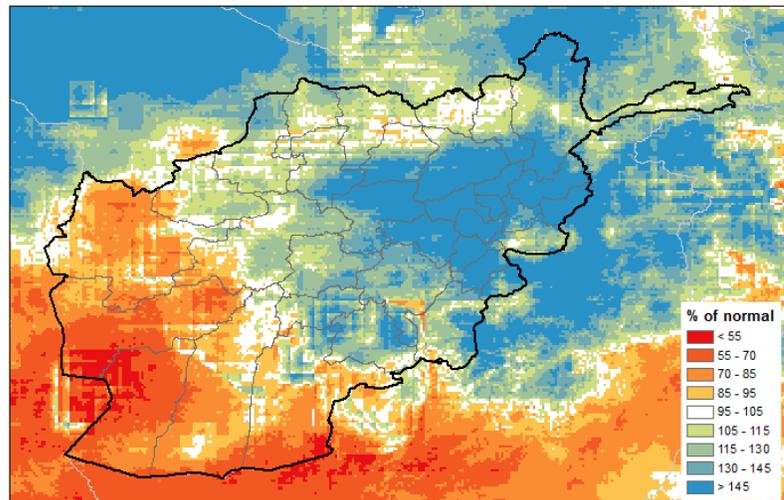
Accumulated precipitation was 115 percent to over 145 percent of normal over central, eastern, and northern parts of the country, while the southwestern part of the country has experienced up to 70 percent of normal precipitation for the period October through 30 January (Figure 1). Frequent and spatially well-distributed precipitation during the month of January has helped increase the surplus precipitation in central, eastern, and northern Afghanistan (Figures 1 and 2). The above-average precipitation conditions are to be expected under the existent weak El Niño condition. If the pattern continues for the rest of the winter wet season (month of February), it is likely to provide sufficient moisture conditions for the spring wheat planting season, starting in March, as well as providing adequate moisture for irrigated winter wheat.

**Figure 1.** October 1, 2018—January 30, 2019 percent of normal (1981—2010) precipitation accumulation.



Data: CHIRPS version 2.0 prelim, Source: USGS/UCSB

**Figure 2.** October 1, 2018—December 30, 2018 percent of normal (1981—2010) precipitation accumulation.

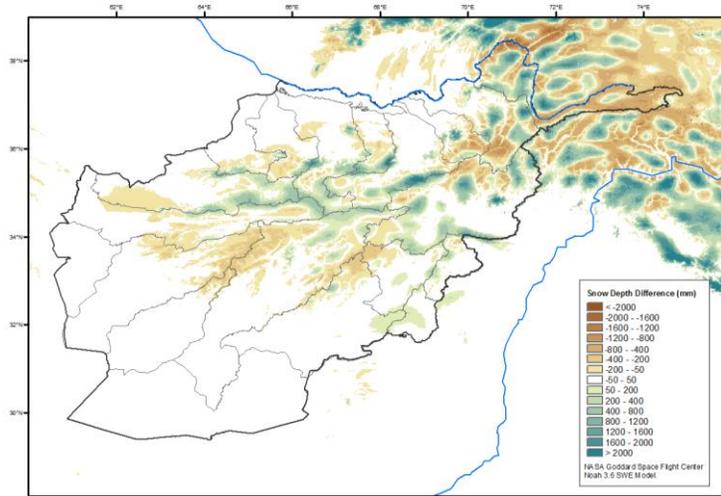


Data: CHIRPS version 2.0 prelim, Source: USGS/UCSB

**Snowpack and snow water storage:**

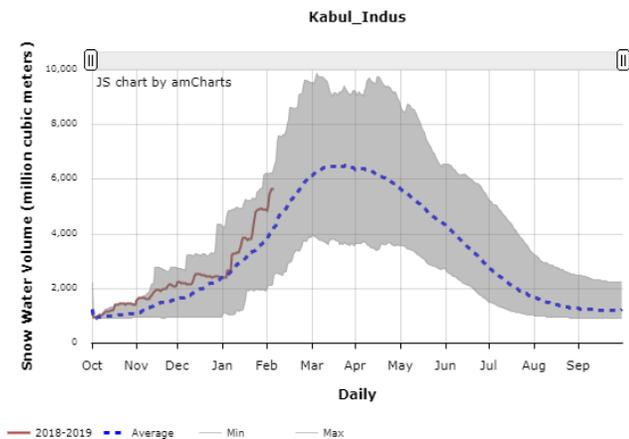
Despite widespread above-average precipitation, especially over the eastern and northeastern parts of the country, surplus snow accumulations are still isolated and concentrated in high-elevation areas of northeast and central highlands. This can be attributed to persistent above-average temperature in the region. Although above-average snow depth differences increased over the high-elevation areas of the central highlands (**Figure 3**), snow accumulation is below-average over southern parts of the central highlands, which is the prime source of streamflow in the Helmand and Arghandab rivers. Similarly, while snow water volume is above-average in the north and northeastern basins, it is average to below-average in the southern basins (**Figures 4 and 5**). As the snow water storage typically peaks during the first week of March over the southern basins, there is still time for recovery of the deficit snow water storage over these basins.

**Figure 3.** Snow depth difference from average (2002-2016) in mm on February 03, 2019.

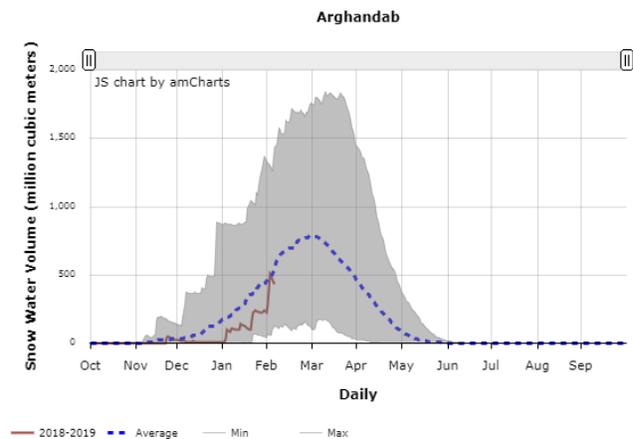


Source: USGS/NASA

**Figure 4.** Daily progression of snow water volume in an eastern basin of Afghanistan.



**Figure 5.** Daily progression of snow water volume in a southern basin of Afghanistan.

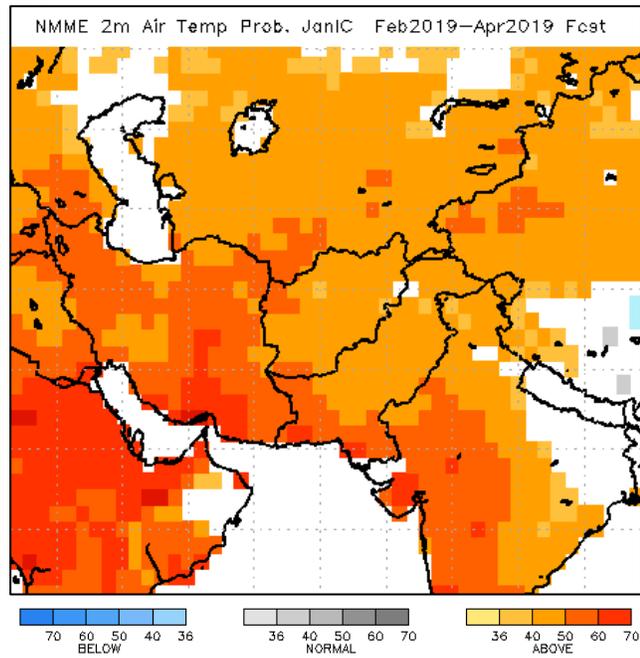


Source: USGS/NASA

**Temperatures:**

During the month of January, the daily maximum temperatures were above-average across much of Afghanistan, except at high-elevation areas of the northeastern and central highlands. The above-average maximum daily temperatures adversely impacted snow accumulation especially in the southern parts of the central highlands. Although well below-freezing minimum temperatures are expected in the coming week (ending February 05) over the northeast and much of central highlands, temperatures for the rest of the winter season are expected to be well above-average (**Figure 6**) which could further adversely impact snow water storage, especially over the low- and moderate-elevation areas in the south. The expected above-average temperatures could also initiate an early snowmelt across the country.

**Figure 6.** Temperature forecast anomaly (February—April 2019) over Afghanistan.

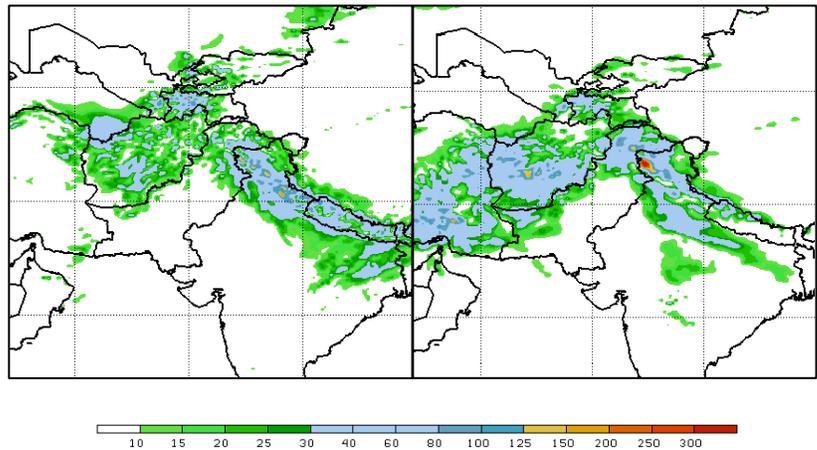


Source: NOAA CPC

**Forecasts:**

In the coming weeks, the Global Forecast System indicates up to 100 mm of total precipitation by February 18<sup>th</sup> across much of Afghanistan, including the precipitation deficit region of the southwest (**Figure 7**). During the same time period the minimum temperatures are expected to be below freezing across the central highlands and northeast. These expected precipitation events, coupled with below freezing temperatures, could potentially recover deficit snow water storage in the southern basins and could increase the same in the rest of the country. Extended models such as the North American Multi-Model Ensemble, and C3S multi-system seasonal forecast predict average to above-average precipitation during the months of February—April across the country under the weak El Niño condition. During this time, prevailing temperatures will be key in defining the risk of flooding or maintenance of water storage for irrigation in the spring and summer.

**Figure 7.** Week I (ending on February 11<sup>th</sup> on the left) and week II (ending on February 18<sup>th</sup> on the right) total precipitation in mm from the Global Forecast System.



Source: NOAA CPC