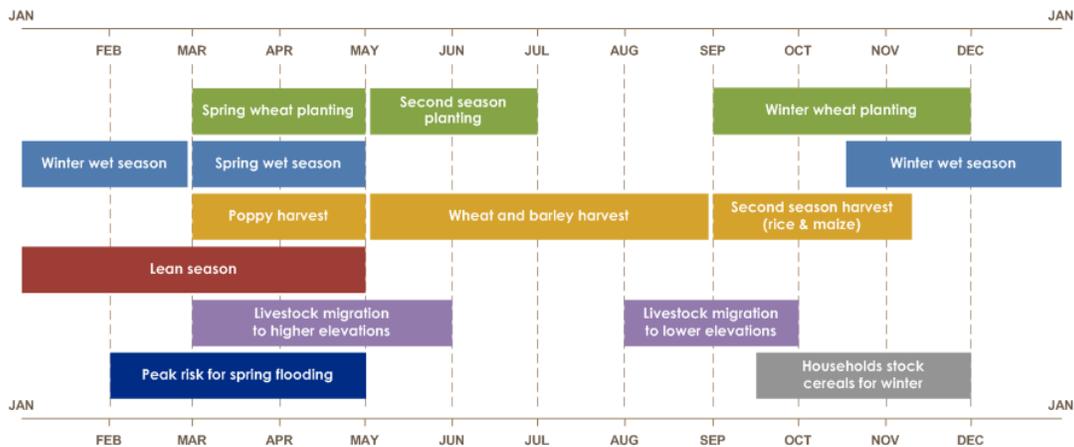


Update on performance of the October 2016 – May 2017 wet season

KEY MESSAGES

- October – December 2016 precipitation was below average throughout most of the country (**Figure 1**). This led to delayed planting of winter wheat in many areas, particularly in northern, northeastern, and western regions. Furthermore, field reports have indicated that, in some provinces, area planted under winter wheat is smaller than last year, in some cases due to insufficient soil moisture, and in others due to conflict-related disruptions to land preparation and planting. Many farmers in these unplanted areas will likely sow in the spring.
- Various meteorological services, including NOAA, anticipate that the ongoing La Niña will dissipate by February 2017. Under ENSO neutral conditions, climate forecast models indicate a wide range of possible outcomes for February – April rain and snowfall in Afghanistan, with a most likely scenario of average to above-average cumulative precipitation.
- Snowpack has increased substantially throughout the country in January and early February, including heavy snowfall during the first week of February that led to road blockages, avalanche, and an unknown number of deaths and other adverse impacts. As of February 5 2017, [USGS monitoring products](#) indicate above-average snowpack throughout the country, with several basins indicating record levels. Water availability is very likely to be sufficient throughout the country for the normal development of main season irrigated crops, primarily wheat.
- The quantity, frequency, and distribution of spring rainfall has a substantial impact on harvest outcomes for rainfed wheat, which exhibited significant year-to-year variation in aggregate production between 2005 and 2016 (**Figure 4**). During this period, there were two particularly poor years for rainfed wheat production: 2008 (217,000 MT) and 2011 (321,000 MT). For both of these years, precipitation during the March/April planting season was well below average in key rainfed production areas. This year, forecasts indicate a likelihood for average to above-average cumulative precipitation during these months. However, continued monitoring of the quantity and distribution of rainfall in different parts of the country remains critical in understanding the likely impact of the upcoming season on food security outcomes.

SEASONAL CALENDAR IN A TYPICAL YEAR

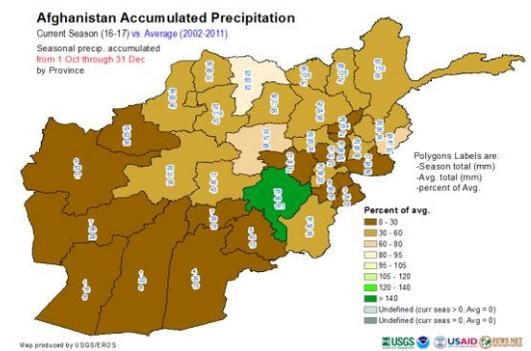


Source: FEWS NET

SEASONAL PROGRESS AND FORECAST

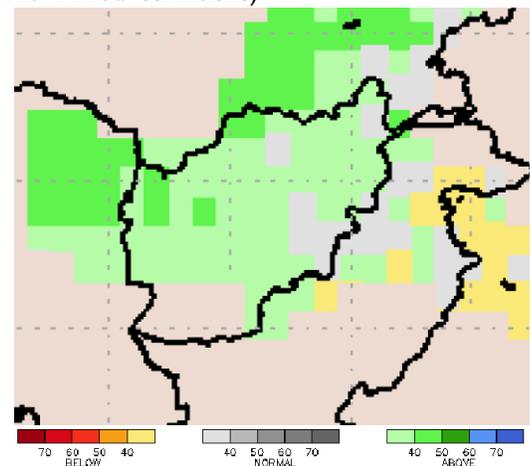
- October – December 2016 precipitation was below average throughout most of Afghanistan (**Figure 1**). Sea surface temperatures (SSTs) in the Pacific Ocean are the primary driver of climate in the country during the October-May wet season. The anomalously cool SSTs in the east-central equatorial region of the Pacific Ocean consistent with La Niña conditions, along with above-average SSTs in the western Pacific Ocean during October - December 2016, increased the probability for below-average precipitation in Afghanistan.
- A series of storms that swept across the region during the second half of January 2017 and early February provided significant precipitation throughout the country. As of February 5th, [USGS monitoring products](#) indicated that snowpack was above average in all basins, with record accumulation in several basins. The rapid increase in snowpack throughout the country has led to road closures, avalanche, and an unknown number of deaths. However, it has also alleviated concerns for any adverse impacts on main season irrigated wheat production due to dryness.
- NOAA and other meteorological services expect the ongoing La Niña to dissipate by February 2017. This transition to ENSO neutral conditions, along with a cooling trend in the Indian Ocean and western Pacific Ocean, has improved precipitation forecasts in global climate models over Afghanistan for February through April 2017, with an aggregate of models indicating a likelihood for average to above-average cumulative precipitation (**Figure 2**). As is typical in the region, there remains a wide spread of realistic possibilities for spring precipitation.
- Climate forecast models for near-surface air temperatures have remained consistent in expectations for warmer than average temperatures throughout the remainder of the wet season. Near-surface air temperatures are expected to remain above both the long-term average and the short-term average of recent years (**Figure 3**). Given the record snow accumulation in some basins, above-average spring temperatures are likely to increase the risk of flooding.
- Rainfed wheat production varies significantly in Afghanistan, depending on precipitation and other conditions. According to production estimates from the Ministry of Agriculture, Irrigation, and Livestock (MAIL) for 2005 – 2016, rainfed wheat accounted for approximately 25 percent of national wheat production, ranging from a low of ~10 percent (2008, 2011) to a high of 30 - 35 percent (2005, 2007, 2009, 2012, 2013, 2014) (**Figure 4**). The majority of rainfed wheat is planted in the spring, and relies primarily on precipitation for its development,

Figure 1. Cumulative precipitation versus average, Oct. 1 – Dec. 31, 2016



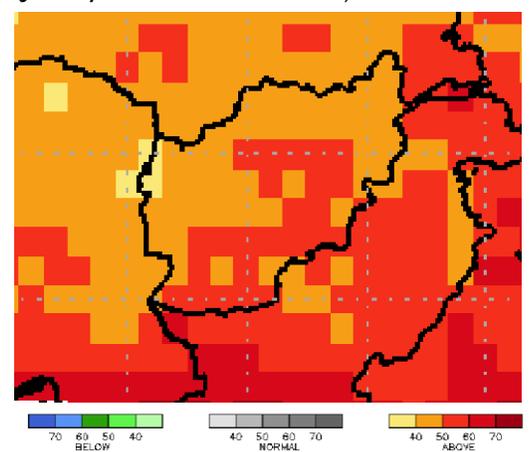
Source: USGS

Figure 2. North American Multi-Model Ensemble (NMME) precipitation 3 – category probabilities, February - April 2017 (January 2017 initial conditions)



Source: NOAA Climate Prediction Center

Figure 3. North American Multi-Model Ensemble (NMME) 2 meter air temperature 3 – category probabilities, February - April 2017 (January 2017 initial conditions)

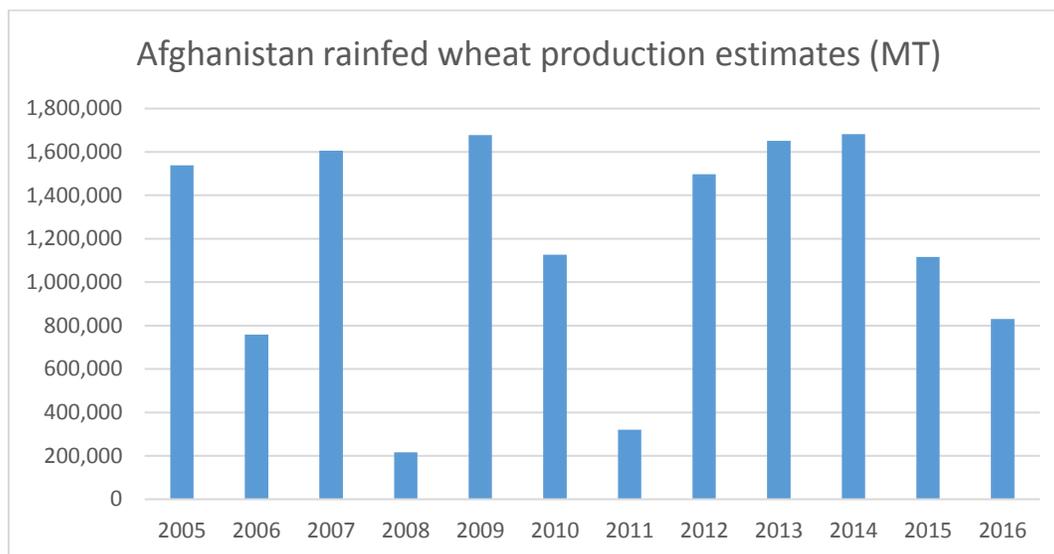


Source: NOAA Climate Prediction Center

before being harvested between May and August. Although an average of forecast models indicates a likelihood for average to above-average precipitation between February and April (**Figure 2**), there remains a wide spread of possible outcomes for spring rainfall, and no current indication with respect to the timing and frequency of the rains, which have a significant impact on harvest outcomes.

- Although rainfed wheat typically represents just 10 - 35 percent of domestic wheat production, it is a major livelihood activity for many poor households in Afghanistan. The progress of precipitation and planting from February through April is an important monitoring priority for all rainfed areas. Even if average to above-average precipitation is observed in most of the country, it is likely that some areas will be adversely affected by rainfall anomalies, which could lead to assistance needs for households in affected areas who are highly dependent on these harvests.

Figure 4. Rainfed wheat production estimates, 2005 - 2016



Source: MAIL