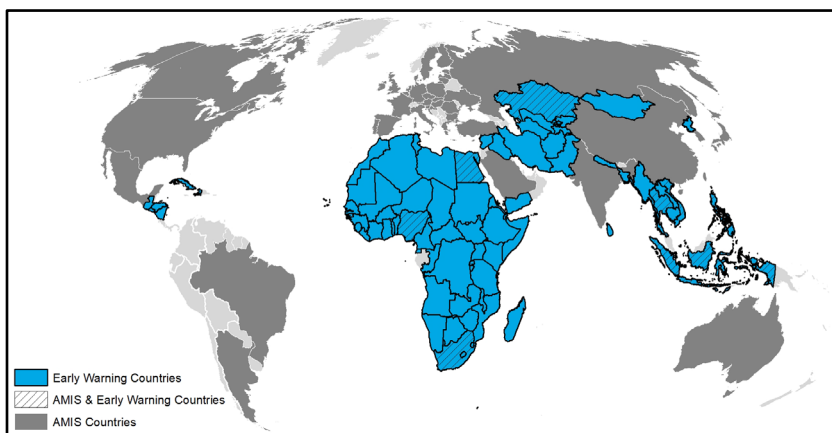


Crop Monitor

EARLY WARNING

Overview:

In **East Africa**, harvesting of main season cereals finalized in the northern parts of the subregion under mixed conditions due to impacts of widespread flooding in Sudan and South Sudan. In Ethiopia, harvesting of *Meher* season cereals finalized with below-average yields in the north due to protracted conflict and in the south due to dry conditions. Additionally, a fifth consecutive dry season resulted in poor crop outcomes across the south of the subregion, and a sixth consecutive dry season is forecast for March to May 2023 (See Seasonal Forecast Alert Pg. 4). In **West Africa**, harvesting of main and second season cereals is complete or nearing completion under generally favourable conditions except in conflict-affected areas. In the **Middle East and North Africa**, wheat crops continue to develop under mixed conditions with concern due to current dry conditions as well as ongoing conflict and socio-economic challenges in Libya and Syria. In **Southern Africa**, main season cereals continue to develop under mixed conditions with expanding areas of dryness over parts of Angola, Namibia, Botswana, Zambia, Zimbabwe, Mozambique, and Madagascar. In **Central and South Asia**, planting and development of winter wheat continues with expanding areas of concern due to ongoing dry conditions. *Kharif* (summer) season rice and maize in Pakistan were impacted by the unprecedented flooding in 2022. In northern **Southeast Asia**, planting of dry-season rice is underway with an expected increase in planted area due to sufficient irrigation water supply. In Indonesia, sowing of wet-season rice continues under favourable conditions. In **Central America and the Caribbean**, harvesting of *Segunda/Postre* season cereals is complete or nearing completion under favourable conditions. In Haiti, second season rice and third season bean crops are unlikely to recover from persistent dry conditions.



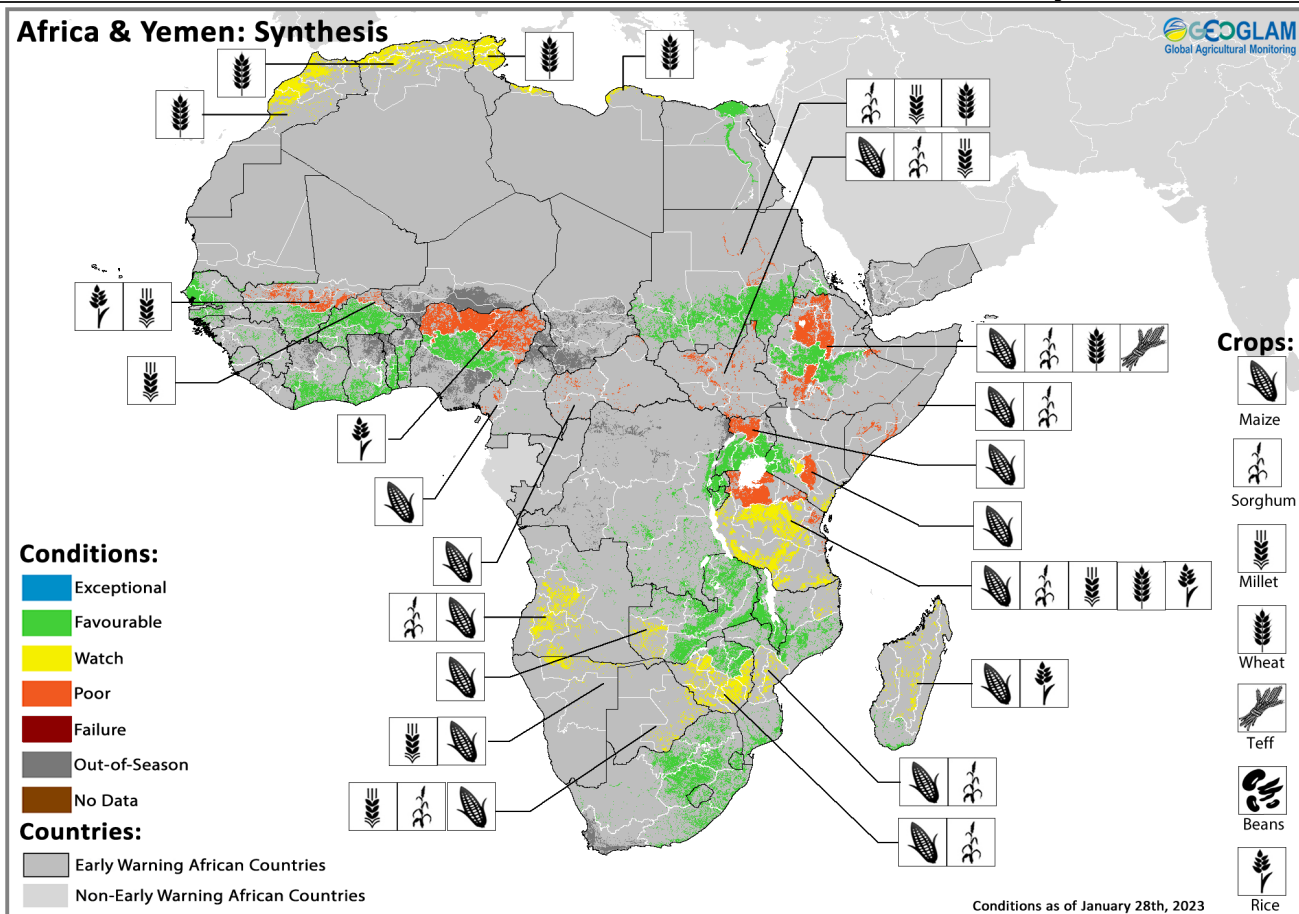
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GEOGLAM Crop Monitor for Early Warning

Crop Conditions at a Glance

based on best available information as of January 28th



Crop condition map synthesizing information for all Crop Monitor for Early Warning crops as of January 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Regions that are in other than favourable conditions are labeled on the map with a symbol representing the crop(s) affected.**

EAST AFRICA: Harvesting of main season cereals finalized in the north under mixed conditions due to widespread flooding over areas of Sudan and South Sudan. In Ethiopia, harvesting of *Meher* season cereals finalized with below-average yields in the south due to persistent dryness throughout the season and in the north due to protracted conflict. In the south of the subregion, harvesting of second season cereals finalized under mostly poor conditions as crops in parts of Somalia, Kenya, Uganda, and the United Republic of Tanzania were unable to recover from the impacts of a fifth consecutive dry season, and forecasts indicate the likelihood of a sixth consecutive dry season for the upcoming March to May season (See Seasonal Forecast Alert Pg. 4).

WEST AFRICA: Harvesting of main and second season cereals is complete or nearing completion under generally favourable agro-climatic conditions throughout the subregion despite ongoing insecurity in the Sahel and localized flooding impacts throughout the season.

MIDDLE EAST & NORTH AFRICA: In North Africa, dry conditions continue to cause concern for wheat in Morocco, Algeria, and Tunisia while crops in Libya have improved from previous dry conditions. In the Middle East, conditions have been downgraded in northern Iraq and northwestern Iran due to low rainfall received while recent rainfall has improved vegetation conditions in Syria.

SOUTHERN AFRICA: Main season cereals are in vegetative to reproductive stage for harvest from March, and conditions are mixed due to expanding areas of dryness over central and western parts of the subregion as well as the passage of Tropical Storm Cheneso in late January from northeast to central-western Madagascar.

CENTRAL & SOUTH ASIA: Planting and development of winter wheat continues with expanding areas of concern across Afghanistan, Tajikistan, Turkmenistan, and Uzbekistan due to persistent dryness. In Pakistan, unprecedented flooding in 2022 is expected to impact *Kharif* (summer) season rice and maize outcomes, and flood waters have yet to recede in some areas.

SOUTHEAST ASIA: Planting of dry-season rice has begun in the north under favourable conditions. Planted area is expected to increase due to sufficient irrigation water supply but will also be limited by the high prices of agricultural inputs.

CENTRAL AMERICA & CARIBBEAN: In Central America, harvesting of *Segunda/Postre* season cereals is complete or nearing completion under favourable conditions. In Haiti, second season rice and third season bean crops are unlikely to recover from persistent dry conditions since the last quarter of 2022. In Cuba, there is concern for main season maize and rice crops due to developing dry conditions.

Global Climate Outlook: Two-week Forecast of Areas with Above or Below-Average Precipitation

The two-week forecast (Figure 1) indicates a likelihood of above-average rainfall over the Pacific Northwest and southeast of the US, southeast Brazil, Ireland, Scotland, southern Norway, Tanzania, northern Mozambique, southern China, Laos, Cambodia, Viet Nam, the Philippines, northern Malaysia, southern Indonesia, central and eastern Australia, and central New Zealand.

There is also a likelihood of below-average rainfall over the central Prairies and eastern Canada, western Mexico, central Columbia, Uruguay, northern Argentina, northern Chile, southern Portugal, southern Spain, central France, southern Italy, Switzerland, Germany, Poland, Czechia, Austria, Slovakia, Hungary, Slovenia, Croatia, Bosnia and Herzegovina, Serbia, Romania, Montenegro, Kosovo, Albania, North Macedonia, Bulgaria, Greece, western and central Türkiye, Ukraine, Moldova, Belarus, central and eastern Russian Federation, northern Morocco, Côte d'Ivoire, Ghana, Togo, southern Benin, southern Nigeria, southern Cameroon, Equatorial Guinea, Gabon, the northern Republic of Congo, the Central African Republic, the northern Democratic Republic of Congo, South Sudan, Ethiopia, Uganda, Kenya, southern Zimbabwe, central Mozambique, southern Iran, southern Afghanistan, Pakistan, northern India, southwest and northeast China, Nepal, Bhutan, northern Myanmar, Mongolia, the Democratic People's Republic of Korea, the Republic of Korea, and Indonesia.

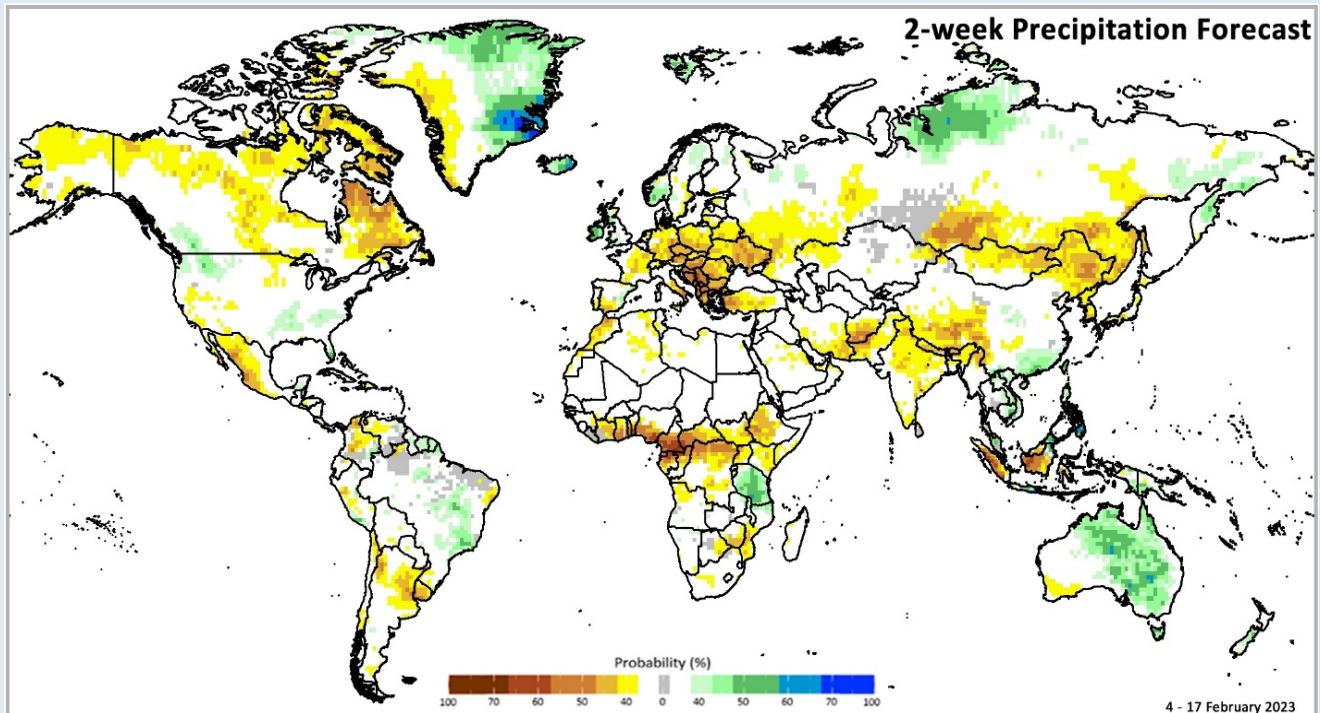


Figure 1: IRI SubX Precipitation Biweekly Probability Forecast for 4 – 17 February 2023, issued on 27 January 2023. The forecast is based on statistically calibrated tercile category forecasts from three SubX models. Source: [IRI Subseasonal Forecasts Maproom](#)

Climate Influences: La Niña is present and transition to neutral ENSO is likely in February to March

The El Niño-Southern Oscillation (ENSO) is currently in the La Niña phase. A transition to a neutral ENSO state is likely, with a 73% chance of ENSO neutral conditions in February-March-April, according to the IRI/CPC. ENSO neutral conditions are expected through July, after which El Niño conditions may develop, with a 51% chance of El Niño in August-September-October. While long-range forecasts made at this time of year can be unreliable, El Niño events can have widespread, global impacts.

Seasonal forecasts indicate La Niña precipitation impacts may continue through the next several months. While a transition to ENSO-neutral is anticipated during this time, atmospheric responses to La Niña can linger. For [eastern East Africa](#), where multi-year drought continues to severely impact food security, yet [another below-normal rainy season](#) is likely, based on forecast La Niña-like sea surface temperature gradients during spring.

Source: UCSB Climate Hazards Center

Forecast Alert: Fifth consecutive dry season resulted across parts of eastern East Africa & an unprecedented sixth consecutive dry season forecast during MAM 2023

October-November-December 2022: A fifth sequential poor rainfall season over eastern East Africa

Overall, the September/October through December rainfall season was characterized by a significantly delayed onset and below-average performance over most parts of Kenya, Somalia, southern and eastern Ethiopia and northeastern Tanzania. Parts of the Somali region of Ethiopia and northern Somalia received average to above-average rains. In southern Somalia, some locations in Bakool, Hiraan, and Bay had periodic wetter conditions, based on rain gauge observations. This culminated in an unprecedented (since reliable records began in the 1950s) fifth consecutive poor rainfall and agricultural production season in these severely drought affected pastoral and marginal agricultural zones of East Africa. Rainfall totals for the October-November-December (OND) 2022 season ranged from 45 percent to less than 90 percent of average across much of Kenya and southern Somalia (Figure 1-left). Dry and abnormally hotter-than-normal conditions are forecast for coming months over East Africa, with an expected rapid deterioration of rangeland water and pasture resources, until the onset of the main seasonal rains in March and April. High potential maize producing areas of western Kenya, Uganda, Rwanda and Burundi observed near-average to slightly above-average seasonal rainfall amounts, despite long-dry spells and uneven distribution during the season.

March-April-May 2023: Updated climate forecasts continue to suggest below-normal rains are likely in eastern East Africa

A sixth consecutive season with poor rainfall performance in eastern East Africa is anticipated. This outlook is based on a forecast La Niña-like sea surface temperature pattern in the Pacific Ocean that is associated with below-average March-April-May (MAM) season rainfall. Climate models predict a strong Western V Gradient (WVG) sea surface temperature pattern during MAM 2023 (Figure 1-middle). Model forecasts from January predict much warmer-than-average SST in the western tropical and subtropical regions of the Pacific Ocean during MAM, and near-average SST in the Nino3.4 region. This configuration will likely maintain strong sea surface temperature differences between the very warm regions and the cooler tropical central-eastern Pacific, which can promote La Niña-like disruptions to wind and rainfall patterns. The WVG pattern represents the combined effects of La Niñas and climate warming trends on sea surface temperatures. For eastern East Africa, the WVG has been linked to the frequent occurrence of below-normal MAM rainfall during seasons that follow or coincide with La Niña events (75% of these since 1998).

The pessimistic outlook for MAM 2023 comes on the heels of three years with La Niña conditions and a unprecedented series of five consecutive poor OND and MAM rainfall seasons since late 2020. Based on current forecasts for WVG strength (Figure 1-middle), and rainfall outcomes during negative WVG MAM seasons (Figure 1-right), the chance for below-normal rainfall in eastern East Africa is estimated at around 50% ([explanation](#)). The expected transition to ENSO neutral before March has lowered the odds from earlier WVG-based forecasts. The outlook is not as pessimistic as it was for the MAM 2022 season, which was impacted by an active La Niña. The main factor driving a pessimistic outlook for MAM 2023 is a very warm Western V forecast. The climate situation in MAM 2022 looks similar to 2017, another recent post-La Niña MAM season, with very warm Western V conditions increasing the chances of a dry outcome. In the current situation, considering the food security crisis from the historic multi year drought sequence, the stakes are extremely high.

Some dynamical model precipitation forecasts, like the NMME, also indicate elevated chances of a below-normal MAM 2023 rainfall. The [January NMME forecast](#) shows elevated chances of a below-normal season in Kenya, southern Somalia, and portions of northern Tanzania. WMO and C3S forecasts show low model agreement but also slight indications of below-normal rainfall during the next several months. When in closer range of the MAM season, short-to-medium range forecasts and rainfall observations should be closely monitored, as these typically provide the most accurate and timely information for important aspects of intraseasonal variability during the MAM season. According to FEWS NET ([Jan. 23rd press release](#)), "As the exceptional drought likely enters its third year, emergency response efforts in Ethiopia, Kenya, and Somalia remain severely underfunded. Humanitarians continue to signal that a more robust and unified global response is urgently needed if a significant loss of life is to be averted."

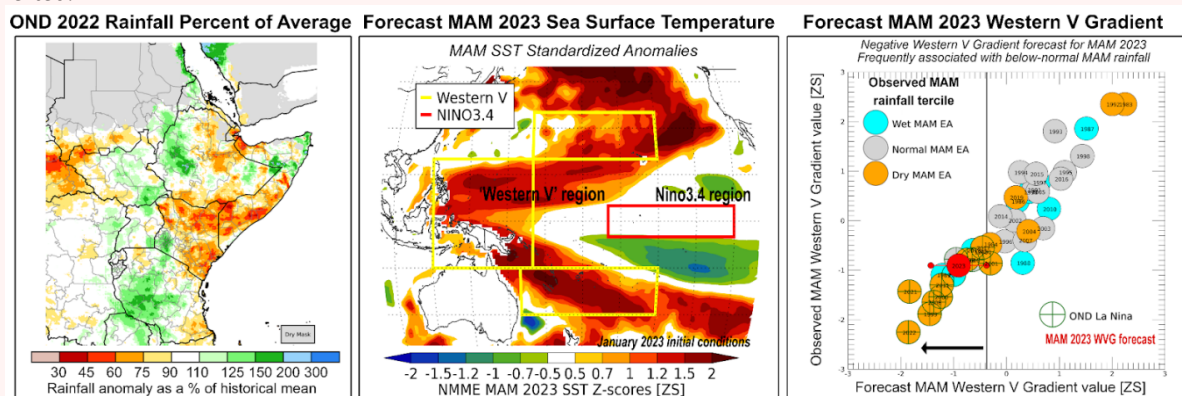
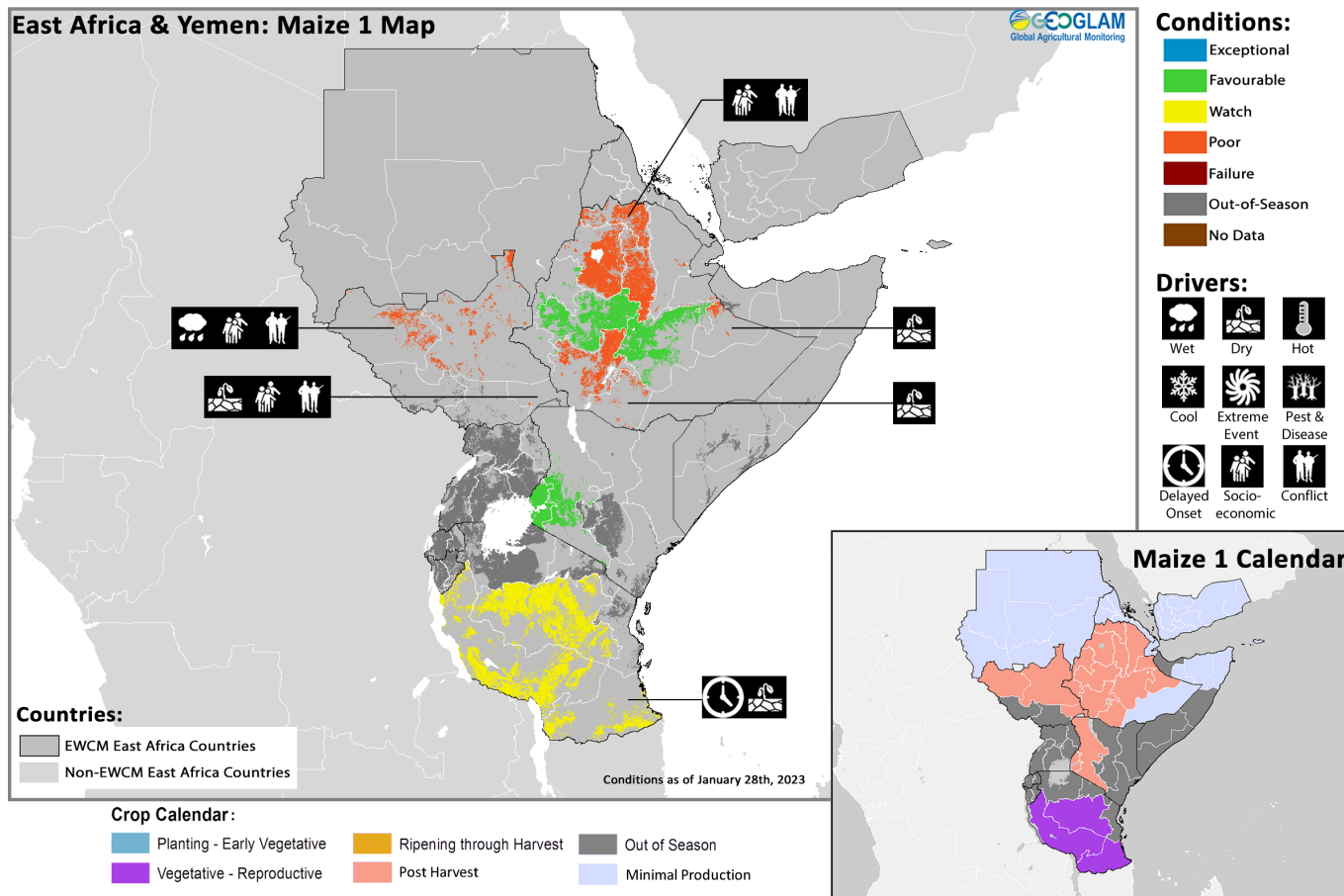


Figure 1. Poor rainfall performance in OND 2022 and concern for MAM 2023 rainfall season in eastern East Africa. Left: CHIRPS October-November-December (OND 2022) percent of average rainfall, from CHIRPS data. Middle: Forecast March-April-May (MAM) 2023 Pacific Ocean sea surface temperatures (SST). Right: Western V Gradient (WVG) SST index values. These are based on NMME model forecasts from January 1982-2023. Boxes on the map show the SST regions used for the WVG index: $WVG = Z(\text{Nino3.4 SST}) - Z(\text{Western V SST})$. The scatter plot shows how forecast WVG values at this lead time compare to observed WVG values. The forecast MAM season is labeled at each point. Colors: Red- MAM 2023 WVG forecast and 80% confidence interval, based on bootstrapping previous forecasts. Orange, silver, and cyan- Identify below-normal, normal, and above-normal MAM rainfall outcomes, respectively. Crosses: MAM seasons after La Niña events that were active during the previous October-to-December (OND) or longer. Source: UCSB Climate Hazards Center and the FEWS NET East Africa Seasonal Monitor

East Africa

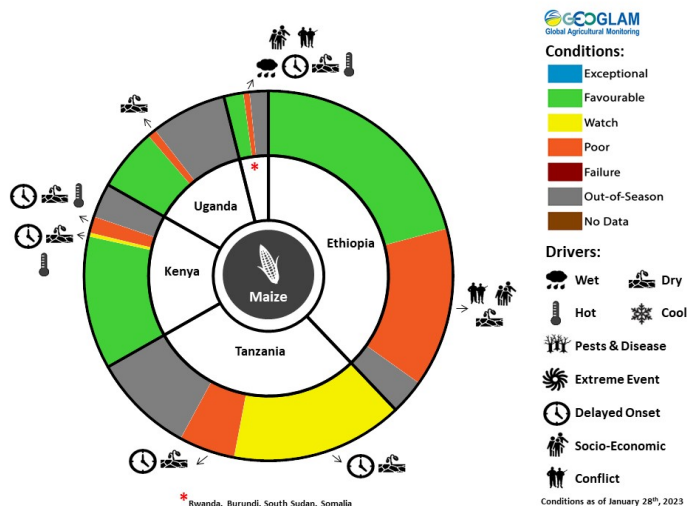


Crop condition map synthesizing Maize 1 crop conditions as of January 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Conditions that are other than favourable are labeled on the map with their driver.**

Across the north of the subregion, harvesting of main season cereals finalized under mixed conditions as crops were unable to recover from widespread flooding over the Nile River basin in **Sudan** and flood prone areas of **South Sudan**. Socio-economic challenges and conflict also contributed to the expected below-average yields in these regions. In **Ethiopia**, harvesting of *Meher* season cereals finalized with below-average yields in the south due to persistent dryness throughout the season and in the north due to protracted conflict and related socio-economic challenges. Elsewhere in the north of the subregion, conditions are favourable with near-average yields expected.

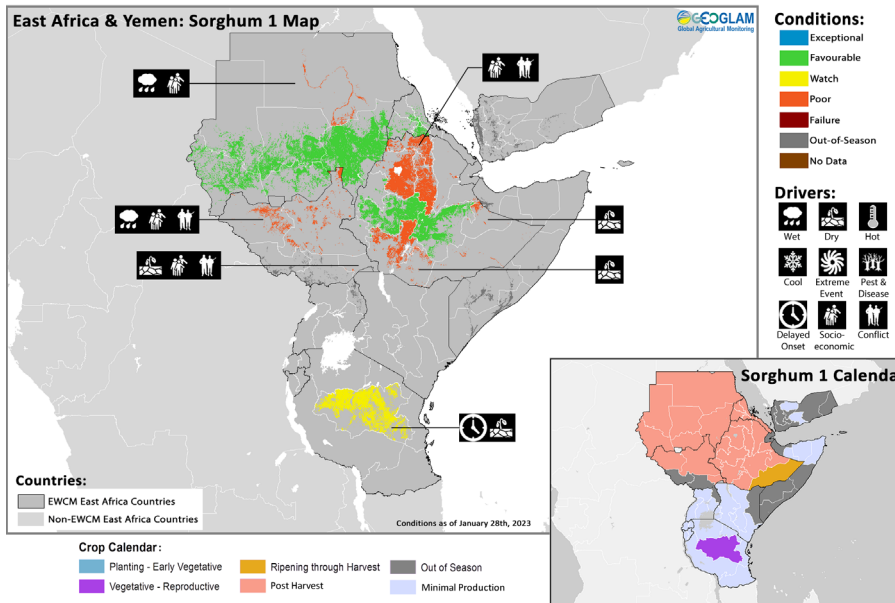
Across the south of the subregion, harvesting of Long Rains cereals finalized in major producing unimodal regions of **Kenya** under favourable conditions. Harvesting of second season cereals is complete or nearing completion in **Somalia**, **Uganda**, **Burundi**, **Rwanda**, and the **United Republic of Tanzania** while crops in **Kenya** continue to develop, and overall conditions are mixed. Crops in **Somalia**, bimodal southeast and coastal minor agriculture areas of **Kenya**, north-central and northwestern **Uganda**, and northern bimodal areas of the **United Republic of Tanzania** were unable to recover from the effects of drought and dry spells. Conversely, final yields in bimodal areas of **Uganda**, **Burundi**, and **Rwanda** are near-average.

The October to December 2022 season was characterized by a delayed onset, dry spells during the crop growing period, below-average rainfall performance, and an early cessation of rains before late planted crops reached maturity. Persistent dry conditions have resulted in abnormal dryness in central and eastern **Kenya**, southern **Ethiopia**, and areas of the **United Republic of Tanzania**, and drought conditions continue in southern **Ethiopia**, southern **Somalia**, and northern **Kenya** as of late-January (See Seasonal Forecast Alert Pg. 4). Land preparation is now underway for main season cereals in minor



For detailed description of the pie chart please see description box on Pg. 19.

producing bimodal areas of **Kenya, Rwanda**, and bimodal areas of **Uganda**, and planting will begin in February. Following three consecutive years of La Niña conditions and five consecutive poor OND and MAM rainfall seasons since late 2020, a sixth poor rainfall season is expected for MAM 2023 due to a very warm Western V forecast and despite the likely transition to ENSO neutral conditions before March, raising concerns for food insecurity, livelihoods, and water scarcity for production and consumption. Areas likely to be impacted include **Kenya**, southern **Somalia**, and portions of northern **United Republic of Tanzania** (See Seasonal Forecast Alert Pg. 4).



Crop condition map synthesizing Sorghum 1 conditions as of January 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Conditions that are other than favourable are labeled on the map with their driver.**

cropping season are higher than the previous year and near-average, according to preliminary findings from the CFSAM report. This is due to a shift towards less resource-intensive crops like sorghum and millet, high production costs for cash crops and wheat, limited access to agricultural finance and high input costs, and better weather conditions leading to improved yields. Winter wheat crops are now in vegetative to reproductive stage for harvest from March, and there is concern in the north due to residual flood impacts. In **South Sudan**, harvesting of main season cereals finalized throughout the country, and harvesting of second season maize and sorghum crops finalized in bimodal regions. Poor crop yield outcomes resulted across the country as crops were unable to recover from heavy rainfall and flooding along the Sudd Wetland and surrounding areas despite being in the dry period. In some severely flooded areas, crop planting did not take place as households were unable to access fields due to stagnant waters. Additionally, in parts of Western Equatoria and Central Equatoria states, which are main producing areas located in the south of the country, the rainfall performance between October and December 2022 and up to January 20th, 2023 was below-average, which may have impacted crop growth (See Seasonal Forecast Alert Pg. 4). Furthermore, ongoing localized conflict incidents and related socio-economic challenges contributed to below-average yields throughout the country. However, the second season harvest outcomes have improved compared to previous years due to extended rainfall. In **Eritrea**, harvesting of main season sorghum and wheat crops finalized under favourable conditions.

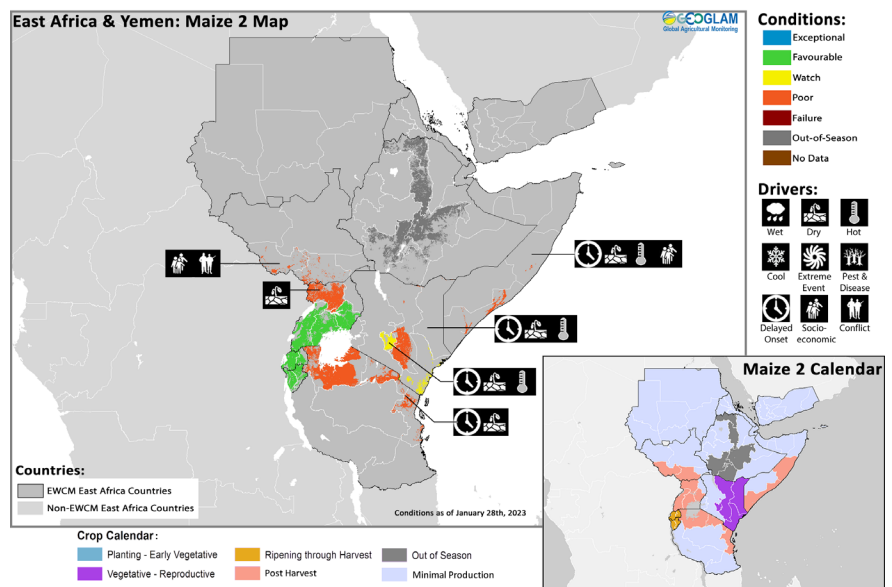
Southern East Africa

In **Somalia**, harvesting of *Deyr* season maize and sorghum crops finalized under poor conditions as crops were unable to recover from persistent dry and hot conditions throughout the season. The October to December 2022 *Deyr* rainfall season was characterized by significant onset delays, erratic distribution, and large deficits, resulting in a third failed *Deyr* season and historic fifth consecutive poor rainfall season, extending the longest drought on record. Deficits were the greatest in south, central, and northwestern areas, with southern areas receiving only 30 to 75 percent of the long-term average cumulative rainfall and central and northwestern areas receiving 60 to 90 percent. The poor performance of the 2022 *Deyr* rains is expected to result in a harsher dry season from January to March 2023. As of late December, river water levels along the Juba and Shabelle remained below the long-term average, and levels are expected to continue to decline until the start of the April to June 2023 *Gu* rains. Socio-economic challenges relating to several consecutive dry seasons, including limited financing at the household level that lowered access to agricultural inputs as well as internal displacement that lowered agricultural labour availability, also contributed to below-average plantings and yields. In **Uganda**, harvesting of second season maize finalized under mixed conditions as crops in the north-centre and northwest were not able to recover from below-average rainfall during the April to November 2022 growing season. Conversely, in other bimodal areas, rainfall in December resulted in cumulative average to above-average precipitation totals for the September to December second rainy

Northern East Africa & Yemen

In **Ethiopia**, harvesting of *Meher* season cereals finalized in January under mixed conditions. Crops in southern areas, including southern parts of SNNPR and southern Oromia, were unable to recover from erratic and inadequate rains throughout the seasons while crops in Tigray, Afar, and Amhara regions were impacted by conflict and related socio-economic challenges. Elsewhere, final conditions are favourable with near-average yields. Land preparation is underway for *Belg* season (Short Rains) maize crops to be planted from mid-February. In **Sudan**, harvesting of main season millet and sorghum crops finalized under generally favourable conditions except in the northern Nile river basin where crops were impacted by flooding. Additionally, the high cost of harvesting equipment delayed harvesting activities and caused some farmers to instead use cheaper labour, resulting in increased post-harvest losses. However, overall crop outcomes for the 2022/23

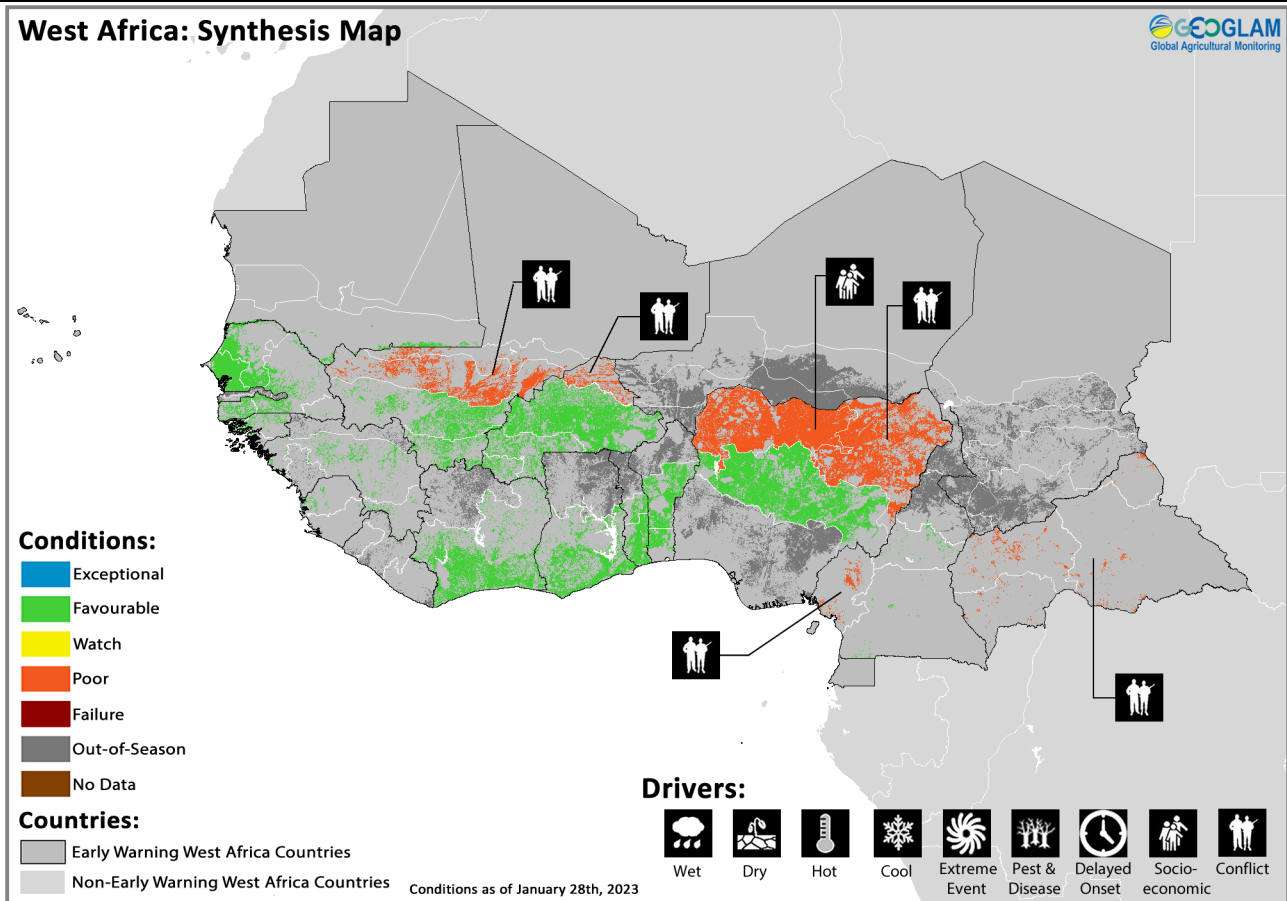
season. However, ongoing rainfall is resulting in post-harvest losses for cereals such as maize and millet. National production is expected to be higher than the previous season but still slightly below-average, according to the FEWS NET Key Message Update in December 2022. In **Kenya**, harvesting of Long Rains cereals finalized in major producing unimodal rainfall areas under favourable conditions. In the west, October to December rainfall was above the long-term average which may increase post-harvest losses, particularly for late-planted crops. However, recent dry conditions in west and central areas are likely to limit post-harvest losses resulting from moisture damage. In bimodal southeast and coastal marginal agriculture areas, Short Rains maize crops were unable to recover from persistent dry conditions throughout the season. These areas received less than 55 to 85 percent of the long-term average cumulative rainfall. The October to December Short Rains in these areas were characterized by delayed onset, poor temporal distribution, and low cumulative rainfall amounts. Planting activities were delayed until mid to late November, and plantings were also limited as constrained household incomes following consecutive below-average harvests resulted in limited access to seeds and other agricultural inputs. In these marginal agricultural areas, below-average rainfall and limited plantings are expected to result in a 10 to 50 percent decline in production compared to average, according to a December 2022 FEWS NET report. The maize crop is unlikely to reach maturity after an early cessation of rainfall and insufficient soil moisture, and crop failure has been reported in Kitui and Meru counties and parts of Kilifi and Kwale. According to the Ministry of Agriculture, national maize production is expected to be 3 million tonnes and around 15 percent below the five-year average, and updated production estimates are expected by February. In **Rwanda** and **Burundi**, harvesting of Season A maize crops is nearing completion under favourable conditions as crops in **Rwanda** recovered from erratic rains due to better end-of season rainfall, and crops in **Burundi** have recovered from below-average rainfall in September and October. However, the impacts of early-season rainfall anomalies in **Burundi** are expected to slightly reduce Season A production, and localized areas in the north and west experienced crop damages due to heavy rains and high winds. In bimodal areas of the **United Republic of Tanzania**, harvesting of *Vuli* season maize crops finalized under poor conditions while planting and development of *Masika* season wheat and rice crops continues under watch conditions due to delayed rainfall onset and persistent seasonal dryness. While rice is mostly irrigated, the irrigation water supply typically follows the rainfall pattern. In unimodal areas of the centre and south, planting and development of *Msimu* season cereals continues with some concern due to areas with dry conditions. While cumulative rains between November and January were average to above-average in most central and southern provinces with generally near-average vegetation conditions, an erratic temporal distribution of rains resulted in below-average vegetation conditions in Central Singida and Dodoma provinces.



*Crop condition map synthesizing Maize 2 conditions as of January 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Conditions that are other than favourable are labeled on the map with their driver.***

Planting activities were delayed until mid to late November, and plantings were also limited as constrained household incomes following consecutive below-average harvests resulted in limited access to seeds and other agricultural inputs. In these marginal agricultural areas, below-average rainfall and limited plantings are expected to result in a 10 to 50 percent decline in production compared to average, according to a December 2022 FEWS NET report. The maize crop is unlikely to reach maturity after an early cessation of rainfall and insufficient soil moisture, and crop failure has been reported in Kitui and Meru counties and parts of Kilifi and Kwale. According to the Ministry of Agriculture, national maize production is expected to be 3 million tonnes and around 15 percent below the five-year average, and updated production estimates are expected by February. In **Rwanda** and **Burundi**, harvesting of Season A maize crops is nearing completion under favourable conditions as crops in **Rwanda** recovered from erratic rains due to better end-of season rainfall, and crops in **Burundi** have recovered from below-average rainfall in September and October. However, the impacts of early-season rainfall anomalies in **Burundi** are expected to slightly reduce Season A production, and localized areas in the north and west experienced crop damages due to heavy rains and high winds. In bimodal areas of the **United Republic of Tanzania**, harvesting of *Vuli* season maize crops finalized under poor conditions while planting and development of *Masika* season wheat and rice crops continues under watch conditions due to delayed rainfall onset and persistent seasonal dryness. While rice is mostly irrigated, the irrigation water supply typically follows the rainfall pattern. In unimodal areas of the centre and south, planting and development of *Msimu* season cereals continues with some concern due to areas with dry conditions. While cumulative rains between November and January were average to above-average in most central and southern provinces with generally near-average vegetation conditions, an erratic temporal distribution of rains resulted in below-average vegetation conditions in Central Singida and Dodoma provinces.

West Africa

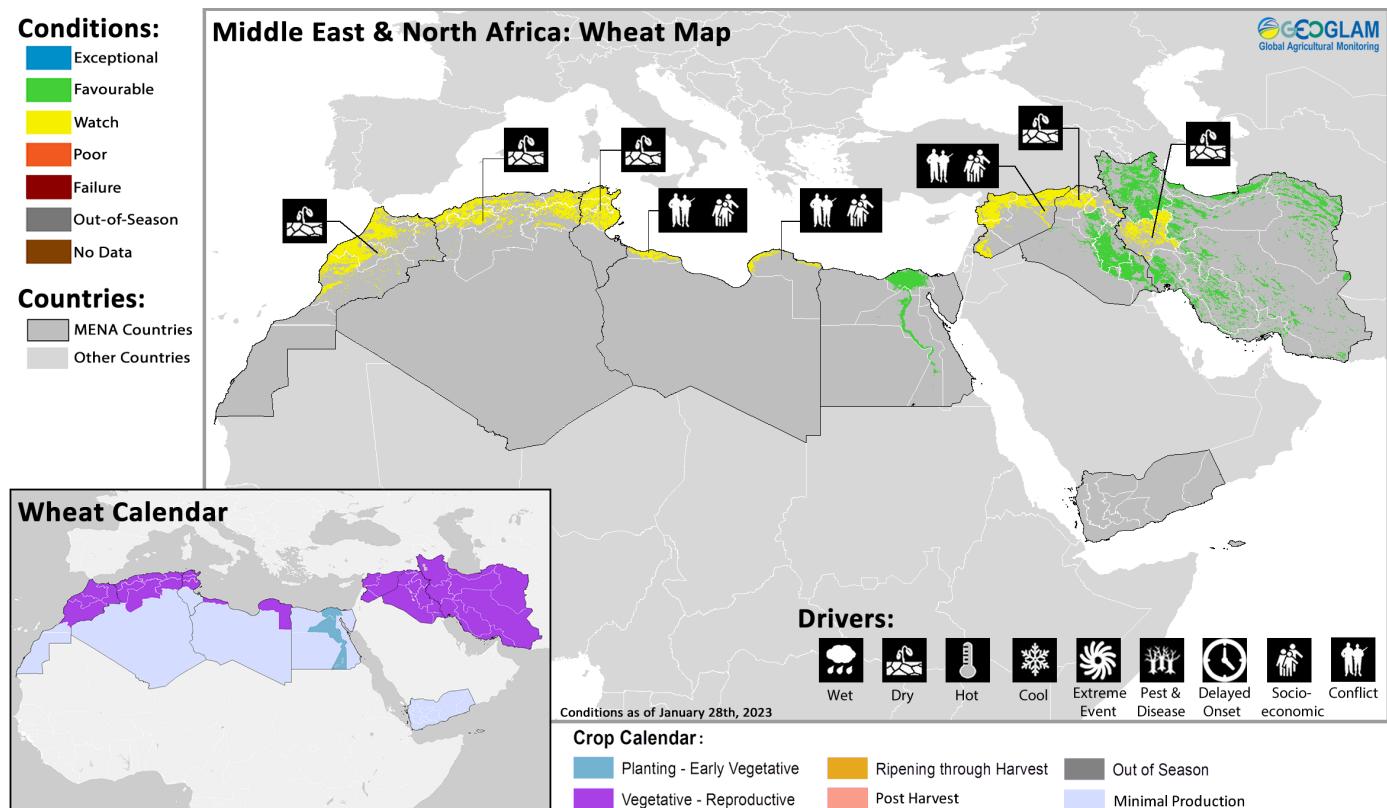


Crop condition map synthesizing crop conditions as of January 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Crops that are in other than favourable conditions are labeled on the map with their driver.**

Across the south of the subregion, harvesting of main season cereals finalized in **Guinea, Sierra Leone, Cameroon, and the Central African Republic**, and harvesting of second season cereals finalized in **Cote d'Ivoire, southern Ghana, southern Togo, southern Benin, and the northern half of Nigeria**. Along the Sahel, harvesting of main season cereals is complete or nearing completion in **Senegal, Guinea-Bissau, Mauritania, Mali, and Burkina Faso** while second season rice crops continue to develop in **Mauritania and Mali**. Agro-climatic conditions are generally favourable throughout the subregion, and yields are expected to be near-average except in areas impacted by ongoing conflict. Despite some localized dry spells and poor spatial distribution, the 2022/23 crop season in West Africa was overall marked by a surplus cumulative rainfall compared to the 1991-2020 average, favouring average to above-average yields in most parts of the region. However, excess flows of major regional watersheds resulted in heavy floods and localized crop loss in many regions, including parts of **Senegal, Mauritania, Mali, Niger, Nigeria, and Chad**. According to the FEWS NET Key Message Update from December 2022, total 2022/23 cereal production is forecast at about 76.4 million metric tons, an increase of seven percent compared to the previous year and six percent compared to the five-year average despite ongoing insecurity in the Sahel, the global fertilizer shortage relating to the Russo-Ukrainian conflict, and localized flooding impacts.

In **Mauritania**, the provision of seeds and other agricultural inputs for the cold off-season crops and sufficient dam and water reservoir levels suggest good production prospects. In **Nigeria**, conflict in the northwest and northcentral zones continues to escalate, and many of these areas were also impacted by recent flooding along the Niger and Benue rivers that resulted in displacement and farmland destruction. Widespread flooding in the 2022 rainy season damaged an estimated 676,000 hectares of farmlands, according to the National Emergency Management Agency. The flooding inflicted more damage to rice than on any other crop as rice is typically cultivated along riverbanks and under wetland fadama. However, rice output is still expected at near-normal levels due in part to a six percent increase in cultivated area compared to the previous year. As the waters recede in floodplains and riverine areas, households begin land preparation for the dry season. However, the high price of agricultural inputs and fuel for irrigation as well as low income from agricultural labour in the previous season is limiting household engagement in farming. Conversely, dry season crop production in the northeast is expected to increase compared to previous years due to an improvement in the security situation and resulting increased access to farmlands. In **Liberia**, paddy harvesting finalized in December under favourable conditions due to adequate rainfall amounts between June and October as well as the provision of subsidized seeds and fertilizer that benefitted crop plantings and yields. The 2022 aggregate production level is estimated at 288,000 tonnes and 10 percent above the five-year average, according to the FAO GIEWS Country Brief update from December 1st, 2022. In **Chad**, cereal harvests are expected to increase slightly despite flooding impacts, reduced field access due to poor road conditions and high transportation costs, and insecurity in the Lac region.

Middle East & North Africa



Crop condition map synthesizing wheat conditions as of January 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Crops that are in other than favourable conditions are labeled on the map with their driver.**

In the **Middle East and North Africa**, wheat is in vegetative stage for harvest from April. In North Africa, concern remains in **Morocco**, **Algeria**, and **Tunisia** due to continuing dry conditions. In **Libya**, conditions have improved from previous dry concerns; however, agricultural activities continue to be impacted by ongoing conflict and related socio-economic challenges. In **Morocco**, rainfall has been below-average since October, with the exception of the first two dekads of December, resulting in delayed crop growth and below-average biomass in most regions with the exception of Gharb and, to some extent, Chaouia. Dry conditions are forecast to persist through February (See Regional Outlook Pg. 10). In **Algeria**, total rainfall received since October is among the lowest since the 2001-2002 cropping season, particularly in west and eastern areas. Despite above-average temperatures, crop growth is delayed and biomass is below-average in most regions with the exception of Bordj Bou Arreridj and parts of Setif and Tiaret in the centre. In **Tunisia**, total rainfall received from the November through mid-January period is below-average (See Regional Outlook Pg. 10), and biomass is below-average in central areas. However, biomass is near to above-average in the main producing northern areas of Beja, Bizerte, and Jendouba which contribute more than 50 percent to the country's total production. In **Egypt**, harvesting of *Nili* season (Nile Flood) rice crops finalized in January under favourable conditions.

In the Middle East, conditions have been downgraded in northern **Iraq** and northwestern **Iran** due to low rainfall received. Elsewhere in **Iran** and **Iraq**, growing conditions remain favourable, and recent rainfall has improved vegetation conditions in **Syria**. In **Syria**, the main cereal producing areas of the north received good rainfall at the end of November, particularly in Hassakeh which received three times the average typical amounts, as well as above-average temperatures since November. As a result of the good rains, and despite below-average rainfall since early December mainly in Hassakeh and Aleppo, biomass of winter cereals sown in November and December is average to above-average. However, concern remains throughout the country due to ongoing conflict and related socio-economic challenges impacting agricultural activities. In **Iraq**, above-average rainfall in late November and late December in combination with mild temperatures since the start of the season have been favourable for recently sown crops, except in the northwest, including in the main producing governorate of Ninewa as well as in Dahuk where low rainfall since December has affected cereal growth. In **Iran**, crop biomass is average to above-average in most regions, except in the northwest, including Kermanshah and Hamedan, where rainfall has been below-average since November.

Regional Outlook: Below-average rains have been received across much of the region and seasonal deficits are expected to remain through the start of February

Rainfall from November 1st, 2022 to January 20th, 2023 was below-average in most western areas, including in Morocco, much of northern Algeria, Tunisia, and northwestern Libya (Figure 1-left). Severe deficits developed in Tunisia and portions of western Libya and central Morocco, northern Iraq, northern Iran, and Turkey, where locations received around half of typical amounts so far.

The prolonged nature of dry conditions in affected areas and the historically extreme low amounts in some of these regions are concerning. In western areas of North Africa, western Turkey, and portions of western Syria and northern Iran, the drier-than-average conditions began early in the season. Then, during a 30-day period from December 21st to January 20th, available data indicate that many western and northeastern locations received only 30 to 75 percent of typical rainfall amounts. Preliminary estimates suggest that November 1st to January 20th rainfall was [among the lowest](#) of the 42-year CHIRPS record, in Tunisia, Turkey, and northern Iran, and in other areas.

During January 21st to February 5th, wetter conditions are forecast. This would improve the situation in many deficit areas, but substantial seasonal deficits would likely remain (Figure 1-right). Climate models forecast increased chances for warmer-than-normal temperatures through April, but there is overall low agreement and weak signals for precipitation during the next several months.

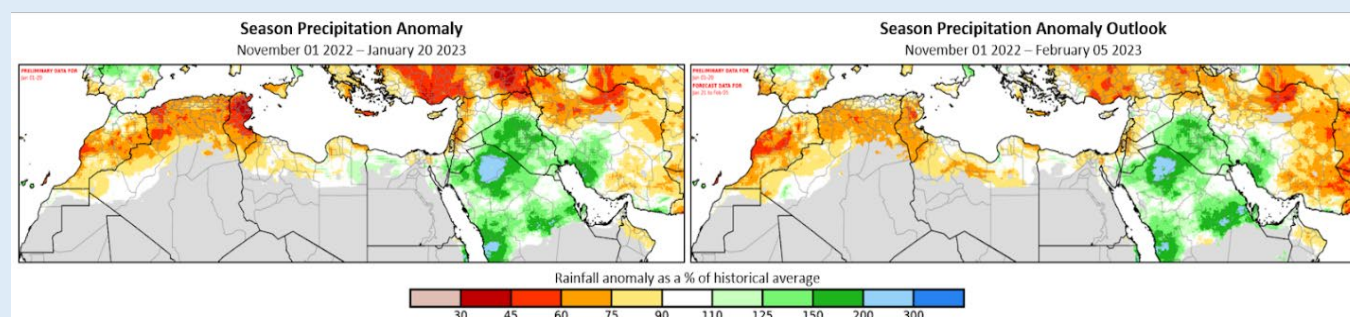
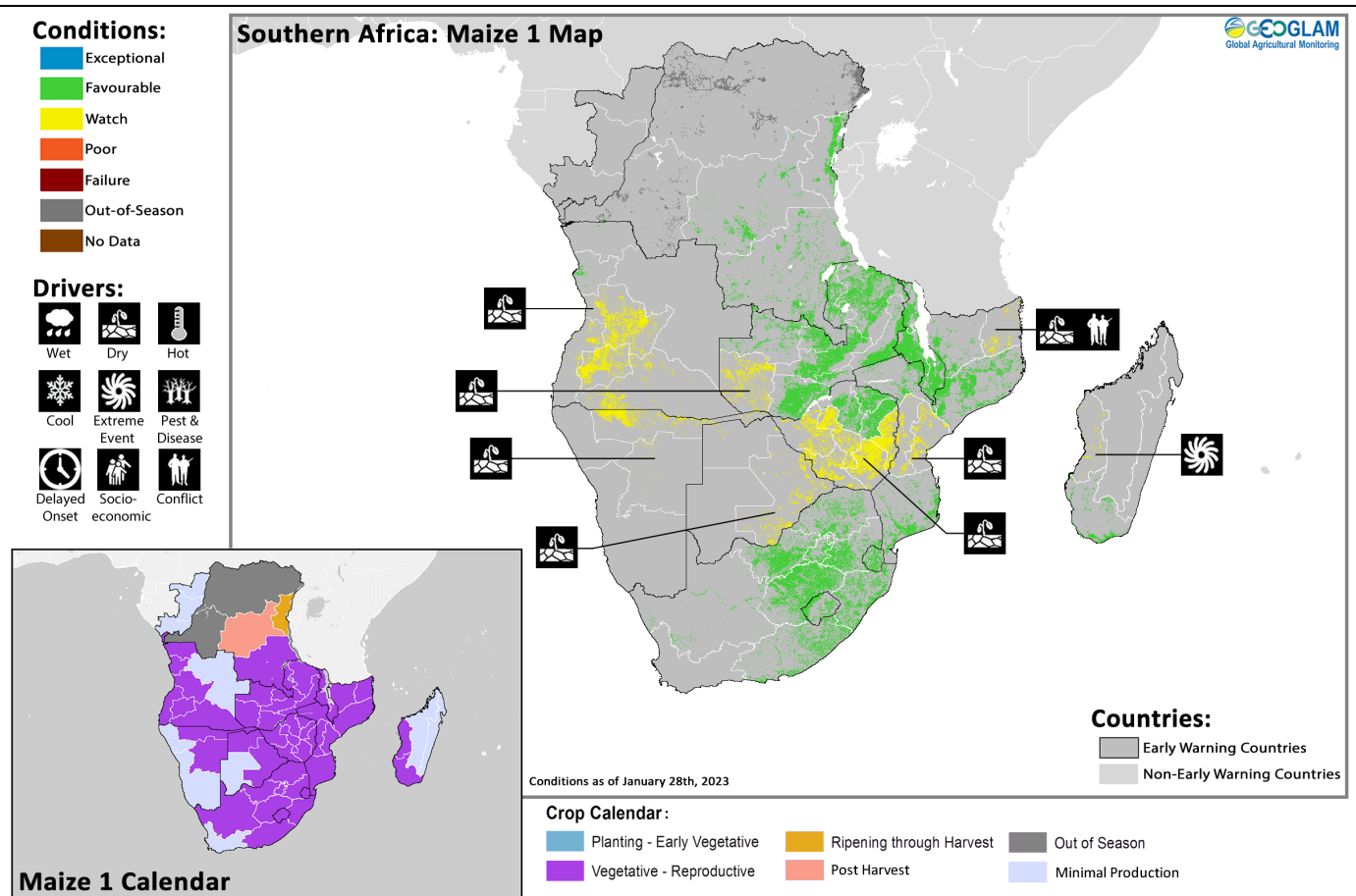


Figure 1. A seasonal rainfall anomaly and a seasonal rainfall anomaly outlook. Both panels are CHC Early Estimates, which compare current precipitation totals to the 1981-2021 CHIRPS average for respective accumulation periods. These show the percent of average precipitation for Nov. 1st 2022 to Jan. 20th 2023 (left), and for Nov. 1st 2022 to Feb. 5th 2023 (right). Both panels use CHIRPS Prelim for Jan. 1st to 20th 2023. The right panel also includes a CHIRPS-GEFS forecast for Jan. 21st - Feb. 5th 2023.

Southern Africa

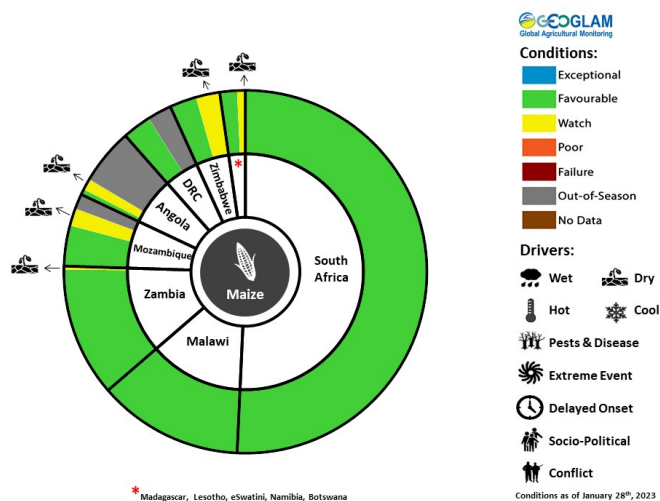


Crop condition map synthesizing Maize 1 conditions as of January 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Crops that are in other than favourable conditions are labeled on the map with their driver.**

Main season cereals are in vegetative to reproductive stage across the subregion for harvest from March, and overall conditions are mixed due to expanding dry areas following below-average rainfall over many regions from late December through mid-January. Dry and hot conditions are negatively impacting crops in some regions, and a delayed onset of rains in western areas has delayed planting and may negatively impact the 2023 harvest due to the limited growing window. Crop outcomes may be impacted in parts of central and southern **Angola**, northern **Namibia**, **Botswana**, western **Zambia**, **Zimbabwe**, north and central **Mozambique**, and north and eastern **Madagascar**. Additionally, low water levels in the Kariba dam are resulting in load shedding in **Zambia** and **Zimbabwe**, which could negatively impact irrigation activities. Furthermore, ongoing conflict continues to impact agricultural activities in Cabo Delgado region of northeastern **Mozambique**, and the passage of Tropical Storm Cheneso from northeastern to central-western **Madagascar** in mid-January may have resulted in crop damage. Elsewhere in the subregion, vegetation conditions are generally favourable with average to above-average totals for the October to mid-January period with large surpluses in **South Africa** (See Regional Outlook Pg. 13).

In **Angola**, there is concern across much of the country due to erratic and below-average rainfall amounts over the past two months, except in north and eastern areas as well as in Benguela provinces located on the western coast where rainfall amounts are near-average. While rainfall received from October to mid-January is below-average in most areas, the deficits are only 5 to 15 percent below-normal, and rainfall totals are higher than the same time the previous year in the southwest. Additionally, planted area is expected to be 30 percent higher than the previous season due to increased plantings in the north and central areas, according to the Ministry of Agriculture. In **Namibia**, below-average rainfall performance since the start of the season and above-average temperatures have led to a deterioration of vegetation conditions, with soil moisture deficits likely to have negative impacts on agricultural outcomes. In **Zambia**, despite erratic rainfall over the past few months as well as below-average rainfall from late November through December, seasonal totals are mostly average owing to improved rainfall in January, except in the southwest where dry conditions remain. However, rising water levels have resulted in flooding along the Zambezi and Kafue Rivers. Additionally, low application of agricultural inputs due to high prices and supply disruptions may negatively impact yields. In **Zimbabwe**, erratic and suppressed rainfall has resulted in vegetation declines in some areas. In January, prolonged dry spells affected crops in the south, east, and western areas causing moisture stress, which may lead to a reduction in cropped areas. In the north, normal to above-normal rainfall improved crop conditions, but limited access to fertilizer may reduce potential yields. In **Botswana**, poor rainfall performance in December and January has resulted in below-average seasonal rainfall totals, with some areas receiving only 45 to 60 percent of average October to January rainfall. Above-average temperatures in January have also exacerbated moisture deficits,

particularly in eastern areas. In **South Africa**, widespread above-normal rainfall from mid-October to late December was generally conducive for planting and development. Dry conditions during January could have a negative impact on crops, but widespread rain expected during the next week will likely maintain favourable growing conditions (See Regional Outlook Pg. 13). In **Lesotho**, a timely start to the seasonal rains in October was followed by above-average cumulative rainfall amounts through the end of December, benefitting crop emergence. While January brought dry and hot weather conditions, forecast average to above-average rainfall through April 2023 is likely to further benefit crop development (See Regional Outlook Pg. 13). However, overall production may be constrained due to a reduction in plantings as a result of high fertilizer, seed, and fuel prices, and yields may also be affected. In **Mozambique**, early-season dryness is impacting sowing activities and early crop emergence in the northern provinces of Cabo Delgado and Nampula as well as the central provinces of Manica and Sofala. This is particularly concerning for coastal areas that have experienced dry conditions from late December into early to mid-January. While vegetation conditions are near-normal in southern regions, including areas of northern Gaza and Inhambane, recent below-average rainfall in December as well as forecasts of continued dry conditions may impact at their critical development period (See Regional Outlook Pg. 13). Conditions may improve with recent rainfall received in late January, though there are also concerns of potential flash floods and waterlogging from the passage of Tropical Storm Cheneso. Additionally, ongoing conflict in Cabo Delgado is expected to result in a low level of plantings. While growing conditions are currently favourable in **Malawi**, late and inconsistent rainfall combined with reduced fertilizer use may impact 2023 maize production. The government plans to provide subsidized fertilizer to 2.5 million farmers (less than last year), and deliveries have been delayed with only 30 percent received so far. The price of subsidized fertilizer has also doubled, increasing economic constraints for farmers. In **Madagascar**, recent below-average rainfall has resulted in abnormal dryness in the north and east as of mid-January. However, Tropical Storm Cheneso made landfall along the northeastern coast on January 19th and then headed southwest across the country. Heavy rain was reported in northern areas with risks of flooding and landslides, and crop damage may have occurred in areas along the storm path. Additionally, forecast above-average rainfall for the December to March period in western and southern areas of the country is expected to benefit crop development, particularly in southern areas that have experienced multiple years of drought (See Regional Outlook Pg. 13). However, production outcomes will still be constrained by high prices of inputs and low-income levels. In the **Democratic Republic of the Congo**, planting and development of main season cereals and second season maize continues under favourable conditions. However, above-average rainfall in late November and again at the start of January has resulted in flooding in South Kivu Provinces located in the centre-east of the country. Additionally, heavy rainfall in recent weeks resulted in flooding along the Congo River and its tributaries located along the western border of the country (See Regional Outlook Pg. 13).



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Regional Outlook: Mixed rainfall performance across parts of the region to be followed by warmer and drier conditions across the central and southern areas in the next two weeks.

Rainfall from [late December to mid-January](#) was well below-average across much of southern Africa, including eastern Namibia, Botswana, north-central South Africa, Zimbabwe, Mozambique, and Madagascar. Elsewhere in the region, rainfall was average to above-average, with large surpluses (> 150% of average) in southwestern Angola, northwestern Namibia, southern South Africa, northern Zambia, northern Malawi, and southern Democratic Republic of the Congo. On January 19th and 20th, Tropical Storm Cheneso brought heavy rains and damaging floods to northeastern Madagascar.

Seasonal rainfall totals (Figure 1-left) largely mirror the recent conditions, with large October-to-January rainfall deficits in Angola, eastern Namibia, central and southern Zimbabwe, Botswana, northwestern Mozambique, and northern and eastern Madagascar. Seasonal rainfall totals are average to above-average elsewhere in the region, with large surpluses in southern South Africa.

Dry spells during December and January are concerning. These likely coincided with moisture-sensitive stages of maize growth in some of the affected areas. In southern Zimbabwe, southern Mozambique, and South Africa, abnormally high daytime temperatures may have additionally increased risks of heat and moisture stress.

Short-term forecasts indicate [warmer](#) and drier (Figure 1-middle) conditions throughout central and southern areas, including Zimbabwe, Mozambique, Malawi, Botswana, South Africa, and northern Namibia. Longer-range forecasts for February to April 2023 show above-normal rainfall conditions are likely in Namibia, Botswana, South Africa, and Madagascar, although the signal is fairly weak (~40%; Figure 1-right).

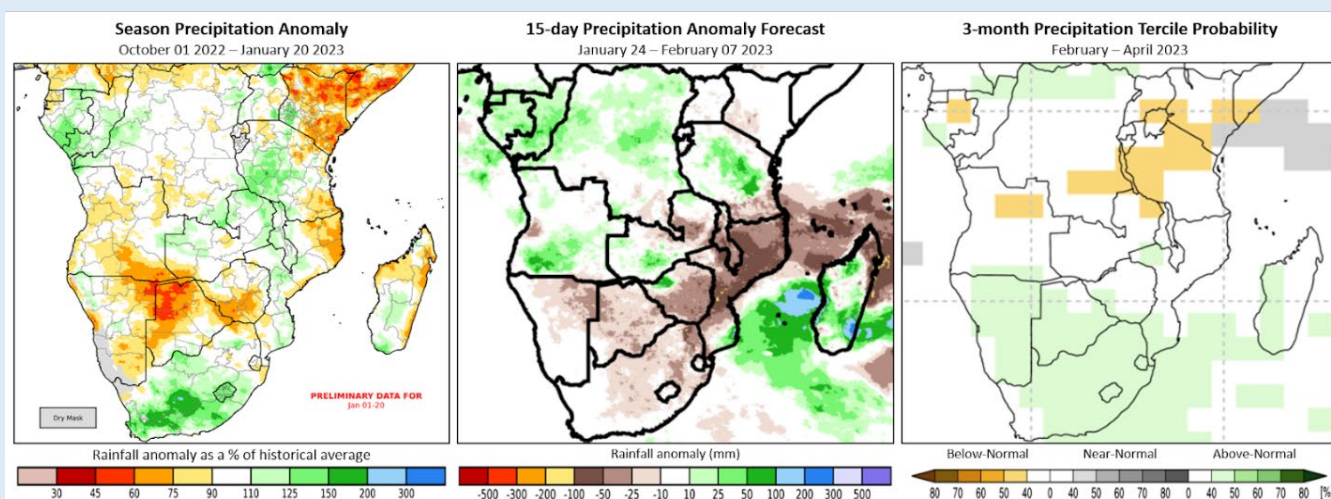
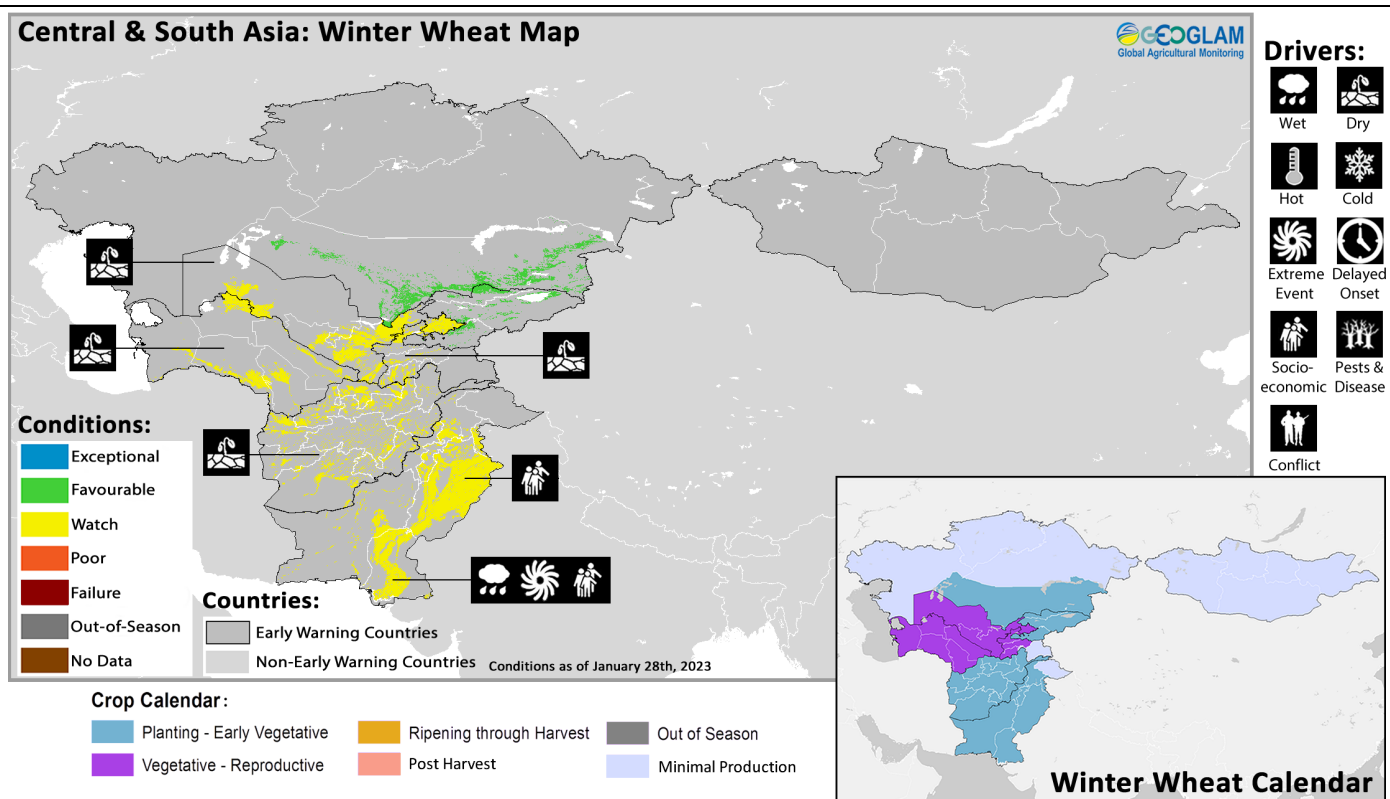


Figure 1. A seasonal rainfall anomaly, a 15-day rainfall anomaly forecast, and a 3-month rainfall probability forecast. The left panel shows the seasonal rainfall performance, represented as a percent of the 1981-2021 CHIRPS historical average, for Oct. 1st, 2022 to Jan 20th, 2022. The middle panel shows a 15-day CHIRPS-GEFS (unbiased GEFS) forecast from Jan 24th, with values indicating how the forecast compares to the CHIRPS average for this period. The right panel is a WMO probabilistic forecast for February 2023 to April 2023 precipitation, based on models initialized in January. From the [WMO Lead Centre Long-Range Forecast Multi-Model Ensemble](#). Source: UCSB Climate Hazards Center

Central & South Asia



Crop condition map synthesizing Winter Wheat conditions as of January 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Crops that are in other than favourable conditions are labeled on the map with their driver.**

In Central and South Asia, planting and development of winter wheat continues in southern **Kazakhstan, Uzbekistan, Turkmenistan, Kyrgyzstan, Tajikistan, Afghanistan, and Pakistan** under mixed conditions. Expanding dry areas are causing concern in **Uzbekistan, Turkmenistan, Tajikistan, and Afghanistan**. Despite improved January precipitation in some areas, seasonal forecasts indicate chances of below-normal precipitation in areas of **Uzbekistan, Turkmenistan, Tajikistan, northern Afghanistan, and northern Pakistan** through April (See Regional Outlook Pg. 15). Concern also remains in **Pakistan** due to ongoing impacts of unprecedented 2022 flooding on *Rabi* wheat crops. Elsewhere, growing conditions remain favourable.

In south and southeastern **Kazakhstan** where winter wheat is grown, cumulative precipitation from October through mid-January was above-average (See Regional Outlook Pg. 15). Snow cover is adequate in the west while lack of snow cover in areas of Almaty, Zhambyl, Zhetisu, and Turkestan may affect crop wintering during severe frosts. In the main producing Khatlon Region in southwestern **Tajikistan**, below-average precipitation from September to early October was followed by well above-average precipitation amounts, negatively impacting late planting activities. In **Afghanistan**, total planted area is expected to be higher than the previous season but still below-average, according to the FEWS NET Seasonal Monitor from December 2022. October to December precipitation was below-average along the west and central regions and southern parts of the central highlands, though some isolated parts of the country received average to above-average precipitation since early January. As of late January, some southern basins had above-average snow water volumes while all other areas had below-average snow water volumes. Cumulative precipitation from October to February is forecast to be below-average with some scattered areas receiving average levels (See Regional Outlook Pg. 15). Temperatures are expected to be above-average for the January through March 2023 period, which could negatively impact sufficient snowpack development, potentially reducing water availability for crop use during the spring and summer months. In **Pakistan**, harvesting of *Kharif* (summer) season rice and maize finalized under mixed conditions. Paddy production for 2022 is estimated by FAO to have decreased to 12 million tonnes, a 15 percent decline compared with the 2021 official estimate of 13.98 million tonnes, following the damages caused by recurrent floods during the monsoon season. In the most affected areas of Sindh and Balochistan, flood waters have yet to recede and may remain for several months. Early harvesting of the 2022 *Kharif* crops allowed a timely planting of the 2023 *Rabi* wheat crop. In Sindh and Balochistan, standing waters following the above-average rains and recurrent floods between mid-June and late August delayed planting operations in low-lying areas, and the area planted is expected to have declined in some of these regions. Additionally, limited access to seed and fertilizer as well as flood damage to agricultural machinery and irrigation infrastructure are impacting planting progress throughout the country.

Regional Outlook: Precipitation deficits present across parts of the region and expected to worsen through the start of February.

Precipitation from October 1st, 2022 to January 20th, 2023 show mixed season-to-date performance across the region (Figure 1-left). Precipitation was above-average in eastern Kazakhstan, eastern Uzbekistan, western Tajikistan, and Kyrgyzstan. Precipitation was moderately below-average in many western and southern areas and in eastern Tajikistan. Most of the affected areas received between 75 and 90% of average precipitation amounts, with larger deficits estimated at some locations. As of January 24th, snow water equivalent was below-average in portions of central and eastern Afghanistan, eastern Tajikistan, and southern and eastern Kyrgyzstan, due to the recurrent dry conditions.

Precipitation deficits will likely worsen during the next two weeks, based on forecast amounts from January 21st (Figure 1-middle). Seasonal climate forecasts indicate increased chances for below-normal precipitation in some areas, including Turkmenistan, northern Afghanistan, northern Pakistan, southern Uzbekistan, and southern Tajikistan (Figure 1-right). Climate models are not providing a confident outlook for regional precipitation during the next several months, in line with the forecast transition to ENSO neutral. These have forecast a subdued regional response to La Niña conditions since December.

In Afghanistan, precipitation from October 1st to January 20th was average to below-average across most areas (Figure 1-left). Precipitation has been mixed through the season, with average to above-average amounts early in the season, mainly below-average amounts during late November and December, and above-average amounts during early January. Colder and drier-than-average conditions have been present in recent weeks and are forecast into early February.

If forecast conditions through February 5, 2023 materialize, precipitation deficits in Afghanistan would intensify, particularly in central, western, and southern areas (Figure 1-middle). Concerns remain for hydrologic conditions in Afghanistan. Snow water equivalent, for the region encompassing Afghanistan and surrounding areas, is overall lower than last year at this time, and the forecast continued dry spell could limit snow accumulations in some high elevation areas that are currently above-average. While snowpack should increase during the next several months, above-average precipitation would be needed at this point to make up for current deficits. Further, if the precipitation deficits persist till the end of February then land preparation for spring wheat cultivation would be adversely affected. Forecast above-average February-to-April temperatures may also contribute to a lower snowpack.

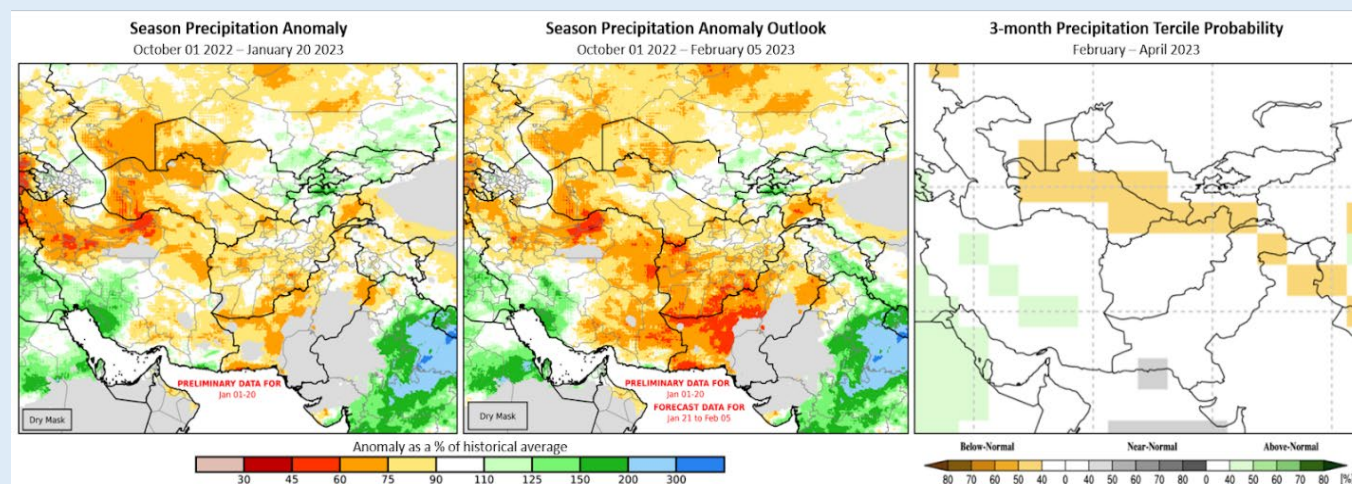
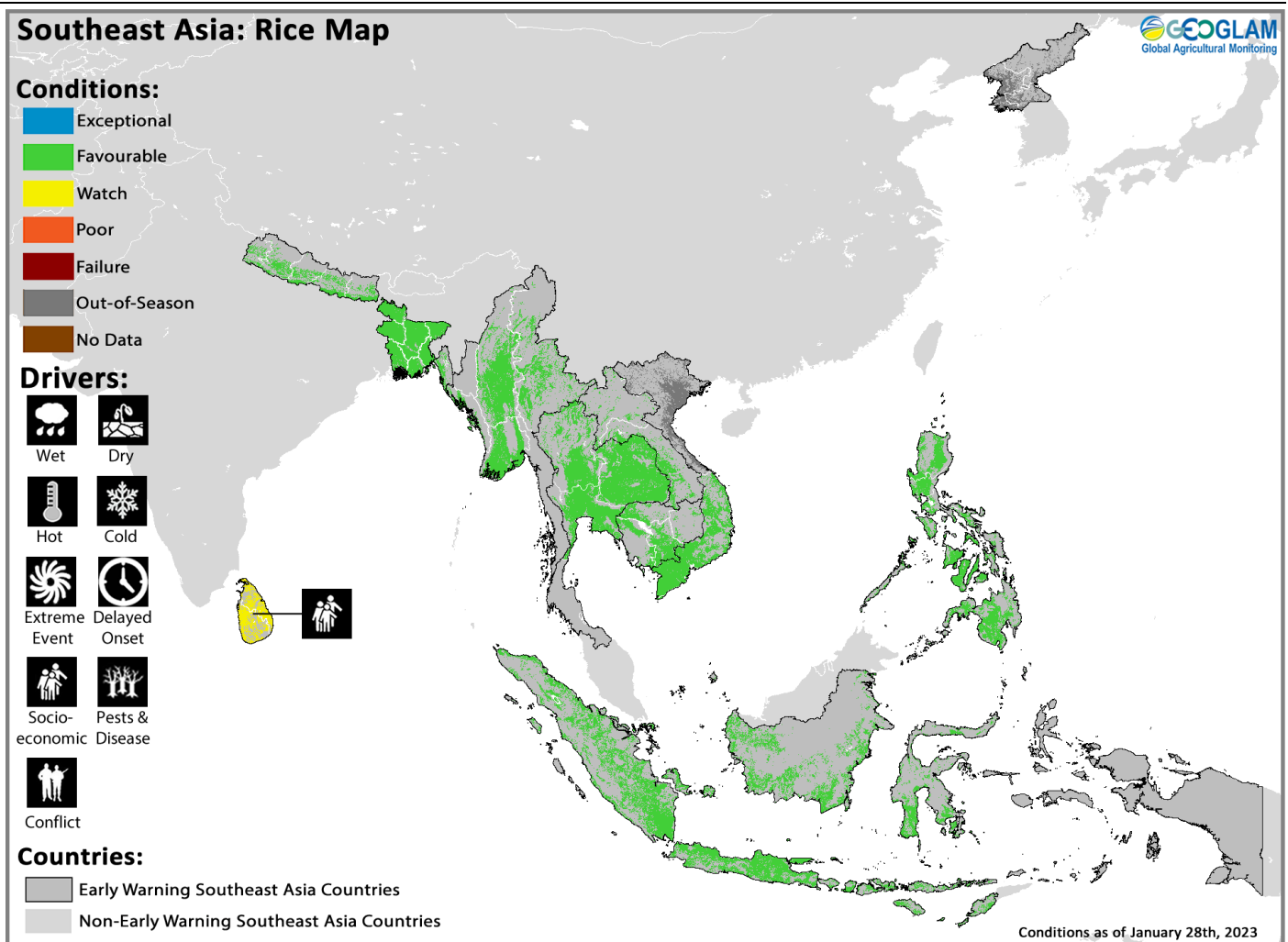


Figure 1. A season rainfall anomaly, season rainfall anomaly outlook, and a 3-month precipitation probabilistic forecast. The left and middle panels are CHC Early Estimates, which compare current precipitation totals to the 1981-2021 CHIRPS average for respective accumulation periods. These show the percent of average precipitation for Oct. 1st 2022 to Jan. 20th 2023 (left), and for Oct. 1st 2022 to Feb. 5th 2023 (middle). Both panels use CHIRPS Prelim for Jan. 1st to 20th 2023. The middle panel also includes a CHIRPS-GEFS forecast for Jan. 21st - Feb. 5th 2023. The right panel is a WMO probabilistic forecast for February to April 2023 precipitation, based on models initialized in January. From [WMO Lead Centre Long-Range Forecast Multi-Model Ensemble](#).

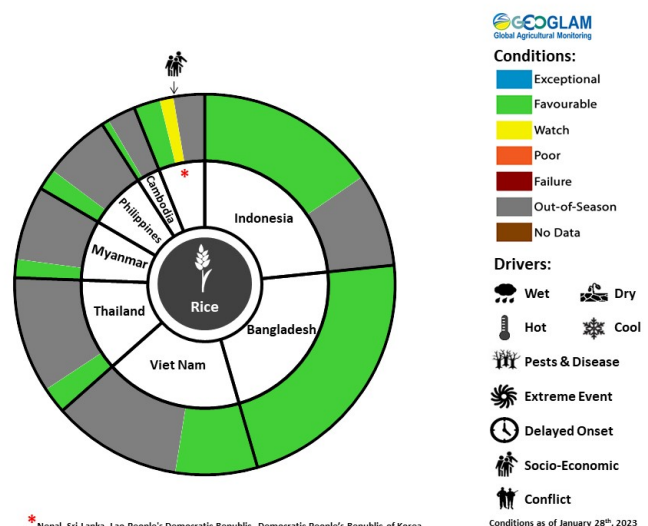
Source: Climate Hazards Center

Southeast Asia



Crop condition map synthesizing rice conditions as of January 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Crops that are in other than favourable conditions are labeled on the map with their driver.**

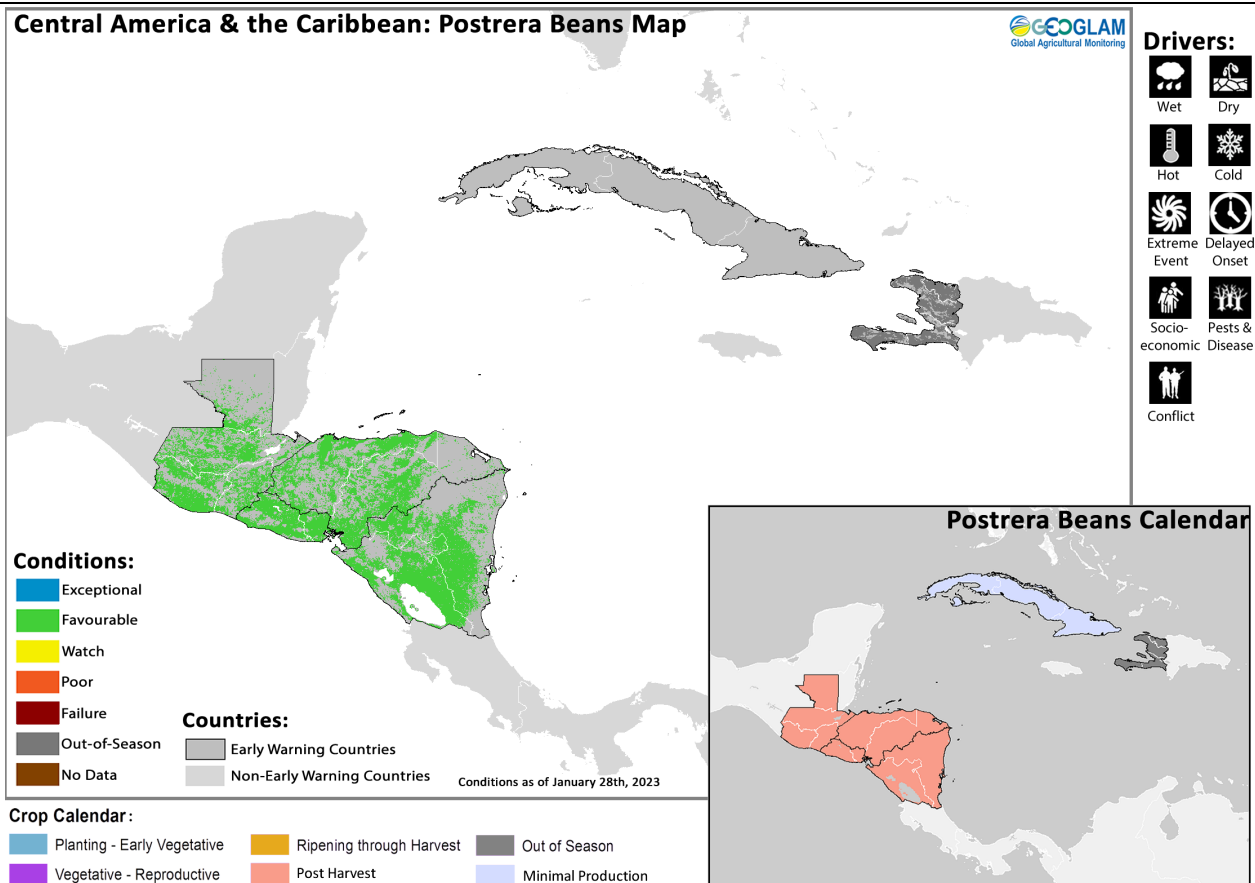
In Southeast Asia, harvesting of wet-season rice mostly finalized in December under generally normal conditions despite minor damages due to typhoons and heavy rains during the harvest season, except in the Northeastern region of **Thailand** where production was impacted by flood damage during October. Planting of dry-season rice has begun in all countries and regions except northern **Viet Nam**. Planted area is expected to increase this season due to sufficient irrigation water supply. However, high global prices of agricultural inputs may impact planting activities and crop development. Crops are currently in the seeding to young panicle forming stage with favourable weather conditions. In **Indonesia**, harvesting of dry-season rice finalized in December under favourable conditions with a total harvested area of 4.4 million hectares, which is 0.6 percent higher than the previous year, and improved yields from the last dry season due to sufficient precipitation received. Sowing of wet-season rice continues into the fourth month. Total planted area has reached 5.4 million hectares, which is 17.4 percent higher than the previous wet-season due to plentiful rainfall from late December to mid-January. Crops are developing under favourable conditions due to sufficient irrigation water supply, particularly in the north, and harvesting of earlier sown rice is beginning. In the **Philippines**, wet-season rice planted from July to August 2022 was fully harvested by December under favourable conditions. Production was about 7.31 million metric tons, a 1.3 percent decrease compared to the same period of the previous year due to the occurrence of heavy rains and



For detailed description of the pie chart please see description box on Pg. 19.

strong winds brought by the passage of several typhoons throughout the season. Dry-season rice sown during November and December 2022 is in the tillering to young panicle-forming stage. A combination of weather systems since early January, including low-pressure areas, the northeast monsoon, and shear line storms, have resulted in flooding, landslides, and other severe weather-related events across the country. However, no crop damage was reported, and growing conditions are generally favourable with near to above-normal rainfall conditions. In **Thailand**, harvesting of wet-season rice finalized in December under mixed conditions as production in the Northeastern region was impacted by flood damage during October. Conversely, production in the Northern and Central regions was near-normal as some areas were able to harvest prior to the flooding, and non-affected areas benefitted from the increased rainfall. Overall, wet-season rice production decreased less than one percent compared to the previous year. Dry-season rice is in the tillering stage under favourable conditions. An increase in the total sown area compared to last year is expected due to enough irrigation water. However, reduced market prices for rice as well as the high price of fertilizers and pesticides will limit the planted area as some farmers will change their fields to crops that require fewer agricultural inputs. In northern **Viet Nam**, harvesting of wet-season rice finalized in December under favourable conditions. The average yield is estimated at 5.31 tons per hectare, slightly higher than the previous year due to favourable weather conditions during the growing season. In the south, harvesting of the other wet-season rice (autumn-winter rice and seasonal rice) continued in December with yield forecasts higher than the previous year due to good growing conditions. Additionally, sowing of dry-season rice (winter-spring rice) is ongoing in the South at a faster pace than last year due to favourable weather. The current sown area is 1.2 million hectares, including 1.14 million hectares in the Mekong River Delta. In **Laos**, harvesting of wet-season rice mostly finalized in December under favourable conditions. In lowland areas, the final harvested area is estimated at around 766 thousand hectares, and total production is expected to be 3.1 million tons. In upland areas, the final harvested area is around 92 thousand hectares, and the production is 187 thousand tons, which is slightly increased compared to last year. Planting of dry-season rice began in January with good weather and sufficient irrigation water supply. Planting progress has reached 14 percent of the national planting plan of approximately 95 thousand hectares. The 2022/23 dry-season rice yield is expected to be 4.7 tons per hectare, and the production is expected to be around 450 thousand tons. In **Myanmar**, harvesting of wet-season rice continued in December with a yield of 3.9 tons per hectare, similar to the previous year. Planting of dry-season rice continues under favourable conditions with most crops now in the early vegetative growth stage. Planting progress has reached over 472 thousand hectares, accounting for 44 percent of the national plan of 1.06 million hectares, which is similar to last year's progress. However, planted area may increase compared to the previous year due to improved availability of irrigation water and favourable weather conditions. In **Cambodia**, harvesting of wet-season rice continued in December with an estimated yield of 3.3 tons per hectare, slightly decreased compared to the previous year. Planting of dry-season rice has reached 118 percent of the national plan of 576 thousand hectares, and crops are now in the tillering to maturity stage under favourable conditions with sufficient irrigation water supply and available sunlight. In **Sri Lanka**, *Maha* season rice and maize crops are in vegetative to reproductive stage with favourable agro-climatic conditions and above-average planted area. However, concern remains due to agrochemical access constraints which are expected to negatively impact yields. In **Nepal**, harvesting of rice crops finalized under favourable conditions, and production is expected to be slightly above-average reflecting conducive weather conditions and adequate agricultural input supplies. Wheat crops are in vegetative to reproductive stage under favourable conditions for harvest from March, but high prices of fertilizer and pesticides may affect yields in some areas. In **Bangladesh**, harvesting of *Aman* season rice crops, which make up 35 to 40 percent of total rice production and are mostly rainfed, finalized under favourable conditions with slightly above average production expected. Planting of *Boro* season rice crops, which make up 55 percent of annual output and are mostly irrigated, is underway for harvest from April, and planting conditions remain favourable.

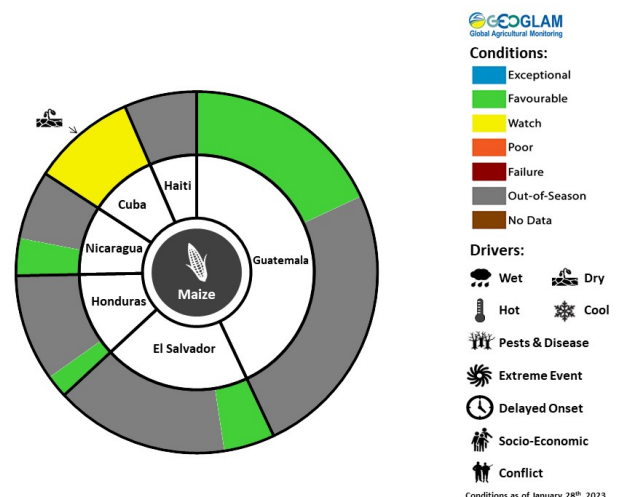
Central America & Caribbean



Crop condition map synthesizing Postrera season bean conditions as of January 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Conditions that are other than favourable are labeled on the map with their driver.**

In Central America, harvesting of *Segunda/Postrera* season cereals is complete or nearing completion in **Nicaragua, El Salvador, Guatemala, and Honduras** under favourable conditions despite previous storm damage in **El Salvador** and **Guatemala**, below-average rains since 2022 in **Nicaragua** and **Guatemala**, and localized areas of dryness in **El Salvador**.

In **Nicaragua**, *Segunda/Postrera* maize and bean yields are expected to be near-average despite below-average precipitation since December, especially in the key bean-producing northern areas. *Apante* season bean crops are now in vegetative to reproductive stage for harvest from March. While below-average rainfall has been observed over much of the country since December, residual humidity of the soils due to rains received at the end of the *Postrera* season has resulted in average to slightly above-average soil moisture across the country with positive effects on crop development. In this regard, the Ministry of Agriculture forecasts near-normal crop outcomes for the *Apante* season. In **Honduras**, crop conditions are near-average, including in the key bean-producing departments of El Paraíso, Olancho, and Comayagua. Despite near-average yields in **Guatemala**, subsistence households face lower than normal harvests as the high prices of agricultural inputs led to reduced plantings and fertilizer use. In **Haiti**, second season rice and *Hiver* season bean crops are in vegetative to reproductive stage for harvest from February, and crops are unlikely to recover from persistent dry conditions since the last quarter of 2022. However, there are some areas of near-average vegetation in localized areas of the Ouest department. Dry conditions and high temperatures prior to the start of the *Printemps* season could have negative implications for planting and crop development in March. In **Cuba**, planting of 2023 main season maize and rice crops is underway with concern for developing dry conditions. Cumulative precipitation since October has been limited, especially in the central region, and has contributed to below-average conditions of germinating crops.



For detailed description of the pie chart please see description box on Pg.19.

Pie Chart Description: Each slice represents a country's share of total regional production. The proportion within each national slice is colored according to the crop conditions within a specific growing area; grey indicates that the respective area is out of season. Sections within each slice are weighted by the sub-national production statistics (5-year average) of the respective country. The section within each national slice also accounts for multiple cropping seasons (i.e. spring and winter wheat) and are a result of combining totals from multiple seasons to represent the total yearly national production. When conditions are other than favourable icons are added that provide information on the key climatic drivers affecting conditions.

Information on crop conditions in the main production and export countries can be found in the *Crop Monitor for AMIS*, published February 2nd, 2023.

Appendix

Crop Conditions:

Exceptional: Conditions are much better than average* at time of reporting. This label is only used during the grain-filling through harvest stages.

Favourable: Conditions range from slightly lower to slightly better than average* at reporting time.

Watch: Conditions are not far from average* but there is a potential risk to final production. The crop can still recover to average or near-average conditions if the ground situation improves. This label is only used during the planting-early vegetative and the vegetative-reproductive stages.

Poor: Crop conditions are well below-average. Crop yields are likely to be 10-25% below-average. This is used when crops are stunted and are not likely to recover, and impact on production is likely.

Failure: Crop conditions are extremely poor. Crop yields are likely to be 25% or more below-average.

Out of Season: Crops are not currently planted or in development during this time.

No Data: No reliable source of data is available at this time.

"Average" refers to the average conditions over the past 5 years.

Note: In areas where conflict is a driver of crop condition, crop conditions are compared to the pre-conflict average rather than the average conditions over the past 5 years. In areas where conflict is protracted and based on expert analysis on a case by case basis, crop conditions will be compared to the average conditions over the past five years.

Drivers:

These represent the key climatic drivers that are having an impact on crop condition status. They result in production impacts and can act as either positive or negative drivers of crop conditions.

Wet: Higher than average wetness.

Dry: Drier than average.

Hot: Hotter than average.

Cool: Cooler than average or risk of frost damage.

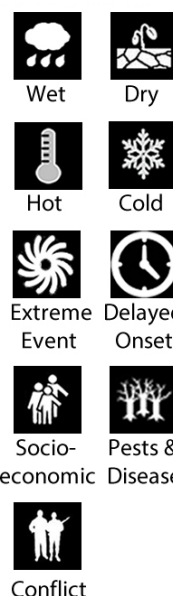
Extreme Events: This is a catch-all for all other climate risks (i.e. hurricane, typhoon, frost, hail, winterkill, wind damage, etc.)

Delayed-Onset: Late start of the season.

Pest & Disease: Destructive insects, birds, animals, or plant disease.

Socio-economic: Social or economic factors that impact crop conditions (i.e. policy changes, agricultural subsidies, government intervention, etc.)

Conflict: Armed conflict or civil unrest that is preventing the planting, working, or harvesting of the fields by the farmers.



Crop Season Nomenclature:

In countries that contain multiple cropping seasons for the same crop, the following charts identifies the national season name associated with each crop season within the Crop Monitor for Early Warning.

MENA				
Country	Crop	Season 1 Name	Season 2 Name	Season 3 Name
Egypt	Rice	Summer-planted	Nili season (Nile Flood)	

East Africa				
Country	Crop	Season 1 Name	Season 2 Name	Season 3 Name
Burundi	Maize	Season B	Season A	
Ethiopia	Maize	Meher Season (long rains)	Belg Season (short rains)	
Kenya	Maize	Long Rains	Short Rains	
Somalia	Maize	Gu Season	Deyr Season	
Somalia	Sorghum	Gu Season	Deyr Season	
Uganda	Maize	First Season	Second Season	
United Republic of Tanzania	Maize	Long Rains	Short Rains	
United Republic of Tanzania	Sorghum	Long Rains	Short Rains	

West Africa				
Country	Crop	Season 1 Name	Season 2 Name	Season 3 Name
Benin	Maize	Main season	Second season	
Cameroon	Maize	Main season	Second season	
Cote d'Ivoire	Maize	Main season	Second season	
Ghana	Maize	Main season	Second season	
Mauritania	Rice	Main season	Off-season	
Nigeria	Maize	Main season	Short-season	
Nigeria	Rice	Main season	Off-season	
Togo	Maize	Main season	Second season	

Southern Africa				
Country	Crop	Season 1 Name	Season 2 Name	Season 3 Name
Democratic Republic of the Congo	Maize	Main season	Second season	
Mozambique	Maize	Main season	Second season	

Southeast Asia				
Country	Crop	Season 1 Name	Season 2 Name	Season 3 Name
Bangladesh	Rice	Boro	Aman	
Cambodia	Rice	Wet season	Dry season	
Indonesia	Rice	Main season	Second season	
Lao People's Democratic Republic	Rice	Wet season	Dry season	
Myanmar	Rice	Wet season	Dry season	
Philippines	Rice	Wet season	Dry season	
Sri Lanka	Rice	Maha	Yala	
Thailand	Rice	Wet season	Dry season	
Viet Nam	Rice	Wet season (Autumn)	Dry season (Winter/Spring)	

Central & South Asia				
Country	Crop	Season 1 Name	Season 2 Name	Season 3 Name
Afghanistan	Wheat	Winter-planted	Spring-planted	
Kazakhstan	Wheat	Winter-planted	Spring-planted	
Kyrgyzstan	Wheat	Winter-planted	Spring-planted	
Tajikistan	Wheat	Winter-planted	Spring-planted	

Crop Season Nomenclature:


In countries that contain multiple cropping seasons for the same crop, the following charts identifies the national season name associated with each crop season within the Crop Monitor for Early Warning.

Central America & Caribbean				
Country	Crop	Season 1 Name	Season 2 Name	Season 3 Name
Cuba	Rice	Main season	Second season	
El Salvador	Beans	Primera	Postrera	
El Salvador	Maize	Primera	Segunda	
Guatemala	Beans	Primera	Postrera	Apante
Guatemala	Maize	Primera	Segunda	
Haiti	Maize	Main season	Second season	
Honduras	Beans	Primera	Postrera	
Honduras	Maize	Primera	Segunda	
Nicaragua	Beans	Primera	Postrera	Apante



GEOGLAM

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Contributing partners



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