

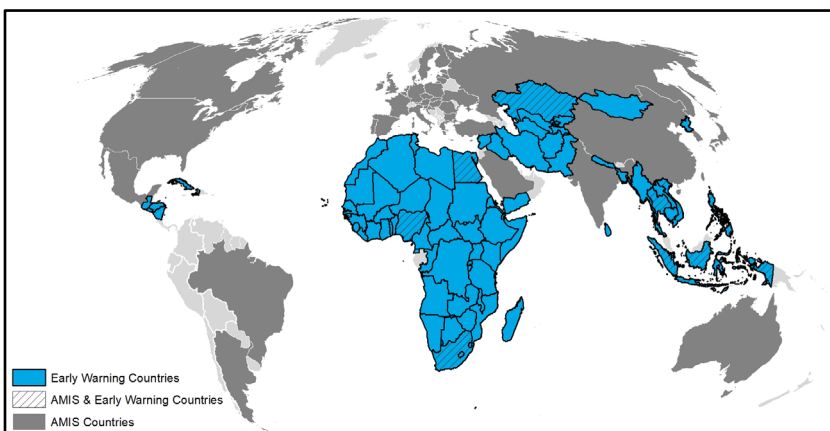


Crop Monitor

EARLY WARNING

Overview:

In **East Africa**, *Belg* planting continues in Ethiopia with concern due to persisting dryness. Across the south of the region, planting of main season cereals is ramping up with concern due to delayed rainfall onset and early season dry conditions. However, most areas are expected to experience above-average rains and high temperatures through June. In **West Africa**, land preparation and planting activities are underway in areas south of the Sahel. Current planting conditions are favourable in areas that are not currently impacted by insecurity. In the **Middle East and North Africa**, there is ongoing concern for dry weather outcomes across western parts of North Africa for the third year in a row while the Middle East has generally experienced adequate agro-climatic conditions throughout the season (See Regional Outlook Pg. 9). In **Southern Africa**, much of the region has experienced persistent El Niño-induced dry conditions and poor rainfall distribution which are expected to result in below-average to failed yield outcomes in many areas (See Special Alert Pg. 13). In **Central and South Asia**, winter wheat continues to develop under mixed conditions with increased rains resulting in slight vegetation improvements in southern Kazakhstan and Tajikistan. In **Southeast Asia**, conditions are favourable for wet-season rice in the south. Conversely, there is expanding concern in parts of Thailand, Cambodia, Viet Nam, and the Philippines due to drought conditions as well as impacts from saltwater intrusion in Viet Nam. In **Central America and the Caribbean**, second season rice conditions have been downgraded to watch in northern Honduras due to recent dry and hot weather. In Central America, land preparation is underway for the *Primera* season, and rains are expected to be irregular for the start of the season.



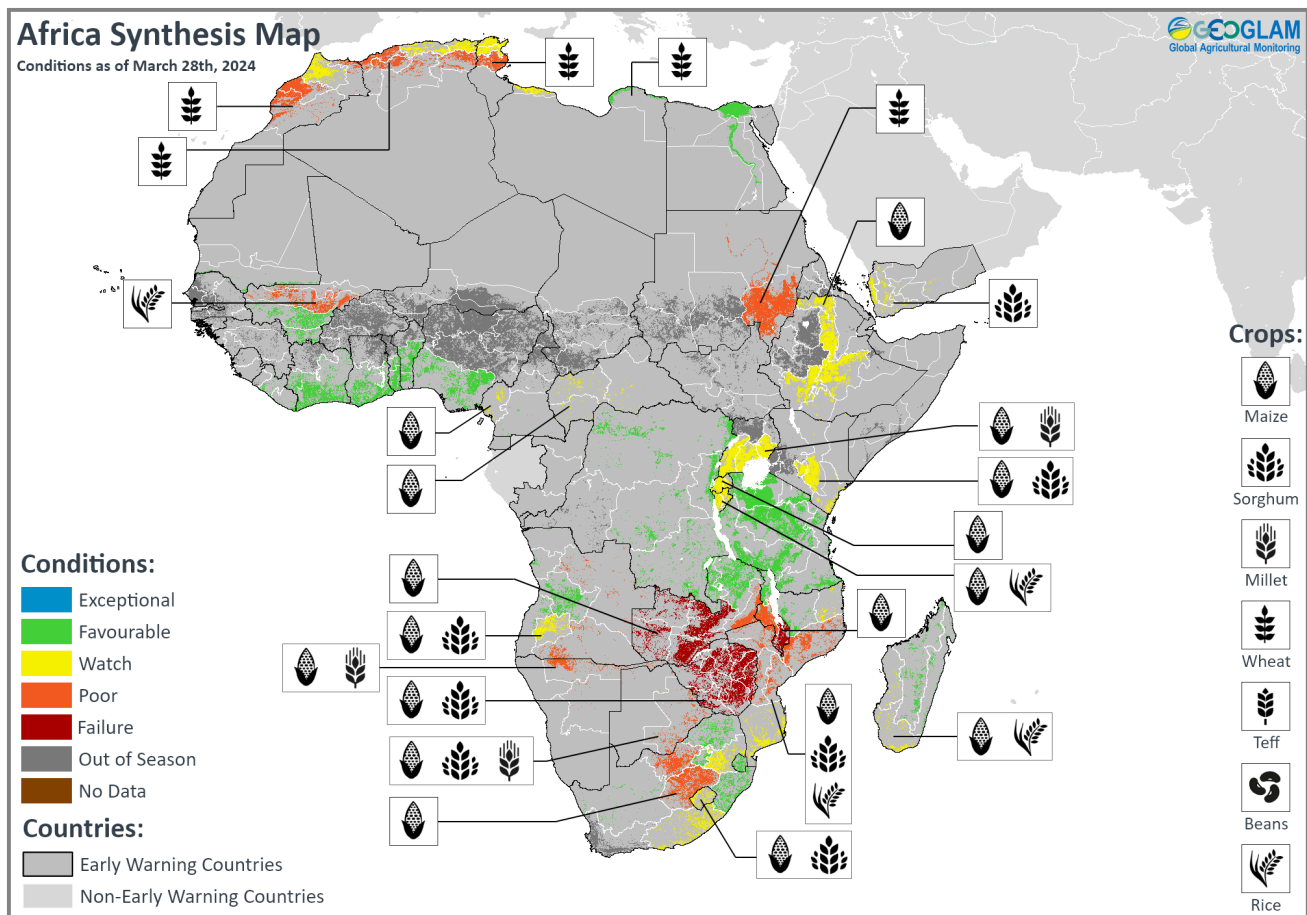
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GEOGLAM Crop Monitor for Early Warning

Crop Conditions at a Glance

based on best available information as of March 28th



Crop condition map synthesizing information for all Crop Monitor for Early Warning crops as of March 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: In Ethiopia, planting of *Belg* season maize continues with concern due to persisting dryness. Across the south of the region, planting of main season cereals is underway with concern due to delayed rainfall onset and early season dry conditions. However, forecast above-average rains in many areas through June are likely to benefit crop emergence and development (See Regional Outlook Pg. 6).

WEST AFRICA: Second season rice harvesting continues in the Sahel while land preparation and planting activities are underway for the 2024 main season in areas south of the Sahel. Weather forecasts through July indicate likely above-average rainfall amounts along the Sahelian countries and below-normal rainfall amounts along the coastal countries.

MIDDLE EAST & NORTH AFRICA: Poor yield outcomes are expected in parts of North Africa where production is primarily rainfed, including Morocco, Algeria, and Tunisia. Elsewhere, conditions remain favourable except in Libya and Syria where socio-economic challenges related to conflict continue to disrupt production.

SOUTHERN AFRICA: El Niño-induced well below-average cumulative rainfall amounts and significant deficits in February have resulted in poor to failure conditions in parts of Angola, Namibia, Botswana, Zimbabwe, Zambia, Malawi, Mozambique,

and South Africa (See Special Alert Pg. 13). A forecast continuation of below-normal rains through April indicate that recovery is not likely (See Regional Outlook Pg. 12).

CENTRAL & SOUTH ASIA: Winter wheat continues to develop under mixed conditions; however, increased rains over the past month have slightly improved vegetation conditions, mostly in southern Kazakhstan and Tajikistan. Conditions remain favourable in Afghanistan due to enhanced rainfall from late February. In Mongolia, much of the country has been affected by an unprecedented cold wave known as the *Dzud*, resulting in the deaths of 9 percent of the total national livestock.

SOUTHEAST ASIA: In the south, conditions are favourable for wet-season rice development with adequate irrigation water supply. In the north, there is concern for dry-season rice in Thailand, Cambodia, Viet Nam, and the Philippines due to a combination of very low rainfall, hot temperatures, and saltwater intrusion.

CENTRAL AMERICA & CARIBBEAN: *Apante* season bean production finalized in Nicaragua under favourable conditions despite erratic rainfall outcomes. Land preparation is underway for the *Primera* season across Central America, and continued irregular precipitation is expected for the start of the season.

Global Climate Outlook: Two-week forecast of areas of above or below-average precipitation

The two-week forecast (Figure 1) indicates a likelihood of above-average precipitation over parts of the central US, Nicaragua, Costa Rica, Panama, northeastern Brazil, Ireland, the United Kingdom, northwest Spain, northern Portugal, France, Belgium, the Netherlands, central Germany, Switzerland, northern Italy, southern Norway, northern Ghana, Togo, Benin, Nigeria, Cameroon, southern Chad, western Central African Republic, South Sudan, Eritrea, western Ethiopia, southeast Kenya, eastern Tanzania, northwest Angola, eastern Russian Federation, southeast China, Papua New Guinea, northern Australia, and northern New Zealand.

There is also a likelihood of below-average precipitation over the western Canadian Prairies, the west coast of the US, southern and western Mexico, northeastern Columbia, Venezuela, Guyana, Suriname, French Guiana, Ecuador, central Peru, northern and central-west Brazil, eastern Bolivia, northern Paraguay, central Chile, eastern Spain, northern Norway, central Russian Federation, northern Morocco, northern Algeria, Tunisia, southern Angola, Zambia, southern Malawi, Mozambique, Zimbabwe, Namibia, Botswana, northern South Africa, Madagascar, central and southern Kazakhstan, Uzbekistan, Turkmenistan, Kyrgyzstan, Tajikistan, Afghanistan, northern Pakistan, northern Iran, southern and northern India, Sri Lanka, Bangladesh, eastern Nepal, western northeast China, central Mongolia, the Democratic Republic of Korea, Republic of Korea, Japan, Myanmar, Thailand, Laos, Vietnam, the Philippines, western Malaysia, and central Australia.

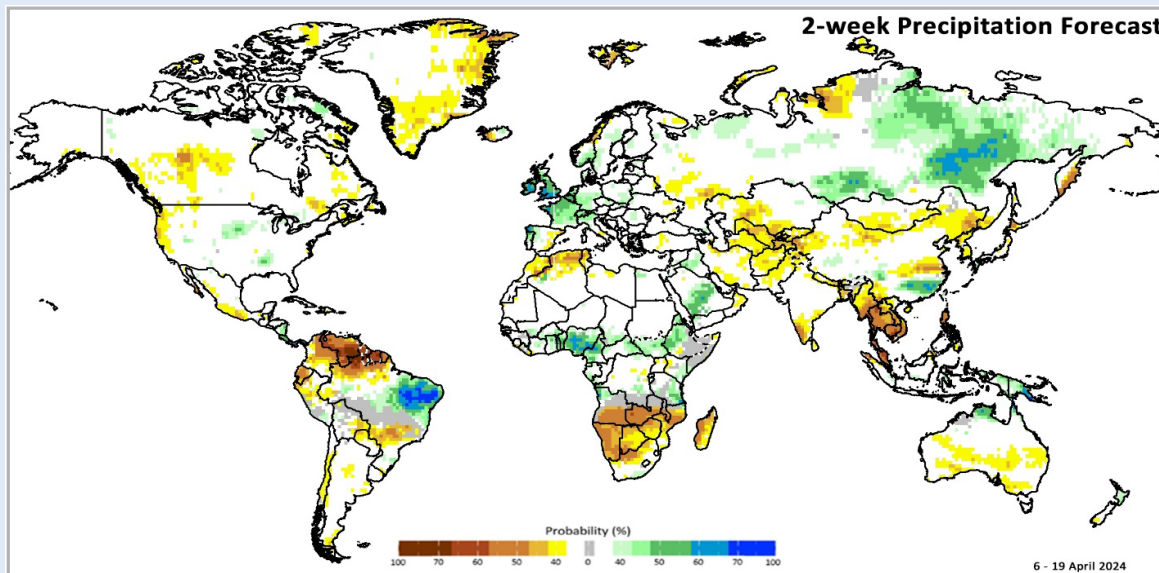


Figure 1: IRI SubX Precipitation Biweekly Probability Forecast for 6 – 19 April 2024, issued on 29 March 2024. The forecast is based on statistically calibrated tercile category forecasts from three SubX models. Source: [IRI Subseasonal Forecasts Maproom](https://www.cgd.cornell.edu/iri/subx/forecasts/)

Climate Influences: Weakening El Niño event is expected to transition to neutral ENSO conditions by June and a quick shift to La Niña event is anticipated

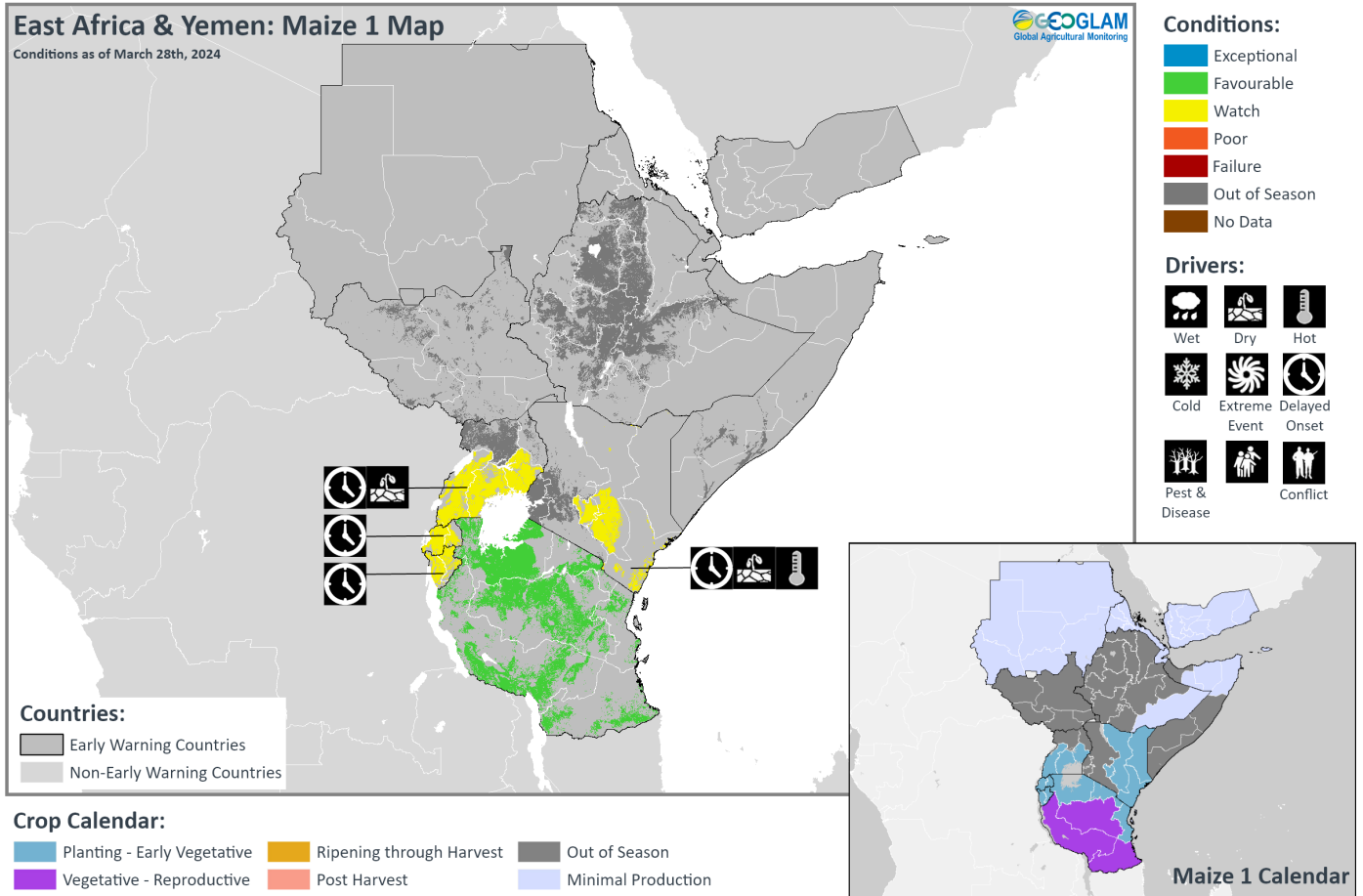
The ongoing El Niño event is becoming weaker, and neutral ENSO conditions are likely by April to June (83% chance). A quick shift to persistent La Niña conditions is anticipated. The CPC/IRI predicts a 75% chance of La Niña by July to September 2024, and chances remain high throughout the forecast period.

Globally, record-high temperatures in the latter half of 2023 and 2024 reflect the influences of the strong 2023-2024 El Niño and climate change. Heat extremes will very likely continue during 2024. Abnormally dry and hot conditions during mid-season development can particularly harm crops, which has occurred in parts of South America and most recently during the past 1-2 months of Southern Africa's main growing season.

Related to current El Niño conditions, drier-than-average conditions may continue in Southern Africa, Southeast Asia, the northern Maritime Continent, and parts of South America. La Niña conditions, if these develop, would continue a multi-year pattern of climate extremes. The strong and impactful 2023-2024 El Niño was preceded by three years of La Niña and associated multi-year droughts, especially in eastern East Africa, central-southern Asia, and southern South America.

Source: UCSB Climate Hazards Center

East Africa



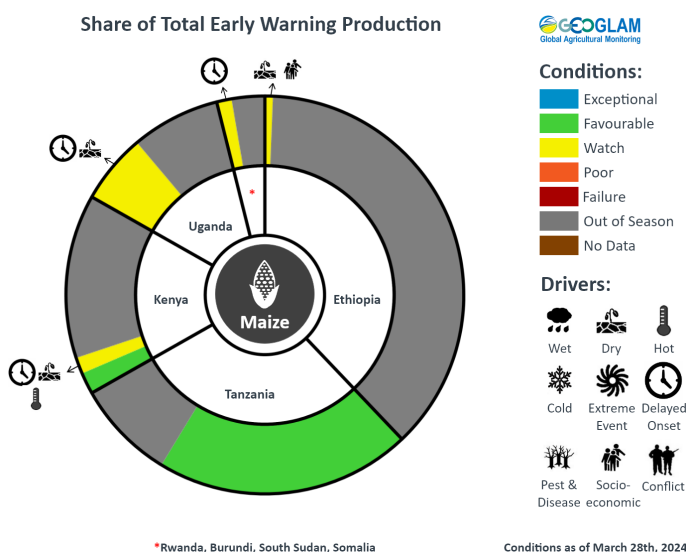
Crop condition map synthesizing Maize 1 crop conditions as of March 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Conditions that are other than favourable are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

Across northern East Africa, harvesting of wheat crops is just beginning in **Sudan** with below-average yields expected as a result of the persisting insecurity and macroeconomic issues. In **Yemen**, sorghum planting is just beginning with concern due to early season dryness as well as socio-economic challenges related to conflict. In **Ethiopia**, planting of *Belg* season maize continues with concern due to insufficient rainfall and soil moisture conditions.

Across southern East Africa, harvesting of short rains cereals finalized in bimodal and minor producing areas of **Kenya** under favourable conditions. Planting of main season cereals is now underway in bimodal and minor producing areas of **Kenya**, bimodal areas of **Uganda**, **Rwanda**, and **Burundi**, and with concern due to delayed rainfall onset and early season dry conditions. Land

preparation is underway in unimodal and major producing regions in **Kenya**, unimodal regions in **Uganda**, and **Somalia**, and planting will begin in April.

Despite the early season dry conditions that are impacting current planting activities in the south, much of the region is expected to receive enhanced rainfall through June that will likely improve deficits and benefit crop emergence and development. However, exposure to extreme heat recently occurred in parts of **Sudan**, **South Sudan**, **Kenya**, and **Somalia**, and above-normal temperatures are forecast through June (See Regional Outlook Pg. 6). During the rainy season, high temperatures can trigger episodic heavy rains and thunderstorms, leading to localized flash floods. Abnormal heat also dries soils more quickly, which can exacerbate crop impacts during dry spells in other areas.



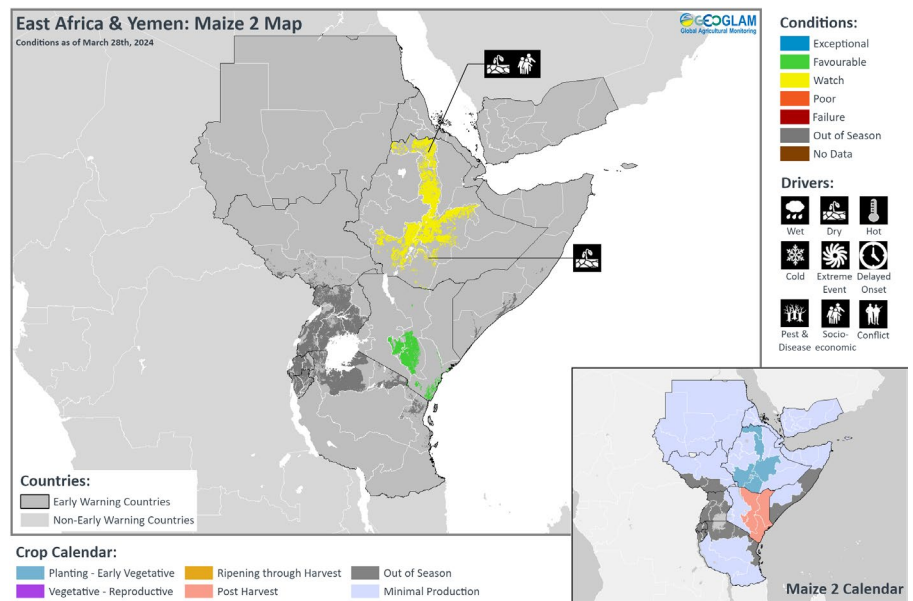
For detailed description of the pie chart please see description box on Pg. 19.

Northern East Africa & Yemen

In **Sudan**, wheat harvesting is now underway, and cereal production is estimated at a well below-average level as a result of conflict that erupted in April 2023. The insecurity has significantly affected both agricultural activities and trade flows, including disruptions to supply transportation with adverse effects on production. The situation was exacerbated following the expansion of conflict into the south and east in December 2023, affecting the major producing southeastern region. According to the [March FAO CFSAM report](#), national wheat production is forecast to be 46 percent below-average, primarily due to the impacts of conflict, including the limited availability and high prices of agricultural inputs. Additionally, erratic seasonal rains and prolonged dry spells during the growing season in the key producing southeastern areas contributed to reduced yields. In **Ethiopia**, planting of *Belg* season maize continues with concern due to mixed *Belg* rainfall performance in February and early March as well as residual socio-economic challenges in the north. The east and southeast experienced a delayed rainfall onset while the western areas experienced slightly better rainfall performance but with uneven temporal distribution. Declining rains from mid-March indicate possible dry spells that could impact planted crops.

Southern East Africa

In bimodal areas in the eastern half of **Kenya**, as well as in the unimodal central areas, harvesting of short rains cereals finalized in March under favourable conditions. In these same areas, planting of long rains cereals is now underway, and there is some initial concern due to delayed rainfall onset in most areas as well as extreme high temperatures. The March to May seasonal rains had yet to be established as of late March, except in the Lake Victoria region that experienced rainfall onset in February. However, forecasts indicate likely above-average rains through June in many areas of the country (See Regional Outlook Pg. 6). In **Uganda**, planting of first season maize and millet crops continues, and there is concern across the country as March rainfall performance has been below-normal, indicating a delayed start to the seasonal rains. In **Rwanda** and **Burundi**, planting of Season B maize crops is underway, and there is concern for initial sowing conditions and crop emergence as March precipitation performance has been below-normal, and the rains have yet to effectively start in most areas. In northern bimodal areas of the **United Republic of Tanzania**, planting and development of *Masika* season cereals continues for harvest from May, and planting of *Vuli* season sorghum is now underway. In central and southern unimodal areas, *Msimu* season cereals are in vegetative to reproductive stage for harvest from April. Overall conditions remain favourable throughout the country.



*Crop condition map synthesizing Maize 2 conditions as of March 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.***

Regional Outlook: Below-average March rainfall in parts of the region is expected to be followed by wet conditions in April to June

March 1st to 25th rainfall was below-average in many equatorial and southern areas– in Uganda, western, central, and northern Kenya, southern Ethiopia, Rwanda, Burundi, and much of Tanzania, according to preliminary data (Figure 1 top-left). Rainfall was above-average in portions of central and northern Ethiopia, southern Kenya, and eastern Tanzania.

Forecasts indicate that wet conditions are ahead. Most areas will have either average or above-average rainfall accumulations by April 10th, if forecast wet conditions materialize (Figure 1 top-middle). GEFS, ECMWF, and several SubX models indicate above-average rainfall in the region during late March to early April. Locations in Tanzania, Kenya, southwestern Somalia, Burundi, and southern and central Ethiopia may see high rainfall amounts during this time, based on the GEFS. Multiple international forecasts, from ICPAC (Figure 1 top-right), WMO, NMME, and C3S indicate above-normal rainfall during April to June 2024.

Maximum land surface temperatures were highly above-average in many locations during recent weeks (Figure 1 bottom-left; stippling shows where maximum temperatures exceeded the 95th percentile). Heat waves in South Sudan and hot, humid conditions in parts of the eastern Horn were reported. While high temperatures are normal before the onset of seasonal rains in some of these areas, data show especially extensive recent exposure to extreme heat in South Sudan, parts of eastern Kenya, western Somalia and southern Sudan. Above-average seasonal temperatures will likely continue during April to June 2024 across most areas, and are forecast with high confidence in Sudan, northern South Sudan, much of Ethiopia, and coastal areas of Kenya and northern Tanzania, according to ICPAC (Figure 1 bottom-right).

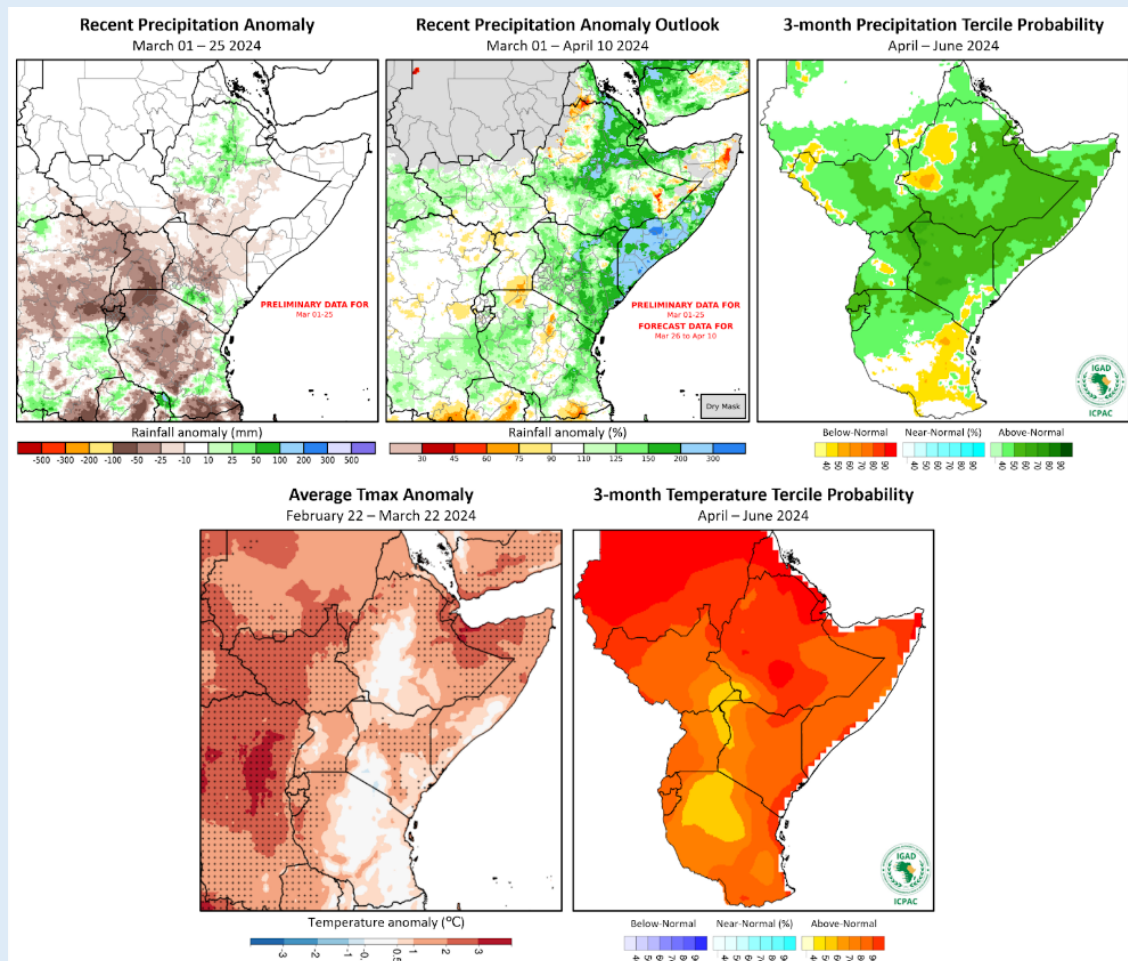
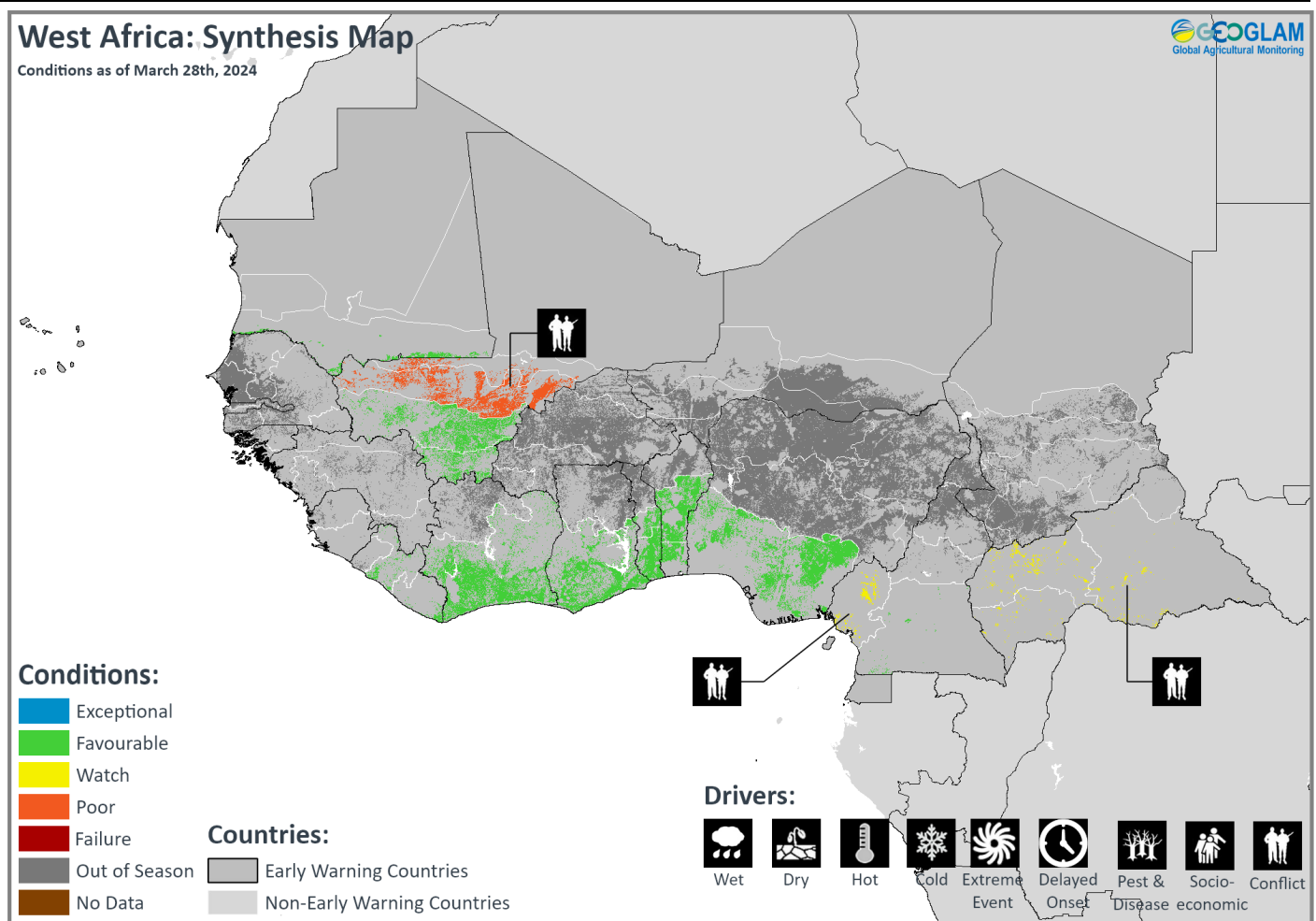


Figure 1. Recent rainfall anomaly, recent rainfall anomaly outlook, 3-month probabilistic rainfall and temperature forecasts, and a 1-month average Tmax anomaly.

Top left and middle: CHC Early Estimates, which compare recent and outlook precipitation totals to the 1981-2023 CHIRPS average for the same accumulation period. Both panels use CHIRPS Preliminary for Mar. 1st to 25th. The left panel shows the difference from average precipitation in mm. The middle panel shows an outlook for percent (%) of average rainfall for Mar. 1st to Apr. 10th that also includes a 16-day CHIRPS-GEFS (unbiased GEFS) forecast from Mar. 26th. Top-right and bottom-right: IGAD Climate Prediction and Applications Centre (ICPAC) probabilistic forecasts for April-to-June 2024 precipitation and temperature. Bottom-left: Average daily maximum temperatures for Feb 22-Mar 22, 2024, presented as the difference from average for this period. Stippling shows locations with temperatures above the 95th percentile. Based on 1991-2020 data from the CHIRTS-ERA5 Tmax product, which uses ECMWF ERA5 operational and CHIRTSmax monthly historical data.

Source: UCSB Climate Hazards Center

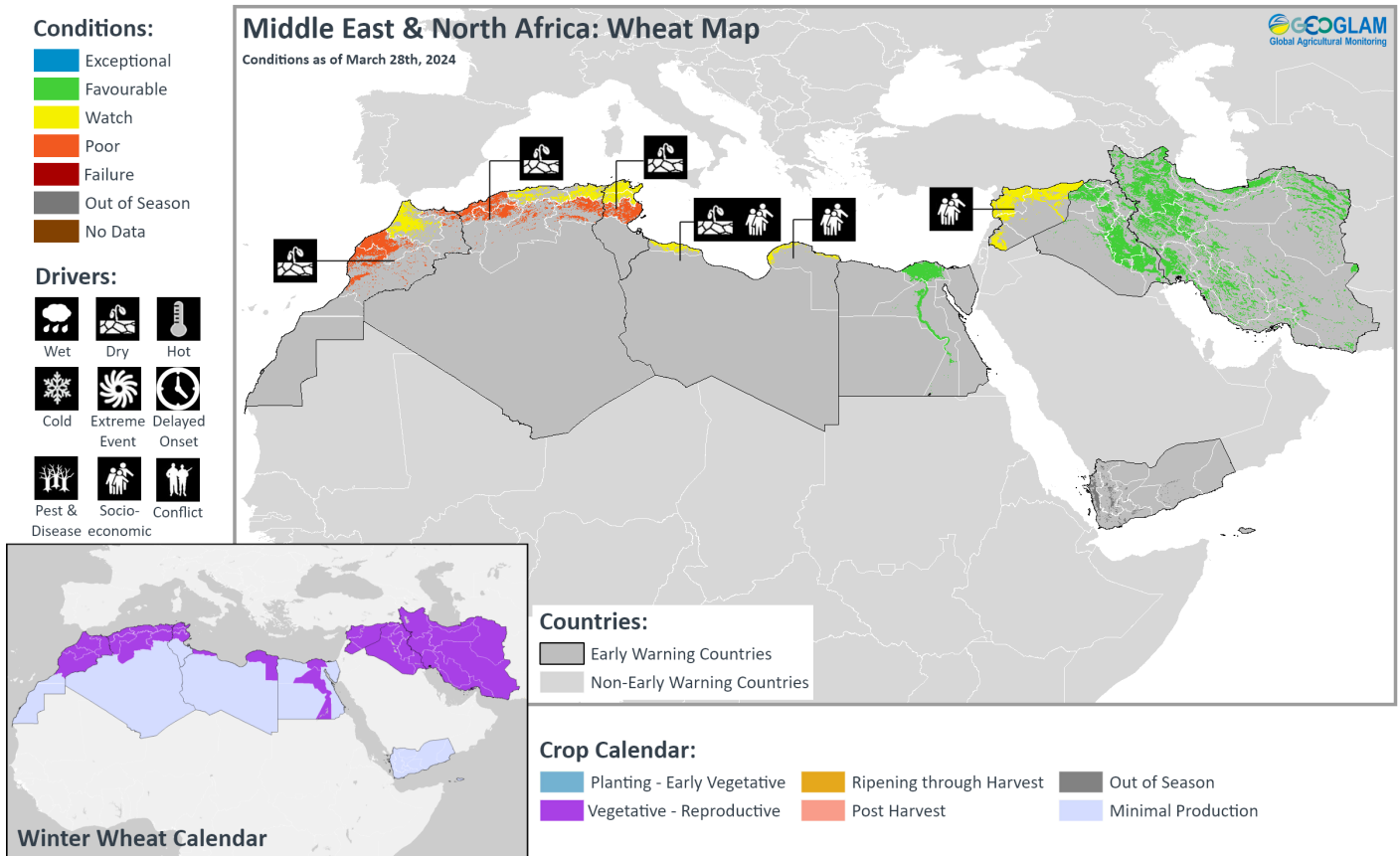
West Africa



Crop condition map synthesizing crop conditions as of March 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 southern West Africa, planting of main season cereals is now underway in **Liberia, Cote d'Ivoire, Ghana, Togo, Benin, Nigeria,** and the **Central African Republic**, and planting of second season maize is underway in southern **Cameroon**. Along the Sahel, harvesting of second season rice continues in **Mali** and **Mauritania**. Throughout the region, vegetation conditions are favourable except in areas impacted by persisting conflict, including central **Mali**, the Southwest region in **Cameroon**, and the **Central African Republic**. According to the CHIRPS rainfall totals for March, the southern part of the region from Liberia to the **Central African Republic** has received precipitation ranging from 50 to locally 200 mm. Weather forecasts through July indicate likely above-average rainfall amounts along the Sahelian countries and below-normal rainfall amounts along the coastal countries.

Middle East & North Africa



Crop condition map synthesizing wheat conditions as of March 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 continues to develop under mixed conditions, with ongoing concern due to drought across western parts of North Africa while the Middle East has generally experienced adequate agro-climatic conditions throughout the season (See Regional Outlook Pg. 9).

In **Morocco, Algeria, and Tunisia**, cereal production is almost entirely rainfed, and yields are expected to be below-average as these areas were impacted by a mix of dry and hot conditions for the third year in a row. In **Morocco**, below-average cumulative rainfall amounts through early March in combination with above-average temperatures have resulted in widespread drought conditions in most producing areas and reduced wheat production prospects, with the exception of the northern tip where conditions are slightly better. In **Algeria**, western regions have received below-normal rainfall since the beginning of the cropping season, and yields are expected to be below-average. Conversely, rainfall outcomes are slightly better in parts of the north where there is still a chance for recovery. In central **Tunisia**, irregular and reduced rainfall impacted crops during the sowing stage. There are now moderate drought conditions in major producing central areas, and yields are expected to be below-average. Conversely, in northern areas, enhanced rainfall in mid to late February resulted in some vegetation improvements through mid-March, but there is still concern for below-average cumulative rainfall. In **Libya**, concern remains in the northwest where the dry conditions extended from neighbouring areas of **Tunisia**. Agro-climatic conditions are more favourable in the northeast; however, socio-economic concerns related to conflict continue to constrain agricultural production in both **Libya and Syria**. In **Egypt**, conditions remain favourable for ongoing wheat development. Land preparation is underway for summer-planted rice, and planting will begin in April.

Good rainfall outcomes continue to benefit crop growth in the Middle East with generally near-average yields expected in **Iraq and Iran**. However, in **Iran**, heavy rainfall and a severe cold wave from late February to early March resulted in widespread flooding across Sistan and Baluchestan province located in the southeast of the country. According to the [March 21 IFRC report](#), over 3,000 hectares of farmland have been destroyed, primarily in Konarak, Chabahar, and Dalgan.

Regional Outlook: Third consecutive year with poor rainfall across parts of North Africa while beneficial above-average rains have been received across the Middle East

Drier-than-average conditions were observed throughout the fall and winter months of the winter wheat cropping season in western North Africa, including during recent weeks (Figure 1-left). During late February to late March, rainfall was below-average in western Morocco, Algeria, Tunisia, Libya, and western Syria. Rainfall was above-average in eastern Syria, Iraq, western Iran, and portions of eastern Morocco. Rainfall in western and central North Africa will be below-average during the first half of April, and eastern areas will have mixed conditions, based on the ECMWF extended forecast from March 26th.

In terms of seasonal rainfall deficits, areas of highest impact are in western and eastern Morocco, western Algeria, and northeastern Libya. Persistent dry conditions in these locations indicate possible November 2023 to early April 2024 totals that range from 45 and 75 percent of average (Figure 1-middle).

Drier and warmer-than-average conditions began early in the 2023-2024 season across western North Africa. At that time, below-normal February root-zone soil moisture conditions were forecast by the NASA hydrologic modeling system (see [December 2023 CM4EW](#)). The current probabilistic outlook, which draws from February soil moisture and forecasted rainfall, depicts widespread impacts on April 2024 soil moisture (Figure 1-right). Very low April root-zone soil moisture- in less than the 10th percentile- are forecast in eastern Morocco, western Algeria, Tunisia, and western Libya. This is the third year in a row in which persistent dryness occurred during the wheat growing season in western North Africa. Parts of Morocco, Algeria, and Tunisia had poor outcomes during the past two years.

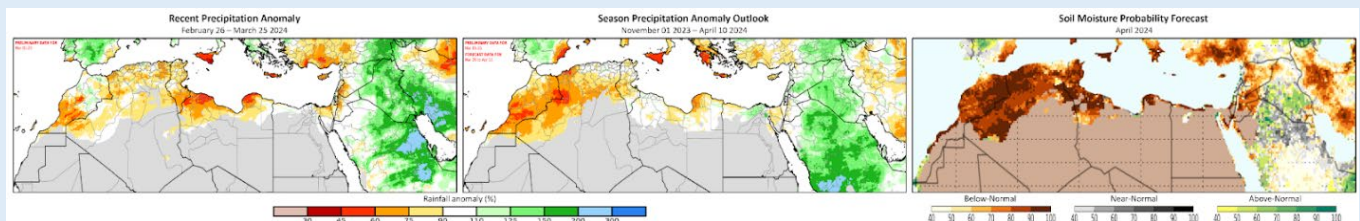
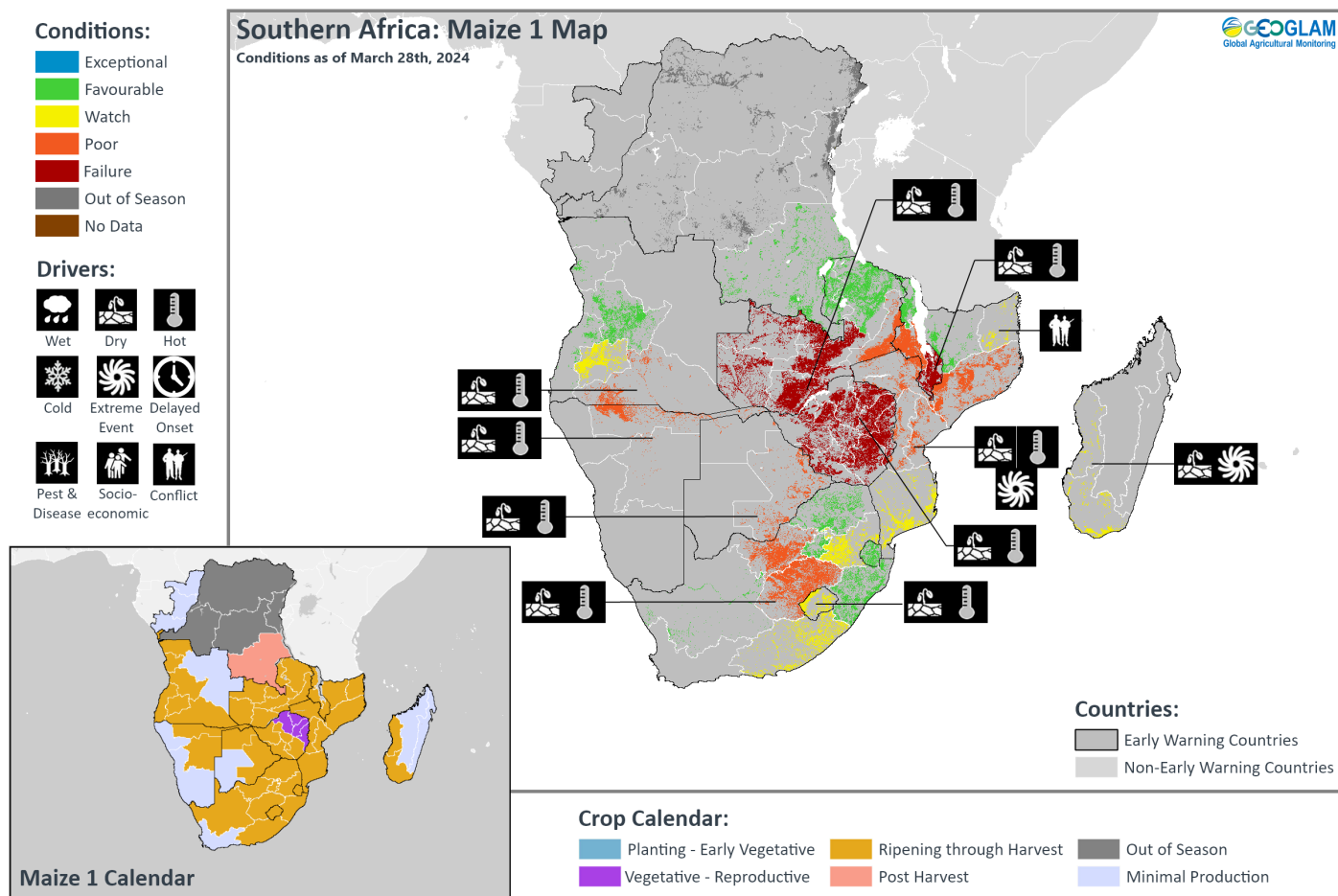


Figure 1. Recent rainfall anomaly, season rainfall anomaly outlook, and a probabilistic soil moisture forecast for April 2024

Left and middle: [CHC Early Estimates](#), which compare recent and outlook precipitation totals to the 1981-2023 CHIRPS average for the same accumulation periods, represented as a percent (%) of average. Both panels use CHIRPS Preliminary for Mar. 1st to 25th. The left panel shows the percent of average precipitation for Feb. 26th to March 25th 2024. The middle panel shows an outlook for percent (%) of average rainfall for Nov. 1st 2023 to Apr. 10th 2024 that also includes a 16-day CHIRPS-GEFS (unbiased GEFS) forecast from Mar. 26th. Right: Probabilistic forecast for April 2024 root zone soil moisture tercile, from the [NASA Hydrological Forecast and Analysis System's FLDAS forecast](#). This outlook uses CHIRPS and MERRA-2 reanalysis data through February 2024, and forecasted meteorological conditions for Mar. to Apr. 2024 from the North American Multi-Model Ensemble (NMME) and the GEOSv2 model.

Source: UCSB Climate Hazards Center

Southern Africa

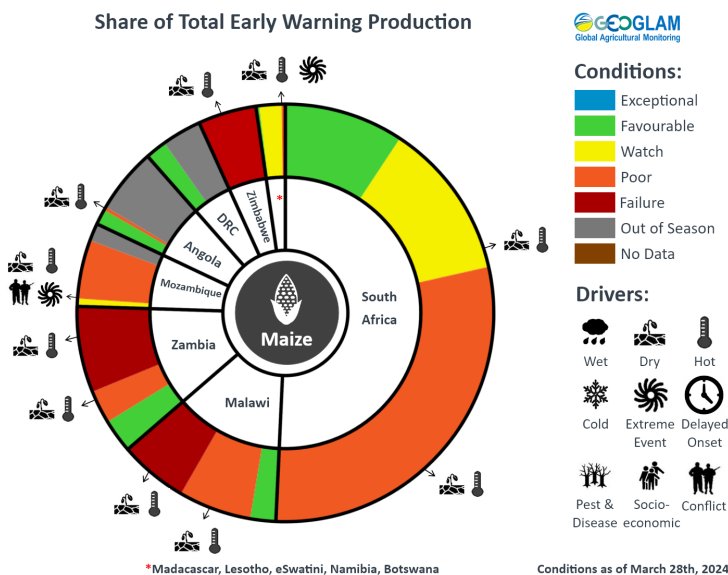


Crop condition map synthesizing Maize 1 conditions as of March 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Crops that are in other than favourable conditions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

In Southern Africa, harvesting of main season cereals is now underway; however, the delayed start of seasonal rains is expected to delay harvesting activities in some areas. Persistent dry and hot conditions experienced throughout much of the season have resulted in failure conditions in southern and central **Zambia**, throughout **Zimbabwe**, and in southern **Malawi**, and national disasters regarding the extreme drought have been officially declared in these countries. The situation is also expected to result in below-average yields across many other areas of the region, including in south and eastern **Angola**, **Namibia**, **Botswana**, eastern **Zambia**, central **Malawi**, central **Mozambique**, and central and north-central **South Africa**. Furthermore, concern remains for potential yield declines in central **Angola**, parts of **South Africa**, **Lesotho**, southern **Mozambique**, and **Madagascar**, though there is still a chance for recovery in these areas. Elsewhere, near-average yield outcomes are expected.

Throughout the region, below-average cumulative rainfall amounts from the start of the season were followed by a severe dry spell in February, which is typically a critical month for crop development (See Special Alert Pg. 13). Cropping areas of **Namibia**, **Zimbabwe**, **Zambia**, **Malawi**, and **Mozambique** were particularly affected and only received up to 80 percent of average rainfall amounts from mid-November 2023 to February 2024. Additionally, erratic rainfall distribution and above-average temperatures further exacerbated the below-normal vegetation conditions in affected areas. The rainfall outcomes so far this season combined with the forecast continuation of below-normal rains through April indicate that recovery is not likely (See Regional Outlook Pg. 12). In contrast to the dry conditions, Tropical Storm Filipo made landfall in **Mozambique's** Inhambane province on March 12, bringing strong winds, torrential rains, and flooding to parts of Inhambane, Gaza, Maputo, and Sofala provinces located in the centre and south of the country. This tropical storm came at a critical period where crops are in ripening stage, and while the extent of the damage is still unknown, there is concern for crops over affected areas. The storm came just one year after the passage of Cyclone Freddy, which caused widespread damage and loss to main season crops in **Madagascar**, **Mozambique**, and **Malawi**. Furthermore, on March 27, Tropical Cyclone Gamane brought heavy rains and floods to parts of northern **Madagascar**.

In south and eastern **Angola**, cumulative rainfall for the 2023/24 season until February was below-average, with the central-eastern regions and part of Cuando Cubango being the most impacted by the dry conditions. Poor rainfall outcomes in March exacerbated the situation, particularly affecting the southern regions. Much of the south has now experienced some of the lowest October to March rainfall outcomes on record, with Cuando Cubango being the most affected province and the eastern half of the country



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

experiencing the driest February in 42 years. Additionally, continued above-average temperatures are exacerbating the dry conditions. In **Zambia**, a record-breaking severe dry spell from mid-January to early March in combination with high temperatures has affected most central and southern areas, resulting in crop failure across these areas and destroying 1 million hectares and almost half of the country's maize cultivation. On February 29, the president declared a state of disaster as a result of the drought conditions. In **Zimbabwe**, an early cessation of the seasonal rains by mid-January, followed by historically dry conditions and very high temperatures has resulted in failed harvests across the country. Crops are unlikely to recover regardless of rainfall received for the remainder of the season. On April 3, the president declared a state of disaster due to drought, which is impacting all areas of the country. In central and southern **Malawi**, cumulative rainfall is below-average, with central and southern districts experiencing 20-day dry spells during November through December and again in mid-February to early March during critical development stages, resulting in mild to severe crop damage. As a result of the

extreme dry and hot weather outcomes, yields are expected to be below-average and below the previous year, with southern districts experiencing significant reductions. On March 23, the President declared a state of disaster as 23 out of the country's 28 districts have been affected by the El Niño conditions, and a preliminary assessment by the government estimated that up to 2 million farming households and 44 percent of the national cropping area have been affected. Conversely, Nkhotakota and Karonga regions located in the centre and north were impacted by heavy rainfall and resultant flooding in March that resulted in crop damage. In **Mozambique**, below-average yield outcomes are expected in most central areas as a result of generally poor rainfall outcomes and hot weather during February and March. Additionally, the passage of Tropical Storm Filipo in mid-March affected 31,000 hectares of crops and destroyed around 20 percent of those, according to the March FEWS NET update. However, the rains also improved agricultural water availability, and households with access to short-cycle or vegetable seeds are likely to engage in recessional planting for harvest from July. While vegetation conditions are slightly better in the south due to enhanced rains, conditions are borderline poor as a result of generally low rainfall outcomes during February and March, and poorer households are unlikely to recover their harvests from the current season. Furthermore, while Cabo Delgado region located in the northeast has experienced more favourable rainfall outcomes this season compared to the rest of the country, persisting conflict continues to disrupt agricultural production, and recent attacks between December and March resulted in the biggest wave of displacement since the onset of conflict in 2017. In **Madagascar**, there is concern in western areas of the country impacted by below-average and poorly distributed rainfall, combined with the passage of Tropical Cyclone Alvaro in January that brought heavy rainfall to Andrefana, Menabe, Matsiatra, Ihorombe, and Fitovinany regions. Additionally, there is concern in the north and northeast where Tropical Cyclone Gamane brought heavy rains and floods to the region on March 27. Conditions are mixed in the south where the rainy season has been erratic with localized below-average amounts, and most of the below-average conditions are concentrated in the extreme south. Conversely, rice crops are developing under favourable conditions in the main producing central highlands. In **South Africa**, a favourable start to the rainy season was followed by dry and hot weather since mid-January over a large part of the summer-grain producing region. The situation has resulted in reduced yield prospects, particularly in North West and Free State provinces. As a result, maize production is officially projected to be 19 percent lower than the previous year's record crop. In **Lesotho**, conditions are mixed at the national level, and while total seasonal rainfall is near-average, a combination of poor distribution as well as record-low February rainfall outcomes likely impacted crops at the critical development stage and has resulted in below-average vegetation conditions. In **eSwatini**, cereal production is expected to remain near-average. In the **Democratic Republic of the Congo**, harvesting of main season cereals is nearing completion while harvesting of second season maize is just beginning in the centre and southeast, and overall conditions remain favourable.

Regional Outlook: Extended dry spell in February and March severely impacted crops in the centre and north and dry conditions are forecast to continue

Extreme dry conditions impacted central and southern areas during the past two months– a critical time for crop development. Estimated rainfall totals for January 26th to March 25th range from less-than 30 percent to 60 percent of typical amounts, in southern Zambia, southeastern Angola, southern Malawi, Zimbabwe, northern Namibia, central and northern Botswana, western Mozambique, and northeastern and southeastern South Africa (Figure 1-left). Central areas received the lowest February rainfall in potentially 100 years, as detailed in an [examination of the severe dry spell](#).

Extreme heat exacerbated impacts of dry conditions. Maximum temperatures were highly above-average during the past two months at many locations (Figure 1 middle-right; stippling shows where these exceeded the 95th percentile). Maximum temperatures frequently surpassed maize heat tolerance levels in areas that typically would have much lower exposure this time of year– such as in southeastern Angola, southwestern Zambia, western and northern Zimbabwe, western Mozambique, and central South Africa.

Seasonal rains taper off after March in many central and southern areas. During late March to early April, regional abnormal dry and wet patterns will likely persist, with low rainfall amounts in southern Zambia, most of Zimbabwe, central-western Mozambique, southwestern Madagascar, and northeastern Botswana, according to the unbiased GEFS. The GEFS indicates below-average rainfall from March 28th to April 11 in Mozambique, central and southern Madagascar, central and southern Malawi, southern Zambia, Zimbabwe, and northeastern South Africa. Above-average rainfall is forecast in central and northwestern Angola, Namibia, southern DRC, and some northern areas of Zambia, Mozambique, and Madagascar.

An outlook for October 1st, 2023, to April 10th, 2024 rainfall (Figure 1 middle-left) shows the widespread rainfall deficits due to impacts of the strong 2023-2024 El Niño. An early end to the season, which is indicated by forecasts, will leave central areas with very low soil moisture levels and streamflow rates and major ongoing challenges for communities and operations that depend on the Zambezi River. The NASA hydrologic modeling system also predicts below-average flow rates in the Limpopo and Orange Rivers. There are elevated chances of below-normal April to June rainfall (Figure 1-right) across central and southern areas, according to the WMO (Figure 1-right) and C3S multi-model ensemble forecasts. The NMME forecast highlights this in southern areas, including central and northern South Africa. Hotter-than-normal temperatures are forecast to continue across the region.

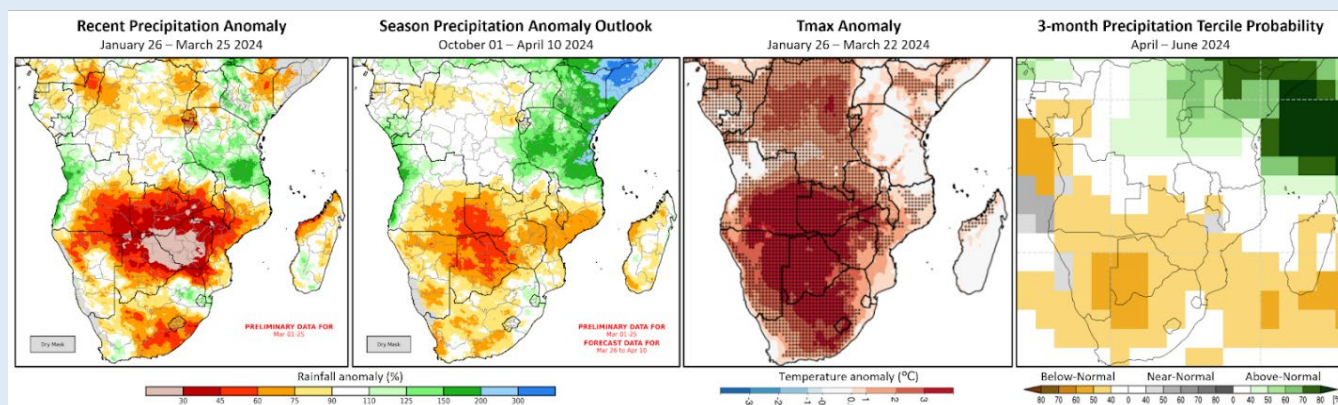


Figure 1. Recent rainfall anomaly, season precipitation anomaly outlook, maximum temperature anomaly, and a 3-month probabilistic precipitation forecast.

Left and middle-left: [CHC Early Estimates](#), which compare recent and outlook precipitation totals to the 1981-2023 CHIRPS average for the same accumulation periods, represented as a percent (%) of average. Both panels use CHIRPS Preliminary for Mar. 1st to 25th. The left panel shows the percent of average precipitation for Jan. 26th to March 25th 2024. The middle-left panel shows an outlook for percent (%) of average rainfall for Oct. 1st 2023 to Apr. 10th 2024 that also includes a 16-day CHIRPS-GEFS (unbiased GEFS) forecast from Mar. 26th. Middle-right: Average daily maximum temperatures for Jan 26-Mar 22, 2024, presented as the difference from average for this period. Stippling shows locations with temperatures above the 95th percentile. Based on 1991-2020 data from the CHIRTS-ERA5 Tmax product, which uses ECMWF ERA5 operational and [CHIRTSmax monthly](#) historical data. Right: WMO probabilistic forecast for April-to-June 2024 precipitation, based on models initialized in March, from the [WMO Lead Centre](#).

Source: UCSB Climate Hazards Center

Special Alert: El Niño-induced record dry spell threatens agricultural production outcomes across Southern Africa and raises concerns for food security

Forecasts leading up to the main October to December rainfall season in Southern Africa indicated a high likelihood for above-average temperatures, delayed rainfall onset, and generally below-average precipitation influenced by factors like El Niño and a positive IOD. The potential for below-average cropping outcomes was warned of as early as August 2023 in the [Crop Monitor Special Alert on El Niño](#). This forecast has materialized across much of the region with poor to failure crop yields. Official declarations of disaster regarding the extreme drought have been declared across **Zambia, Zimbabwe, and Malawi**, and no recovery is expected across worst affected areas at this stage of the season.

The 2023/24 main cropping season in Southern Africa began in late October with limited and erratic rains in southern areas. While planting activities picked up in November, a dry spell following the false rainfall start contributed to the failure of sowing efforts. Generally dry and hot conditions in November and early December in central and western areas contributed to crop wilting, a shortened agricultural season, and a reduced planted area.

Planting activities became delayed by December as some areas were still contending with lingering dry conditions from the previous season and a delayed rainfall onset for the current season. As a result, crop conditions began to downgrade in areas where the rains were not effectively established. Conversely, a shift to above-average rains in mid-December through mid-January resulted in some localized flooding but prompted enhanced agricultural activities, including planting and replanting efforts, application of agricultural inputs, and weeding across north and central areas of the region.



Figure 1: Stunted crop growth in Etayi constituency, Namibia February 2024. Source: MoA Namibia

Despite the improved rains, dry conditions returned in early to mid-January as crops entered the vegetative to reproductive stage, and seasonal rainfall totals were below-average across most central and western areas. Additionally, elevated temperatures indirectly affected crops by exacerbating the dry conditions.

As outlined in the [March 24 CHC blog post](#), a record-breaking mid-season dry spell of over 50 days from late January through early March impacted several areas of the region during the key developmental stages, culminating in the lowest rainfall received for the late January to February timeframe in the last 40 years for many central areas of the region. Many areas across Southern Africa received half or less of typical rainfall amounts, including parts of **Angola, Namibia** (Figure 1), **Zambia, Zimbabwe** (Figure 2), and **Botswana**. Additionally, some central areas recorded the lowest February rainfall in 100 years (See Regional Outlook Pg.

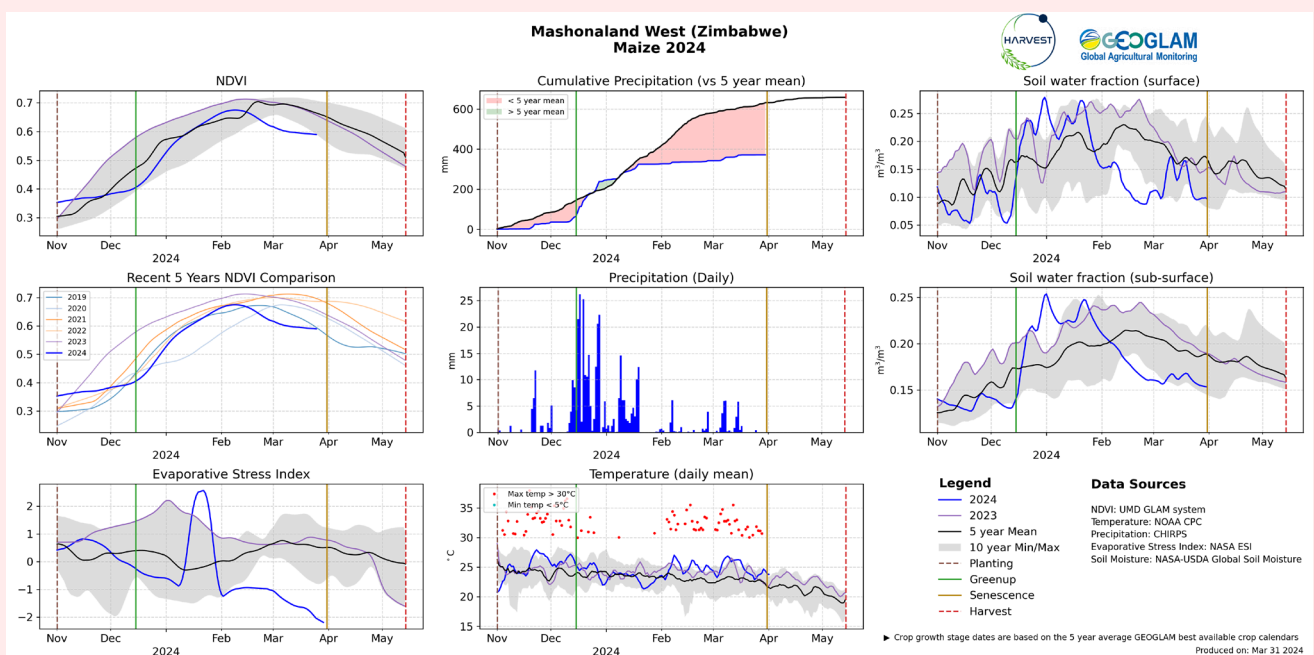


Figure 2: NASA Harvest Agmet graphics for main maize producing district Mashonaland West, Zimbabwe. Agmet graphics for all other countries in Southern Africa can be found on the [Agmet EO Indicators Tool](#). Source: NASA Harvest

Special Alert (continued): El Niño-induced record drought threatens agricultural production outcomes across much of Southern Africa

The severe and prolonged dry spell from late January to February came at a time when seasonal rains would typically be nearing their peak, resulting in permanent crop wilting in parts of **Zambia, Zimbabwe, Malawi** (Figure 4), and **Mozambique** as well as the declaration of national disasters regarding the extreme drought in **Zambia, Zimbabwe, and Malawi**. The situation was driven by both a considerable rainfall deficit as well as an increase in water demand, likely influenced by high temperatures that increase atmospheric evaporative demand, imposing severe water stress on crops (Figure 3). During the dry spell, daytime maximum temperatures were much higher than average across the region and surpassed maize heat tolerance levels in many areas (See Regional Outlook Pg. 12).

Forecast rainfall through June is expected to be below-average in most central and southern areas of the region with a likely severe negative impact to the remainder of the cropping season and little chance of recovery. Regions that experienced dry conditions and below-average yield outcomes in the previous season, including southern **Angola**, northern **Namibia, Botswana**, parts of **Zambia**, and southern **Malawi** are particularly vulnerable and will need to be monitored closely.

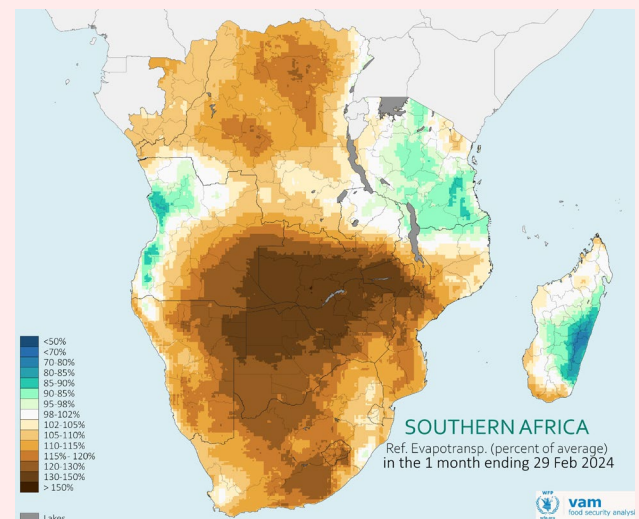
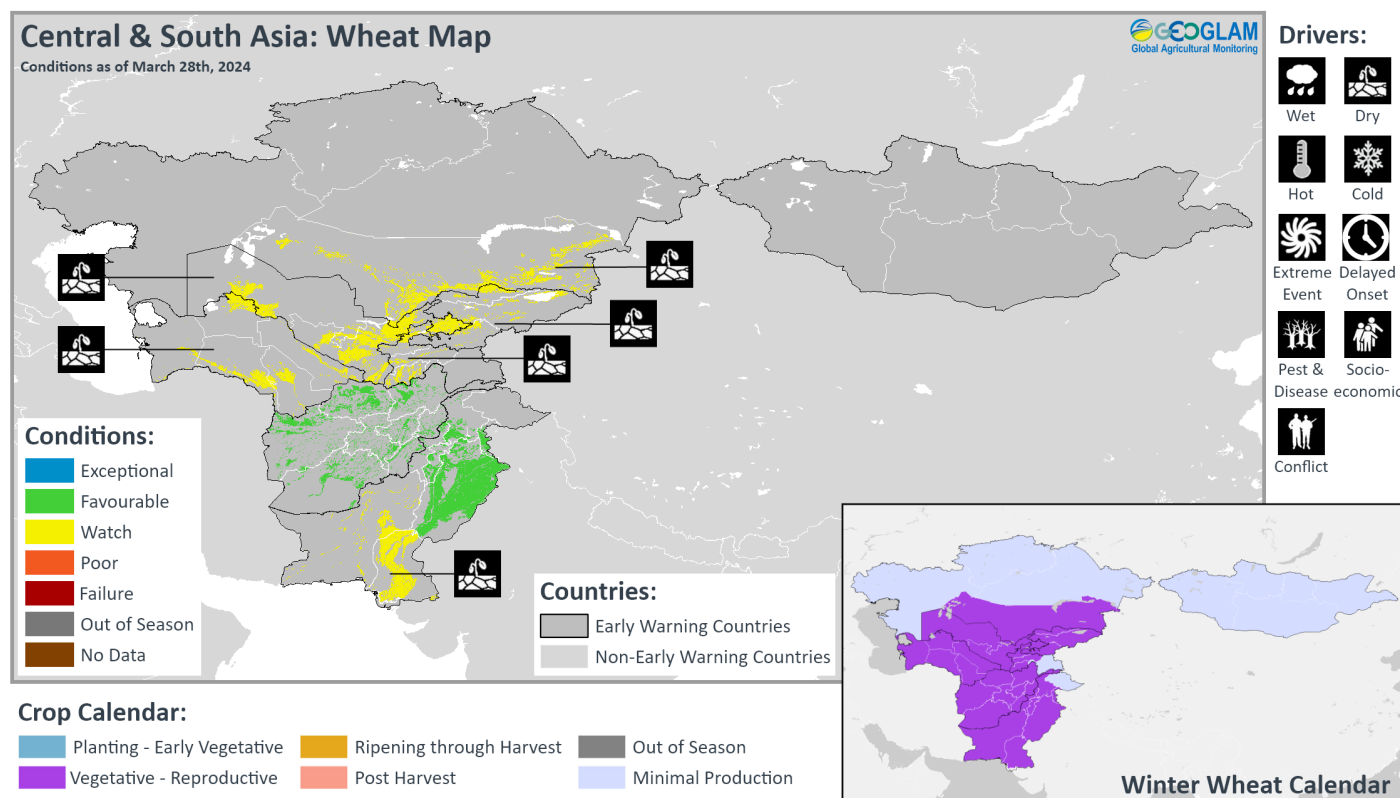


Figure 3: Percent of average reference evapotranspiration as of February 29th illustrating pronounced water demand exceeding 50 percent in some regions. Source: WFP VAM



Figure 4: Top Left: Water stressed and stunted maize crop in Nsanje (Southern) Malawi (February 2024) Source: MoA Malawi. Top Right: Wilted maize crop in Nsanje (Southern) Malawi (February 2024) Source: MoA Malawi. Bottom Left: Stressed maize crop in Nkhotakota (Central) Malawi (February 2024) Source: MoA Malawi. Bottom Central & Right: Stressed maize crop in Southern Malawi. Source: FEWS NET

Central & South Asia



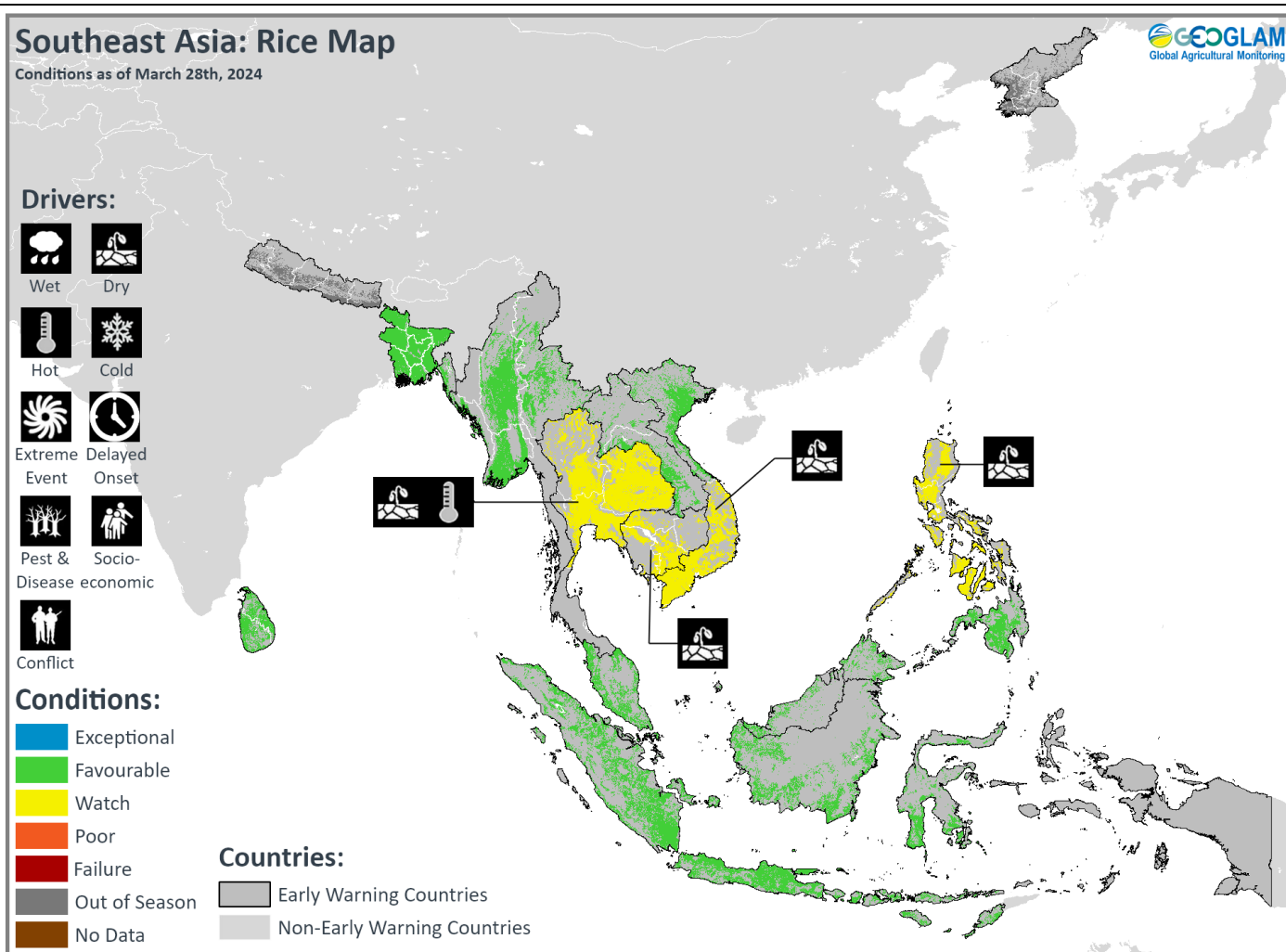
Crop condition map synthesizing Winter Wheat conditions as of March 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Crops that are in other than favourable conditions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

In Central and South Asia, winter wheat continues to develop under mixed conditions due to residual dryness in many areas. However, there has been a slight improvement in vegetation conditions over the past month due to increasing rains, primarily in southern **Kazakhstan** and **Tajikistan**. Spring wheat planting is now underway in **Afghanistan** under favourable conditions. Land preparation is underway in southern **Kazakhstan**, **Kyrgyzstan**, **Tajikistan**, and **Mongolia**, and planting will begin in April.

In **Afghanistan**, below-average cumulative precipitation across the country from the start of the season in October 2023 through February 2024 resulted in inadequate soil moisture for planting the winter wheat crops, which are mainly rainfed. The early season dryness contributed to a reduced sown area, including around a 50 percent reduction in the rainfed wheat area. The early season dry conditions also resulted in limited snow cover in northern areas, which increases the risk of winterkill as crops not covered by snow are more vulnerable to cold temperatures. Conversely, the dry conditions were followed by storm activity over most provinces from late February, bringing enhanced rainfall that resulted in improved vegetation conditions and yield prospects. Precipitation was average to above-average from February through March, significantly reducing deficits and enhancing soil moisture for winter wheat development as well as spring wheat planting efforts. Cumulative precipitation from October to March remains below-average in most areas but is much better compared to the previous year, except for a few provinces in the northeast, centre, east, and west. However, in early March, most areas were impacted by heavy snowfall and extreme cold temperatures, which hindered timely spring wheat planting in localized areas still covered by snow but also provided enhanced soil moisture to facilitate rainfed planting in the north and northeast. The cold temperatures also resulted in the loss of livestock and disruption to livelihoods. Additionally, heavy rainfall across the country in late March marked the third time in a month the Northern region has experienced flooding, and the recent floods on March 29 and 30 destroyed more than 1,500 acres of agricultural land and have resulted in severe damage to homes and infrastructure, including water and irrigation structures across seven provinces. Despite the recent rainfall improvements, deficits remain in some areas of the northeast, centre, east, and south, though forecast average precipitation from March to May is expected to further reduce deficits and support wheat production. However, high temperatures are likely to affect snowpack development in April, which could impact water availability for downstream irrigated areas in the late spring and summer, mainly for second season crops. In **Pakistan**, adequate soil moisture levels at planting time in combination with near-record domestic flour prices have resulted in an above-average sown area of 9.5 million hectares, according to the [March 5 FAO GIEWS Country Brief](#). Vegetation conditions are generally favourable due to adequate irrigation water supply and despite very low rainfall and high temperatures in December and January. Yields are expected to be above-average in the main producing areas, and output is forecast at an above-average level of 28.3 million tonnes. However, in the minor-producing rainfed areas known as the *Barani*, crops were impacted by the low rainfall amounts. Conversely, heavy rains and strong winds since late February have been affecting northwest and southwestern provinces with flooding, landslides, and other severe weather-related incidents. Harvesting is now underway throughout the country, and the majority of harvesting activities will take place between April and early June. Additional rainfall is needed to support remaining crop

development and replenish main reservoirs. In **Mongolia**, land preparation is underway for the spring wheat crop, and planting will begin in April. Much of the country has been affected by an unprecedented cold wave known as the *Dzud* this winter. The *Dzud* consisted of cold temperatures and extensive snow coverage in early November, followed by warmer temperatures and snow melt in late November, and then subsequent freezing temperatures of below -40°C (-40°F) in December that caused refreezing and created ice coverage over most pasturelands. Continued heavy snowfall through February 2024 covered most areas, particularly in the north and centre, further disrupting grazing access. Cumulative snowfall amounts from November 2023 to February 2024 were nearly twice the long-term average, and the *Dzud* conditions affected about 80 percent of the country's total land area. The situation has significantly diminished grazing options for livestock and has prevented supply deliveries due to blocked roads. The conditions have also impacted large numbers of herder households and resulted in the deaths of 5.9 million livestock, representing 9 percent of the total national livestock lost as of late March, with northeastern and central areas accounting for the highest number of losses. Additionally, livestock mortality is anticipated to increase until the peak of the pastoral lean season in May. The situation is highly concerning as the livestock sector is an integral part of the country's economy, accounting for about 13 percent of GDP and a quarter of all jobs. Furthermore, recent heavy and dense snowstorms are forecast to be followed by higher spring temperatures, which would increase the risk of floods from snowmelt in late March and early April.

Southeast Asia



Crop condition map synthesizing rice conditions as of March 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 southern Southeast Asia, planting of wet-season rice is mostly complete, and crops are now in the vegetative to early generative stages under favourable conditions with adequate irrigation water supply. Harvesting of earlier planted crops is now underway, and despite some delays, yields are expected to be near-average.

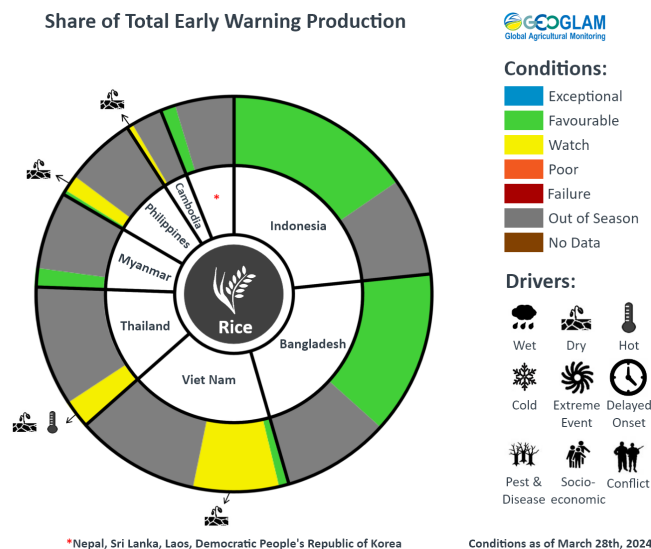
In northern Southeast Asia, dry-season rice is in the growing to early harvesting stage. Total planted area is slightly lower than the last season due to a shortage of irrigation water, and there is concern regarding extremely low precipitation and high temperatures that have resulted in drought in parts of **Thailand**, **Cambodia**, southern **Viet Nam**, and the **Philippines** as well as damage from saltwater intrusion in **Viet Nam**. In areas with sufficient irrigation water supply, growing conditions remain favourable.

In **Indonesia**, planting of wet-season rice is expected to finalize by the end of March. Planted area is 5.5 million hectares, which is 12.9 percent lower than the last wet season but is steadily expanding due to intensive rainfall received from late February to mid-March. Crops are now in the vegetative and early generative stages under favourable conditions due to adequate irrigation water supply, particularly in the northern region. Harvesting of earlier planted crops is underway but is progressing slower than last year, covering only 1.9 million hectares. However, sufficient sunlight during the growing period has contributed to favourable yields. In **Timor-Leste**, harvesting of main season maize is wrapping up, and early season dryness is expected to result in a below-average planted area, particularly in the south. Main season paddy crops are in the growing stage with below-average vegetation conditions in the north and south, which together comprise about 40 percent of production, and yields in these areas are expected to be below-average. Forecasts indicate low rainfall amounts and high temperatures are expected to continue through April across most areas, with likely negative impacts to production outcomes.

In **Malaysia**, March marks the fourth month of wet-season rice harvesting with a forecast near-average yield of 4.4 tons per hectare following favourable weather outcomes. Planting of dry-season rice is now underway, and progress has reached 4.5 percent of the national plan. Planting activities are to be carried out in the granary area, and further progress is dependent on weather conditions and availability of irrigation water supply. In **Brunei**, around 80 percent of irrigated areas and 40 percent of rainfed areas have been harvested, and weather outcomes have been generally favourable for harvesting activities with low precipitation rates and high solar radiation. Current outlooks are favorable for the remainder of the wet season.

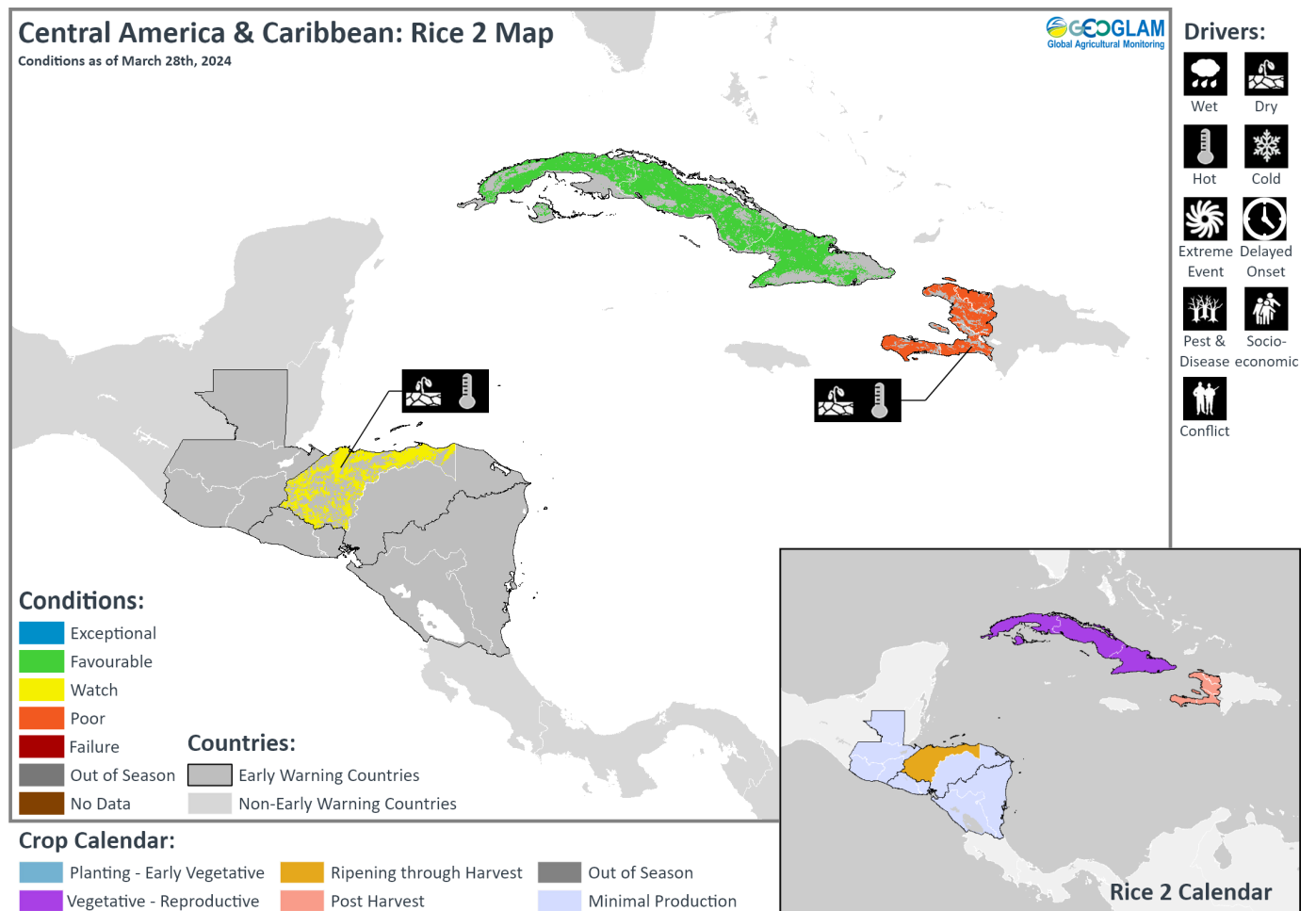
In the **Philippines**, dry-season rice is in the reproductive to maturing stage with concern in most areas due to below to well below-normal rainfall received. Twenty-four provinces from Luzon to Visayas reported dry conditions, though some areas in Mindanao located in the south received normal to above-normal rainfall. Drought conditions are expected to continue into April and May, and this season's harvest may be lower than normal. In **Thailand**, planted area of dry-season rice is about 1.46 million hectares and is expected to be slightly lower than the last season due to a lack of both irrigation and natural water resources. However, planted area is also expected to be 13 percent higher than the national plan as the expectation of a high market price has led some farmers to expand their plantings. Crops are now in the grain filling and harvesting stage, and yield and production are expected to be lower than last year due to a combination of water shortages as well as a fluctuation between high and low daytime temperatures which has resulted in bacterial leaf blight disease in the Central Region. In northern **Viet Nam**, dry-season (winter-spring) rice is in the sowing and early growing stages. Total sown area is 0.77 million hectares, and growing conditions are favourable due to adequate irrigation preparation. In the south, harvesting of dry-season (winter-spring) rice is underway with a total harvested area of 0.27 million hectares out of 1.88 million hectares planted. Yield is expected to be lower than the last season primarily due to dry weather, but there is also damage from saltwater intrusion, which is currently in the peak period in the Mekong Delta and is forecast to remain at a high level through April and May. Saltwater intrusion is currently estimated to have affected more than 29 thousand hectares of late dry-season (winter-spring) rice. In **Laos**, planting of dry-season rice is mostly complete in all areas. Planted area reached 91 thousand hectares which is slightly lower than the national production plan due to farmers allocating some of the area to high earning cash crops. Crops are in the young panicle forming to grain filling stage, and growing conditions are generally favourable due to adequate irrigation water supply. Additionally, some areas received considerable rainfall from late February that benefitted rice growth. In **Myanmar**, planted area of dry-season rice is about 935 thousand hectares accounting for 89 percent of the national plan, and the final area is expected to be slightly lower from the national plan due to the effects of drought this year. However, current growing conditions are favourable, and crops are mostly in the panicle forming stage. Harvesting of earlier planted crops is now underway in the delta region with a yield of 4.40 tons per hectare, which is similar to last year. In **Cambodia**, planting of dry-season rice has reached 840 thousand hectares, a 23 percent increase compared to last year. However, about 1.7 percent of the planted area has been damaged from a combination of water shortages and high temperatures that are exacerbating the shortages, and yield is expected to be 4.6 tons per hectare, which is lower than the previous year. The current weather conditions are expected to continue, raising concern for future damage.

In **Sri Lanka**, harvesting of *Maha* season rice and maize finalized in March under favourable conditions with near-average yields expected. Land preparation is underway for *Yala* season rice and maize, and planting will begin in April. In **Nepal**, wheat harvesting is just beginning while planting of main season maize is underway, and vegetation conditions remain favourable. In **Bangladesh**, harvesting is now underway for winter maize and wheat crops while *Boro* season rice, which accounts for about 55 percent of rice production, is in vegetative to reproductive stage for harvest from April. Additionally, planting of summer season maize is now underway. Overall conditions remain favourable throughout the country. In the **Democratic People's Republic of Korea**, land preparation is underway for main season maize, and planting will begin in April.



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

Central America & Caribbean



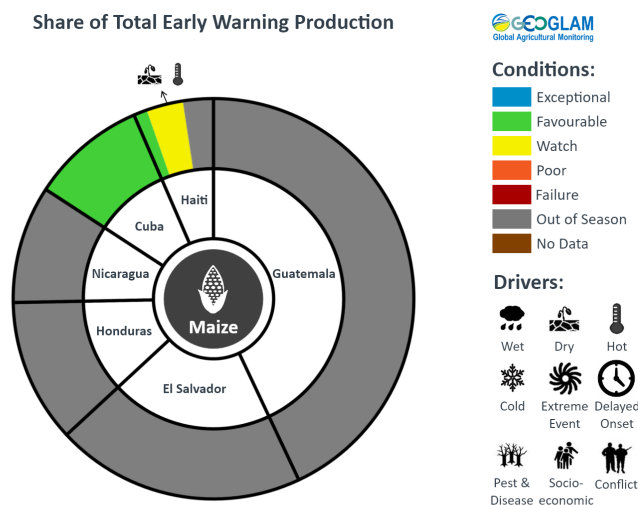
Crop condition map synthesizing Rice 2 conditions as of March 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Conditions that are other than favourable are labeled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

In Central America, harvesting of second season rice is nearing completion in northern **Honduras**, and there is some concern due to below-average precipitation and high temperatures in March in some areas of the key producing Colón department located in the northeast. However, yields are generally expected to remain average due to favourable conditions during the critical flowering and grain filling stages. Land preparation is underway for main season rice crops, and planting will begin in April. In **Nicaragua**, harvesting of *Apante* season beans concluded in March under favourable conditions. Despite erratic rainfall received in December 2023 and January 2024, followed by a significant dry spell from mid-January to mid-February in the northeast, *Apante* season production is expected to be near to slightly below-normal due to increased sown area.

Throughout the region, land preparation is underway for the *Primera* season, and planting will begin in April and May. However, below-average rainfall and high temperatures continue to impact much of Central America and **Haiti**. While the current El Niño event is expected to transition to neutral conditions between March and June (See Climate Influences Pg. 3), continued irregular precipitation is expected for the beginning of the rainy season. The irregular rains in combination with high temperatures will make it difficult for soils to reach optimal moisture levels prior to the sowing of the *Primera* season in Central America and *Primtemps* season in **Haiti**. Additionally, a La Niña event is expected to develop from July to September (See Climate Influences Pg. 3), which could result in excessive rains when crops are reaching maturity and nearing harvest.

In **Haiti**, harvesting of *Hiver* season beans as well as second season rice finalized under poor conditions as a result of low

Share of Total Early Warning Production



Conditions as of March 28th, 2024

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

rainfall amounts since the start of the season combined with high temperatures which impacted final yields. Vegetation conditions showed consistent degradations since mid-February, and production is expected to be below-average. Planting of *Printemps* season cereals is now underway, and conditions are mixed as dry and hot weather from the previous season extended into March and is now impacting planting conditions in parts of the centre and southeast. More precipitation is needed to replenish irrigation water supply; however, forecast average precipitation through May is expected to benefit reservoirs and crop emergence. In **Cuba**, harvesting of main season maize began in early March, and production is expected to increase from the previous year due to adequate weather outcomes and increased fertilizer availability. Second season rice crops, which account for about a third of annual production, are currently at the flowering to grain-filling stage under favourable conditions. Planted area is estimated to have increased from the previous year as a result of the domestic production of fertilizers in 2023. However, planted area remains below-average. Additionally, land preparation is underway for main season rice crops, and planting will begin in April.

i Sources and Disclaimers:

The Crop Monitor assessment is conducted by GEOGLAM with inputs from the following partners FEWS NET, JRC, WFP, ARC, AFSIS, MESA, ICPAC, FAO GIEWS, Applied Geosolutions and UMD. The findings and conclusions in this joint multi-agency report are consensual statements from the GEOGLAM experts, and do not necessarily reflect those of the individual agencies represented by these experts. More detailed information on the GEOGLAM crop assessments is available at www.cropmonitor.org

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 April 4th, 2024.

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.

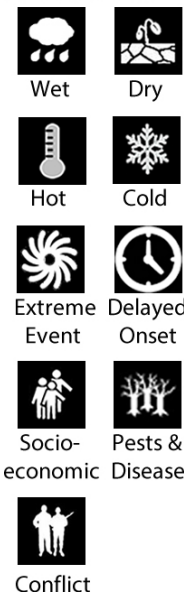
Extreme Events: This is a catch-all for all other climate risks (i.e. hurricane, typhoon, frost, hail, winterkill, wind damage, etc.)

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.

East Africa				
Country	Crop	Season 1 Name	Season 2 Name	Season 3 Name
Burundi	Maize	Season B	Season A	
Burundi	Rice	Season B		
Ethiopia	Maize	Meher season	Belg season	
Kenya	Maize	Long Rains	Short Rains	
Rwanda	Maize	Season B	Season A	
Somalia	Maize	Gu Season	Deyr Season	
Somalia	Sorghum	Gu Season	Deyr Season	
South Sudan	Maize	First Season		
South Sudan	Millet	First Season		
South Sudan	Sorghum	First Season		
Uganda	Maize	First Season	Second Season	
United Republic of Tanzania	Maize	Bimodal: Masika Unimodal: Msimu	Vuli	
United Republic of Tanzania	Millet	Bimodal: Masika Unimodal: Msimu		
United Republic of Tanzania	Rice	Bimodal: Masika Unimodal: Msimu		
United Republic of Tanzania	Sorghum	Bimodal: Masika Unimodal: Msimu	Vuli	
United Republic of Tanzania	Wheat	Bimodal: Masika Unimodal: Msimu		

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	

Middle East & North Africa				
Country	Crop	Season 1 Name	Season 2 Name	Season 3 Name
Egypt	Rice 1	Summer-planted	Nili season (Nile Flood)	

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	

Central and 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	
Pakistan	Rice	Kharif (summer)		
Pakistan	Wheat	Rabi		
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.


Southeast Asia				
Country	Crop	Season 1 Name	Season 2 Name	Season 3 Name
Bangladesh	Maize	Winter	Summer	
Bangladesh	Rice	Boro	Aman	Aus
Cambodia	Rice	Wet-season	Dry-season	
Indonesia	Rice	Wet-season	Dry-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	Maize	Maha		
Sri Lanka	Rice	Maha	Yala	
Thailand	Rice	Wet-season	Dry-season	
		North: Other wet-season (summer-autumn)		North: Main wet-season (seasonal)
		South: Other wet-season (autumn-winter and seasonal)	Dry-season (winter-spring)	South: Main wet-season (summer-autumn)
Vietnam	Rice			

Central America & Caribbean				
Country	Crop	Season 1 Name	Season 2 Name	Season 3 Name
El Salvador	Beans	Primera	Postrera	
El Salvador	Maize	Primera	Segunda	
Guatemala	Beans	Primera	Postrera	Apante
Guatemala	Maize	Primera	Segunda	
Haiti	Beans	Printemps	Été	Hiver
Haiti	Maize	Printemps	Été	
Honduras	Beans	Primera	Postrera	
Honduras	Maize	Primera	Segunda	
Nicaragua	Beans	Primera	Postrera	Apante
Nicaragua	Maize	Primera	Segunda	



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