

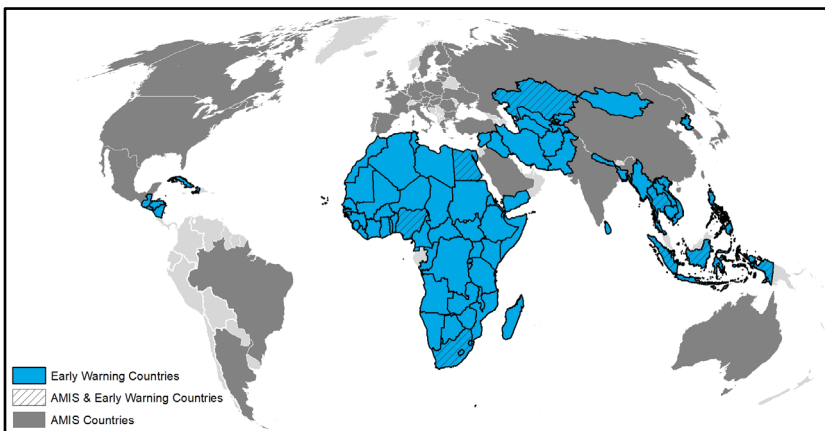


Crop Monitor

EARLY WARNING

Overview:

In **East Africa**, planting and development of main season cereals continues under mixed conditions due to a combination of ongoing rainfall deficits from the beginning of the season in some areas, followed by El Niño-induced heavy rainfall and severe flooding across parts of the region. A possible early cessation of rains may also impact parts of Kenya and Somalia. In **West Africa**, planting and development of main season cereals continues under generally favourable conditions except along parts of the Sahel experiencing delayed rainfall onset and in conflict-affected areas. In the **Middle East and North Africa**, wheat yields are expected to be well below-average in Morocco and below-average in northwestern Algeria due to prolonged seasonal drought. In **Southern Africa**, below to well below-average yields resulted in many areas for the main season as a result of prolonged drought and a severe dry spell. Wheat planting is progressing under favourable conditions, but low Kariba Dam levels may influence power supply in some areas as the season progresses. In **Central and South Asia**, winter wheat harvesting is underway while planting and development of spring wheat continues. While conditions have improved from the previous month in some countries, a combination of prior dry concerns and recent flooding is impacting some areas. In **Southeast Asia**, harvesting of wet-season rice is nearing completion in the south, and harvesting of dry-season rice is nearing completion in the north. Final yield outcomes are generally expected to be favourable except in areas of Thailand impacted by drought this season. In **Central America and the Caribbean**, land preparation and planting of *Primera* season cereals is underway with ongoing concern in Guatemala and Honduras due to a combination of antecedent dry conditions that are continuing into the current season as well as prolonged hot temperatures.



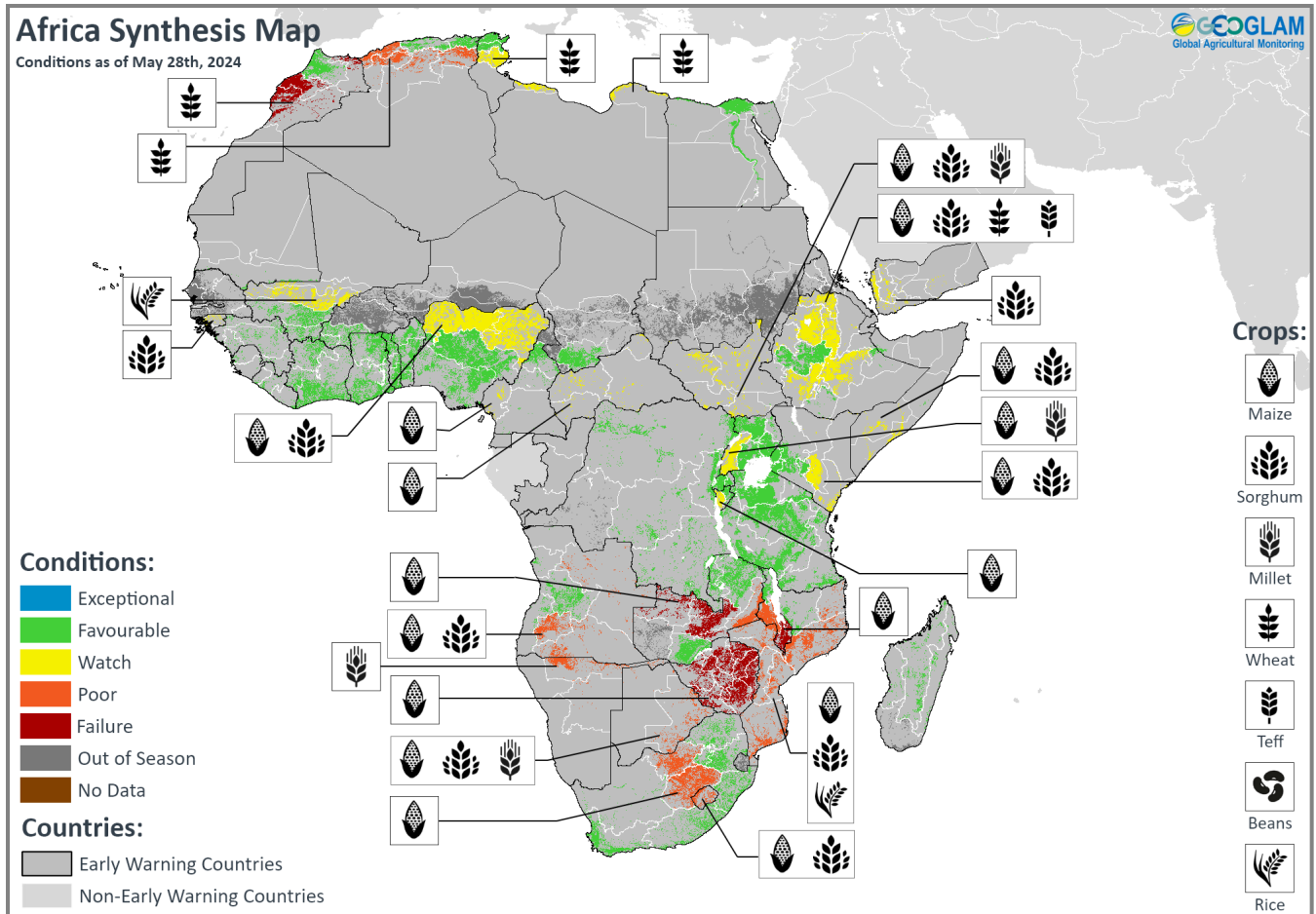
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GEOGLAM Crop Monitor for Early Warning

Crop Conditions at a Glance

based on best available information as of May 28th



Crop condition map synthesizing information for all Crop Monitor for Early Warning crops as of May 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: Across East Africa, planting and development of main season cereals is underway, and overall conditions are mixed due to a combination of ongoing dry concerns from the beginning of the season, recent heavy rainfall and resultant flooding in parts of South Sudan, Ethiopia, Somalia, and Burundi, and a possible early cessation of rains in parts of Somalia and Kenya. A wetter than normal June through September rainfall season is expected for most areas that typically receive JJAS rains (See Regional Outlook Pg. 7).

WEST AFRICA: Planting and development of main season cereals continues in southern areas while planting is underway along the Sahel. Agro-climatic conditions remain generally favourable except along parts of the Sahel where delayed rainfall onset is affecting early season crop performance and in conflict-affected areas.

MIDDLE EAST & NORTH AFRICA: In western North Africa, yields were severely affected by drought this season, particularly in Morocco, where failed outcomes are expected and in northwestern Algeria, where poor yield outcomes are expected. In the Middle East, country level winter cereal production is expected to be above-average despite irrigation restrictions in Iraq and expanding dry concerns in Iran.

SOUTHERN AFRICA: Harvesting of main season cereals finalized under mostly poor to failure conditions, including in

the main producing central region of South Africa. Overall regional production for Southern Africa is expected to be below-average as a result of prolonged drought and a severe dry spell this season. Wheat planting is now underway, and while early season conditions are favourable, water shortages of the Kariba Dam could impact power supply.

CENTRAL & SOUTH ASIA: Wheat conditions are mixed as antecedent dry conditions continue to impact parts of Turkmenistan, while a recent shift to heavy rains is raising concerns regarding flooding and field inundation in Kyrgyzstan and northern Kazakhstan.

SOUTHEAST ASIA: In the south, harvesting of wet-season rice is nearing completion with likely favourable yield outcomes. In the north, harvesting of dry-season rice is nearing completion with below-average yields expected in Thailand due to drought damage and limited irrigation water supply. Additionally, a record-breaking heatwave is impacting most areas, and hot temperatures are likely to continue through August (See Regional Outlook Pg. 15).

CENTRAL AMERICA & CARIBBEAN: Land preparation and planting of *Primera* season cereals is ramping up. There is some initial concern as low and erratic rainfall across most areas has delayed typical planting schedules, and high temperatures have reduced soil moisture and river flows.

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 California in the US, southern Guatemala, El Salvador, southern Honduras, western Nicaragua, western Costa Rica, northern Columbia, northern Suriname, French Guiana, Türkiye, Georgia, Armenia, northwestern Iran, southern Kyrgyzstan, Tajikistan, northeastern Afghanistan, and parts of southwest and southeast China.

There is also a likelihood of below-average precipitation over the southwestern US, western and central Mexico, central Brazil, northern Bolivia, Paraguay, Chile, western Lithuania, western Poland, western and eastern Ukraine, Moldova, eastern Romania, Bulgaria, central Russian Federation, eastern and central Senegal, southern Mali, northern Guinea, Burkina Faso, central Democratic Republic of Congo, central Ethiopia, southern South Africa, northwestern Kazakhstan, Pakistan, northern and central India, western Nepal, Sri Lanka, northern Mongolia, central and northern China, the Democratic Republic of Korea, the Republic of Korea, central Japan, Malaysia, and Indonesia.

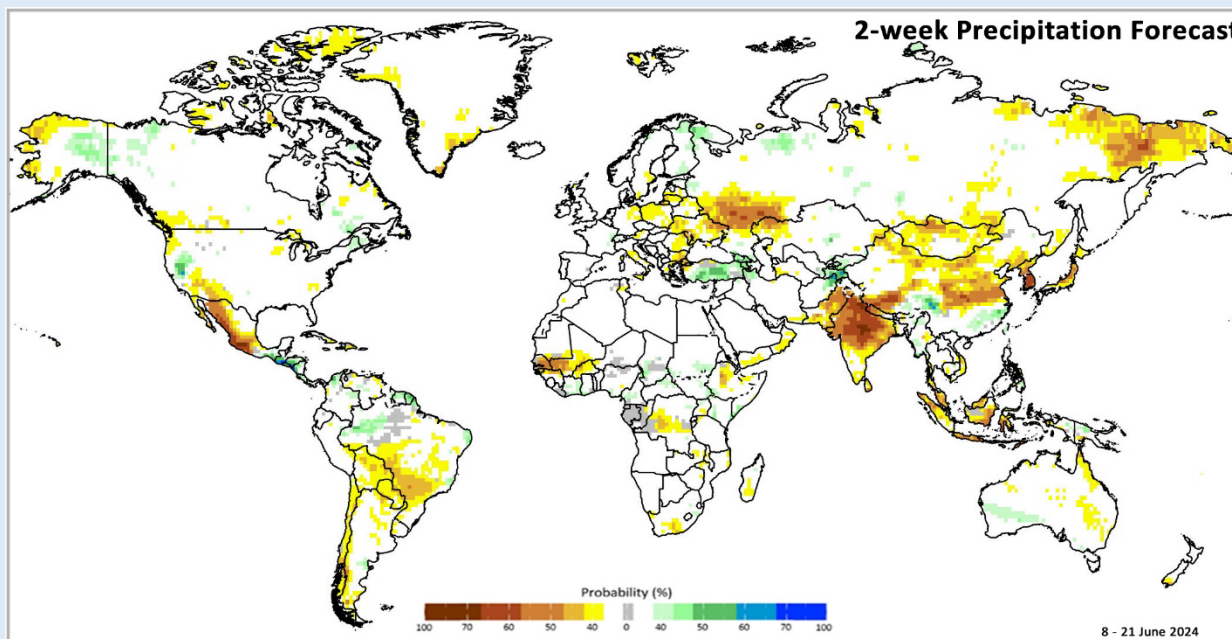


Figure 1: IRI SubX Precipitation Biweekly Probability Forecast for 8 – 21 June 2024, issued on 31 May 2024. The forecast is based on statistically calibrated tercile category forecasts from three SubX models. Source: [IRI Subseasonal Forecasts Maproom](#)

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 next several months will likely be a transition period, from rapidly waning El Niño conditions, into ENSO neutral and then likely emergent La Niña conditions. The CPC/IRI predicts a 69% chance of La Niña during July to September 2024, and chances remain high into early 2025.

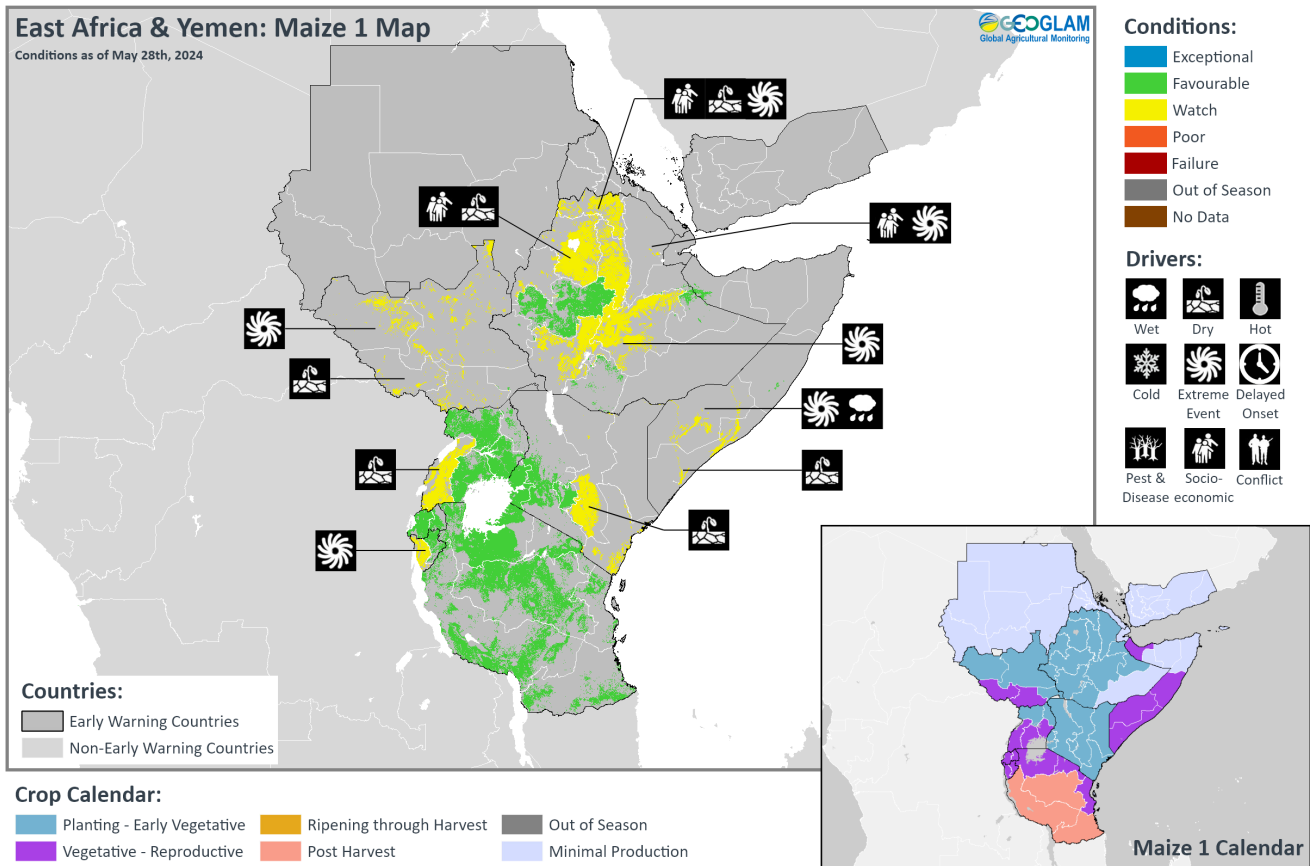
Reflecting a La Niña influence, the July to September seasonal forecasts indicate above-normal precipitation in India, the Maritime Continent, northern East Africa, and Central America. During late 2024 to early 2025, La Niña conditions would raise the chances of below-average precipitation in East Africa, central-southern Asia, southern South America, the southern United States, northern Mexico, and eastern East Asia. Above-average precipitation would become more likely in Southeast Asia, Australia, Southern Africa, and northern South America.

April 2024 was the hottest April on record, and the 11th consecutive month of record-breaking global temperatures. 2024 will be among the top five of warmest years on record, and possibly the warmest (61% chance). There will likely be agricultural impacts from extreme heat, particularly if heat occurs during periods of moisture stress or the key reproductive stages that determine final yields.

Associated with the forecast La Niña and very warm ocean temperatures, the multi-year pattern of climate extremes may continue. A [very active](#) 2024 Atlantic hurricane season is anticipated.

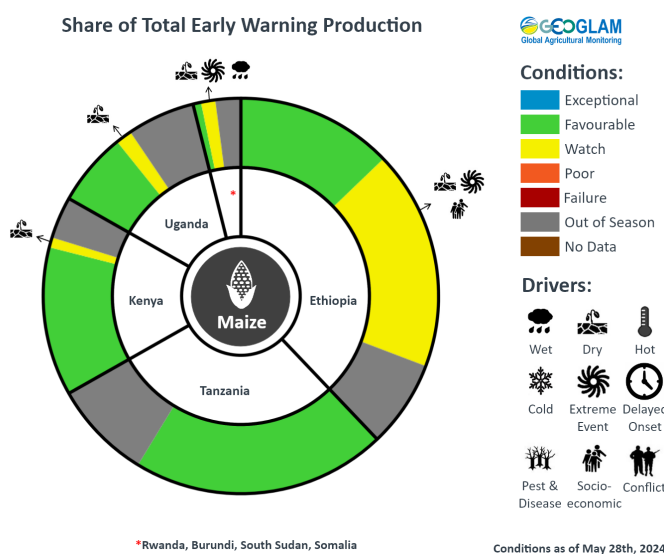
Source: UCSB Climate Hazards Center

East Africa



Crop condition map synthesizing Maize 1 crop conditions as of May 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, planting and development of main season cereals is underway in **South Sudan** and **Yemen** with concern in most areas. In **South Sudan**, dry conditions continue to impact southern areas, while flooding is disrupting planting activities in the northern half of the country. In **Yemen**, dry conditions are impacting some central and western producing areas, and ongoing conflict and socio-economic challenges continue to disrupt production throughout the country. In **Ethiopia**, *Belg* season maize is in vegetative to reproductive stage while planting of *Meher* season cereals is just beginning, and overall conditions are mixed due to a combination of ongoing rainfall deficits, flooding impacts, and ongoing socio-economic challenges in the north.



For detailed description of the pie chart please see description box on Pg. 20.

Across southern East Africa, harvesting of main season cereals is nearing completion in central and southern areas of the **United Republic of Tanzania** while planting and development continues in northern areas of the **United Republic of Tanzania, Burundi, Rwanda, Uganda, Kenya, and Somalia** under mixed conditions. Ongoing El Niño-induced heavy rains and severe flooding are impacting many areas, resulting in displacement and limited food access. The recent enhanced rains and flooding are negatively impacting crop development in western **Burundi** along Lake Tanganyika and in **Somalia** along the upper Shabelle and Juba regions. Conversely, the rains benefitted cropping activities throughout the **United Republic of Tanzania, eastern Burundi, Rwanda, most of Uganda, western Kenya, and northwestern Somalia**. On May 3, coastal areas of **Kenya** and the **United Republic of Tanzania** were also impacted by the passage of Cyclone Hidaya, which was the equivalent of a Category 1 hurricane and the first of its kind to develop in eastern Africa, though the storm did not significantly impact agricultural activities. The June to September rainy season is

generally expected to be above-normal for areas that receive JJAS rains (See Regional Outlook Pg. 7). Conversely, concerns regarding dry conditions remain in western **Uganda**, and an early cessation of rains may impact final production outcomes in coastal areas of **Somalia** and bimodal areas in the eastern half of **Kenya**.

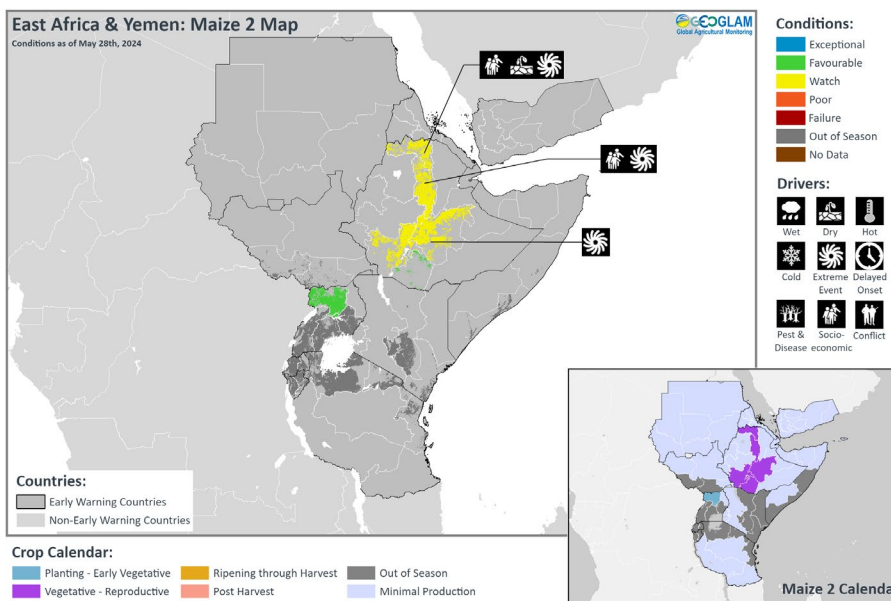
Northern East Africa & Yemen

In **Sudan**, land preparation is underway, and planting of main season millet and sorghum crops will begin in June. However, the ongoing conflict situation continues to impact farmers' access to fields as well as access to credit and agricultural inputs, which leads to inflated production and transportation costs. The situation is expected to severely reduce income from agricultural labour as well as harvest outcomes. In **South Sudan**, planting and development of first season cereals is underway, and there is concern in most areas. Dry conditions continue to impact Western and Central Equatoria located in the south of the country as the rains have yet to start despite rising water levels in the Nile River. Conversely, flooding is impacting planting activities in the northern half of the country. Seasonal flooding has become a yearly occurrence, with record-breaking rains and floods since 2019, and is expected to occur again from mid-2024. In Kapoeta located in the southeast, conditions remain

favourable as good rains in May benefitted crop planting and development. Rains are forecast to be above-average across most areas through June, which is expected to generally benefit yields but could also exacerbate flooding along the river Nile (See Regional Outlook Pg. 7). In **Ethiopia**, *Belg* season maize is in vegetative to reproductive stage while planting of *Meher* season cereals is just beginning, and overall conditions are mixed. The February to May *Belg* rains performed generally well but were delayed with localized dry spells in March and April, which continue to impact some northwestern parts of the country where the *Meher* season is just beginning. Conversely, heavy rainfall in April and early May resulted in flooding across several areas, including parts of the north and central regions. Additionally, delayed distribution of seeds in part of the north and central regions as well as conflict related disruptions in the north resulted in some planting delays. Elsewhere, good rains allowed for timely land preparation and planting, and planted crops are developing under favourable conditions. In **Yemen**, sorghum planting continues under mixed conditions. Near-average rainfall received for the March to May first rainy season is expected to support normal planting activities as well as replenishment of livestock pasture. However, the rains also resulted in moderate flooding during March and April, particularly in the minor producing eastern half of the country, and caused subsequent trade disruptions. Additionally, pockets of rainfall deficits have emerged in some central and western producing areas. Land preparation is underway for spring wheat, and planting will begin in June.

Southern East Africa

In **Somalia**, *Gu* season maize and sorghum crops are in vegetative to reproductive stage for harvest from July, and overall conditions are mixed. Recent rains have improved prospects in the northwest following delayed rainfall onset and dry conditions at the beginning of the season. Since late March, the country has also experienced unusually heavy rainfall and subsequent flooding in riverine areas, which is now impacting planted crops in the upper Shabelle and Juba regions in the southwest. However, late crop replanting is feasible during flood recession. Conversely, the rains have diminished over the past month, and there is now concern that early rainfall cessation may impact cropping outcomes along the southern coastal areas. In **Kenya**, planting of long rains cereals continues in all regions, and harvesting will begin in July. Conditions are mixed throughout the country as a dry March was followed by enhanced rains and some flooding in April, which improved conditions in the Rift Valley region. Conversely, dry spells and reduced rainfall in May along parts of the eastern bimodal areas may affect crops at the vegetative to maturing stage, and possible early cessation of rains may negatively impact harvest outcomes. In **Uganda**, planting of first season cereals continues in northern unimodal areas while crops continue to develop in bimodal central and southern areas. Additionally, planting of second season maize is just beginning in the northwest. Overall conditions are mostly favourable as recent rains have improved conditions following delayed rainfall onset, except in the west where rainfall has been below-average and may impact some crops. However, crops that require less water, such as millet, may still do well. Heavy precipitation since late April has caused flooding in several areas but did not cause significant crop damage. In **Rwanda** and **Burundi**, Season B maize and rice crops are in vegetative to reproductive stage under generally favourable conditions despite some flooding impacts. In **Rwanda**, heavy rains and floods from April to early May affected provinces in the north, west, and south and damaged several hectares of rice and banana plantations in Ruhango District located in the centre, but crop damage was mostly localized. In western **Burundi**, heavy March to May rainfall resulted in flooding and landslides and subsequent damage to crops, socio-economic infrastructure, and other economic activities. The western plains along the shores of Lake Tanganyika were most affected by floods due to rising water levels and overflowing rivers that cross the plain. The Crête Congo Nile mountains region overlooking the plain also experienced significant landslides. Bean crop production will likely be impacted, depriving



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

affected households of a primary protein source. In northern bimodal areas of the **United Republic of Tanzania**, harvesting of *Masika* season cereals is underway while *Vuli* season cereals continue to develop for harvest from June. In unimodal areas of the centre and south, harvesting of *Msimu* season cereals is nearing completion. While heavy rainfall since early April has resulted in flooding and flash flooding as well as landslides in most areas, overall conditions remain favourable for ongoing crop development and harvesting.

Regional Outlook: Above-average seasonal rainfall totals in Kenya, southern Ethiopia, and central Somalia likely followed but a wetter than normal JJAS rainfall season

During recent weeks, from April 26th to May 25th, rainfall was highly above-average in central, central-western, coastal, and northern Kenya, in north-central and southeastern Tanzania, central Somalia, and southern Ethiopia. Rainfall was below-average in Uganda, South Sudan, northwestern and northeastern Tanzania, southwestern Somalia, and western and central Ethiopia (Figure 1-left). April-May was much hotter than normal across western East Africa, in portions of central-eastern Kenya, and central and northern Somalia.

There may be a lengthy 6-8 week-long period of drier-than-average conditions in central and southern Uganda, northeastern Tanzania, coastal Kenya, southwestern Somalia, and western and central Oromia in Ethiopia, if GEFS and ECMWF forecasts for the first two weeks of June materialize. Forecast above-average temperatures may speed the loss of soil moisture.

Above-average seasonal rainfall totals in Kenya, southern Ethiopia, and central Somalia reflect persistent wet conditions during April and May (Figure 1 middle-left). In Kenya, flooding this season has already killed at least 284 people and 11,341 livestock, and ruined 61,038 acres of cropland, according to the [Red Cross](#).

NDVI and soil moisture are above-average across most March to May season rainfall areas. The ITCZ lingered longer in the south than is typical for late May, and associated low rains and high temperatures have delayed vegetation green-up in central and northern South Sudan and central-western and northwestern Ethiopia, based on [NDVI](#) for May 16th-25th.

During June to September (JJAS) 2024, increased chances of wetter-than-normal conditions are predicted by the GHACOF 67th COF, WMO, C3S, and NMME. Along with this will be elevated risks of flooding along river catchments and flood-prone urban regions. The NASA forecast predicts above-average streamflow during August, along the White Nile and Blue Nile Rivers and in multiple upper catchment areas, and along the Awash, Juba, and Shabelle Rivers. In South Sudan, vast low-lying areas have flooded in recent years, and the forecasts for above-normal JJAS rainfall and currently high Lake Victoria level raise concerns about flooding in 2024. JJAS temperatures will be moderated by rainfall and there will be a strong tendency for hotter-than-normal conditions in dry southern and eastern areas.

According to the 67th Greater Horn of Africa Climate Outlook Forum (Figure 1 middle-right): *The post-processed seasonal forecast for June to September (JJAS) 2024, consolidated from nine different global models initialized in May 2024, indicates increased chances for wetter conditions (above-average rainfall) over most areas where JJAS is a rainy season. This is particularly evident in Djibouti, Eritrea, central and northern Ethiopia, western and coastal Kenya, as well as much of Uganda, South Sudan, and Sudan. Enhanced probabilities (65%) of above-average rainfall are predicted over drought-prone areas of northeastern Ethiopia, isolated areas of central Sudan, and Eritrea. Raised probabilities (55%) of wetter conditions are also indicated over southwestern and central Ethiopia, much of Sudan, eastern South Sudan, eastern Uganda, and parts of western and coastal Kenya. On the other hand, parts of northern Somalia, isolated areas over western Ethiopia, and western South Sudan are likely to experience drier-than-average (below-normal) conditions.*

Associated with forecast development of another La Niña event (previously seen during late 2020 through early 2023), the NMME predicts increased chances of below-normal October to December 2024 rainfall in eastern areas (Figure 1-right). If these conditions materialize, there will be increased risks of below-average rainfall in back-to-back October to December and March to May growing seasons in these areas.

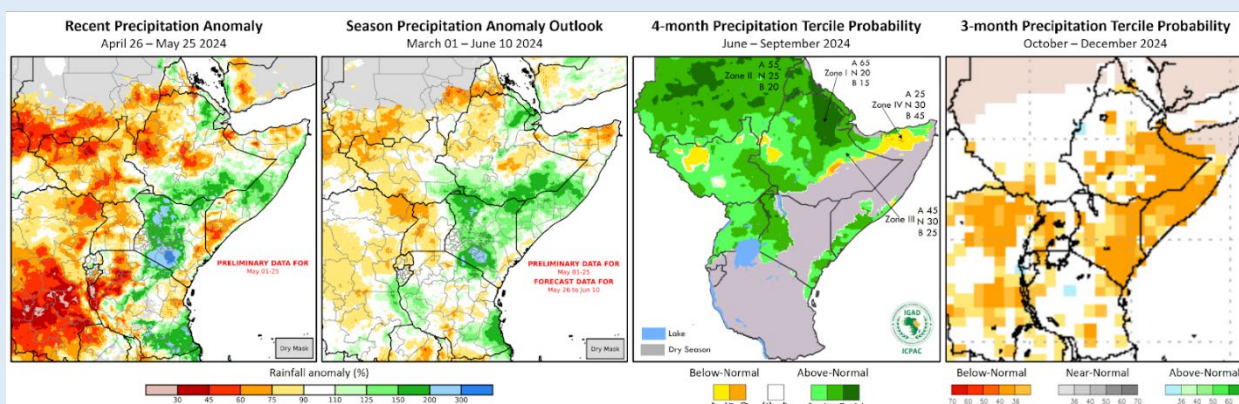
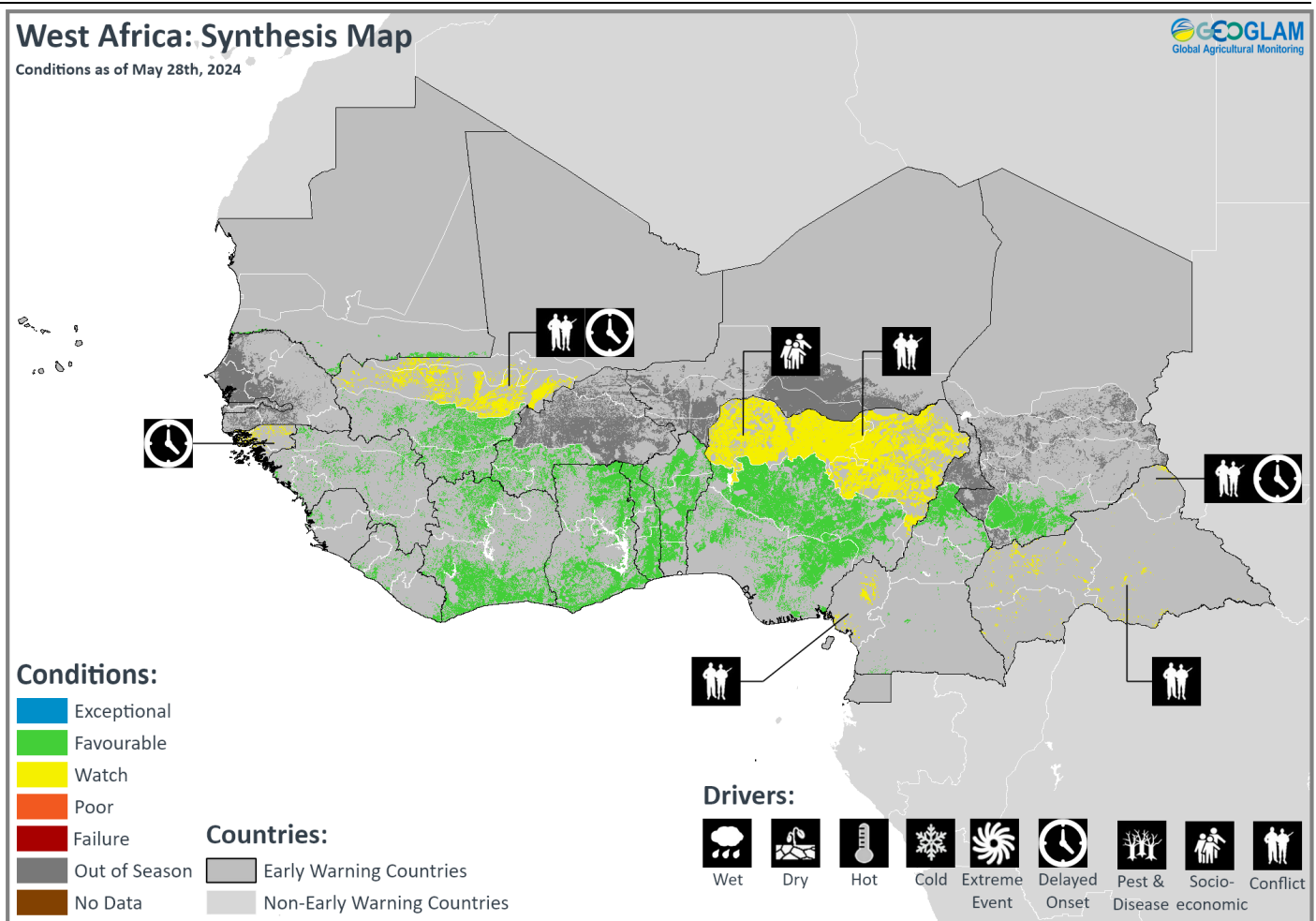


Figure 1. A recent rainfall anomaly, a seasonal rainfall anomaly outlook, 4-month and 3-month probabilistic rainfall forecasts. Left and middle-left: Both panels are [CHC Early Estimates](#), which compare current precipitation totals to the 1981-2023 CHIRPS average for respective accumulation periods. These show the percent of average precipitation for April 26th to May 25th, 2024 (left), and for March 1st to June 10th (middle-left). Both use CHIRPS Prelim for May 1st to 25th; the outlook includes a CHIRPS-GEFS forecast for May 26th - June 10th. Middle-right: 67th Greater Horn of Africa Climate Outlook Forum (GHACOF67) June to September 2024 rainfall forecast. Right: WMO probabilistic forecast for October to December 2024 rainfall, based on models initialized in May. From the WMO Lead Centre Long-Range Forecast Multi-Model Ensemble.

Source: UCSB Climate Hazards Center

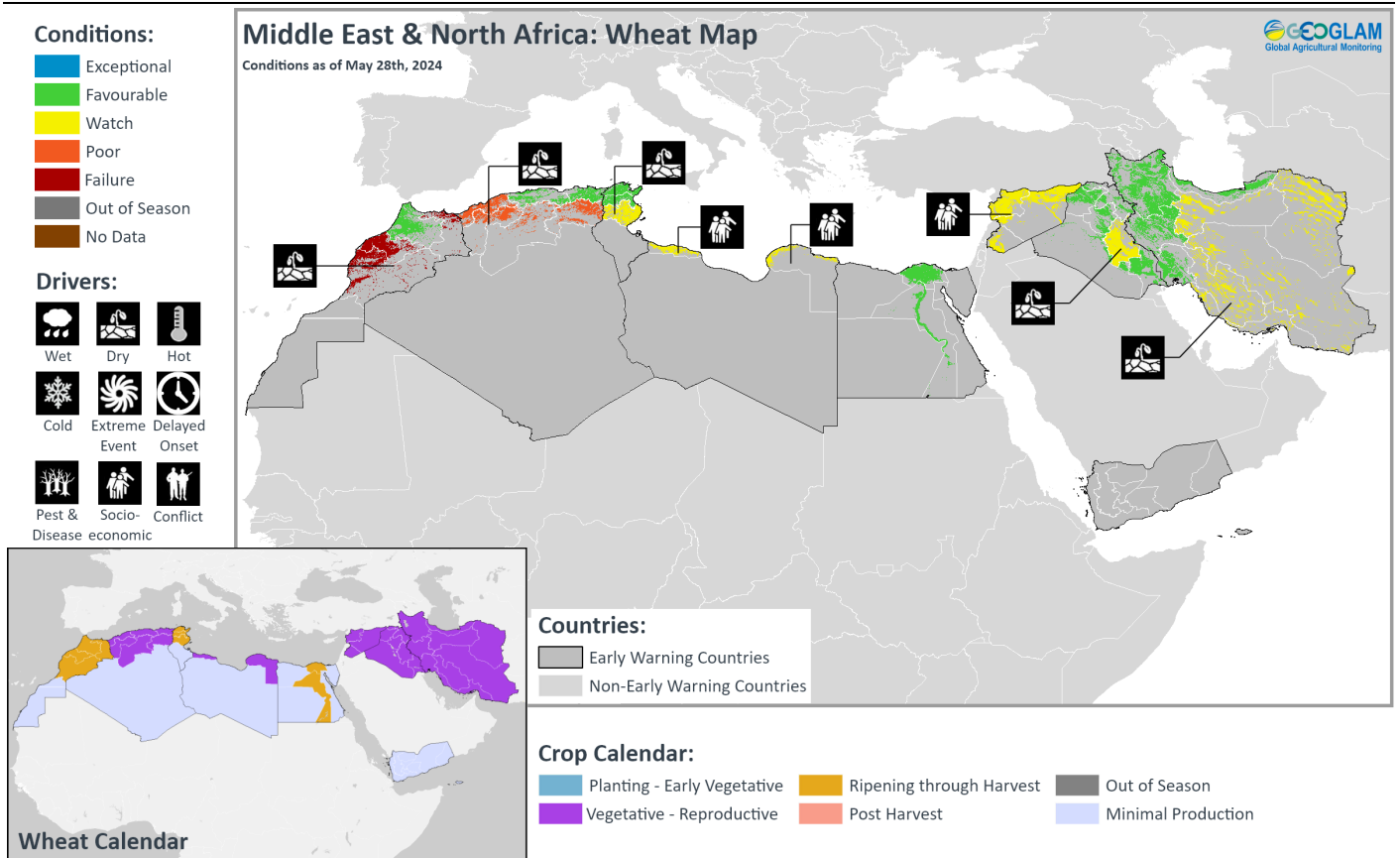
West Africa



Crop condition map synthesizing crop conditions as of May 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 and development of main season cereals continues in all countries, including **Guinea, Sierra Leone, Liberia, Cote d'Ivoire, Ghana, Togo, Benin, Nigeria, Cameroon,** and the **Central African Republic**. Additionally, planting and development of second season cereals is underway in central and southern **Cameroon** and in **Nigeria**. Along the Sahel, harvesting of second season rice finalized in **Mauritania**, and planting of main season cereals is now underway in **Guinea-Bissau, Mali, Burkina Faso,** and **Chad**. Throughout West Africa, agro-climatic conditions remain generally favourable, except along parts of the Sahel where delayed rainfall onset is affecting early season crop performance, including **Guinea-Bissau, central Mali,** and northern **Central African Republic**. Furthermore, persistent conflict continues to impact agricultural outcomes in central **Mali,** northeastern **Nigeria,** the Southwest region in **Cameroon,** and the **Central African Republic,** and socio-economic challenges relating to resource constraints continue to impact northwestern **Nigeria**. In May, much of the region received below to near-average rains, with localized regions receiving above-average amounts, particularly in southeastern **Cameroon** and from southern **Ghana** to northwestern **Nigeria**. In many countries along the Sahel, including **Senegal, Mauritania, Mali,** and **Chad,** forecast near to above-average rains through August are expected to benefit crop germination and early development. However, in **Mauritania,** forecast above-average June to September seasonal rains across the agricultural belt increase risks of flooding following likely above-average flows in the lower Senegal River basin. While the start of the seasonal rains is expected to be early to normal, dry spells could also occur.

Middle East & North Africa



Crop condition map synthesizing wheat conditions as of May 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.**

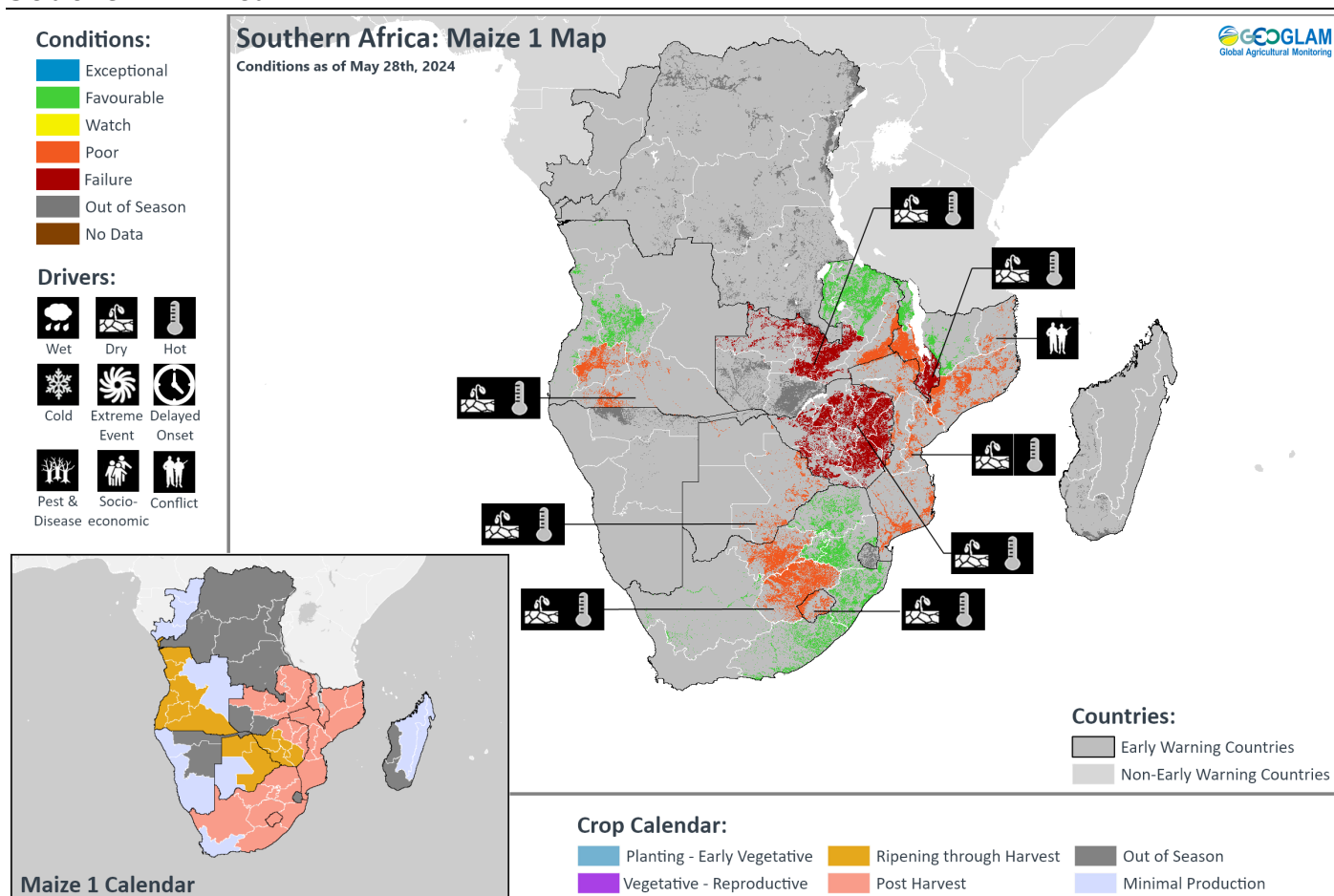
In the Middle East and North Africa, wheat harvesting is now underway in **Morocco, Tunisia, and Egypt** while crops continue to develop in **Algeria, Libya, Syria, Iraq, and Iran** for harvest from June. In western North Africa, yields were severely affected by drought this season, particularly in **Morocco** and northwestern **Algeria** where significant yield reductions resulted. However, recent rainfall improvement between February and March led to some crop recovery in the northern tip of **Morocco**, northeast and north-central **Algeria**, and north and north-central **Tunisia**. At the country level, well below-average yields are expected in **Morocco** while near-average yields are expected elsewhere in North Africa.

In **Morocco**, wheat yields are expected to be 24 percent below-average as a result of drought from December 2023 through February 2024 in combination with above-average temperatures. While rainfall improvements from mid-February through mid-May brought some recovery, the rains arrived too late for significant yield benefits. However, conditions remain favourable in the northern tip of the country where abundant and even rains allowed for the accumulation of above-average biomass. In **Algeria**, initial sowing of winter cereals was delayed by limited rains and high temperatures at the beginning of the season. In the northwest, where crops are typically sown in October and November, a combination of erratic and below-average rains, drought from October 2023 to February 2024, and hot temperatures significantly impacted crop development. Despite improved rains in mid-April and May, it was too late for adequate crop recovery. Conversely, in the northeast and north-centre, where crops are typically sown later in December, increased rains in November and December 2023 brought some reprieve. Additional rains in February and again in late April through mid-May allowed crops to adequately recover from early-season dryness in these areas, and vegetation conditions are at near-average levels. Yield at the national scale is expected to be near-average as reductions in the northwest are expected to be offset by a likely surplus in the northeast and north-centre. In **Tunisia**, a combination of good rainfall distribution in February and March, constant rainfall between April and mid-May, and warm temperatures benefitted crop development, including in the north-centre where there has been improvement from last month's below-average yield expectations. As a result, final yields are estimated to be 9 percent above-average at the national level. In **Libya**, crops in the northwest were negatively impacted by warmer than normal temperatures during the flowering stage. Conversely, crop biomass is near-average in the main producing northeast, and overall yields are expected to be near-average at the national level. In **Egypt**, recent warmer than normal temperatures benefitted the flowering, grain filling, and ripening stages of crop development.

In the Middle East, conditions are mixed with concern in parts of Qadisiya and neighbouring provinces of central-eastern **Iraq** where restrictions on irrigation use impacted sowing activities and in parts of **Iran** where there are expanding dry concerns. However, winter cereals production is expected to be above-average at the country level in **Syria, Iraq, and Iran** as the areas of concern are not expected to largely impact overall harvesting outcomes. While prospects are favourable in the west and north of **Iran**, there is some concern regarding below-average biomass in Fars and Busher provinces located in the southwest of the country, the southern half of

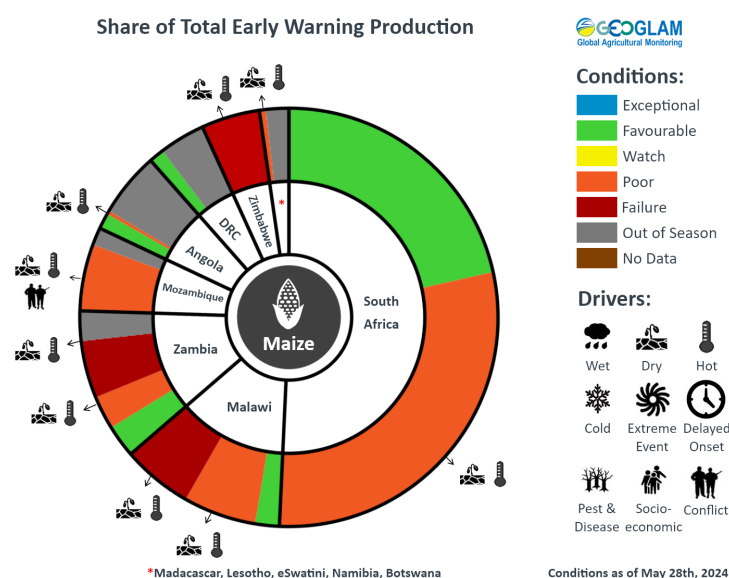
Khorasan and northern Sistan-o-baluchestan provinces located in the east, and Ghazvin province located in the north. Additionally, rice planting is now underway in the main producing regions of the north, and overall conditions are favourable despite a minor rainfall deficit in Mazandaran located in the central-north.

Southern Africa



Crop condition map synthesizing Maize 1 conditions as of May 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 finalized across the region under mostly poor to failure conditions, including in south and eastern **Angola**, northern **Namibia**, **Botswana**, eastern **Zambia**, central **Malawi**, much of **Mozambique**, **Lesotho**, and central **South Africa** where yields are expected to be below-average and in **Zimbabwe**, most of **Zambia**, and southern **Malawi** where yields are expected to be well below-average. This season, national drought emergencies were declared in **Zimbabwe**, **Zambia**, and **Malawi**. Overall production for Southern Africa is expected to be 14 percent below-average as a result of prolonged El Niño driven drought throughout the season as well as a severe dry spell during the critical development stage in February and early March. Over the past one to two months, there has not been much improvement in rainfall except in parts of southern **Mozambique**, northeast and southeastern **South Africa**, and some areas of **Madagascar**, which saw rainfall from March to April. Most areas remained dry over the last two dekads, which is normal as the region enters the dry season. April and May were also categorized by abnormally high temperatures, and while temperatures are decreasing as winter approaches, they remain atypically high in some areas. This may be beneficial in areas with recent rains, such as parts of southern **Mozambique**, parts of **Madagascar**, and parts of **Malawi**, where farmers might engage in late-season planting. However, many regions are still too dry for late-season cropping. Conversely, torrential rains and tropical storms and cyclones this season have also resulted in flooding in parts of **Zambia**, **Malawi**, **Mozambique**, and **Madagascar**, but the storms did not result in substantial yield reductions. Favourable yield outcomes are expected in coastal and northern **Angola**, northern **Zambia**, northern **Malawi**, northern **Mozambique**, **Madagascar**, and elsewhere in **South Africa** where rainfall performance has been comparatively better this season.



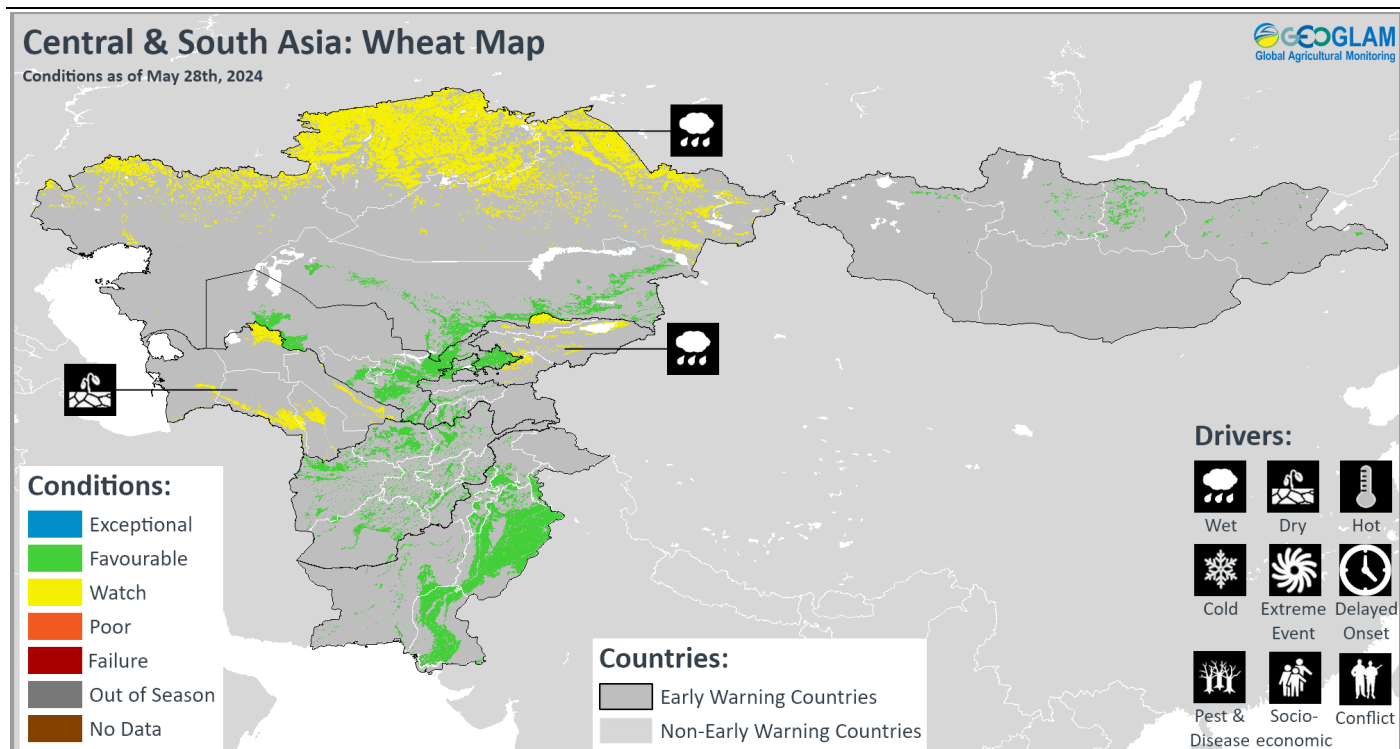
For detailed description of the pie chart please see description box on Pg. 20.

In **Angola**, cumulative seasonal rainfall is 70 to 85 percent of the long-term average across south, east, and central areas and is particularly low in parts of Cunene, Cuando Cubango, and Moxico where 40, 31, and 27 percent of the planted area is expected to be lost, respectively. National cereal production is expected to be lower than the previous year. In **Zambia**, the country experienced the driest agricultural season in more than forty years, resulting in crop failure and impacting water availability for livestock. A national disaster and emergency was declared in February, and significant rainfall deficits in Central, Copperbelt, Eastern, Lusaka, North-Western, Southern, and Western provinces severely reduced harvest outcomes at the national level, culminating in the destruction of about 43 percent of planted maize crops (982,765 hectares out of an estimated 2,272,931 hectares planted). Furthermore, prolonged dry spells in the south during the critical vegetative and flowering stages resulted in total crop failure. In **Zimbabwe**, this season's El Niño-induced drought impacted more than 80 percent of the country and resulted in a significantly below-average harvest. As a result

of the drought impacts to the agricultural season, the country declared a state of national disaster in April. Maize production is expected to be 72 percent below the previous year and 60 percent below-average, according to government reports. In **Mozambique**, the presence of a particularly strong El Niño event throughout the duration of the season brought below-average rainfall to the south and centre between October 2023 and February 2024 and above-average rainfall to the north. Additionally, unusually high temperatures exacerbated the dry impacts, and extreme weather events such as Tropical Storm Filipo in March compounded agricultural challenges. National cereal production is expected to be below-average due to drought, which affected the main producing provinces of Tete, Zambézia, Sofala, and Manica. In **Malawi**, the El Niño event brought well below-average rainfall throughout the duration of the season from October 2023 to February 2024, with high temperatures extending through May. The prolonged dry and hot conditions significantly impacted agricultural outcomes and rural livelihoods in central and southern regions. The conditions are forecast to result in a 23 percent decline in this season's maize harvest compared to average, which includes a 43 percent decline for the southern region, according to government reports. Conversely, areas of the north are expecting near-average yields despite minor impacts from floods and landslides this season. In **South Africa**, dry conditions during May over the interior are supporting harvesting activities. However, maize yields are projected to be about 13 percent below-average at the national level and 19 percent lower than the previous year's bumper crop, driven by significant yield declines in the major producing North West and Free State provinces. Elsewhere in the country, yields are projected to be near-normal. In **Lesotho**, persistent high temperatures between January and March contributed to widespread dryness across most crop fields, exacerbating crop damage. Enhanced rainfall in April somewhat improved soil moisture conditions, though cumulative rainfall is lower than average in the southwest, and overall yields are expected to be below-average. In the **Democratic Republic of the Congo**, harvesting of main season sorghum and second season maize is underway in the centre and southeast while crops continue to develop along the north and east, and overall conditions remain favourable. While April rainfall was less than 75 percent of average in some northeastern areas, rainfall totals remain adequate for crop development. Land preparation is underway for main season maize, and planting will begin in June.

Wheat planting is now underway in **Zambia, Zimbabwe, South Africa, and Lesotho** under generally favourable conditions for the start of the season. However, in **Zambia**, the ongoing drought is likely to result in significant water shortages as the season progresses. In **Zimbabwe**, while media reports indicate sufficient water supply for the wheat season, a government assessment suggests significant shortages across the country, particularly in the Matabeleland region. Additionally, levels of the Kariba Dam, which is located along the border of **Zambia** and **Zimbabwe**, are only at 13.1 percent capacity, which raises concern for water availability and may affect power supply during the wheat season. In **Lesotho**, recent rainfall improvement in April is expected to benefit soil moisture conditions for planting. While conditions are generally favourable in **South Africa**, dryland producing areas over the winter rainfall region are experiencing contrasting dry conditions in the west and ample rainfall in the south. However, a recent cold front should support planting activities over this area.

Central & South Asia



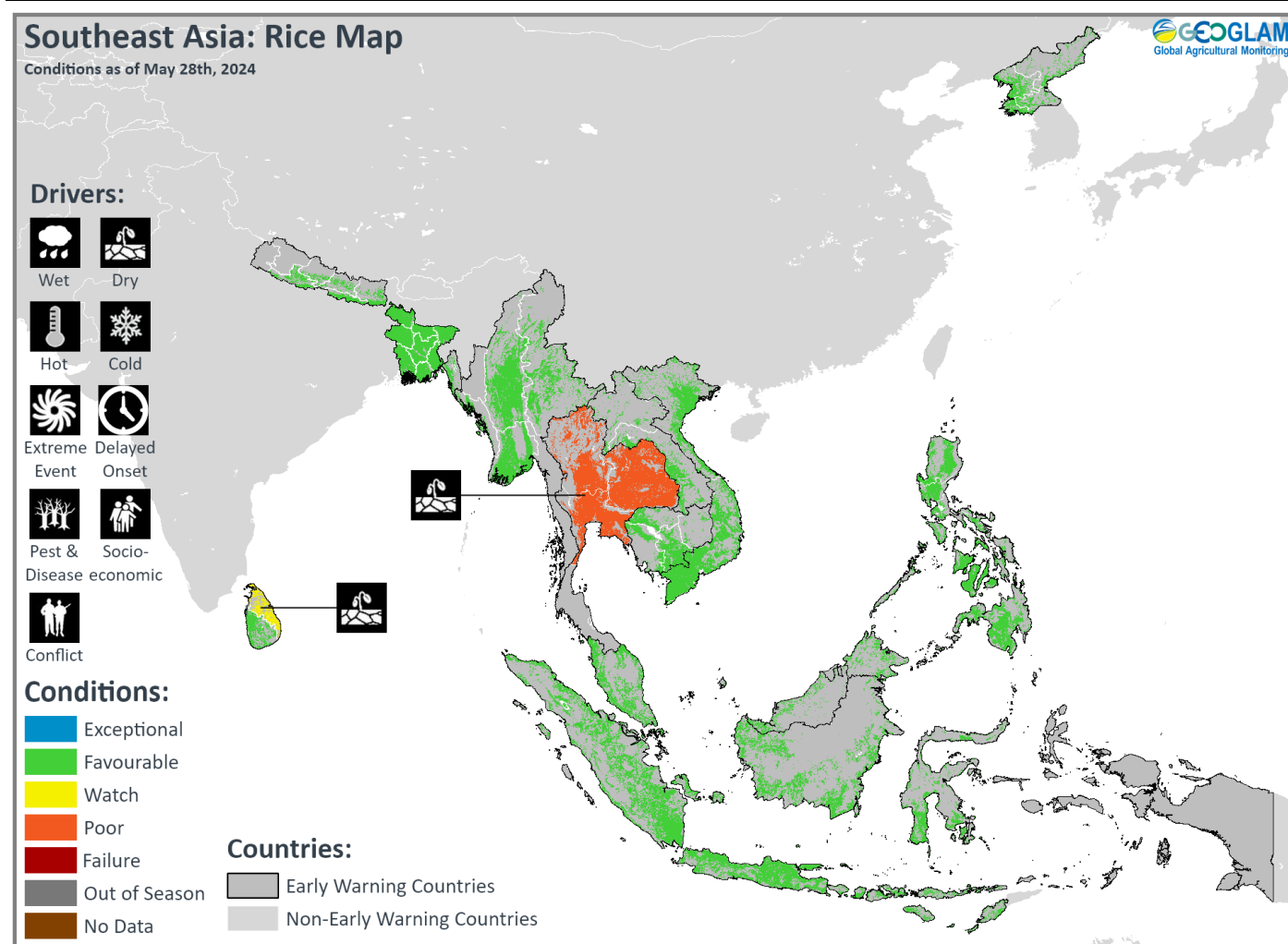
Crop condition map synthesizing wheat conditions as of May 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Crops that are in other than favourable conditions are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

In Central and South Asia, winter wheat harvesting continues in **Afghanistan** and **Pakistan** under mostly favourable conditions. In southern **Kazakhstan**, **Kyrgyzstan**, **Tajikistan**, **Turkmenistan**, and **Uzbekistan**, crops continue to develop for harvest from June, and concern remains in some areas due to a combination of antecedent dry conditions, followed by a recent shift to wet conditions with the expected transitions to ENSO neutral and La Niña (See Climate Influence Pg. 3). Despite recent rainfall improvements, dry soil moisture reserves remain a concern for ongoing crop development in **Turkmenistan**. Conversely, heavy rainfall from early May resulted in crop improvement in **Uzbekistan**, **Tajikistan**, and southern **Kazakhstan** but is causing concern over **Kyrgyzstan** where the rains resulted in field inundation, flooding, and landslides, particularly as the previously dry soils prevented adequate water uptake.

Planting and development of spring wheat continues in **Afghanistan**, **Tajikistan**, **Kyrgyzstan**, **Kazakhstan**, and **Mongolia** under mixed conditions. Favourable outcomes are expected in most of **Afghanistan**, **Tajikistan**, southern **Kazakhstan**, and **Mongolia** while enhanced rains are disrupting sowing activities and crop emergence in **Kyrgyzstan** and the major producing northern half of **Kazakhstan**. In **Afghanistan**, a below-normal start to the season in October 2023 was followed by continued low precipitation through January 2024, culminating in below-average cumulative rainfall across most north, central, and western areas and low soil moisture levels. While winter wheat crops, which account for the majority of annual wheat production, are mostly irrigated, the dry conditions resulted in a significant decrease of the rainfed winter wheat area by around 50 percent and affected rainfed crop establishment across the country, especially in the north, northeast, centre, west, and central highlands. Additionally, insufficient snow cover resulted in localized winterkill in parts of the north. However, rainfall improvements from February began to improve previous deficits, benefitting winter wheat crops that emerged from dormancy in early March and improving soil moisture for the start of spring wheat planting. Heavy precipitation from April through mid-May further reduced deficits and brought rainfall totals to above-average levels in the south, east, southeast, and parts of the west. In the north and northeast, rainfall totals are near-average. In general, the enhanced rains benefitted second season wheat crops, which are mostly rainfed, and improved streamflow amounts and livestock pasture availability. The excessive rains also resulted in pluvial flooding across most areas of the country. The floods were compounded by unusually warm temperatures that melted mountain snow, contributing to river swells, and affected about 4,000 hectares of agricultural land, primarily in the east and southeast. Then, in early May, flash floods intensified the flooding across the northeast region that had been ongoing since mid-April, destroying an estimated 8,400 hectares of agricultural land. In total, 25 out of 34 provinces have been impacted by the floods, and the heavy rains have delayed wheat harvesting activities by two to three weeks in affected areas. However, the overall flood impacts to the agriculture and livestock sectors were not substantial, and crop conditions remain generally favourable. Additionally, similar to last year, the ban on poppy cultivation once again resulted in an expansion in the area under wheat this season. Furthermore, farmers have not needed to extract groundwater for irrigation this year due to improved surface water availability. As a result, groundwater conditions have improved, and production costs are comparatively lower. In **Kyrgyzstan**, heavy rainfall since late April affected south and eastern areas with several landslides and flooding. Osh, Jalal-Abad, Naryn, Batken, and Talas provinces were particularly affected by the severe floods, and a state of emergency was declared in Osh, Jalal-Abad, and Talas located in the west of the country. In southern **Kazakhstan**, conditions have improved for ongoing winter wheat

development as above-normal precipitation allowed for adequate accumulation of soil moisture. Spring wheat sowing is now complete in the south and southeast while planting continues elsewhere. However, recent enhanced rains during May in the major producing northern half of the country are affecting the planting pace in some areas. In **Pakistan**, planting of main season maize continues under favourable conditions, and crops will be harvested from mid-September. Land preparation is underway for *Kharif* (summer) season cereals, and planting will begin in June.

Southeast Asia



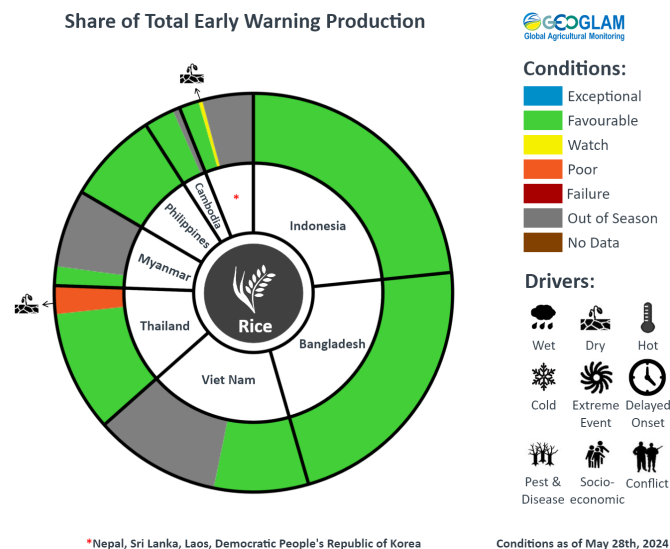
*Crop condition map synthesizing rice conditions as of May 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Crops that are in other than favourable conditions are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

In southern Southeast Asia, harvesting of wet-season rice is in its final stage, and while harvested area will decrease, the yield is expected to increase due to sufficient irrigation water supply and stable weather conditions throughout the growing season. Dry-season rice is in the seeding to early growing stage under favourable conditions due to adequate rainfall received. In northern Southeast Asia, harvesting of dry-season rice is nearing completion, and final production outcomes are mixed. The overall planted area has decreased due to the inability of farmers to secure enough irrigation water as well as impacts of drought damage in some countries. Yield outcomes are below-average in **Thailand** and slightly below-average in the **Philippines**. Wet-season rice is in the field preparation to seeding stage, and planted area is expected to increase due to a high market price. Elsewhere in Southeast Asia, conditions remain generally favourable except in the northeast of **Sri Lanka** where early season dryness continues to impact *Yala* season planting and in localized areas of **Bangladesh** where the recent passage of Cyclone Remal resulted in minor crop damage. Across South and Southeast Asia, a record-breaking heatwave is impacting most areas and is expected to continue in some regions before the onset of the monsoon season when rain or winds will bring relief. Additionally, June to September rainfall is expected to be highly above-normal across **Indonesia**, **Malaysia**, and the southern **Philippines** (See Regional Outlook Pg. 15).

In **Indonesia**, May was the fifth month of wet-season rice harvesting. The total harvested area reached 4.7 million hectares, which is 8.1 percent lower than last year's wet season, though yield is expected to be similar to the previous year due to adequate irrigation water and sunlight received during the flowering phase. May is also typically the second month of dry-season rice planting, and the total planted area reached 1.9 million hectares, which is 13.5 percent higher than the last season. The increase is attributed to enhanced rains, and most farmers began intensively planting at the beginning of the season. In **Malaysia**, harvesting of wet-season rice finalized under favourable conditions with a good yield of 4.4 tons per hectare as a result of sufficient sunlight received during the growing period. May is the third month of dry-season rice planting, and progress has reached 67 percent of the planned area. Most crops are close to the maturity stage, and overall growing conditions are favourable. There has been an improvement from last month's dry conditions with most regions expected to receive near-normal rains. In **Brunei**, dry-season rice is in the planting stage, and about 30 percent of the irrigated areas have been planted. There have been minor planting delays as a result of low cumulative precipitation received from December to April. However, above-normal rainfall in May is expected to benefit the remaining planting activities, and overall growing conditions are currently favourable.

In the **Philippines**, dry-season rice that was planted in November and December 2023 has now been completely harvested with slightly below-average outputs due to insufficient rainfall conditions in most areas. El Niño-induced drought exacerbated by climate change affected 14 out of the country's 17 regions and resulted in water shortages and damage to agriculture. Final production is estimated to be 4.69 million metric tons, indicating a 2 percent decrease compared to last year's level. Harvested area and yield also decreased by 0.1 percent and 1.8 percent, respectively. Land preparation and planting of wet-season rice is underway, and rainfall through August is expected to be below-normal across north and central areas and above-normal in the south (See Regional Outlook Pg. 15). In **Thailand**, harvesting of dry-season rice is nearing completion with a forecast production decrease of 10 percent compared to the previous year as a result of decreased planted area and drought conditions this season. Field preparation is underway for wet-season rice, and farmers began sowing rice seeds in some areas. Many farmers expanded their planted areas for the season, driven by the expectation of high market prices, and overall planted area is forecast to increase as a result. In northern **Viet Nam**, dry-season (winter-spring) rice is in the young panicle forming to grain filling stage, and yield is forecast to increase due to favourable weather and sufficient irrigation water supply. In the south, dry-season (winter-spring) rice is in the harvesting stage with a harvested area of 1.69 million hectares out of 1.89 million hectares planted. Yield has reached 6.94 tons per hectare, which is slightly lower than the same time last year due to the influence of saltwater intrusion in the Mekong Delta. Planting of the main wet-season (summer-autumn) rice has reached its peak with a sown area of 0.64 million hectares, equating to 124.4 percent of last year's period. In **Laos**, dry-season rice is in the harvesting stage with a harvested area of 62 thousand hectares accounting for 68 percent of the planted area. Estimated final production is 450 thousand hectares, and the yield is expected to be slightly reduced. Weather conditions were generally favourable this season with adequate irrigation water and sufficient sunlight received during crop flowering. Land preparation is underway for wet-season rice, and planned production is 841 thousand hectares. In **Myanmar**, about 720 thousand hectares of dry-season rice, accounting for 65 percent of the total planted area, has been harvested. This produced over 3.9 million tons of paddy with a good yield of 5.46 tons per hectare, which is considerably higher than last year. Growing conditions remain generally favourable despite extremely hot temperatures. Field preparation is underway for wet-season rice. In **Cambodia**, seeding of wet-season rice is underway with favourable weather conditions and adequate sunlight. The national wet-season rice planting plan is 2.65 million hectares, but the current planted area remains at only 4 percent of the planned area due to a late rainfall onset.

In **Sri Lanka**, planting of *Yala* season rice and maize continues for harvest from August, and conditions remain favourable except in the northeast where there are ongoing dry concerns. In **Nepal**, wheat harvesting is nearing completion while both main season maize and second season rice crops are in vegetative to reproductive stage, and overall conditions remain favourable. In **Bangladesh**, harvesting of *Boro* season rice crops, which are mostly irrigated and account for about 55 percent of production, finalized under favourable conditions. Planting and development of *Aman/Aus* season rice crops, *Summer/Kharif* season maize crops, and main season sorghum crops continues under generally favourable conditions. However, a severe to very severe heatwave impacted parts of the country in April, with maximum temperatures exceeding 38 degrees Celsius (100.4 degrees Fahrenheit) for two or more consecutive days. On April 26, an all-time record heatwave of 24 days was recorded. The heatwave has caused extensive damage to fruits. Additionally, on May 26, Cyclone Remal impacted coastal areas with heavy rain, strong winds, and high tides. The storm then continued across the country before weakening into a cyclone and then a land-deep depression. Prior to the storm, about 15 percent of *Boro* season rice had yet to be harvested nationwide. The cyclone caused limited damage to paddy that was in the ripening stage as well as other crops. According to preliminary information, the storm damaged paddy, jute, and vegetable crops on 17,796 hectares of land in Khulna located in the southwest. Additionally, standing crops were damaged in Sylhet division located in the northeast. In



For detailed description of the pie chart please see description box on Pg. 20.

the **Democratic People's Republic of Korea**, maize crops are in vegetative to reproductive stage while rice planting is just beginning, and overall conditions remain favourable for the start of the season.

Regional Outlook: Above-average temperatures since April likely to continue, and highly above-average rainfall expected across southern areas

Rainfall between April 1st and May 25th was near-average in most mainland areas, but multiple locations accumulated substantial rainfall deficits. Rainfall was 50% to less-than 75% of average in central and southern areas in Myanmar, Thailand, Cambodia, and the Philippines, and northern Malaysia. Above-average rainfall occurred in portions of Indonesia and northern Vietnam (Figure 1-left).

High rainfall amounts are forecast for May 29th to June 12th in central and northern Vietnam, central and southern Laos, and eastern Thailand. A NOAA CPC outlook from May 28th identified relatively high, greater-than 60% chances of a tropical cyclone in the South China Sea during June 5th to 11th. Sea surface temperatures were 1-2 degrees above-average and very warm (> 30 degrees C) during late May. Such conditions can result in strong and impactful storms, and updated forecasts should be monitored. However, even if these forecasts come to fruition, seasonal rainfall totals will likely remain below-average into early June in central and southern Thailand, western Cambodia, the southern Philippines, and northern peninsular and eastern Malaysia, based on an outlook for April 1st to June 10th that includes a 16-day forecast.

During June to August (JJA) 2024, associated with forecast La Niña development, multi-model C3S (Figure 1 middle-left), WMO, and NMME seasonal forecasts predict wetter-than-normal conditions in Indonesia, Malaysia, and southern areas in the Philippines. The chances for very above-average (upper 20th percentile) JJA rainfall are two to three times higher than normal, according to the C3S. In central and northern areas of the Philippines, models indicate increased chances of below-normal rainfall. In mainland areas where there have been ongoing 2024 rainfall deficits, some models indicate below-normal JJA rainfall, but not enough to support a clear rainfall outlook.

High temperatures will be a particular concern for agricultural areas that receive insufficient rainfall. During April and May, mean maximum daytime temperatures were much higher than average (Figure 1 middle-right). In addition, in mainland areas where temperatures tend to be hot during these months, there were few breaks from the heat. In Thailand, Laos, Cambodia, and Myanmar, data indicate that very hot days (Tmax > 35 degrees C) occurred 10 to 20+ more days than usual. Temperatures during JJA will very likely be hotter than a typical season, as illustrated by the greater-than 70% chances of upper 20th percentile JJA temperatures forecast by the C3S (Figure 1-right).

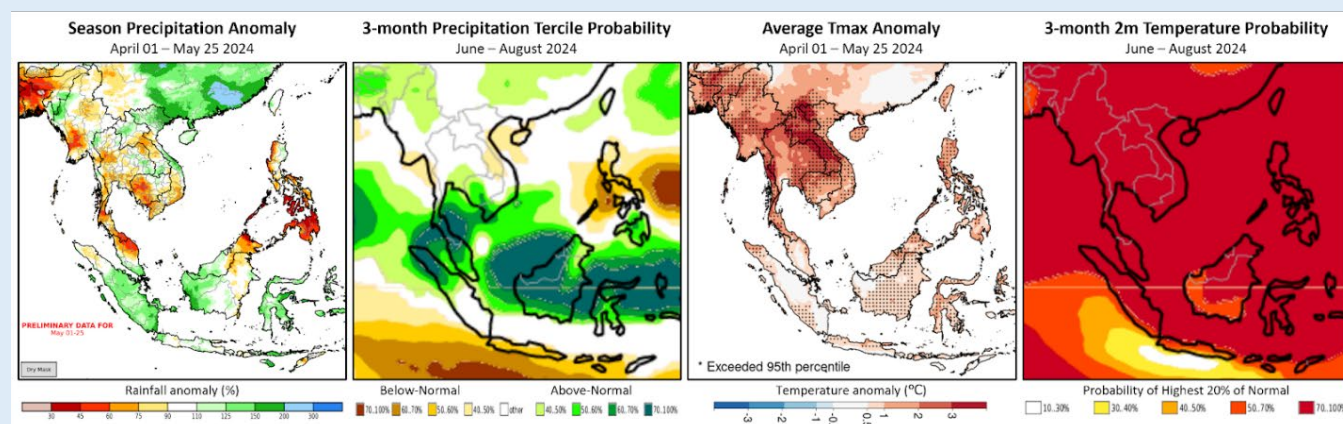
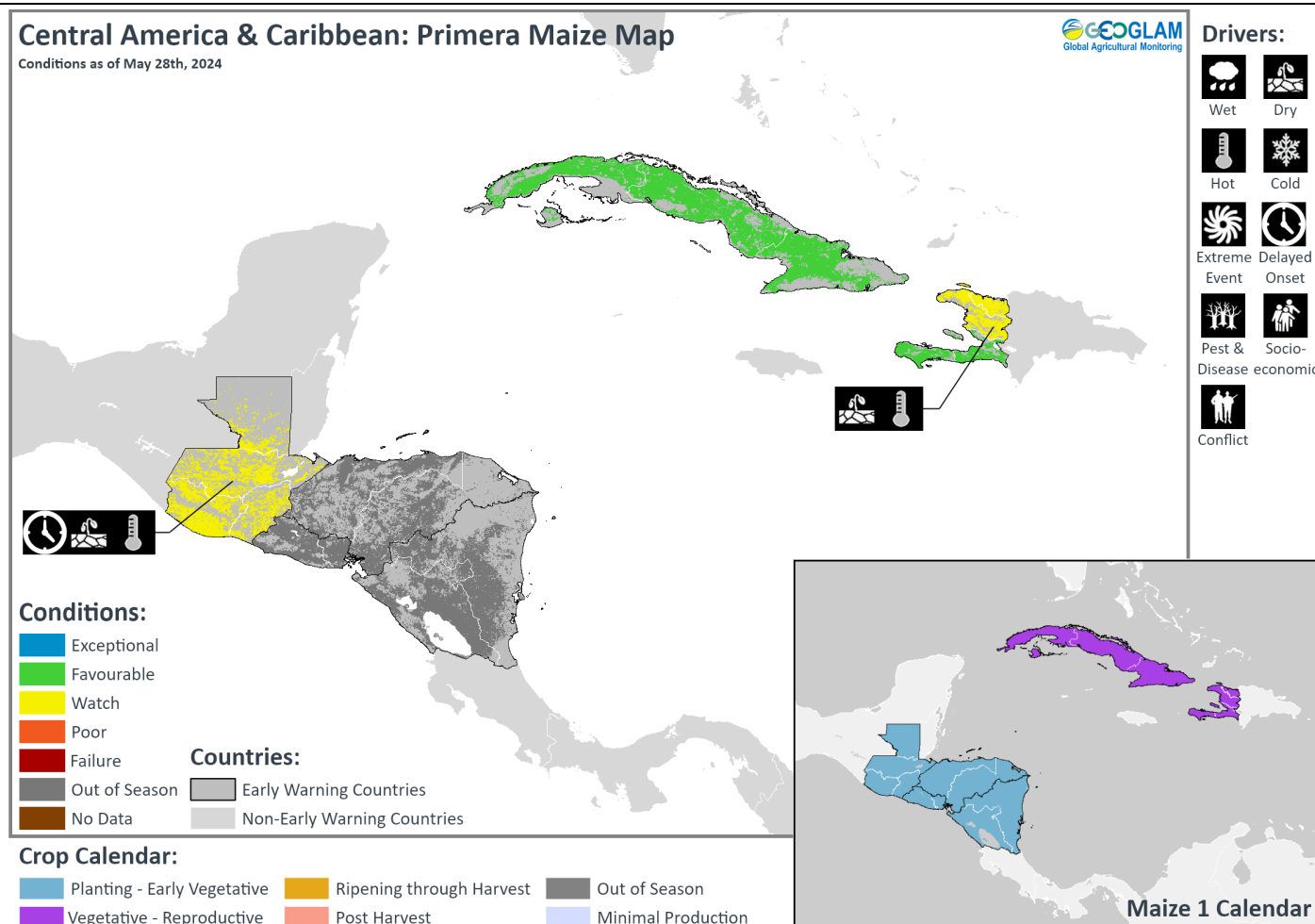


Figure 1. Seasonal rainfall anomaly, 3-month precipitation tercile anomaly, seasonal maximum temperature anomalies, and a 3-month probability of highest 20th percentile 2m temperature.

Left: Percent of average rainfall for April 1st to May 25th, 2024. Based on CHIRPS Final for April and CHIRPS Preliminary for May 1st to 25th, and the 1981-2023 average. From [CHC Early Estimates](#). Middle-right: Average daily maximum temperatures for April 1st to May 25th, 2024, shown 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. Middle-left and Right: 3-month probabilistic forecasts for precipitation tercile (middle-left) and upper 20th percentile 2m temperature (Right) for June-July-August, 2024. Both panels are based on C3S multi-system seasonal forecasts from [ECMWF as part of the Copernicus Programme](#).

Source: UCSB Climate Hazards Center

Central America & Caribbean

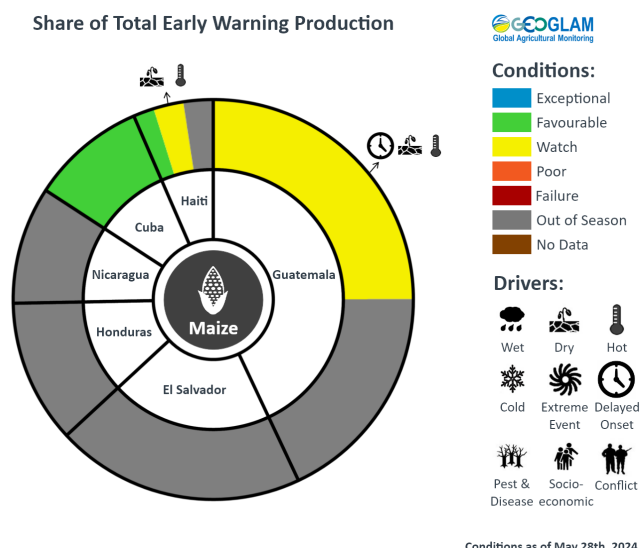


Crop condition map synthesizing Primera Maize conditions as of May 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Conditions that are other than favourable are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

In Central America, planting of *Primera* season cereals is ramping up in **Guatemala** and **Honduras** and will begin next month in **El Salvador** and **Nicaragua**. There is ongoing concern as low and erratic rainfall across most areas during the start of the rainfall season has delayed the typical planting of *Primera* season crops. Additionally, prolonged high temperatures have reduced available soil moisture and river flows, which is likely to negatively affect crop development. As of late May, cumulative precipitation was only 60 percent of average or less in most of **Guatemala**, western **El Salvador**, central and eastern **Honduras**, and parts of **Nicaragua**. Recent sporadic rains received across Pacific regions helped to reduce long-term dry conditions but not enough to favour sowing for *Primera* season crops, which is delayed by up to 20 days. Subsistence farmers that planted in late May lost their crops as insufficient rains and high temperatures killed plants at the beginning of the phenology stage. In general, small and subsistence farmers will begin sowing by the first dekad of June while large and medium scale farmers will likely wait for increased rainfall frequency and cumulation. Above-average rains are needed to help eradicate long term dry conditions, replenish river levels, and promote crop emergence and early development. While the below-average rains are forecast to continue across most areas of Central America through early June, except in parts of **Nicaragua**, there will likely be a shift to above-average rains in all areas from mid-June through August (See Regional Outlook Pg. 18), and the 2024 Atlantic Hurricane season is forecast to be extremely active for the June to November 2024 period (See Special Alert Pg. 19). Furthermore, while the increased rains are generally expected to benefit yields, they could disrupt seasonal outcomes if they materialize during crop maturation or harvesting. Likely wet and hot conditions could also proliferate crop pests and diseases.

In **Guatemala**, most of the country experienced below-average rainfall and high temperatures during the beginning of the year from January to mid-March. The dry conditions combined with typical controlled burning of agricultural land has resulted in spread forest fires, with Huehuetenango, Petén, and Quiché being the departments most affected. Near-average rains received in April and May helped to replenish soil moisture deficits, particularly in the north. While *Primera* season planting typically occurs in the first half of May with the onset of rains, a combination of limited rains since October 2023, high temperatures, and high evapotranspiration rates continued to impact soil moisture availability through the beginning of the *Primera* season. However, the sown area is expected to be above-average due to forecast favourable weather conditions, though still below the large 2023 planted area due to comparatively lower market prices this year. The forecast onset of abundant rains in June and August is expected to benefit crops as they near the grain filling and maturation stages (See Regional Outlook Pg. 18). In **El Salvador**, forecast above-average rains through August are

expected to bring much needed soil moisture improvements following very dry conditions during the first quarter of 2024. Maize planted area is expected to be above-average as good weather and stable fertilizer costs, maintained by zero import tariffs, are expected to reduce the impact of lower white maize prices on planting. The government also issued vouchers in May to aid small-scale farmers, which can be used to purchase agricultural inputs. In **Haiti**, *Printemps* season cereals are in vegetative to reproductive stage under mixed conditions. The overall planted area of both maize and paddy is expected at a below-average level as a result of high production costs and low input availability, particularly seed which is sourced from the previous season's below-average harvest. Concern remains for ongoing crop development in parts of the main producing centre where hot temperatures and limited rainfall continue to impact crop development. There is also developing concern across a large area of the Nord department. While April brought a slight improvement in rainfall distribution, the increased rains in the centre were not enough to help reduce below-average conditions over a long period. However, a shift to wet conditions is expected throughout the country from June through August, associated with the onset of La Niña (See Regional Outlook Pg. 18). In **Cuba**, planting and development of main season maize and rice crops is underway while harvesting of second season rice crops is nearing completion, and overall conditions remain favourable despite reduced precipitation in April over the western region and in mid-May across the country (See Regional Outlook Pg. 18).



Regional Outlook: Dry and hot conditions through the beginning of the Primera season likely followed by a shift to wetter-than-normal conditions from June through August

There was substantially below-average rainfall and above-average temperatures through the beginning of the Primera growing season (Figure 1- left and middle-left), with especially dry conditions across Central America in May. During April 1st to May 25th, 2024, most of Guatemala and Honduras received less than 75% of average rainfall. More anomalously dry zones received around half of typical rainfall amounts, in northern, central-east, and southwestern Guatemala, and in central and central-northern Honduras.

In Guatemala and Honduras, the intensity of dry and hot early season conditions are estimated to be more severe than last year. That comparison is based on preliminary May 2024 rainfall data, estimated daily maximum temperatures, low NDVI values, and forecast below-average rainfall through early June (Figure 1 middle-right).

In Haiti, April 1st to May 25th rainfall totals were average to above-average. Forecasts for May 29th to June 12th (Figure 1 middle-right) and June to August (Figure 1-right) indicate that this pattern will continue. In central Haiti, there were reports of delayed sowing and poor early season crop conditions, followed by improved conditions in mid-late May.

Rainfall forecasts for Central America suggest that, after the continuation of very dry conditions into early June, wetter-than-average conditions will likely develop and continue through August (Figure 1-right). Sowing was reportedly already delayed by 10 to 20 days in Guatemala, and some farmers plan to wait until June. In the last week of May, high intensity rain and hail reportedly impacted some Pacific basin locations in Guatemala where sowing had already been done.

A very active 2024 Atlantic hurricane season is anticipated, due to near record-high Atlantic sea surface temperatures and forecast development of La Niña conditions along with weak Atlantic trade winds and vertical wind shear. NOAA confidently forecasts an above-normal season with 17-25 named storms, and 8-13 of these becoming hurricanes (70% chance). Temperatures are expected to remain highly above-normal during the next several months, according to the C3S forecast. These forecasts pose a threat to agricultural areas that continue to receive insufficient moisture and increase the chances of intense storms and flash floods.

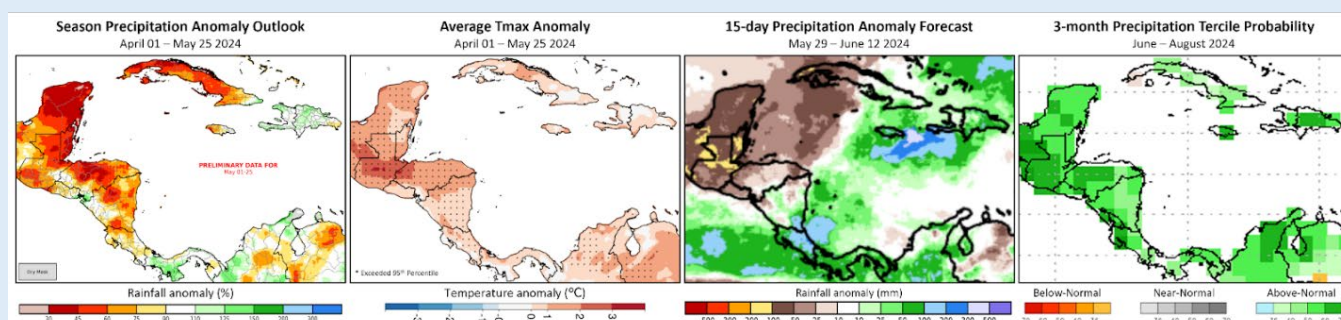


Figure 1. Seasonal rainfall and maximum temperature anomalies, a 15-day rainfall anomaly forecast, and a probabilistic rainfall forecast for June to August 2024.

Left: Percent of average rainfall for April 1st to May 25th, 2024. Based on CHIRPS Final for April and CHIRPS Preliminary for May 1st to 25th, and the 1981-2023 average. From [CHC Early Estimates](#). Middle-left: Average daily maximum temperatures for April 1st to May 25th, 2024, shown 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. Middle-right: CHIRPS-GEFS forecast for May 29th to June 12th, shown as the forecast difference from average precipitation in mm. Right: NMME probabilistic precipitation tercile forecast for June to August, based on May initial conditions. The forecast tercile probability is calculated as the percentage of all NMME ensemble members that fall in a given tercile (above/below/near-normal). NMME image from the [NOAA CPC Climate Forecasts](#).

Source: UCSB Climate Hazards Center

Special Alert: Anticipated record-breaking 2024 Atlantic hurricane season and implications for the Primera season

Forecasts for the June to November 2024 Atlantic hurricane season suggest an extremely active period, with potentially significant implications for agricultural production and food security in Central America and the Caribbean. The National Oceanic and Atmospheric Administration (NOAA), European Centre for Medium-Range Weather Forecasts (ECMWF), and other meteorological agencies predict an unusually high level of tropical cyclone activity, particularly around Florida, the Gulf of Mexico, and the Caribbean. This heightened activity is [driven by](#) La Niña conditions in the Pacific and record warm water temperatures.

La Niña events typically result in less wind shear (change in wind speed and direction) compared to El Niño events, which reduces interference with developing storms. Additionally, a likely above-normal West African monsoon season could produce African easterly waves, creating a conducive environment for hurricane development and intensification. Furthermore, light trade winds without a strong wind shear are also expected to minimize ocean cooling, and warmer sea surface temperatures provide the necessary energy for storms to intensify.

A recent [NOAA forecast](#) suggests an 85 percent chance of an above-normal season, with 17 to 25 total named storms, including the potential for those storms to develop into 8 to 13 hurricanes and 4 to 7 major hurricanes. Similarly, a recent [ECMWF forecast](#) suggests a total of 23 named storms and 13 hurricanes, equating to about 200 percent of the normal accumulated cyclone energy. The forecast conditions are similar to the 2020 Atlantic hurricane season, which was characterized by an early and rapid pace and culminated in a record-breaking 30 named storms. This year, the anticipated storm activity could lead to prolonged rainfall, severe flooding, and strong winds that may disrupt planting and harvesting cycles and subsequent damage to *Primera* season crops.

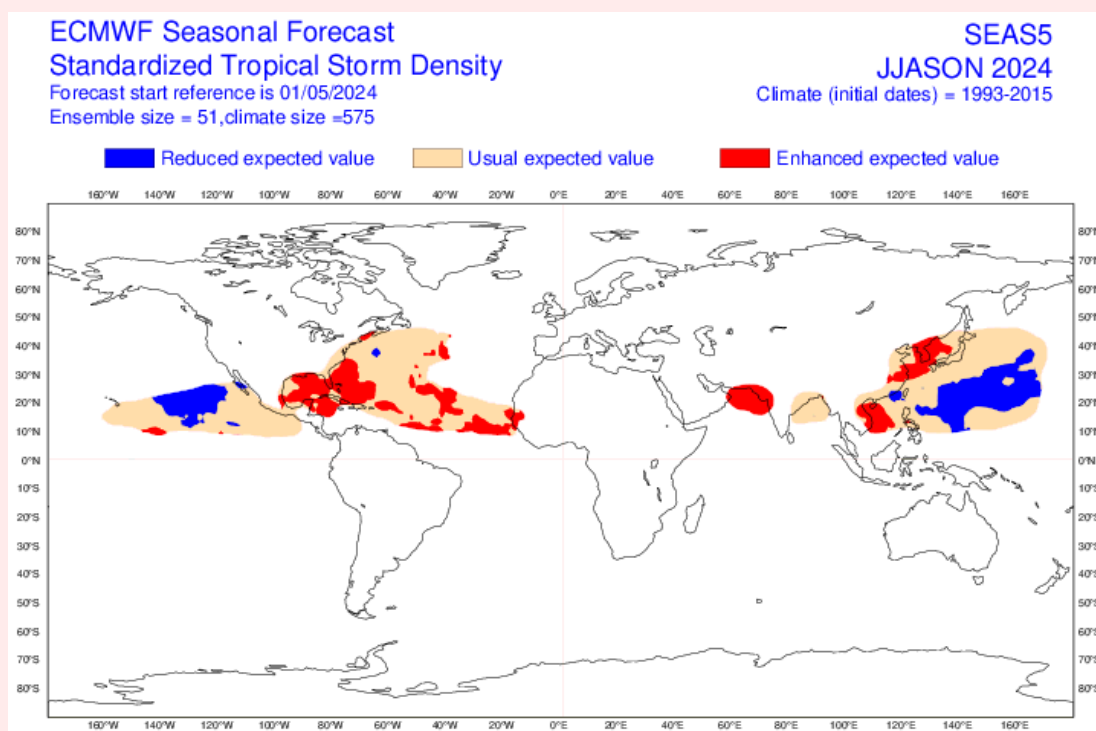


Figure 1: European Centre for Medium-Range Weather Forecasts (ECMWF) seasonal forecast standardized tropical storm density for the June to November 2024 season, depicting enhanced expected value over Florida, the Gulf of Mexico, and the Caribbean. Source: ECMWF Seasonal Forecast Standardized Tropical Storm Density

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 slide 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 June 6th, 2024.

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

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.

	Exceptional
	Favourable
	Watch
	Poor
	Failure
	Out-of-Season
	No Data

"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.



Wet



Dry



Hot



Cold

Extreme
EventDelayed
OnsetSocio-
economicPests &
Disease

Conflict

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)	

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.

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	


Southeast Asia				
Country	Crop	Season 1 Name	Season 2 Name	Season 3 Name
Bangladesh	Maize	Winter (Kharif)	Summer (Rabi)	
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	
Viet Nam	Rice	North: Other wet-season (summer-autumn) South: Other wet-season (autumn-winter and seasonal)	Dry-season (winter-spring)	North: Main wet-season (seasonal) South: Main wet-season (summer-autumn)

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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Contributing partners



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