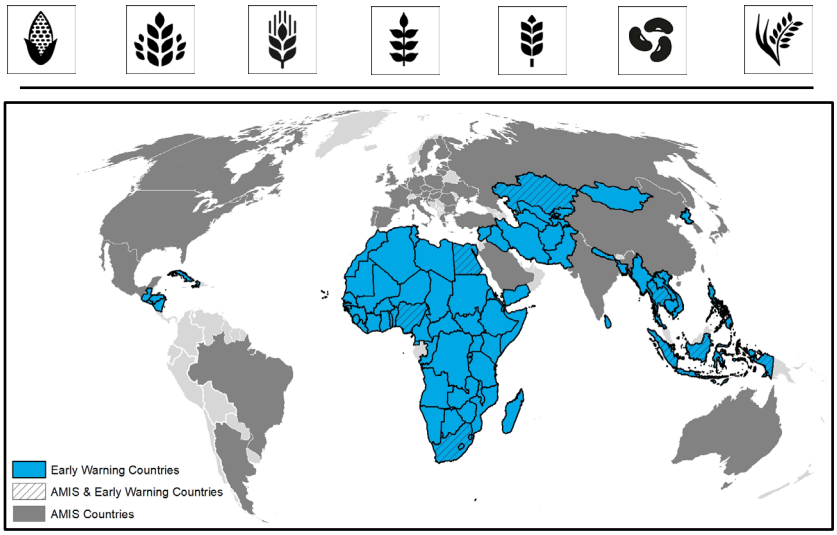
GEOGLAM Global Agricultural Monitoring

Crop Monitor EARLY WARNING

Overview:

In **East Africa**, harvesting of main season cereals is nearing completion in the south while planting and development continues in the north, and a mix of dry and wet conditions throughout the season is impacting many areas. In Ethiopia, *Belg* production is expected to be impacted by dry spells during the growing period. In **West Africa**, harvesting of main season cereals is just beginning along some Gulf of Guinea countries while planting and development continues elsewhere, and agro-climatic conditions are favourable as recent rains mitigated last month's concerns regarding delayed rainfall onset in parts of the Sahel. In the **Middle East and North Africa**, wheat harvesting finalized in July under mixed conditions, with generally poor to failure outcomes in western North Africa due to prolonged dry and hot conditions and generally favourable outcomes in western North Africa and the Middle East. In **Southern Africa**, poor to failure outcomes resulted for the main season due to El Niño induced drought and rainfall deficits. Wheat is in the vegetative to reproductive stage, and overall conditions are favourable. In **Central and South Asia**, overall conditions remain favourable for winter wheat harvesting and spring wheat development, and a shift to above-average rains from February has been generally conducive for crop development despite incidents of flooding. In **Southeast Asia**, planting of dry-season rice is wrapping up in the south while wet-season rice continues to develop in the north, and overall conditions are mixed due to dry concerns in parts of the Philippines and Cambodia as well as the presence of pests in Brunei and Cambodia. In **Central America and the Caribbean**, delayed rains followed by a shift to above-normal precipitation has benefitted *Primera* season maize but is causing concern for beans as they are more sensitive to soil moisture conditions.



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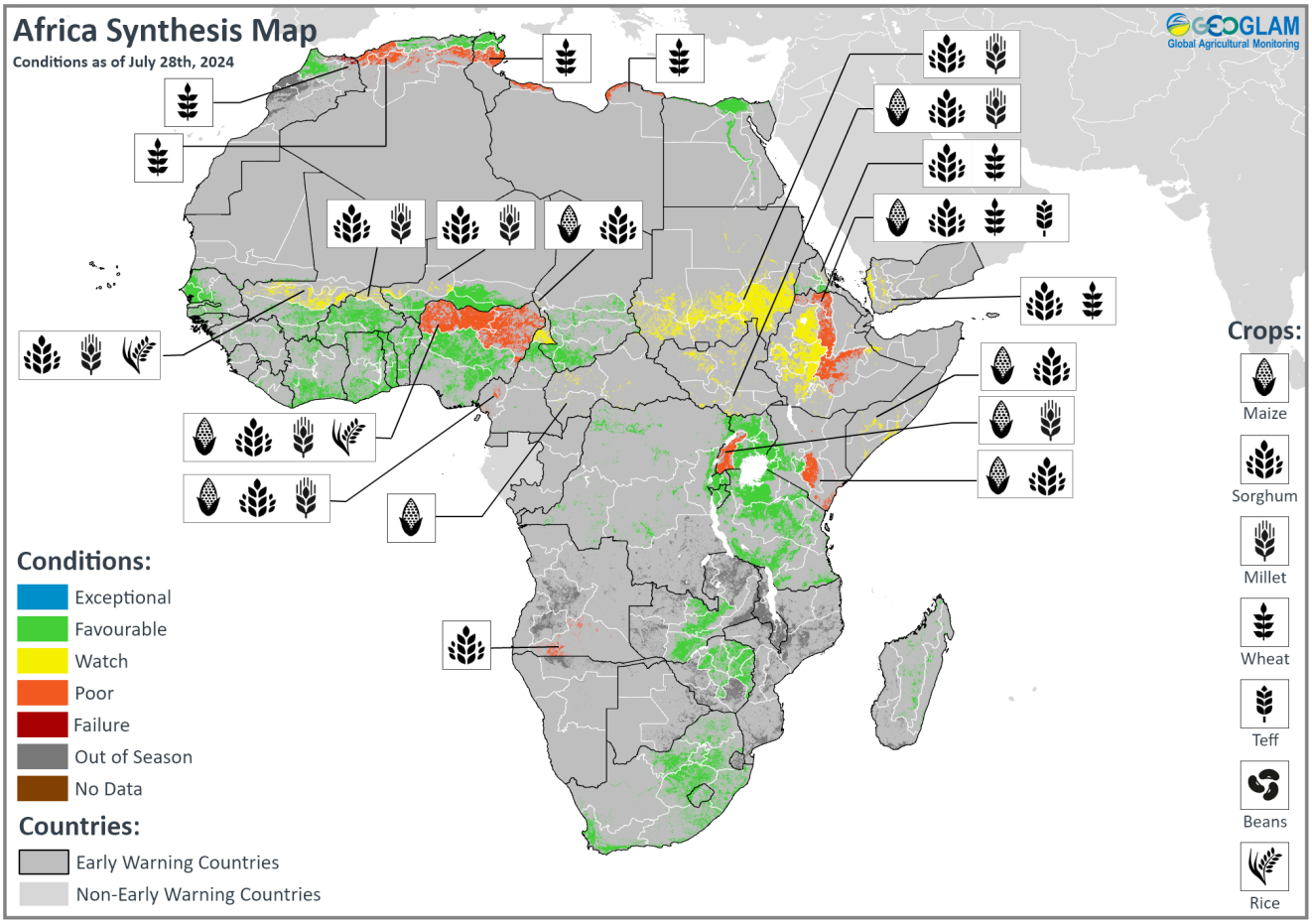
GEO GROUP ON EARTH OBSERVATIONS

The Crop Monitor is a part of GEOGLAM, a GEO global initiative.

GEOGLAM Crop Monitor for Early Warning

Crop Conditions at a Glance

based on best available information as of July 28th



Crop condition map synthesizing information for all Crop Monitor for Early Warning crops as of July 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: Planting and development of main/*Meher* season cereals is underway in the north while harvesting is complete or nearing completion in the south, and overall conditions are mixed due to a combination of early season dry conditions, followed by enhanced rains and flooding that impacted crop performance in parts of the region. Forecast good rains through September are likely to be followed by a shift to below-average OND rains due to the predicted development of La Niña and potentially negative IOD conditions (See Climate Influences Pg. 3 and Regional Outlook Pg. 7).

WEST AFRICA: Harvesting of main season cereals is just beginning in some southern areas while planting and development continues elsewhere, and good rains are providing conducive conditions for crop development. Overall conditions are favourable except in conflict-affected areas. Forecast average to above-average rains through August are likely to benefit yields in central and eastern Sahel cropping areas (See Regional Outlook Pg. 9)

MIDDLE EAST & NORTH AFRICA: Wheat harvesting finalized in July under mixed conditions, with generally poor to failure outcomes in western North Africa due to prolonged drought and high temperatures and generally favourable outcomes elsewhere. In Libya and Syria, socio-economic challenges relating to protracted conflict continue to constrain agricultural outcomes.

SOUTHERN AFRICA: Harvesting of main season cereals finalized in May and June under mostly poor to failure conditions, and aggregate cereal production is estimated to be below-average due to severe drought and deficits. Conversely, conditions remain favourable for ongoing wheat development in Zambia, Zimbabwe, South Africa, and Lesotho.

CENTRAL & SOUTH ASIA: Winter wheat harvesting is wrapping up while spring wheat continues to develop, and overall conditions are favourable with near to above-average production expected as early season dry conditions were followed by a beneficial shift to enhanced rains from February.

SOUTHEAST ASIA: In the south, planting of dry-season rice is wrapping up, and conditions are favourable except in areas of Brunei impacted by a pest infestation. In the north, conditions are mixed for wet-season rice development with dry concerns in the Philippines and Cambodia as well as pest occurrence in Cambodia.

CENTRAL AMERICA & CARIBBEAN: A one-month rainfall delay at the start of the *Primera* season was followed by a shift to above-average precipitation that has generally benefitted maize development, but there is concern for beans as they are more sensitive to soil moisture levels. In Haiti and Cuba, overall conditions remain favourable.

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 Alaska in the US, central Peru, northern and eastern Bolivia, central and southeast Brazil, Mali, Niger, Chad, Sudan, Eritrea, northern Ethiopia, southern Somalia, Yemen, eastern and western Oman, northern Kazakhstan, Siberia in the Russian Federation, south-central Afghanistan, Pakistan, northeast India, central China, and southern and eastern Australia.

There is also a likelihood of below-average precipitation over western Canada, the Pacific Northwest and the southern Great Plains in the US, northeast and central Mexico, eastern Venezuela, Guyana, Suriname, French Guiana, northern and northeast Brazil, the western United Kingdom, Latvia, Lithuania, Poland, Czechia, Slovakia, Hungary, Croatia, Bosnia and Herzegovina, Serbia, Montenegro, Kosovo, Romania, Moldova, Ukraine, Belarus, western Türkiye, western Russian Federation, western Mauritania, northern Senegal, Sierra Leone, southern Guinea, Liberia, Côte d'Ivoire, Ghana, Togo, Benin, southern Nigeria, western Cameroon, Gabon, central Republic of the Congo, western Democratic Republic of Congo, southern Uganda, northern and northeast Tanzania, southern Kazakhstan, Kyrgyzstan, Tajikistan, western Mongolia, the Republic of Korea, Japan, southern Viet Nam, southern Laos, Cambodia, southwest Indonesia, and the northeast coast of Australia.

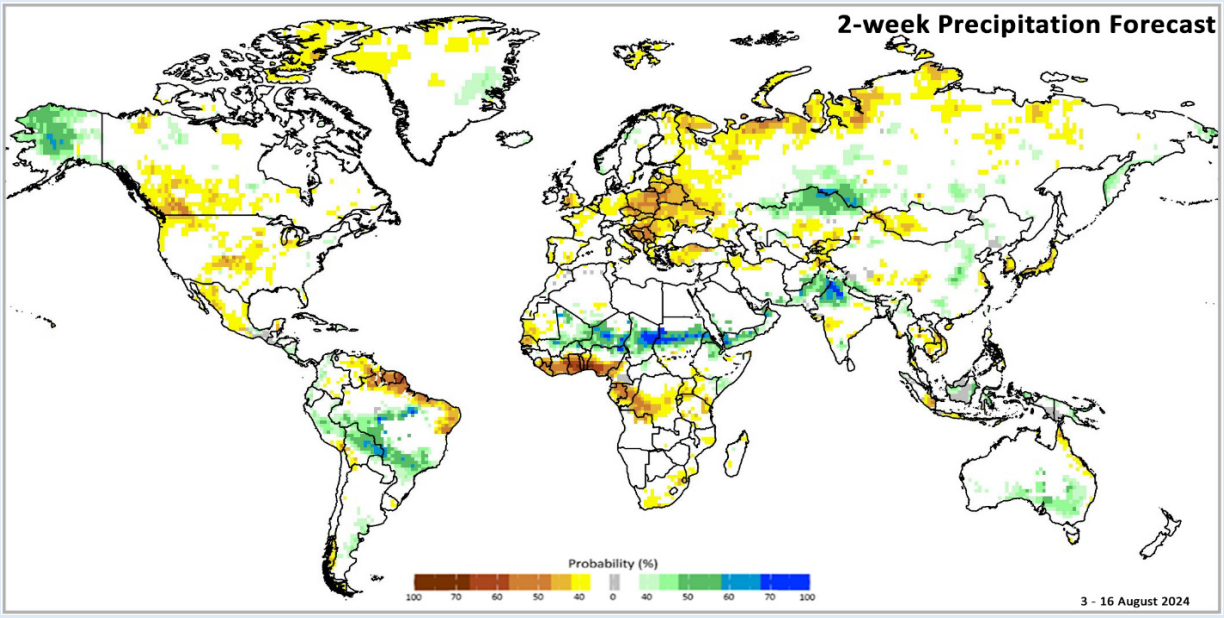


Figure 1: IRI SubX Precipitation Biweekly Probability Forecast for 3 – 16 August 2024, issued on 26 July 2024. The forecast is based on statistically calibrated tercile category forecasts from three SubX models. Source: IRI Subseasonal Forecasts Maproom

Climate Influences: La Niña and potentially negative Indian Ocean Dipole may develop in the next several months

ENSO-neutral conditions are present. La Niña conditions are likely to develop during the next several months. The CPC/IRI predicts there is a 70 to 81% chance of La Niña during August 2024 to February 2025.

Reflecting a La Niña influence, the August-to-October seasonal forecasts indicate above-normal precipitation in India, the Maritime Continent, northern East Africa, the African Sahel region, and Central America. During late 2024 to early 2025, La Niña would raise the chances of below-average precipitation in eastern 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.

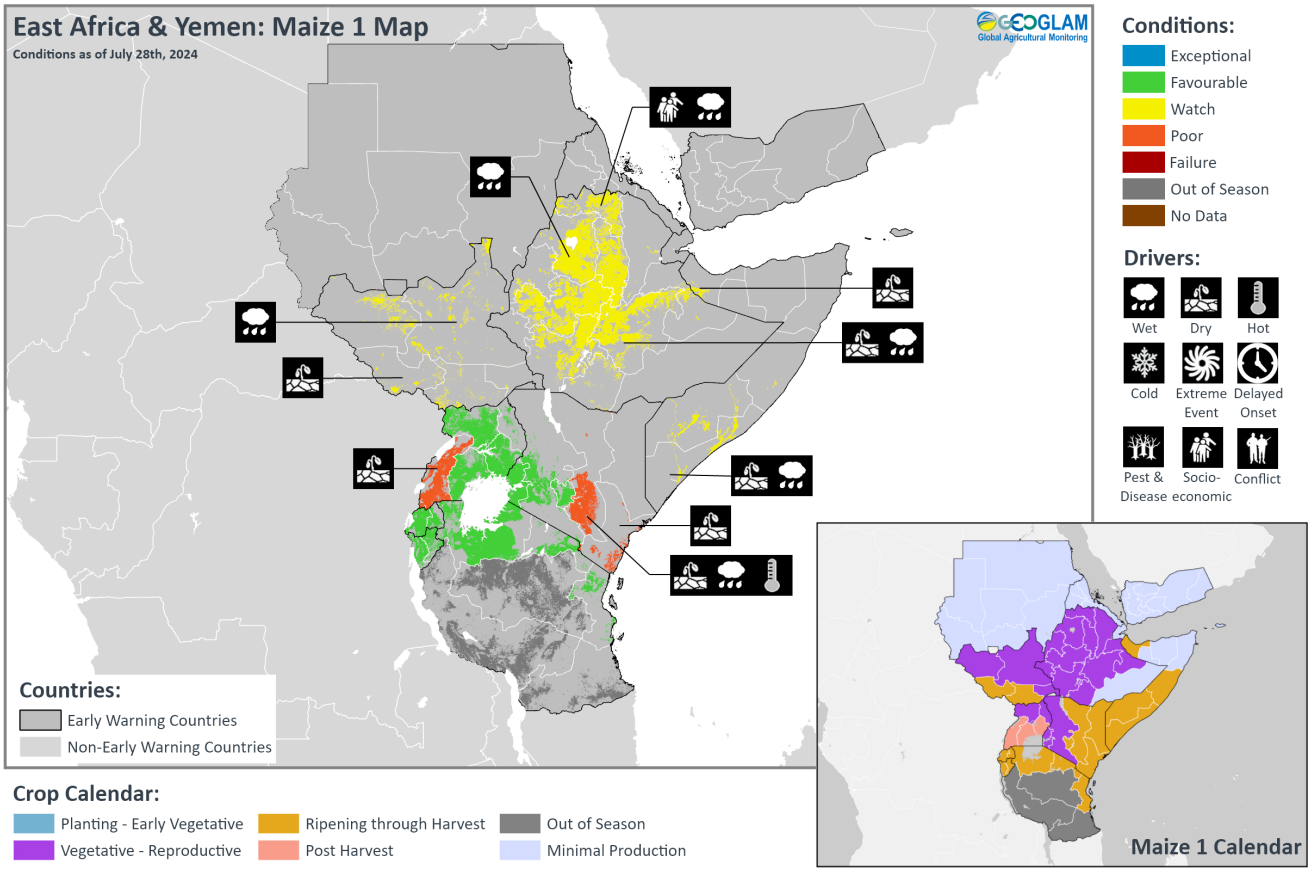
Indian Ocean Dipole (IOD) conditions are currently neutral. Observations have trended toward a negative IOD in recent weeks, with several models predicting negative IOD conditions during September to November. Negative IOD conditions are associated with below-normal rainfall in East Africa.

June 2024 was the hottest June on record, and the 13th consecutive month of record-breaking global temperatures. 2024 will be among the top five warmest years on record. 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 temperatures, the multi-year pattern of climate extremes may continue. A very active 2024 Atlantic hurricane season is anticipated.

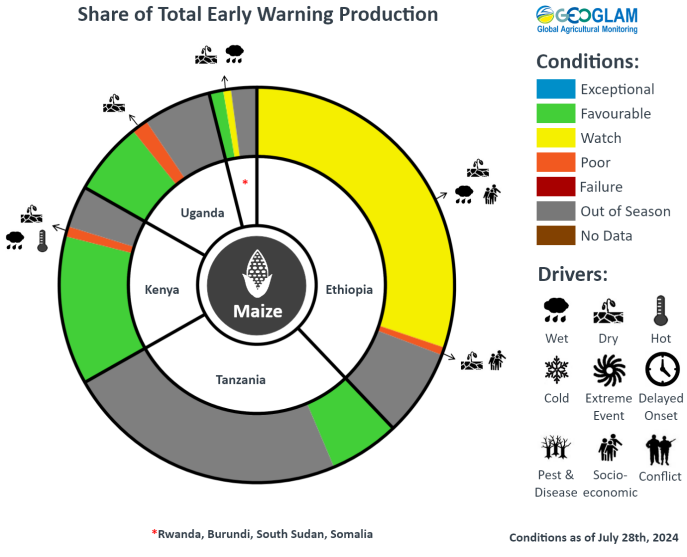
Source: UCSB Climate Hazards Center

East Africa



Crop condition map synthesizing Maize 1 crop conditions as of July 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.***

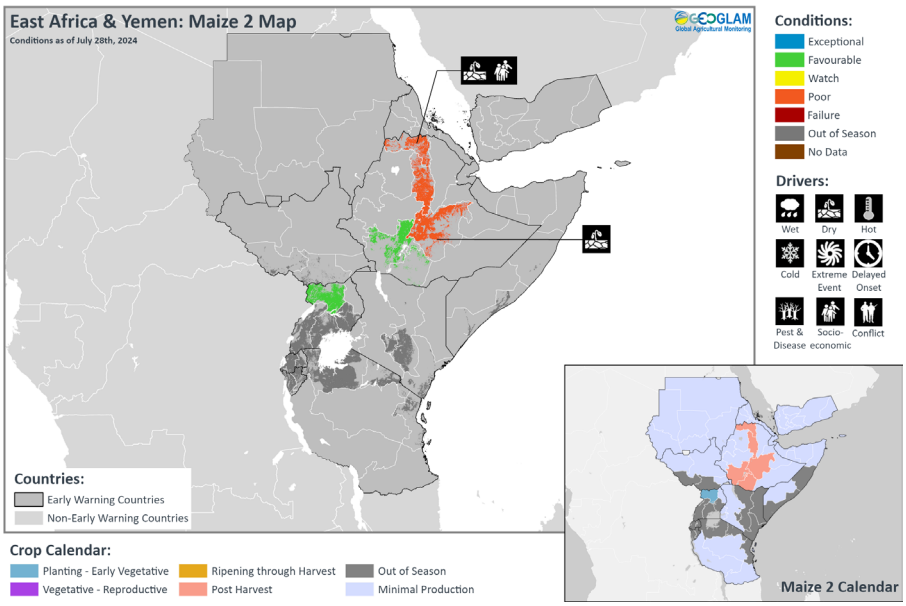
Across northern East Africa, harvesting of *Belg* season maize finalized in **Ethiopia** with below-average yields in the centre and north where dry conditions impacted crop development. Additionally, harvesting of main season cereals is now underway in the bimodal areas of **South Sudan**, and planting and development is ongoing in the *Meher* growing regions of **Ethiopia**, unimodal areas in **South Sudan**, **Sudan**, and **Yemen**. There is concern in most areas due to a combination of dry conditions in some regions as well as heavy rains and flooding in others. Dry conditions are impacting crops along eastern **Ethiopia** and the Greater Equatoria region of **South Sudan**. Conversely, enhanced rains and flooding are impacting cropping areas in western **Ethiopia**, unimodal areas of **South Sudan**, and throughout **Sudan**. Additionally, in May, the government of **Uganda** released excess water from the Jinja dam to mitigate the impacts of high water levels in Lake Victoria, and the increased water flow in the Nile River could exacerbate flooding in **South Sudan** and **Sudan**. Furthermore, recent and ongoing conflict disruptions continue to impact agricultural activities in **Sudan** and **Yemen**, and residual socio-economic challenges continue to impact northern **Ethiopia**. Forecast above-average August to September rains across most west and northern cropping areas of the region increase the risk of flooding during the peak of the cropping season, but the rains are generally expected to positively impact yields (See Regional Outlook Pg. 7).



For detailed description of the pie chart please see description box on Pg. 17.

Across southern East Africa, harvesting of main season cereals is complete or nearing completion in bimodal areas of **Uganda**, **Rwanda**, **Burundi**, the **United Republic of Tanzania**, bimodal areas of **Kenya**, and **Somalia** while crop development continues in unimodal areas of **Uganda** and unimodal areas of **Kenya**, and there is concern in some areas as the start of the rainfall season in June and July has been mixed, with dry spells experienced in some locations that could impact crop development. Prolonged deficits this season could impact final yield outcomes in western **Uganda**, coastal **Kenya**, and northwestern **Somalia**. Additionally, a mix of dry and wet conditions could impact crops in parts of eastern **Kenya** and central and southern **Somalia**. Elsewhere, conditions remain favourable.

Northern East Africa & Yemen



Crop condition map synthesizing Maize 2 conditions as of July 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 **Sudan**, planting of main season sorghum and millet continues with concern in all regions. As the country enters the June through September rainy season, heavy downpours and subsequent flooding are compounding challenges related to the ongoing conflict situation and limited supply and access to agricultural inputs. Above-average rainfall is forecast to continue through September (See Regional Outlook Pg. 7). In **South Sudan**, harvesting of first season cereals is underway in bimodal areas of the Greater Equatoria region. Dry weather earlier in the season resulted in crop wilting during the vegetative stage in June, and while rains have resumed, it is uncertain if adequate recovery will be achieved. Additionally, current rains could negatively impact the drying and harvesting of crops. In unimodal rainfall areas, crops are in the vegetative to reproductive stage, and above-average rains are resulting in submerged and waterlogged fields which could negatively impact yield outcomes. In Kapoeta region located in the southeast, a mix of dry and wet conditions are impacting crop development. Despite the widespread flooding, the number of people affected may be lower than initially expected as persistent annual flooding in the last several years has generally discouraged settling along wetland areas. Forecast above-average rains between August and September (See Regional Outlook Pg. 7) in combination with the anticipated release of large volumes of water from Lake Victoria and the Jinja dam are expected to result in significant flooding across the Nile River system and Sudd wetlands over the next three months. In **Ethiopia**, harvesting of *Belg* season maize finalized in July under mixed conditions with below-average yields expected in the centre and north, from East Oromia to Tigray, due to drier than normal conditions as well as socio-economic challenges related to the prior conflict situation in the north. Additionally, planting and development of *Meher* season cereals is in the peak development period for harvest from September. There is concern in most areas as the onset of the June to September *Kirempt* rainfall season has been mixed, with a slow and below-normal start in the east and a timely and above-normal start in the west. Dry spells during the growing period continue to impact parts of the east. Conversely, wetter than normal conditions from the former SNNRP in the southwest to Afar in the northeast are resulting in flooding and waterlogging that may impact crop development. Additionally, ongoing socio-economic challenges relating to the recent conflict situation continue to impact production outcomes in the north. However, forecast good rains for the June to September period (See Regional Outlook Pg. 7) as well as improved availability of fertilizer are expected to benefit crops in the north, although households still have limited economic ability to access it. In **Eritrea**, sorghum and wheat planting are just beginning for harvest from November, and drier than normal conditions are present in the eastern coastal areas of the country. Conversely, flood risk is high for central and western regions. In **Yemen**, sorghum and spring wheat crops are now in the vegetative to reproductive stage for harvest from August. While agro-climatic conditions are currently favourable for ongoing crop development, yields are still expected to be below the pre-conflict average.

Southern East Africa

In **Somalia**, harvesting of *Gu* season maize and sorghum is now underway, and concern remains in most areas due to a mix of dry and wet conditions. In the northwest, the *Gu* rains performed poorly in some locations, and while June to September rains may support crops, it is uncertain how much recovery the rains will facilitate during the advanced growth stages. Elsewhere in the country, enhanced rains delayed planting activities in some areas that were later affected by flooding. Additionally, an on-time cessation of rainfall resulted in a short growing period of late planted or replanted crops. In **Kenya**, harvesting of long rains cereals is nearing completion in the bimodal and minor producing eastern half of the country, and poor yields are expected. Along the coast, below-average rainfall performance during the growing season negatively impacted crop development. In other bimodal rainfall areas in the east and northeast, early season rainfall deficits were followed by a shift to above-average rainfall and flooding during the growing season as well as an on-time rainfall cessation that left crops vulnerable to hot weather. In the major producing unimodal rainfall areas in the western half of the country, long rains cereals continue to develop under favourable conditions as crops generally benefitted from average to above-average rainfall amounts. In **Uganda**, harvesting of first season cereals is complete or nearing completion in central and southern bimodal areas, and below-average harvesting outcomes are expected in the west as rains were delayed and performed poorly, resulting in a prolonged dry spell. Conversely, crops continue to develop in unimodal areas of the north, and generally near to above-average rains in July have resulted in crop improvement (See Regional Outlook Pg. 7). In **Rwanda** and **Burundi**, harvesting of Season B cereals is nearing completion, and conditions remain favourable despite delayed rainfall onset

in **Rwanda** and flooding challenges at the start of the season in **Burundi** as crops were able to adequately recover. In the **United Republic of Tanzania**, harvesting of *Msimu* season cereals is nearing completion in unimodal rainfall areas, and good rains received from November to April are expected to result in above-average production. However, heavy rains in the first half of 2024 resulted in damage to crops and agricultural assets, with possible implications for harvests in localized areas, particularly in Morogoro, Mbeya, Kilimanjaro, Unguja, Geita, Dar es Salaam, Manyara, and Pwani regions. In bimodal rainfall areas in the north and northeast, harvesting of *Masika* season cereals and *Vuli* season sorghum is nearing completion under favourable conditions.

Regional Outlook: Average to above-average rainfall is likely to continue through September, followed by an expected shift to below-normal OND rainfall due to the predicted development of La Niña and potentially negative IOD conditions

June to September 2024

Most areas received average to above-average rainfall during recent weeks (Figure 1-left). Rainfall during June 21st to July 20th was 125 to 150% of average in southwestern, central, and northeastern Ethiopia, in eastern Uganda, western Kenya, much of South Sudan and Sudan, northwest and southern Somalia, and eastern and northern Tanzania, based on preliminary data.

Highly above-average rainfall (> 150% of average) occurred in Ethiopia's central and central-eastern highlands and locations in Afar and former SNNPR regions, as well as in the western and northern Darfur region and central areas of Sudan. On July 22nd, in southwestern Ethiopia, devastating landslides triggered by heavy rains killed 229 people in two villages of the Geze Gofa woreda in South Ethiopia Region. Similarly, on July 29th, heavy rains that caused landslides killed 6 people in Sidama Regional State. Earlier in July, extreme rainfall was reported in eastern Tigray and western Afar—around 112 mm in 24 hours. The wet conditions in Darfur hampered the delivery of humanitarian aid.

Rainfall was average to below-average in northwestern Uganda—an area with ongoing seasonal rainfall deficits. Based on the two-week forecast, relatively dry conditions are expected to continue and consequently the March 1st to August 5th rainfall totals will remain below average.

Prior forecasts for extreme heat materialized in cropping areas in South Sudan and southern Sudan during late June and early July. Daily maximum temperatures were hotter than 35°C on 15-25 days between June 16th and July 15th in central and northern South Sudan, which is two to three times more often than would typically occur during this time period. Average 30-day temperatures were much higher than normal in many locations across the region (Figure 1 middle-left).

Above-average rainfall will likely continue in Sudan, central and northeastern Ethiopia, and portions of southeastern South Sudan, southwestern Ethiopia, and northwestern Somalia, based on a two-week forecast for July 24th to August 7th (Figure 1 middle-right). Below-average rainfall is forecast for western Ethiopia, western South Sudan, Uganda, and western Kenya. For August and September, longer-range WMO (Figure 1-right) and C3S forecasts indicate above-normal rainfall in western and northern areas. During late July to late August, rainfall will be above average in Sudan, northwestern and central Ethiopia, northeastern South Sudan, and northern Uganda, based on the July 25th SubX multimodel 30-day forecast.

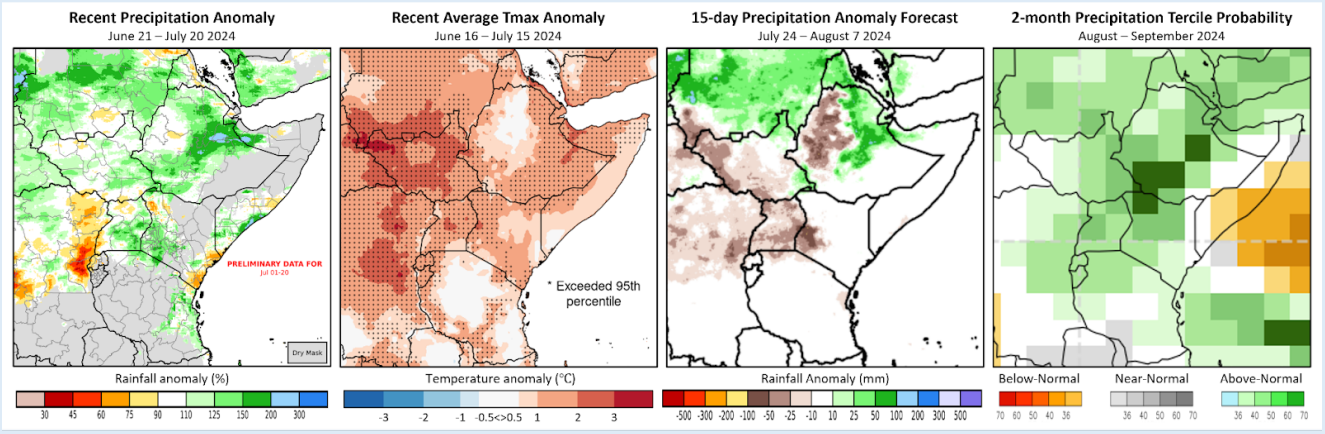


Figure 1. Recent rainfall and maximum temperature anomalies, a 15-day rainfall anomaly forecast, and a probabilistic rainfall forecast for August to September 2024. *Left: Percent of average rainfall for June 21st to July 20th, 2024. Based on CHIRPS Final for June and CHIRPS Preliminary for July 1st to 20th. The anomaly is relative to the 1981-2023 CHIRPS average for the same accumulation period. From CHC Early Estimates. Middle-left: Average daily maximum temperatures for June 16th to July 15th, 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 July 24th to August 7th, shown as the forecast difference from average precipitation in mm. Right: WMO probabilistic forecast for Aug-Sep 2024 precipitation tercile, based on models initialized in July, from the WMO Lead Centre Long-Range Forecast Multi-Model Ensemble.*

Regional Outlook (continued)

October to December 2024

Associated with the predicted development of La Niña and potentially negative Indian Ocean Dipole (IOD) conditions, below-normal rainfall is likely during October to December (OND) 2024 in the eastern Horn, southern Ethiopia, and Tanzania. The July ICPAC probabilistic forecast for OND 2024 indicates a greater-than 50% chance of below-normal rainfall in these areas (Figure 2-left).

A UCSB CHC outlook for eastern East Africa (EEA) OND 2024 standardized precipitation index (SPI) indicates a 70% chance of below-normal rainfall, with dry conditions (SPI value -0.9 Z +/- 1.1 Z; Figure 2-right). This outlook uses NMME model July forecasts for sea surface temperatures in equatorial Indian and Pacific Ocean regions, and links these to atmospheric conditions that have historically impacted seasonal rains (see the July 9th CHC blog).

If the La Niña event develops by OND 2024, which is very likely to happen (an 81% chance, according to the July CPC/IRI official forecast), strong equatorial Pacific SST gradients will likely be present due to the warming trend in the western Pacific. Observed west Pacific temperatures are already extremely warm. Historically, some of the more negative OND rainfall outcomes have occurred during negative IOD events, and these often develop along with La Niñas. The NMME ensemble predicts moderate negative IOD conditions in OND 2024, and several other models also predict negative IOD conditions during the season. However, a range of weaker or stronger IOD conditions is possible, based on model spread and skill at this lead time. The IOD is currently neutral and recent conditions have trended towards negative, with a current value near -0.3 °C, according to Australia Bureau of Meteorology (July 24th update).

Hot conditions over land are also a concern, as these could worsen crop impacts during dry spells through increased evaporative demand. According to the C3S forecast, there are high (50 to 70%) chances of OND 2024 temperatures being much warmer than normal (in the highest 20% of climatology) across central and eastern Ethiopia, Somalia, central and eastern Kenya, central and southern Uganda, Rwanda, Burundi, and much of Tanzania.

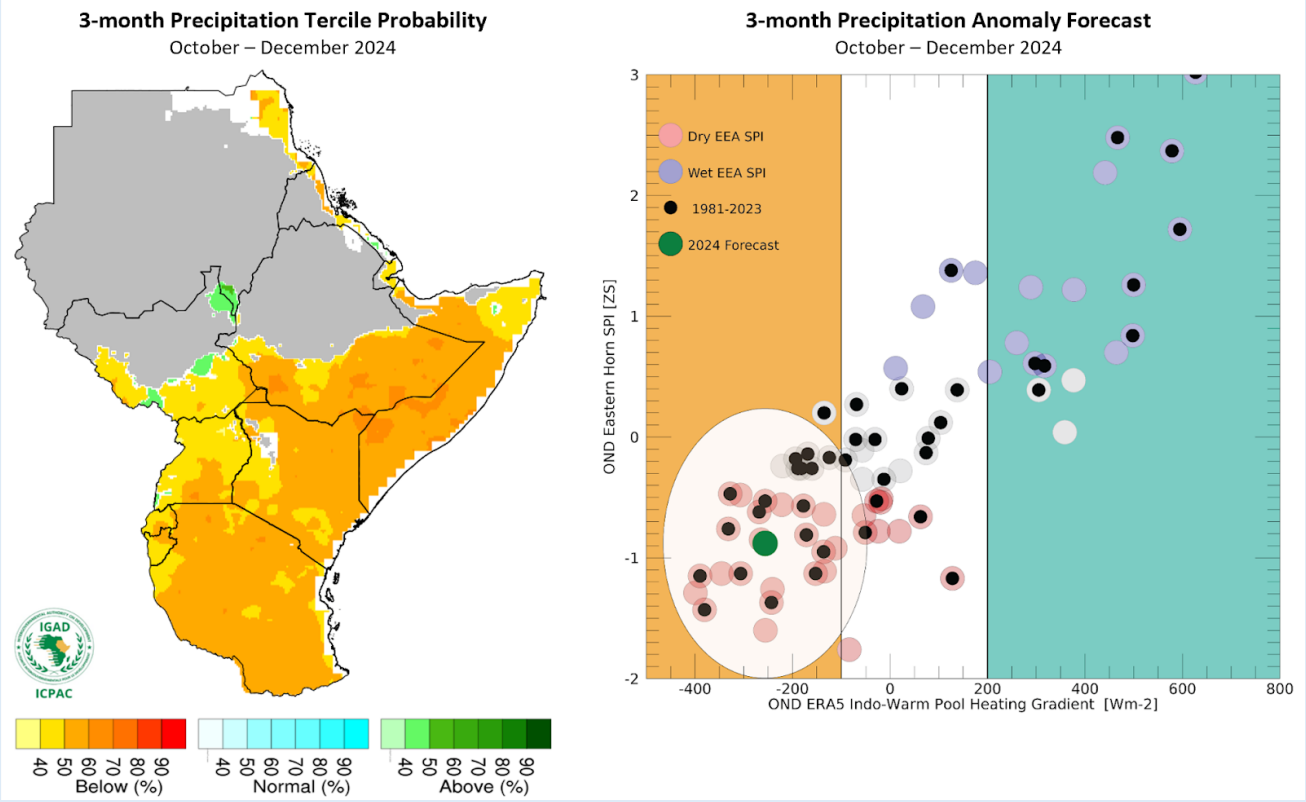
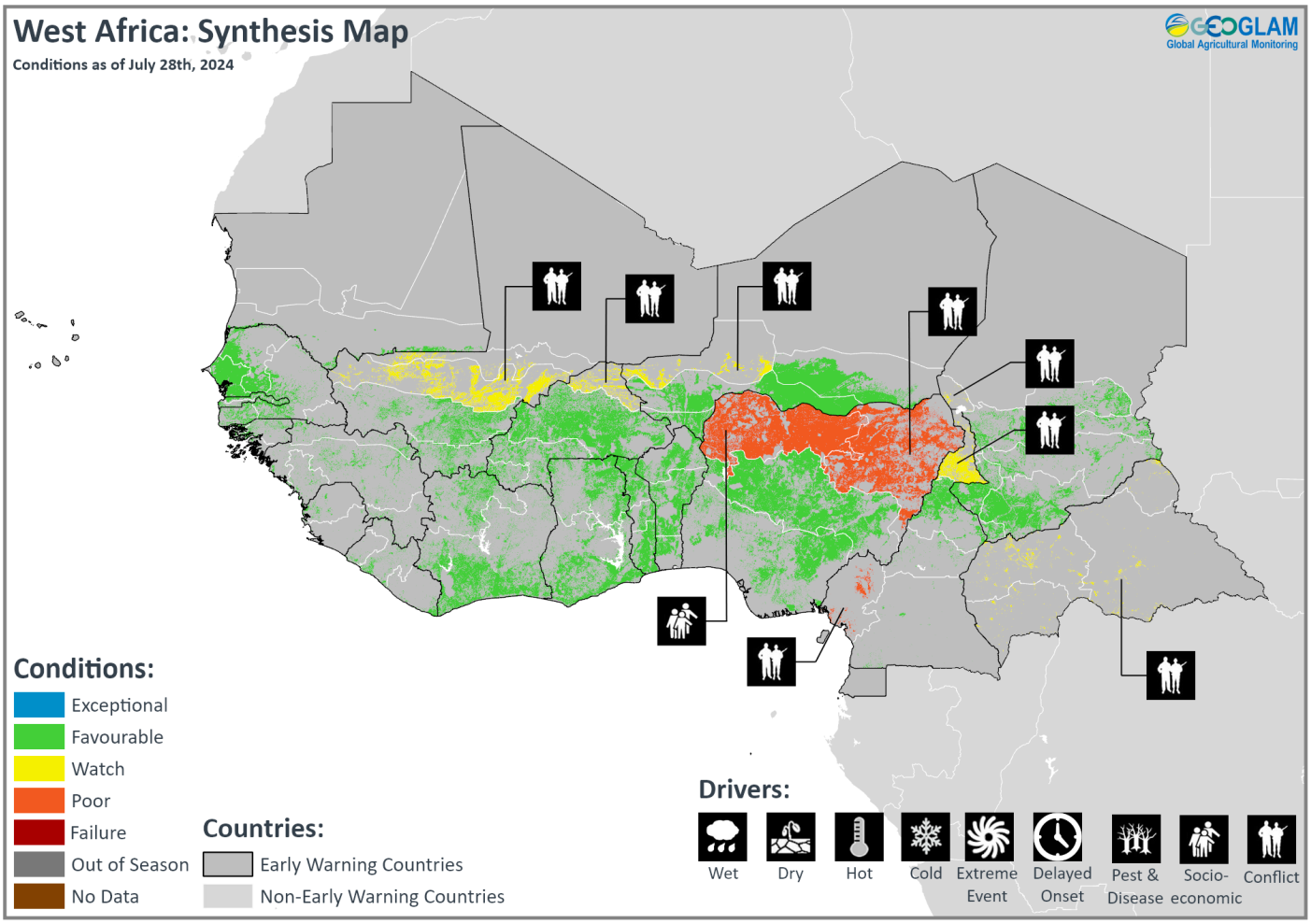


Figure 2. October-November-December (OND) 2024 rainfall outlooks. *Left: IGAD ICPAC probabilistic forecast for OND 2024 rainfall, based on forecasts from July (9 models). The forecast merges three modeling approaches: Canonical correlation analysis forecasts, local regression-based forecasts, and local Nino3.4 logistic regressions. The latter two forecasts are trained to CHIRPS data.* From IGAD Climate Prediction and Applications Centre (ICPAC). *Right: OND 2024 Standardized Precipitation Index (SPI) (CHIRPS and CenTrends data) for eastern East Africa (EEA: Ethiopia, Kenya, and Somalia east and south of 8°N, 36°E) based on an OND Indo-Warm Pool Heating Gradient index (IWHG; calculated from ERA5 reanalysis data), and the historical statistical relationship between these two variables (1950-2023, R-squared= 0.69). Green circle shows a NMME SST-based forecast for IWHG from July, for OND 2024. The gray ellipse shows an 80th percentile confidence interval. From CHC July 9th blog post.*

Source: UCSB Climate Hazards Center

West Africa



Crop condition map synthesizing crop conditions as of July 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, harvesting of main season cereals is now underway in **Liberia**, **Ghana**, **Togo**, **Benin**, and **Nigeria** while planting and development activities continue elsewhere, including in **Guinea**, **Cote d'Ivoire**, **Cameroon**, and the **Central African Republic**. Additionally, planting and development of second season maize and rice is underway in **Nigeria** and the southern half of **Cameroon**. Along the Sahel, planting and development of main season cereals continues in **Senegal**, **Gambia**, **Guinea-Bissau**, **Mauritania**, **Mali**, **Burkina Faso**, **Niger**, and **Chad**. Throughout West Africa, near-average March to May rainfall was followed by a continuation of mostly near to above-average precipitation in June and July, benefitting crop development. As a result, agro-climatic conditions are generally favourable, and recent rains have mitigated last month's concerns regarding delayed onset in **Senegal**, **Mauritania**, **Mali**, and **Chad**. Rainfall this season has been generally average to above-average over the Sudano-Guinean and bimodal zones, with localized slight to moderate deficits in parts of the west. Across central and eastern areas of the Sahel, the forecast average to above-average rains through August is likely to benefit yields but increases the risk of flash flooding and river overflows. Conversely, below-average rains are expected to decrease soil moisture along the Gulf of Guinea regions (See Regional Outlook Pg. 9). Additionally, concern remains in areas impacted by persistent conflict, including in central **Mali**, northern **Burkina Faso**, western **Niger**, northeastern **Nigeria**, the Far North and Southwest regions of **Cameroon**, western **Chad**, and the **Central African Republic**. Additionally, socio-economic challenges related to inter-communal conflict continue to impact northwestern **Nigeria**. Throughout **Nigeria**, national production is expected to be below the previous year and below the pre-conflict average due to the combined impacts of ongoing conflict across the main producing north as well as economic challenges that negatively impact household income and access to agricultural inputs.

Regional Outlook: Above-average rains are forecast to continue through August along the central and eastern Sahel and drier than normal conditions in the south

During recent weeks, from June 21st to July 20th, rainfall was generally average to above-average. At the start of the main rainfall season, eastern Mali, Niger, northeastern Nigeria, and west and eastern Chad received highly above-average rainfall. Below-average rainfall occurred in western areas along the Gulf of Guinea, central-eastern Nigeria, eastern and southern Cameroon, and the western Central African Republic (Figure 1-left).

Above-average rainfall is forecast to continue during late July to late August in the central and eastern Sahel, based on the 30-day SubX multimodel mean (Figure 1-middle). Longer-range forecasts, from the WMO, NMME, and C3S, also predict elevated chances of above-normal rainfall during the next several months. These also continue to indicate drier-than-normal conditions in the south. In line with the NMME rainfall forecasts, and June-July rainfall deficits in Liberia, Côte d'Ivoire, eastern Nigeria, and Cameroon, the NASA soil moisture probability forecast (Figure 1-right) shows high (>70%) chances of below-normal root zone soil moisture in August. In central and eastern Sahel cropping areas, the rainy conditions are forecast to support above-average soil moisture during August and September, pointing to the likelihood of an extended growing season. Forecast conditions indicate heavy, localized rainfall is likely during the next two months, raising risks of damages from flooding.

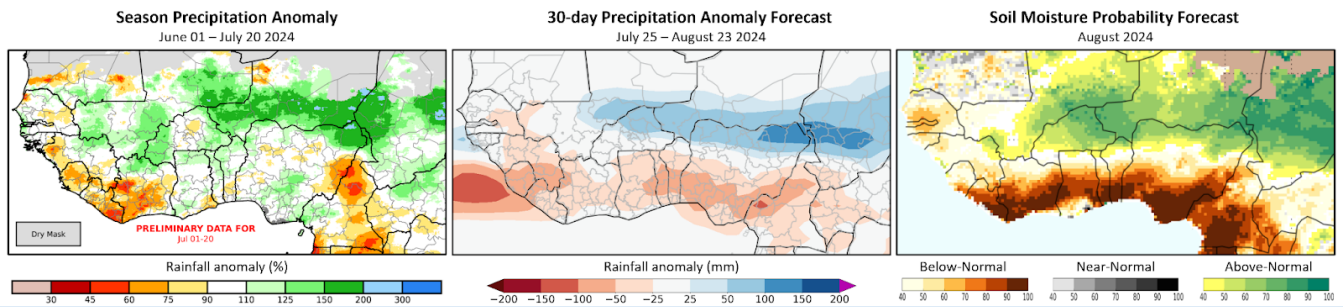
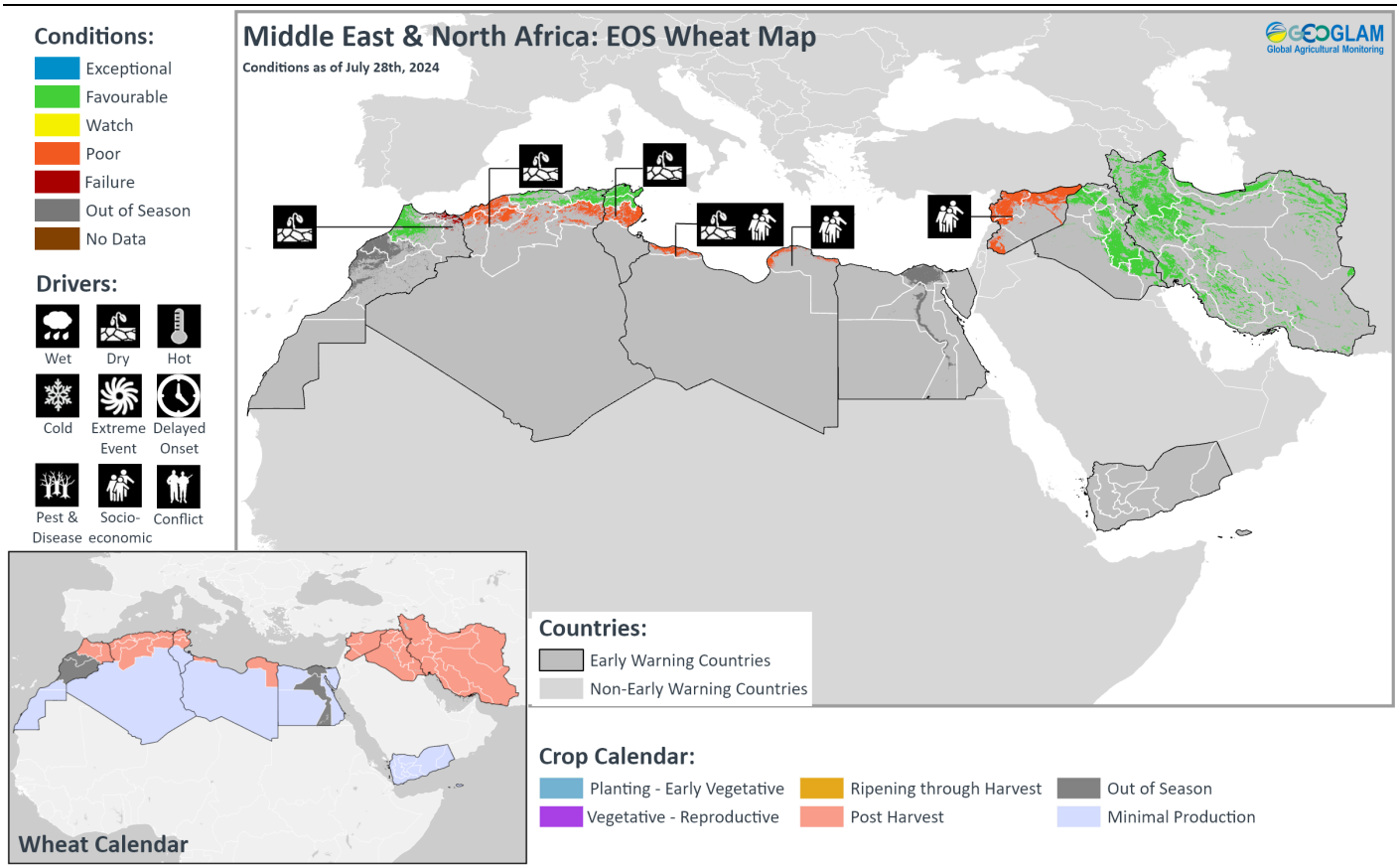


Figure 1. June 1st to July 20th rainfall anomaly, a 30-day rainfall forecast for July 25th to August 23rd, and probabilistic soil moisture forecast for August 2024 *Left: Percent of average rainfall for June 1st to July 20th, 2024, based on CHIRPS preliminary data for July 1st to 20th. The anomaly is relative to the 1981-2023 CHIRPS average for the same accumulation period. From CHC Early Estimates. Middle: 30-day precipitation anomaly forecast for July 25th to August 23, 2024, based on four SubX models initialized July 20-25. From CHC Monitoring with SubX. Right: Probabilistic forecast for August 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 June 2024, and forecasted meteorological conditions for July to August 2024 from the North American Multi-Model Ensemble (NMME) and the GEOSv2 model.*

Source: UCSB Climate Hazards Center

Middle East & North Africa



Crop condition map synthesizing end of season (EOS) wheat conditions as of July 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.***

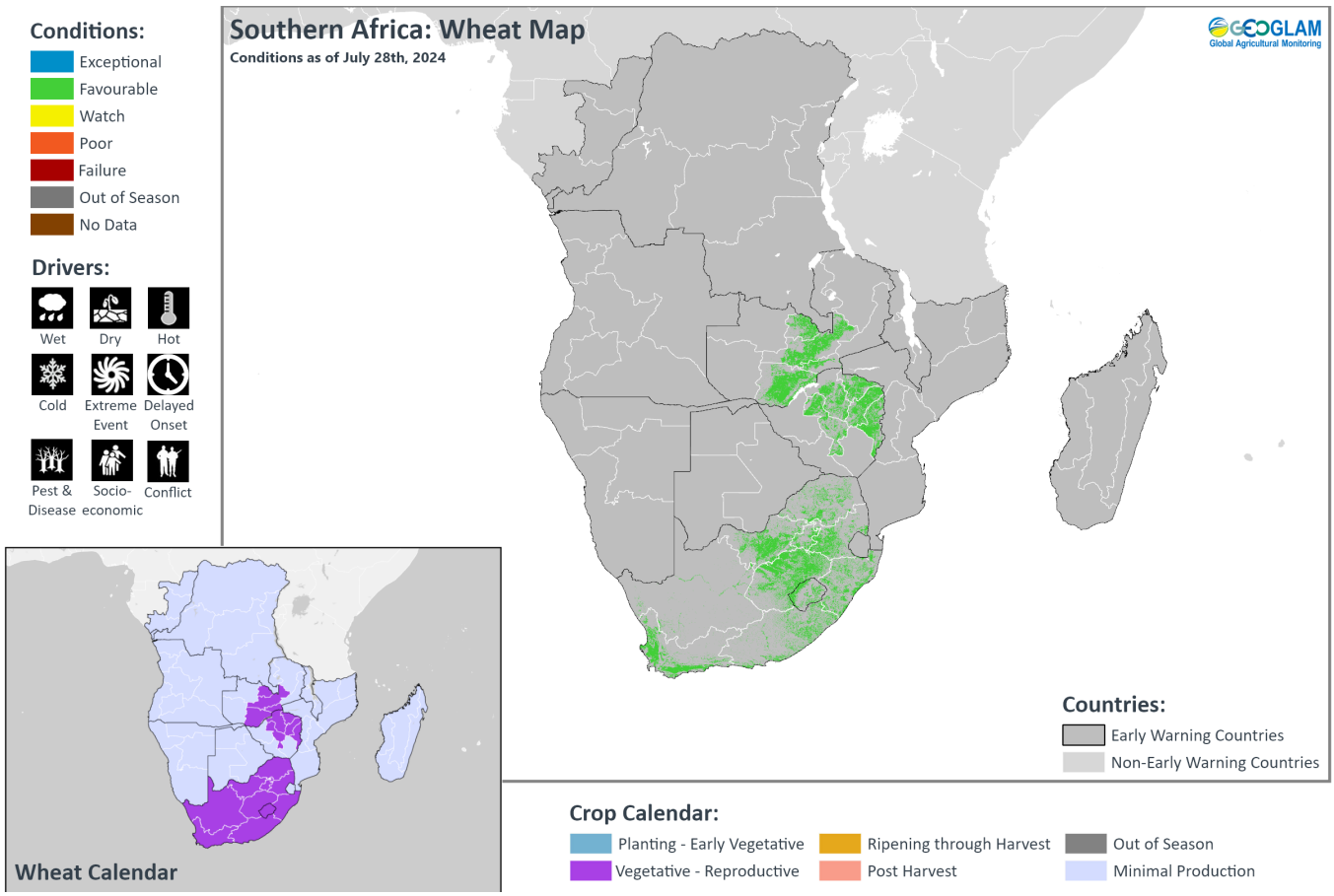
In the Middle East and North Africa, wheat harvesting finalized in July with poor to failure outcomes in western North Africa and generally favourable outcomes in eastern North Africa and the Middle East, except in areas of **Libya** and **Syria** impacted by protracted conflict.

In North Africa, below to well below-average yields resulted in most of **Morocco**, **Algeria**, south-central **Tunisia**, and northwestern **Libya**, and favourable yields are expected elsewhere. National wheat production is expected to be significantly below-average in **Morocco** and near to above-average in **Algeria**, **Tunisia**, and **Libya**. In **Morocco**, delayed and poorly distributed rains at the beginning of the season negatively impacted sowing activities, and continuing dry conditions impacted crops in the growing phase. Throughout the season, widespread drought conditions and above-average temperatures this season negatively impacted wheat development in most areas, except in the minor producing north where enhanced rains were received later in the season and where production is estimated to be above-average. At the national scale, wheat production is expected to be 40 percent below the five-year average. In **Algeria**, crop production is expected to be below-average in the northwest, which was highly affected by drought and below-average soil moisture throughout the season. Conversely, better rainfall outcomes and irrigation use allowed for crop recovery in the north-centre and northeast. National wheat production is expected to be near-average. In **Tunisia**, dry conditions impacted crops in the centre and south-centre while enhanced rains benefitted crops in the main producing north. National wheat production is expected to be above-average. In **Libya**, dry and hot conditions negatively impacted wheat development in the northwest while adequate irrigation water supply benefitted irrigation use in the east. National wheat production is expected to be near-average. However, socio-economic challenges relating to protracted conflict continue to constrain agricultural outcomes. In **Egypt**, main season maize and summer-planted rice are in vegetative to reproductive stage while planting of *Nili* season (Nile flood) rice is just beginning, and vegetation conditions are above-average.

In the Middle East, generally favourable agro-climatic conditions throughout the season resulted in average yields in most regions. In **Syria**, good rains between December and February contributed to adequate crop development and above-average biomass across the country. However, socio-economic challenges relating to protracted conflict continue to constrain agricultural outcomes. In **Iraq**, above-average crop biomass is expected to contribute to good harvest prospects, except in some parts of Qadissiya and neighbouring provinces in the south, likely due to early spring irrigation restrictions. Additionally, abundant rainfall received in the north is expected to benefit yields despite irrigation use restrictions, and wheat production is forecast to be near-average. Furthermore, rice cultivation has started in Qadissiya and Najaf located in the centre-south of the country, and planted area is near-normal and much higher than in 2023. In **Iran**, harvesting prospects are favourable due to average to above-average biomass across the country, except in a few localized areas with below-average biomass despite near to above-average spring rainfall, including Fars and Bushehr in the south, the southern half of Khorasan in the northeast, and Ghazvin and Tehran in the centre-north. Wheat production is expected to be

about 5 percent above-average due to adequate March to May rains received in the major producing northeast and southwest. Additionally, rice planting finalized in Khuzestan and Fars in the west, and rice biomass is good for ongoing crop development in Mazandaran and Gilan in the centre-north.

Southern Africa



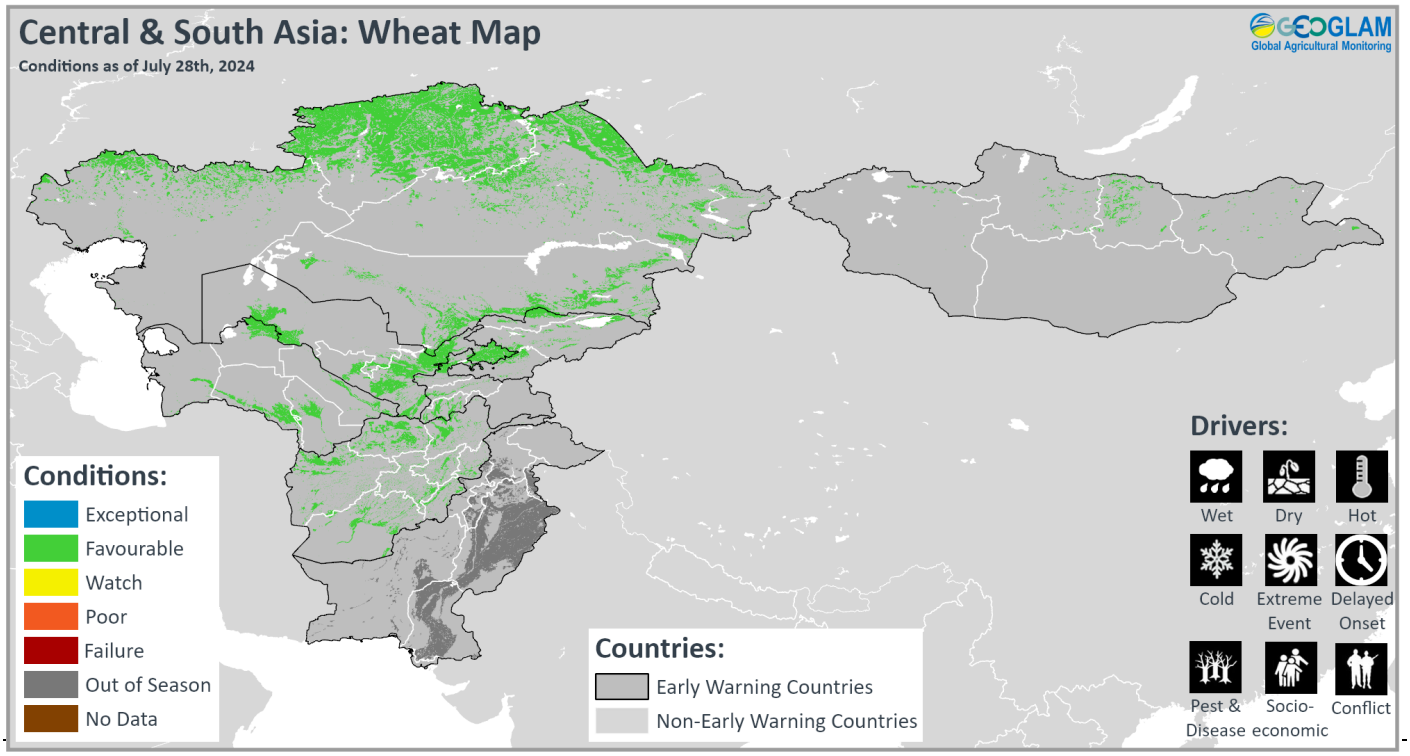
Crop condition map synthesizing wheat conditions as of July 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. ***Crops that are in other than favourable conditions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

In Southern Africa, harvesting of main season cereals finalized in May and June under mostly poor to failure conditions. Aggregate cereal production for Southern Africa is estimated to be 14 percent below the five-year average due to a combination of El Niño induced seasonal drought, severe rainfall deficits during the critical development stage in February and March, and persistent high temperatures. Crops are now mostly out of season, and planting for the upcoming season will begin in September.

In **South Africa**, the region's main cereal-producing country, maize production is expected to be 10 percent below-average. In **Zimbabwe**, maize production is expected to be 60 percent below-average as the main producing northern regions were impacted by dry conditions. In **Zambia**, maize production is expected to be nearly 50 percent below-average as the main producing southern regions were impacted by prolonged rainfall deficits. In **Malawi**, low rainfall and high temperatures this season impacted central and southern areas, and maize production is expected to be 20 percent below-average. Furthermore, below-average production resulted in **Angola**, **Namibia**, **Mozambique**, **Lesotho**, and **eSwatini**. In **Madagascar**, rice production may be slightly above-average despite previous cyclone damage in the northeast. A forecast average rainfall start for the upcoming season is expected to support production. However, planting is likely to be constrained in the south and southeast due to the reduced household capacity to purchase inputs. In the **Democratic Republic of the Congo**, harvesting of second season maize is nearing completion in the north and east while planting of main season cereals continues, and overall conditions remain favourable.

Wheat crops are now mostly in the vegetative to reproductive stage for harvest from September in **Zambia**, **Zimbabwe**, **South Africa**, and **Lesotho**, and overall conditions remain favourable despite persistent above-average temperatures. In **South Africa**, recent widespread precipitation across the winter rainfall region has been conducive for crop growth, and additional rains are expected.

Central & South Asia

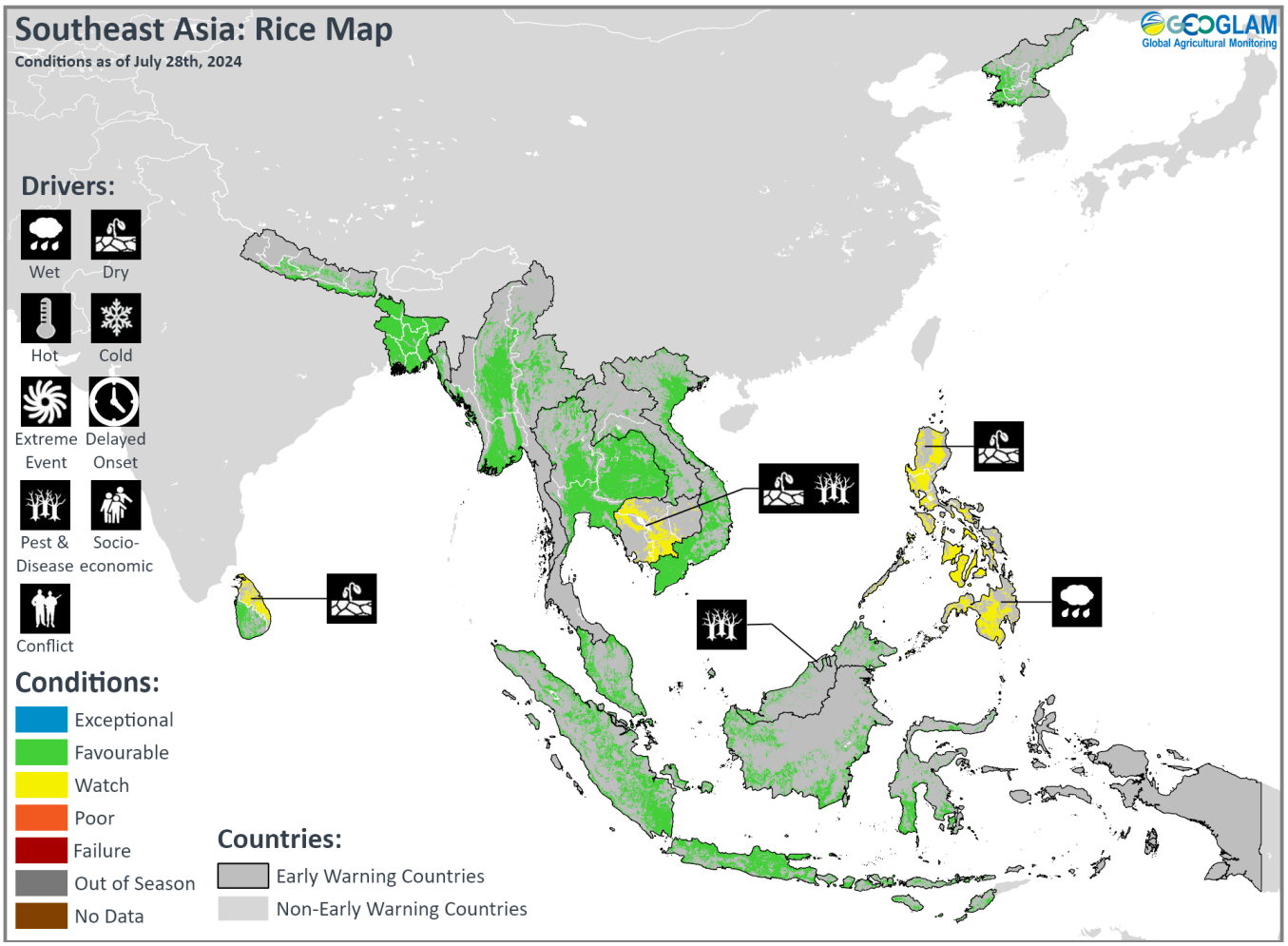


Crop condition map synthesizing wheat conditions as of July 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. ***Crops that are in other than favourable conditions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

In Central and South Asia, winter wheat harvesting is wrapping up in southern **Kazakhstan**, **Kyrgyzstan**, **Tajikistan**, **Turkmenistan**, and **Uzbekistan**, and harvesting activities will finalize in August. Additionally, spring wheat continues to develop in **Kazakhstan**, **Kyrgyzstan**, **Tajikistan**, and **Mongolia** for harvest from August. In **Afghanistan**, rainfed wheat harvesting is now underway and is expected to finalize in October. Throughout Central and South Asia, conditions remain favourable and conducive for ongoing crop development and harvesting. This season's weather outcomes were characterized by El Niño-induced dry conditions at the beginning of the year, followed by a shift to wetter than normal conditions from February and subsequent flooding in some regions that impacted the second half of the winter wheat season and the initial stages of the spring wheat season. However, wheat production is generally expected to be near to above-average as the recent rains have been mostly conducive to soil moisture conditions and crop biomass.

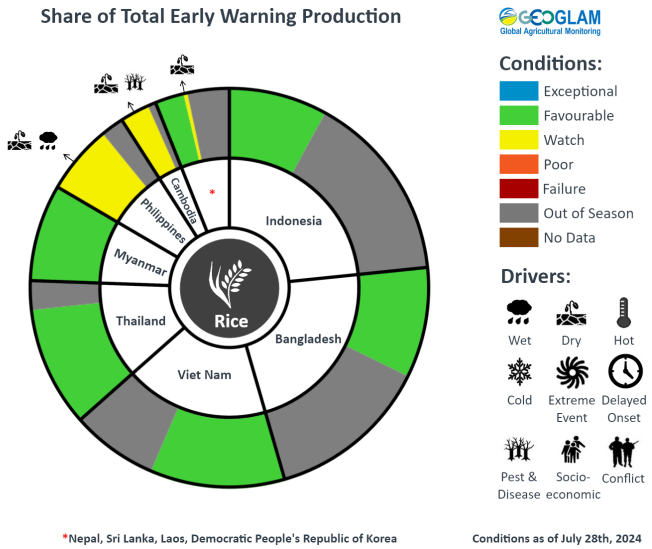
In **Afghanistan**, a shift to enhanced precipitation and cooler temperatures from February helped to reduce early season deficits and improve soil moisture levels. Good rainfall through May benefited late crop emergence despite incidences of flooding and resultant damage to crops and irrigation infrastructure, as well as impacts of pests and disease in some areas. Wheat harvesting mostly finalized in July with generally favourable yields despite mixed challenges faced throughout the season, including an outbreak of Moroccan Locust that resulted in localized crop losses in northern areas. Some harvesting activities may continue into mid-September, depending on elevation and whether crops were planted late. The Ministry of Agriculture expects the total wheat production to be 4.9 million tonnes, representing an increase of 13 percent compared to last year, and this year's wheat yield will also increase 13 percent compared to the previous year. Planting of second season crops, including rice and maize, continues under favourable conditions as surface water was sufficient for planting and will likely be enough for crop growth, except in some downstream areas where farmers will instead use groundwater to supplement. However, a forecast continuation of rains into August and September increases flooding concerns, particularly along bordering areas with Pakistan. In **Kazakhstan**, despite the early-year impacts of dry conditions for winter wheat (5 percent of annual wheat production) and the subsequent shift to wetter-than-normal conditions resulting in flooding in May and June for spring wheat (95 percent of annual wheat production), overall conditions and production prospects remain favourable. Near-average sowings in combination with above-average precipitation that benefitted soil moisture levels are expected to result in a very good and possibly record 2024 wheat harvest of 17 million tonnes, which would be about a 29 percent increase in total wheat production compared to the 5-year average of 13.2 million tonnes. However, the country's limited infrastructure may pose challenges in transporting the high grain harvest. In **Mongolia**, overall conditions remain favourable as recent rains continue to support irrigation water supply and crop growth. In **Pakistan**, *Rabi* wheat harvesting finalized in June under favourable conditions, and record plantings are expected to result in a record-high wheat output of 31.4 million tonnes, which is 19 percent above the five-year average. Additionally, planting of *Kharif* (summer) season rice and maize continues under favourable conditions.

Southeast Asia



Crop condition map synthesizing rice conditions as of July 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.***

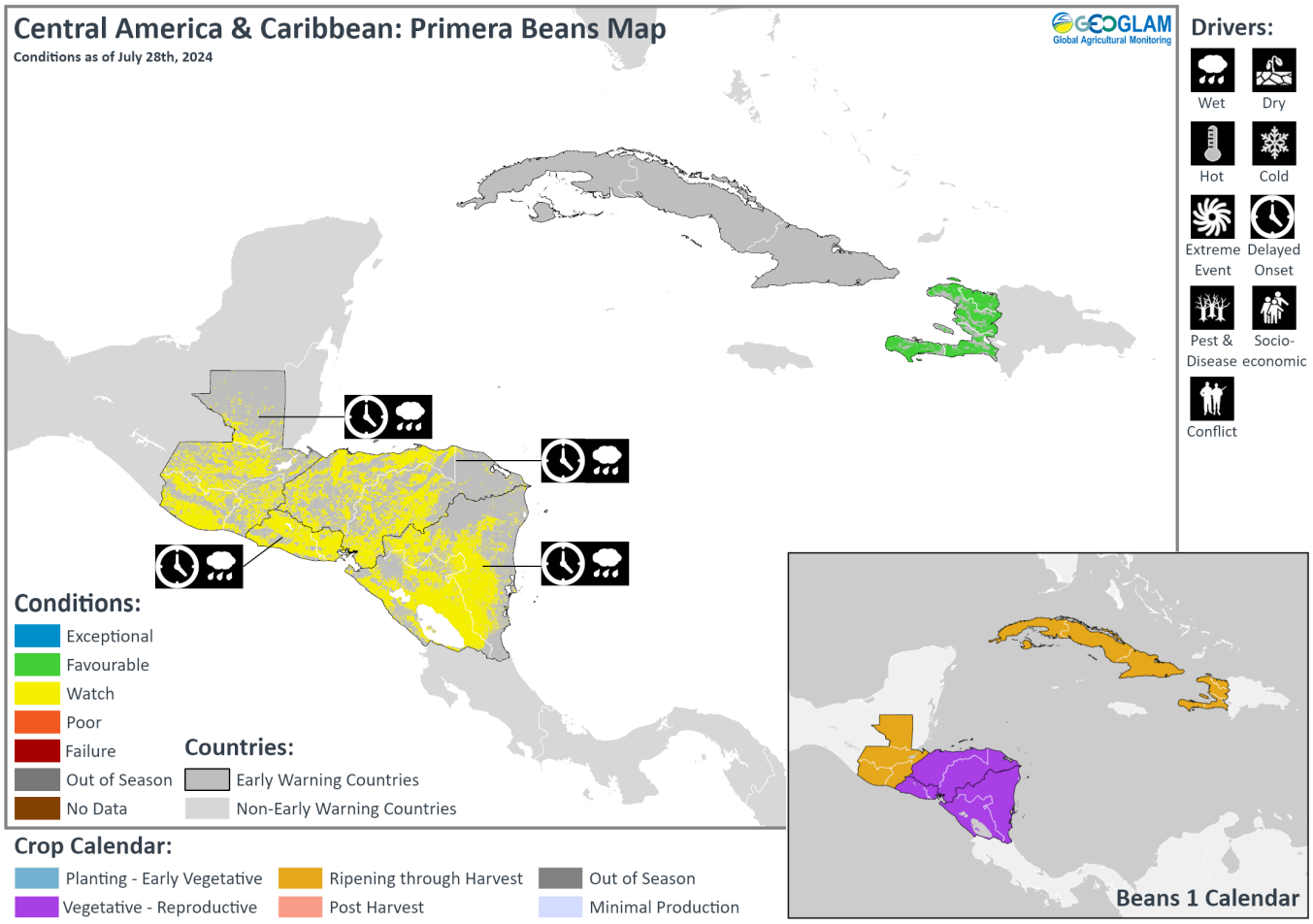
In southern Southeast Asia, planting of dry-season rice is in the final stage, and planted area is expected to increase slightly. Harvesting of earlier planted crops is now underway, and yields are expected to be favourable due to adequate irrigation water and sunlight received at the flowering stage. However, a pest infestation in **Brunei** could potentially decrease production outcomes. In northern Southeast Asia, wet-season rice is in the tillering to maturing stage, and overall conditions are mixed. The rainy season started late, and planted area is expected to decrease slightly due to concerns regarding securing adequate irrigation water supply. Growing conditions vary depending on irrigation water availability, and lower yields are expected in the **Philippines** due to insufficient rainfall and a dry spell during the critical development stage in combination with recent wetter than normal conditions in the south. There is also concern in **Cambodia** due to limited precipitation and pest occurrence. Rainfall conditions over the past month have been mixed, and a tropical depression in mid-July brought wet conditions to parts of **Thailand**, southern **Laos**, **Cambodia**, central and southern **Viet Nam**, and central and southern **Philippines**. Forecasts indicate potentially below-normal August rains in **Thailand** and the northern **Philippines**, and longer-range forecasts through the end of the year suggest above-normal rains are likely across much of the region. Elsewhere in Southeast Asia, including **Sri Lanka**, **Nepal**, **Bangladesh**, and the **Democratic People's Republic of Korea**, conditions remain generally favourable, except in eastern **Sri Lanka** where there are lingering dry concerns.



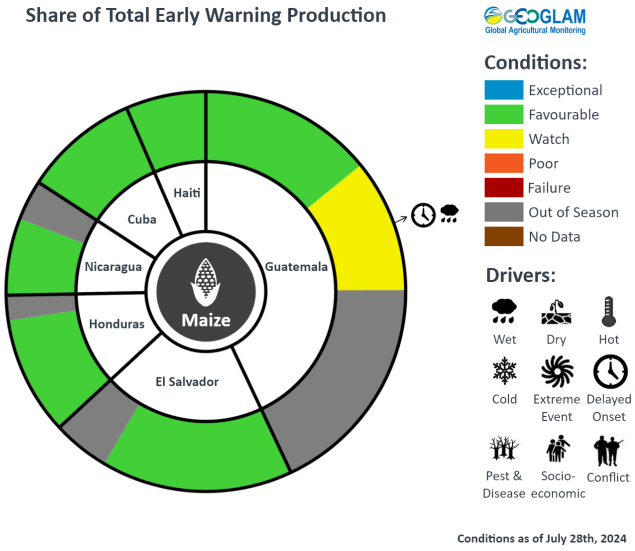
For detailed description of the pie chart please see description box on Pg. 17.

In **Indonesia**, planting of dry-season rice is ongoing with a current planted area of 3.4 million hectares, which is 1.8 percent higher than the last dry season. Intensive rainfall has supported growing conditions, particularly in the south. Harvesting of earlier planted crops commenced in July, and while progress is slower than last year, vegetation conditions are generally favourable, and yield is expected to be favourable due to adequate irrigation water supply and sunlight received during the flowering phase. The government has also installed additional water pumps and increased fertilizer subsidies this season to support production. In **Malaysia**, planting of dry-season rice has reached 95 percent of the cultivation plan and is progressing normally due to stable rainfall conditions. Harvesting of earlier planted crops has reached 8 percent of the planted area, and yield is expected to be slightly lower than last year due to weather inconsistencies. Forecast above-average rains through September may benefit remaining planting operations, but excessive rains could result in crop damage. In **Brunei**, most dry-season rice is in the reproductive and ripening phases, and about 15 percent of the area is ready for harvest. However, there is concern due to a heavy infestation of brown plant hopper in the rice fields due to high precipitation levels and surface temperatures, and the next few weeks will be crucial in managing and controlling the pest population. In the **Philippines**, wet-season rice planted in April and May is now in the maturing stage, and lower yields are expected this season due to insufficient rainfall received as well as a dry spell during the critical development stage. Conversely, a combination of the Southwest Monsoon, the inter-tropical convergence zone, and low-pressure area brought recent continuous rains and subsequent flooding to parts of Mindanao. Furthermore, in late July, the combined effects of the Southwest Monsoon and Tropical Cyclone Gaemi (locally named Carina) brought heavy and intense rainfall across the country, particularly to Northern and Central Luzon. In **Thailand**, planted area of wet-season rice is forecast to decrease as farmers are changing their fields to cassava to mitigate the risk of losses due to drought. Current planted area is only 69 percent of the total expected area. Crops are now in the tillering stage, and growing conditions are better than last year due to sufficient rainfall received from May to July. However, some areas of the northeast received lower than normal June precipitation. Despite lower than expected plantings, production is expected to increase from the previous year as farmers have adequate irrigation water supply to support normal cultivation. In addition, the current farmgate prices for paddy are incentivizing farmers to take particular care of their crops. In northern **Viet Nam**, harvesting of dry-season (winter-spring) rice finalized in July with a favourable yield of 6.48 tons per hectare, which is slightly higher than last year due to better irrigation preparation. Wet-season (summer-autumn) rice is in the seeding and tillering stages, and growing conditions are favourable due to adequate irrigation water supply. In the south, wet-season (summer-autumn) rice is in the young panicle forming and grain filling stages. While there were initial concerns regarding hot weather and limited rains, rainfall improvement from late June improved growing conditions. Harvesting of earlier planted crops is now underway in the Mekong River Delta. In **Laos**, overall conditions are favourable for wet-season rice. Crops are in the tillering stage, and adequate rains received in all regions have provided sufficient irrigation water supply. About 80 percent of the planned area has been planted in lowland areas, and 90 percent has been planted in upland areas. In **Myanmar**, planted area of wet-season rice has reached 26.1 percent of the national plan of 6.07 million hectares, primarily in the main producing delta region. Planting progress is slightly slower than the previous year due to lower availability of rainfall and irrigation water. However, growing conditions are generally favourable, and most crops are now at the early tillering stage. In **Cambodia**, planted area has reached 2,125 thousand hectares and 80 percent of the national plan. About half of the current wet-season rice is in the tillering stage, and about 29 percent is in the panicle forming to grain filling stage. Planting activities are continuing at a slow pace due to limited precipitation received from April to mid-June. Vegetation conditions are lower than normal in the main producing northwest and south-centre. Additionally, pest occurrence in early July affected 45 thousand hectares of crops. However, forecast average to above-average rains through September may benefit remaining crop planting activities and ongoing development. In **Sri Lanka**, *Yala* season rice and second season maize crops continue to develop for harvest from August, and conditions remain mostly favourable except in the northeast where there are lingering dry concerns. However, enhanced economic activity and increased government subsidies following the 2021-22 financial crisis have improved farmers' access to agricultural inputs this season, leading to above-average sowings for *Yala* season rice, which comprises 35 percent of annual rice production and is mostly irrigated. Forecast above-average precipitation through August over most areas will likely provide conducive conditions for remaining crop development but could negatively impact crops at the maturing or harvesting stages. Additionally, likely hot temperatures exacerbate the risk of pest and disease outbreaks. In **Nepal**, maize harvesting is underway and is expected to conclude in September. Despite favourable conditions at the beginning of the season, a shift to dry weather during the second part of the planting period from April to mid-June resulted in a contraction in the planted area. While production is expected to be slightly below-average due to reduced plantings, yield is still expected to be near-average as farmers were able to mitigate the impacts of dry conditions by pumping water from the ground and irrigation canals. The government also subsidized 60 percent of the electricity costs for maize cultivation. Additionally, planting activities continue for rice, the country's main staple crop, and conditions remain favourable. However, heavy rainfall from the monsoon season is resulting in flooding and landslides in many areas, particularly in the centre. In **Bangladesh**, harvesting of summer/*Kharif* season maize (15 percent of annual maize production) finalized in July while harvesting of *Aus* season rice (10 percent of annual rice production) is now underway. Additionally, planting of both *Aman* season rice (35 percent of annual rice production) and main season sorghum continues for harvest from November. Throughout the country, overall conditions remain favourable with near-average yields expected, despite impacts of severe weather and floods this season, including a severe heatwave in April and the passage of Tropical Cyclone Reman in May. In the **Democratic People's Republic of Korea**, maize and rice crops continue to develop for harvest from August, and growing conditions remain favourable throughout the country.

Central America & the Caribbean



Crop condition map synthesizing Primera season bean conditions as of July 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.***



For detailed description of the pie chart please see description box on Pg. 17.

In Central America, harvesting of *Primera* season cereals is now underway in **Guatemala** while crops continue to develop in **El Salvador**, **Honduras**, and **Nicaragua** for harvest from August. A one-month delay in the start of seasonal rains was followed by a shift to torrential precipitation, which improved deficits and resulted in crop recovery in many areas but also caused subsequent flooding and landslides in parts of **Guatemala** and **El Salvador** since June. In **El Salvador**, the country declared a national state of emergency on June 16 due to the severe weather-related incidents. While the rains have been generally conducive to maize development, except in east and northern **Guatemala**, the excess soil moisture is causing concern for bean crops as they are very sensitive to moisture conditions. Throughout the region, subsistence farmers began to plant their fields in conjunction with the timing of the rainfall onset. However, many lost their seeds with the shift to heavy rains, which affected the typical sowing time and resulted in a planting delay. Many areas have not been sown yet, particularly for beans, as farmers are determining if it is a worthwhile option due to the severe weather incidents and high soil moisture levels. Above-average rains are expected to continue across **El Salvador**, **Guatemala**, **Honduras**, and **Nicaragua** through early August, followed by a likely continuation of above-average rains in all areas through October (See Regional Outlook Pg. 16). Additionally, the June to November 2024 Atlantic hurricane season is expected to produce an above-average number of storms. Hurricane Beryl was the strongest to form in June in the Atlantic Ocean and the earliest Category 4 storm on record.

In **Haiti**, harvesting of *Printemps* season cereals continues while planting of *Été* season maize and beans is just beginning. Overall conditions are favourable as improved rainfall amounts since May have reduced dry conditions at the beginning of the season, and

moderate temperatures have supported normal soil moisture conditions. However, main season maize and bean production is expected to be below-average as a result of limited plantings due to earlier soil moisture deficits as well as limited access to agricultural inputs. Forecast above-average rains through October could disrupt harvesting activities but could also benefit second season crops (See Regional Outlook Pg. 16). In **Cuba**, harvesting of main season maize continues while rice planting is mostly complete, and overall conditions remain favourable.

Regional Outlook: Recent transition to above-average precipitation is forecast to continue from August to October in all areas

During recent weeks, from June 21st to July 20th, rainfall was mainly above-average, consistent with earlier forecasts for a transition to wetter conditions in rainfall deficit areas of Central America. Above-average rainfall occurred in Haiti and along Central America's Pacific coast and interior, including in much of southern, central, and northern Guatemala, central and southern Nicaragua, El Salvador, and western and northeastern Nicaragua. Below-average rainfall occurred in portions of coastal northern and eastern Honduras and some southern-central locations in Guatemala's Peten department. Floods were reported elsewhere in Peten, while in eastern areas of the Izabel department, erratic rainfall continued to have significant negative impacts on crops.

Daily maximum temperatures were above-average during the past 30 days in central and western Guatemala, eastern Honduras, northeastern Nicaragua, and portions of southern and northern Haiti. Elsewhere, temperatures were near-average, and below-average in the Gulf of Fonseca region, likely due to the rainy conditions.

Due to the ample rains in the past month, and if forecast rains materialize, April 1st to August 5th rainfall totals will be near-average in most areas of Central America, with above-average amounts along the Pacific coast (Figure 1-left). Portions of northern Guatemala, central and northern Honduras, and northern Nicaragua may continue to have moderate rainfall deficits between 75-90% of average for that ~4 month period.

During late July to early August, above-average rainfall is likely in Caribbean and Pacific Coast areas (Figure 1-middle). Very high rainfall amounts, ranging from 300 to 500 mm for that 16-day period, are possible in eastern Nicaragua and localized areas of eastern Guatemala and eastern Honduras. In Haiti, average to below-average rainfall is anticipated. There is substantial agreement across forecast systems that atypically wet conditions will likely continue in the region. SubX models predict average to above-average rainfall during the next 30 days. The majority of longer-range forecasts, from the NMME (Figure 1-right), WMO, and C3S forecasts all indicate above-normal August to October 2024 rainfall in Central America and Haiti.

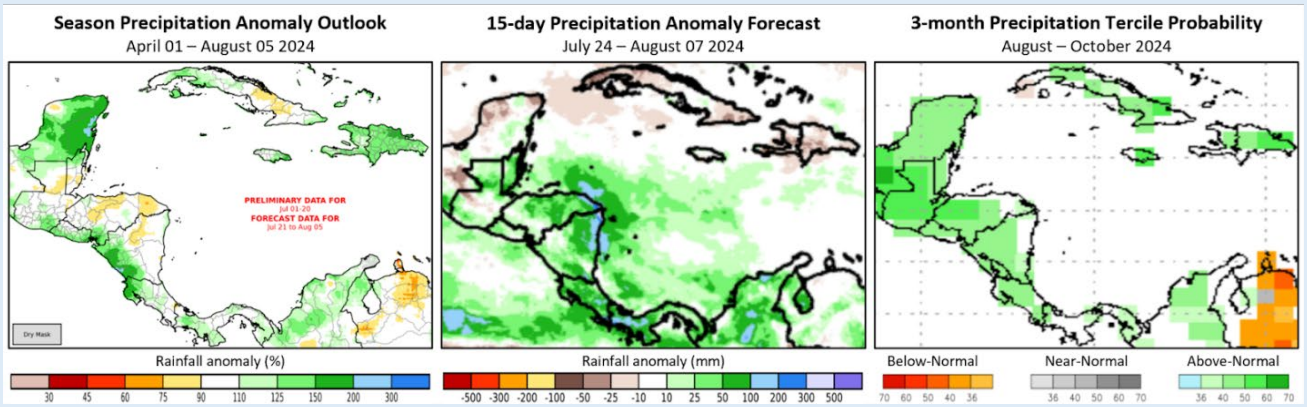


Figure 1. Seasonal rainfall anomaly outlook, a 15-day rainfall anomaly forecast, and a probabilistic rainfall forecast for August to October 2024. *Left: Percent of average rainfall for April 1st to August 5th, 2024. Based on CHIRPS Final for April to June, CHIRPS Preliminary for July 1st to 20th, and an unbiased GEFS forecast for July 21st to Aug 5th. The anomaly is relative to the 1981-2023 CHIRPS average for the same accumulation period. From CHC Early Estimates. Middle: CHIRPS-GEFS forecast for July 24th to August 7th, 2024, shown as the forecast difference from average precipitation in mm. Right: NMME probabilistic precipitation tercile forecast for August to October, 2024, based on July 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

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 August 1st, 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.

"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)	

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	

GEOGLAM Global Agricultural Monitoring

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GEO GROUP ON EARTH OBSERVATIONS

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