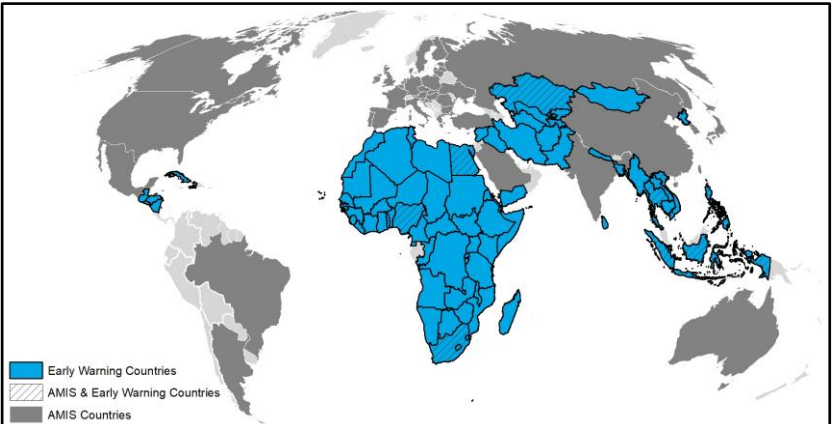


# Crop Monitor

## EARLY WARNING

### Overview:

In **East Africa**, planting and development of main season cereals is underway with generally favourable conditions in the north and areas of concern in the south and *Belg* producing regions of Ethiopia due to persistent dry conditions. In **West Africa**, planting and development of main season cereals is underway across the south of the subregion, and overall conditions are favourable except in conflict affected areas. In the **Middle East and North Africa**, conditions for wheat crops are mixed as dry conditions impacted parts of the region, and below-average production is likely in some areas. In **Southern Africa**, harvesting of main season maize crops is now complete with favourable to exceptional yields in most regions except in parts of Angola, Madagascar, and Mozambique where crops were unable to recover from prolonged drought. In **Central and South Asia**, harvesting of winter wheat crops is underway with mixed conditions due to persistent dryness in parts of Afghanistan, Turkmenistan, Uzbekistan, and Kyrgyzstan. Planting and development of spring wheat crops continued under generally favourable conditions except in Afghanistan due to dry conditions. In northern **Southeast Asia**, harvesting of dry-season rice is nearing completion with favourable production prospects despite earlier concerns of limited irrigation water supply. Sowing of wet-season rice is underway, and planted area is expected to slightly decrease. In **Central America and the Caribbean**, there is concern for main season cereals in Cuba and Haiti due to rainfall deficits. Elsewhere, conditions are generally favourable for planting of *Primera* season cereals.



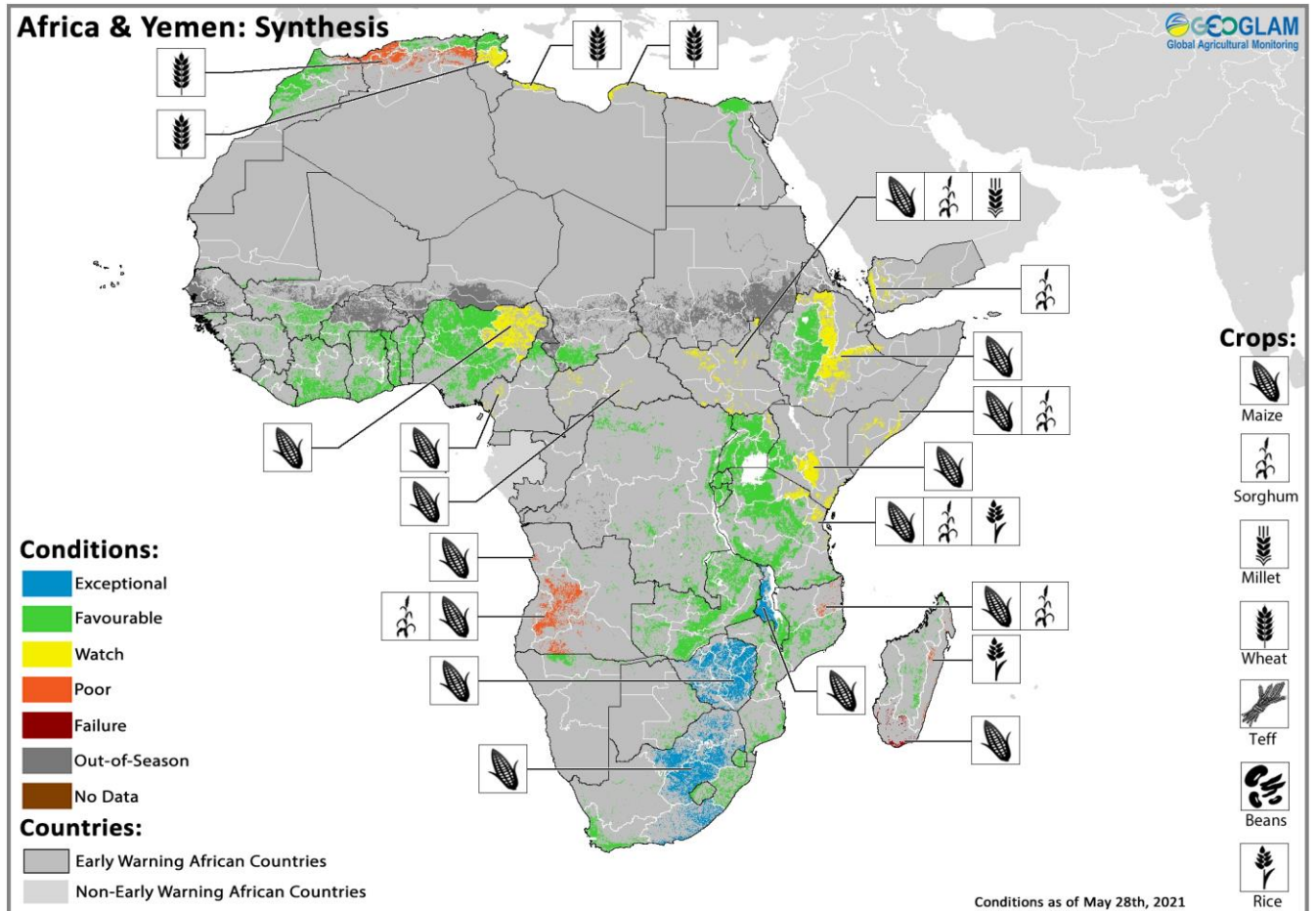
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# GEOGLAM Crop Monitor for Early Warning

## Crop Conditions at a Glance

based on best available information as of May 28<sup>th</sup>



Crop condition map synthesizing information for all Crop Monitor for Early Warning crops as of May 28<sup>th</sup>. 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 season cereals is underway, and conditions in the north are generally favourable except in conflict affected regions. In the south and in *Belg* producing regions of Ethiopia, there is concern where delayed rainfall onset and persistent dry conditions are impacting crops. However, above-normal rainfall from June to September in some regions could lead to adequate crop recovery (See Regional Outlook Pg. 7).

**WEST AFRICA:** Planting and development of main season cereals is underway across the south of the subregion, and overall conditions are favourable except in conflict affected areas. Forecast average to above-average rainfall from mid to late June is likely to benefit main season crop development (See Regional Outlook Pg. 9).

**MIDDLE EAST & NORTH AFRICA:** Harvesting of winter wheat crops is underway in most countries, and overall conditions are mixed as dry conditions are impacting crop development across the region. Parts of Algeria, northeastern Morocco, northwestern Iraq, and northeastern Syria are unlikely to recover from persistent dryness. There is also continued concern in Syria and Libya due to ongoing conflict and socio-economic challenges.

**SOUTHERN AFRICA:** Harvesting of main season maize crops is complete with favourable to exceptional end of season

conditions in most regions. However, crops in parts of Angola, Madagascar, and Mozambique were unable to recover from prolonged drought. Planting of winter wheat crops continued under favourable conditions.

**CENTRAL & SOUTH ASIA:** Harvesting of winter wheat crops is underway, and conditions are mixed as persistent dryness continues to impact crops in some regions. Planting and development of spring wheat crops continued in May under generally favourable conditions except in Afghanistan.

**SOUTHEAST ASIA:** In the north, harvesting of dry-season rice is wrapping up with favourable production prospects due to increased planted area, high prices, and favourable weather conditions. Planted area of wet-season rice is expected to slightly decrease due to the reduced price of rice as well as limited irrigation water supply. In Indonesia, harvesting of wet-season rice is nearing completion with favourable yields.

**CENTRAL AMERICA & CARIBBEAN:** In Cuba and Haiti, there is concern for main season cereals as rainfall deficits are adversely impacting crop development; however, forecast near-normal precipitation in June may improve soil moisture deficits (See Regional Outlook Pg. 18). In Central America, planting of *Primera* season cereals is underway under generally favourable conditions.



### **Global Climate Outlook: 30-day Forecast of Areas with Above or Below-Average Precipitation**

The 30-day precipitation forecast indicates a likelihood of above-average rainfall over the central plains of the United States, Panama, western Colombia, French Guiana, southern Chile, central Romania, Bulgaria, southern Côte d'Ivoire, India, Nepal, Bangladesh, Bhutan, northeastern China, central Thailand, southern Laos, and northern Japan. There is also a likelihood of below-average rainfall in Guatemala, Honduras, Nicaragua, northern Brazil, Uruguay, the United Kingdom, Ireland, northern France, the Netherlands, Belgium, Denmark, Germany, Norway, Sweden, Switzerland, eastern Czechia, Burkina Faso, northern Ghana, northern Togo, northern Benin, Nigeria, Cameroon, southern Chad, the Central African Republic, southern Sudan, South Sudan, Ethiopia, northern Uganda, western Kenya, southern Myanmar, northern Philippines, Indonesia, and southwestern Papua New Guinea.

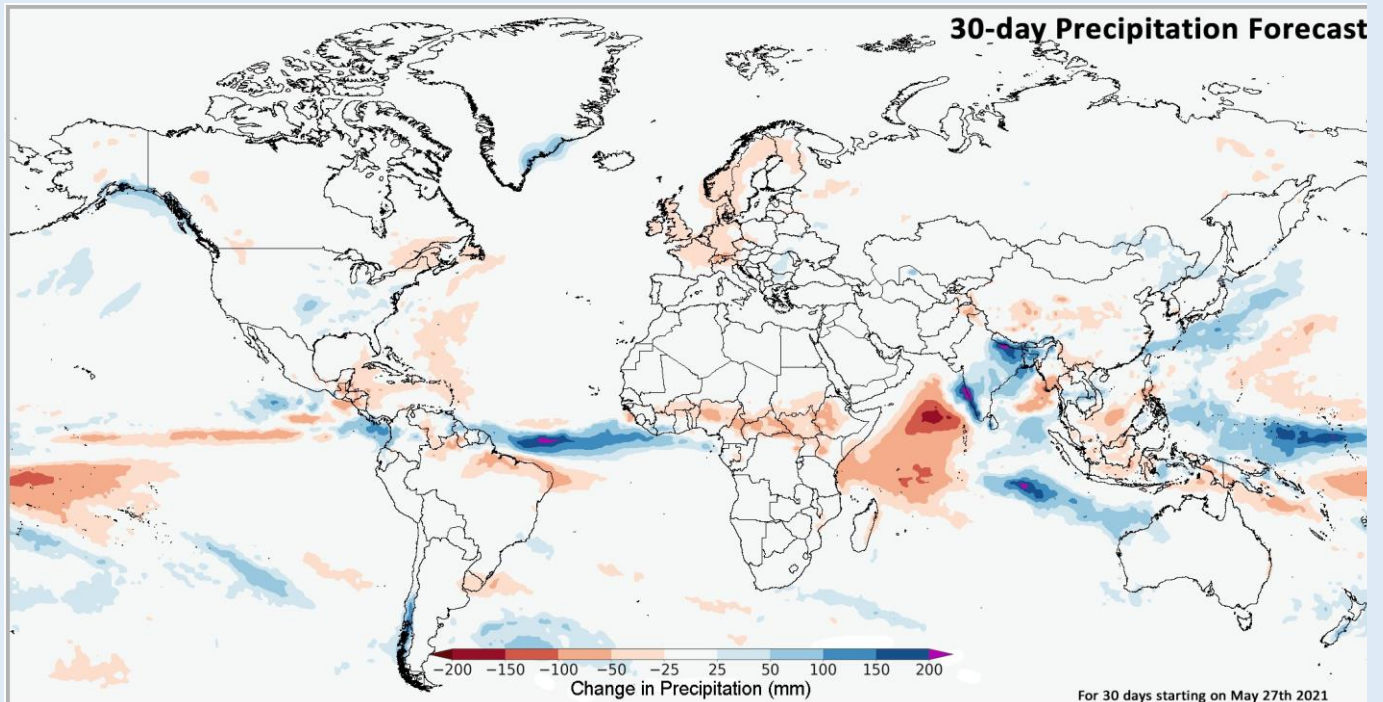


Figure 1. Forecast of areas with above or below-average precipitation over the next 30-days starting on May 27<sup>th</sup>, 2021. The image is the multimodel mean of precipitations anomaly from the Subseasonal Experiment ([SubX](#)) model forecasts for that day. The anomaly is based on the 1999 to 2016 model average. Skill assessments of SubX can be accessed [here](#).

Source: UCSB Climate Hazards Center

### **Climate Influences: Neutral ENSO is present and expected to continue through August 2021**

Neutral El Niño-Southern Oscillation (ENSO) conditions are present and are expected to continue during June through August (67% chance).

Long-range forecasts made at this time of year have a high level of uncertainty. However, IRI/CPC forecasts in May indicated increased chances for La Niña (53% chance) or neutral ENSO conditions (39% chance) during October to December 2021.

Source: UCSB Climate Hazards Center

***Desert Locust Alert: Despite recent rainfall improvements supporting breeding, locust numbers in East Africa have significantly reduced.***

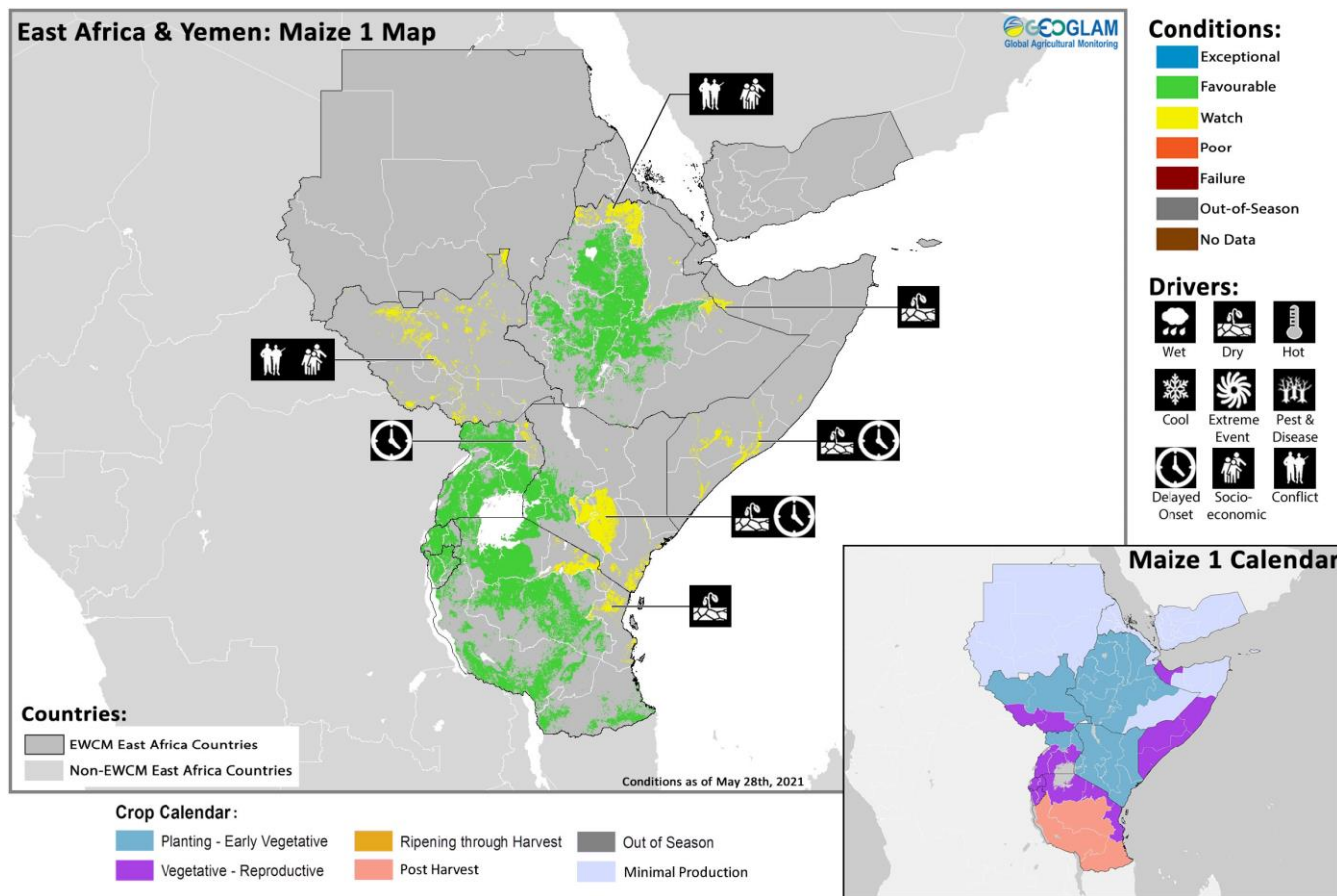
Across the Horn of Africa, early instar hopper bands are forming in eastern **Ethiopia** and northwestern **Somalia**. This is expected to continue through mid-June as recent rainfall improvements are resulting in adequate egg-laying conditions (See Regional Outlook Pg. 7). With a new round of breeding, there is a potential for new swarms to form from late June where they would move to northeastern **Ethiopia** for summer breeding. In **Ethiopia**, further hatching and band formation is underway in Oromia and Somali region, and mature swarms are present in Siti zone in the centre-east where hatching and band formation will begin. In **Somalia**, hatching and band formation is underway in the northwest where mature swarms continue to lay eggs.

In the Arabian Peninsula, spring breeding continues in the interior of **Saudi Arabia**, and groups of immature adults are likely to move to **Yemen** where they would breed in the interior and may eventually threaten the Horn of Africa. In **Saudi Arabia**, a few early instar hopper bands are present in the north and east, and immature adult groups are present in the centre and southwest. In **Yemen**, adults are present in the interior. In **Iraq**, hopper groups are present in the centre-west. In **Iran**, early instar hopper groups remain on the southwestern coast.



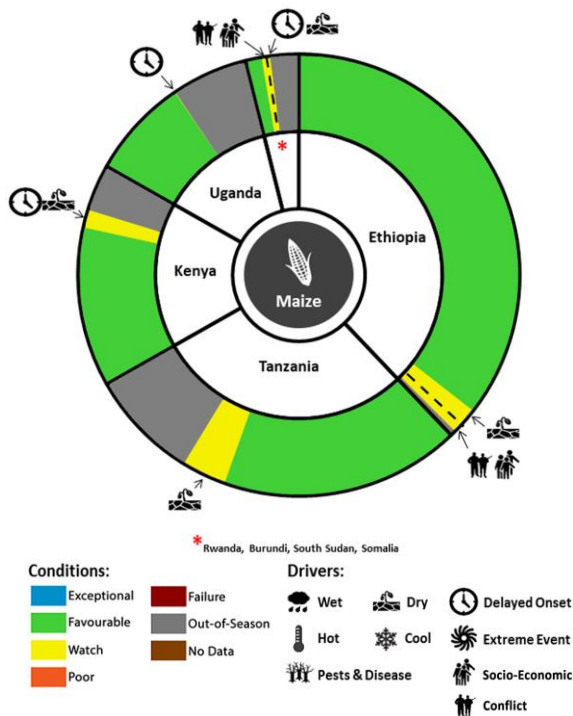
Figure 1. Desert Locust Current Situation, May 20-27 2021. Source: FAO DLIS

East Africa & Yemen



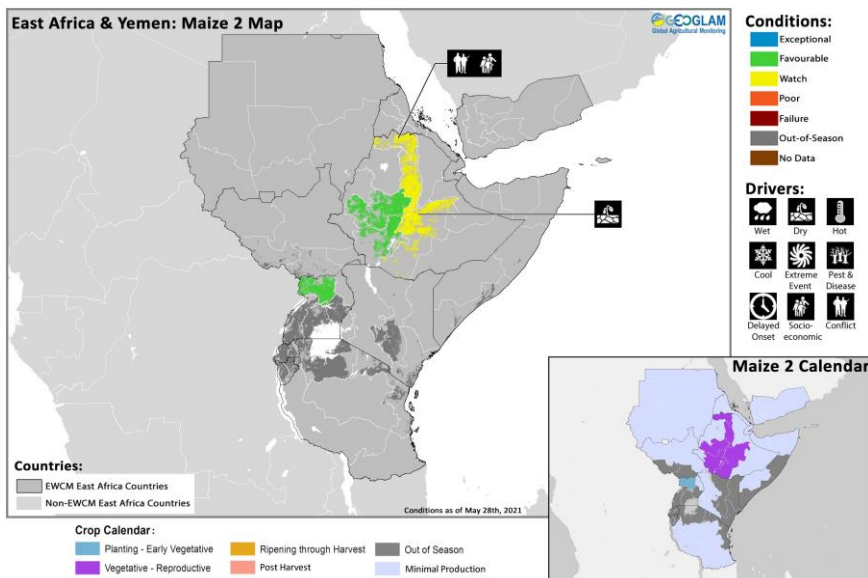
Crop condition map synthesizing Maize 1 crop conditions as of May 28<sup>th</sup>. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Conditions that are other than favourable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

Across the north of the subregion, planting and development of main season cereals is underway under generally favourable agro-climatic conditions in **Ethiopia, South Sudan, and Yemen** for harvest from September. However, there is continued concern in areas impacted by ongoing socio-economic challenges and conflict and in areas where delayed onset rains are impacting land preparation and planting activities. In **Ethiopia**, planting of *Meher* (Long Rains) season crops began in mid-May under generally favourable conditions; however, there is concern for both major *Meher* and secondary *Belg* crops in some areas as prolonged dry spells and warm temperatures since mid-May caused moisture stress for late planted crops. Across the south of the subregion, planting and development of main season cereals is underway under mixed conditions with concern in parts of **Somalia, Kenya, and Uganda** due to significantly delayed rainfall onset and dry conditions. Elsewhere, conditions are favourable. Across the Horn of Africa, the generally poor performance of the March to May rains resulted in substantial deficits and has impacted crops in many areas. Moderate to heavy rainfall in late April and early May is insufficient for adequate crop recovery for much of the marginal agricultural zones of the eastern Horn as dry conditions resulted in water stress and wilting in some areas. Conversely, episodic moderate to very heavy rains over portions of the East Africa coastal strip may result in localized flooding in coming weeks. A wetter than normal June to September season is expected over north, west, and southwestern areas of the subregion which may partly improve prospects for long cycle crop production in the subregion (See Regional Outlook Pg. 7).



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





Crop condition map synthesizing Maize 2 conditions as of May 28<sup>th</sup>. 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.**

breeding (See Desert Locust Alert Pg. 4). Conversely, major long-cycled *Meher* crops are in good shape over the western half of the country. In **Sudan**, land preparation is underway for main season millet and sorghum crops, and planting will begin in June. In **South Sudan**, planting and development of first season cereals is underway for harvest from July. Across the south, there is concern as cumulative rainfall is below-average. Conversely, in the northeast, parts of Jonglei, Unity, and Upper Nile states are still recovering from recent flooding, and forecast above-average rainfall may result in waterlogging and flash flooding (See Regional Outlook Pg. 7). There is also concern throughout the country as ongoing conflict and socio-economic challenges continue to disrupt agricultural activities. In **Yemen**, planting of main season sorghum crops continued in May for harvest from September. While current agro-climatic conditions are favourable for crop development, heavy rains continued throughout most parts of the country in early May, resulting in widespread flash flooding. The most impacted governorates include Aden, Hadramaut, Hajjah, Lahj, Abyan, Dhamar, Ma'rib, and Al Bayda. In addition, socio-economic challenges and conflict continue to negatively impact agricultural activities throughout the country.

#### Southern East Africa

In **Uganda**, main season cereals are developing under generally favourable conditions with adequate rainfall performance and soil moisture despite some flooding in the east. Conversely, there is concern for first season maize crops in Karamoja region in the northeast due to delayed rainfall onset and flash floods in Napak, Moroto, Kotido, and Kaabong districts. Planting of second season maize crops is underway in the northwest under favourable conditions. In **Kenya**, planting and development of Long Rains cereals is underway under mixed conditions. Despite delayed rainfall onset in the main producing Rift Valley region, conditions are favourable due to recent rainfall improvements. The start of the Long Rains has resulted in severe flooding in several areas from early April, and further heavy rainfall from early May has resulted in additional flooding in Kakamega, Turkana, Homa Bay, Baringo, Busia, Siaya, and Kisumu counties in the western part of the country. The heavy rains also impacted the Tana River basin and resulted in landslides in Makueni county in the southeast. Conversely, in the minor producing central, eastern, and coastal areas, there is concern where delayed rainfall onset and dry conditions are impacting crops. While rains improved slightly in late April and early May, it is uncertain if the moisture levels will be adequate to sustain crops. In **Somalia**, *Gu* season maize and sorghum crops are in vegetative to reproductive stage for harvest from mid-July, and there is concern throughout the country due to delayed rainfall onset followed by recent heavy rainfall and flooding in Shabelle and Juba regions. In early May, heavy *Gu* rains affected various parts of the country, resulting in flash flooding in some northwest and central areas. The heavy rains in combination with large water volume inflows from the Ethiopian highlands also caused the Shabelle River level to rise rapidly, resulting in channel overflows in mid-May, particularly in the Hiiran and Middle Shabelle Regions. Rainfall began to subside from mid-May in most parts of Somalia and some parts of the eastern Ethiopian highlands, which is likely to reduce the risk of flooding along the Shabelle and Juba rivers. Despite the improved April and May rainfall, cumulative seasonal rains and soil moisture remain below-average in parts of the south and Awdal region in the northwest. Additionally, crop development in the Shabelle and Juba riverine areas largely depends on rainfall performance during the July through September *Hagaa* season which is forecast to be below-normal (See Regional Outlook Pg. 7). In **Rwanda**, main *Season B* maize crops are in vegetative to reproductive stage for harvest from June, and conditions are favourable due to adequate rainfall and soil moisture since the start of the season. However, increasingly heavy rains, windstorms, and waterflows from early January has resulted in extensive flooding and mudslides in Burera District in the northeast from April 28<sup>th</sup> to May 2<sup>nd</sup>, and Gicumbi and Kayonza Districts were also affected from late April. In **Burundi**, main *Season B* maize and rice crops are developing under favourable conditions for harvest from July. Timely rainfall onset as well as adequate rainfall and soil moisture are benefitting crop development. In the **United Republic of Tanzania**, harvesting of *Msimu* season cereals finalized in main producing central and

#### Northern East Africa & Yemen

In **Ethiopia**, planting of *Meher* Season (Long Rains) cereals is underway under generally favourable conditions, particularly in regions where Long Rains normally start after mid-April except in Tigray Region where more than two million people have been displaced since the onset of conflict in November 2020. Some neighboring areas of Tigray have also been affected by restricted field access due to conflict. There is also concern for the late sown *Belg* and *Meher* maize and sorghum crops in central and northern areas as the below-average October to December 2020 *Deyr* rainfall season was followed by early to mid-season deficits for the March to May *Belg* rainfall season. Late April to early May rainfall significantly improved soil moisture deficits, but the rains were insufficient as these areas received little rainfall since early to mid-May. The period of heavy rainfall affected Afar, SNNP, and Somali regions, resulting in displacements and localized crop damage as well as increased desert locust

southern unimodal areas under favourable conditions while harvesting of *Msimu* season rice crops began under favourable conditions and will be finalized in August. In north and northeastern bimodal areas, harvesting of *Masika* season cereals commenced, and there is some concern where soil moisture deficits are impacting crop development.

### **Regional Outlook: Below-average rainfall expected in June across central parts of the region**

The March-to-May rainfall season was characterized by significantly delayed onset of seasonal rains, uneven distribution, and below-average rainfall amounts in many eastern areas. The percent of average rainfall for February 1st to May 25th (Figure 1 top-left) highlights the severity of seasonal deficits in central and northeastern Ethiopia, eastern Kenya, and Somalia. Rainfall totals from March 1st to June 10th are expected to remain substantially below-average (< 80% of average) in central and northeastern Ethiopia, southern and eastern Somalia, central, northern, and eastern Kenya, northeastern Tanzania, and portions of eastern South Sudan and northern Uganda.

Rainfall during recent weeks was mixed, with wetter-than-average conditions in late April and early May in Ethiopia, western Kenya, northwestern Tanzania, Rwanda, northern South Sudan, Sudan, and portions of northern and central Somalia. From mid-to-late May, with dominance of prolonged dry spells, rainfall performance across the region was mainly below-average or average. A drier-than-average May worsened earlier deficits in eastern Kenya, northeastern Tanzania, southeastern and eastern Somalia, and portions of northeastern DRC.

During the next 30 days, below-average to average rainfall is forecast throughout the region (Figure 1 top-right). Based on GEFS and SubX forecasts, below-average rainfall is expected from late May to early June in western and northern Kenya, northern Uganda, central and western Ethiopia, and through mid-to-late June in southern Somalia. Some models indicate the next 30-day deficits in portions of southern Sudan, South Sudan, and coastal Kenya, and increased likelihood for wetter-than-average conditions in parts of Uganda and Ethiopia, together with southeastern South Sudan.

For June to September, the GHACOF58 outlook shows increased chances for above-normal rainfall in northern and western areas (Figure 1 bottom-left). May WMO and NMME seasonal forecasts generally agree that normal to above-normal rainfall is likely (Figure 1 bottom-right). In June and later, eastern areas may be hotter and drier than normal.

Long range forecasts show increased chances of a below-normal October-to-December rainfall season in eastern areas, coincident with increased chances for a La Niña during that time (53% chance, according to the CPC/IRI May official forecast), with heightened risks for the third consecutive below-average season in that part of the region and successive poor agricultural production prospects for the eastern Horn.

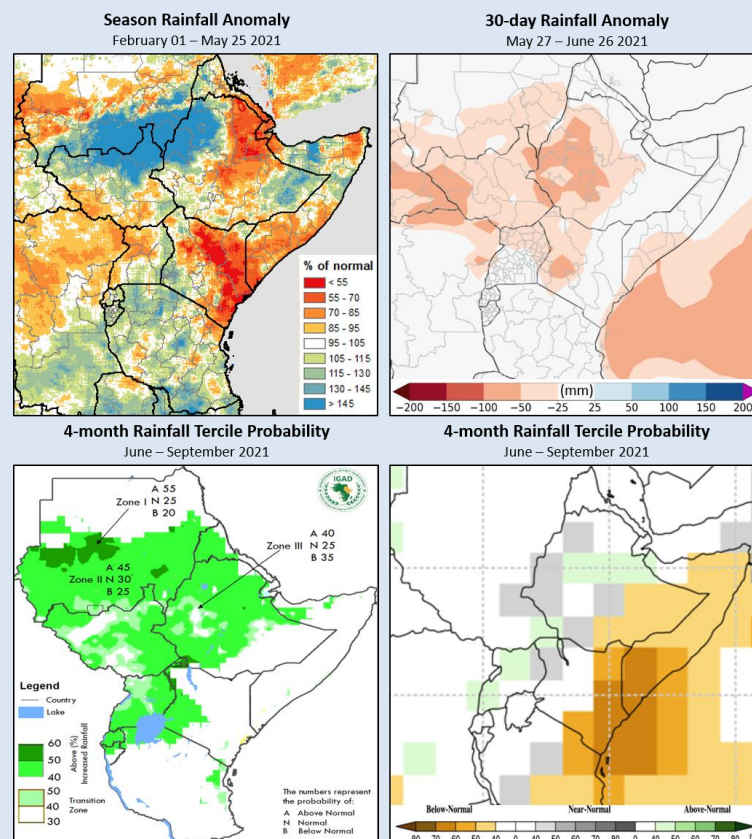
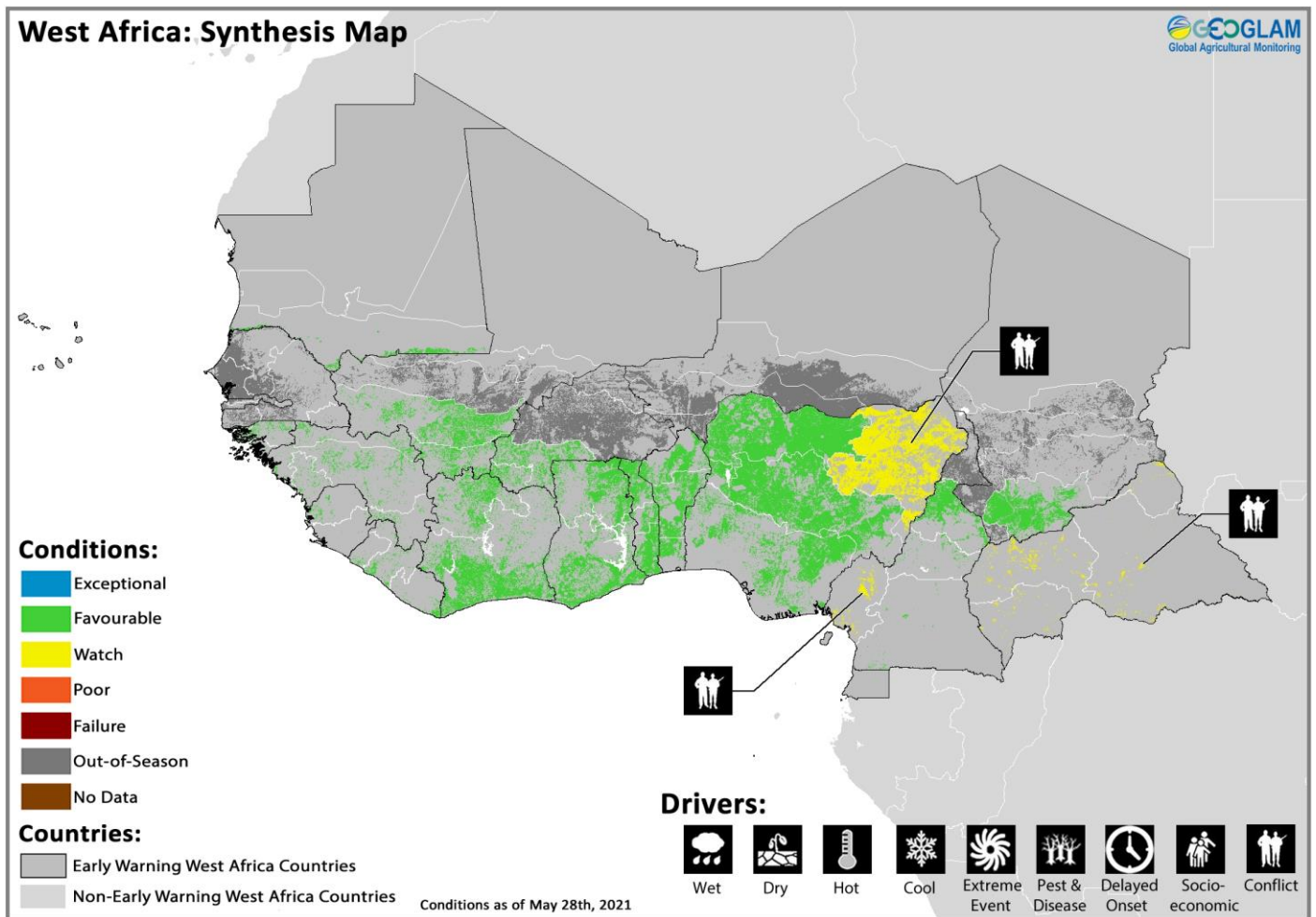


Figure 1. A February-to-present season rainfall anomaly, and forecasts. The top-left panel shows how 2021 rainfall amounts compare to the 1981-2010 CHIRPS average. The map shows the percent of average rainfall for February 1st to May 25th, based on final data through April 30th and preliminary data for May 1-25. The top-right panel shows the SubX Precipitation 30-day forecast anomaly for May 27th to June 26th, issued May 27th. The image shows the average of four Subseasonal Experiment (SubX) model forecasts from that day. The anomaly is based on the 1999 to 2016 model average. Skill assessments of SubX can be accessed [here](#). The bottom panels show probabilistic forecasts for most-likely June-July-August-September rainfall tercile from the ICPAC Greater Horn of Africa Climate Outlook Forum 58 (GHACOF), May 2021 (bottom-left) and from the WMO Lead Centre for Long-Range Forecast Multi-Model Ensemble, May 2021 initial conditions (bottom-right). Source: UCSB Climate Hazards Center.

## West Africa



Crop condition map synthesizing information as of May 28<sup>th</sup>. 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 West Africa, main season maize crops are developing across the south of the subregion in southern **Cote d'Ivoire**, southern **Ghana**, southern **Togo**, central **Benin**, and southern **Nigeria** under favourable conditions for harvest from July. Elsewhere, planting of main season cereals is underway under favourable conditions except in **Cameroon**, the **Central African Republic**, and northeastern **Nigeria** where conflict is disrupting planting activities. In **Liberia**, cumulative average to above-average rainfall has supported development of early-planted crops, and forecast above-average rainfall for the April to June period will likely have a positive impact on crop production. In **Sierra Leone**, planting of main season rice, the country's primary cereal crop, is underway following a timely onset of seasonal rains in late March. Cumulative average to above-average rainfall has been beneficial for early-planted crop development, and forecast above-average rainfall for the July through September period will likely have a positive impact on crops (See Regional Outlook Pg. 9). In **Mauritania**, harvesting of off-season rice crops finalized in May under favourable conditions. Planting of main season irrigated rice, the country's main cereal crop, will begin in June while planting of main season sorghum and millet crops will begin with the onset of rains in July for harvest from October. In central **Nigeria**, planting and development of second season maize and rice crops is underway, and conditions are favourable.



**Regional Outlook: Average June rainfall expected across much of the region with possibility of below-average rainfall in the central and west**

Rainfall during recent weeks was below-average (< 80% of average) from the central-southern coast to northeastern Nigeria, and above-average in Sierra Leone and western-central Cameroon. Below-average rainfall is expected from late May to early June in areas from southern Mali and northern Ghana in the west to northern Nigeria and to northern Cameroon in the east, based on GEFS and SubX forecasts. Figure 1-left shows a rainfall anomaly outlook for May 1st to June 10th based on preliminary rainfall estimates and the May 26th unbiased GEFS forecast.

Longer range SubX forecasts for mid-to-late June show a transition to more typical rainfall conditions, with average rainfall in most areas and potential for above-average rainfall in some southern and central areas. Overall, the SubX rainfall forecast for the next 30 days indicates below-average rainfall in central areas and wetter-than-average conditions in coastal Liberia and Cote d'Ivoire (Figure 1-middle).

For July to September, there are increased chances for above-normal rainfall in the central Sahel and in central-southern coast areas, according to the May NMME forecast (Figure 1-right). There are increased chances of below-normal rainfall in central Nigeria and Côte d'Ivoire.

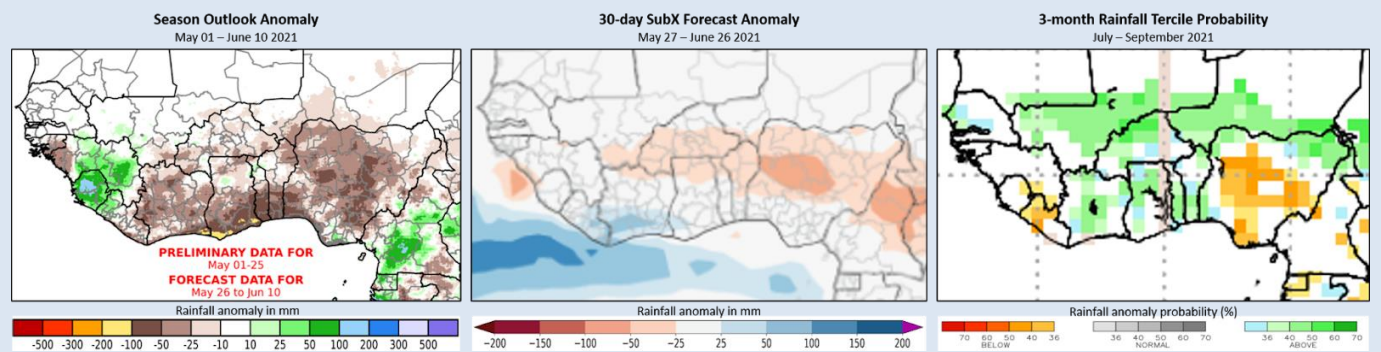
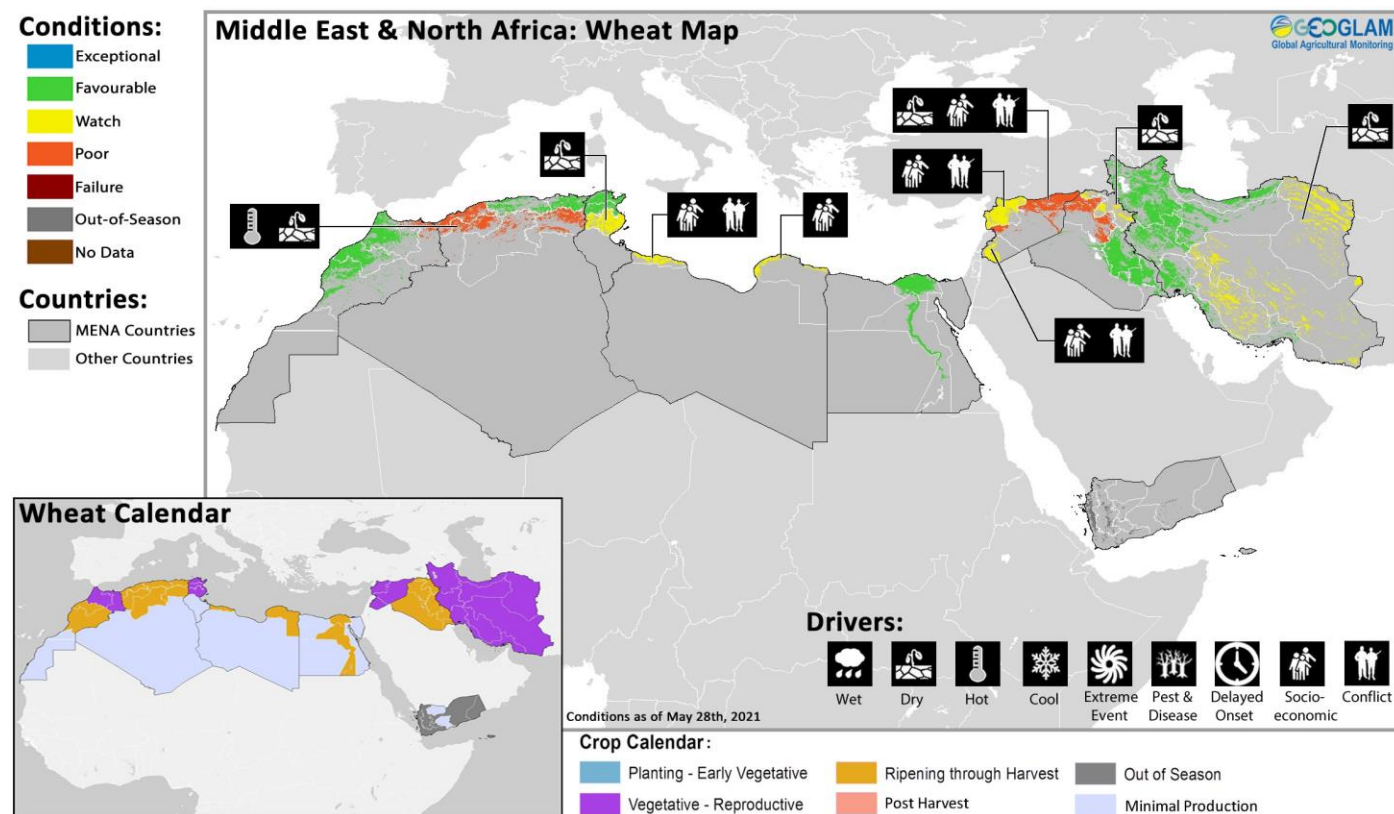


Figure 1. A May-to-present season rainfall anomaly outlook, a 30-day forecast anomaly, and a 3-month forecast tercile probability. The left panel is a CHC Early Estimate, which compares 2021 rainfall amounts to the 1981-2020 CHIRPS average. The map indicates how May 1st to June 10th rainfall would compare to the historical average if the 15-day unbiased GEFS forecast from May 26th materializes. The middle panel is a 30-day forecast anomaly from May 27th. The image shows the average of four Subseasonal Experiment (*SubX*) model forecasts from that day. The anomaly is based on the 1999 to 2016 model average. Skill assessments of SubX can be accessed [here](#). The panel on the right is a 3-month NMME experimental probabilistic forecast for July 2021 to September 2021, based on May 2021 initial conditions. The forecast probability is calculated as the percentage of all 79 NMME ensemble members that fall in a given tercile (above/below/near-normal). White color indicates there is no dominant category across the model forecasts. NMME image from the NOAA CPC [Climate Forecasts](#).

Source: UCSB Climate Hazards Center.

## Middle East & North Africa



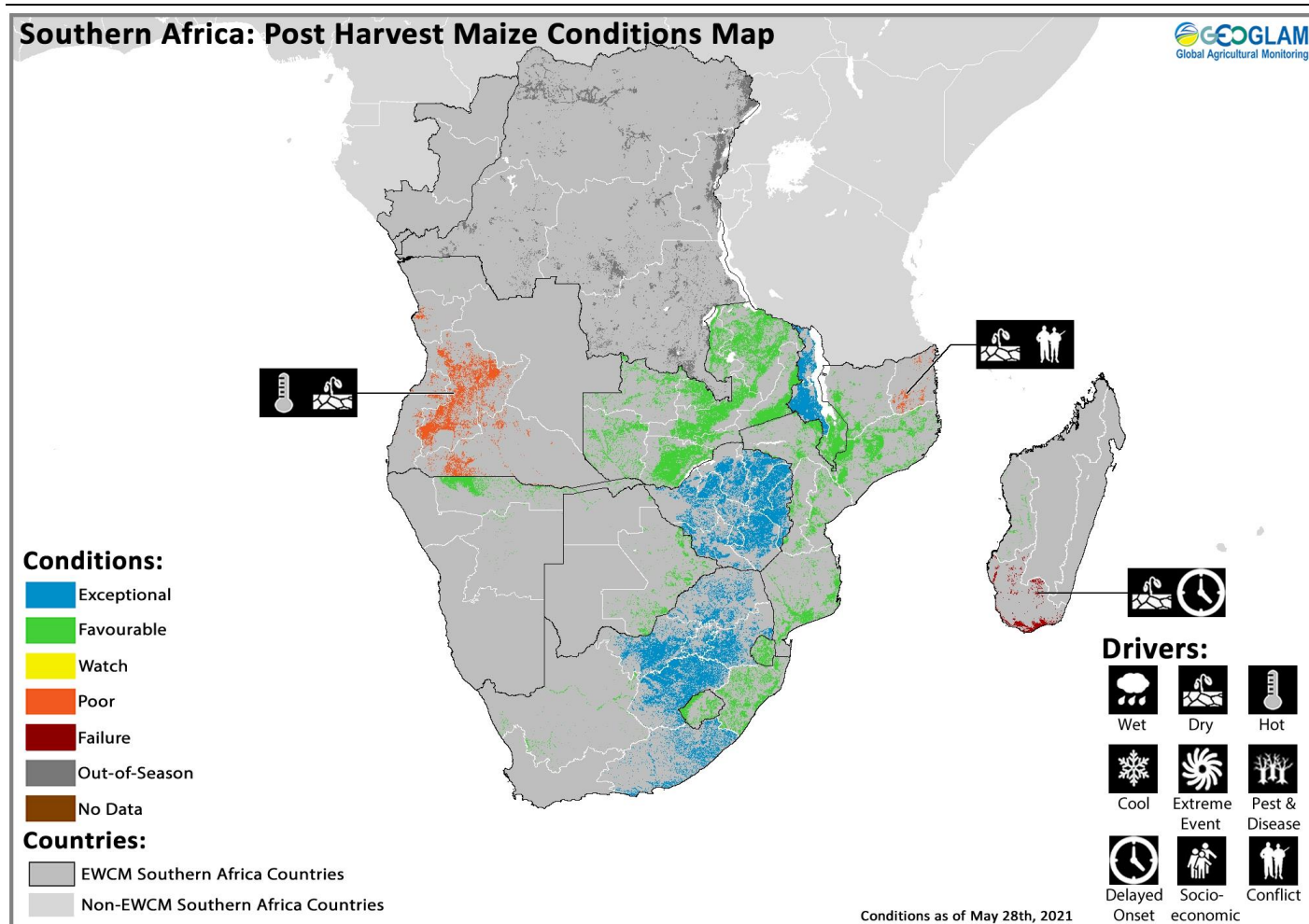
Crop condition map synthesizing information as of May 28<sup>th</sup>. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Crops that are in other than favourable conditions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

In the Middle East and North Africa, harvesting of winter wheat is underway in **Morocco, Tunisia, and Egypt** while crops continue to develop elsewhere for harvest from June. In North Africa, crop conditions are favourable in parts of **Morocco, north and north-central Tunisia, Egypt, and northeastern Algeria**. However, dry conditions impacted crops in south-central **Tunisia, northeastern Morocco, and parts of Algeria** while in **Libya**, socio-economic challenges continue to disrupt agricultural activities. In central, western, and southeastern **Algeria**, rainfall deficits in combination with above-average temperatures throughout the season are likely to result in national level yield reductions of 20 percent below the five-year average. In **Egypt**, sowing of main season maize and summer-planted rice crops is underway for harvest from September under favourable conditions.

In the Middle East, while conditions are favourable in south and central **Iraq** and western **Iran**, persistent dryness in northwestern **Iraq** and central and eastern **Iran** decreased production potential, and rainfed crops have failed in northwestern **Iraq** and northeastern **Syria**. In **Iraq**, rainfed crops in the northeast suffered damages as limited precipitation and high temperatures have accelerated senescence of rainfed cereals. In Ninewa governorate, the main producing wheat governorate in the northwest, significant production declines are expected. Elsewhere in the country, biomass levels are good, and production prospects are favourable. In **Syria**, well-distributed and average to above-average rainfall has benefitted crop development in western parts of the country. However, in Hassakeh as well as parts of Raqqa, eastern Aleppo, and Deir-zor in the north, which together constitute 80 percent of the annual wheat production, as well as in parts of Idlib, rainfall has been irregular with some areas experiencing drought, and high temperatures from early April have exacerbated moisture deficits. Production is forecast at a below-average level as a result of dry conditions in the main producing regions in combination with the impacts of conflict and socioeconomic challenges which continue to disrupt agricultural activities. In **Iran**, rainfall from late March through early April has been below-average with above-normal temperatures in parts of the southwest, central, and northeast. As a result, cereal production is expected to be below-average for irrigated crops in Fars in the southwest due to limited irrigation water and for rainfed crops in Lorsetan in the centre-west, and there is concern for wheat crops in Khorasan and Golestan provinces in the northeast. However, production prospects for irrigated cereals remain favourable in the north and northwest.



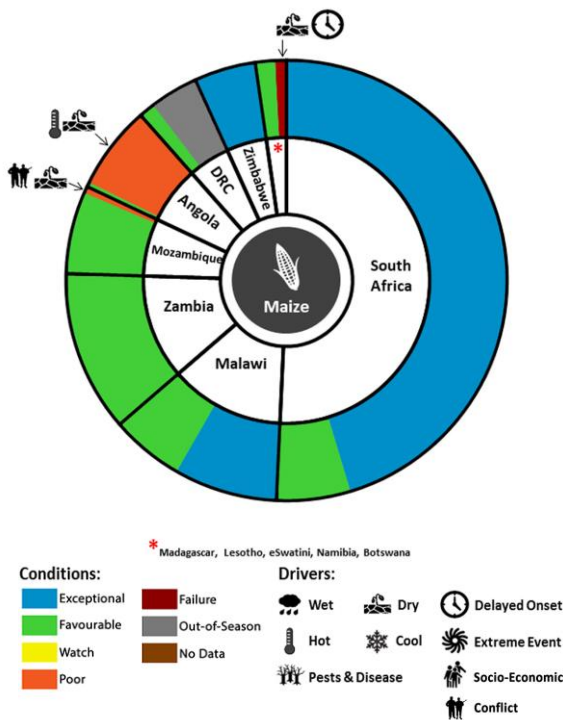
## Southern Africa



Crop condition map synthesizing information as of May 28<sup>th</sup>. 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 maize crops is mostly complete, and final conditions are favourable in most areas. Exceptional yields resulted in parts of **South Africa**, central and northern **Malawi**, and **Zimbabwe** due to favourable agro-climatic conditions throughout the season. December 2020 through February 2021 rainfall ranked the highest in 40 years over much of **Botswana**, northern **South Africa**, southern **Zimbabwe**, parts of central and southern **Mozambique**, central **Zambia**, eastern **Namibia**, **eSwatini**, and parts of central and northern **Malawi**. Despite localized crop losses due to waterlogging in southern **Zimbabwe** and central and southern **Mozambique**, some farmers were able to replant, and most of these areas are expecting average to above-average production due to conducive agro-climatic conditions as well as increased planted area. While February through March rainfall reduced significantly, the impact on production is likely to be minimal due to previously good rains. However, well below-average yields resulted in southern **Madagascar** and south and central **Angola** where crops were unable to recover from prolonged drought. Below-average yields resulted in northwestern **Namibia** and eastern **Madagascar** due to persistent drought conditions and high temperatures as well as in Cabo Delgado province of **Mozambique** due to the combined impacts of dry conditions and ongoing conflict. While African Migratory Locust (AML) presence has had minimal impact thus far in affected areas, there is a potential for localized impact to crops in southern **Zimbabwe**, north and northeastern **Namibia**, northern **Botswana**, and south and western **Zambia**.

In the **Democratic Republic of Congo**, harvesting of main season sorghum crops is underway in the southeast while crops continue to develop in the north, and overall conditions are favourable. Planting of main season maize crops will begin next month in the north and west. Harvesting of second season maize crops finalized in the southeast and central areas under favourable conditions while crops continue to develop in the north and east. Despite irregular rainfall distribution, cumulative rainfall is average, and agro-climatic conditions are generally conducive for crop production. In **Angola**, harvesting of main season maize and sorghum crops is complete or nearing completion, and final yields are well below-average in south and central areas as crops were unable to recover from prolonged drought and above-average temperatures throughout the season. In the northwest, a normal onset of rainfall was followed by irregular distribution for the December through February period and above-average temperatures, resulting in moisture deficits. While rainfall improvements in March brought cumulative rainfall to near-normal levels, crops were unable to recover. Additionally, flash floods in mid-April and early May in the northwest may have localized impacts on production. Conversely, yields are favourable

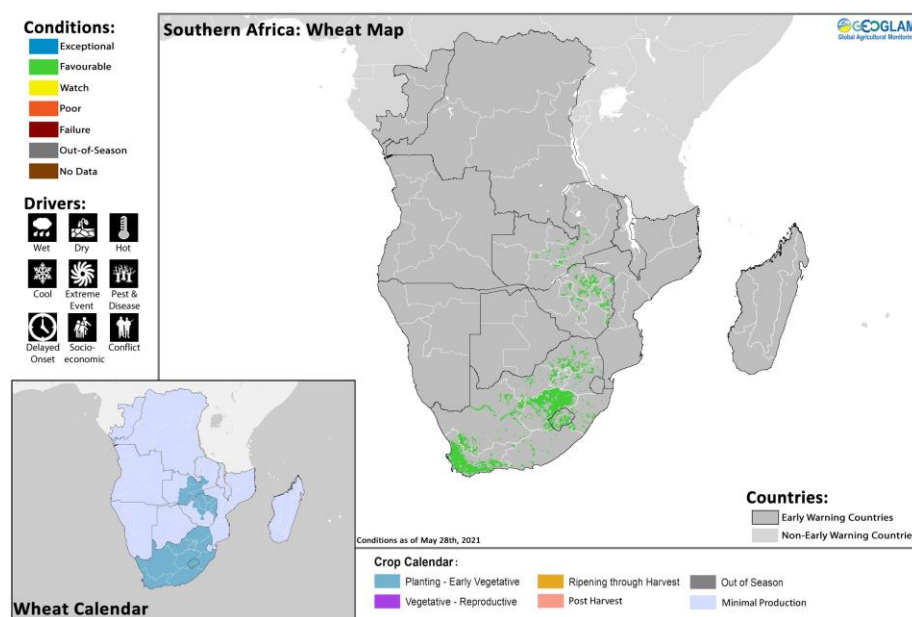


For detailed description of the pie chart please see description box on Pg. 19.

in the northeast as rainfall totals were near-average throughout the season. In **Zambia**, harvesting of main season maize crops finalized in May under favourable conditions. However, some localized losses may have resulted in parts of the key southern and western cropping areas due to African Migratory Locust (AML) impacts. In **Malawi**, harvesting of main season maize crops finalized under favourable to exceptional conditions due to adequate and well-distributed rainfall from the beginning of the season. In **Mozambique**, harvesting of main season cereals finalized under generally favourable conditions. While north and central provinces of Cabo Delgado and Nampula experienced below-average rainfall and irregular distribution, particularly during the December through February period, rainfall improved significantly in March, allowing some farmers to replant in hopes of harvesting a month late in June. Nevertheless, some hot-spots with below-average production are evident, particularly in coastal districts of Nampula as well as in parts of Cabo Delgado where a resurgence of conflict is likely to aggravate the situation in affected districts. Conversely, Zambezia, Inhambane, and Gaza provinces received near-average rainfall with generally favourable agro-climatic conditions. Also, while crops in lowland areas of Manica, Sofala, Gaza, and Maputo Provinces in the South were affected by cyclone activity in January and February, near to above-normal production is expected as damage was localized, and many farmers were able to replant and recover their crops. In **Namibia**, harvesting of main season maize crops finalized in May under favourable conditions, and harvesting of main season millet crops is

wrapping up under generally favourable conditions except in Kunene region in the northwest due to persistent drought conditions. Throughout the season, cumulative rainfall was above-average in most parts of the main producing north and northeast, and while African Migratory Locust (AML), Red Locust, and Brown Locust infestations were reported, they did not cause severe damage to crops. Conversely, cumulative rainfall in Kunene Region in the northwest as well as the key producing Omusati Region in the north is below-average, resulting in cereal production declines. Production of maize and millet crops is estimated at an above-average level, though slightly below the previous year due to decreased production in the northwest. In **Botswana**, harvesting of main season cereals is complete or nearing completion under favourable conditions; however, continued African Migratory Locust (AML) presence in the north may slightly reduce yields in localized areas. In **Zimbabwe**, harvesting of main season maize and sorghum crops finalized in May under exceptional conditions. Sorghum production is estimated at a high amount and well above the five-year average due to a large planted area and good yield prospects. Maize production is expected to reach 2.7 million tonnes, more than double the five-year average due to a significant increase in sown area as well as average to above-average and well distributed rainfall throughout the season, which resulted in excellent yield prospects. Subsidized agricultural inputs such as fertilizer are expected to further benefit

yields. However, a decrease in rainfall from late March as well as outbreaks of African Migratory Locust (AML) and Fall Armyworm in southern areas could lead to localized losses in affected areas. In **Madagascar**, harvesting of main season maize crops finalized in south and western areas. In southern regions of Androy, Anosy, and Atsimo Andrefana, rainfall has been significantly below-average from the start of the rainy season in October 2020, and slight rainfall improvements in February and March were too late to recover crops. Persistent drought conditions throughout the season in combination with limited seed availability as well as Fall Armyworm infestations have resulted in widespread crop failure. In the west, while conditions were favourable overall, some areas in the far south were affected by drought. Harvesting of main season rice crops, the country's principal food crop, also finalized in the west while harvesting in east, north, and central regions will finalize in July. While



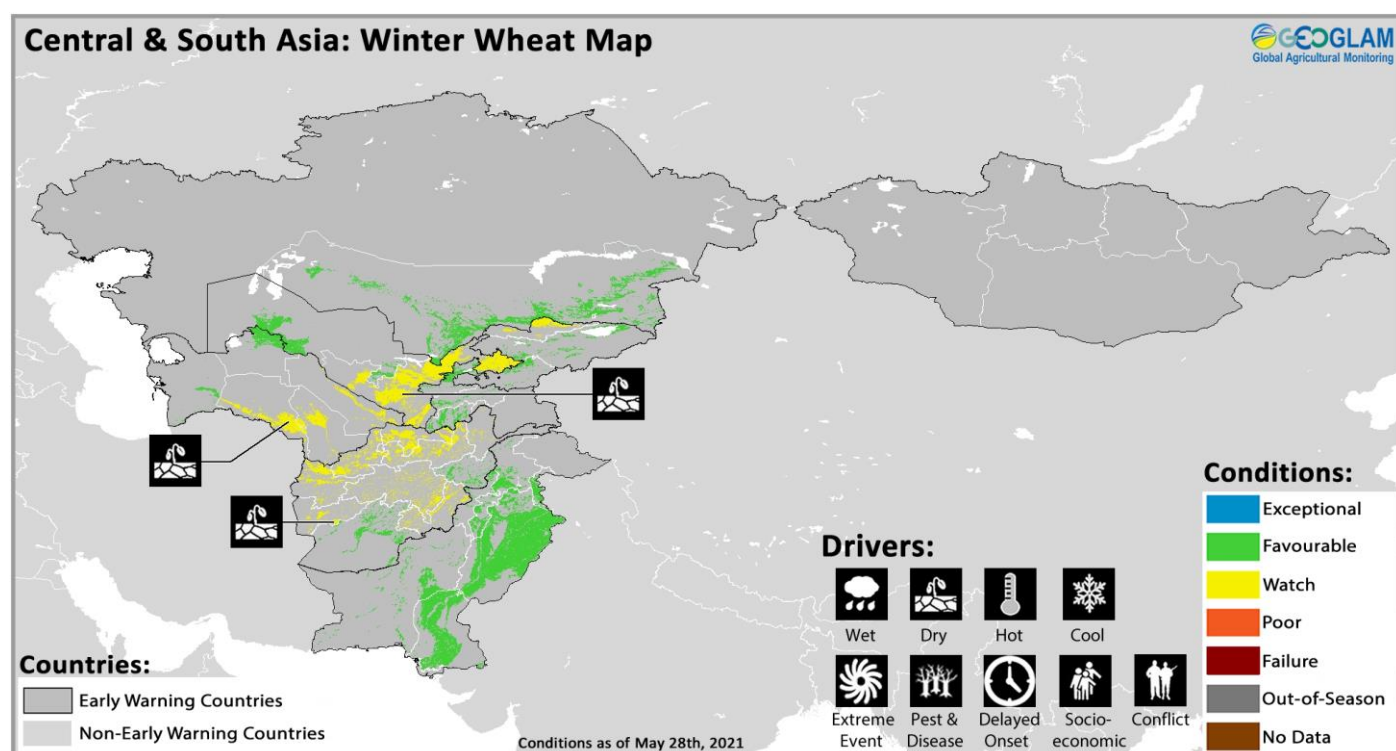
Crop condition map synthesizing wheat conditions as of May 28<sup>th</sup>. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Conditions that are other than favourable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



rice production is likely to be below-average in the east due to below-average rainfall, weather conditions in the main producing north and central regions have been conducive for rice production due to increased precipitation from December 2020 and near-normal rainfall for much of the region. As a result, rice production is expected at an above-average level. In **eSwatini**, harvesting of main season maize crops finalized in April under favourable conditions. In **Lesotho**, harvesting of main season maize crops finalized in May while harvesting of main season sorghum crops will finalize in June, and production is expected to be above-average. Despite localized crop damage in southern areas due to torrential rainfall in December 2020 and January 2021, the rains were largely beneficial for crop development. Further average to above-average rainfall from mid-April is likely to result in high crop yields, and overall cereal production is forecast at 25 percent above the 2020 level and 13 percent above the five-year average. In **South Africa**, harvesting of main season maize crops will finalize in June, and crops are under favourable to exceptional conditions. Final planted area is estimated to be above-average due to remunerative prices as well as favourable weather conditions. Yields are also expected to be well above-average due to beneficial agro-climatic conditions throughout the season, and aggregate maize production is forecast to be 16.7 million tonnes, 25 percent above the five-year average.

Planting of winter wheat crops continued in **Lesotho**, **South Africa**, **Zimbabwe**, and **Zambia** for harvest from September, and overall conditions are favourable. In **South Africa**, planted area is expected to increase slightly due to high crop prices.

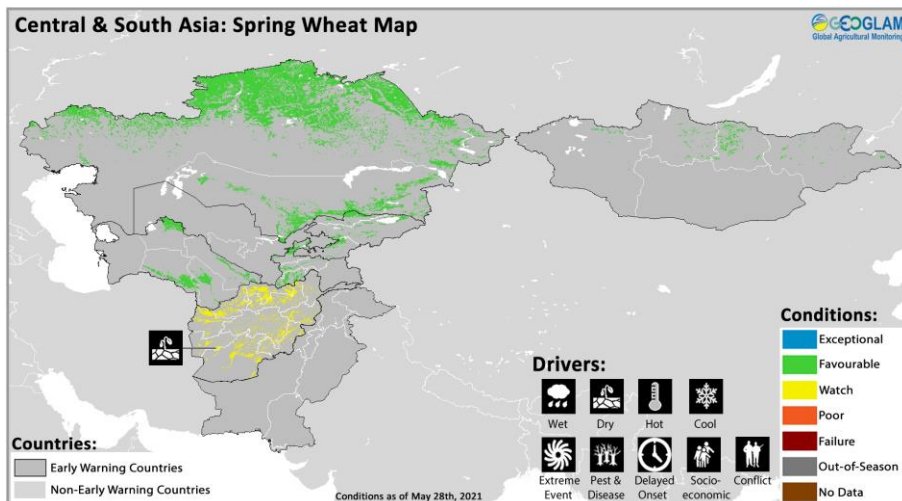
## Central & South Asia



Crop condition map synthesizing Winter Wheat information as of May 28<sup>th</sup>. 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, harvesting of winter wheat crops is underway in **Afghanistan** and **Pakistan** while crops continue to develop in **Kazakhstan**, **Kyrgyzstan**, **Tajikistan**, **Turkmenistan**, and **Uzbekistan** for harvest from June. Conditions are mixed as persistent dryness is impacting crop development in **Afghanistan**, south-central and eastern **Turkmenistan**, parts of **Uzbekistan**, and northern **Kyrgyzstan**. In **Kazakhstan**, weather conditions have been favourable for winter wheat crop development throughout the season, and vegetation conditions are near-normal. Planting of spring wheat crops, which make up over 95 percent of annual wheat production, is nearing completion under favourable conditions for harvest from July. In **Tajikistan**, torrential rains in early May triggered floods, landslides, and mudflows in several districts of the main producing Khatlon province, resulting in damage to standing crops. However, damage is localized, and conditions remain favourable for development of winter wheat and planting of spring wheat crops. In **Uzbekistan**, there is concern in the central and south over Jizzakh, Kashkadarya, Samarkand, and Sirdarya districts and in the centre-west over Navoiy and Bukhara districts due to below-average rainfall and despite irrigation use. In northern **Kyrgyzstan**, below-average rainfall in April and May could impact harvests, which are about to begin. In **Afghanistan**, harvesting of irrigated wheat (winter wheat) is underway in east and southern areas while crops are being readied for harvest elsewhere. Conditions for irrigated wheat have improved from the previous month, except in western areas. Overall, irrigated wheat production is expected to be average to slightly below-average. In **Pakistan**, winter wheat crop conditions are favourable in irrigated areas. However, in rainfed

areas, accounting for 10 percent of total planted area, below-average rains early in the season led to crop stress. Overall final output is forecast at 27 million tonnes. Land preparation is underway for planting of main season rice crops which will commence next month.



Crop condition map synthesizing Spring Wheat conditions as of May 28<sup>th</sup>. 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.**

Spring wheat crops are in vegetative to reproductive stage in **Afghanistan** while planting continues in **Kazakhstan, Kyrgyzstan, Mongolia, Tajikistan, and Turkmenistan** for harvest from August. Overall conditions are favourable except in **Afghanistan** where persistent dryness is impacting crop development for rainfed wheat (spring wheat) crops in the northwest and southeast due to persistent dryness in combination with areas of flooding in May, and rainfed wheat production is expected to reduce considerably. Heavy rainfall from early May resulted in flash flooding with Herat, Ghor, Maidan Wardak, Baghlan, Samangan, Khost, Bamyán, Daikundi, and Badakhshan being the worst affected provinces in north and central parts of the country. In **Mongolia**, planting started on time with the onset of spring rains, and planted area is expected to increase due to strong demand.

**Regional Outlook: Dry conditions expected to persist through early June with some rainfall improvements possible in some areas**

October 2020 to May 2021 precipitation was below-average in many areas, including in southern and western Afghanistan, western Pakistan, and across central Asia (Figure 1-left). In recent weeks, central Afghanistan and parts of Pakistan received above-average precipitation, while many central and northern areas were drier than average. Areas in Kyrgyzstan, southern Kazakhstan, and western Tajikistan had deficits that were 25 mm to 50 mm+ from April 26th to May 25th (Figure 1-middle). Below-average April 1st to June 10th precipitation totals are expected for most areas (Figure 1-right). During late May to early June, precipitation will mainly be limited to Kazakhstan, Kyrgyzstan, western and northern Tajikistan, far-western Afghanistan, and portions of Pakistan. In most areas, average amounts are expected, based on GEFS and SubX forecasts. Portions of southern Kazakhstan may receive above-average precipitation. Portions of western Kyrgyzstan, western Tajikistan, and northern Pakistan may receive below-average precipitation. Elsewhere, conditions will be seasonally dry. Seasonal forecasts indicate typical precipitation conditions and increased chances for above-normal temperatures during June to September.

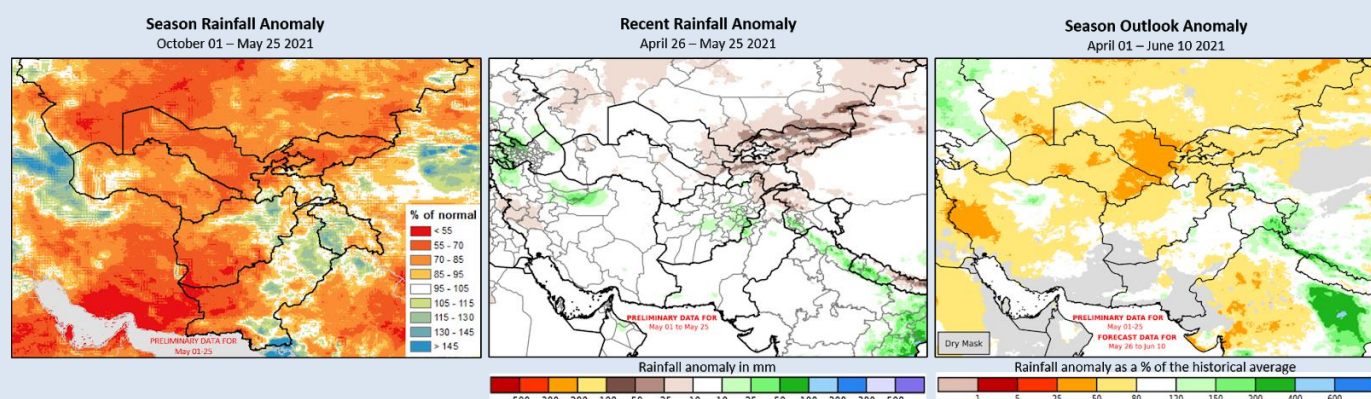
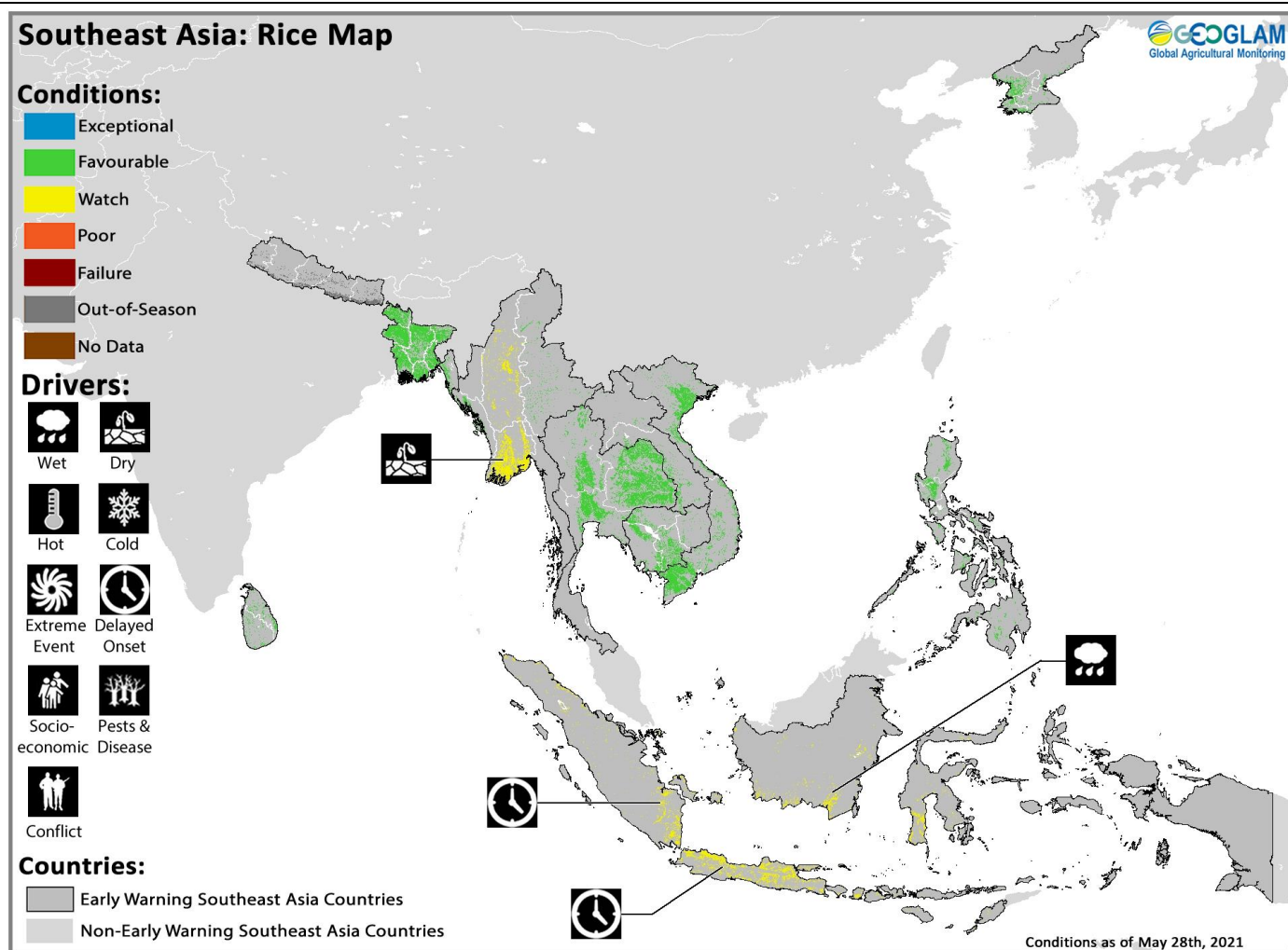


Figure 1. An October-to-present season rainfall anomaly, a 30-day recent rainfall anomaly, and an April-to-present season rainfall anomaly outlook. All three panels compare recent rainfall amounts to the 1981-2020 CHIRPS average. The panel on the left shows the October, 2020, to May 25, 2021 rainfall anomaly as a percent of average. The middle panel shows the April 26 to May 25, 2021, rainfall total anomaly (mm). The panel on the right indicates what the April to June season-to-date rainfall anomaly would be if the 15-day unbiased GEFS forecast from April 26th to May 10th materializes.

Source: UCSB Climate Hazards Center.

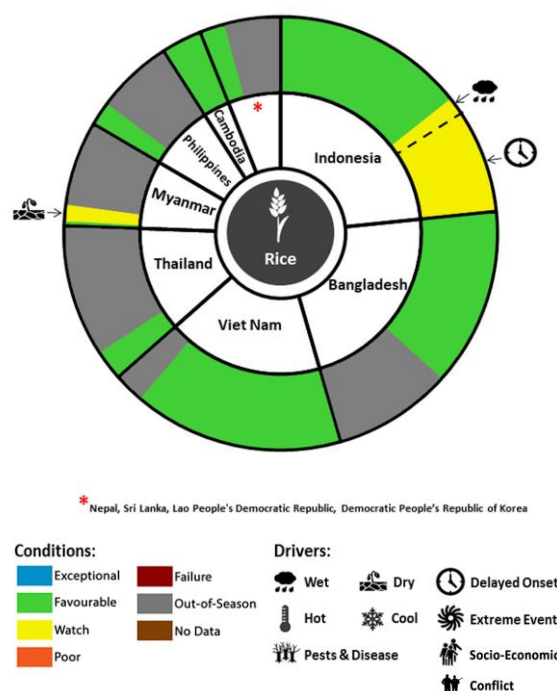


Southeast Asia



Crop condition map synthesizing rice conditions as of May 28<sup>th</sup>. 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.**

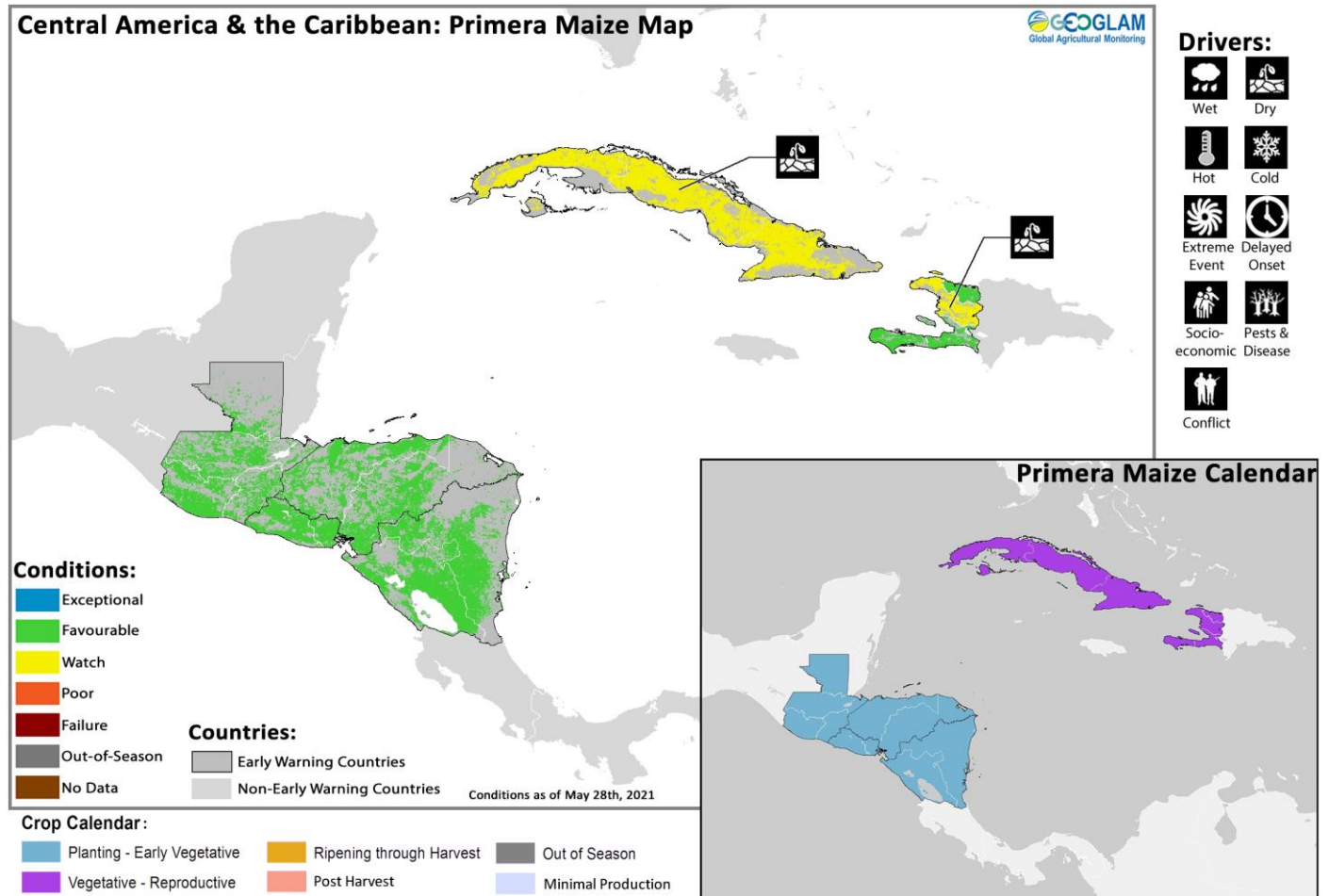
In northern Southeast Asia, harvesting of dry-season rice is wrapping up with production estimated to increase from last year due to an increase in planted area resulting from high prices as well as favourable weather conditions throughout the season. Despite previous concern in some areas due to lack of irrigation water supply, yields are almost similar to the previous year due to rainfall improvements in the latter rainy season as well as securing of alternative water supply sources. Land preparation and seeding of wet-season rice is underway, and planted area is expected to slightly decrease due to the reduced price of rice on the market as well as limited irrigation water supply. In **Indonesia**, harvesting of wet-season rice is wrapping up under generally favourable conditions and with good yields expected due to sufficient irrigation water supply and generally favourable weather conditions. However, concern remains in south Kalimantan due to earlier flooding. Land preparation and sowing of dry-season rice is beginning, albeit delayed compared to normal. In the **Philippines**, harvesting of dry-season rice is now complete with favourable end of season conditions. A production level of 4.63 million tons is 8.6 percent higher than the previous year as growing conditions were good with normal to above-normal rainfall received. Land preparation for wet-season rice is underway, and near to above-normal rainfall is likely to continue. In late April, Tropical Cyclone Surigae (locally named Bising) resulted in heavy rainfall and flooding in Eastern Samar province, and damage is under investigation. Additionally, in early June, Tropical



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

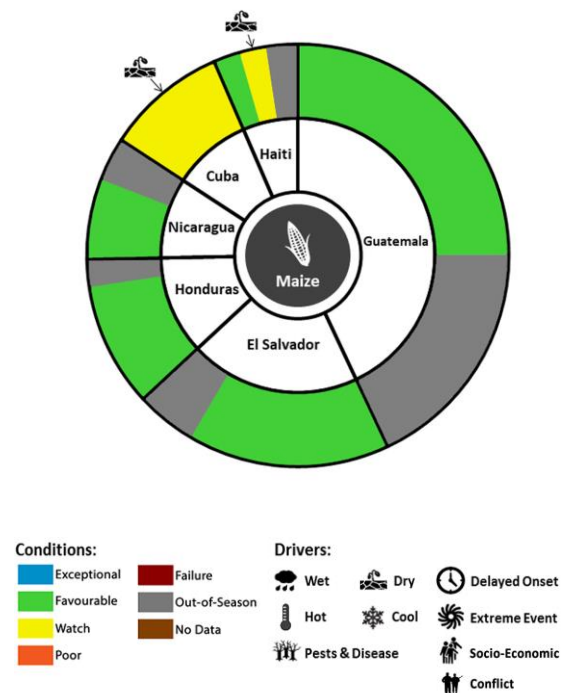
Cyclone Choi (locally named Dante) is expected to impact the eastern shores of several islands, including Samar, Catanduanes, and Luzon. In **Thailand**, harvesting is now complete for dry-season rice, and yields are below average due to a shortage of irrigation water supply. However, there was an increase in total sown area this season compared to last year due to high domestic prices. As a result, production is expected to increase eight percent. Land preparation of wet-season rice is underway, and planted area is expected to decrease due to reduced rice prices as well as rising prices of other crops such as sugarcane. In **Viet Nam**, conditions are favourable across the country for the winter-spring (dry-season) rice crop as development continues in the north and harvesting progresses in the Mekong River Delta in the south. In the south, yield of 7.15 tons per hectare is 2.4 percent higher than the previous year due to warm weather and better irrigation preparation. Sowing of the summer-autumn (wet-season) rice in the Mekong River Delta is continuing under favourable conditions with a sown area of 0.3 million hectares. In **Laos**, harvesting of dry-season rice finalized under favourable conditions. Production reached 390,000 tons with a yield of 4.5 tons per hectare, an increase compared to the previous year due to good weather conditions. However, planted area is lower than the previous year due to a lack of irrigation water supply earlier in the season in some regions. Land preparation of wet-season rice is underway with a national planting plan of 870,000 hectares. In **Myanmar**, harvesting of dry-season rice has reached 75.6 percent of the total planted area of 920,000 hectares with a yield of 4.85 tons per hectare, similar to the previous year's progress and yield, though some concern remains in the west due to limited irrigation water supply earlier in the season. In **Cambodia**, harvesting of dry-season rice finalized in April under favourable conditions. Sowing of wet-season rice reached 18 percent of the national plan of 2.6 million hectares, and growing conditions are favourable due to sufficient rainfall. In **Sri Lanka**, planting of *Yala* season maize and rice crops is underway in the northeast and southwest under favourable conditions for harvest from August. Planting started on time and was supported by average to above-average rains; however, some delays occurred in Central, North Western, and Sabaragamuwa provinces due to heavy rains and floods which inundated agricultural lands and standing crops. Additional forecast rainfall in late May is likely to exacerbate flooding and damages. However, the rains are expected to support plantings once the water recedes, and overall planted area is estimated at above the five-year average, reflecting strong domestic demand. In **Bangladesh**, harvesting of *Boro* season rice crops continued in May under favourable conditions, and planting and development of *Aus* season rice crops continued under favourable conditions for harvest from late June. In late May, Cyclone Yaas made landfall along the coast of India, in the process inundating southern coastal Bangladesh with heavy rains and flooding at a time when the country is still recovering from the impacts of Cyclone Amphan in 2020. However, *Boro* rice crops were already harvested before the cyclone hit, and while damaged to *Aus* crops is still under investigation, any lost crops can be re-planted. In **Nepal**, harvesting of winter wheat crops continued in May under favourable conditions to be finalized in June. Main season maize crops are developing under favourable conditions for harvest from August. In the **Democratic People's Republic of Korea**, planting and development of main season maize and rice crops is underway for harvest from August, and conditions are favourable.

Central America & Caribbean



Crop condition map synthesizing information as of May 28<sup>th</sup>. 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 maize and bean crops is underway in **El Salvador, Guatemala, Honduras, and Nicaragua**, and conditions are generally favourable as good rainfall has allowed for normal development of crops. However, in localized areas of **Guatemala, Honduras, and Nicaragua**, delayed rainfall onset has caused some delay in the start of the season. There is also some concern in localized areas of Jinotega Department in northern **Nicaragua** as well as the key producing Olancho Department of southern **Honduras** where precipitation is below-average. In **Nicaragua**, below-average precipitation is forecast to continue for the minor producing northern highlands (See Regional Outlook Pg. 18). Additionally, despite favourable agro-climatic conditions, maize production in Nicaragua is estimated to be slightly below-average this year due to lower prices on the market. As a result, farmers are likely to plant more profitable bean crops in place of maize. In **Guatemala**, cumulative precipitation above the long-term average may lead to flooding and waterlogging in southern areas. Additionally, rainfall was irregularly distributed in the main producing Petén department as well as in lowland areas of the country; however, current conditions are favourable for maize and crop development throughout the country. In **El Salvador**, conditions are favourable for ongoing planting activities despite below-average precipitation and soil moisture deficits in May. In northern **Honduras**, harvesting of second season rice crops is underway under favourable conditions as above-average precipitation in the first quarter of 2021 provided adequate supplies for irrigation water, and yields of already harvested crops are estimated to be good. Throughout the subregion, forecasts indicate



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



below-average rainfall through mid-June which could impact *Primera* season crop development (See Regional Outlook Pg. 18). Additionally, the 2021 Atlantic hurricane season, which will commence in June, is forecast to be another above-average season with a possible three to five major hurricanes.

In the Caribbean, harvesting of main season rice crops is underway in **Cuba** to be finalized in June, main season cereals are in vegetative to reproductive stage in **Haiti** and **Cuba** for harvest from June, and there is concern in some areas as rainfall deficits are adversely impacting crop development. In **Haiti**, irregular rainfall distribution in central areas has led to slightly below-average crop conditions. Elsewhere in Haiti, conditions are favourable despite irregular rainfall distribution. In **Cuba**, accumulated precipitation since April has reached record below-average levels; however, improved precipitation from the second dekad of May as well as forecast near-normal precipitation in June may improve soil moisture deficits as well as crop conditions (See Regional Outlook Pg. 18). Planting of second season rice crops continued in May for harvest from September under mostly favourable conditions except in the southeast where below-average precipitation resulted and moisture deficits and hampered planting operations. However, forecast average rains for the June through August period are expected to benefit crop development (See Regional Outlook Pg. 18).

**Regional Outlook: Likelihood of below-average June rainfall across parts of the region while above-normal rainfall is likely for the July to September period**

Rainfall during recent weeks was above-average in western and northern Guatemala, Belize, northern Honduras, southern Nicaragua, and in parts of the Caribbean and below-average in central areas from southern Guatemala to central Nicaragua, in central Haiti and the western Dominican Republic, and in central Costa Rica.

Below-average rainfall is expected from late May to early June across most of Central America and the Caribbean, according to GEFS and SubX forecasts. Exceptions include portions of northern Haiti and the Dominican Republic where average to above-average rainfall is forecast. Figure 1-left shows an outlook for April 1st to June 10th rainfall anomaly that includes the May 26th unbiased GEFS forecast. The combination of previous drier-than-average conditions and the dry forecast could lead to an increase in area showing less than 80% of average season-to-date rainfall.

Longer-range SubX forecasts for mid-to-late June show low agreement across models; however, some indicate a change to wetter conditions, particularly in Pacific coast areas and in the week-3 forecast (June 10-16). Overall, rainfall totals over the next 30 days may be below-average in eastern Guatemala, Belize, Honduras, Nicaragua, and the western Dominican Republic (Figure 1-right). For July to September, the May NMME forecasts (not shown) indicate increased chances for above-normal rainfall in areas along the Pacific coast and in the western Caribbean. There are increased chances for below-normal rainfall in eastern Honduras and northeastern Nicaragua and in the eastern Dominican Republic.

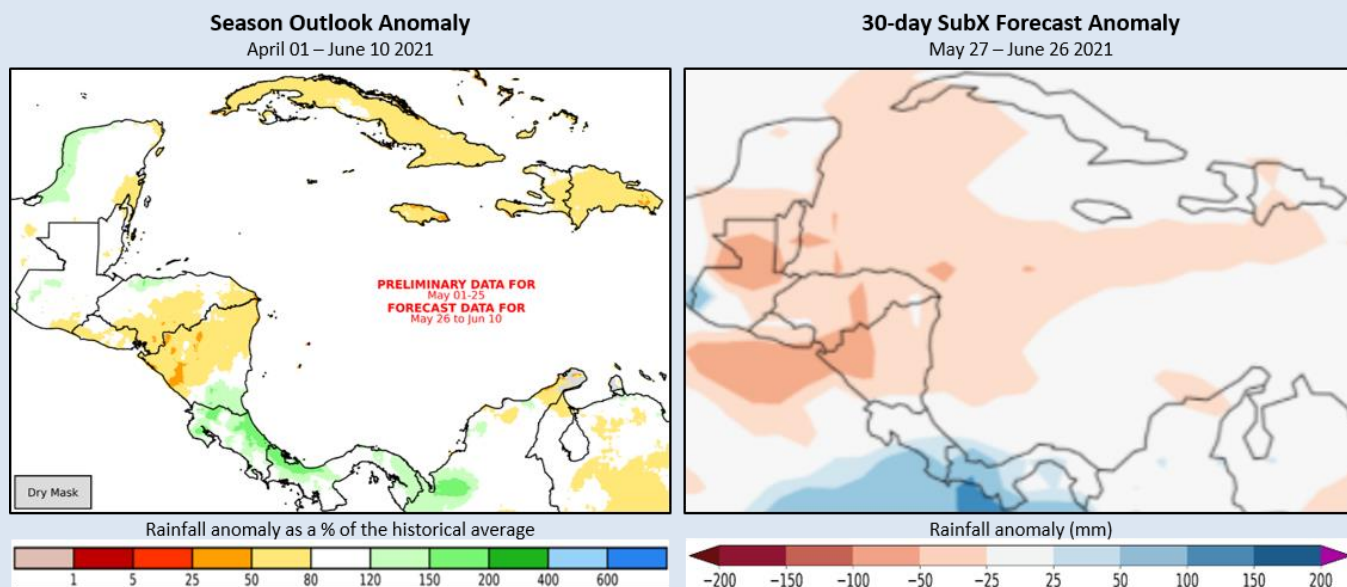


Figure 1. An April-to-present season rainfall anomaly outlook, and a 30-day rainfall anomaly forecast. The left panel is a CHC Early Estimate, which compares 2021 rainfall amounts to the 1981-2020 CHIRPS average. The map indicates how April 1st to June 10th rainfall would compare to the historical average (represented as a percent of average) if the 15-day unbiased GEFS forecast from May 26th materializes. The panel on the right is a 30-day forecast anomaly from May 27th. The image shows the average of four Subseasonal Experiment (SubX) model forecasts from that day. The anomaly is based on the 1999 to 2016 model average. Skill assessments of SubX can be accessed [here](#). 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 slice are weighted by the sub-national production statistics (5-year average) of the respective country. The section within each national slice also accounts for multiple cropping seasons (i.e. spring and winter wheat) and are a result of combining totals from multiple seasons to represent the total yearly national production. When conditions are other than favourable icons are added that provide information on the key climatic drivers affecting conditions.

**Information on crop conditions in the main production and export countries can be found in the Crop Monitor for AMIS, published June 3<sup>rd</sup>, 2021.**

## Appendix

### Crop Conditions:

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

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

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

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

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

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

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

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

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

### Drivers:

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

**Wet:** Higher than average wetness.

**Dry:** Drier than average.

**Hot:** Hotter than average.

**Cool:** Cooler than average or risk of frost damage.

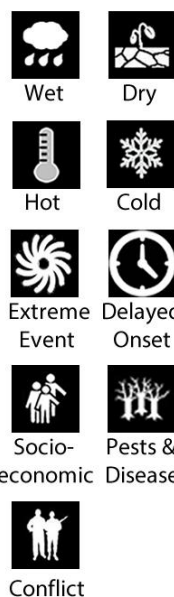
**Extreme Events:** This is a catch-all for all other climate risks (i.e. hurricane, typhoon, frost, hail, winterkill, wind damage, etc.)

**Delayed-Onset:** Late start of the season.

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

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

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



**Crop Season Nomenclature:**

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

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

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

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

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

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

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

**Crop Season Nomenclature:**




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

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



# GEOGLAM

## Global Agricultural Monitoring

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Prepared by members of the GEOGLAM Community of Practice, coordinated by the University of Maryland Center for Global Agricultural Research and funded through NASA Harvest.



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

Cover Photo by Christina Justice

### Contributing partners



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