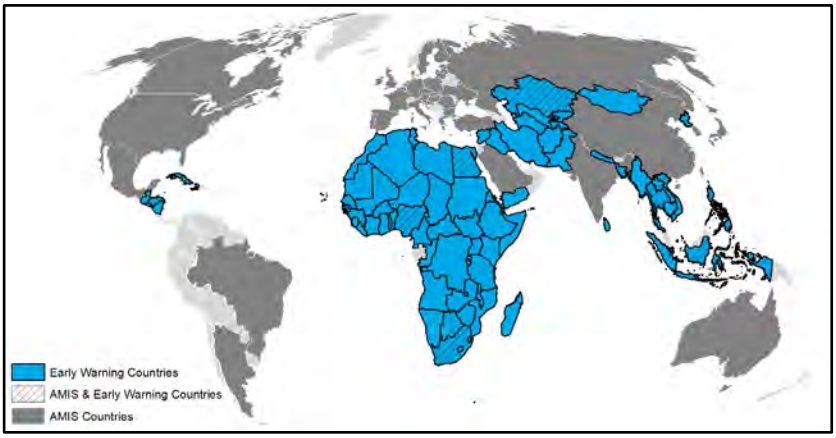
GEOGLAM Global Agricultural Monitoring

# Crop Monitor EARLY WARNING

## Overview:

In **East Africa**, planting continues for main season cereals in the north while in the south crops are in vegetative to reproductive stage and have benefitted from the record March to May rainfall, except in areas affected by floods or desert locusts. In **West Africa**, conditions are favourable for main season crop development in southern bimodal areas, and planting activities continued in the Sahel under favourable conditions. In **North Africa**, harvest of wheat and barley crops is nearly complete, and production prospects are below-average in Morocco and parts of Algeria and Tunisia as crops were unable to recover from seasonal drought and high temperatures. In the **Middle East**, harvest of wheat crops will finalize next month and final yield prospects are favourable except in areas affected by conflict. In **Southern Africa**, harvest of main season cereals is complete, and final yields were generally favourable except in drought-affected areas. Planting activities continued for winter wheat crops under favourable conditions. In **Central and South Asia**, conditions are favourable for the harvesting of winter wheat to be finalized in August and for the development of spring wheat to be harvested in October. In northern **Southeast Asia**, harvest is mostly complete for dry-season rice, and poor yields resulted in Thailand, Laos, and Myanmar. Wet season rice is developing under generally favourable conditions and benefitted from recent rainfall. In **Central America and the Caribbean**, recent tropical storms resulted in flooding, landslides, and localized crop losses but were generally beneficial for the development of *Primera* season crops.



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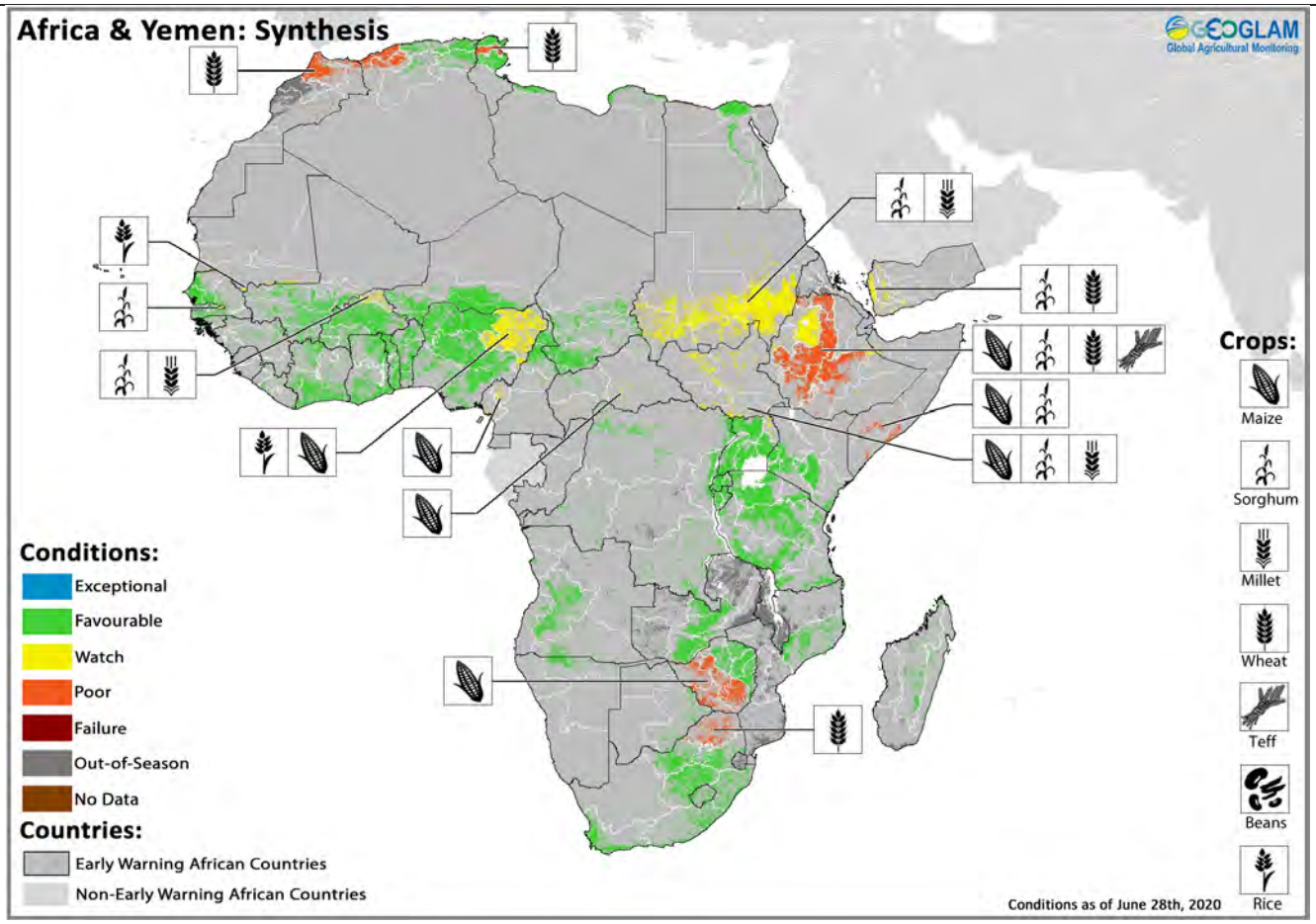
GEO GROUP ON EARTH OBSERVATIONS

*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 June 28th**




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

***EAST AFRICA:*** In northern unimodal rainfall areas, planting of 2020 crops, to be harvested from October, is underway under favourable weather conditions. In equatorial and southern parts of the region, first/main season crops are currently in vegetative to reproductive stage. Record March to May rainfall boosted yields, and crop prospects are generally favourable. However, the heavy rains resulted in localized flood induced crop losses and created favourable locust reproduction conditions, and another generation has recently matured.

***WEST AFRICA:*** Main season cereal crops are developing in southern bimodal regions, and planting activities continued for main season cereal crops in the Sahel. Conditions are generally favourable except in conflict-affected areas as well as parts of Gambia and Mauritania where dry conditions may impact crop development. In addition, there is some risk of desert locust swarms appearing in eastern Chad and moving westward.

***MIDDLE EAST & NORTH AFRICA:*** In North Africa, production prospects for wheat and barley are below-average in Morocco and parts of Algeria and Tunisia as crops were unable to recover from seasonal droughts and high temperatures. In the Middle East, harvesting continues for wheat crops to be finalized next month. Final yield prospects are favourable except in Syria where ongoing conflict continues to impact agricultural activities.

***SOUTHERN AFRICA:*** Harvest is complete for main season cereal crops, and final yields were generally favourable, except in Zimbabwe and parts of Mozambique and Madagascar where moisture deficits affected crop development. Winter wheat planting started in May in Lesotho, South Africa, Zambia, and Zimbabwe and conditions are favourable.

***CENTRAL & SOUTH ASIA:*** Conditions are favourable for the harvesting of winter wheat to be finalized in August, and sowing of spring wheat is mostly complete and developing under favourable conditions.

***SOUTHEAST ASIA:*** In the north, harvesting of dry-season rice is mostly complete and final yields are poor in Myanmar, Thailand, and Laos due to below-average precipitation received throughout the growing season and a shortage of irrigation water. Wet-season rice is developing under favourable conditions due to sufficient rainfall received from late May. In Indonesia, the protracted wet-season rice crop continues to delay sowing of dry-season rice.

***CENTRAL AMERICA & CARIBBEAN:*** Recent tropical storms resulted in flooding, landslides, and localized crop losses; however, the rains were beneficial for the continued planting of *Primera* season crops, and replanting could reverse some of the crop damages. In Haiti, persistent dry conditions are affecting the beginning of main season crop harvests.

### *Alert: COVID-19 continues to pose a threat to global food security*

Global food insecurity has increased since the start of the COVID-19 pandemic primarily due to economic shocks and is expected to continue to rise as the full impacts of the contraction of income earning activities and household incomes due to quarantine and movement restrictions are realized. The largest impacts are expected among already vulnerable communities, with particular concern in those areas where the food insecurity situation is already critical due to the impact of other shocks including conflict, floods, and the current desert locust outbreak. These impacts combined with additional shocks associated with COVID-19 have triggered an increase in needs for humanitarian assistance.

Movement restrictions have continued to ease over the past month; however, the global economic contraction continues to limit income-earning opportunities. The COVID-19 related measures that do remain in place, including border closures that limit labour migration continue to slow trade flows and limit income generating activities.

The impact of the pandemic on agricultural production has been generally limited and supplies of staple foods are reported to be sufficient. However, production has been disrupted in some areas through COVID-19 restrictions causing agricultural labor supply shortages and limiting farmers' access to seeds and other inputs, which could result in declines in planted area and yields. Reduced flows of migratory agricultural labor have been observed in some areas of East Africa and West Africa during the main cultivation period, currently underway, which raises concern for the upcoming harvest in late 2020.

The GEOGLAM Crop Monitor community will be monitoring crop conditions with a view to providing sufficient early warning to allow for appropriate actions in case of any production shortfalls that could further aggravate the prevailing difficult situations in many countries.

Resources: https://fscluster.org/coronavirus; http://www.fao.org/2019-ncov/en/; https://fews.net/ https://www.ifpri.org/covid-19; https://insight.wfp.org/covid-19/home

### *Global 30-day Subseasonal Rainfall Forecast Anomaly*

The 30-day Subseasonal (SubX) forecast indicates a likelihood of above-average rainfall over the Canadian prairies, Panama, Western Colombia, southern Brazil, southwestern Ethiopia, eastern South Sudan, Uganda, western Kenya, northern western DRC, northcentral Kazakhstan, central Russia, parts of India, Bangladesh, south and east China, South Korea, North Korea, Japan, and most of Southeast Asia, while below-average rainfall is likely for western and southern Mexico, Guatemala, Honduras, southern Chile, areas of western Africa, northern and west coast of India, southwestern China, coastal Myanmar, and the northern Philippines.

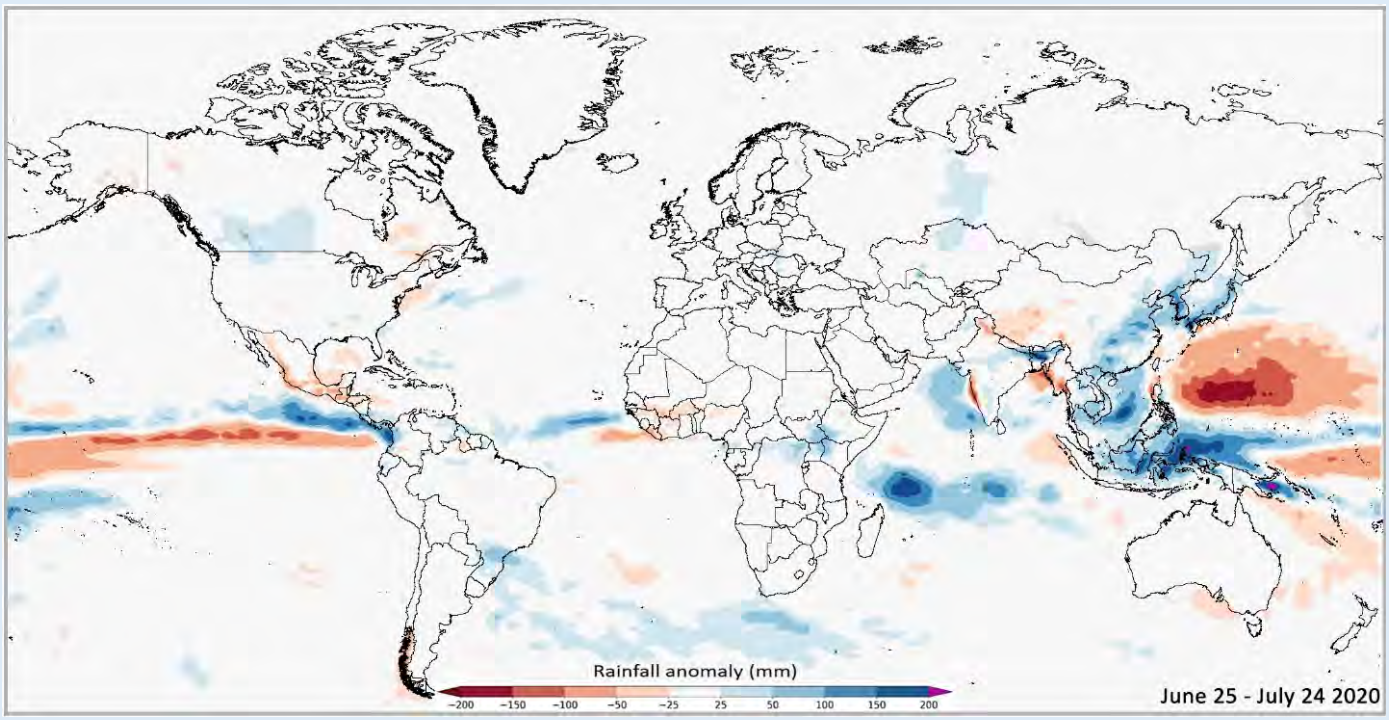
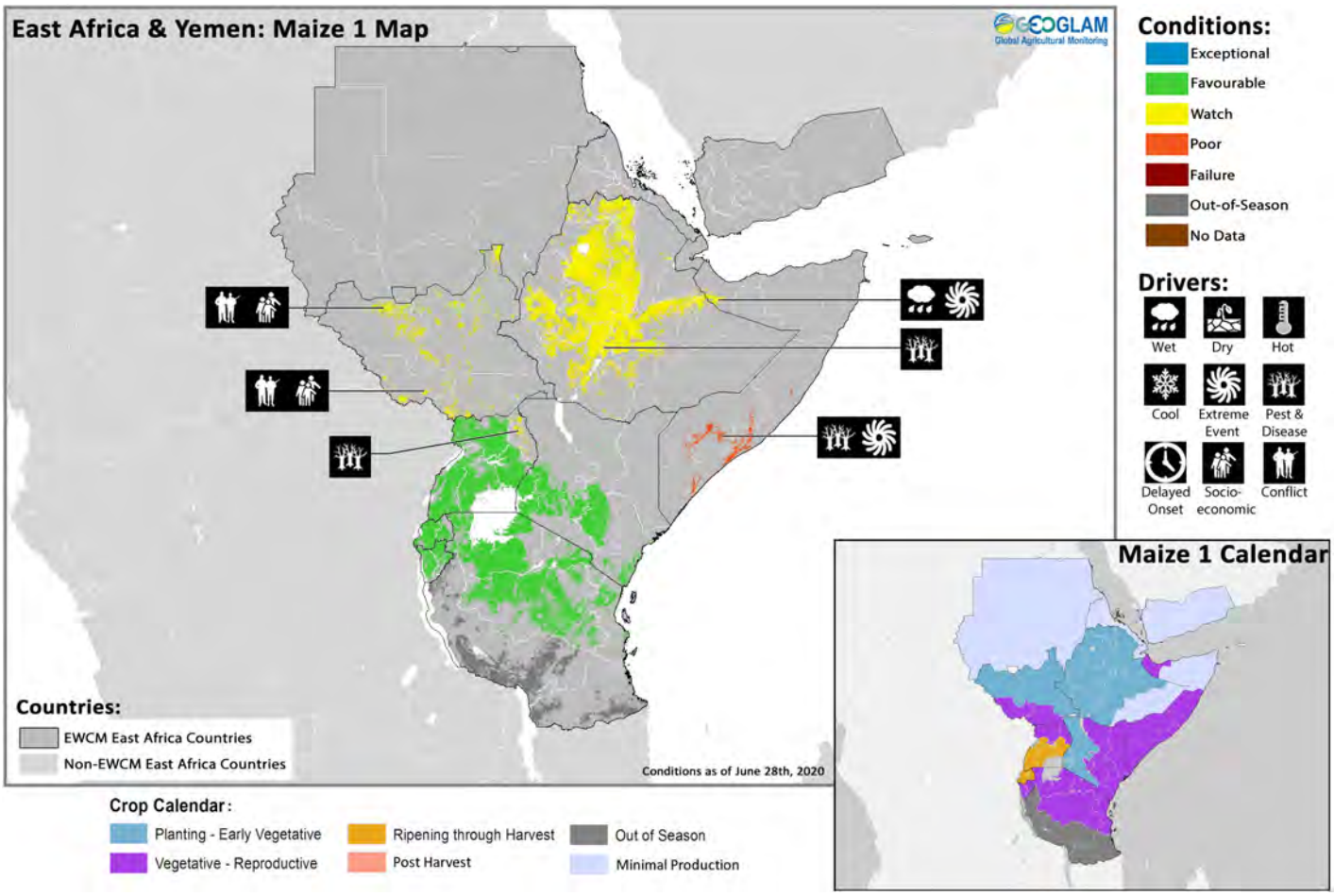



*Figure 1. Multimodel mean subseasonal forecast of global rainfall anomaly for June 25 – July 24, 2020, showing areas of above or below-average rainfall. The image shows the average of five models from the Subseasonal Experiment (SubX) forecast ensemble as of June 25th. The anomaly is based on the 1999 to 2016 model average. Skill assessments of SubX can be accessed at http://cola.gmu.edu/kpegion/subx/index.html.*
*Source: UCSB Climate Hazards Center*

***Climate Influences: Movement towards a La Niña-like climate***

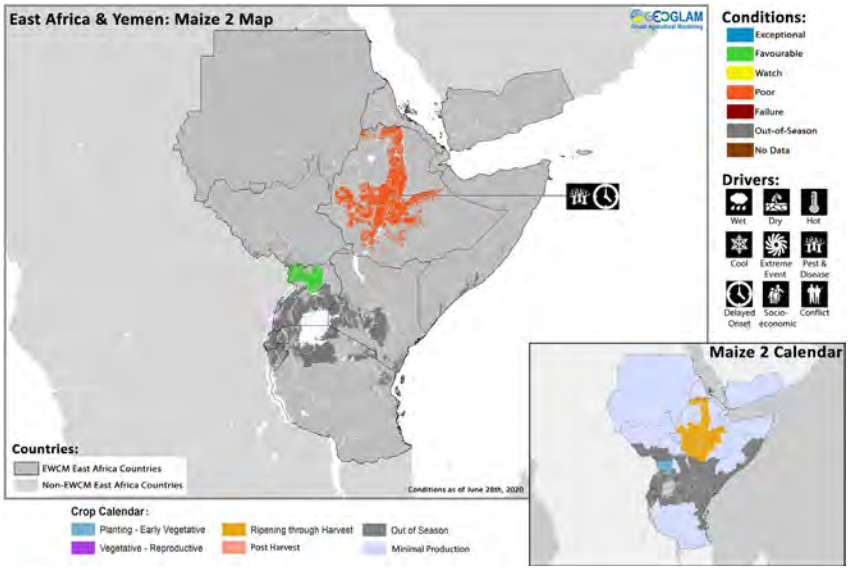
El Niño-Southern Oscillation (ENSO) is currently neutral, though in the past few weeks the equatorial eastern Pacific has cooled substantially, moving towards a La Niña-like climate. ENSO neutral conditions are most likely (~60%) to remain during the Northern Hemisphere summer 2020, with roughly equal chances (~40-50%) of La Niña or ENSO-neutral during the autumn and winter 2020-21. Precipitation, however, tends to respond to east-west tropical sea surface temperature gradient, and the world can experience La Niña-like precipitation anomalies, even in the absence of a well-developed La Niña. At present, the equatorial west Pacific temperature is substantially above-normal and the equatorial east Pacific temperature is below-normal, and climate forecast for October-November-December anticipates an intensification of this gradient. A La Niña-like tropical Pacific precipitation pattern is currently predicted with enhanced rainfall over Indonesia and the Philippines. The persistence of such conditions into the autumn and winter 2020-21 could bring dry conditions over parts of East Africa and southwest Asia.
*Source: UCSB Climate Hazards Center*

## East Africa & Yemen



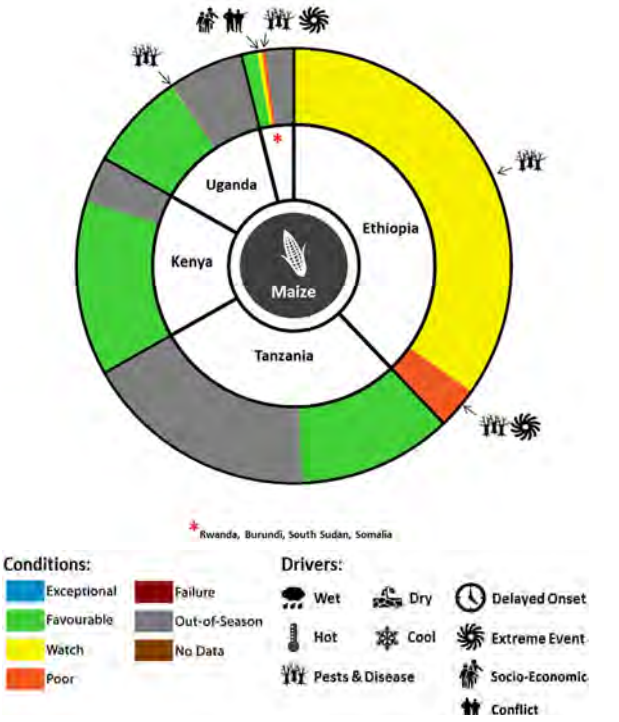

*Crop condition map synthesizing Maize 1 conditions as of June 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts.* ***Conditions that are other than favourable are labeled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

In East Africa, the record March to May (MAM) rainfall led to localized flooding and landslides in parts of **Kenya**, **Somalia**, **Uganda**, **Tanzania**, **Rwanda**, and **Burundi** and further protracted the desert locust outbreak, affecting crop areas in agropastoral zones of **Ethiopia**, central **Somalia**, and northern **Kenya**. However, the rains also promoted early agricultural activities and above-average vegetation conditions for the main cropping season and production prospects are favourable in many areas. Additional rainfall may increase seasonal flooding in the River Nile basin regions of **Ethiopia**, **Uganda**, and **South Sudan**. Planting occurred in June for main season cereals in northern parts of the subregion, while crops are at vegetative to reproductive stage in equatorial and southern areas. Crop conditions are generally favourable due to the above-average rains, but there is a risk of desert locust invasion into agricultural areas in June to August as vegetative crop stages coincide with second-generation hatching and hopper development. Additionally, disruptions to food supply chains and higher demand in response to COVID-19 restriction measures triggered a significant increase in food prices in **Somalia**, **Sudan**, and **South Sudan**, further limiting food access for those whose livelihoods and incomes have been affected. In **Ethiopia**, harvesting of *Belg* season maize crops began in June and will finalize in July, and production and yields are expected to be below-average due to reduced planted area and the ongoing desert locust outbreak that was protracted by above-average rainfall. Planting for *Meher* season crops continued in June, and while above-average rains and good soil moisture




*Crop condition map synthesizing Maize 2 information as of June 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.***

were beneficial to planting activities, there is continuing concern due to the potential desert locust impacts. As a result of the ongoing desert locust invasion, the southeast regions of Somali and Oromia have thus far experienced the highest crop losses. Locusts may have a considerable impact on agricultural production in September when harvest begins for *Meher* season cereal crops; however, it is unknown whether the main producing high altitude *Meher* cropping areas are suitable and accessible for locust invasion. Control operations are underway against swarm formation in the east and northeast, and additional swarms are arriving from northern Kenya. Additionally, in an effort to mitigate the spread of COVID-19, movement restrictions have limited the availability of agricultural inputs, decreased labour for harvesting of *Belg* season maize, and hindered market access, which have together limited access to food and increased food insecurity levels throughout the country. In **Sudan**, planting activities for main season cereal crops began in June to be harvested from October to November, and while abundant rainfall is likely to benefit crop development, there is concern due to potential desert locust impacts and ongoing socio-economic challenges. In late June, isolated adult desert locusts were present in the Nile Valley. Swarms are likely to reach South Kordofan and South Darfur, but if rains are not sufficient, invading swarms could move into eastern Chad towards West Africa. Additionally, COVID-19 control measures in combination with the continued macro-economic crisis have close to tripled prices of staple foods including sorghum, millet and wheat compared to this time last year. In **Kenya**, conditions are generally favourable for the *Long Rains* cereal crops in the West and Rift Valley as well as in the Central and East. However, in the West, there are some reports of delayed planting and reduced acreage in localized areas due to the flooding and waterlogged soil which are making land preparation difficult. Despite floods and desert locust infestations, continued above-average rainfall is largely favourable for crop growth. While second-generation immature desert locust swarms continue to form in the northwest, there is likely to be a decline in July coinciding with the beginning of *Long Rains* maize harvest. However, before migration, swarms will pose a considerable threat to crops and pastures in Turkana and Marsabit counties and crop losses are possible. Additionally, following two consecutive seasons of record rains, Lake Victoria reached its highest water level on record in mid-May, resulting in bank overflows and displacing more than 116,000 people according to the Kenya Red Cross and damaging over 8,000 acres of farmland, mostly under rice cultivation where crops were nearing maturity, according to the Government. In **Uganda**, harvesting of 2020 first season cereal crops began in June in bimodal cropping areas, and overall prospects are favourable except in areas where flooding resulted in localized crop damage and destruction and in Karamoja where there are concerns over desert locust infestation. In addition, rising water levels from lakes Victoria, Kyoga, and Albert have flooded surrounding areas resulting in crop damage. While the early onset of rains was beneficial to crops, a dry spell in the first dekad of April affected newly planted seedlings and young vegetative crops. Following this initial dry spell, mid-May to June rainfall was slightly below-average at the time of grain filling and maturation. In unimodal Karamoja Region, abundant early-onset rains in March were beneficial for the continued planting of second season maize. In areas affected by floods and landslides during the last two rainy seasons, reduced agricultural activities in combination with COVID-19 restriction measures has increased food insecurity. In **South Sudan**, above-average MAM rainfall was beneficial for the development of main season maize and sorghum crops in the southern regions of Western Equatoria and Central Equatoria; however, there is continuing concern due to ongoing conflict and socio-economic difficulties. Planting of main season cereal crops continued under generally favourable conditions, except in Bahr El Ghazal where dry conditions and socio-economic challenges are impacting planting. While prices of seeds and other agricultural inputs increased, the impact on planted area was not considerable as most farmers save seeds from previous seasons and input application is generally low. Overall, production prospects for main season cereals are likely to be




*For detailed description of the pie chart please see description box on pg. 18.*

near the previous five-year average due to favourable agro-climatic conditions; however, such levels would be poor when compared to pre-conflict production. In **Somalia**, there is significant concern for the development of *Gu* season cereal crops to be harvested in August due to heavy rainfall, floods, and the presence of desert locusts. The April to June *Gu* season rains continued to trigger flash flooding along the Juba and Shabelle river valleys and displaced 412,000 people. Belet Weyen district in Hiraan region and Jowar district in Middle Shabelle region are the most affected districts after the heavy rains in Somalia and the Ethiopian highlands resulted in a rise in the level of the Shabelle river and an overflow of banks. Flash and riverine floods have affected livelihoods in Gedo, Lower Juba, and Middle Juba regions and have destroyed 12,000 hectares of farmland. River levels of the Dawa and Juba continue to rise. Flood damage is likely to reduce *Gu* production to be harvested in July and August, and desert locust swarms could impact *Gu* season crops in Burao, Gebiley, Borama, Beledweyne, Luuq, Baardheere, Garbahaarey, Beled Xaawo, Doolow, Ceel Barde, Xudur, Waajid, Rab Dhuure, Buur Hakaba, and Qansax Dheere. Control operations are underway against desert locust swarm formation in central and northern areas. In the **United Republic of Tanzania**, harvesting of *Msimu* crops in unimodal cropping areas is nearing completion and production prospects are favourable following well above-average seasonal rains. Conditions are also favourable for *Masika* crops to be harvested in August in bimodal cropping areas. The March-May rainy season received cumulative rainfall 50 to 100 percent above the long-term average and benefitted crop development; however, heavy rainfall triggered flooding in March and April, leading to population displacement and localized crop damage. Additionally, the presence of Fall Armyworm in Mara, Manyara, and Kilimanjaro regions are expected to result in localized crop losses. In **Burundi**, above-average rainfall has been beneficial for the development of Season B crops, which account for half of cereal production and will be harvested in July and August. In **Rwanda**, harvest began for 2020 Season B crops, which account for less than 20 percent of aggregate cereal output and will finalize in July. Above-average precipitation in March and April triggered flooding and landslides; however, the 1,000 hectares of crop damage was minimal and amounted to less than one percent of Season B planted area. In May, below-average rains led to some rainfall deficits in central areas and affected the development of cereal crops, and yield reductions are likely. COVID-19 movement restrictions affected planting activities in the Eastern Province as labourers were unable to access fields in some areas. In **Yemen**, main season sorghum crops are in vegetative to reproductive stage for harvest from September. Despite favourable agro-climatic conditions, below-average yields are expected due to impacts from flooding, desert locusts, and ongoing conflict and socio-economic challenges. Additionally, conflict and socio-economic drivers are causing concern for planting of spring wheat to be harvested from September. Desert locust hopper bands are present in the interior and swarms are moving to highland and southern coastal areas.

***Alert: Desert locust swarms continue to form across East Africa with significant concern over Kenya, Ethiopia, Somalia, and Yemen.***

The ongoing desert locust outbreak continues to pose high risk for the Horn of Africa, particularly in northern **Kenya** and eastern and northeastern **Ethiopia** where swarms have intensified and in **Sudan**, **Ethiopia**, **South Sudan**, and **Somalia** where migration is likely to take place. Conditions are favourable for the hatching of second-generation hoppers, which have been reported in northern **Kenya**, eastern **Ethiopia**, and western and central **Somalia**. While most swarms were mitigated by control measures, hoppers and adults are emerging in many locations. Crop damage to mostly maize and sorghum crops has been reported in **Ethiopia** and **Somalia.** Agropastoral areas face the highest risk of invasion and migration is expected to coincide with vegetative stages of crop development. Record above-average seasonal rainfall has resulted in favourable ecological conditions and availability of green vegetation in parts of **Kenya**, **South Sudan**, **Ethiopia**, and **Somalia**. Southeasterly and southwesterly winds in **Somalia** are expected to increase migration northwards towards summer breeding areas in **Ethiopia** and **Sudan**, lowering the risk of invasion in southern and equatorial parts of the subregion. Additionally, swarms in northwest **Kenya** are expected to move through **South Sudan** to **Sudan**. If rainfall is not sufficient in summer breeding areas of **Sudan**, there is a risk swarms will migrate towards eastern Chad and continue towards the northern Sahel in West Africa. In **Kenya**, hopper hatching has been reported in the north, and second-generation immature swarms started to form in the northwest; however, desert locust presence is likely to decline in July. Hopper groups and adult swarms are present in Turkana and Marsabit where there is a considerable threat to crops and pasture. Additionally, in Turkana, hopper bands have caused damage to crops in agropastoral areas. In **Ethiopia**, hopper hatching has been reported in the east, and hopper groups and adult swarms are present in the Ogaden and Dire Dawa. Hopper bands have been reported in Afar, Tigray, and Somali regions. Swarms are likely to move from the south to Oromia, Somali, Amhara, Afar, and Tigray regions. Climatic conditions are favourable for further development in eastern areas, and locusts are likely to move from Turkana areas of Kenya to western areas of Ethiopia and from northeastern Ethiopia to Djibouti. In **Somalia,** hopper hatching has been reported in west and central areas, hopper groups have been reported in Awdal, Woqooyi Galbeed, Mudug, Nugaal, Sool, and Sanaag, and hopper bands and swarms are present in the northwest and central areas. Climatic conditions are favourable for locust development in the northeast. Locusts are likely to move from Somali regions of Ethiopia to northeastern Somalia, and swarms that accumulate in the north are likely to migrate to summer breeding areas along the Indo-Pakistan border. In **Sudan**, locusts have been reported in northern areas, and cross-border invasion is likely from northwest Turkana areas of Kenya through South Sudan and possibly northeast Uganda towards summer breeding areas of South Kordofan, West Kordofan, East Darfur, South Darfur, White Nile, and Blue Nile. Some swarms may then continue to North Kordofan, North Darfur, and perhaps West Darfur and others may appear in Sennar, Al Qadarif, and Kassala states bordering Ethiopia. In **South Sudan**, conditions are suitable for locust development in southern and eastern parts of the country, and locusts are projected to move from Turkana areas of Kenya to eastern areas of South Sudan. In **Yemen**, swarms are moving to the interior, coastal, and highland areas, and could migrate to northern Somalia and northeast Ethiopia.

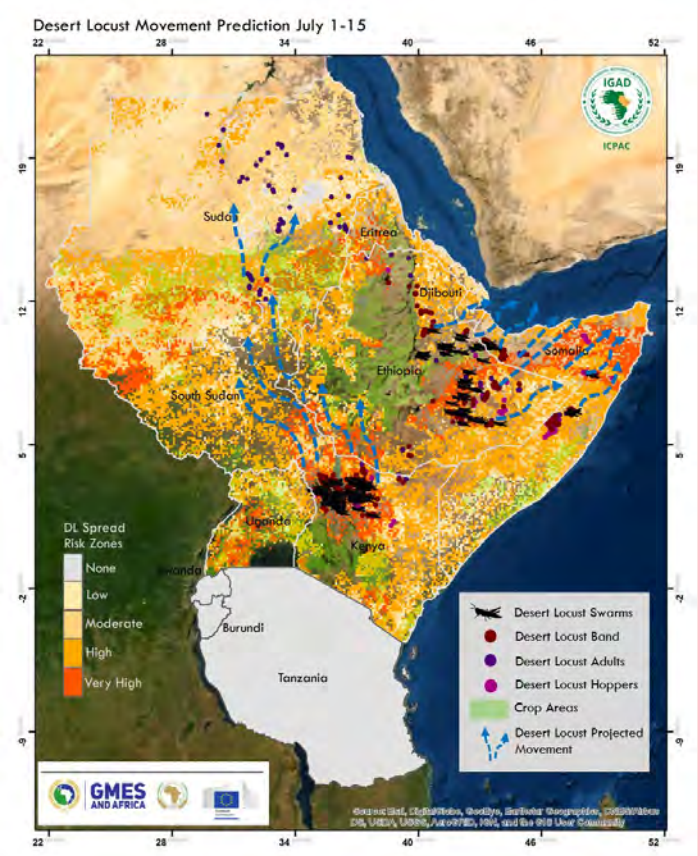



*Figure 1. Desert locust movement prediction July 1-15. Source: IGAD ICPAC*

***Regional Outlook: Above-average rainfall is expected to continue in parts of the region while dry conditions are expected along the southeastern coast.***

Heavy rainfall at the end of May resulted in deadly landslides and flash floods in southern Ethiopia further adding to the profound number of East Africans affected by above-average rainfall since October 2019. Rainfall for the first twenty days of June was average to above-average across much of the region, with the most significant rainfall occurring in western Kenya, eastern South Sudan, and western Ethiopia. Rainfall was slightly below-average along the southeastern coastline of Somalia, Kenya, and Tanzania, and in Rwanda, Uganda, western South Sudan, and southern Sudan.

Both short-term (not shown) and medium-term (Figure 1-right) forecasts indicate above-average rainfall is expected in northwestern DRC, Uganda, western Kenya, eastern South Sudan, and southwestern and central Ethiopia, while below-average precipitation is expected to continue along the southeastern coastline of Somalia, Kenya, and Tanzania. Figure 1-left shows how the 15-day forecasted precipitation (not shown) could affect the June rainfall anomaly. According to the most recent FEWS NET seasonal forecast review, longer-term forecasts indicate an increased likelihood of a drier than average October to December (OND) rainfall season in East Africa.

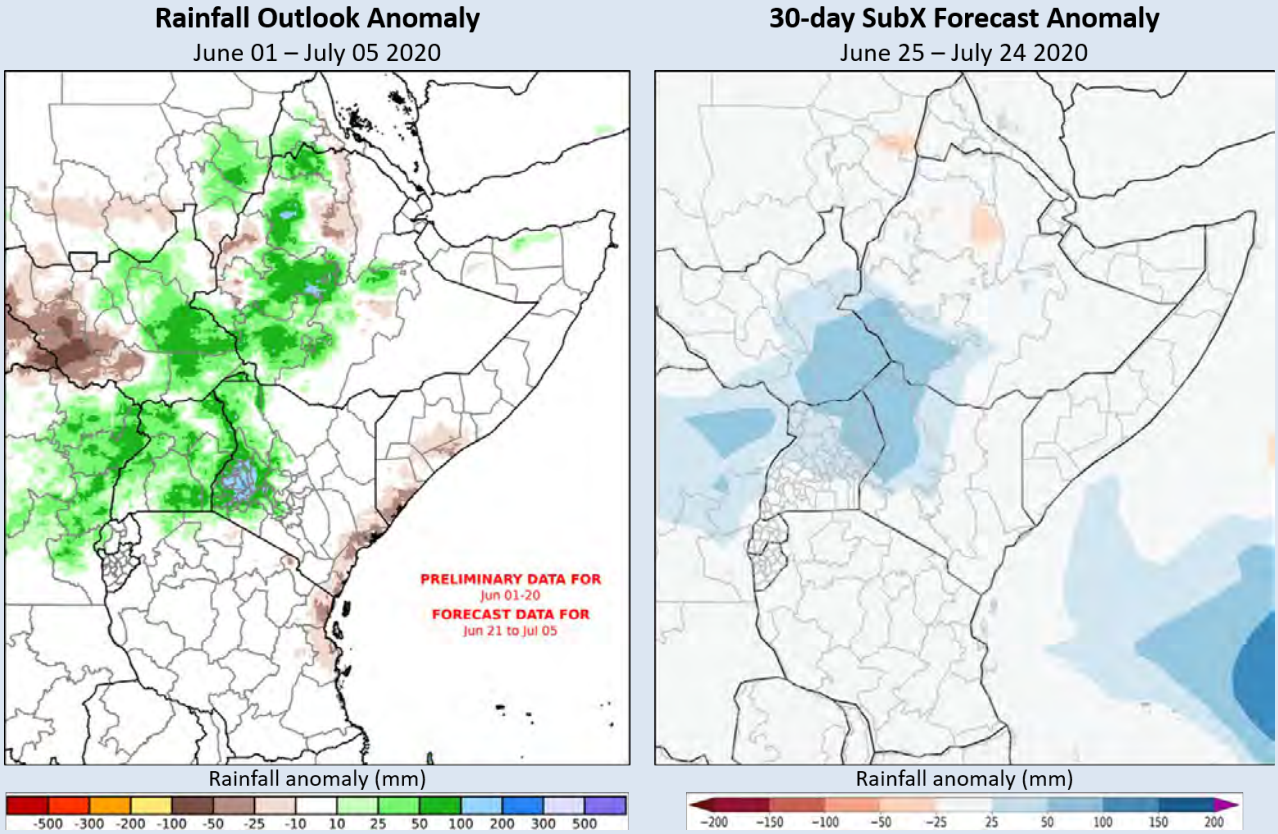
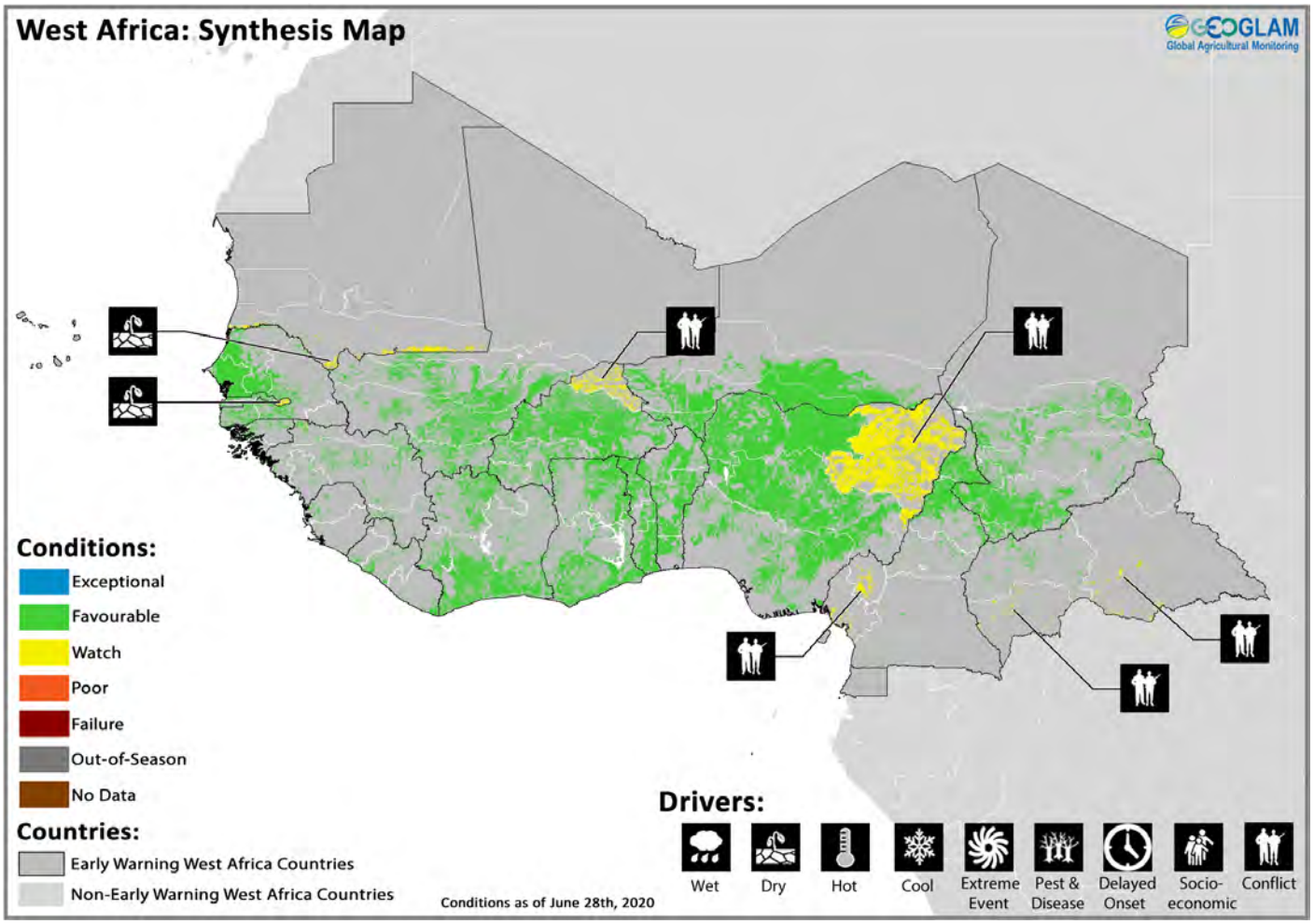



*Figure 1. Estimated and forecast rainfall since June 1st and a 30-day forecast. The left panel is the UCSB Climate Hazards Center Early Estimate extended seasonal outlook. It shows how the post-June 1st anomaly will change if the 15-day unbiased GEFS forecast from June 21st materializes. It compares 2020 rainfall amounts to the 1981-2019 CHIRPS average. The right panel is a 30-day forecast from June 25th. The image shows the average of five models from the Subseasonal Experiment (SubX) forecast ensemble as of June 25th. The anomaly is based on the 1999 to 2016 model average. Skill assessments of SubX can be accessed at http://cola.gmu.edu/kpegion/subx/index.html.*
*Source: UCSB Climate Hazards Center.*

## West Africa




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

Across the southern bi-modal regions, main season cereal crops are in vegetative to reproductive stages and conditions are generally favourable due to a timely onset of rains. Heavy rains in June triggered flooding in **Burkina Faso**, **Cote d'Ivoire**, **Ghana**, **Nigeria**, and the **Central African Republic**. In northern unimodal areas of the subregion and parts of **Liberia**, **Guinea**, **Nigeria**, **Cote d'Ivoire**, **Togo**, **Benin**, and **Ghana**, planting activities of main season cereal crops are continuing under generally favourable conditions, except in **Gambia** and **Mauritania** where there is concern due to dry conditions. In **Nigeria**, planting of off-season rice crops is continuing under favourable conditions except in conflict-affected areas of the northeast. In addition, heavy rains in June caused flooding in Akwa Ibom and Kwara States. In **Burkina Faso**, there is concern due to ongoing conflict which has led to high population displacement and is expected to impact agricultural activities. In northern **Cameroon**, planting of main season millet and sorghum crops finalized in June and meteorological conditions have favoured crop development. In central and southern areas of **Cameroon** and the **Central African Republic**, harvesting of early-planted main season maize crops is ongoing under mostly favourable conditions, except in conflict-affected areas. In the Sahel, desert locust breeding is expected to begin with the onset of rains, and there is a risk of desert locust swarms appearing in eastern **Chad** and moving westwards to **Niger**, **Nigeria**, **Mali**, **Burkina Faso**, and **Mauritania**.

***Regional Outlook: May to June rainfall has been close to the average with some areas of below-average rainfall in the southwest.***

In the first 20 days of June, rainfall was average to above-average across much of the region, with the exception of Guinea, Sierra Leone, and northern Côte d'Ivoire, where slight precipitation deficits are present (Figure 1-left). In particular, severe weather and heavy rainfall in mid-June caused floods and landslides in southern Côte d'Ivoire, Ghana, Nigeria, and the Central African Republic, resulting in infrastructure damage, population displacement, and death in the worst affected areas.

Short-term forecasts indicate rainfall for the remainder of June will be below-average which could benefit those areas adversely affected by flooding. If the 15-day forecast were to come to fruition, June precipitation levels would be less than 80% of average in Guinea, Sierra Leone, southern Niger, and northeastern Nigeria, while in Senegal, Mali, Burkina Faso, central Niger, and the south-central coast, June rainfall would be greater than 120% of average (Figure 1-middle). In the context of the May-to-September rainy season, rainfall totals since May are on par with the historical average (not shown). The 3-month probabilistic forecast indicates a likelihood of continued below-normal precipitation conditions for July-September in the southern half of the region, while the north may receive above-normal rainfall for the same period (Figure 1-right).

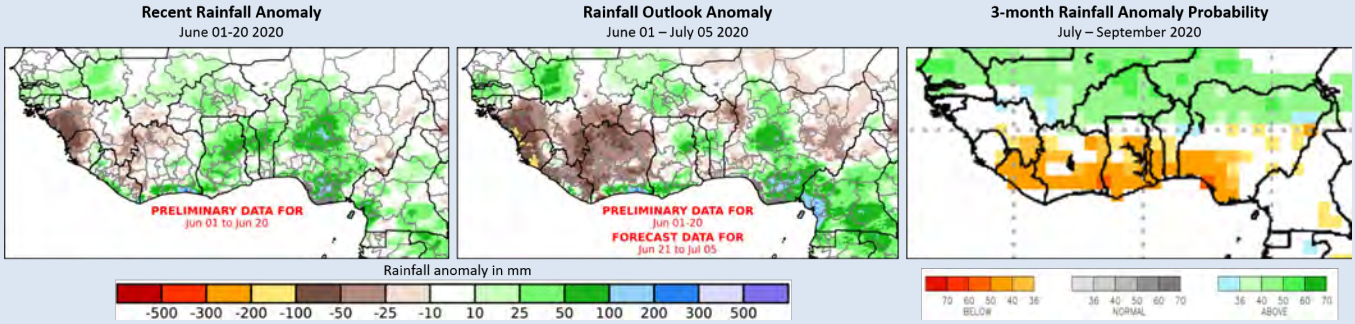
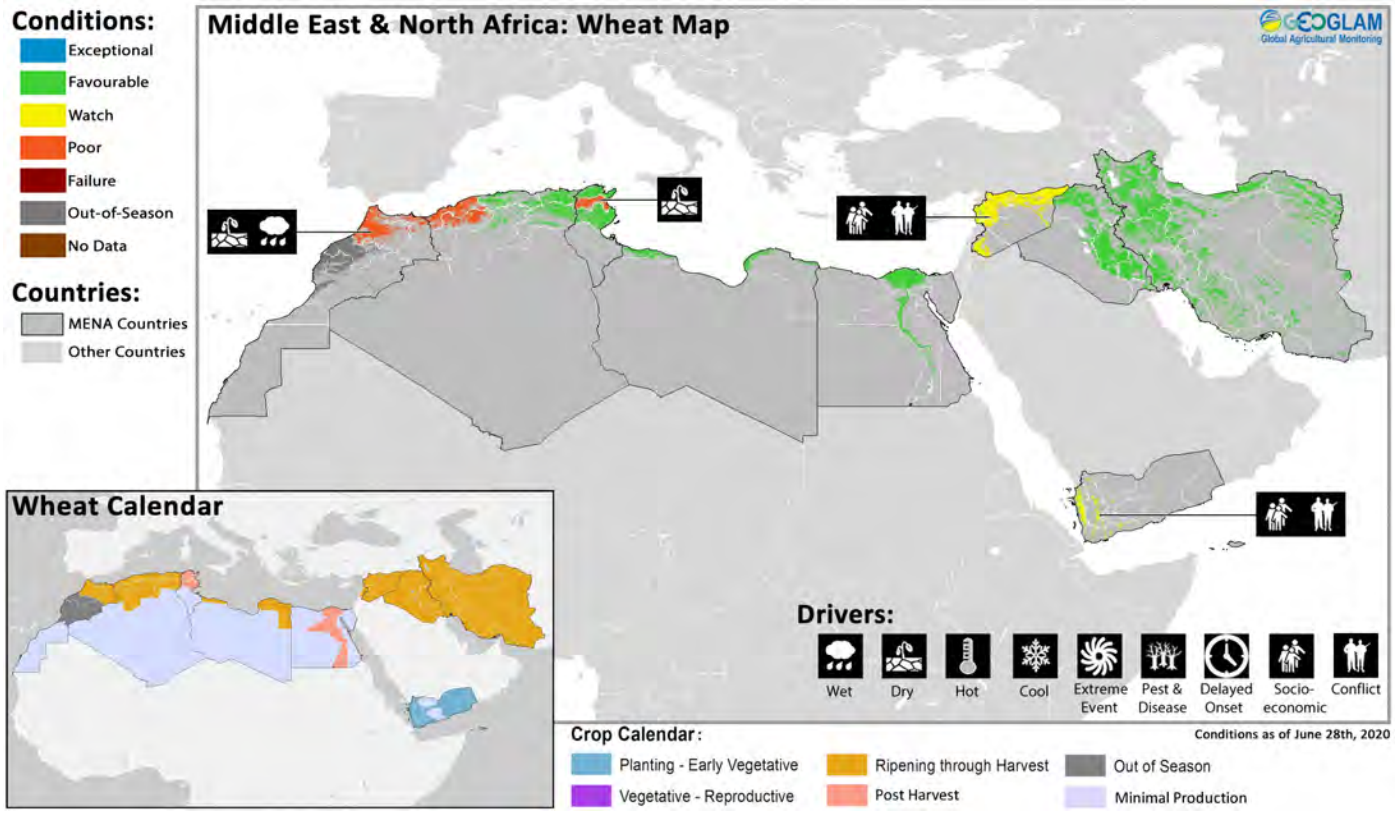



*Figure 1. Estimated and forecast rainfall since June 1st and a 3-month forecast. The left and middle panels are both CHC Early Estimates. The left panel is a recent rainfall estimate for June 1st to 20th, based on preliminary CHIRPS. The middle panel is an extended outlook. It shows how the to-date June rainfall anomaly will change if the 15-day unbiased GEFS forecast from June 21st materializes. Both compare 2020 rainfall amounts to the 1981-2019 CHIRPS average. On the right is the 3-month NMME experimental probabilistic forecast for July to September 2020, based on June 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).*

*Source: UCSB Climate Hazards Center.*

## Middle East & North Africa

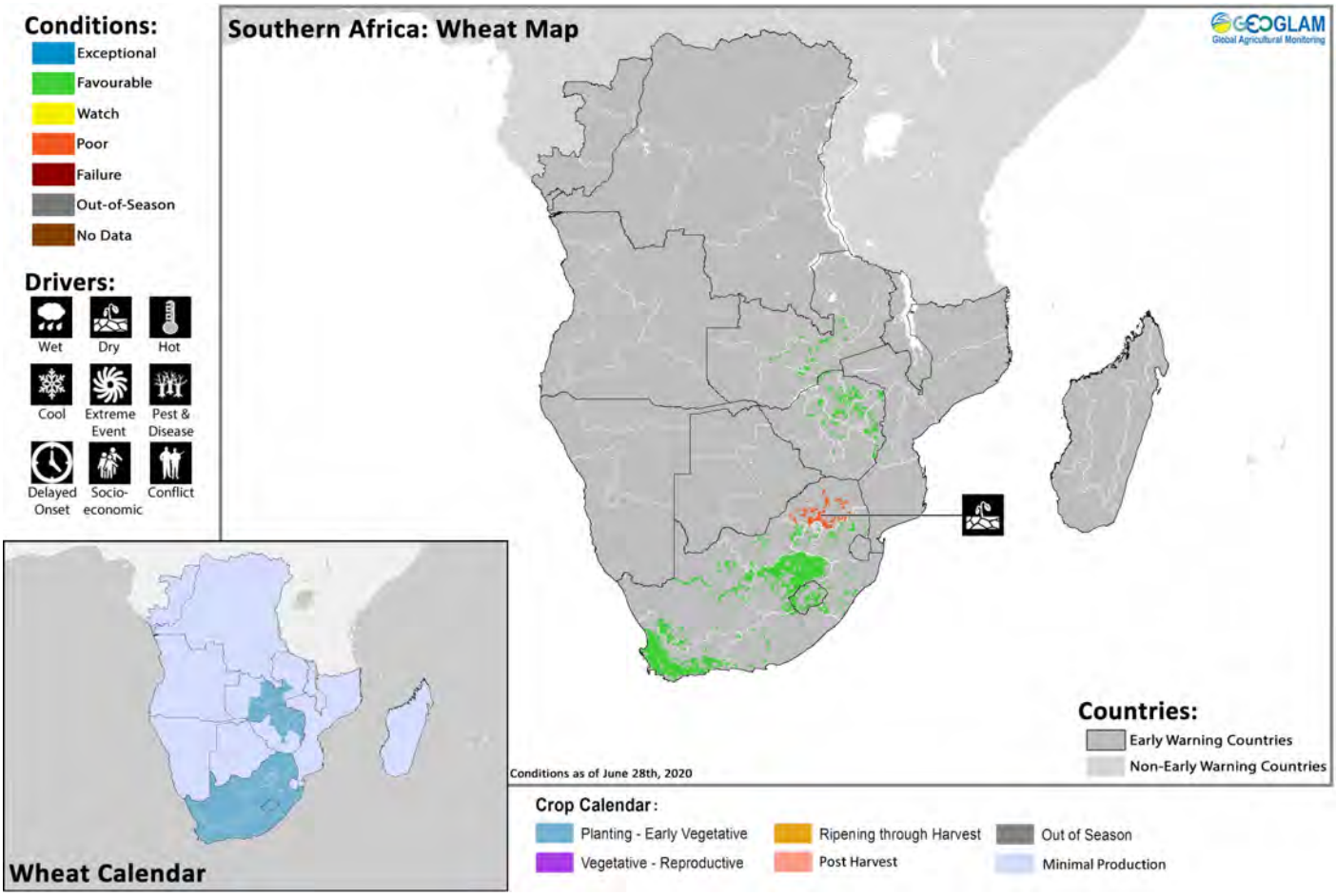



*Crop condition map synthesizing information as of June 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts.* ***Crops that are in other than favourable conditions are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

In the Middle East, wheat harvest will finalize in July and yield prospects are favourable except in **Syria** where ongoing conflict or its aftermath continue to impact agricultural activities. In **Iran**, harvesting of wheat crops began in June under favourable conditions, although some losses were likely to be caused by desert locust. Desert locust breeding has ended in the southern subregion, and infestations are declining due to control operations and migration to Indo-Pakistan summer breeding areas. In **Iraq**, harvesting of winter wheat is underway and will conclude in July. Final yield prospects are favourable. In **Syria**, harvesting of wheat crops will conclude in July and while agro-climatic conditions remained favourable, conflict and other socio-economic drivers continue to constrain production potential.

In North Africa, harvesting of wheat and barley crops is nearing completion, and production prospects are average to above-average in parts of **Algeria, Tunisia** and **Egypt**, and below-average in **Morocco**, northwest **Algeria**, and central **Tunisia** where crops were unable to recover from lack of precipitation and above-average temperatures. In **Morocco**, harvesting continued in June and is to be concluded in July. Yield prospects are poor for winter cereals, particularly for barley, and crop production is expected to be below last year's already poor level and among the worst of the last ten years due to dry conditions throughout the season and above-average temperatures from February to March during the vegetative to reproductive stage. Above-average cumulative rainfall from mid-April to May was too late for crops to recover, and in central and eastern areas, abundant rainfall late in the season is likely to worsen already poor production outcomes. In **Algeria**, harvesting of wheat and barley crops continued in June under mostly favourable conditions. Rainfall in April and May resulted in above-average cumulative rainfall in central and northwestern regions, which stimulated crop recovery in central regions but was only marginally beneficial to the recovery of late-sown crops in the northwest. Positive expectations for crops in the northeast is likely to partially compensate for shortfalls in production in the northwest due to dry conditions, except for barley, which is more common in the Western part of the country. In **Tunisia**, harvesting continued in June, and yields are expected to be above the five-year average except in the central region where below-average production resulted, notably for barley, due to seasonal drought from mid-January to the end of February which hampered crop development and high temperatures in May. Late-planted crops, notably wheat, benefitted from recent above-average precipitation and are expected to recover more than barley. In **Libya**, mild temperatures at the beginning of the season were followed by a rise in temperatures in April in agricultural areas of Tripolitania and Cyrenaica and heatwaves in mid-May. While the high temperatures accelerated the final ripening stages of spring wheat, average to above-average seasonal production is expected, except in agricultural areas close to conflict-affected Tripoli where military operations have disrupted agricultural activities. In **Egypt**, harvest finalized in June for winter wheat crops. Despite a heatwave affecting the Nile Valley and Nile Delta territories in mid-May, crops were already in the harvesting stage, and near-average production is expected. Main season maize and summer-planted rice crops are in vegetative to reproductive stage, and conditions are favourable.

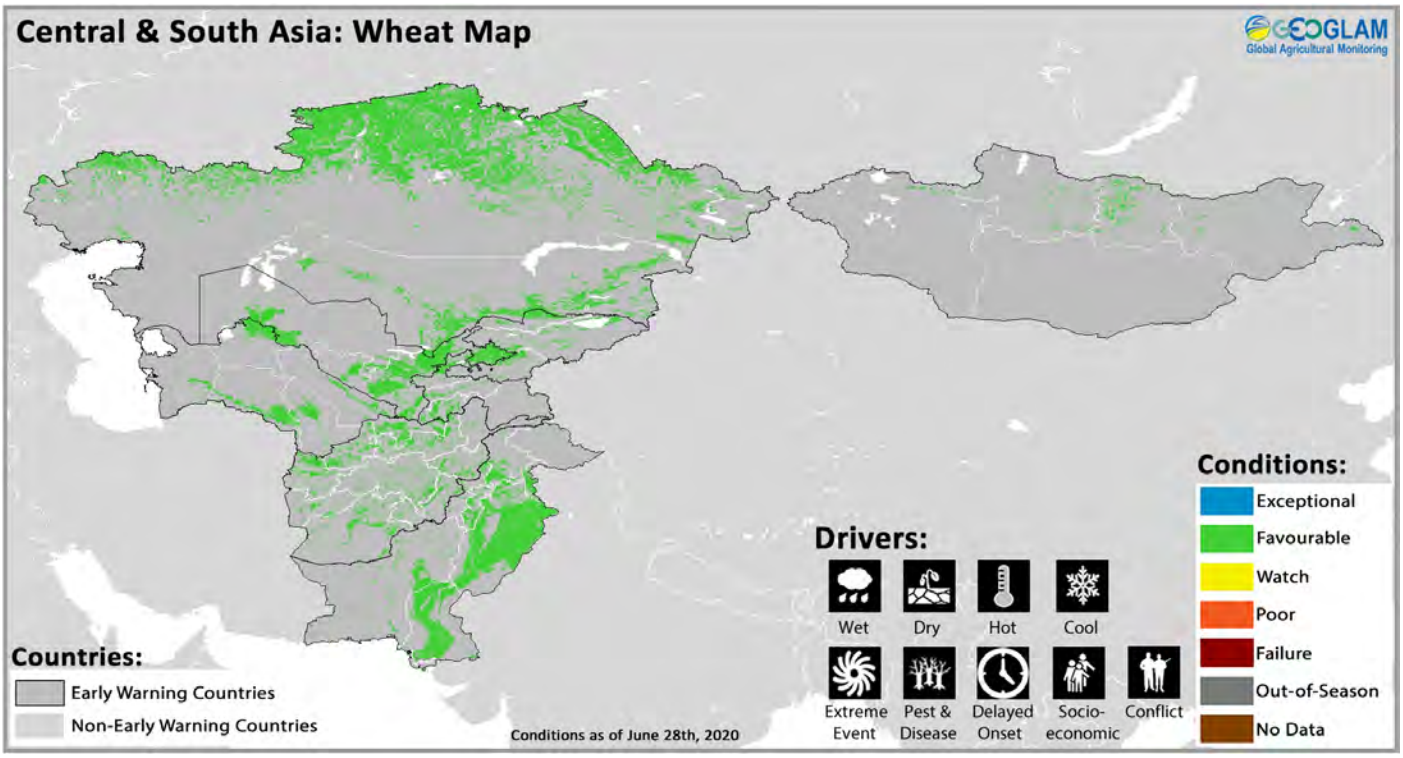
## Southern Africa




*Crop condition map synthesizing information as of June 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.***

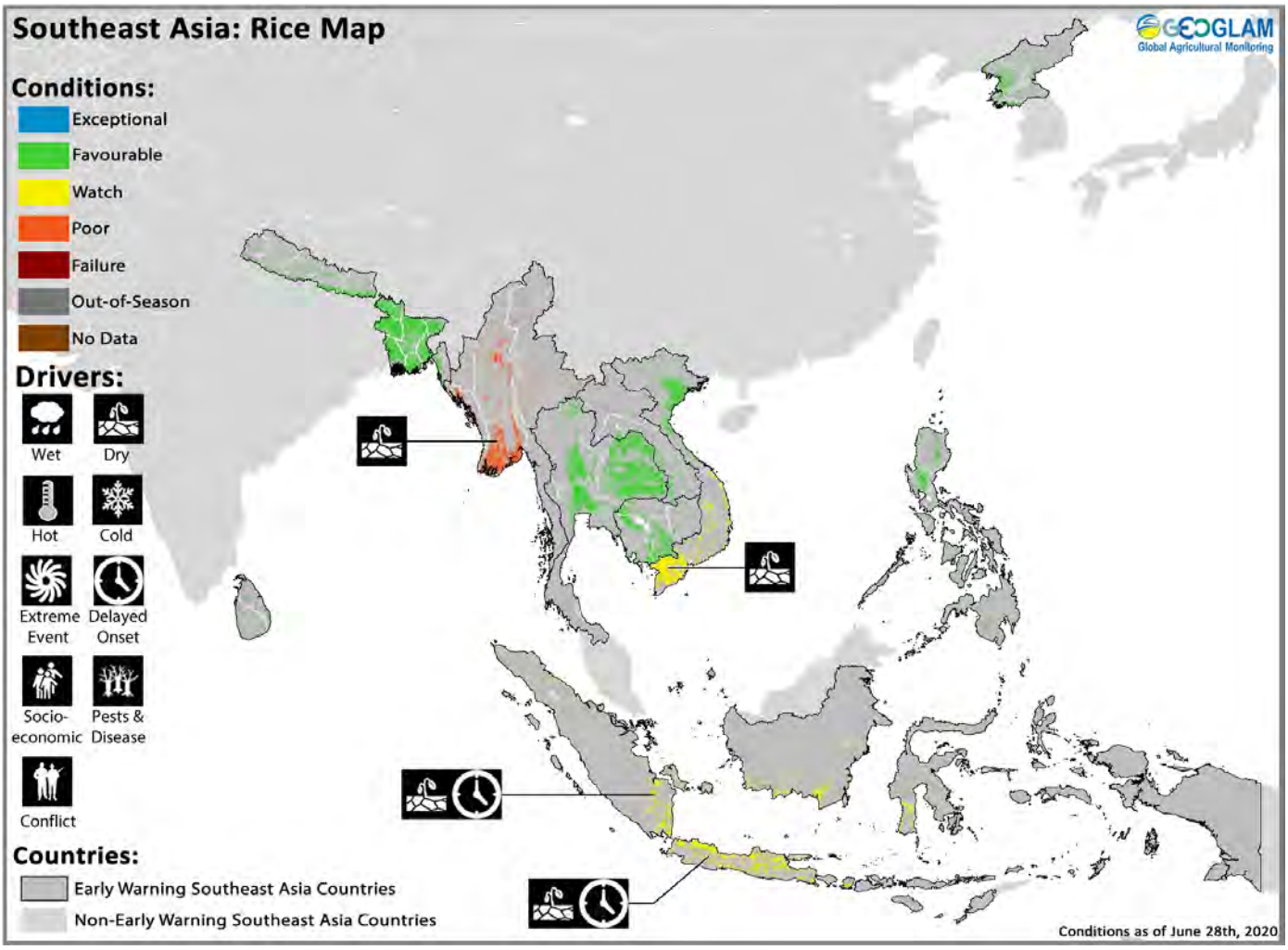
In Southern Africa, harvest finished last month for the 2019-2020 main season cereal crops, and final yields were generally favourable after improved rainfall in January until March reduced seasonal deficits, except in **Zimbabwe**, southern **Madagascar**, southern **Mozambique**, and parts of southern and central **Zambia** where the delayed start of the season, dry conditions, and uneven rainfall distribution resulted in below-average yields. Planting activities continued for winter wheat crops in **South Africa**, **Lesotho**, **Zambia**, and **Zimbabwe**, and planting began for the main season maize crops in north and west **Democratic Republic of Congo** under favourable conditions. Despite some carryover dry conditions from the previous season in parts of **Zimbabwe**, growth of irrigated winter wheat crops to be harvested in November continued in June under generally favourable conditions. However, dam levels in Mashonaland, where most of irrigated winter wheat is grown, as well as Manicaland and Midlands are slightly below full capacity. Additionally, as a result of COVID-19 movement restrictions, some farmers have limited access to markets to buy agricultural inputs such as seed and fertilizer. In **Zambia** and **Lesotho**, early phenological development of winter wheat continued under overall favourable conditions. Dam levels in parts of Zambia are also below full capacity due to below-average rainfall received in the last two seasons. In **South Africa**, planting started in May for winter wheat crops and conditions are favourable due to widespread rain from late May which had a positive impact during emergence and early vegetative growth. However, there is some concern in Limpopo due to carryover dry conditions from the previous season and continuing dryness. In **Madagascar**, harvest continued for main season rice crops. Cumulative rainfall is above-average in the northern half and below-average in southern areas. Production shortfalls in the south and parts of central and western areas are anticipated to result in a yearly decrease of paddy production, while production in the north is anticipated to limit a larger decline and maintain aggregate production at a near-average level. In the **Democratic Republic of Congo**, planting activities began for main season maize crops under favourable conditions as good rains were received in June, particularly over central and northern areas. Second season maize crops continue to develop in the east while harvest activities began in the north. Overall conditions are favourable as heavy rains subsided over the past two dekads and alleviated waterlogging concerns.

## Central & South Asia




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

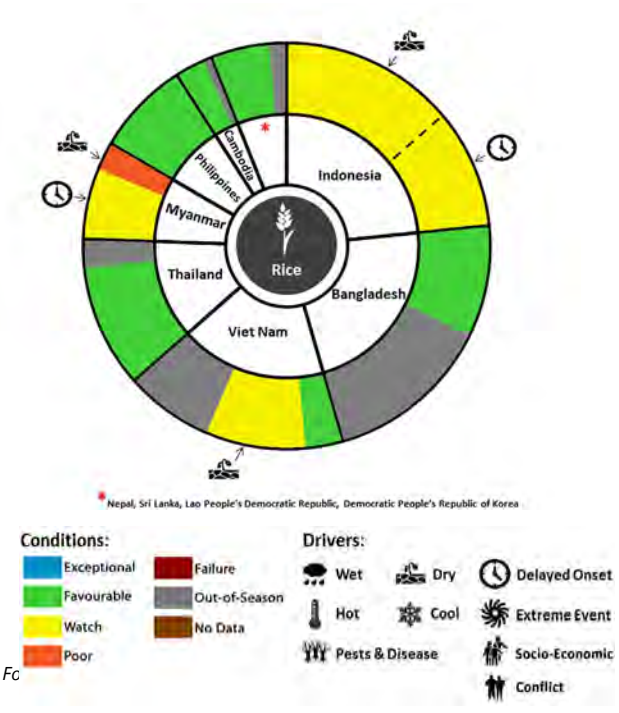
Across Central Asia in **Kyrgyzstan**, **Tajikistan**, **Turkmenistan**, and **Uzbekistan**, harvesting for winter wheat began in June under favourable weather conditions and is expected to finalize by mid-August. In **Afghanistan**, winter wheat harvest is nearing completion, and conditions are favourable. In **Afghanistan**, **Kazakhstan**, **Kyrgyzstan**, **Tajikistan**, **Turkmenistan**, **Uzbekistan**, and **Mongolia**, spring wheat is developing under favourable conditions and is to be harvested in October. In the north of **Kazakhstan**, sowing of spring cereal crops is mostly complete, except for some areas of the Kostanay, North Kazakhstan, and Pavlodar regions and conditions are generally favourable. Sown area of spring cereals, which account for 90 percent of annual domestic cereal output, is slightly above-average at 14.5 million hectares. Hot temperatures and erratic precipitation occurred throughout most of the region, except in West Kazakhstan and East Kazakhstan regions where rainfall was above-average and well distributed. Conditions remain generally favourable for the development of spring crops but high temperatures and erratic rainfall contributed to the appearance of weeds across many areas which were treated with herbicides. In **Afghanistan**, winter wheat harvest is nearing completion and production prospects are favourable due to timely and well-distributed rains throughout the season in many areas and above-average planted area. Crops in the northern provinces have improved from severe precipitation deficits earlier in the season and near-average yields are expected. While average yields are expected at the national level, some crops in localized areas of the east, north, and west provinces have been affected by rust disease due to excess rains in late April and early May and affected areas are expected to see a decrease in yields. Conditions are favourable for spring wheat crops planted in March due to average to above-average cumulative rainfall. In **Mongolia**, planting of spring wheat crops started in April for harvesting in September and conditions are favourable. The area planted with wheat is estimated at a high level, supported by official programmes promoting wheat production, including the support amid the COVID-19 pandemic through distribution at subsidized prices of agricultural inputs, including equipment, fuel, fertilizers and pesticides. In **Pakistan**, harvest is complete for the 2020 *Rabi* winter wheat crop and production prospects are favourable although slightly below the previously expected bumper harvest due to localized losses from desert locust swarms that have affected the main producing areas of Punjab and Sindh provinces (summer breeding areas) since January and unseasonable weather in March and April which caused damage to standing crops. Planting started in May for main season maize and rice crops. Desert locusts are no longer a threat and locust infestations are rapidly declining as a result of control operations and locust migration to summer breeding areas along the Indo-Pakistan border. However, the region continues to face additional disruptions in the supply chain of agricultural inputs such as seeds, fertilizers, and pesticides due to control measures in response to the COVID-19 pandemic which could impact planting activities.




**Southeast Asia**

*Crop condition map synthesizing rice conditions as of June 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 northern Southeast Asia, harvesting of dry-season rice is mostly complete, except in North **Vietnam** and poor yields resulted in **Thailand**, **Laos** and **Myanmar** due to below-average precipitation from December to May and irrigation water shortages. Wet-season rice is in seeding to early young panicle forming stage, and early concerns of water shortages have been somewhat mitigated by sufficient rainfall received from late May. While dry conditions delayed planting, total planted area is expected to be above-average due to favourable growing conditions. Forecasts indicate that while dry conditions may continue through the next two weeks across some areas, July rainfall is expected to improve and average to above-average rainfall is expected across eastern **Thailand**, northern **Laos**, **Vietnam**, and southern **Philippines** while in southern **Myanmar**, rainfall deficits are expected to continue and worsen (See Regional Outlook Pg. 16). In **Indonesia**, harvesting of wet-season crops continues with yields estimated to be slightly lower than last year due to the prolonged drought. Sowing of dry-season crops continues albeit behind schedule due to the protracted wet-season crops. In the **Philippines**, dry-season rice harvesting has wrapped up under generally favourable conditions with only a 3.6 percent decrease in final yields compare to last year at 4.26 million tonnes due to below-average rainfall. Wet-season rice is under favourable conditions with



tropical storm Butchoy bringing beneficial rain to Luzon. In **Thailand**, sowing of wet-season rice is ongoing under favourable conditions. Despite dry conditions through April, adequate rains in mid-May allowed for the expansion of paddy fields and eliminated concerns of a potential decrease in planted area. In **Viet Nam**, harvesting of dry-season (winter-spring) rice in the north is ongoing under favourable conditions with yields expected to be in line with last year due to warm weather and sufficient irrigation preparation. Wet-season (summer-autumn) rice in the south is under watch conditions due to drought. In **Laos**, land preparation and planting activities are underway for wet-season rice in lowland areas with an expected planted area of 750 thousand hectares. While dry conditions remain in many areas, heavy rains received in late May are expected to secure agricultural water for rice transplanting, and production is expected at 2.96 million tonnes. In upland areas, planted area is expected to be 100 thousand hectares with production around 180 thousand tonnes. In **Myanmar**, harvesting of dry-season rice is nearing completion, and production is estimated to be over 4 million tonnes. Due to irrigation water shortages, harvested area is eight percent lower than last year, and yield is expected to be slightly lower than last year at 4.8 tonnes per hectare. Planting of wet-season rice has begun, although it has been slowed due to the delay of monsoon rains. In response to the delayed rains and lower labour force available as a result of COVID-19, the Government is encouraging the use of certified seeds and rice cultivation technologies necessary for less water utilization and human intervention. In **Cambodia**, wet-season rice is in the tillering to early young panicle forming stage, and growing conditions have improved from last year due to sufficient rainfall coverage from late May to mid-June. In **Sri Lanka**, planting of the minor *Yala* rice crop is underway and conditions are favourable due to improved seasonal rains and Government support in the form of free irrigation water supplies and fertilizer subsidies are expected to result in above-average planted area. Seasonal weather forecast for the July-September 2020 period indicate higher likelihood of above-average rainfall over most of the country, boosting production prospects for the *Yala* crop. In **Bangladesh**, planting is underway for the secondary *Aman* rice crop, which accounts for 35 percent of annual output, and conditions are generally favourable. The area planted is forecast at an above-average level driven by the current strong market prices. In **Nepal**, harvest is complete for the 2019/2020 wheat crop in the north and is underway in the south. Yield and production prospects are favourable as precipitation amounts were near-average over most of the country, and the snow coverage during winter months has been adequate to protect crops from winterkill. Planting of the 2020 maize and rice crops is progressing under favourable conditions. However, concerns exist due to reported disruptions in trade and distributions of fertilizer due to the COVID-related lockdown and movement restrictions in India, as Nepal relies on the transit routes of India to access international markets. This could affect the final output of the 2020 main crops. In the **Democratic People's Republic of Korea**, planting is ongoing for the main cropping season under favourable conditions and reservoir levels are slightly better than last year.

***Regional Outlook: Likelihood of above-average rainfall in July over previously dry areas of Thailand, Laos, Vietnam, and the Philippines.***

Rainfall in late May and early to mid-June was well below-average across much of northern Southeast Asia, with the exception of central Thailand, western Cambodia, and southwest Vietnam where rainfall improved in June. Overall, the December to May season recorded less than 80% of the historical average in Myanmar, Thailand, southern Cambodia, southern Vietnam, northern Malaysia, and the Philippines impacting dry-season rice crops. In contrast, above-average rainfall since April in the southern half of the region (particularly across Indonesia and the southern Philippines) provided favourable conditions for the start of dry-season planting.

The spatial distribution of below-average rainfall in the north, and above-average rainfall in the south, is expected to continue for the next two weeks, contributing to the April-to-present seasonal rainfall anomalies seen in Figure 1-left. Rainfall totals are expected to be 120-150% of average across Indonesia, and less than 80% of average in Myanmar, Thailand, Laos, Vietnam, and the northern Philippines. However, the 30-day forecast indicates a likelihood of average to above-average rainfall over much of the region, including previously dry areas of Thailand, Laos, Vietnam, and the Philippines, with the exception of Myanmar, where rainfall deficits are expected to worsen (Figure 1-right).

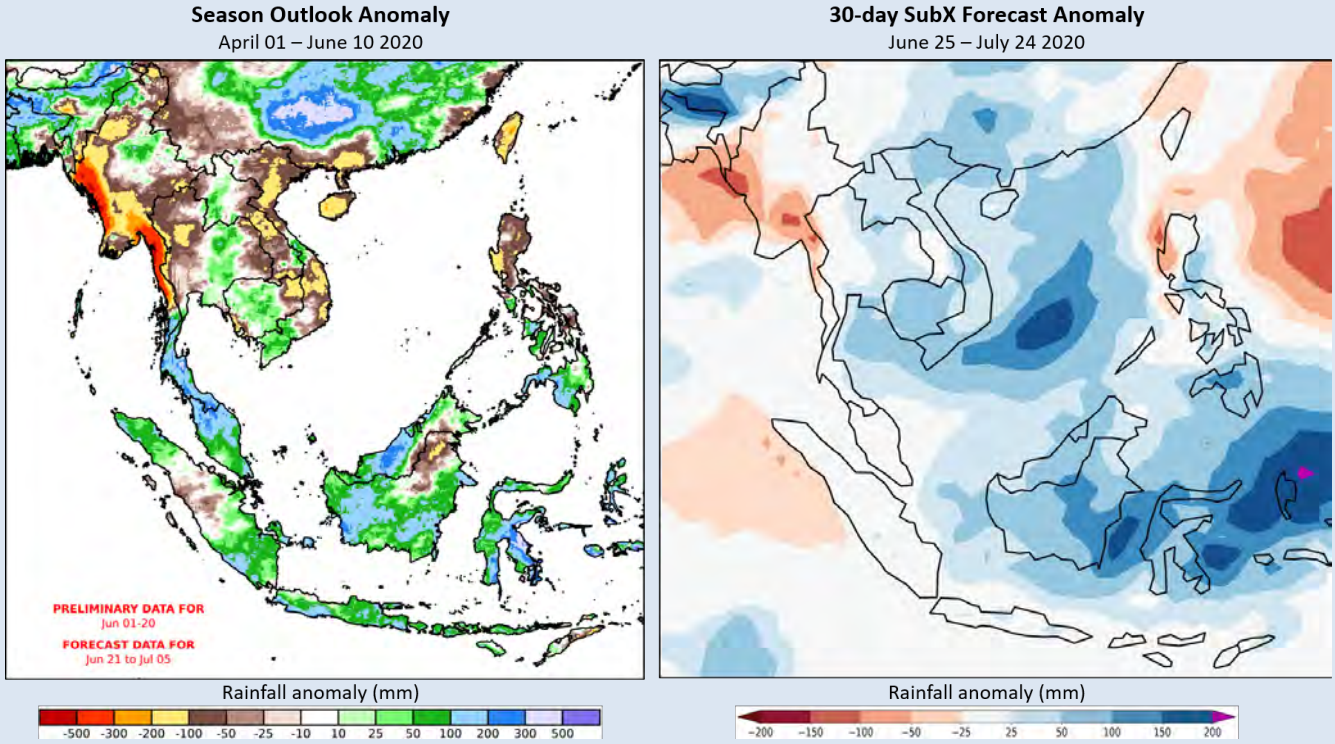
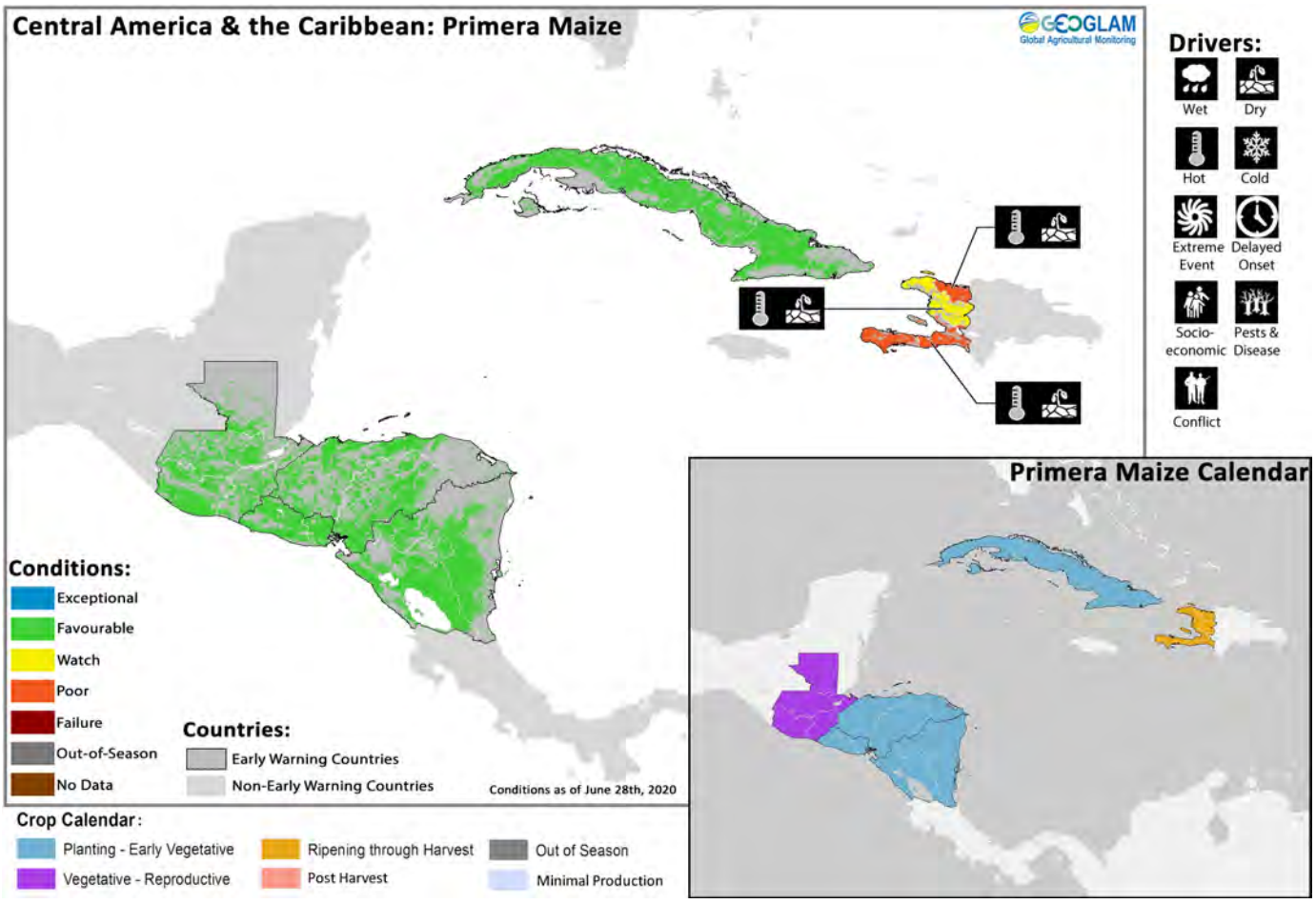


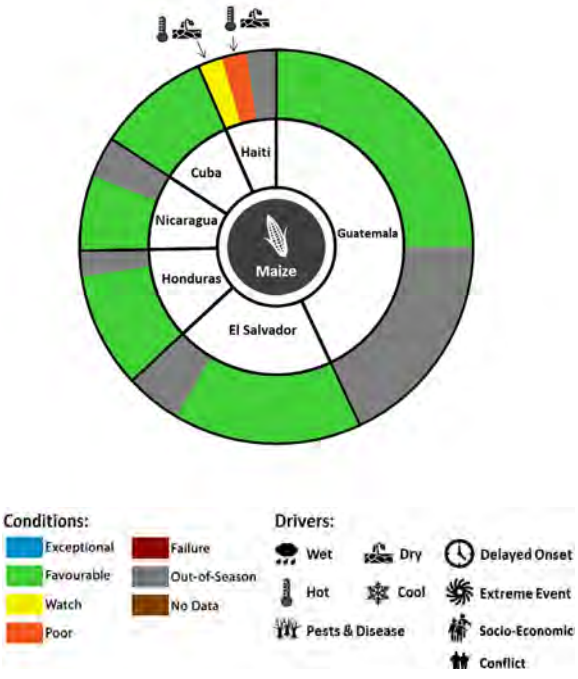

*Figure 1. Estimated and forecast rainfall since April 1st and a 30-day forecast. The left panel is the UCSB Climate Hazards Center Early Estimate extended seasonal outlook. It shows how the post-April 1st anomaly will change if the 15-day unbiased GEFS forecast from June 21st materializes. It compares 2020 rainfall amounts to the 1981-2019 CHIRPS average. The right panel is a 30-day forecast from June 25th. The image shows the average of five models from the Subseasonal Experiment (SubX) forecast ensemble as of June 25th. The anomaly is based on the 1999 to 2016 model average. Skill assessments of SubX can be accessed at http://cola.gmu.edu/kpegion/subx/index.html.*
*Source: UCSB Climate Hazards Center.*

## Central America & Caribbean




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

In Central America and the Caribbean, planting activities for *Primera* season crops have begun under generally favourable conditions, with some areas of concern along the Caribbean coast of northern **Honduras** and **Nicaragua** where irregular rains have delayed the start of the season while in south **Guatemala** and **Honduras**, May rainfall totals were significantly above-average and exceeded 200 percent of the average in some areas. Forecasts indicate average to above-average precipitation is expected to continue through June across much of the region and seasonal rainfall forecasts from June to August indicate above-average conditions favouring *Primera* season crops (See Regional Outlook Pg. 18). In **Guatemala**, increased precipitation in May improved soil moisture and supported planting operations for *Primera* season crops. However, in north and central regions, a delay to the start of the season is expected as rainfall in April and May was irregular and below-average with above-average temperatures. In **El Salvador**, the eastern region received above-average precipitation in the second dekad of May and land preparation activities are underway for the start of planting in late May and early June. Additionally, on May 31st, Tropical Storm Amanda made landfall in Guatemala, causing significant flooding in parts of Guatemala and in Sonsonate, La Libertad, and San Salvador departments of El Salvador. The floods affected recently planted crops, and replanting will take place as water levels recede. In **Honduras**'s key producing southern-western region, above-average rains in May helped restore the soil moisture deficits that were observed in April. However, conditions are wetter than normal and if wet conditions continue, it could disrupt the ongoing planting operations. In **Nicaragua**, conditions are generally favourable, though some planting activities were delayed in the northern region due to a late and irregular onset of rains. In **Haiti**, planting operations continued for main season crops, and there is continuing concern due to below-average rainfall and high temperatures that are affecting crop development. Irregular precipitation and dry conditions since




*For detailed description of the pie chart please see description box on pg. 18.*

the end of March have delayed agricultural activities in the North, Northeast, West, Center, and Haut-Artibonite, and a reduction in yields is expected. In **Cuba**, harvest of second season rice crops is complete and below-average yields resulted due to below-average precipitation and high temperatures during the season. Planting operations continued for main season rice and conditions are favourable as improved rains in May replenished soil moisture, favouring planting operations and crop germination.

***Regional Outlook: Likelihood of below-average rainfall in July across Guatemala and Honduras.***

June, and the beginning of the 2020 Atlantic hurricane season, began with torrential rains from tropical storms Amanda and Cristobal across El Salvador, Guatemala, and the Yucatán Peninsula. According to the U.S. National Hurricane Center, over the span of 9 days, from May 27th to June 5th, the two storms dropped as much as 650 mm of rain on parts of Mexico, and nearly 900 mm in Guatemala and El Salvador. The resulting floods caused infrastructure damage, population displacement, and death in worst-affected areas. Elsewhere in the region, including Honduras, Nicaragua, Cuba, and Haiti, June rainfall has been average to below-average.

The 15-day forecast indicates rainfall is likely to be average to below-average across the region, with the exception of the east coast of Nicaragua where above-average rains are expected. Figure 1-left shows how this anticipated rainfall would impact the April-to-present seasonal rainfall anomalies. If the 15-day forecast comes to fruition, the seasonal rainfall total would be >120% of average in Guatemala, El Salvador, Honduras, and western Cuba; while in eastern Costa Rica, eastern Cuba and Haiti, seasonal totals would be less than 80% of average. The 30-day forecast indicates rainfall will continue to be below-average through the end of June and July in the northwestern part of the region, including in Guatemala and Honduras (Figure 1-middle). The longer-term 3-month probabilistic forecast (Figure 1-right) indicates an increased likelihood of above-average rainfall throughout the region for the period of July to September.

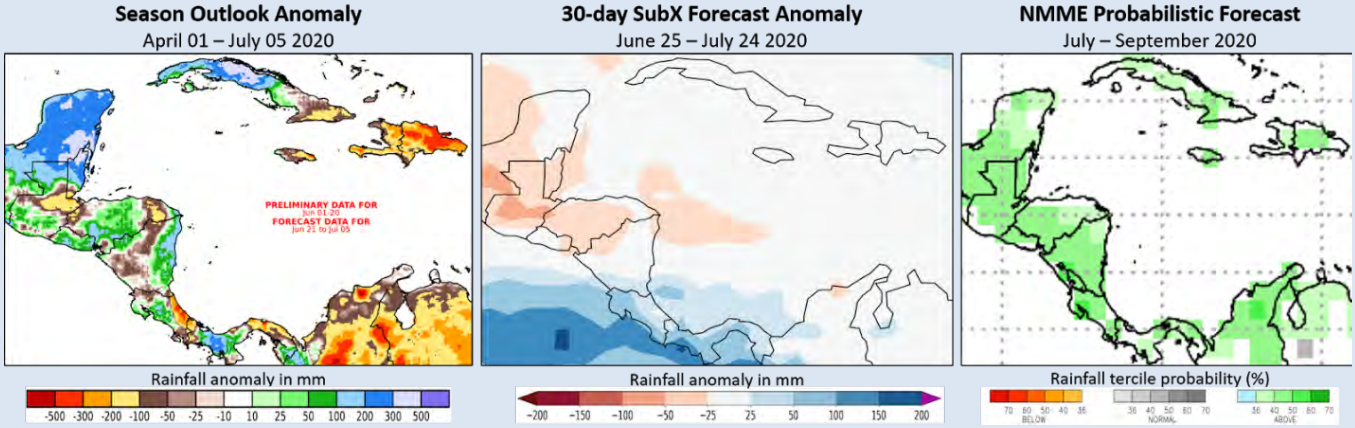



*Figure 1. Estimated and forecast rainfall since April 1st, a 30-day forecast, and 3-month forecast. The left and middle maps depict rainfall in terms of the difference from average. The left panel is the season outlook anomaly for April 1st to July 5th. This Climate Hazards Center Early Estimate is based on preliminary CHIRPS for June 1st to 20th, and the 15-day unbiased GEFS forecast from June 25th. This graphic compares 2020 rainfall amounts to the 1981-2019 CHIRPS average. The middle panel is a 30-day forecast from June 25th. The image shows the average of five models from the Subseasonal Experiment (SubX) forecast ensemble as of June 25th. The anomaly is based on the 1999 to 2016 model average. Skill assessments of SubX can be accessed at http://cola.gmu.edu/kpegion/subx/index.html. The right panel is the NMME probabilistic forecast for July to September based on June conditions.*
*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 July 2nd, 2020.***

# 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.*


**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 & Carribean | | | | |
|---|---|---|---|---|
| **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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The Crop Monitor is a part of GEOGLAM, a GEO global initiative.

*Cover Photo by Catherine Nakalembe*

## Contributing partners

*EC contribution is provided by the Joint Research Centre of the European Commission