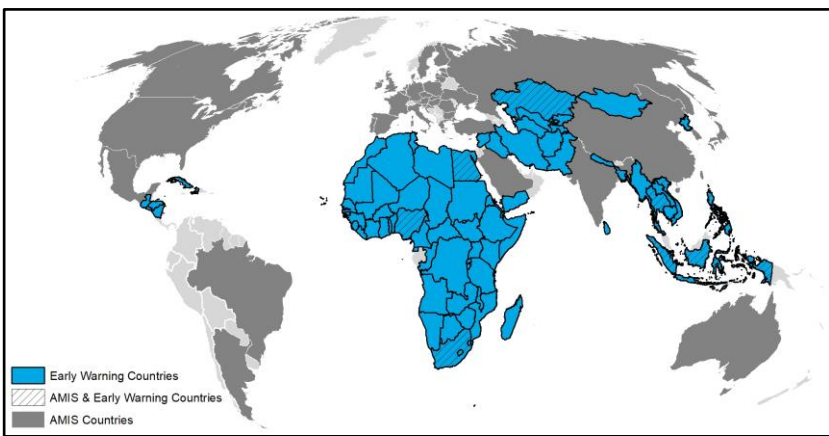


Crop Monitor

EARLY WARNING

Overview:

In **East Africa**, harvesting of main season cereals finalized in August and favourable yields resulted except in areas affected by flooding, desert locusts, COVID-19 restrictions, and socioeconomic factors. Main season cereals continued to develop in northern unimodal rainfall areas with mixed conditions. In **West Africa**, harvesting of mains season maize is underway in the south while main season cereals are still developing in the north, and overall conditions are favourable except in areas affected by moisture deficits, localized flooding, and ongoing conflict. In the **Middle East and North Africa**, winter cereal harvest completed last month while in Egypt, harvest will begin in September for summer-planted crops and conditions are favourable. In **Southern Africa**, conditions are favourable for the development of winter wheat with some concern in South Africa. In **Central and South Asia**, harvesting of winter wheat crops finalized in August, while harvesting of spring wheat crops is now underway, and overall conditions are favourable. In northern **Southeast Asia**, conditions are favourable for the start of wet-season rice harvest in the north following improved rainfall in July and August except in the Democratic People’s Republic of Korea where heavy rains and flooding in August damaged crops in the south. In Indonesia, harvesting of dry-season rice continued into August with a small reduction in yields and output due to drought. In **Central America and the Caribbean**, harvesting of *Primera* season crops will finalize in September, and planting of *Segunda* season crops started in August in some areas. Overall conditions are favourable except in parts of Haiti due to dry conditions throughout the season and recent flooding.



Contents:

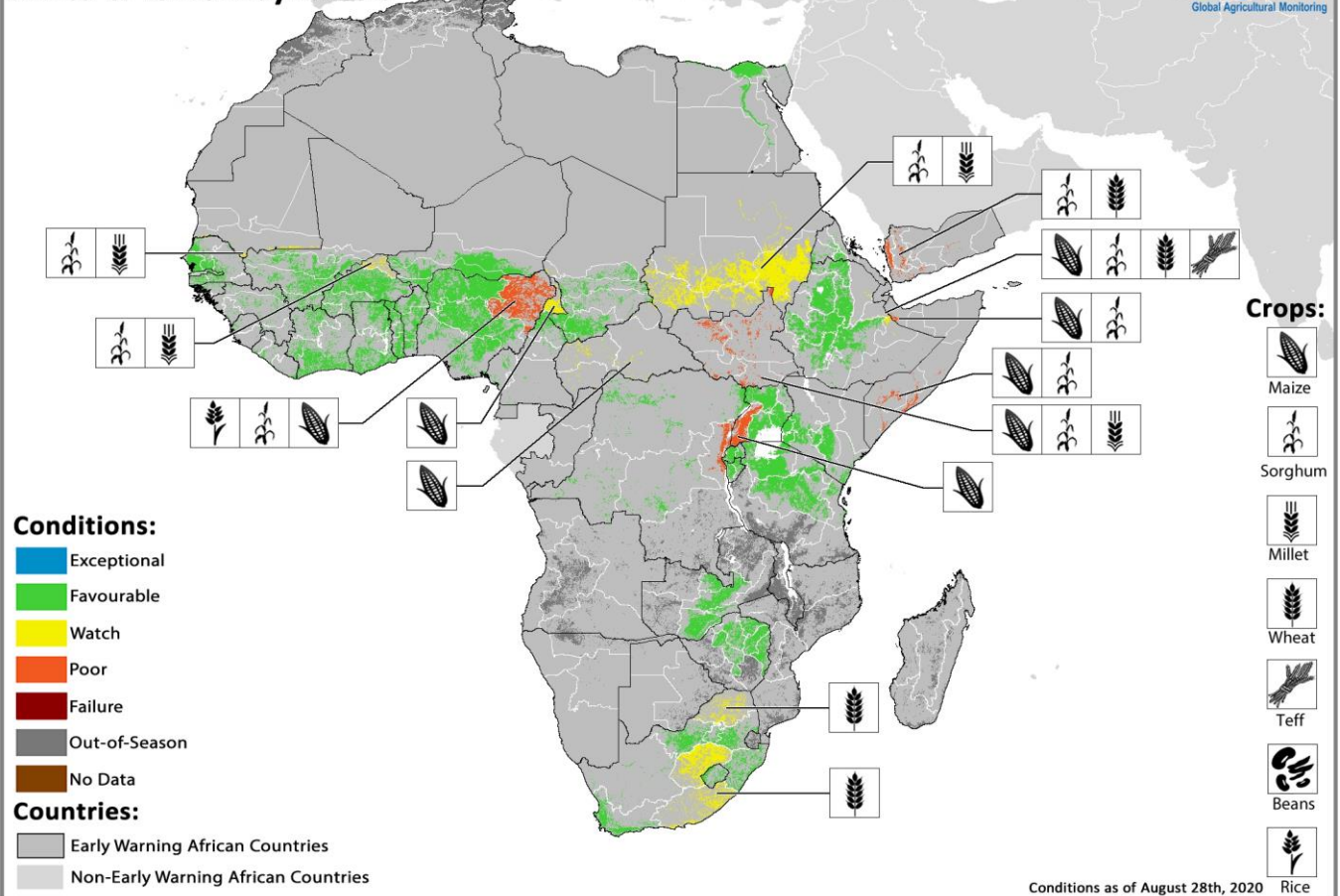
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GEOGLAM Crop Monitor for Early Warning

Crop Conditions at a Glance

based on best available information as of August 28th

Africa & Yemen: Synthesis



Crop condition map synthesizing information for all Crop Monitor for Early Warning crops as of August 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: Harvesting of 2020 main/first season cereal crops finalized in August in equatorial and southern parts of the region, and final crop conditions were favourable except in areas affected by flooding, desert locusts, and COVID-19 restrictions including Somalia, northeastern Kenya and South Sudan. Main season cereals continued to develop in northern unimodal rainfall areas with mixed conditions due to impacts from floods and desert locust concerns.

WEST AFRICA: Harvesting of main season cereals is underway in the south while main season cereals are still developing in the north, and overall conditions are favourable except in areas affected by moisture deficits, localized flooding, and ongoing conflict.

MIDDLE EAST & NORTH AFRICA: The 2019-2020 winter cereal harvest finalized last month in the Middle East and North Africa and planting will start from October for the 2020-2021 winter cereal crop. In Egypt, conditions are favourable for summer-planted maize and rice crops which are in vegetative to reproductive stage to be harvested from September.

SOUTHERN AFRICA: Conditions are favourable for the development of main season crops to be harvested from September with some concern in South Africa due to dryness and reduced plantings. In the Democratic Republic of Congo,

there is significant concern for the second season maize harvest as flood damage, COVID-19 restrictions, and conflict have impacted agricultural activities.

CENTRAL & SOUTH ASIA: Harvesting of winter wheat finalized in August under favourable conditions. Harvesting of spring wheat began in August except in Kyrgyzstan and Mongolia where harvest activities will begin in September, and conditions are favourable.

SOUTHEAST ASIA: In the north, conditions are favourable for the start of wet-season rice harvest as recent rainfall alleviated drought conditions except in the Democratic People's Republic of Korea where heavy rains and flooding in August damaged crops in the main producing southern provinces followed by strong winds and rains from Typhoon Bavi. In Indonesia, harvesting of dry-season rice continued in August with a small reduction in yields and output due to drought.

CENTRAL AMERICA & CARIBBEAN: Harvest began in August for *Primera* season crops, and conditions are favourable except in Haiti where dry conditions negatively impacted yields and where Tropical Storm Laura caused some flood damage. Planting of *Segunda/Postera* season crops began at the end of August in parts of El Salvador and Guatemala under favourable conditions due to good soil moisture.

Global Climate Outlook: Global 30 day Subseasonal Rainfall Forecast Anomaly

The 30-day Subseasonal (SubX) forecast indicates a likelihood of above-average rainfall during September over eastern and central Canada, US great Lakes and Mississippi Valley regions, southern Mexico, Central America, Uruguay, Wales, northern Italy, northern West Africa, northeastern Democratic Republic of Congo, South Sudan, southern Sudan, western Ethiopia, Uganda, western Kenya, Pakistan, western and parts of central India, Indonesia, northern Mongolia, northeastern China, and the Democratic People's Republic of Korea. There is also a likelihood of below-average rainfall across southern and Amazonas Brazil, coastal Nigeria, western China, Nepal, Bhutan, eastern India, Myanmar, the Philippines, and southern Japan.

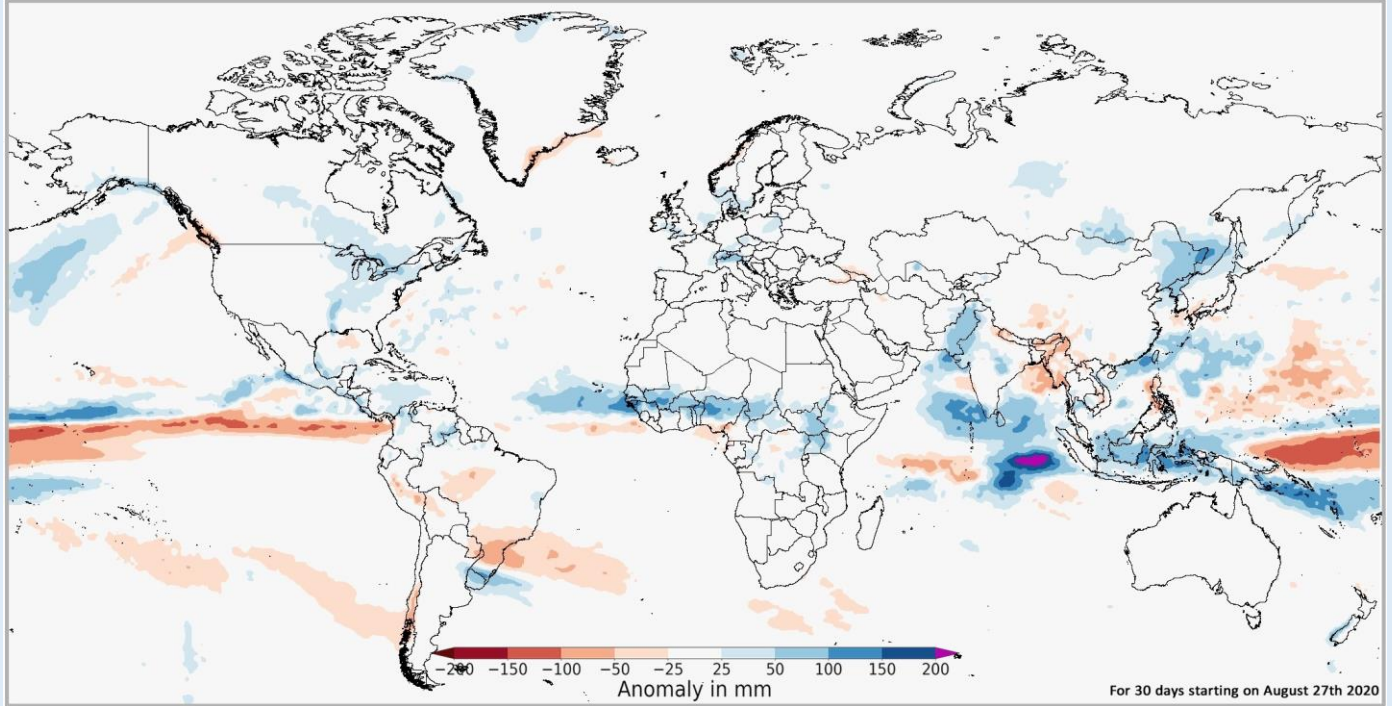


Figure 1. Multimodel mean subseasonal forecast of global rainfall anomaly for the 30-days starting from August 27th showing areas of above or below-average rainfall. The image shows the average of four Subseasonal Experiment (SubX) model forecasts from that day. The anomaly is based on the 1999 to 2016 model average. Skill assessments of SubX can be accessed [here](#).

Source: UCSB Climate Hazards Center

Climate Influences: Movement towards a La Niña-like climate by the end of the year

The El Niño-Southern Oscillation (ENSO) is currently neutral and is expected to remain so through the northern hemisphere summer. By the end of the year (October – December), however, a transition to La Niña conditions is likely (~60% probability). La Niña conditions during October-December typically reduce rainfall in East Africa, Central Southwest Asia, southern Brazil, and central Argentina and increase rainfall in Southern Africa, Australia, and eastern Brazil.

Source: UCSB Climate Hazards Center

Desert Locust Alert: Threat to crop production remains in the Horn of Africa along with the Arabian Peninsula and Southwest Asia

The desert locust outbreak continues to cause concern over the Horn of Africa, particularly over northeast **Ethiopia**, northwest **Kenya**, northwest **Somalia**, northeast **Uganda**, and southeast **South Sudan**. Swarms are expected to move from northwest **Kenya** through east **South Sudan** and towards **Sudan**. Locust infestations are expected to increase significantly in **Ethiopia**, **Eritrea**, and **Yemen**. In South Asia, summer breeding is ongoing along the Indo-Pakistan border, and extensive hatching and hopper band formation occurred in **India**. However, the risk of swarm migration from **Ethiopia** and **Somalia** to the Indo-Pakistan summer breeding area has largely diminished. In West Africa, a few solitarious locusts are present in the summer breeding areas of the northern Sahel, and small-scale breeding is underway in **Chad**, **Niger**, **Mauritania**, and **Mali** in areas that received heavy rainfall. However, this is normal activity for the time of year, and additional activity is expected to be minimal in summer breeding areas as current locust numbers are low.

East Africa Update

In northwest **Kenya**, new immature swarms appeared in Samburu county in mid-August, and a few immature swarms persist in the northwest. There is a possibility of another generation of breeding with the beginning of the short rains in October. At least one swarm crossed into northeast Uganda and another into southeast South Sudan. They are not expected to mature or breed, but they have affected agricultural crops and increased food insecurity in the region. In **Ethiopia**, swarms are present in the east between Jijiga, Harar, Dire Dawa, and the Djibouti border and in Afar region as swarms migrate to Yemen. Immature swarms persist in the Harar Highlands and nearby eastern areas. Mature swarms on the eastern edges of the Amhara and Tigray highlands are expected to result in egg-laying and hopper band formation. Abundant rainfall promoted the development of green vegetation that will benefit breeding and increase infestations through September. In northern **Somalia**, immature swarms remain in the northwest on the plateau. There is active movement of immature swarms between Somalia and eastern Ethiopia, and immature swarms in both countries could mature and breed in rainfall areas. Mature swarms appeared in **Eritrea** from Ethiopia and Yemen where breeding and hopper band formation is likely, and hopper groups were present on the southern Red Sea coast. In **Sudan**, a few solitarious adults are present in the interior, and abundant rainfall in August, which fell further north in the interior than normal, may promote the arrival of swarms from Kenya. Small scale breeding is underway in the north. In **Uganda**, swarms appeared near the border in Turkana County, and some swarms may remain during the summer as cool temperatures and local winds hindered migration northwards.

Arabian Peninsula and South Asia Update

In **Yemen**, favourable rainfall in the interior and southern coastal areas promoted breeding and the formation of hopper bands and swarms. Breeding is also likely on the Red Sea coast where adults are present, and above-average rainfall is expected to increase locust presence from September onwards. In **Oman**, hopper groups and bands are present along the southern coast near Salalah where adult groups and at least one immature swarm formed. In **Pakistan**, hopper groups and bands are present in Nagarparkar area of southeast Sindh. In **India**, breeding is underway in Rajasthan, leading to the formation of hopper groups and bands. Hoppers are likely to form adult groups and small swarms, resulting in a second smaller generation of hopper bands in October.

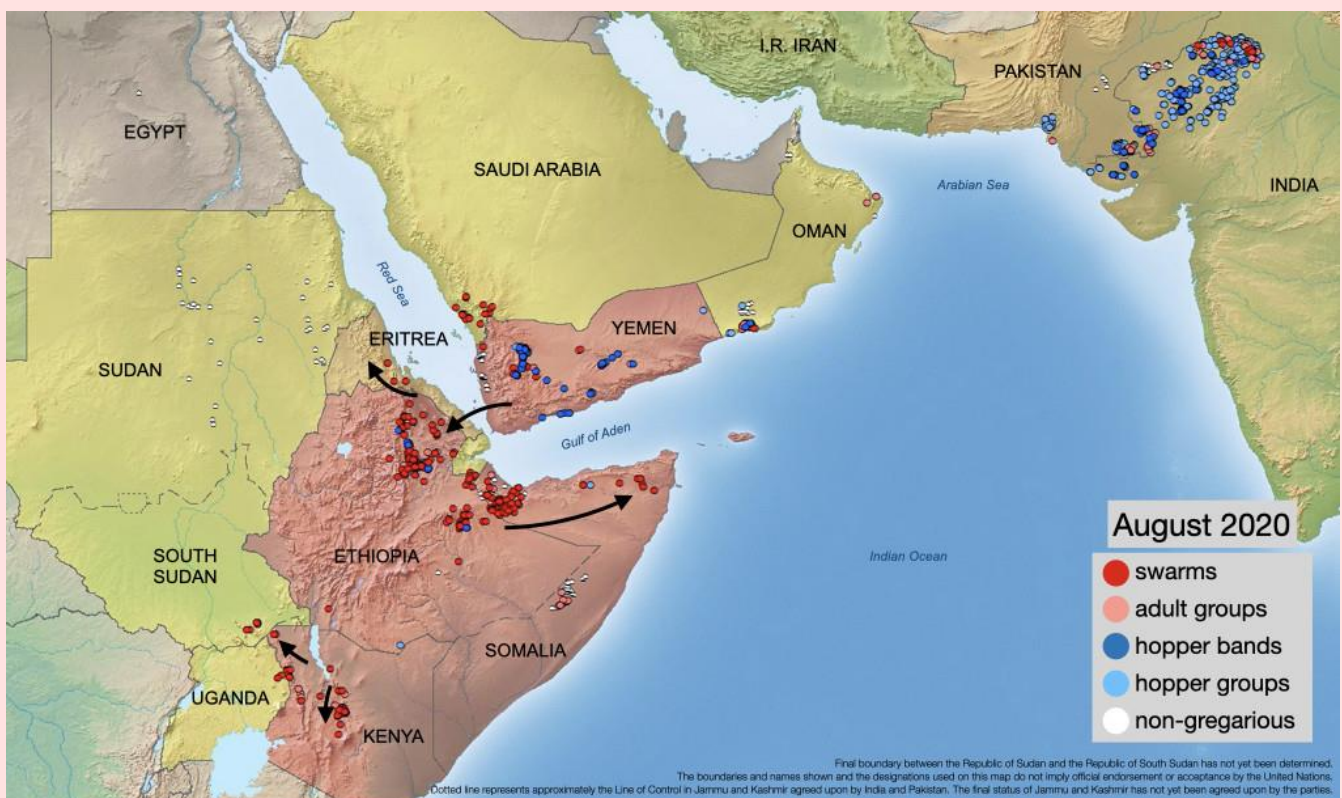


Figure 1. Desert Locust Situation August 2020. Source: FAO DLIS

Seasonal Forecast Alert: Below-average seasonal rains forecast for the East Africa 2020 OND season followed by the potential for a dry 2021 MAM rainfall season

The October-November-December (OND) eastern East African rains are strongly influenced by tropical Indo-Pacific sea surface temperature gradients. Cooler temperatures in the western Indian and eastern Pacific Ocean and warmer temperatures in the eastern Indian Ocean and western Pacific typically result in dry conditions over central-eastern Kenya, central southeastern Ethiopia, and Somalia. Current 2020 OND sea surface temperature and rainfall forecasts indicate conditions conducive to below-normal OND East African rains, as shown in recent analysis by the [Climate Hazards Center](#) (CHC). These forecasts can be quite skillful at surprisingly long lead times, as enhanced Indo-Pacific sea surface temperature gradients correlate strongly with eastern East Africa OND rains. The overall structure of the predicted 2020 OND sea surface temperatures resembles recent dry years and is most closely associated with the poor conditions experienced in 2010 and 2016 (Figure 1). Given this forecast and forecast standard error, there would be a 75% chance of below-normal rains.

Further statistical analysis indicates that 2021 March-April-May (MAM) rains may also be poor. Eastern East Africa rains have been declining ([here](#), [here](#)), and the current long-range sea surface temperature forecasts for this MAM period appear similar to the patterns thought to be driving these declines ([here](#)). While there is a clear overall declining trend, it is also evident that the hydroclimatic volatility in East Africa is increasing and the recent alternating patterns of droughts (2016, 2017) and exceptionally wet seasons (2018, 2020) confirm this pattern. More extreme dry and wet events as observed in East Africa in the last years pose great challenges to farming in terms of reduced yields, soil erosion and favourable conditions for pest and diseases. For the MAM season, the most recent CHC [analysis](#) indicates elevated chances of below-normal rainfall, based on i) the decline MAM rains and ii) the fact that many recent analog MAM seasons were below-normal (Figure 2). It should be noted, however, that limited sample sizes and the long lead time of such an outlook create substantial uncertainty. As discussed [here](#), however, the decline in the MAM rains, which has been caused by sea surface temperature patterns similar to those being predicted, has resulted in a 'new normal' associated with frequent below-normal eastern East African MAM seasons. During recent non-El Nino seasons, observations indicate a 47% chance of below-normal MAM outcomes. As we are still far out from the start of the season, these results should not be interpreted as a forecast, but rather a caution.

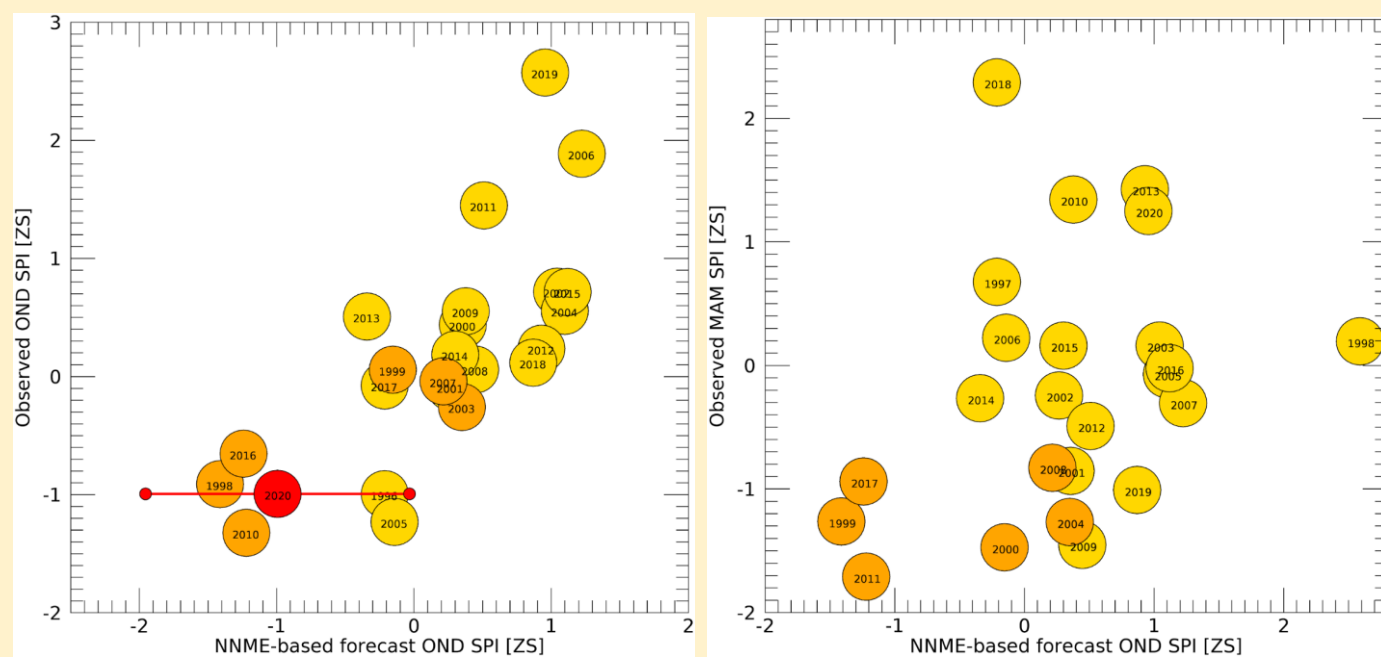
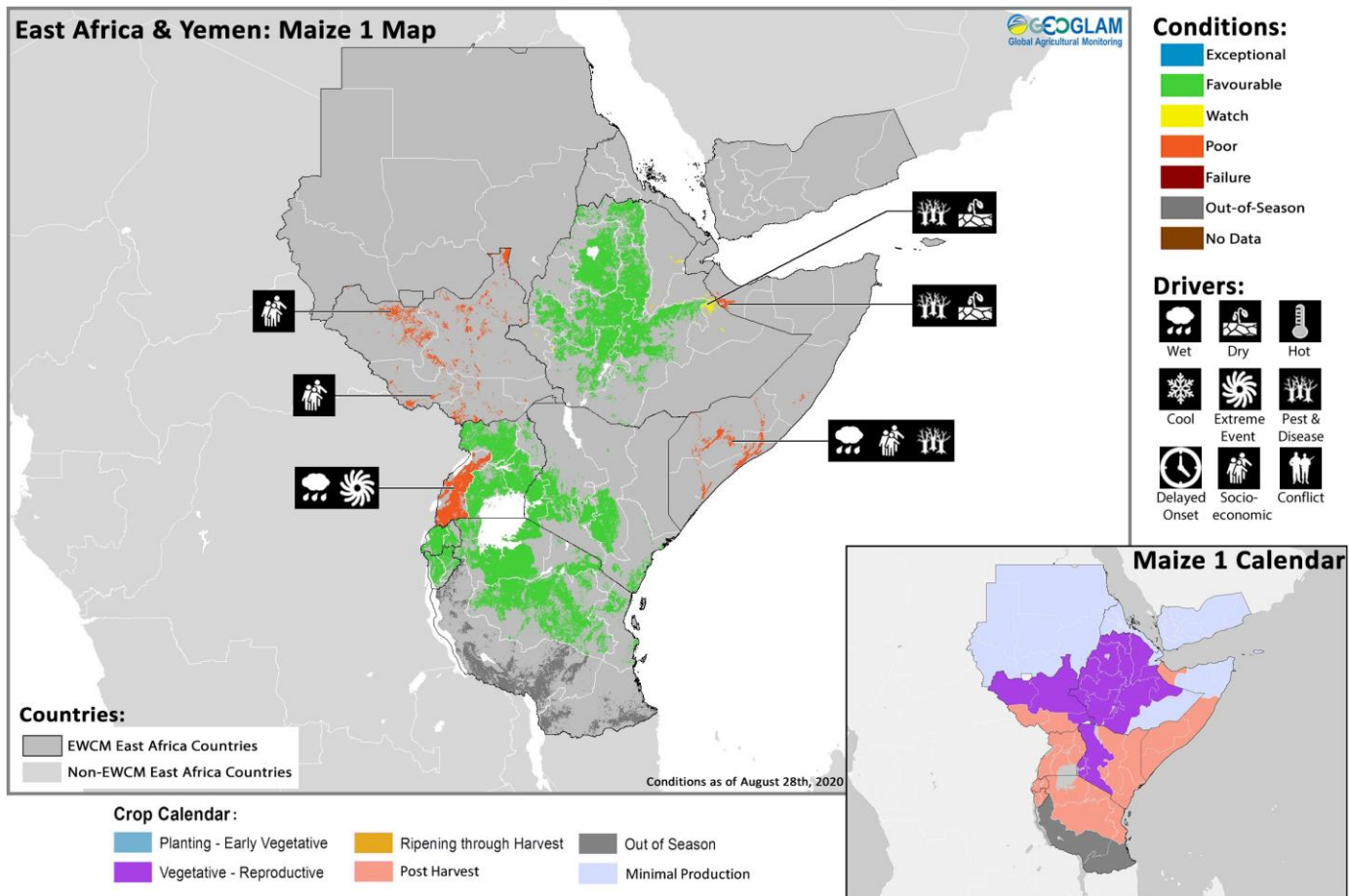


Figure 1. (left) A scatterplot showing predicted (5-month lead) OND eastern East Africa Standard Precipitation Index values (SPI) and observed OND SPI values (circles). As described [here](#) the forecast is based on a regression between predicted OND Indo-Pacific sea surface temperatures and East African OND rainfall. Orange circles identify OND analog seasons. The associated rainfall outcomes range from slightly below-normal to very poor. 2010 and 2016 stand out as the closest analog. Figure 2. (right) A scatterplot showing predicted (5-month lead) OND eastern East Africa Standard Precipitation Index values (SPI) and observed MAM SPI values (circles). The MAM seasons following the analogs described in Figure 1 are indicated with orange circles.

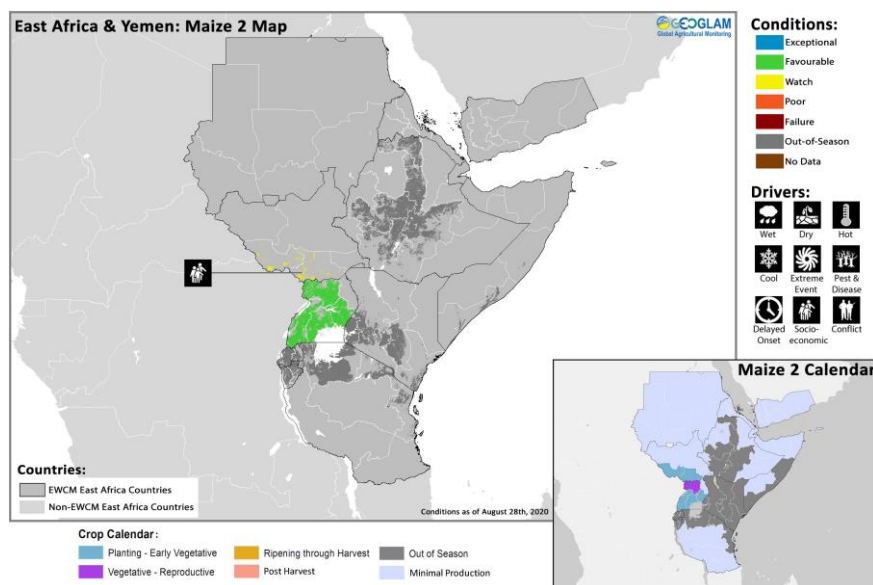
Source: UCSB Climate Hazards Center

East Africa & Yemen



Crop condition map synthesizing Maize 1 conditions as of August 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.**

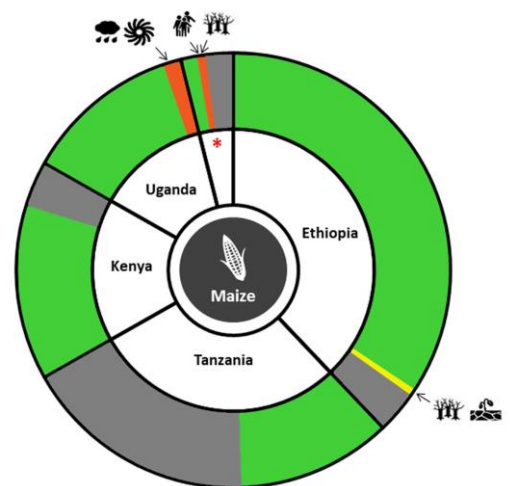
In East Africa, harvesting of 2020 main season cereal crops finalized in August in equatorial and southern parts of the region and northwestern **Somalia**. Final yields were favourable except in southern and central **Somalia**, northeastern **Kenya**, western and southwestern **Uganda** where flooding and desert locusts impacted crop yields, and **South Sudan** where production remains below pre-conflict levels. In northern unimodal rainfall areas and western **Kenya**, main season cereals are in vegetative to reproductive stage to be harvested from October, and crop conditions are generally favourable with some concern in **Sudan** and **Ethiopia** due to flooding and potential impact from desert locusts. In August, heavy rainfall continued over the Horn of Africa, resulting in flooding across southern parts of **Sudan**, southwestern and Afar region of **Ethiopia**, parts of **South Sudan**, western **Yemen**, and **Eritrea**. Forecasts indicate above-average rainfall is expected throughout the northwest parts of the regions through September and particularly over **South Sudan**, southern **Sudan**, central and northwestern **Ethiopia**, and **Eritrea** (See Regional Outlook pg. 8). This may increase the risk of flooding in some areas as river levels are high in southwest **Ethiopia** and around Lake Turkana in **Kenya**. Following this period of above-average rainfall, below-average rainfall and warmer than normal temperatures are forecasted from October to December (OND) for most parts of the region, including **Tanzania**, **Burundi**, **Rwanda**, and most of **Uganda**, **Kenya**, **Somalia**, and southern **Ethiopia** (See Regional Outlook pg. 8). In **Ethiopia**, harvesting of secondary *Belg* season cereals finalized in July and final production was below-average overall. *Meher* season cereals to be harvested from September are developing under favourable conditions, particularly in the southwest where yield prospects are favourable. There is concern in Gambella where flooding has affected cropping areas, in Afar where the combined effect of desert locust and flooding have affected planted crops, and in North Somali where dry conditions are impacting crop development; however, these areas do not contribute significantly to the *Meher* output. As a result of recent flooding in July and August, widespread displacement occurred in Afar, Somali, Oromia, SNNP, and Gambella regions, and crop damage resulted in some minor producing areas. The risk of additional flooding is high during the remainder of the *Kiremt* rainfall season (June-September) (See Regional Outlook pg. 8). However, the majority of *Meher* season output is grown on the highlands of Western Amahara, Western Oromiya, and Benishangul Gumuz where risk of flooding is low. Elsewhere, rainfall has been favourable for crop development; however, this has also benefitted the continuation of the desert locust outbreak as swarms have been reported in eastern Amhara and Tigray. In **Eritrea**, following a delayed start to the season in Gash Barka, improved rainfall in August benefitted planted crops, and conditions are favourable. However, the recent *kiremti* rainfall from late July to August has created favourable ecological conditions in the western lowlands for desert locusts, and swarms may increase as locusts move to their summer breeding areas. In **Sudan**, main season cereals to be harvested from November are now in vegetative to reproductive stage, and there is concern as abnormal heavy rainfall since late July caused water levels along the Blue and White Nile Rivers to rise. Over



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

180,000 people have been affected by the recent flooding, and Khartoum, Blue Nile, and River Nile are the worst affected states. Damage has also been reported in the Gezira, Gadarif, West Kordofan, and South Darfur regions. Additional heavy rainfall is expected through September in southern parts of the country which may increase the flood risk in these areas (See Regional Outlook pg. 8). Additionally, ongoing socio-economic challenges continue to impact agricultural activities. In unimodal areas of the western sector in **Kenya**, harvesting of main season crops finalized in August in the east. Overall conditions are favourable except in the marginal producing northeast due to locust damage and in areas where dry spells in May and June affected crop development, particularly in Garissa where the rains ceased early. Conditions are favourable for *Long Rains* crop maturation and harvesting. In the North Rift, *Long Rains* crops are in reproductive to maturity stage for harvest from October, and conditions are favourable with average yield

prospects. Crop production is expected at 10 to 15 percent above-average as these areas account for the majority of the *Long Rains* output. In response to COVID-19 disruptions, Nakuru County, one of the country's breadbaskets, launched the Agricultural Enterprises Support program which provides financial support to farmers to acquire farm inputs and materials to ensure production of staple crops such as maize and wheat. In **Uganda**, harvesting of first/main season crops finalized in August under mostly favourable conditions with average to slightly above-average yield prospects in the north; however, below-average production is expected in western and southwestern areas where flooding and waterlogging damaged an estimated 60 percent of planted crops. Conditions are favourable for the planting and development of second season maize crops to be harvested from mid-October. The threat posed by desert locusts has reduced, and only one swarm was reported to have crossed over from Kenya in August. Quarantine measures in response to COVID-19 are expected to have some impact on final production as some farmers were not able to plant as expected, and public transport restrictions made it difficult for agro-chemical traders to sell their products to farmers. In response to COVID-19 related constraints on access to inputs due to transport restrictions, the Government is supporting farmers' access to high-quality agricultural inputs, seeds, and fertilizers using e-vouchers. In **South Sudan**, harvesting of main season maize and sorghum finalized in August in Central Equatoria and Western Equatoria under favourable conditions. Final 2020 production has improved from the previous year due to favourable rainfall, increased cultivated area, and access to inputs and labour at the beginning of the season despite COVID-19 restrictions. However, production remains below pre-conflict levels, and ongoing insecurity in Central Equatoria may have localized impacts on production. In the north, main season cereals to be harvested from October are in vegetative to reproductive stage, and there is concern as flooding and waterlogging have affected agricultural fields and planted crops and could impact final production. Also, in Warrap and Jonglei states, inter-communal conflicts in some areas affected crop planting at the start of the season. In Central Equatoria and Western Equatoria, planting activities began in August for second season maize and sorghum crops to be harvested from December under favourable conditions. In **Somalia**, harvesting of *Gu* season cereals finalized in August, and final production was poor as March to May flooding followed by a prolonged dry spell in May damaged crops. Since the beginning of the year, extreme flooding has displaced over 650,000 people across the country according to UNHCR. In early August, additional flash and riverine flooding affected southern regions, primarily areas of Hirshabelle and South West State, and further flooding is likely as the Shabelle River water levels continue to rise. While June through July rainfall was favourable for late-planted crops, the combined impacts of flooding, desert locust presence, and constrained input access due to COVID-19 restrictions resulted in below-average production. Land preparation and planting of *Deyr* season crops will take place in mid-September. In northern bimodal areas of the **United**



For detailed description of the pie chart please see description box on pg. 16.

Republic of Tanzania, harvesting of *Masika* crops finalized in August under favourable conditions. Planting of *Vuli* season maize will take place in mid-September. In **Burundi** and **Rwanda**, harvesting of Season B crops finalized in August under favourable conditions. In **Rwanda**, land preparation is underway for Season A crops to be planted from September. In **Yemen**, main season sorghum and spring wheat crops are in vegetative to reproductive stage to be harvested from September, and there is concern due to ongoing conflict and socio-economic challenges. Additionally, heavy rainfall since late July continues to cause flash floods and damage, particularly in Marib, Hajjah, Raymah, Al Mahwit, and Al Hudaydah governorates.

Regional Outlook: Above-average rainfall is expected to continue across much of the region through September.

Rainfall since the start of the June-July-August-September (JJAS) long rains season has been average to above-average across much of the region. Average to above-average rainfall continued in August. In particular, torrential rains in mid-to-late August fell over Sudan, southeastern South Sudan, central and northern Ethiopia, and Uganda. Above-average rainfall throughout much of the JJAS season has resulted in flooding in numerous areas throughout the region, most recently in south Darfur, North and West Kordofan, Al Jazirah, Khartoum, Kassala, Blue Nile, the Red Sea States of Sudan, and southwestern and the Afar region of Ethiopia.

Both the 15-day and 1-month (Figure 1-middle) forecasts indicate above-average rainfall is expected throughout the northwestern parts of the region, particularly in northern D.R.C., South Sudan, southern Sudan, central and northwestern Ethiopia, and Eritrea. Figure 1-left indicates how the 15-day forecast would contribute to JJAS long rains seasonal totals, with average to significantly above-average rainfall recorded throughout the region. As the long rains season peaks and begins to tail into the October-November-December (OND) short rains season, we see a stark contrast in the anticipated rainfall (Figure 1-right). Seasonal forecasts from NMME and the Greater Horn of Africa 56th [Climate Outlook Forum](#) indicate the high likelihood of below-average OND rainfall across much of the region (See Seasonal Forecast Alert pg. 5).

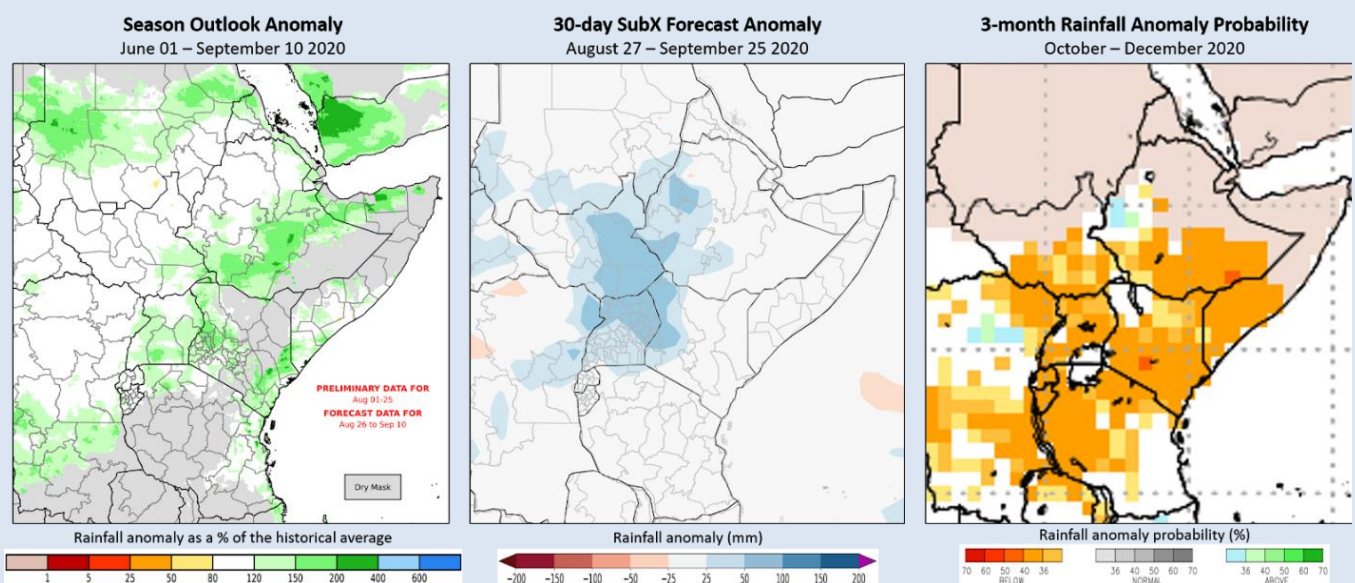
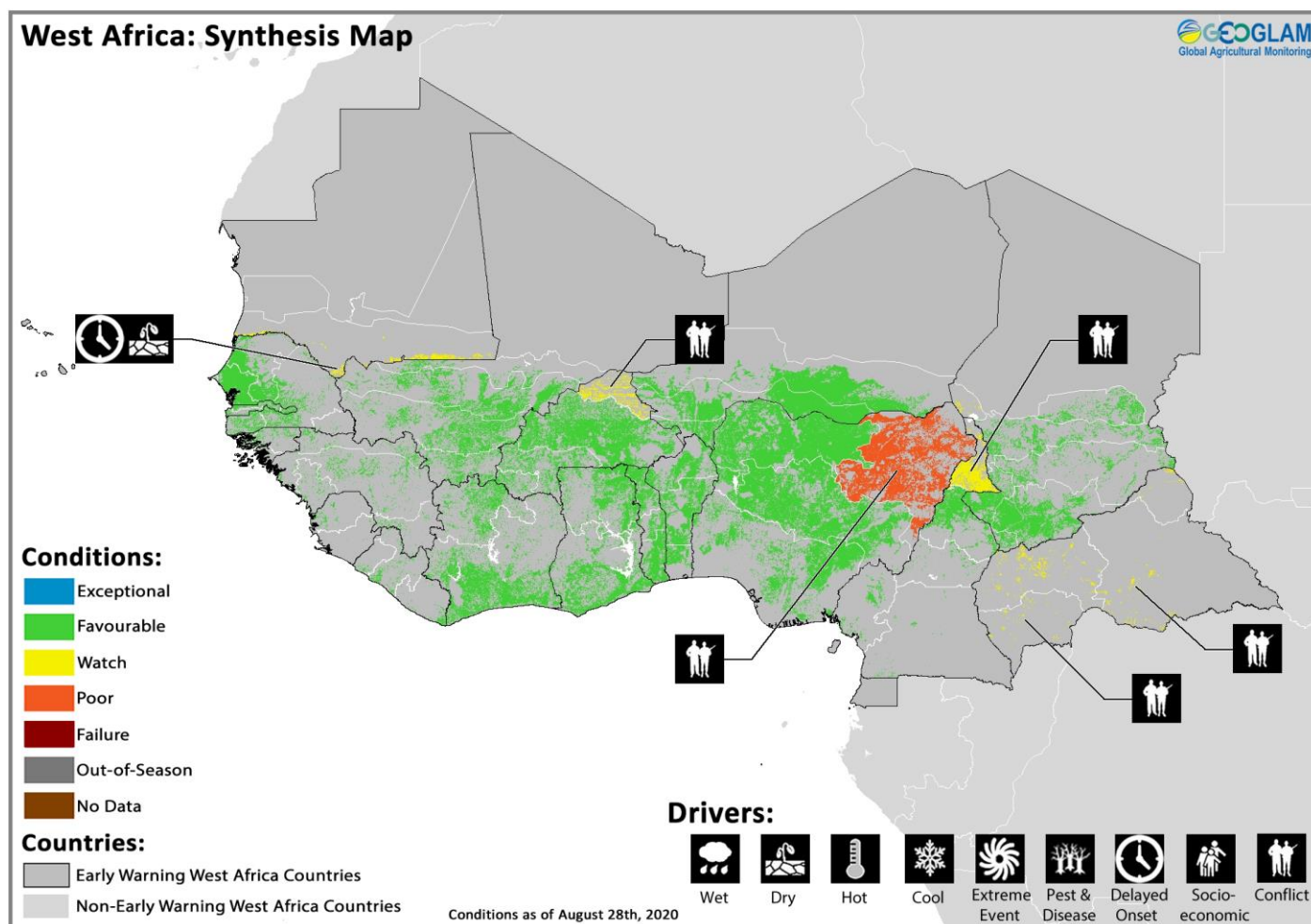


Figure 1. Estimated and forecast percent-of-average anomaly since June 1st, a 30-day rainfall anomaly forecast, and a 3-month probabilistic rainfall forecast. The left panel is a UCSB Climate Hazards Center Early Estimate, which compares 2020 rainfall amounts to the 1981-2019 CHIRPS average. This figure indicates what the post-June 1st percent-of-average anomaly would be if the 15-day unbiased GEFS forecast from August 26th materializes. The middle panel is a 30-day forecast from August 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 right panel is a 3-month NMME probabilistic forecast for October to December based on August conditions.

Source: UCSB Climate Hazards Center.

West Africa



Crop condition map synthesizing information as of August 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 half of the subregion, harvesting of main season maize is underway in **Benin, Burkina Faso, Cameroon, Cote d'Ivoire, Ghana, Liberia, Nigeria, Sierra Leone, and Togo** and will finalize in September. Harvesting of second season maize crops began in **Cameroon** while planting and development of second/off season maize and rice crops continued in **Nigeria, Benin, Cote d'Ivoire, Ghana, and Togo**. Across the north of the region and in **Guinea, Ghana, Togo, Guinea-Bissau, Cote d'Ivoire, and Benin**, main season sorghum and millet crops are developing under favourable conditions, and harvest activities will begin in September. Overall conditions are favourable except in **Mauritania** where below-average rainfall and moisture deficits are impacting main season cereals, in areas bordering the **Niger** valley due to flooding, and in northern **Burkina Faso, Cameroon's** Far North Region, the **Central African Republic, Chad's** Lac Region, and northeast **Nigeria** where ongoing conflict is impacting agricultural activities and limiting access to fields. Localized production shortfalls of main season cereals are likely to occur in the Sahel and North Central regions of **Burkina Faso**, North and Central regions in **Mali**, and Diffa, Tahoua, and Tillabery regions in **Niger** due to persisting conflict. Above-average rainfall since the beginning of June has resulted in positive anomalies across **Guinea, Mali**, parts of **Burkina Faso**, southern **Niger**, and northern **Nigeria**. While increased rainfall since late July has improved vegetation conditions over much of the Sahel, heavy rainfall in July and early August resulted in flooding in the Niger River Basin throughout **Niger, Mali, Nigeria**, southern **Chad**, and **Cameroon**. Localized production shortfalls may occur in areas bordering the **Niger** valley due to flooding, and flood risk remains high as above-average rainfall is forecast to continue in the north through September (See Regional Outlook pg. 10). Conversely, in August, below-average rainfall was received over **Liberia, Cote D'Ivoire, Ghana, Togo, Benin**, and southwestern **Nigeria**, and dryness is forecast to continue along the coast of **Guinea** through September (See Regional Outlook pg. 10).

Regional Outlook: Above-average rainfall expected through September across much of the Sahel

Late-July to late-August rainfall conditions have thus far retained many of the patterns observed in June and July: highly variable: average to above-average rainfall in the northern and eastern parts of the region and below-average rainfall along the Guinea Coast (Figure 1-left). Above-average rainfall in the northern and eastern parts of the region has provided generally favourable conditions for cropping and pastoral practices. However, saturated soils, coupled with several instances of torrential rains, have led to flooding in Niger, northern Nigeria, Mali, southwest Cameroon, and Chad. In contrast, limited and below-average precipitation since June has continued along the Gulf of Guinea, with seasonal rainfall totals less than 80% of the historical average in Cote d'Ivoire, southern Ghana, southern Togo, southern Benin, and southern Nigeria.

The 15-day forecast indicates above-average rainfall is expected in Senegal, northern Ghana, Mali, northern Burkina Faso, Niger, and southern Nigeria. In contrast, limited rainfall (<50 mm) is expected over the Guinea Coast countries, further increasing the June-to-present seasonal deficit (Figure 1-middle). The 30-day forecast (Figure 1-right) indicates above-average rainfall in the north, and average to below-average rainfall in the south is likely to continue through September.

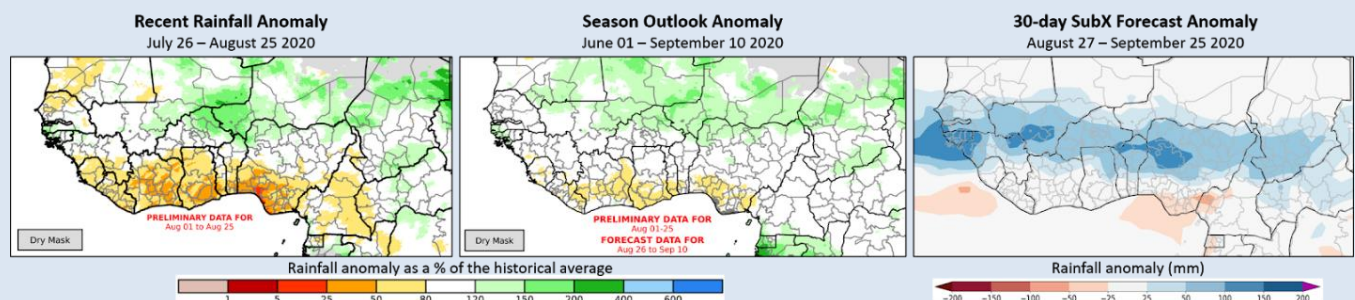
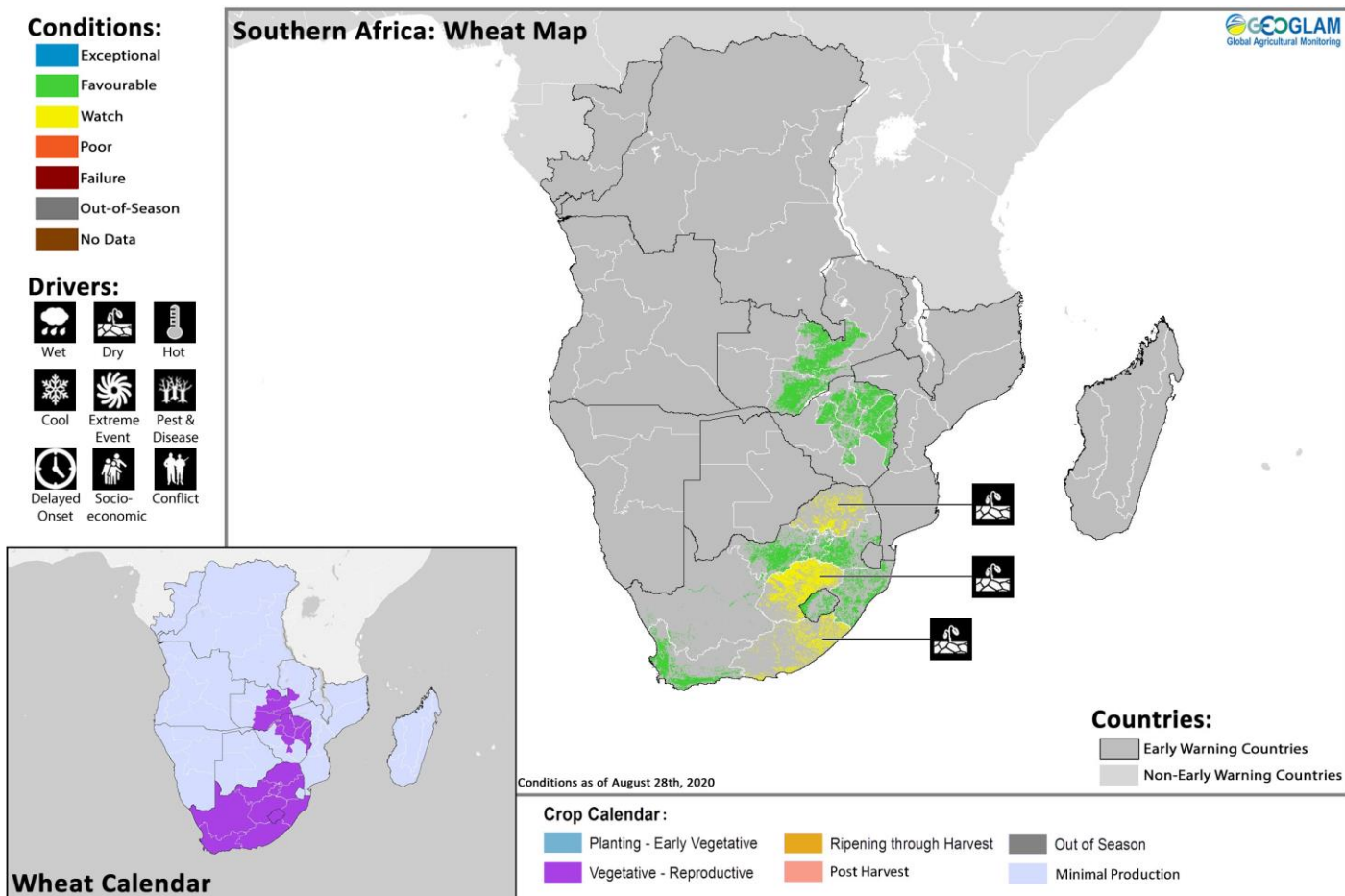


Figure 1. Estimated percent-of-average anomaly for July 26st to August 25th, estimated and forecast percent-of-average anomaly since June 1st, and a 30-day rainfall anomaly forecast. The left and middle panels are UCSB Climate Hazards Center Early Estimates. They compare 2020 rainfall amounts to the 1981-2019 CHIRPS average. The left panel shows the estimated percent-of-average anomaly from July 26st to August 25th. The middle panel indicates what the post-June 1st percent-of-average anomaly would be if the 15-day unbiased GEFS forecast from August 26th materializes. The right panel is a 30-day forecast from August 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.

Middle East & North Africa

In the Middle East and North Africa, the 2019-2020 winter cereal harvest finalized last month, and planting will start from October. In Egypt, conditions are favourable for summer-planted maize and rice crops which are in vegetative to reproductive stage to be harvested from September. Planting continued for *Nili* season rice crops for harvest from October, and conditions are favourable.

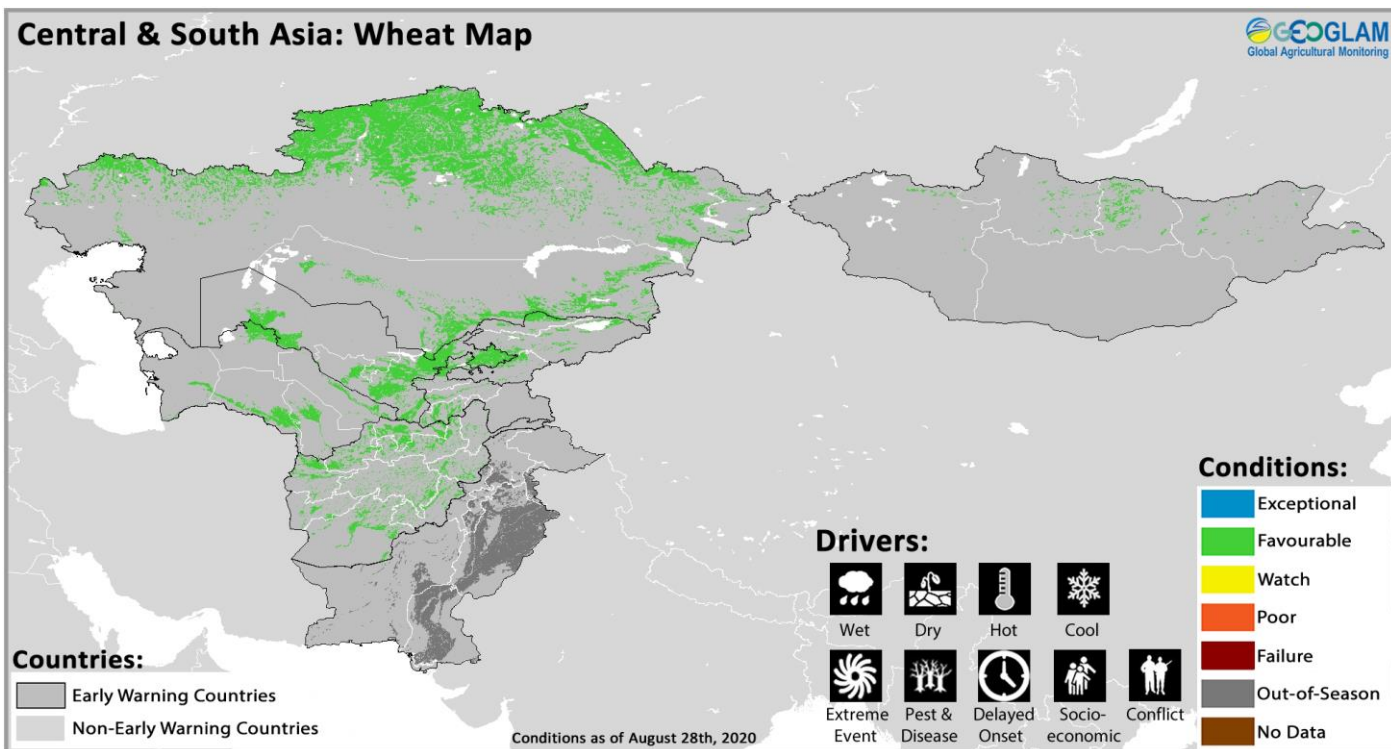
Southern Africa



Crop condition map synthesizing information as of August 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.**

Winter wheat crops to be harvested from September are developing under generally favourable conditions in **Lesotho, South Africa, Zambia, and Zimbabwe** with some areas of concern due to dryness. In **Zimbabwe**, while conditions are favourable for the development of winter wheat to be harvested from September, there is growing concern as decreased dam levels may have had a negative impact on irrigated crops. In **Zambia**, conditions are favourable and average production is expected. While current load shedding is a concern as it is affecting electricity supply for irrigation activities, it is expected to have minimal impact on production outcomes. In **Lesotho**, conditions are favourable and production is likely to exceed the average. In **South Africa**, planting of winter wheat crops was completed in June and will be harvested from October, and overall conditions are favourable with some minor concern in Limpopo, Free State, and Eastern Cape due to dryness. Recent crop estimates indicate a decrease in planted area in all provinces except in Eastern Cape and Gauteng with an overall modest decrease in planted area compared to the five-year average. However, an expected increase in yields is likely to more than compensate for the contraction in plantings, and as a result, production is forecast at an above-average level. In the **Democratic Republic of Congo**, harvesting of second season maize crops will finalize in mid-September in the east, and there is concern as crop production has been significantly affected by heavy rainfall and flooding from April. Harvest activities have also been affected by flooding, COVID-19 related movement restrictions, and ongoing conflict. Between January and May 2020, torrential rains in the eastern part of the country in Tanganyika, Haut-Lomami, Haut-Katanga, and Lualaba provinces flooded 12,000 hectares of agricultural lands and displaced 60,000 people. The Ruzizi Plain suffered significant crop losses as 75 percent of its 15,000 hectares of crops were lost. As a result, second season maize production in the east is expected to be below-average. Elsewhere, conditions are favourable for the continued planting and development of main season cereals. In north and central regions, average to above-average rainfall over the past few decades has been favourable for the development of main season maize crops to be harvested from October.

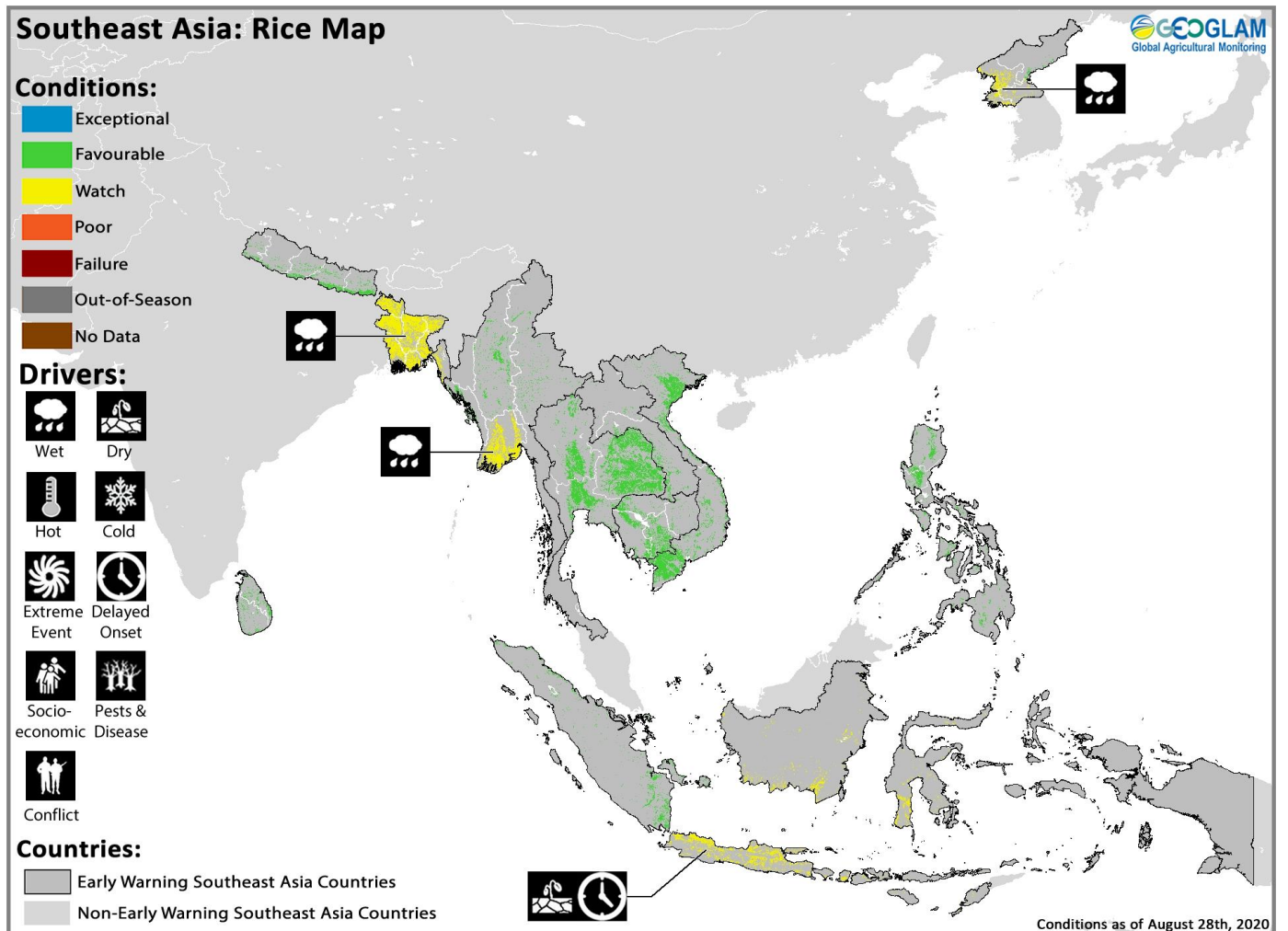
Central & South Asia



Crop condition map synthesizing information as of August 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.**

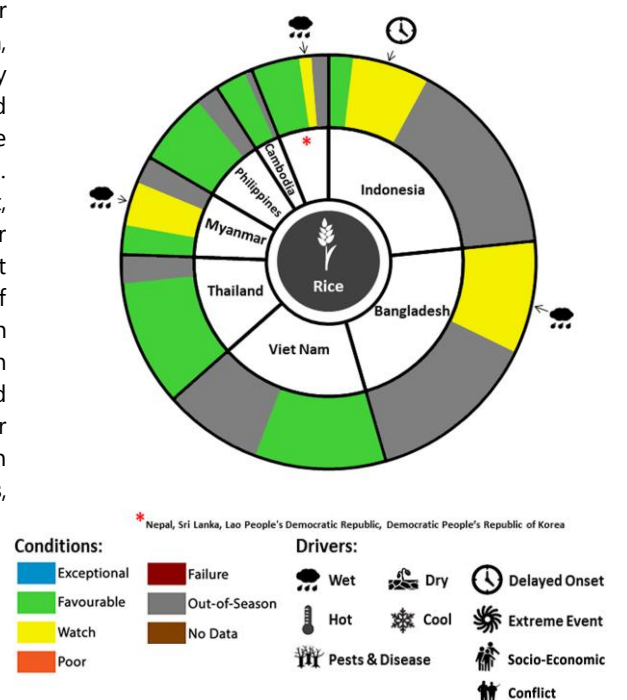
Across Central Asia in **Afghanistan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan**, harvesting of winter wheat finalized in August, and production was generally favourable. In **Kyrgyzstan** and **Turkmenistan** in particular, adequate and well-distributed rainfall throughout the season was beneficial for crop development. Harvesting of spring wheat began in August in **Afghanistan, Kazakhstan, Tajikistan, Turkmenistan, and Uzbekistan** while spring wheat crops are in vegetative to reproductive stage to be harvested from September in **Kyrgyzstan** and **Mongolia**, and overall conditions are favourable. In **Kyrgyzstan**, the aggregate 2020 wheat output is forecast to be slightly higher than the previous year's reduced level at 618,700 tonnes but still below the five-year average due to below-average plantings. In **Turkmenistan**, the aggregate 2020 wheat output is forecast at 1.4 million tonnes, which is below the 2019 high level due to a ten percent reduction in plantings in favour of more profitable cotton. However, aggregate wheat production is forecast to be six percent above the five-year average due to the use of high yield seeds and favourable weather conditions throughout the season. In **Kazakhstan**, harvest is complete for the minor winter wheat crop, which makes up five percent of total output, and harvest for spring wheat will finalize in September. Despite the above-average planted area, total wheat output is estimated at 13 million tonnes, five percent below the five-year average, as drier and warmer-than-average conditions in May and June negatively affected crops in some regions. In the second dekad of August, below-normal precipitation in the north slightly delayed harvesting activities; however, crop conditions remained generally favourable throughout the country. In **Afghanistan**, harvesting of winter wheat crops finalized in August, and final production was favourable due to timely and well-distributed rains throughout the season in many areas and above-average planted area and despite dry mid-season conditions in parts of the north and northeast. Conditions are also favourable for the harvesting of spring wheat crops which started in August and will finalize by October. Heavy rainfall at the end of August caused flash flood events in the northeast and resulted in some localized damage; however, impact on spring wheat crops was limited. In addition, COVID-19 mitigation measures have disrupted already challenging access to agricultural inputs, fuel, and labour. The lack of access to certified and quality seeds and the high price of fertilizers is causing concern for the upcoming planting of winter wheat from October. In **Mongolia**, spring wheat and barley crops are in vegetative to reproductive stage to be harvested in October, and overall conditions are favourable. In **Pakistan**, main season rice crops are in vegetative to reproductive stage to be harvested from October, and overall conditions are favourable. Heavy monsoon rainfall resulted in flooding and damage in Balochistan and Sindh provinces and landslides in Sindh province, including the provincial capital, Karachi. The good rainfall favoured locust development; however, control operations are underway.

Southeast Asia



Crop condition map synthesizing rice conditions as of August 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, wet-season rice is developing under favourable conditions, and harvest activities have begun in **Cambodia**, **Philippines**, and southern **Viet Nam**. Tropical storms brought heavy rainfall from the end of July to the beginning of August which alleviated drought conditions, and above-average rainfall is forecast to continue over much of the region through November (See Regional Outlook pg. 14). In **Indonesia**, harvesting of dry-season rice continued into August, and harvested area is currently 2.5 percent lower than the previous year at 2.1 million hectares. Yields are expected to be slightly lower than last year due to less rainfall received during the growing season. Sowing of dry-season rice continues behind schedule and is now in the fifth month due to the protracted wet-season rice harvest. However, production prospects are favourable as rainfall since May has been near-average, and average to above-average rains are likely to continue through November (See Regional Outlook pg. 14), benefitting water availability for irrigation and increasing soil moisture reserves in rainfed areas. In the **Philippines**, wet-season rice is developing under favourable conditions, and crops sown earlier in April to May are undergoing harvest. In **Thailand**, conditions are favourable for the development of wet-season rice crops in the tillering stage. Tropical storm Sinlaku brought minor flooding to the north and northeast regions but left no significant damage to rice fields. In **Viet Nam**, harvesting of wet-season (summer-autumn) rice in the south is ongoing under favourable conditions with slightly lower yields compared to last year due to drought. In the north, wet-season (summer-autumn) rice is in the sowing to tillering stages under



For detailed description of the pie chart please see description box on pg. 16.

favourable conditions. In **Laos**, wet-season rice is in tillering to young panicle forming stage under favourable conditions. Heavy rain in early July caused some flood damage in northern regions, and drought has affected central and southern regions, though no crop damage has been reported. In **Myanmar**, planting of wet-season rice reached 70 percent of the national plan of 4.1 million hectares in August. Monsoon rains at the end of July benefitted planting activities; however, flooding occurred in most areas, particularly in lower Myanmar and river basin areas. The floods damaged 7,700 hectares of wet-season rice crops, and replanting occurred in some areas. In **Cambodia**, stable rainfall benefitted the planting of wet-season rice, and growing conditions are favourable with limited damage in the northwest and southwest due to drought. Harvesting of early planted wet-season rice has reached 16 percent of cultivated area, and yield is estimated to be similar to the previous year at 4.15 tonnes per hectare. In **Sri Lanka**, harvesting of minor season *Yala* rice and second season maize crops began in August and will finalize in October, and overall conditions are favourable. In **Bangladesh**, planting activities continued for Aman season rice crops to be harvested from November, and there is concern due to recent flooding. Monsoon rainfall since late June has inundated districts in north, northeast, and southeastern regions where 125,549 hectares of crops were flooded, and 41,918 hectares of crops were completely damaged. Agricultural activities are suspended in areas impacted by monsoon flooding as heavy rainfall inundated cultivated land and damaged seedbeds. In response to COVID-19 disruptions, the Government has announced a stimulus package that includes loans and subsidies for farmers to promote production for the current harvesting season. In **Nepal**, harvesting of main season maize crops began in August and will finalize in September, main season rice crops are in vegetative to reproductive stage to be harvested from November, and overall crop conditions are favourable. In the **Democratic People's Republic of Korea**, harvesting of main season maize is underway and will finalize in September, while harvesting of main season rice crops will start in September. There is significant concern in the southern provinces due to heavy rains and floods in mid-August and damage from strong winds and rains from Typhoon Bavi. In early August, heavy rainfall resulted in landslides and flooding across the Korean peninsula, damaging 39,296 hectares of farmland, particularly in the North Hwanghae and Kangwon. On August 27th Typhoon Bavi made landfall near Pyongyang, bringing heavy rains and winds to the main producing areas of North Hwanghae and South Hwanghae and damaging standing crops.

Regional Outlook: Likelihood of above-average rainfall to continue into September

Rainfall from late-July to late-August was average to above-average across much of the region, with monthly totals ranging from 120-200% of average in Myanmar, Thailand, northern Laos, northern Vietnam, Malaysia, Indonesia, and the Philippines (Figure 1-left). This increase in rainfall was particularly beneficial in the northern areas of the region where the wet season rainfall had been well-below-average since April. However, rains returned to below-average throughout the region in late August.

The 15-day forecast indicates below-average rainfall is expected to continue through the end of August, particularly in the north. Figure 1-middle indicates how the forecasted rainfall could contribute to increasingly below-average seasonal totals in Laos, central and southern Vietnam, and the northern Philippines (Figure 1-middle). Overall, the below-average rainfall forecast for August is unlikely to have a significant effect on rice growth. Meanwhile, dry season rainfall conditions have been favourable in the south. Lastly, the 3-month forecast indicates an increased likelihood of above-normal rainfall over much of the region from September to November (Figure 1-right).

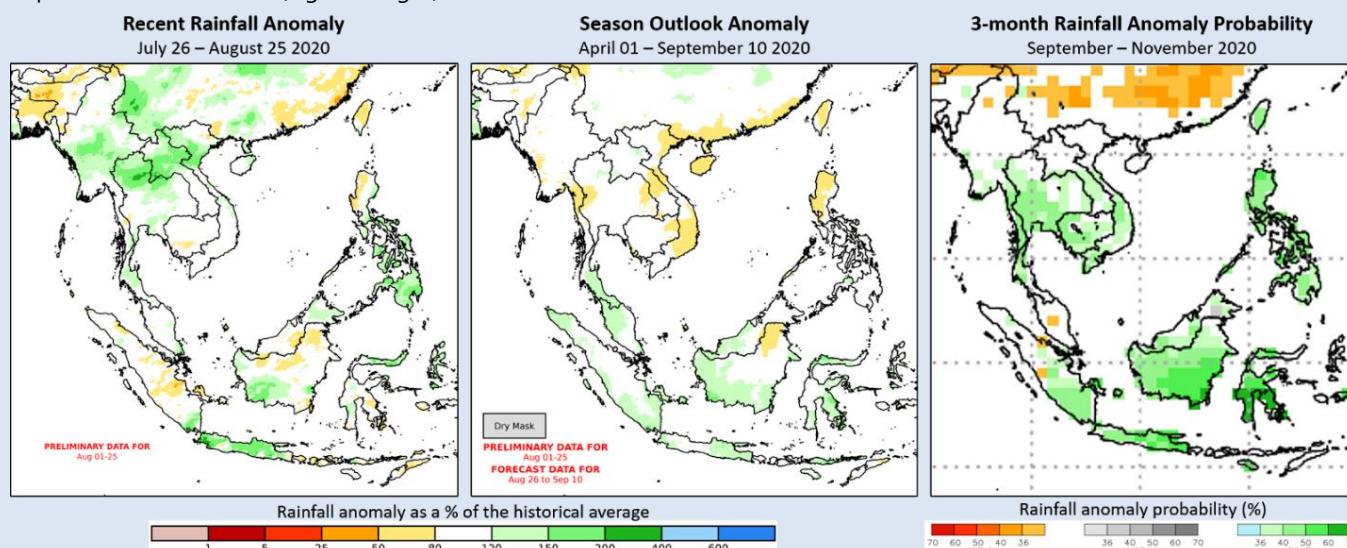
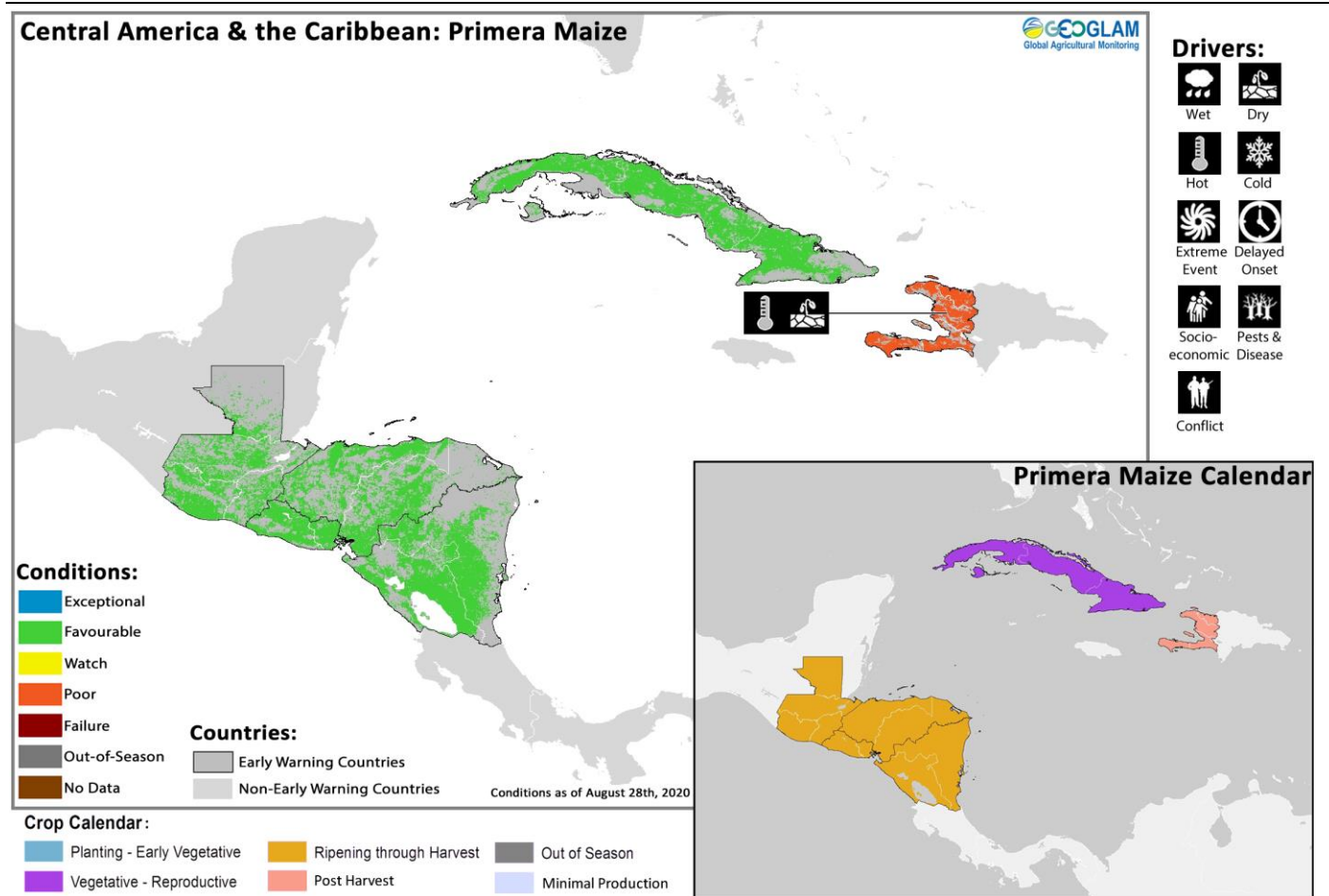


Figure 1. Estimated percent-of-average anomaly for July 26th to August 25th, estimated and forecast percent-of-average anomaly since April 1st, and a 3-month probability forecast. The left and middle panels are UCSB Climate Hazards Center Early Estimates. They compare 2020 rainfall amounts to the 1981-2019 CHIRPS average. The left panel shows the estimated percent-of-average anomaly from July 26th to August 25th. The middle panel indicates what the post-April 1st percent-of-average anomaly would be if the 15-day unbiased GEFS forecast from August 26th materializes. On the right is the 3-month NMME experimental probabilistic forecast for September to November 2020, based on August 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).

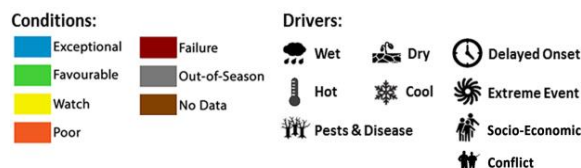
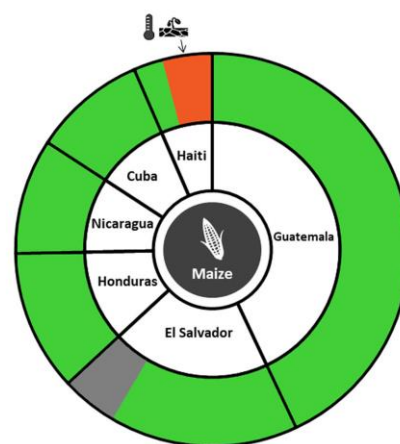
Source: UCSB Climate Hazards Center.

Central America & Caribbean



Crop condition map synthesizing information as of August 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, harvesting of most *Primera* crops continued in **El Salvador, Guatemala, Haiti, Honduras, and Nicaragua** and will finalize in September. Overall conditions are favourable except in **Haiti** where dry conditions throughout the season and flooding from Tropical Storm Laura impacted crops in localized areas. In parts of **Guatemala** and **El Salvador** that already completed harvest of *Primera* season crops, land preparation and planting of *Segunda/Postera* season crops started in August to be harvested from November, and overall conditions are favourable due to sufficient soil moisture. Elsewhere, planting will begin in the second week of September. Forecasts indicate above-average rainfall is expected for the start of the *Postera* season from September through November (See Regional Outlook Pg. 16). Additionally, current oceanic and atmospheric conditions in the Atlantic Basin are expected to lead to an active hurricane season. There is an 85 percent chance that the hurricane season from June to November will result in more, stronger, and longer-lasting storms than average, with an estimated 19-25 named storms of which 7-11 will become hurricanes with 3-6 major hurricanes. In **Guatemala**, despite below-average precipitation in July, *Primera* season crop conditions are favourable due to improved precipitation in August (See Regional Outlook pg. 16) except in the central-eastern area, and crop yields are average. In **El Salvador, Honduras, and Nicaragua**, overall conditions are favourable for the harvesting of *Primera* season crops with average yields expected. In **El Salvador**, soil moisture is slightly saturated in the eastern area due to continuous above-average rainfall; however, this is expected to be beneficial for *Postera* planting. In **Haiti**, below-average yields are expected for *Primera* season crops, currently being harvested, as dry conditions and irregular rainfall distribution have affected crop development. Tropical Storm Laura passed Haiti on August 23rd, bringing heavy rain and flooding to Ouest, Nord-Est, Sud-Est, south Artibonite, Grand’Anse, Nippes, Nord-Ouest, and Centre departments; however, most flooding was



For detailed description of the pie chart please see description box on pg. 16.

concentrated in the Sud-Est department where limited crop damage resulted. The increased precipitation since July has improved previous dry conditions due to increased irrigation water availability. Additionally, planting of second season crops continued in August to be harvested from October under favourable conditions. In **Cuba**, conditions are favourable for the development of main season crops due to average precipitation.

Regional Outlook: Above-average rainfall expected to continue across the region in September

August rainfall has been average to above-average throughout the southwestern parts of the region, while rainfall in the northeast was below-average (Figure 1-left). Of note, positive rainfall anomalies exceeded 120% in Guatemala, Honduras, and southwestern and eastern Nicaragua and were less than 80% of the historical average in Costa Rica, Cuba, and Haiti. Heavy rainfall did occur in late-August over much of the western coastline of Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, and Panama.

The 15-day forecast indicates heavy, above-average rainfall is expected throughout the southwestern parts of the region, while conditions are expected to stay below-average in Cuba and Haiti. Given the above-average rainfall from the previous two weeks, this forecasted rainfall has raised some concern regarding the potential for flash floods and mudslides in the area, particularly in Guatemala, western Nicaragua, and Panama. Figure 1-middle indicates how this anticipated rainfall would impact the April-to-present rainfall totals which, overall, have been average to above-average. The 3-month forecast indicates an increased likelihood of above-normal rainfall across much of the isthmus, particularly in the southwest. The forecast is generally inconclusive (indicated by white) in Cuba and Haiti.

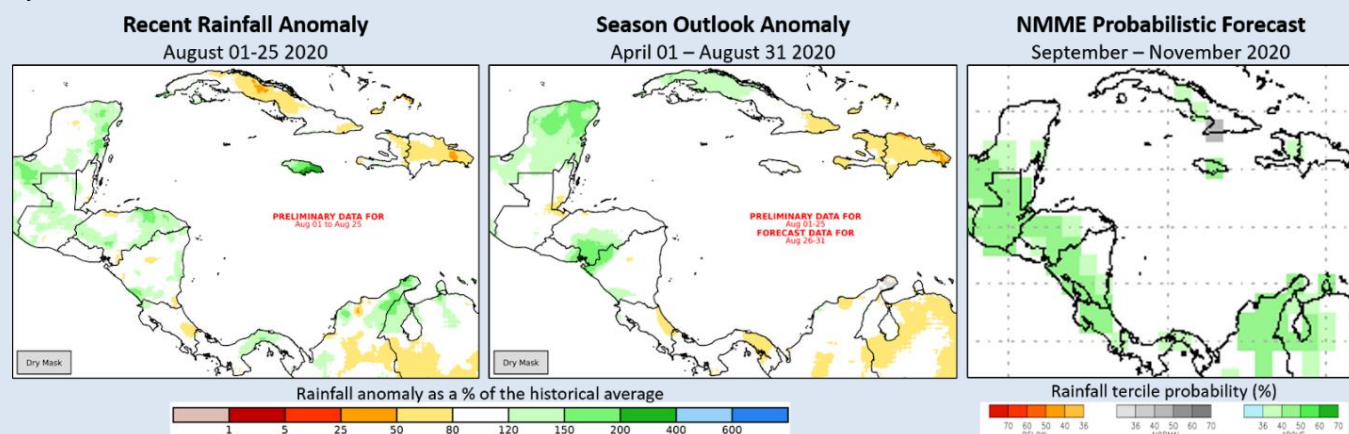


Figure 1. Estimated percent-of-average anomaly for August 1st to 25th, estimated and forecast percent-of-average anomaly since April 1st, and a 3-month probability forecast. The left and middle panels are UCSB Climate Hazards Center Early Estimates. They compare 2020 rainfall amounts to the 1981-2019 CHIRPS average. The left panel shows the estimated percent-of-average anomaly from August 1st to August 25th. The middle panel indicates what the April-to-August percent-of-average anomaly would be if the 5-day unbiased GEFS forecast from August 26th materializes. On the right is the 3-month NMME experimental probabilistic forecast for September to November 2020, based on August 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.

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 September 3rd, 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 & 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



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Cover Photo by Christina Justice

Contributing partners



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