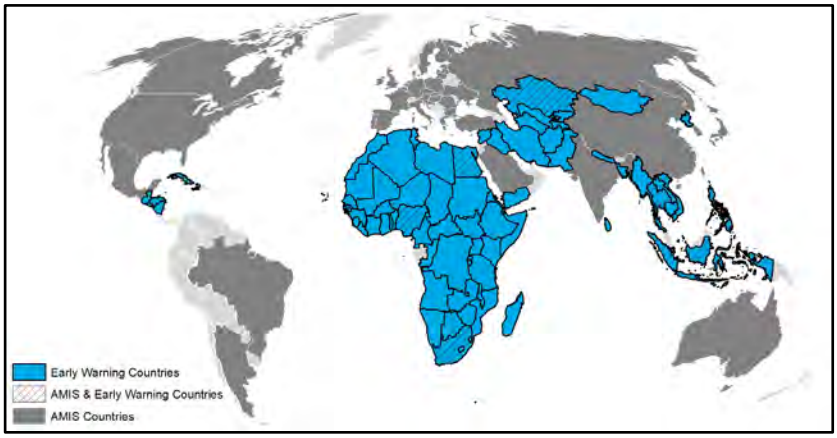
GEOGLAM
Global Agricultural Monitoring

Crop Monitor EARLY WARNING

Overview:

In **East Africa**, production prospects for 2020 main season cereals are favourable, except in areas where conflict, flooding, and desert locusts impacted agricultural activities. Harvest is complete for the secondary *Belg* season maize crops in Ethiopia and poor production resulted. In **West Africa**, harvesting of main season cereal crops began in the south while planting activities continued in the Sahel, and overall crop prospects are favourable. In **North Africa**, harvesting of wheat and barley crops finalized in July, and below-average production resulted in Morocco and parts of Algeria and Tunisia where crops were unable to recover from seasonal drought and high temperatures. In the **Middle East**, harvesting of wheat crops finalized in July, and final yields were favourable except in areas affected by conflict. In **Southern Africa**, winter wheat crops are developing under favourable conditions, and planting of main season cereal crops continued in the Democratic Republic of Congo. In **Central and South Asia**, conditions are favourable for the harvesting of winter wheat crops and development of spring wheat crops. In northern **Southeast Asia**, growing conditions for wet-season rice are generally favourable and have improved from early-season dryness. In Indonesia, there is a small reduction in wet-season rice yields and output due to drought. In **Central America and the Caribbean**, overall conditions are favourable for the development of *Primera* season crops to be harvested in September, except in Haiti where drought and pest damage are likely to affect yields.



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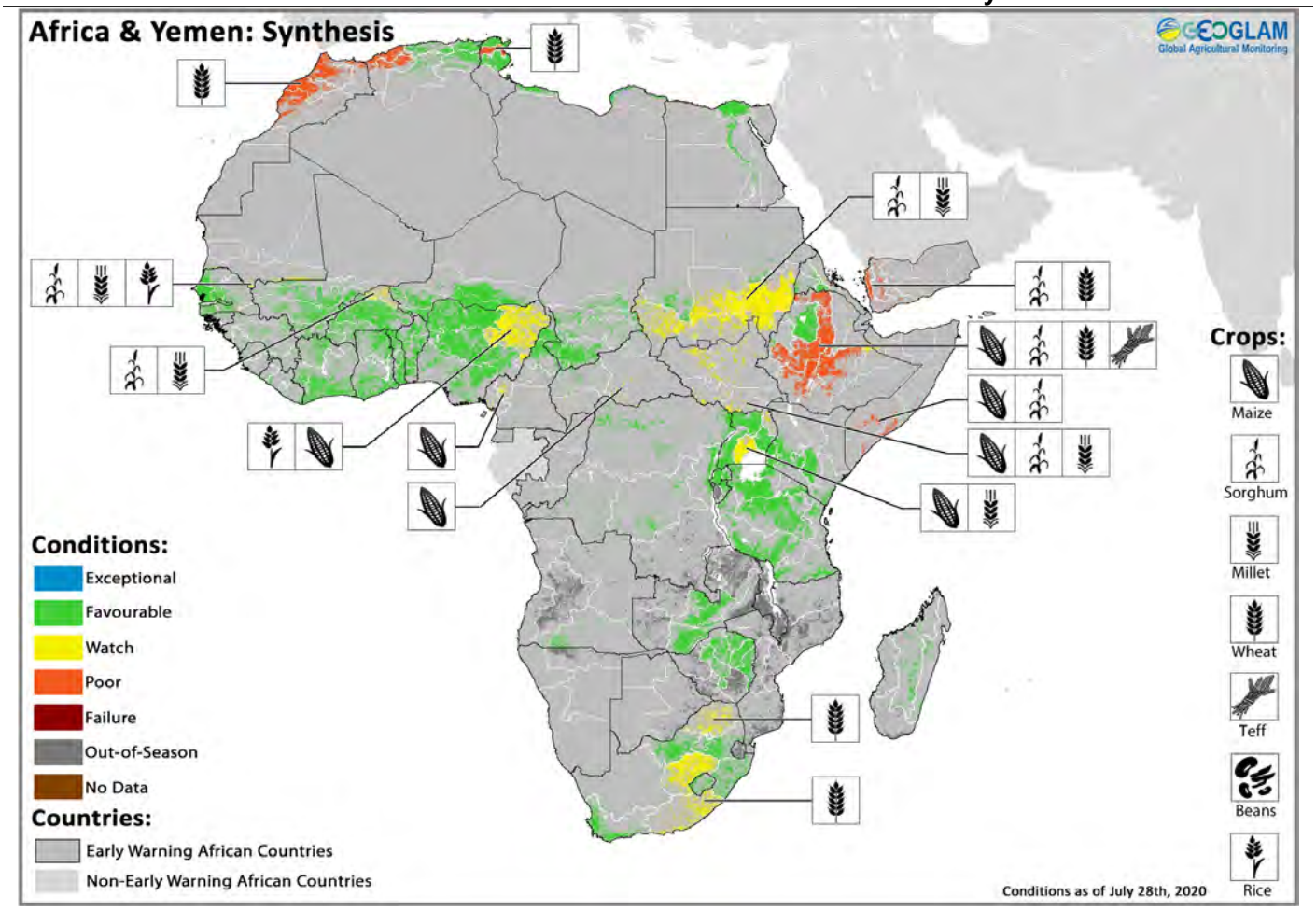
GEO GROUP ON EARTH OBSERVATIONS

GEOGLAM Crop Monitor for Early Warning

Crop Conditions at a Glance

based on best available information as of July 28th



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

EAST AFRICA: First/Main season cereals in the northern unimodal rainfall areas and in West and Rift Valley provinces of Kenya are in vegetative to reproductive stage, while harvest activities began in equatorial and southern parts of the region and will be concluded in August. Production prospects are favourable, except in areas where conflict, flooding, and desert locusts impacted agricultural activities. In Ethiopia, harvest of secondary *Belg* season crops is complete and cereal production is estimated at below-average levels.

WEST AFRICA: Early harvest activities of main season cereal crops began in the south while planting continued in the Sahel. Despite average to above-average rainfall likely resulting in good yields, there is some concern due to potential impacts of ongoing conflict, COVID-19 disruptions, pests, and rainfall deficits in southern coastal regions.

MIDDLE EAST & NORTH AFRICA: In North Africa, final yields and production for wheat and barley was 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, final yields for wheat crops were favourable except in Syria where conflict impacted agricultural activities and high temperatures affected crop development.

SOUTHERN AFRICA: Winter wheat crops are in vegetative to reproductive stage in Lesotho, South Africa, Zambia, and Zimbabwe, planting of main season cereal crops continued in the Democratic Republic of Congo, and overall conditions are favourable.

CENTRAL & SOUTH ASIA: Harvesting of winter wheat crops will finalize in mid-August, and favourable weather conditions are likely to result in near-average yields. Spring wheat is developing under favourable conditions, except in marginal producing areas of northern and western Kazakhstan where there is some concern due to high temperatures and erratic rainfall.

SOUTHEAST ASIA: In the north, growing conditions for wet-season rice are generally favourable, except in places where early season drought remains a concern. In Indonesia, harvesting of wet-season rice is nearing completion with a small reduction in yields and output due to drought. Sowing of dry-season rice continues slightly behind schedule.

CENTRAL AMERICA & CARIBBEAN: Overall conditions are favourable for the development of *Primera* season crops to be harvested in September, except in Haiti where drought and pest damage are likely to affect yields. Planting activities for second season cereals began in Haiti under favourable conditions.

Global Climate Outlook: 3-month Probabilistic Precipitation Forecast for August to October 2020

The 3-month NMME experimental probabilistic forecast for August to October 2020 indicates a probability of above-average rainfall over the eastern Canadian Prairies, US northern Great Plains, southern Mexico, Central America, Haiti, Romania, Sahel West Africa, Ethiopia, Sudan, South Sudan, Uganda, western Kenya, eastern DRC, India, southern and northern China, Japan, Thailand, Laos, Vietnam, Indonesia, and southern and eastern Australia. There is a probability of below-average rainfall across southern Chile, southern Argentina, central Brazil, Portugal, Spain, Greece, Turkey, northern Morocco, northern Algeria, northern Tunisia, the southern coast of West Africa, central and eastern South Africa, southern Mozambique, and eastern Madagascar.

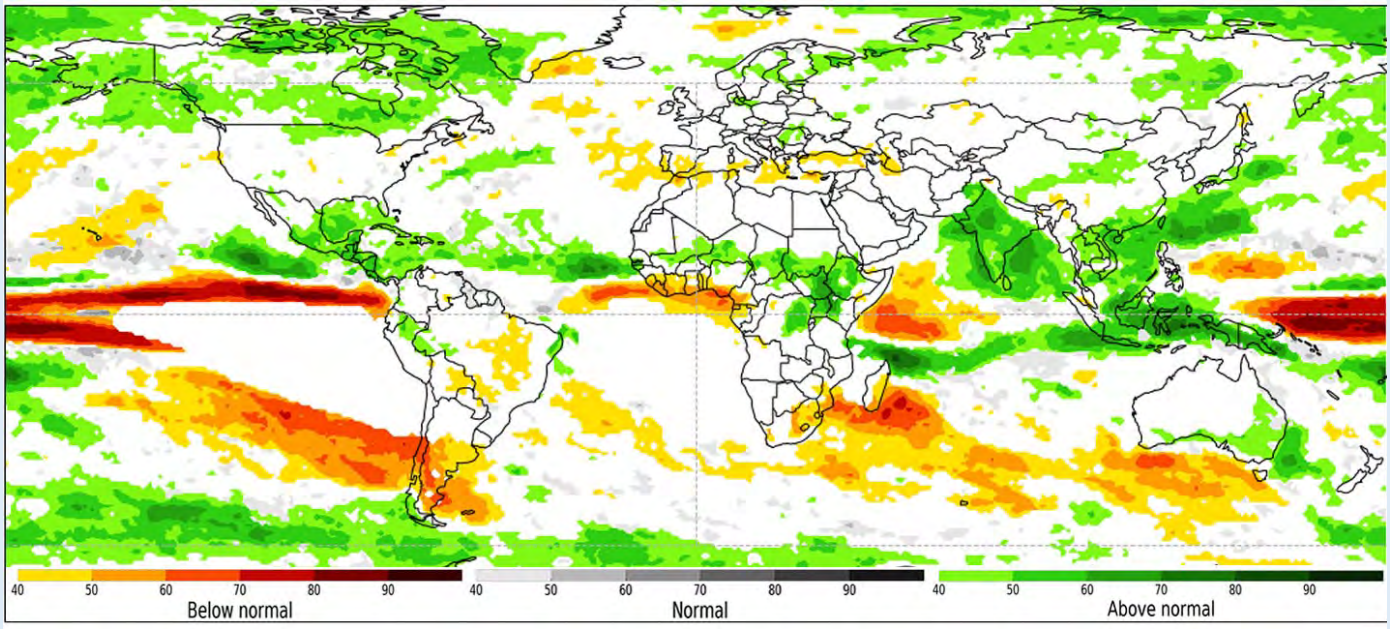


Figure 1. The 3-month North American Multi-Model Ensemble (NMME) experimental probabilistic forecast for August to October 2020, based on July conditions. The forecast probability is calculated as the percentage of all 118 NMME ensemble members that fall in a given tercile (above/below/near normal). The regions shown in white are masked because they are either climatologically dry over the period of interest (for precipitation plots) or because the forecast probability for those regions is not high enough for any of the categories shown (also known as "Equal Chance" regions in the case of Tercile Category maps).

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 (50-55% 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 significant concern over the Horn of Africa along with parts of the Arabian Peninsula and Southwest Asia where locusts have spread as a result of favourable climate and environmental conditions. In East Africa, there is a high risk of crop and pasture damage to agropastoral areas in vegetative to reproductive crop stages as swarms move north to summer breeding areas. In **Ethiopia** and **Somalia**, crop destruction of mainly sorghum and maize have been reported, and there has been an impact on crops in Turkana county in northeastern **Kenya** where hopper bands developed to adults and swarms. Winds are likely to increase risk of invasion in northern countries of East Africa. Risk of invasion for southern and equatorial parts of the subregion is low. The threat of invasion in West Africa is declining as swarms remain in **Kenya,** and good rains have fallen in summer breeding areas of **Sudan**, creating favourable conditions for maturation and egg-laying. Swarms that arrive in **Sudan** are likely to stay rather than continuing westward to **Chad**. Low numbers of solitarious adults are present in summer breeding areas in southeast **Mauritania**, central and northern **Niger**, and western and eastern **Chad**. Desert locust swarms in northern **Somalia** are likely to result in imminent migration across the Indian Ocean to summer breeding areas along the Indo-Pakistan border. Along both sides of the Indo-Pakistan border, numerous swarms are already present in Gujarat, **India** and parts of Tharparkar, Nara, and Cholistan deserts in **Pakistan**.

East Africa Update

In **Kenya**, hopper bands continue to be reported in Turkana and Marsabit counties. Locust swarms have been reported in the north in parts of Samburu and Turkana county but have declined in the northwest due to control operations and migration to Ethiopia. Locusts are projected to move from Turkana to West Pokot county and through South Sudan to summer breeding areas of Sudan and from the northwest to northern Ethiopia where they will disperse and breed in the north and east. However, migration of remaining swarms is likely to be smaller than previously anticipated due to ongoing control operations. In **Ethiopia**, locusts are present in the northern highlands of Amhara and Tigray and have been reported in the south coming from Kenya. Hopper bands continue to be reported in the Dire Dawa, Hareri, Misraq Harrge, Nogob, east Bale, Adfderm Shabelle, and Debub Wollo. Immature swarms are present in the Somali region and parts of Afar, Amhara, and Tigray regions, and adult locusts and swarms have been reported in the east and northeast, and further swarms may arrive from Yemen. Locusts are projected to move from Somali regions in Ethiopia to northeastern Somalia and from northeastern regions to southern areas of Djibouti and northern areas of Somalia and across the Red Sea. Some swarms could also move to the western lowlands of Eritrea. In **Somalia**, immature swarms are present on the northern plateau between Hargeisa and Garowe, and adult locusts and swarms have been reported in Sanaag, Togdheer, and Woqooyi Galbeed. Swarms are moving eastward across the north and could migrate to the summer breeding areas along the Indo-Pakistan border. In **Sudan**, a few adults are present in the Nile Valley, White Nile, and North Kordofan states, and local breeding occurred near Atbara. Conditions are favourable for the development of locusts in south to eastern areas. Good rains received in Kordofan and Darfur are favourable for locust survival and breeding. In **Uganda**, locusts are projected to move away from eastern areas of Moroto and Kotido but southerly winds will make invasion of bimodal rainfall areas unlikely.

Arabian Peninsula and South Asia Update

In **Yemen**, breeding in the interior and some coastal areas has resulted in numerous hopper bands and swarms. Increased rainfall over western coastal areas could accelerate breeding, giving rise to additional hopper bands and swarms in the coming weeks. In **Oman**, breeding is underway on the coast, hopper groups and bands are forming along the southern coast near Salalah, and more swarms could appear along the eastern coast as swarms migrate across the Indian Ocean. In **Pakistan**, hopper groups and bands are present in southeast Sindh near the Indian border. Adults are present in Tharparkar and Cholistan deserts. Egg-laying in areas that received monsoon rains is expected to increase locust numbers and hopper band formation. In **India**, adults and swarms are present throughout Rajasthan where egg laying is expected to give rise to substantial hatching in the coming weeks. Also, earlier egg-laying has given rise to hatching and band formation from Phalodi to Gurjarat.

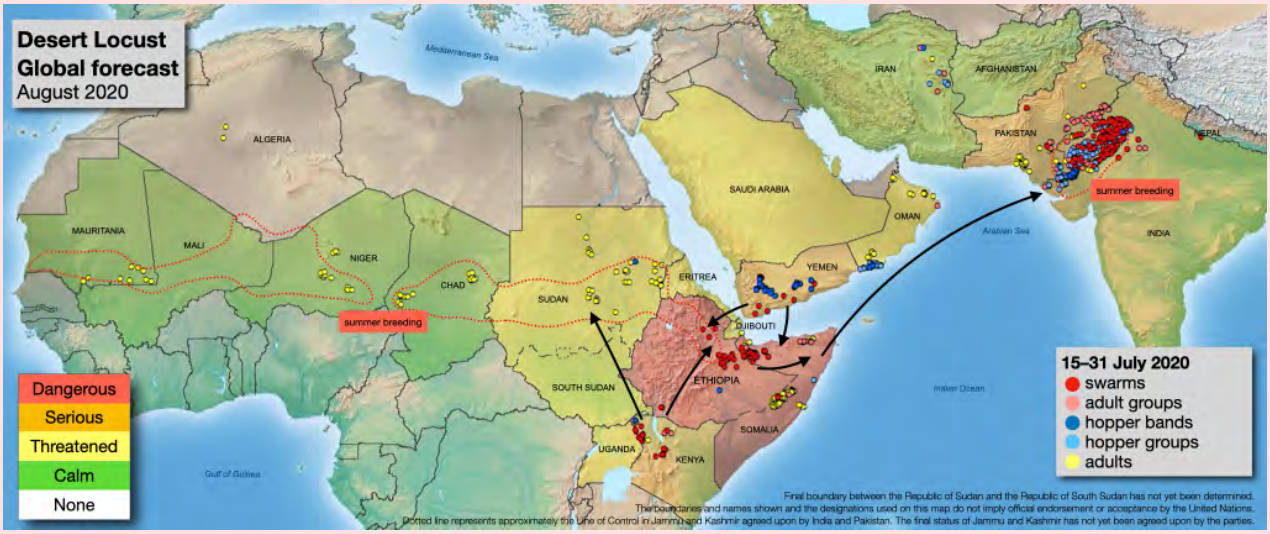


Figure 1. Desert Locust Global Forecast August 2020. *Source: FAO DLIS*

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) East Africa rains are strongly influenced by tropical Indo-Pacific sea surface temperature gradients. Cooler temperatures in the western Indian Ocean 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. 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, including 1998, 1999, 2003, 2007, 2010, and 2016 (See Figure 1). Due to this predictability and high skill of the forecast, there is a very high likelihood that below-average rainfall for eastern East Africa 2020 OND season can be expected.

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). In the MAM seasons following the analogs selected above (Figure 2), rainfall performance ranged from poor to very poor. This means that in the recent past, when the climate models predicted strong OND Indo-Pacific sea surface temperature gradients, EA also experienced low MAM rains in the following season. It should be noted, however, that limited sample sizes and the long lead time of such an outlook create substantial uncertainty. These results, therefore, should not be interpreted as a forecast, but rather a caution.

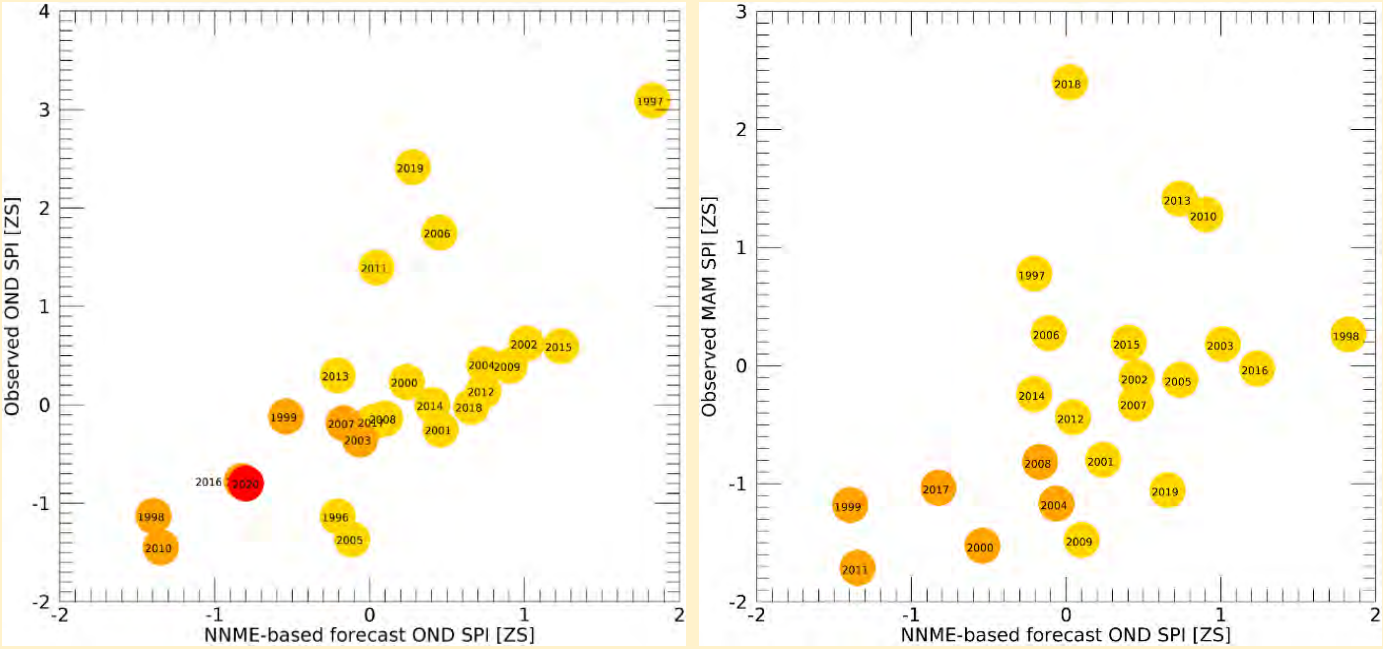
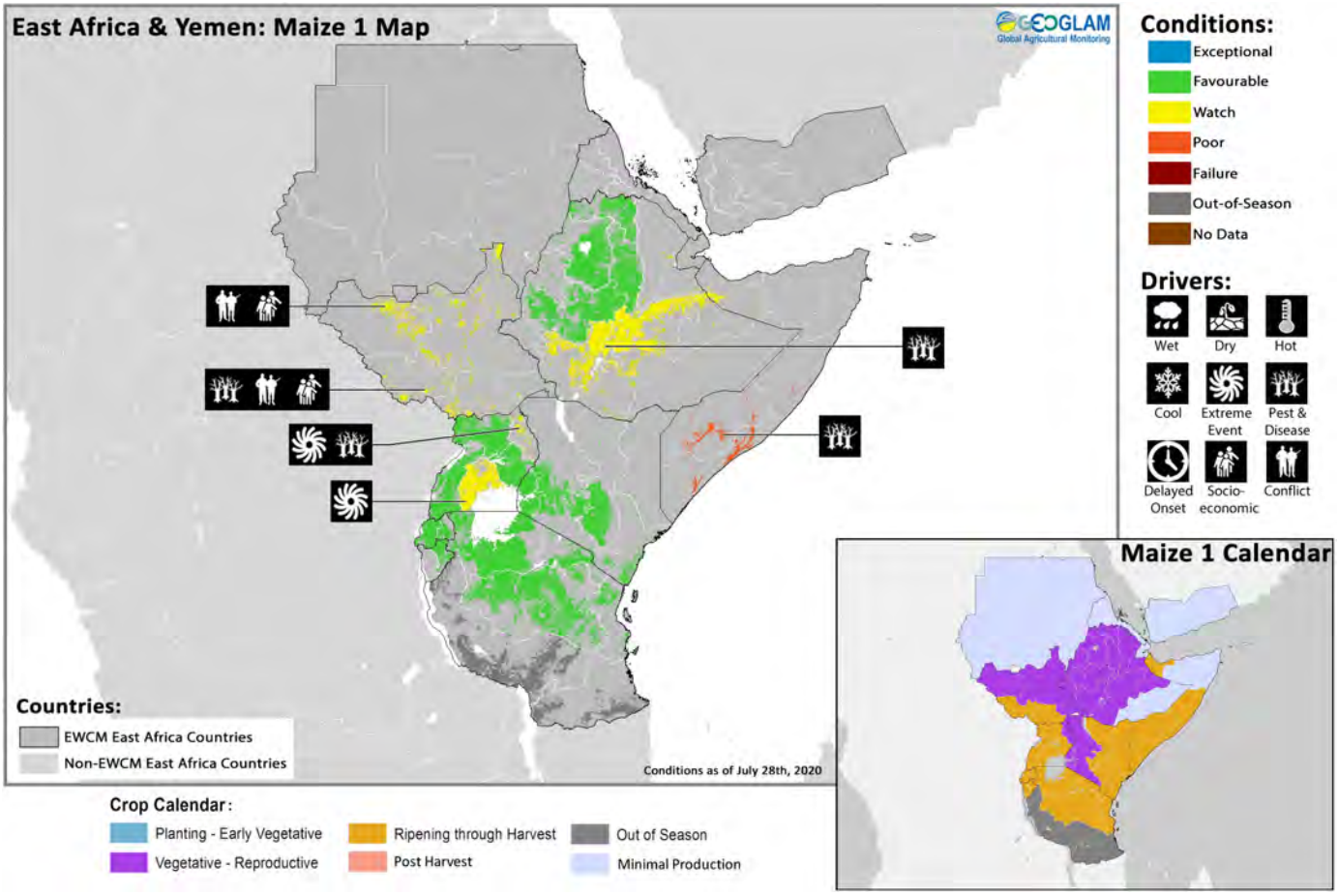


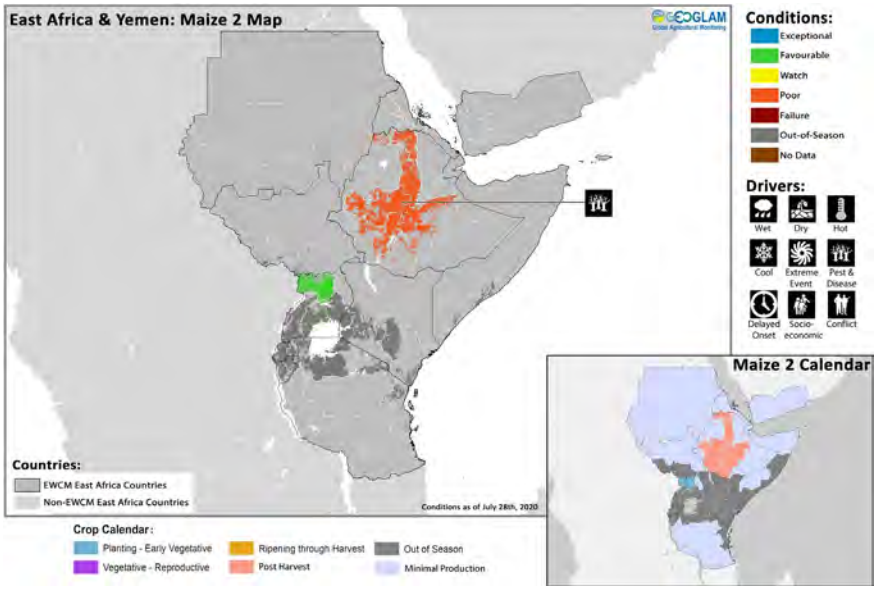
Figure 1. (left) A scatterplot showing predicted (6 month lead) OND East Africa Standard Precipitation Index values (SPI) and observed OND SPI values (circles). As described here the forecast is based on a regression between predicted OND Indo-Pacific sea surface temperatures and East African OND rainfall. Orange circles identify OND analog seasons. The associated rainfall outcomes range from slightly below-normal to very poor. 2016 stands out as the closest analog. Figure 2. (right) A scatterplot showing predicted (6 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 July 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. ***Conditions that are other than favourable are labeled on the map with their driver.***

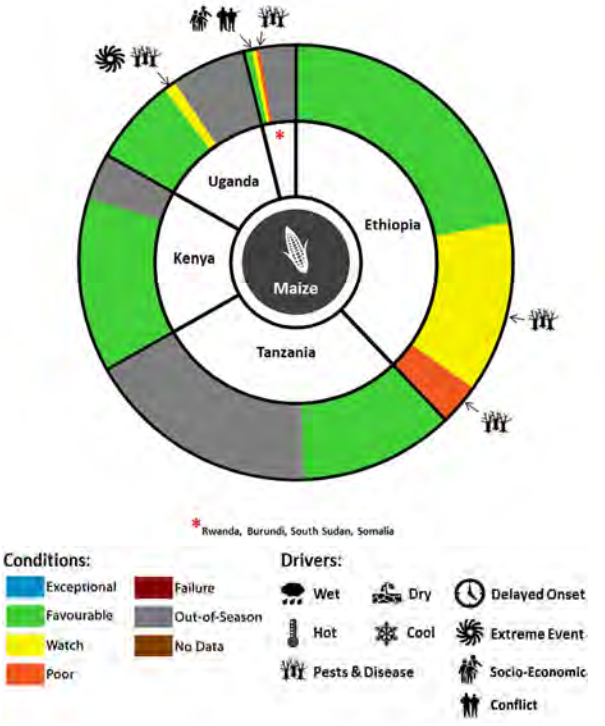
In East Africa, main season cereals to be harvested from November in northern unimodal rainfall areas and western **Kenya** are in vegetative to reproductive stage, while harvest activities for main season cereals is underway in equatorial and southern parts of the region. Production prospects for 2020 main season cereal crops are favourable in central and southeastern **Kenya**, the **United Republic of Tanzania**, **Burundi**, **Rwanda**, and parts of **Uganda** as record March to May (MAM) rainfall supported vegetation conditions. However, in **Somalia**, *Gu* season production, which accounts for about 60 percent of the country's total output, is forecast to be significantly below-average due to flooding, desert locusts, and insecurity. In **Ethiopia**, harvesting is complete for the secondary *Belg* season cereal crops and final production was poor while in the United Republic of **Tanzania**, conditions are favourable for the harvesting of *Masika* cereal crops. Below-average rainfall since mid-May caused abnormal dryness in parts of **Uganda**, eastern parts of **Kenya**, and southern **Somalia** while above-average rainfall occurred in northwestern **Ethiopia**, western **Yemen**, and eastern parts of **Eritrea** in late July. The forecast above-average rainfall through September 2020 while expected to benefit crops, may also increase the risk of additional flooding across some areas (See Regional Outlook Pg. 8). COVID-19 measures have disrupted agricultural inputs (fertilizers, pesticides, and equipment) and agricultural extension services and caused a reduction in labour supply due to movement restrictions and border closures which may contribute to reduced harvest in some areas. In **Ethiopia**, harvesting of secondary *Belg* season cereals finalized in July, and final production was below-average due to the delays in input distribution associated with COVID-19 restrictions and below-average rains at the beginning of the season that resulted in delayed and reduced planting. Additionally, yields were below-average due to desert locust infestations and flooding. Planting activities for *Meher* season cereal crops continued in July for harvest from September, and above-average rainfall helped alleviate rainfall deficits in northern and southern areas. However, there is some concern over the possibility of desert locusts affecting planted crops. In **Sudan**, planting activities for main season cereals to be harvested from November continued in July. Fuel shortages and high prices of agricultural inputs due to a macroeconomic crisis are inflating production costs and may negatively affect irrigated and rainfed mechanized agriculture. Additionally, COVID-19 related movement restrictions may impact the harvesting of rainfed crops in November and December due to labour shortages. Heavy rains at the end of July across much of the country led to flooding and the collapse of the Bout Dam. Furthermore, forecasted above-average rainfall in southeastern regions could intensify the desert locust outbreak and the potential for flooding. In **Kenya**, conditions are favourable for the harvesting of maize crops in central, southeastern, and coastal agropastoral and marginal agricultural areas which began in July and will finalize in August. Conversely, in the northeast, desert locusts have damaged crops, and below-average yields are expected. Additionally, localized production shortfalls were reported in Makueni and Taita Taveta counties due to early cessation of rains in late April and in Nyeri county due to excess rainfall. In the West and Rift Valley,



Crop condition map synthesizing Maize 2 conditions as of July 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. ***Conditions that are other than favourable are labeled on the map with their driver.***

Long Rains cereals, for harvesting from October, are developing under favourable conditions. In **Uganda**, harvesting of first season cereals continued in July and will finalize in August, and conditions are favourable, except in central regions where flooding early in the season damaged planted crops and Karamoja regions where limited access to quality seeds and erratic rains will likely result in below-average yields. In the north, planting activities for second season maize continued under favourable conditions. In **South Sudan**, harvesting of first season cereals began in July in Central Equatoria, Eastern Equatoria, and Western Equatoria. Above-average seasonal rains increased yield prospects in the Greater Equatoria Region; however, in Western Equatoria, a dry spell and limited access to inputs may impact yields. In southern regions, cereal production is expected to be average in comparison to the previous five years, but still below pre-conflict levels of production.

Elsewhere, main season cereals are in vegetative to reproductive stage to be harvested from October. In Jonglei state, flooding affected some farming areas along the Nile river early in the season while in Torit and Magwi in Eastern Equatoria, desert locusts had some impacts on cropping areas. Throughout the country, escalation of localized violence since the beginning of 2020 has disrupted agricultural operations and is likely to impact final yields. Additionally, COVID-19 mitigation measures are expected to increase negative drivers of crop conditions as they are threatening to stall the implementation of the peace agreement, exacerbating macroeconomic challenges, and disrupting the supply of seeds and agricultural labour. In **Somalia**, harvesting of *Gu* season cereals began in July and will finalize in August and production prospects are poor as the combined impacts of prolonged dry spells in the south, localized flooding, the desert locust outbreak, insecurity, and COVID-19 restrictions have resulted in a significant decrease in production for *Gu* season crops. In late April, flooding occurred in areas of South West State, Jubaland, Bandir, Puntland, and Somaliland. This was followed by flooding from May to July which damaged over 147,500 farmlands in Jowhar, Balcad, and Mahaday districts of the Middle Shabelle region. In total, an estimated 33,000 hectares of farmland were inundated, and 505,000 people have been displaced. Additionally, conflict and insecurity have led to further displacement and disruption of the main agricultural *Gu* season. Furthermore, COVID-19 movement restrictions are likely to reduce agricultural labour for the *Gu* season harvests and for secondary *Deyr* season land preparation for planting in September. In unimodal regions of the **United Republic of Tanzania**, harvesting of *Msimu* rice crops finalized in July under favourable conditions following well above-average seasonal rains. In northern bimodal regions, harvesting of *Masika* crops is ongoing under favourable conditions and will finalize in August. In **Burundi** and **Rwanda**, harvesting of Season B crops began in July and will finalize in August, and overall conditions are favourable. In **Yemen**, main season sorghum and wheat crops are in vegetative to reproductive stage for harvest from September. While climatic conditions are favourable for development, heavy rainfall in late July caused flooding in western areas and is expected to continue into August which could impact harvesting activities. Favourable ecological conditions and rains also promoted the emergence of new desert locusts and fall armyworm in breeding areas. Additionally, conflict and socio-economic challenges continue to impact agricultural activities. Overall cereal production is forecast to be 365,000 tonnes, less than half of pre-conflict levels due to flood damage, locusts, and ongoing conflict and socioeconomic impacts. COVID-19 related movement restrictions and high input costs may impact the summer planting season due to a shortage in the agricultural labour supply and challenges in accessing seeds, fertilizers, pesticides, and fuel for irrigation.



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

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

July rainfall has been average to above-average across much of East Africa (Figure 1-left). Rainfall exceeded 150% of the historical average in parts of eastern Uganda, western Kenya, and central and northern Ethiopia, and exceeded 200% of average in southern Somalia (source). In Uganda, above-average July rainfall provided some recovery from the below-average June rainfall. In southern Somalia, heavy rains and flash floods since late June affected Hirshabelle, South West, Jubaland States, and Banadir regions. Overall, rainfall since June 1st (Figure 1-middle, with 15-day forecast included) has been average to above-average across most of the region, with the exception of northern South Sudan and southeastern Sudan.

Both short-term (not shown) and medium-term (Figure 1-right) forecasts for the month of August indicate above-average rainfall is expected to continue throughout the region. The 15-day forecast indicates heavy rainfall, ranging from 200-400 mm (150-200% of average), is expected in parts of northern, western, and central Ethiopia. While less severe, moderate to heavy rainfall is expected over northwest Somalia and light to moderate rains over southern Somalia coastal areas, which could further exacerbate the flooding issues reported in July. Figure 1-middle shows how the 15-day forecasted precipitation could affect the season rainfall anomaly. Of concern is the increasing seasonal cumulative deficits over southwest Ethiopia and western South Sudan. The 30-day indicates average-to above-average rainfall is expected to continue through the second half of August, particularly in northeastern D.R.C., Uganda, northwestern Kenya, South Sudan, and Ethiopia.

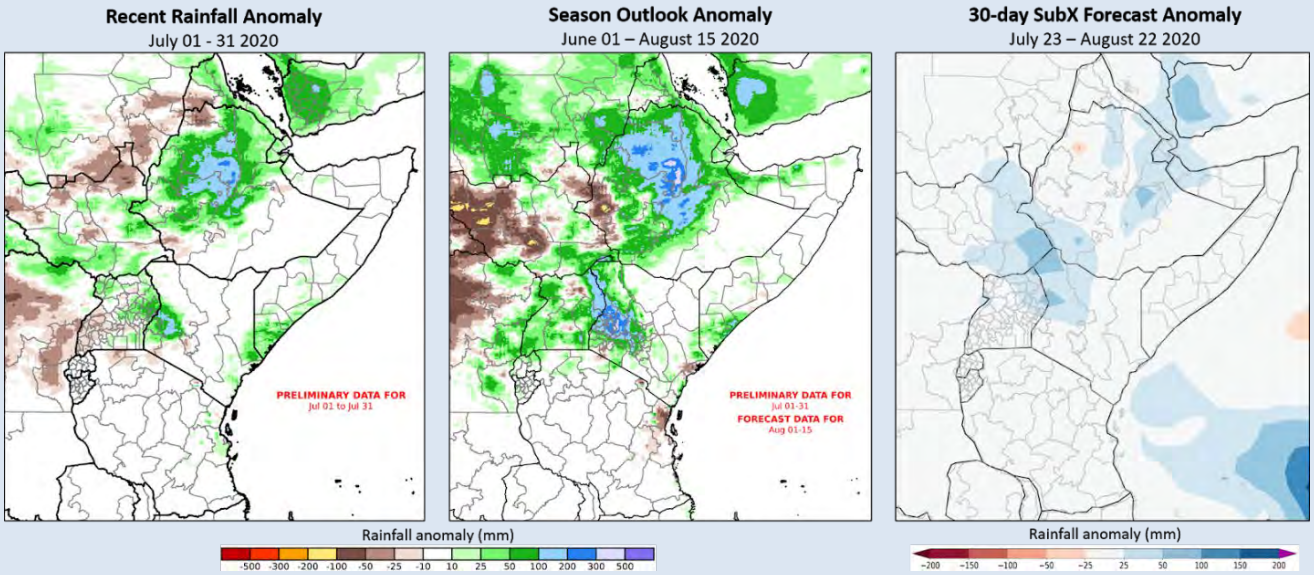
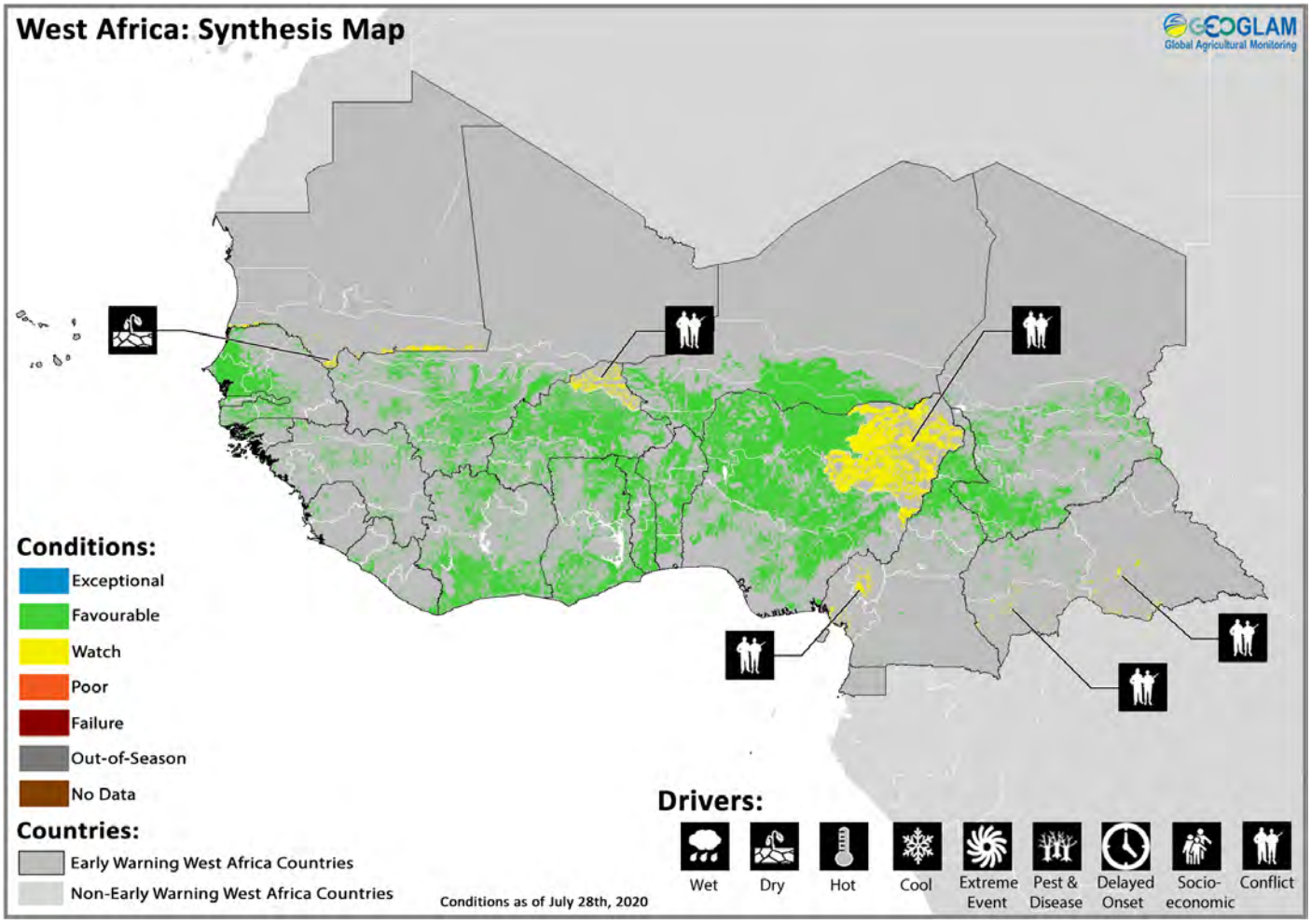


Figure 1. Estimated rainfall for July 1st to 31st, estimated and forecast rainfall since June 1st, and a 30-day rainfall forecast. The left and middle panels are UCSB Climate Hazards Center Early Estimates. They compare 2020 rainfall amounts to the 1981-2019 CHIRPS average. The left panel shows the estimated rainfall anomaly from July 1st to 31st. The middle panel indicates what the post-June 1st rainfall anomaly would be if the 15-day unbiased GEFS forecast from August 1st materializes. The right panel is a 30-day forecast from July 23rd. 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 at http://cola.gmu.edu/kpegion/subx/index.html.
Source: UCSB Climate Hazards Center.

West Africa



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

Across the southern half of the subregion, main season cereal crops are in vegetative to reproductive stage and harvest activities began in **Nigeria**, **Benin**, **Ghana**, **Liberia**, and **Togo**, and production is expected to be average. In northern parts of the subregion and in southern **Cote D'Ivoire** and southern **Togo**, planting activities continued for cereal crops to be harvested from September. Overall, conditions are favourable except in regions affected by dry conditions and conflict and in **Mauritania** where onset rainfall was delayed. In **Nigeria**, conditions are favourable for the planting activities of off-season rice, except in the northeast where there is persisting conflict which continues to impact agricultural activities. Throughout the subregion, average cumulative rainfall since March is benefiting the development of crops, particularly in areas that experienced dry conditions in April and May, and above-average rainfall is likely to continue throughout the June through October rainy season in most countries with likely positive effects on yields. However, heavy rains resulted in flooding in Abidjan, **Cote D'Ivoire** and western **Nigeria**. Also, in **Cameroon**, heavy rainfall between March and May more than twice the long-term average caused excessive soil moisture and possible localized damage of main season maize crops to be harvested from mid-August in central and southern areas. Conversely, coastal areas of **Liberia**, **Cote d'Ivoire**, and western **Ghana** experienced moisture deficits from June through July and cumulated rainfall in parts of **Guinea**, **Sierra Leone**, and **Liberia** is likely to remain below-average for the remainder of the agricultural season (See Regional Outlook Pg. 10). In northern **Burkina Faso**, **Cameroon**, the **Central African Republic**, **Chad's** Lac region, and northeast **Nigeria**, insecurity continues to hinder agricultural activities and access to fields. While agricultural activities are continuing as normal in most countries, COVID-19 mitigation measures are reducing access to agricultural inputs and labour in **Burkina Faso**, **Chad**, **Nigeria**, **Liberia**, **Senegal,** and **Sierra Leone**, which is expected to curb plantings and adversely affect crop yields for the 2020 cropping season. Despite favourable rainfall likely supporting good yields, overall prospects for the 2020 cropping season are mixed due to ongoing conflict in some areas, impacts of COVID-19 restrictions, and the potential for invasion of desert locust.

Regional Outlook: Below-average rainfall through the start of August across much of the West Africa region.

July rainfall was highly variable, but generally favorable in the northern and eastern parts of the region, including above-average rainfall in southern Mauritania, Senegal, Guinea-Bissau, northwestern Guinea, southwestern Mali, northwestern Cote d'Ivoire, Burkina Faso, northern Ghana, northern Togo, northern Benin, southern Niger, and in north and eastern Nigeria (Figure 1-left). In central Nigeria, torrential rainfall on July 24th caused flooding and damage in the Rafin Sanyi. In contrast, while this is typically a mid-season lull in precipitation for the Guinea Coast, rainfall was well-below average along the southwestern coast of the region, with rainfall deficits ranging from 25-200 mm (35-80% of average) in Liberia, southern Côte d'Ivoire, southern Ghana, and southwestern Nigeria. Additionally, deficits across the arid regions of Mali and Niger represent a substantial fraction of seasonal totals, with proportional impacts to pastoral conditions.

The 5-day forecast indicates heavy, above-average rainfall is anticipated on the western coast, including southern Guinea-Bissau, western Guinea, and Sierra Leone. Above-average rainfall is also expected in Senegal, southern Mali, southwestern Niger, and northeastern Nigeria. However, the 15-day forecast indicates below-average rainfall across much of the region, including all coastal countries from Senegal to Nigeria, as well as southwestern Mali and southern Burkina Faso, eliminating some of the recent, above-average accumulations across the semi-arid region. Figure 1-middle shows how this 15-day forecasted rainfall could affect the season (June-present) rainfall anomaly. While the rainfall distribution has been highly variable, the figure indicates that the seasonal rainfall total since June (with the forecast data included) has been generally favorable in the northern half of the region, while generally poor conditions prevail in the south. The NMME 3-month forecast (Figure 1-right) indicates above-average rainfall in the north and below-average rainfall in the south is likely to continue for the next several months.

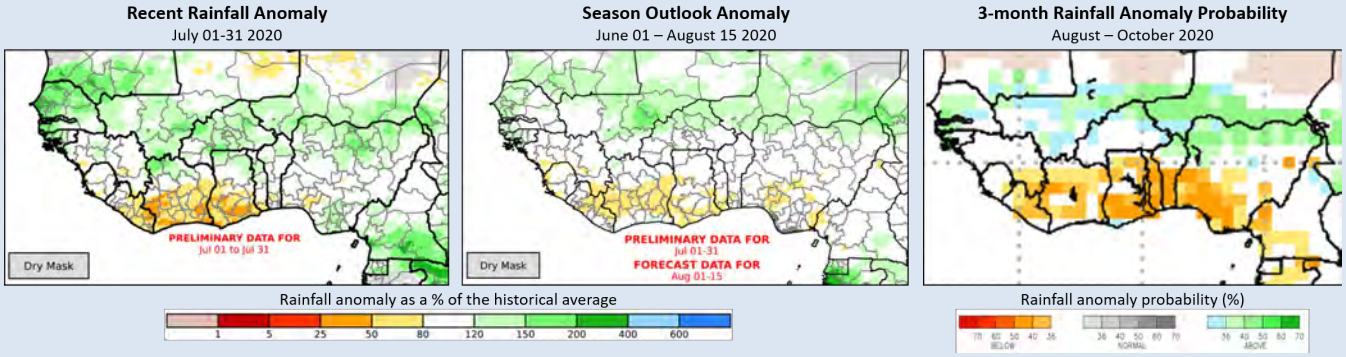
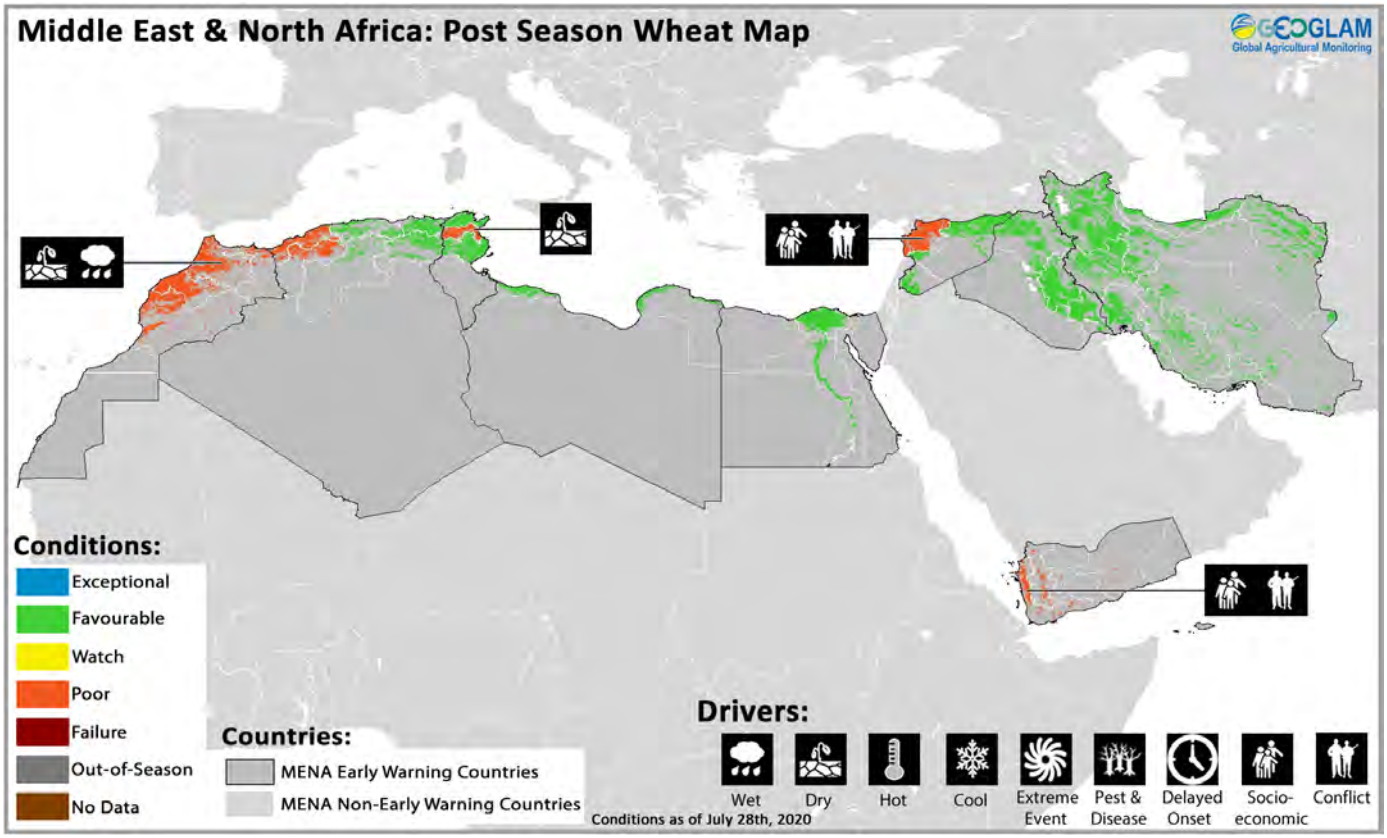


Figure 1. Estimated percent-of-average anomaly for July 1st to July 31st, estimated and forecast percent-of-average anomaly since June 1st, and a 3-month rainfall probabilistic forecast. The left and middle panels are UCSB Climate Hazards Center Early Estimates. They compare 2020 rainfall amounts to the 1981-2019 CHIRPS average. The left panel shows the estimated percent-of-average anomaly from July 1st to July 31st. The middle panel indicates what the post-June 1st percent-of-average anomaly would be if the 15-day unbiased GEFS forecast from August 1st materializes. On the right is the 3-month NMME experimental probabilistic forecast for August to October 2020, based on July 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).

Middle East & North Africa



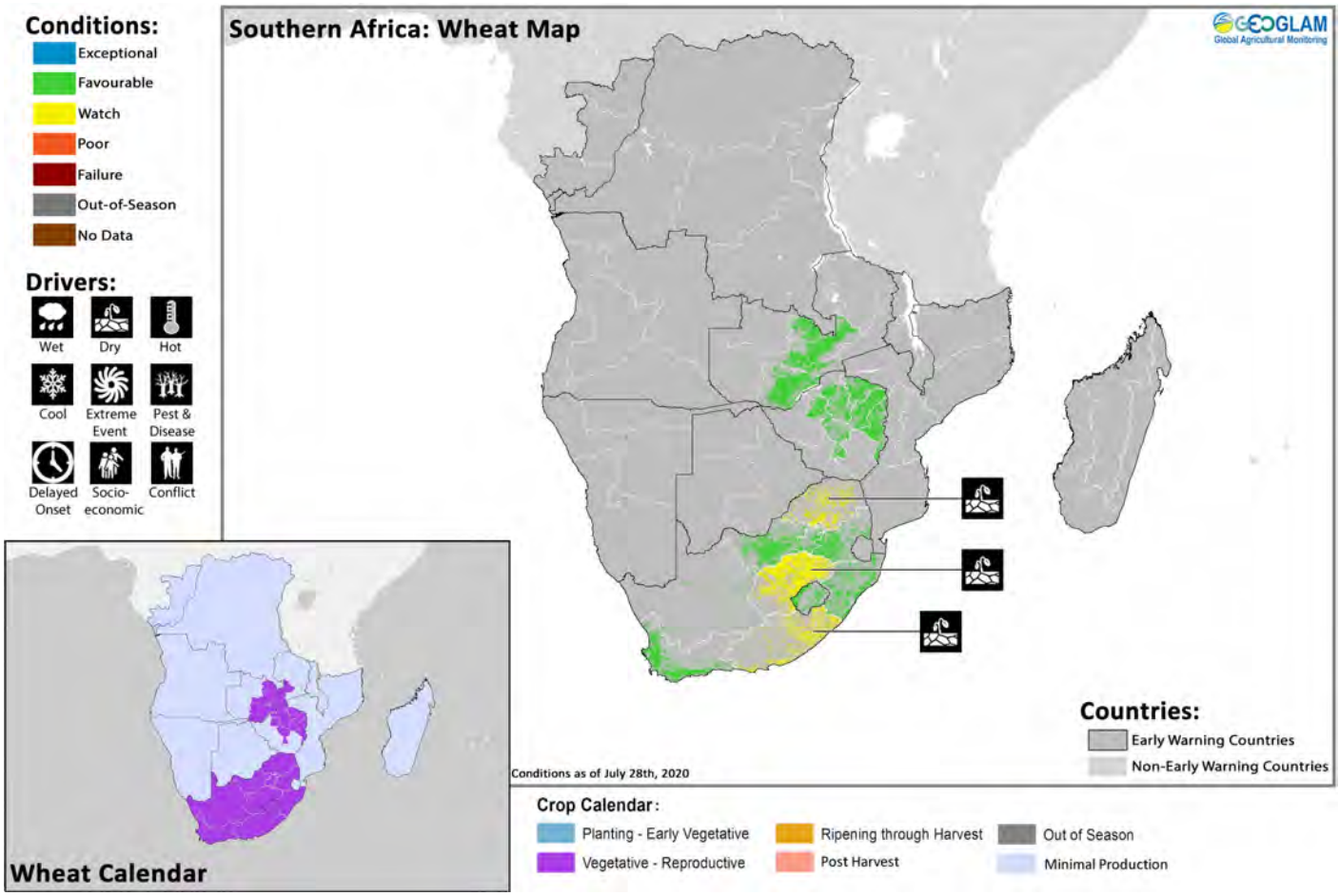
Crop condition map synthesizing information as of July 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. ***Crops that are in other than favourable conditions are labeled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

In the Middle East, winter wheat harvest finalized in July, and final yields were favourable, except in **Syria** where conflict impacted agricultural activities, and high temperatures in May impacted the grain filling stage of crop development. In **Iran**, harvesting of winter wheat finalized in mid-July and planted area was estimated at 6 million hectares, slightly above last year's level. National wheat production is estimated to be near-average at 14 million tonnes, three percent below the 2019 level. Abundant rainfall since January replenished soil moisture but also led to localized crop damage from flooding and created favourable breeding conditions for desert locusts, which affected Sistan and Baluchistan, Hormozgan, Bushehr, Fars, Khuzestan, Kerman, and South Khorasan provinces but did not have an impact on final production. In July, only residual infestations remained in Khorasan province due to control operations and desert locust migration to Indo-Pakistan summer breeding areas. In **Iraq**, harvesting of winter wheat finalized in July and yields were favourable. In **Syria**, final wheat conditions were favourable in most regions, though high temperatures in May impacted the grain filling stage. Ongoing conflict and other socio-economic drivers continue to constrain production potential, notably in Idleb in the northwest where conflict has resulted in high population displacement. National wheat production is estimated to be 2.2 to 2.6 million tonnes, similar to the previous year's level but still well below pre-crisis levels of 4.1 million tonnes. Additionally, COVID-19 restrictions have increased the prices of agricultural inputs such as seeds and fertilizers and have decreased the supply of agricultural labour due to movement and travel restrictions. These impacts may disrupt winter wheat planting activities to begin in October.

In North Africa, harvesting of winter wheat and barley crops finalized in July, and final production was above-average in parts of **Algeria**, **Tunisia**, **Libya**, and **Egypt**, and below-average in **Morocco**, northwest **Algeria**, and central **Tunisia** where crops were unable to recover from seasonal drought and above-average temperatures. In **Morocco**, harvesting of winter wheat and barley finalized in July, and final yields were poor as late onset of rains delayed plantings followed by dry conditions and high temperatures from February to March that affected crop development and yields. Above-average cumulative rainfall from mid-April to May was too late for crops to recover and worsened production outcomes in central and eastern areas. Wheat production is estimated at 3 million tonnes, 27 percent below the previous year's already poor harvest, 49 percent below the five-year average, and among the worst of the last ten years. In **Algeria**, harvesting of winter wheat and barley finalized in July under mostly favourable conditions. Good rainfall distribution provided favourable conditions for crop development in the east, which partially compensated for shortfalls in production in the northwest due to dry conditions and late plantings. In **Tunisia**, winter wheat and barley harvest finalized in July, and final yields were favourable, 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 followed by high temperatures in May. Abundant rainfall from mid-March to early April helped to counter rainfall deficits from earlier in the season and improve yield prospects for late-planted crops compared to earlier poor prospects, though wheat recovered more than barley. National cereal production is estimated at near-average levels of 1.5 million tonnes. 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, final production is estimated to be average to above-average, except in agricultural areas close to conflict-affected Tripoli where military operations have disrupted agricultural activities. Additionally, ongoing conflict is restricting access to agricultural land, and COVID-19 mitigation measures are likely to reduce seed and input access. These impacts could disrupt winter wheat planting activities to begin in October. 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, resulting in near-average production. Main season maize and summer-planted rice crops are in vegetative to reproductive stage, planting of *Nili* season (Nile Flood) rice crops began in the Nile Delta, and overall conditions are favourable.

Southern Africa

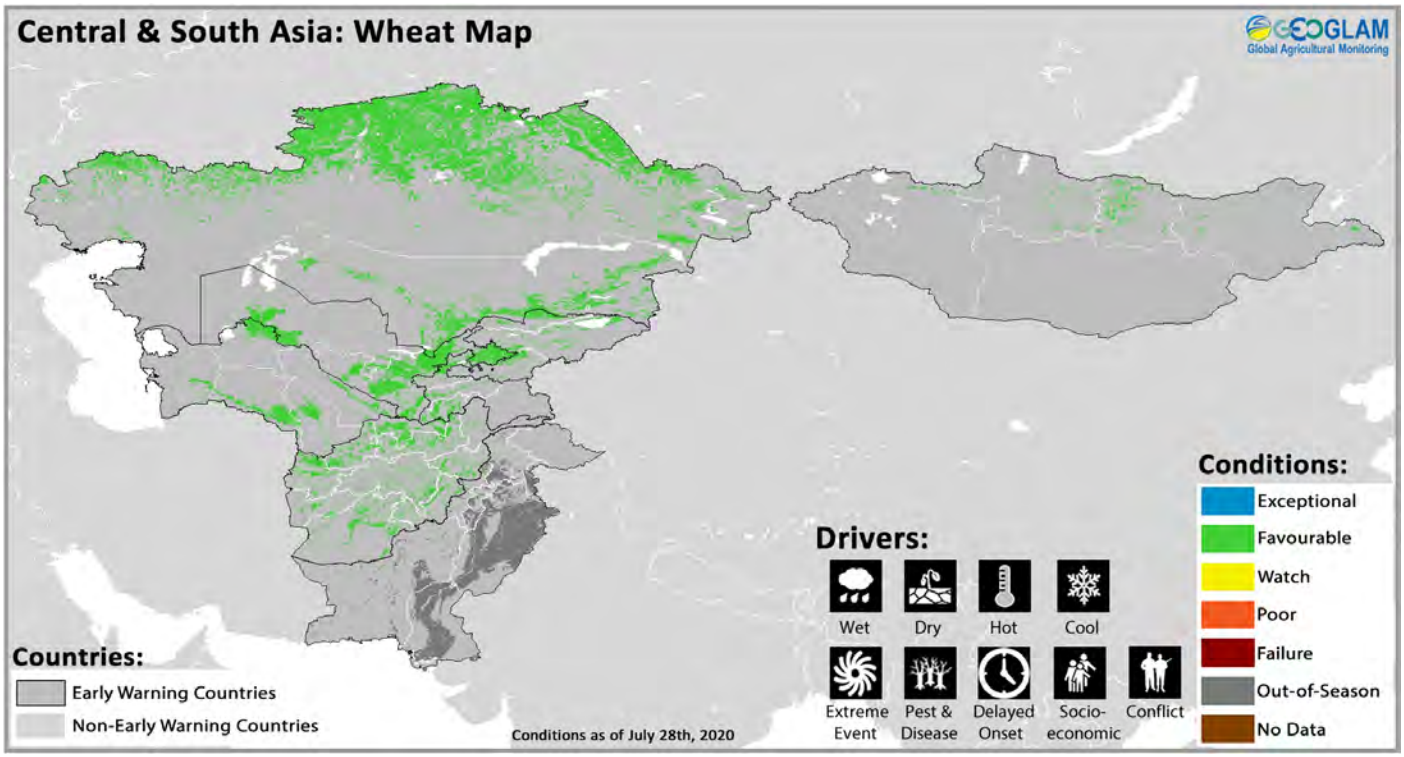


Crop condition map synthesizing information as of July 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. ***Crops that are in other than favourable conditions are labeled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

Winter wheat crops to be harvested from October are developing under favourable conditions in **South Africa**, **Lesotho**, **Zambia**, and **Zimbabwe**. African migratory locusts and red locust hopper bands and active swarms were reported in parts of **Angola**, **Botswana**, **Namibia**, **Zambia**, and **Zimbabwe**. While damage has been minimal, a protracted outbreak could pose a risk to irrigated winter crops to be planted in October. In addition, COVID-19 related restrictions on trade and movement will likely make it difficult for small-scale farmers to access markets to purchase agricultural inputs for the start of the main agricultural season in October, and lack of labour may hinder land preparations from September. In **Zimbabwe**, winter wheat crops to be harvested from September are developing under favourable conditions. Despite declining water levels of small dams, larger dams were reported to have sufficient water for irrigation, and area planted is reported to be comparable to past seasons. Additionally, further COVID-19 restriction measures could make it difficult for small-scale farmers to obtain seed and fertilizer inputs for land preparation in September for the main agricultural season. Furthermore, in June, the Government switched the exchange rate system to curb further losses of value of the currency; however, this is expected to raise operational costs in food production. In **Zambia**, conditions are favourable for the development of winter wheat. Area planted has increased compared to the previous year; however, reports of load-shedding are affecting electricity supply for irrigation activities. In **Lesotho**, planting of winter wheat, which usually takes place in May, was delayed due to COVID-19 movement restrictions that impeded access to imported seeds and fertilizers. In **South Africa**, winter wheat crops to be harvested from October are developing under favourable conditions 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 finalized in July for main season rice crops, and production

is estimated to be near-average at 3.7 million tonnes, eight percent below last year's bumper harvest. The expected production decline can be attributed to erratic and below-average cumulative rainfall that affected planting activities and yields in southern regions of Anosy and Ihorombe and parts of the central highlands and the western Menabe region. Above-average harvests in the north are expected to somewhat offset crop losses in the south and centre. In the **Democratic Republic of Congo**, harvesting of second season maize crops is underway in northern and eastern provinces. While rainfall has been near-average in most cropping areas, heavy rainfall in central and eastern areas is expected to have a negative impact on harvest activities. Overall, there are uncertainties in production due to FAW infestation, impacts of heavy rainfall in April that destroyed fields and infrastructure, and COVID-19 restrictions which may affect harvesting activities. Additionally, in Maniema Province, escalation of violence since February is disrupting harvest activities of second season maize and land preparation of main season maize. In north, west, and central provinces, planting activities of main season cereal crops to be harvested from October continued under favourable conditions. However, COVID-19 related movement restrictions and market and trade disruptions are likely to disrupt agricultural activities, particularly in northern and central provinces.

Central & South Asia

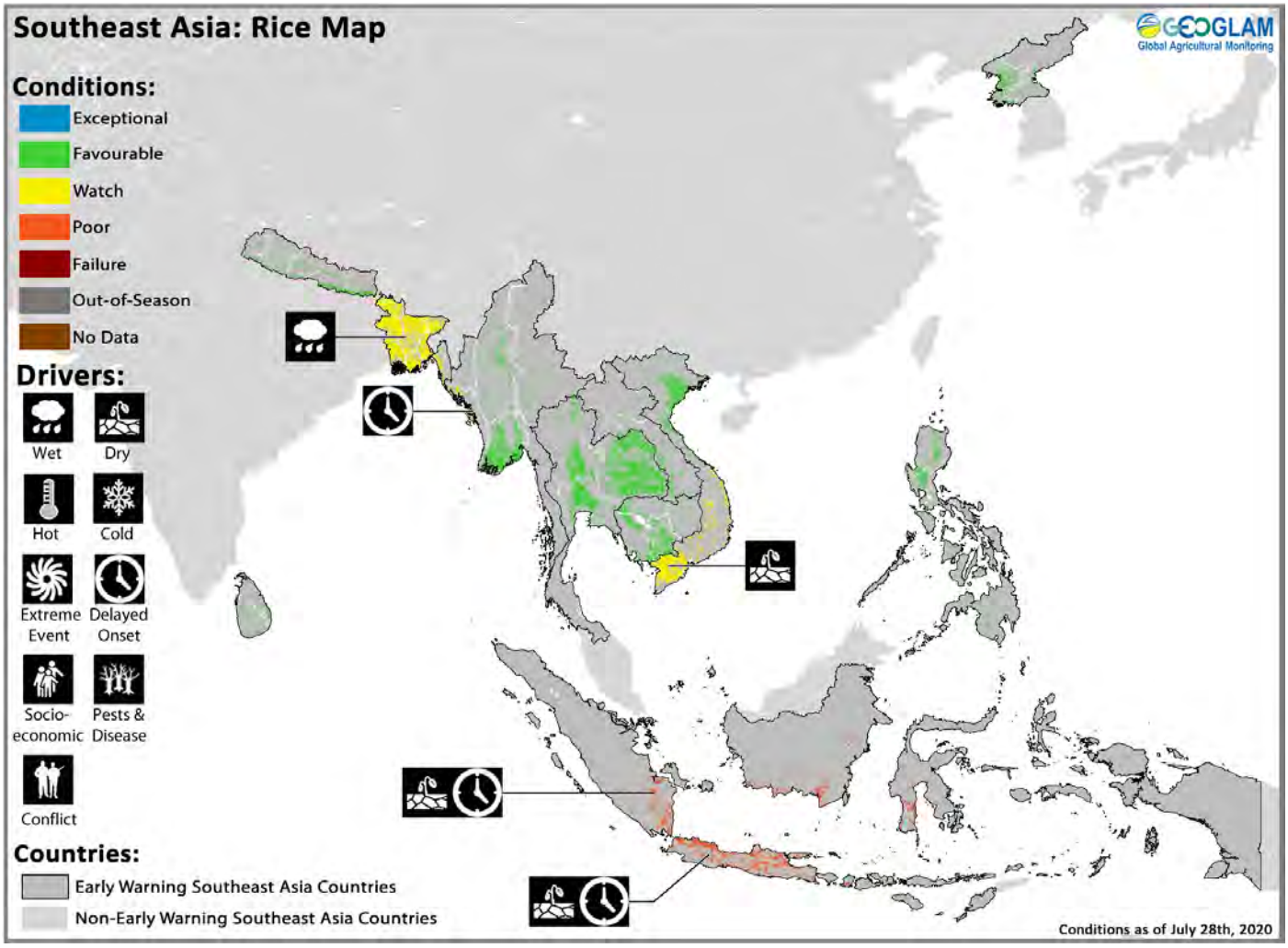


Crop condition map synthesizing information as of July 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. ***Crops that are in other than favourable conditions are labeled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

Across Central Asia in **Kyrgyzstan**, **Tajikistan**, **Turkmenistan**, **Uzbekistan**, and South **Kazakhstan**, harvesting of winter wheat began in June under favourable weather conditions and is expected to finalize by mid-August. Overall crop conditions are favourable, and adequate weather conditions during the growing season are likely to result in near-average yields. In **Afghanistan**, **Kazakhstan**, **Kyrgyzstan**, **Tajikistan**, **Turkmenistan**, **Uzbekistan**, and **Mongolia**, spring wheat is developing under generally favourable conditions, except in some northwestern and northeastern areas of **Kazakhstan** where there is some concern due to erratic rainfall and high temperatures. In **Kyrgyzstan**, while yields are generally favourable due to good weather conditions supporting crop development, 2020 wheat output is estimated at slightly below the 2019 level and ten percent below the five-year average due to reduced plantings. In **Uzbekistan**, production prospects for winter wheat are near-average at 6.3 million tonnes due to favourable weather conditions throughout the season. In **Turkmenistan**, winter wheat harvests are expected to be below the 2019 high level, due to a decline in planted area as farmers switch to more profitable crops, but still above the five-year average. In **Kazakhstan**, harvesting of winter wheat began in June and will finalize in August, and overall conditions are favourable, except in parts of the Almaty region in the southeast where weeds have resulted in a noticeable suppression of cultivated crops and in eastern regions where above-average precipitation may affect harvests. Overall, yields are expected to be near-average; however, production is forecast to be below-average due to reduced plantings. Spring wheat crops to be harvested from early August are developing under favourable conditions, except in parts of the marginal producing Kostanay and Pavlador Oblasts in the Northwest and Northeast where erratic rainfall and high temperatures are a concern. Overall, 2020 wheat production is forecast at three percent below the five-year average, due to reduced plantings, and slightly above the 2019 level. 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. Conditions are also favourable for the harvesting of spring wheat crops, which will finalize in October. COVID-19 mitigation measures have disrupted 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 in September. In **Mongolia**, spring wheat and barley crops are in vegetative to reproductive stage to be harvested in October. In **Pakistan**, planting activities for main season rice crops to be harvested from October continued in July. Favourable weather conditions and adequate supply of agricultural inputs are expected to result in a near-average output of 26 million tonnes. Additionally, control measures to mitigate the spread of desert locusts have been successful at containing crop losses. COVID-19 related supply chain disruptions have resulted in a shortage of certified seeds, fertilizers, and agricultural inputs and are likely to affect planting for the *Rabi* 2020/2021 season.

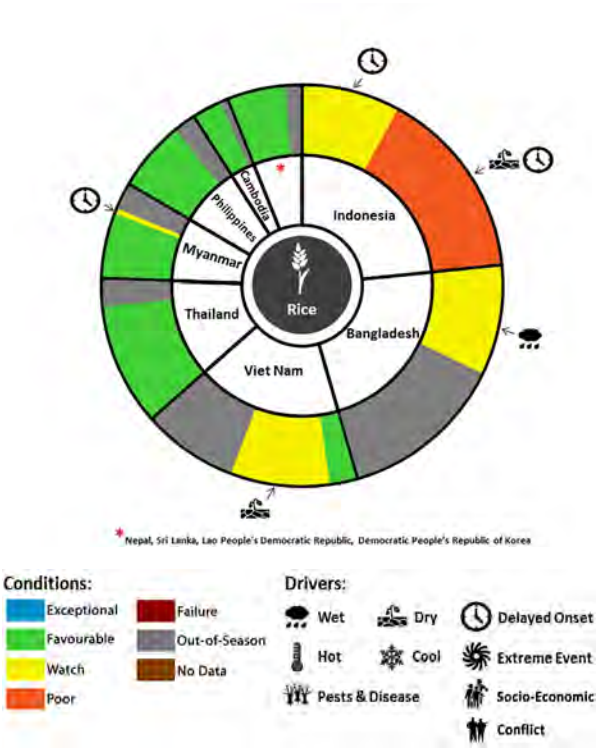
Southeast Asia



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

In northern Southeast Asia, planting of wet-season rice is nearing completion, and harvesting has begun in South **Vietnam**. Growing conditions are generally favourable due to good rainfall through June, except in countries where the impact from early season dryness remains a concern. In **Indonesia**, harvesting of wet-season crops is wrapping up with a small reduction in yields and a six percent reduction in harvested area compared to last year due to the late onset of rains and prolonged drought early in the growing season. Sowing of dry-season crops continues to be behind schedule due to the protracted wet-season crop harvest. However, the continuing rainfall into the dry season is beneficial. In the **Philippines**, wet-season rice planted in April and May is under favourable conditions in the maturing stage with high precipitation, especially in the southern regions. In **Thailand**, conditions are favourable for wet-season rice with ample rainfall compared to last year supporting sown area expansion, except in some areas of the north and northeast where rainfall was below-average. In **Viet Nam**, harvesting of wet-season (summer-autumn) rice in the south is beginning under watch conditions due to drought with slightly lower yields expected compared to last year. In the north, harvesting of dry-season (winter-spring) rice is complete with yield estimates similar to last year at 6.34 tonnes per hectare and production estimates 1.8 percent lower than last year at 6.9 million tonnes. Also, sowing of wet-season (summer-autumn) rice is beginning in the north under favourable conditions. In **Laos**, wet-season rice is in seeding to tillering stage in lowland areas, and weather conditions and irrigation water supply are favourable for crop development. In upland areas, growing conditions are generally favourable; however, pest damage has been reported to some cropping areas in the north. In **Myanmar**, monsoon rains have benefitted the sowing of wet-season rice, except in Rakhine state where a late start to the season has delayed planting activities. An estimated 1.6 million hectares, accounting for 27 percent of the national plan, has been planted. In late July, heavy rainfall caused flooding of the Ayeyarwady River, and some

damage has been reported in Sagaing, Magway, Mandalay regions, and Kachin state, with Mandalay region being the worst affected. In **Cambodia**, sowing of wet-season rice reached 74 percent of the national plan, and early planted crops are in the flowering to grain filling stage. There is some concern for paddy development in northwest and southeast drought-affected areas; however, in other areas, growing conditions are favourable. In **Sri Lanka**, minor season *Yala* rice and second season maize crops are developing under favourable conditions. In **Bangladesh**, monsoon rainfall has affected districts in northern and eastern areas, displacing 56,000 people and damaging more than 150,000 hectares of paddy fields. The worst affected Districts are the Jamalpur (Mymensingh Division) and the Sunamganj Districts (Sylhet Division). Additionally, COVID-19 related market disruptions could affect the sowing and transplanting period for the *Aman* rice season from June to September and the lean season in September as farmers face limited access to quality inputs and appropriate technology. In **Nepal**, main season maize crops are in vegetative to reproductive stage, planting activities continued for main season rice crops, and overall conditions are favourable due to good rainfall. However, monsoon rainfall also resulted in flooding and landslides in several municipalities across the country, and 35,530 people have been displaced. The worst affected Districts are Parbat, Lamjung, Gorkha, Kalikot, Syangaja, Gulmi, Bajhang, Darchula, Bajura, Sindhupalchok, Kasi, Myagdi and Jajarkot. In the **Democratic People's Republic of Korea**, harvesting of main season maize crops will begin at the end of August and crops are developing under favourable weather conditions. Planted area of main season maize is estimated to be above-average. Planting of main season rice crops for harvest in September and October is ongoing with favourable weather conditions and sufficient irrigation water supply. However, production prospects are below-average due to reduced planted area of main season rice.



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

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

Rainfall from late-June to late-July was well-below-average across much of northern Southeast Asia (Figure 1-left). Deficits exceeded 150 mm (<80% of average) in southern Myanmar, Laos, Cambodia, Vietnam, and the northern Philippines; in Vietnam, this deficit equates to 15-50% of the historical average. These deficits further exacerbated existing below-average rainfall totals since April, which are <80% of average across the aforementioned areas. In contrast, rainfall in the southern half of the region continued to be well-above-average, with July rainfall totals ranging from 120-200% of average in Malaysia and western Singapore, and exceeding 200% of average in Indonesia, providing favourable conditions for dry-season planting. Additionally, monsoon rainfall devastated much of South Asia in mid-July, resulting in flooding in Bangladesh, Bhutan, India, Myanmar, and Nepal that killed scores of people, destroyed homes and structures, inundated entire villages, and affected as many as 4 million individuals.

The 15-day forecast through August 10th indicates heavy, above-average rainfall is expected over much of northeastern and eastern Southeast Asia. Below-average rainfall is expected in Bangladesh, the west coast of Myanmar, and Singapore. Figure 1-middle indicates how this forecasted rainfall would affect the July rainfall anomaly. The post-June 25th rainfall anomaly would be average to above-average across the entire region and exceed 120% of average in Thailand, Cambodia, southern Vietnam, Malaysia, and Indonesia. This rainfall should be particularly beneficial to the northern parts of the region, where seasonal (April-to-date) deficits are largest. Finally, the 3-month rainfall probability forecast indicates an increased likelihood of above-normal rainfall throughout the region, with the greatest probability of above-normal rainfall in the southeastern parts of the region.

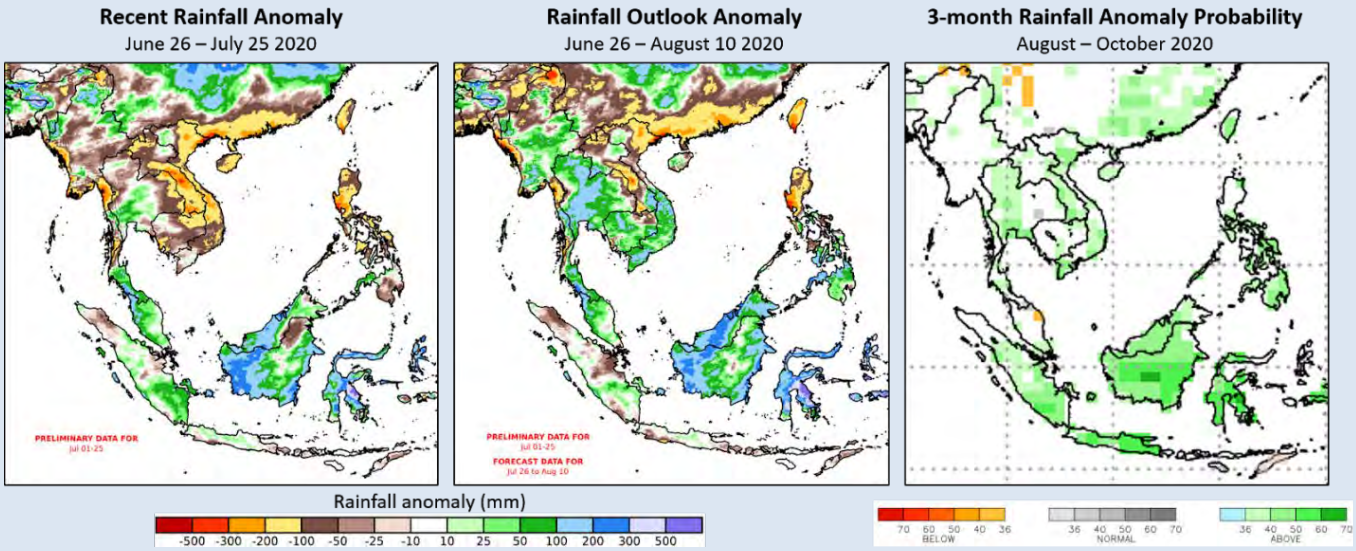
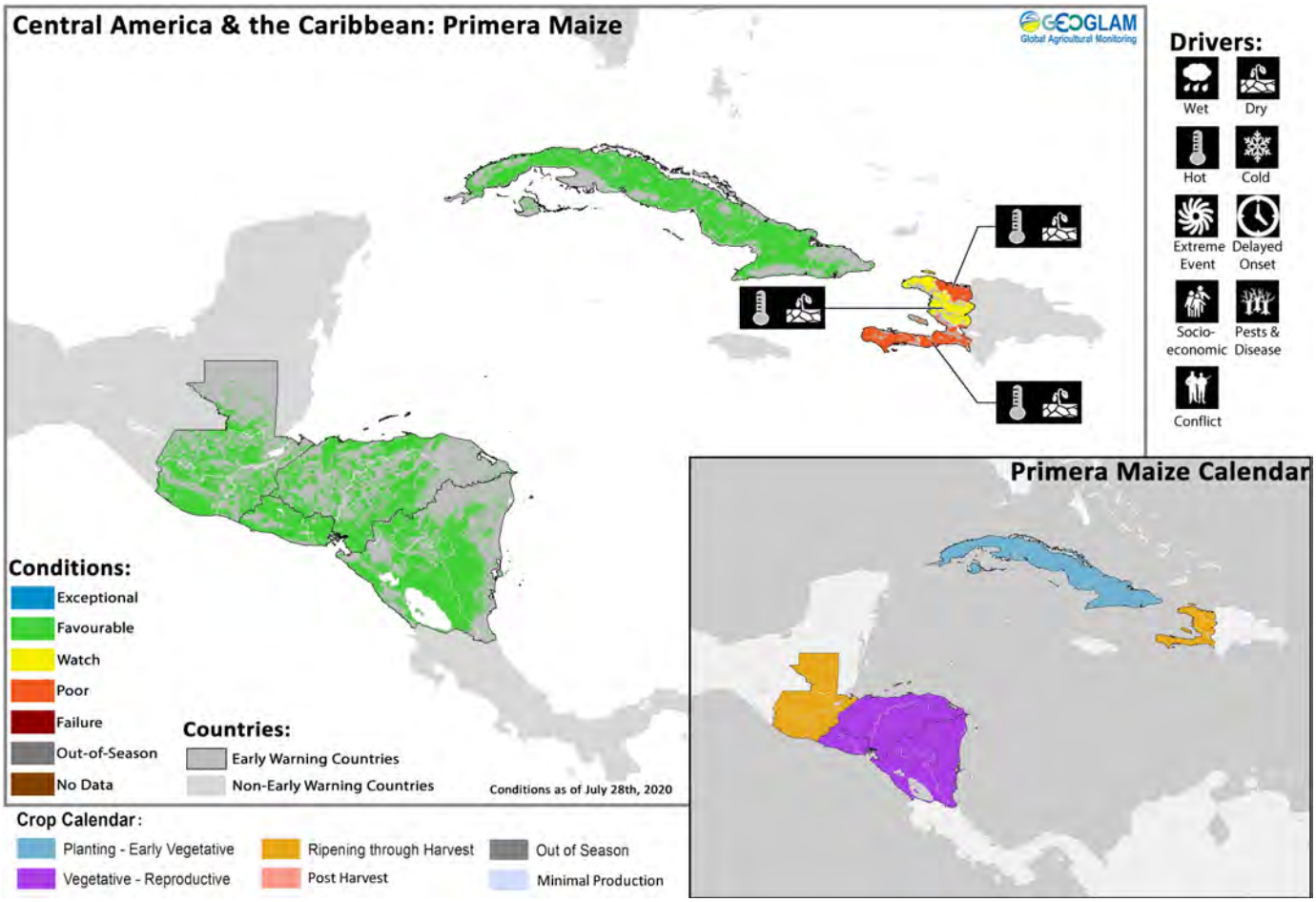


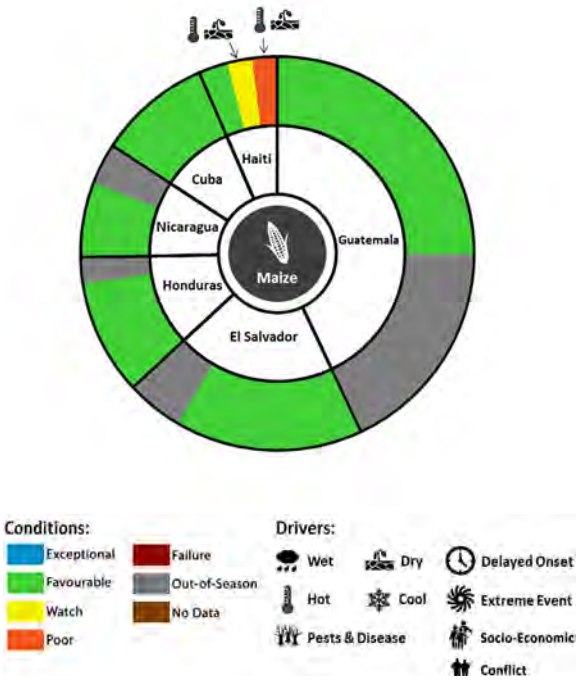
Figure 1. Estimated and forecast rainfall since June 26th and a 3-month forecast. The left and middle panels are UCSB Climate Hazards Center Early Estimates. They compare 2020 rainfall amounts to the 1981-2019 CHIRPS average. The left panel shows the estimated rainfall anomaly from June 26th to July 25th. The middle panel indicates what the post-June 26th rainfall anomaly would be if the 15-day unbiased GEFS forecast from July 26th materializes. On the right is the 3-month NMME experimental probabilistic forecast for August to October 2020, based on July 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 July 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. ***Conditions that are other than favourable are labeled on the map with their driver.***

In Central America and the Caribbean, harvesting of *Primera* season crops has started in **Haiti** and **Guatemala**, and there is concern for crop development in **Haiti** as drought and pest damage are likely to affect yields. In **El Salvador**, **Honduras**, and **Nicaragua**, harvesting will begin in August for *Primera* season crops which are developing under favourable conditions. Despite tropical storms Amanda and Cristobal that affected **El Salvador**, **Guatemala**, and parts of **Honduras** in early June, some resowing activities have been observed with normal development. Planting activities for second season cereals began in **Haiti** under favourable conditions to be harvested from October. In **Guatemala**, harvesting of *Primera* season cereals began in August and will finalize in September. Overall conditions are favourable with some localized damage due to heavy rainfall; however, below-average rainfall in Quiché departments is impacting some production areas. In **El Salvador**, *Primera* season crops are developing under favourable conditions and will be harvested from mid-August to September. Control operations are underway in areas affected by locusts, and replanting activities took place where flooding occurred in June. Forecasts of above-average rainfall are likely to benefit yields of *Primera* season maize (See Regional Outlook Pg. 18). In **Honduras**, *Primera* season crops are in vegetative to reproductive stage to be harvested from August to September, and overall conditions are favourable despite reduced rainfall in July, except in El Paraiso departments where some impacts from dryness were observed. Control operations are underway against locusts in Choluteca department. In **Nicaragua**, *Primera* season crops are developing under favourable conditions and will be harvested from August to September. In **Haiti**, harvesting of main season crops continued in July and will finalize in September. The rainy season, which ended in June, was characterized by below-average and erratic rainfall, which caused soil moisture deficits and planting delays of main season maize and rice crops. In late July, winds from Tropical Storm Isaias had minimal localized impacts on



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

crops in the Grande-Anse (Les Irois), Nippes (Font-des-Negres), and South (St Jean du Sud and Les Cayes) departments but did not affect main cropping areas. Overall dry conditions are likely to result in crop losses and reduced agricultural production; however, precipitation since mid-June is improving crop conditions, except in areas in the far south and northern coast. A potential increase in precipitation in July through September period could further benefit yields. In the Haut-Plateau, caterpillars are reported to be affecting the development of maize crops. Additionally, planting activities began for second season crops to be harvested from October under favourable conditions, though slightly delayed due to the late start of the Printemps season. An increase in precipitation in August could replenish soil moisture and benefit planting operations. In **Cuba**, conditions are favourable for the development of main season rice to be harvested from October and planting of main season maize to be harvested from September as slightly above-average precipitation in July benefitted crop development.

Regional Outlook: Above-average rainfall expected across the region in August

In contrast to the start of the 2020 Atlantic hurricane season in June which saw two tropical storms (Amanda and Cristobal), July rainfall has been relatively subdued across much of Central America. July rainfall has been 50-200 mm below-average (30-80% of the historical average) in Guatemala, El Salvador, northern Honduras, northeastern Nicaragua, and Haiti (Figure 1-left). July rainfall was 50-100 mm above-average (120-150% of average) in western Cuba, southern Honduras, southern Nicaragua, Costa Rica, and Panama.

The 15-day forecast indicates rainfall will be above-average over nearly the entire region, with the exception of eastern Nicaragua and Cuba. Figure 1-middle indicates what the seasonal (April-to-present) rainfall anomaly would be if the 15-day forecast came to fruition: rainfall deficits could exceed 100-300 mm (50-80% of average) in central Guatemala, eastern Honduras, and Haiti; rainfall totals are expected to exceed 200-500 mm above-average (120-200% of average) in southern Honduras, southwestern Nicaragua, and western Cuba. The 3-month forecast for August to October indicates above-normal rainfall throughout the region is likely (Figure 1-right).

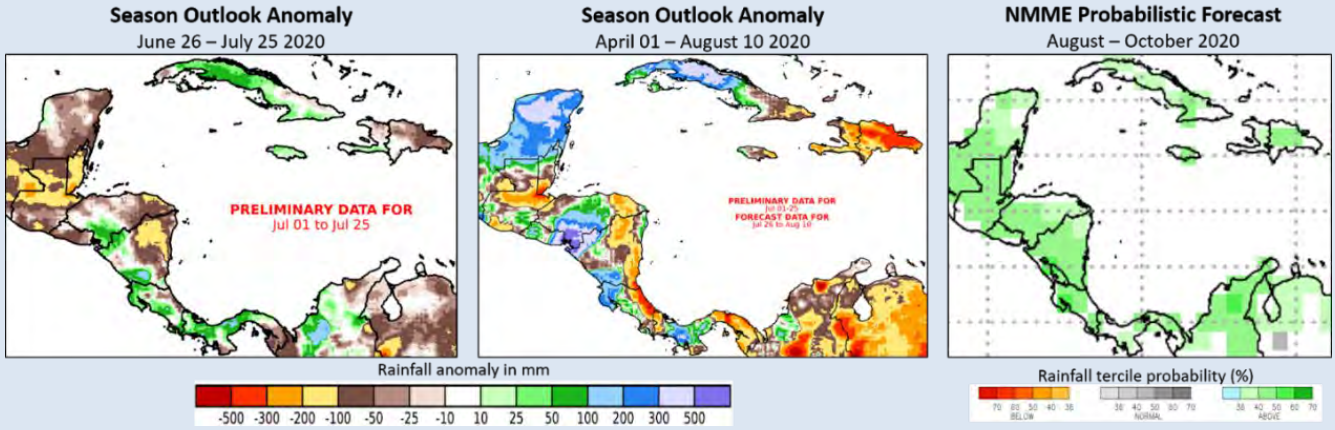


Figure 1. Estimated rainfall from June 26th to July 25th, estimated and forecasted rainfall since April 1st, and a 3-month probability forecast. The left panel and middle panels are UCSB Climate Hazards Center Early Estimates. They compare 2020 rainfall amounts to the 1981-2019 CHIRPS average. The left panel shows the estimated rainfall anomaly from June 26th to July 25th. The middle panel indicates what the post-April 1st rainfall anomaly would be if the 15-day unbiased GEFS forecast from July 26th materializes. On the right is the 3-month NMME experimental probabilistic forecast for August to October 2020, based on July 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 slide are weighted by the sub-national production statistics (5-year average) of the respective country. The section within each national slice also accounts for multiple cropping seasons (i.e. spring and winter wheat) and are a result of combining totals from multiple seasons to represent the total yearly national production. When conditions are other than favourable icons are added that provide information on the key climatic drivers affecting conditions.*

Information on crop conditions in the main production and export countries can be found in the Crop Monitor for AMIS, published August 6th, 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

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Contributing partners

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