

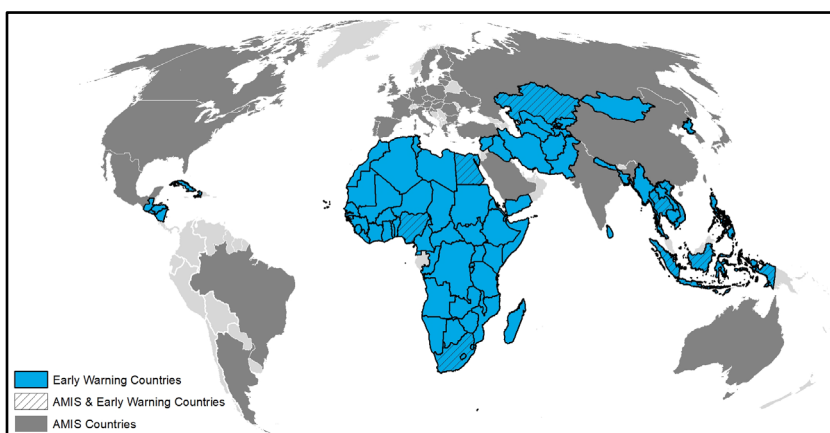


Crop Monitor

EARLY WARNING

Overview:

In **East Africa**, harvesting of main season cereals is complete or nearing completion in the south. Poor to failure crop conditions have resulted in parts of Kenya, Somalia, Uganda, and the United Republic of Tanzania for main season cereals, and persistent dryness continues to impact main season crops still under development in many areas. In the north, crops are in vegetative stage, and flooding is causing concern in parts of South Sudan, Sudan, and Yemen. In **West Africa**, conditions are generally favourable throughout the subregion except in southwestern Mauritania and other localized regions due to dry conditions as well as in conflict-affected areas. Recent heavy rainfall and flooding also impacted localized areas of Niger, Nigeria, and Chad. In the **Middle East and North Africa**, harvesting of wheat finalized last month under mixed conditions due to persistent dryness throughout the season. Conditions are favourable for maize and rice crops in Egypt and rice crops in Iran. In **Southern Africa**, wheat crops continue to develop under generally favourable conditions except in the main producing Western Cape of South Africa due to ongoing dry conditions. In **Central and South Asia**, harvesting of winter wheat has finalized with failure end of season conditions in parts of Afghanistan and poor conditions in Turkmenistan due to persistent dry and hot conditions. Harvesting of spring wheat is nearing completion under mixed conditions. In **Southeast Asia**, conditions remain favourable for wet-season rice in mainland areas and dry-season rice in Indonesia. However, fuel and fertilizer shortages are likely to result in below-average yields in Sri Lanka and are causing concern in Nepal. In **Central America and the Caribbean**, harvesting of *Primera* season cereals is complete or nearing completion, and average yields are expected due to generally good rainfall received.



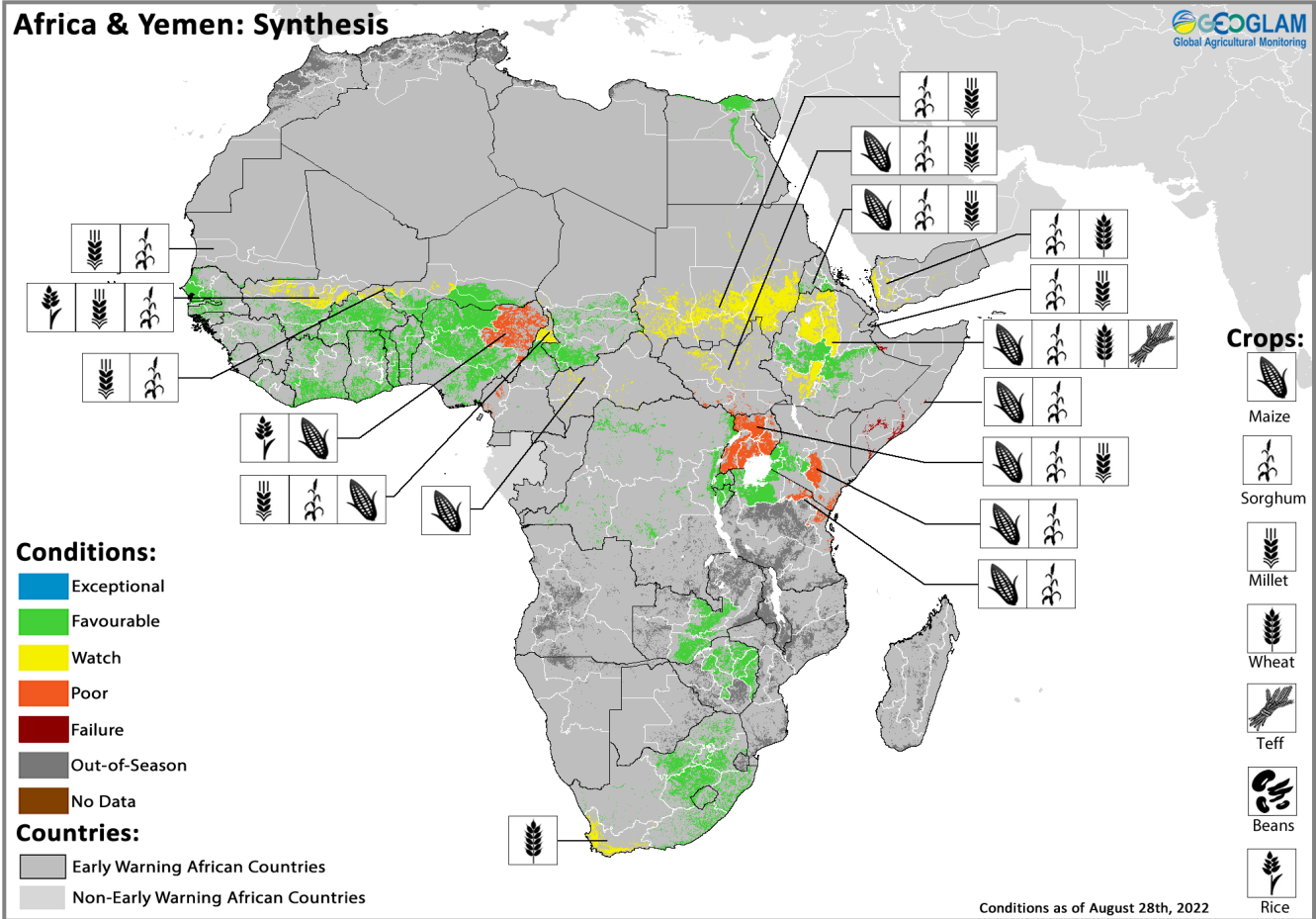
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GEOGLAM Crop Monitor for Early Warning

Crop Conditions at a Glance

based on best available information as of August 28th



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 main season cereals is nearing completion in the south under poor to failure conditions in parts of Kenya, Somalia, Uganda, and the United Republic of Tanzania. Planting and development continues in the north, and conditions remain mixed as persistent dryness continues to impact crops in many areas, and heavy rainfall and flooding are causing concern in parts of South Sudan, Sudan, and Yemen. In Ethiopia, conflict and socio-economic challenges continue to impact *Meher* season (Long Rains) crops in the north while crops in most other areas have benefitted from rainfall received in August. Land preparation for second season crops will start in September in the south, and there is ongoing concern due to the increasing likelihood of a fifth consecutive below-average rainfall season for OND 2022 (See Seasonal Forecast Alert Pg. 5).

WEST AFRICA: Harvesting of main season maize is nearing completion along the south of the subregion while planting and development of main season cereals continues along the Sahel. Conditions are generally favourable except in southwestern Mauritania and other localized regions due to rainfall deficits and abnormal dryness. Concern also remains in conflict-affected areas.

MIDDLE EAST & NORTH AFRICA: Harvesting of wheat finalized last month under mixed conditions due to persistent dryness

throughout the season. Planting and development of maize and rice crops are underway in Egypt while harvesting of rice crops is underway in Iran, and overall conditions are favourable.

SOUTHERN AFRICA: Wheat crops continue to develop under generally favourable conditions for harvest from September except in the main producing Western Cape of South Africa where the winter rainy season has been relatively dry.

CENTRAL & SOUTH ASIA: Harvesting of winter wheat finalized with well below-average yields in north, central, and southern Afghanistan and below-average yields in east and western Afghanistan and Mary region of Turkmenistan due to persistent dry and hot conditions. Elsewhere, final conditions are favourable. Harvesting of spring wheat is nearing completion under mixed conditions.

SOUTHEAST ASIA: In mainland areas, conditions are favourable for wet-season rice despite heavy rainfall and flooding in some areas. In Indonesia, conditions remain favourable for dry-season rice. In Sri Lanka, *Yala* season cereals are unlikely to recover from severe fuel and fertilizer shortages, and similar concerns remain for main season maize crops in Nepal.

CENTRAL AMERICA & CARIBBEAN: Harvesting of *Primera* season cereals is nearing completion, and average yields are expected. Main season cereals are unlikely to recover from rainfall deficits in Haiti.

Global Climate Outlook: Two-week Forecast of Areas with Above or Below-Average Precipitation

The two-week forecast (Figure 1) indicates a likelihood of above-average rainfall over southern Greenland, northern Iceland, south-central Canada, north-central, central, and southern areas of the United States, Central America, southern Brazil, southern Sahel areas, western areas of East Africa, eastern areas of the Democratic Republic of Congo, Ireland, France, Hungary, Poland, Belarus, Ukraine, west, east, and southeastern areas of the Russian Federation, Mongolia, South Korea, southern Japan, Taiwan, eastern Pakistan, central and northern India, southern Myanmar, southern Thailand, southern Laos, southern Viet Nam, eastern Malaysia, central and eastern Indonesia, southern Papua New Guinea, Australia, and northern New Zealand.

There is also a likelihood of below-average rainfall over northern Greenland, west, north, and eastern areas of Canada, west and eastern areas of the United States, Cuba, much of South America, northwestern Africa, the Gulf of Guinea, southern Africa, south an eastern areas of East Africa, Portugal, Spain, northern United Kingdom, Austria, Czech Republic, Norway, Sweden, Turkey, Georgia, Armenia, Azerbaijan, northern Iraq, northwestern Iran, Kazakhstan, Uzbekistan, Kyrgyzstan, central areas of the Russian Federation, north and southeastern China, the Democratic People's Republic of Korea, northern Japan, southern India, Sri Lanka, eastern Nepal, Bangladesh, northern Myanmar, northern Laos, northern Viet Nam, Cambodia, western Myanmar, and western Indonesia.

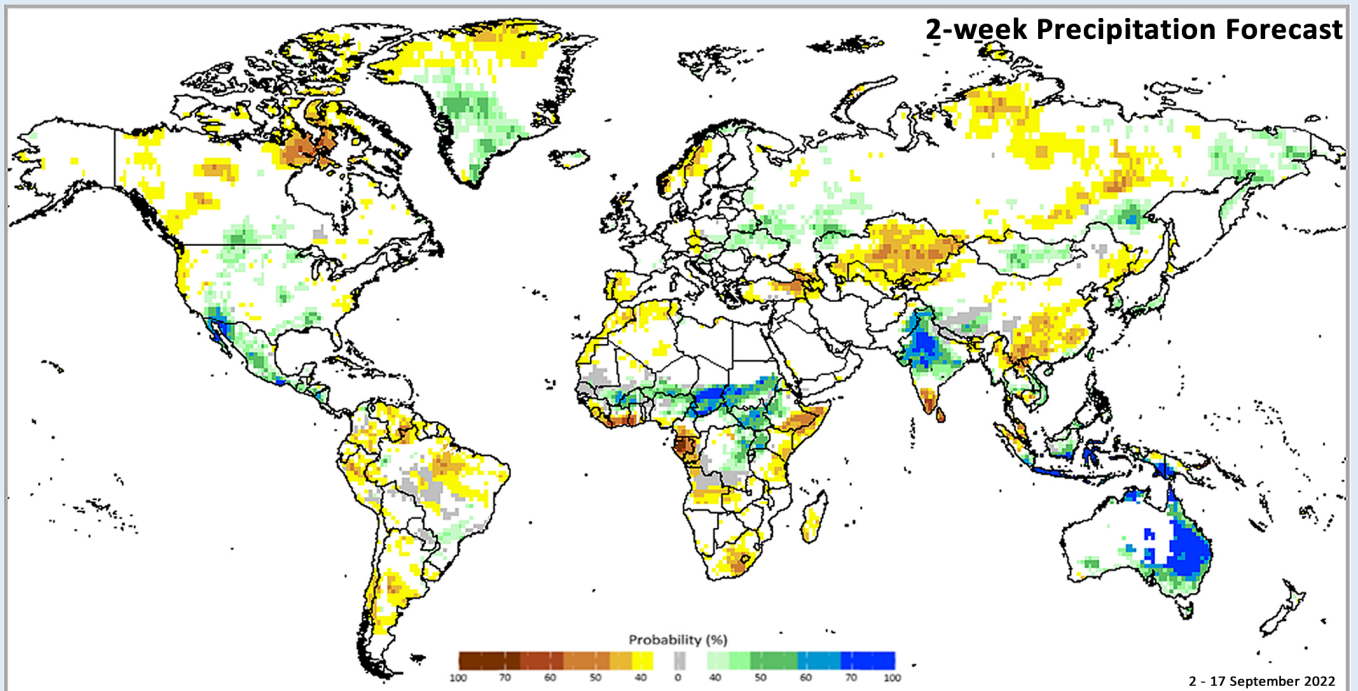


Figure 1: IRI SubX Precipitation Biweekly Probability Forecast for 2 – 17 September 2022, issued on August 26th, 2022. The forecast is based on statistically calibrated tercile category forecasts from three SubX models. Source: [IRI Subseasonal Forecasts Maproom](#)

Climate Influences: La Niña phase is present and forecast to continue into early 2023 and Negative Indian Ocean Dipole conditions are present

The El Niño-Southern Oscillation (ENSO) is currently in the La Niña phase, according to the IRI/CPC. La Niña conditions will likely continue into early 2023 (80% chance for September to November and 60% chance for December to February). Negative Indian Ocean Dipole (IOD) conditions are present and will likely continue into December, according to the Australia Bureau of Meteorology forecast (99% chance for October and 63% chance for December). Associated with the forecast La Niña and possible strong negative IOD conditions during the next several months, there are increased risks of severe drought impacts across the Horn of Africa, and heavy rainfall and flooding in Australia and southeast Asia. Additionally, La Niña conditions for a third year in a row raises concerns about repeat dry conditions in eastern East Africa, southern South America, Central and Southern Asia, and southern North America, where multiple rainfall seasons have been below-average since late 2020.

Source: UCSB Climate Hazards Center

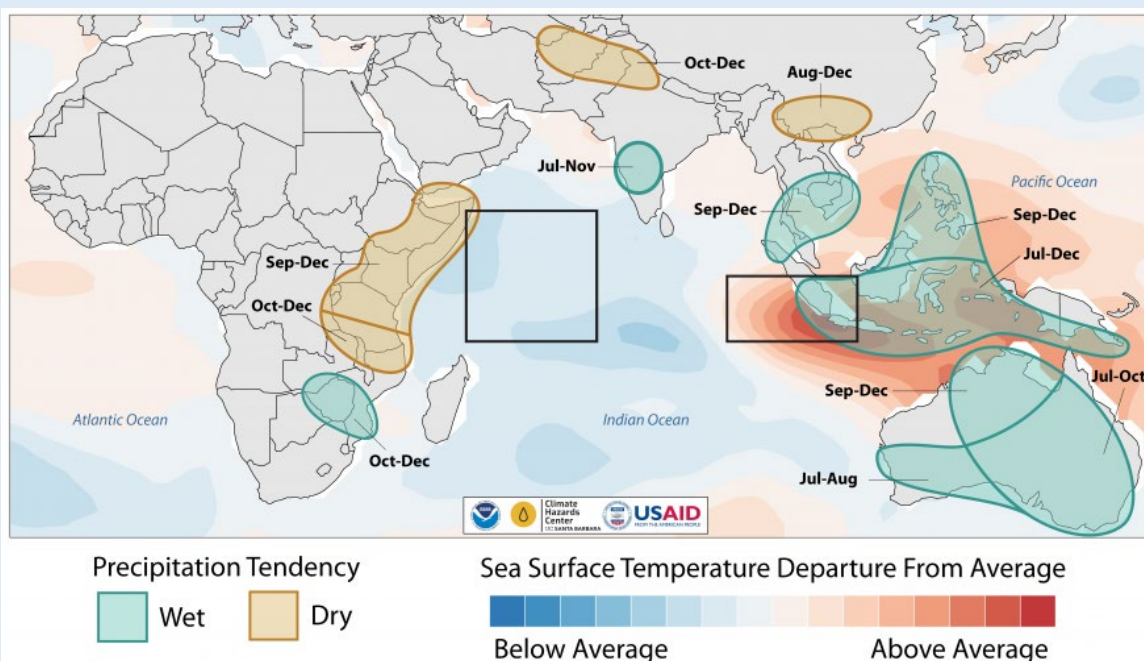
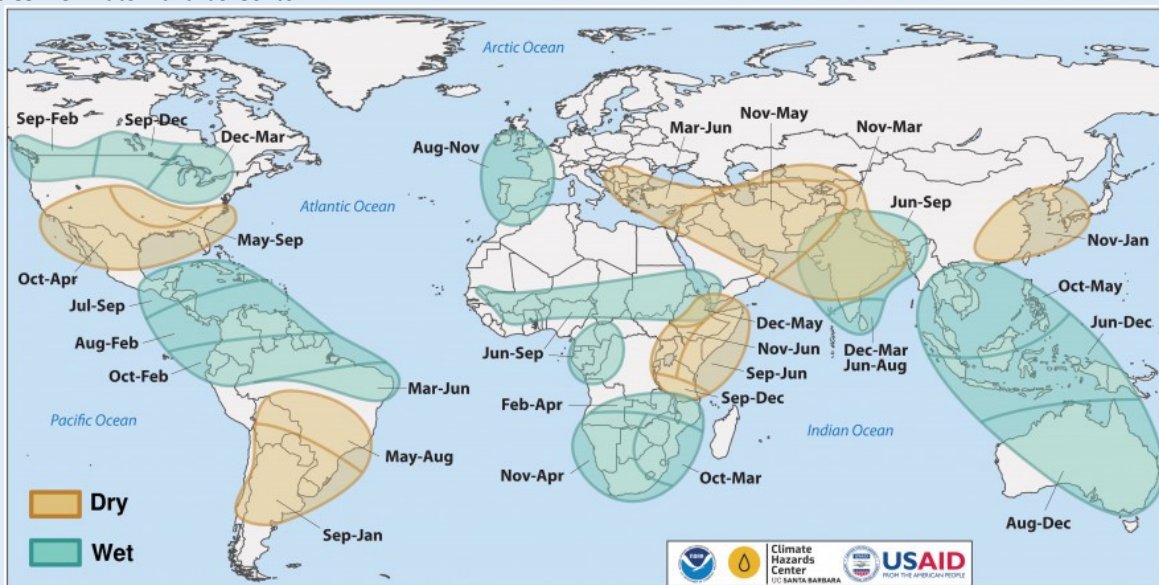


Figure 1. Precipitation tendency during *La Niña* (top) and negative *Indian Ocean Dipole* conditions (bottom). Source: FEWS NET Agroclimatology Fact Sheets on *La Niña* and the *Indian Ocean Dipole*. Source: NOAA & CHC & FEWS NET

Seasonal Forecast Alert: High likelihood of unprecedented fifth consecutive below-normal rainfall season in eastern East Africa for OND 2022

During July 26th to August 25th, conditions were drier than average in central-western, central-eastern, and southwestern Ethiopia, and in portions of central South Sudan, southern Sudan, northeastern Uganda, Kenya, and southern and northern Somalia (Figure 1 left). Average or above-average rainfall was received in most other areas. After the severe rainfall deficits in July and March-to-May, the recent conditions provided relief in some earlier deficit areas, such as in Ethiopia's central highlands and northeastern areas and in north-central South Sudan.

Below-average seasonal rainfall totals are present across many central, southern, and eastern areas. Totals for March 1st to August 25th (Figure 1 middle-left) and [June 1st to August 25th](#) range from 90% of average to localized areas with only 30% of average. Seasonal totals since March were [close to or at record-low levels](#), as of August 25th, in Ethiopia's southern and central Rift Valley, the eastern highlands crop growing areas, and the Somali region, and in portions of northern Uganda, southwestern South Sudan, and eastern Kenya, and across much of central and northern Somalia. According to the [Ethiopia Monitoring Report](#) from August 25th, long-cycle crops in the dry areas and Kiremt season crops in some central and southern areas will be negatively impacted. Below-average NDVI across southern and eastern Ethiopia indicates highly stressed vegetation from dry and hot conditions during the Belg and Kiremt seasons.

Consistent with earlier forecasts for the June-to-September season, large rainfall surpluses have developed in Sudan, Eritrea, northeastern Ethiopia, and Djibouti. Episodic heavy rains and flooding have impacted thousands of people in the Nile river basin in Sudan, Sudd Wetland areas of South Sudan, in flood-prone sectors of Ethiopia's Tigray, Afar, Amhara, Oromia, and Gambella regions, and in eastern Uganda. A bias-corrected GEFS forecast for rainfall during the first half of September indicates wetter-than-average conditions across western areas of the region, with the possibility of very heavy rain in western Ethiopia and southeastern South Sudan (Figure 1 middle-right). If this materializes, more areas in the greater Nile basin could experience destructive flooding.

The extensive, long-lasting, and severe drought conditions in the eastern Horn are expected to worsen in coming months. That pessimistic outlook is based on strong consensus among regional experts that there are highly elevated chances for below-normal October-to-December 2022 rainfall. [Strong negative Indian Ocean Dipole \(IOD\) and West Pacific Gradient \(WPG\)](#) and [La Niña](#) conditions are anticipated. These are highly conducive to reduced OND rains, and have been responsible for several of the most severe and widespread OND droughts in the past. The GHACOF62 OND 2022 precipitation forecast (Figure 1-right), WMO, NMME, and C3S ensemble forecasts all identify eastern Kenya, southern Somalia, southeastern Ethiopia, and northeastern Tanzania as the epicenter of most likely below-normal rainfall (~60 to 80% chances), and that more widespread areas could potentially also be impacted. Given the current dry soil moisture conditions and anticipated poor rains, [severe or exceptional hydrologic drought conditions](#) are highly likely in eastern Kenya and Ethiopia and central and southern Somalia, with implications for scarce clean water resources, poor crop growing conditions, and limited livestock grazing and watering opportunities.

Another season with poor rainfall performance, combined with continued macroeconomic shocks, conflict, and insufficient humanitarian responses will very likely drastically increase the [severity and magnitude of food insecurity](#) in the region. According to the latest FSNWG [report](#), in Ethiopia, Kenya, and Somalia, "estimates indicate that about 18.6 – 21.1 million people face high levels of acute food insecurity due to drought" and more than 9.2 million livestock have perished in pastoral and agro-pastoral regions. Due to the tendency for back-to-back OND and March-to-May (MAM) droughts during similar climate conditions, there are also [concerns](#) that a 5th poor season in eastern areas could be followed by a 6th, in MAM 2023.

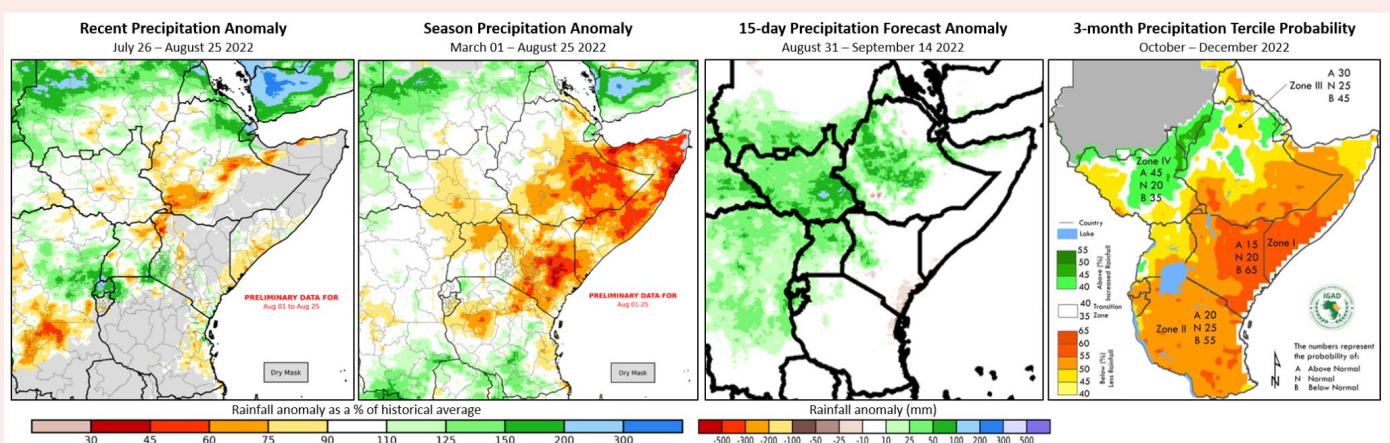
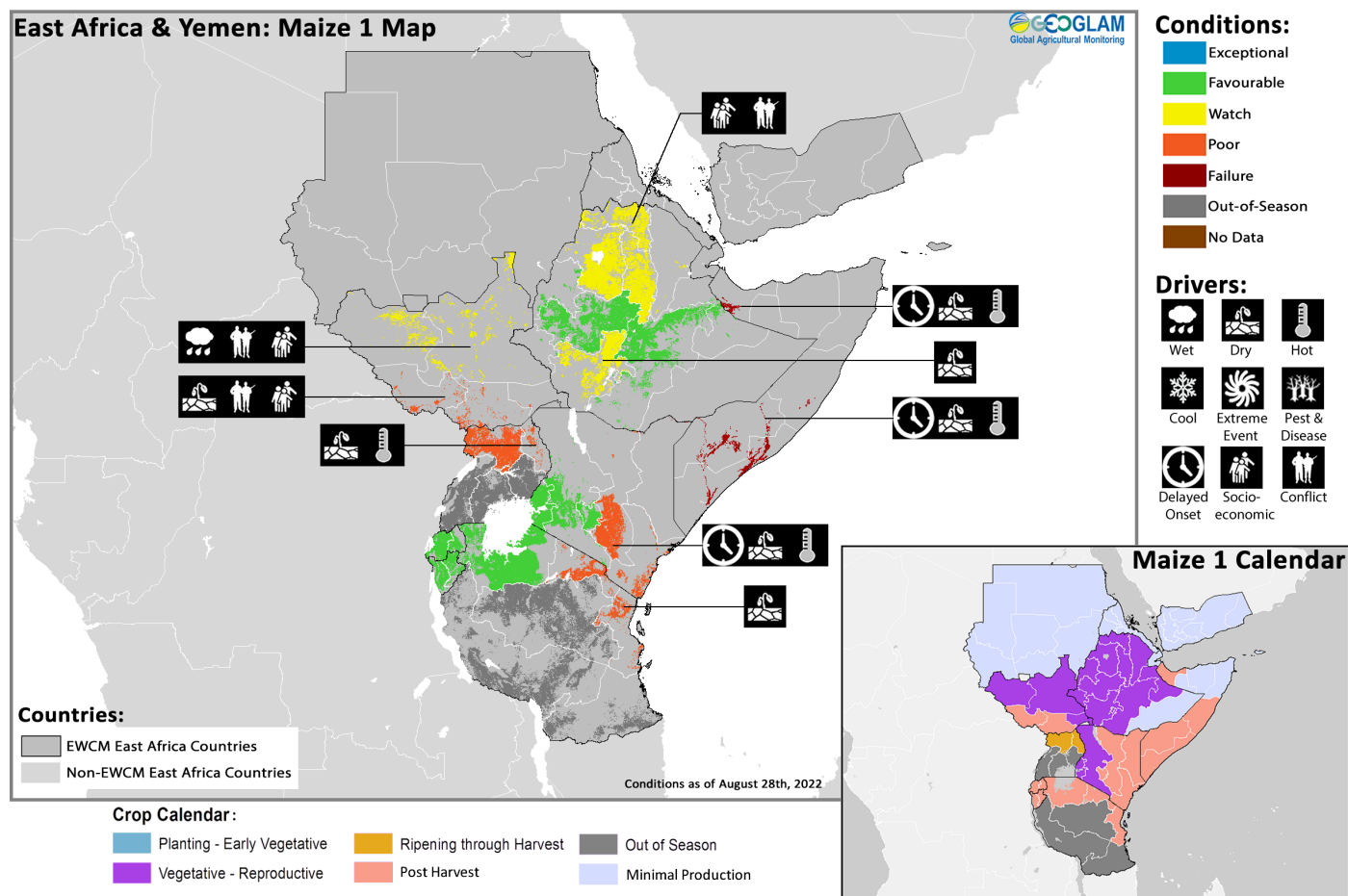


Figure 1. July 26th-to-August 25th and March 1st-to-August 25th, 2022 precipitation anomalies, a forecast for August 31st to September 14th, and the GHACOF 62 forecast for October-to-December 2022 precipitation. The left two panels are CHC Early Estimates, which compare current precipitation totals to the 1981-2021 CHIRPS average for their respective accumulation periods. These show the percent of average for July 26th to August 25th, 2022 (left), and for March 1st to August 25th (middle-left). Preliminary data is used for August 1st - 25th. Middle-left: A bias-corrected GEFS precipitation forecast for August 31st to September 14th, shown as the difference from average. Right: Greater Horn of Africa Climate Outlook Forum (GHACOF62) forecast for October-to-December 2022 precipitation. Image from [ICPAC](#). Source: UCSB Climate Hazards Center

East Africa

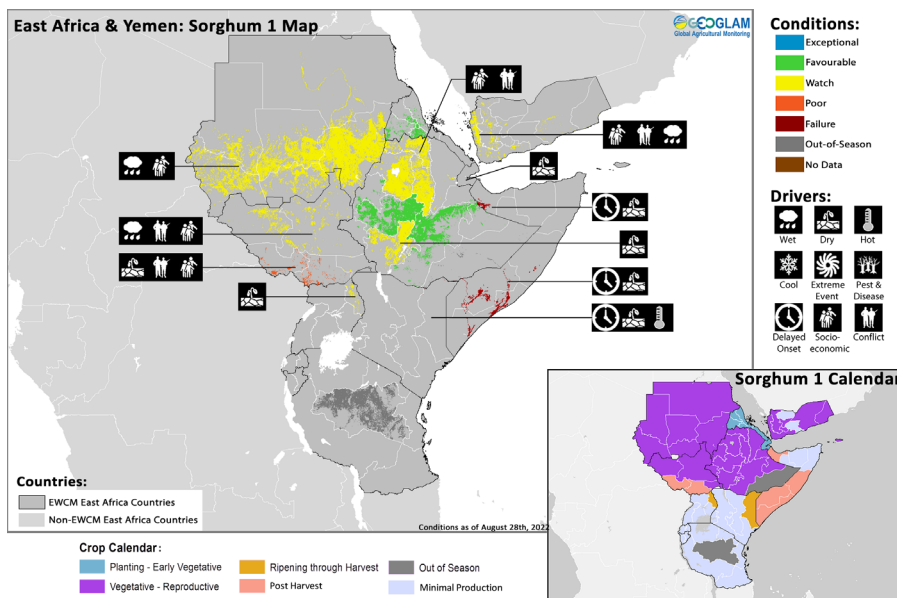


Crop condition map synthesizing Maize 1 crop conditions as of August 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Conditions that are other than favourable are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

Across the north of the subregion, harvesting of first season cereals finalized in southern bimodal rainfall areas in **South Sudan** while planting and development of main season cereals continues throughout unimodal rainfall areas in **South Sudan, Sudan, Djibouti, Eritrea, and Yemen**. Concern remains in most areas due to persistent dryness across southern **South Sudan** and **Djibouti**, heavy rainfall in flooding in Bahr el Ghazal and Upper Nile regions of **South Sudan**, parts of **Sudan**, and western **Yemen** (See Seasonal Forecast Alert Pg. 5), macroeconomic challenges in **Sudan**, and ongoing conflict and socio-economic challenges across **South Sudan** and **Yemen**. Conversely, crops have improved from previous dryness in **Eritrea**. In **Ethiopia**, Meher season (Long Rains) cereals continue to develop under mixed conditions due to ongoing conflict and socio-economic challenges in the north. Conversely, crops in East Oromia and North Somali have improved from previous dry conditions as rainfall in August provided some relief from severe rainfall deficits, while concern remains in SNNPR due to continuing dry conditions (See Seasonal Forecast Alert Pg. 5).

Across the south of the subregion, harvesting of main season cereals is nearing completion in **Burundi**, eastern bimodal rainfall areas in **Kenya, Rwanda, Somalia**, northern bimodal rainfall areas in the **United Republic of Tanzania**, and northern unimodal rainfall areas in **Uganda** while crops continue to develop in western unimodal rainfall areas of **Kenya**. Crops in marginal producing northeastern **Kenya** and in southern **Somalia** have failed, and below average yields have resulted in east and coastal bimodal rainfall areas of **Kenya, Uganda**, and northeast and north-coastal areas of the **United Republic of Tanzania** due to persistent dryness throughout the season. Conversely, conditions remain favourable in western unimodal rainfall areas of **Kenya, Rwanda, Burundi**, and northwestern areas of the **United Republic of Tanzania**.

The Horn of Africa continues to be affected by four consecutive below-average rainfall seasons since late 2020, and the March to May 2022 rainy season was the driest on record in the last 70 years. Drier than average conditions are forecast across many areas through the critical October to December rainfall season and are expected to continue in the drought-affected regions of eastern **Kenya**, southern **Somalia**, southeastern **Ethiopia**, and northeastern areas of the **United Republic of Tanzania**. As many of these regions depend on the October to December rains for the main harvest, the next significant harvest may not occur until late 2023, posing significant challenges to food security. Conversely, areas of **Djibouti**, eastern **Eritrea**, parts of northeast, northwest, and north-central **Ethiopia**, southern **Sudan**, and parts of **South Sudan** may receive above-average rainfall during this time (See Seasonal Forecast Alert Pg. 5).

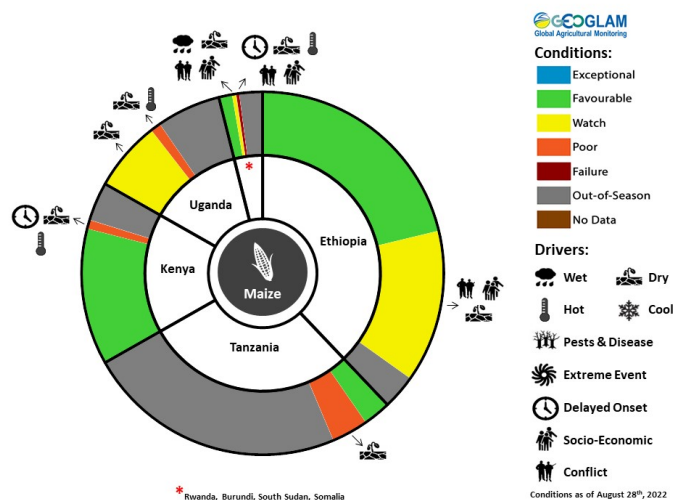


Crop condition map synthesizing Sorghum 1 conditions as of August 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Conditions that are other than favourable are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

hydrologic drought conditions (See Seasonal Forecast Alert Pg. 5). In **Sudan**, main season millet and sorghum crops are in vegetative to reproductive stage for harvest from November, and concern remains due to macroeconomic challenges throughout the country as well as in areas impacted by heavy rainfall and flooding. The rainy season continues to impact many parts of the country, resulting in flooding or damage from heavy rainfall in the Nile river basin (See Seasonal Forecast Alert Pg. 5). The peak of the rains and flooding are typically observed in August through September. In late August, the government declared a state of alert and emergency in six states due to heavy rains and floods since June, including River Nile, Gezira, White Nile, West Kordofan, South Darfur, and Kassala. According to a civil defence report, 1,470 acres of agricultural land were affected in El Managil locality in Gezira, located in the southeast of the country. Despite favourable agro-climatic conditions in areas not impacted by flooding, macroeconomic challenges, including high fuel prices, fuel shortages, limited input access, and limited access to credit for mechanized agriculture, are likely to impact seasonal production outcomes. In **South Sudan**, harvesting of first season cereals finalized in southern bimodal rainfall areas under poor conditions due to insufficient rainfall and dry spells during crop development as well as ongoing conflict and socio-economic challenges. In unimodal rainfall areas, crops continue to develop for harvest from October, and concern remains due to persistent dryness in the southeast as well as heavy rainfall and flooding in Bahr El Ghazal and Upper Nile regions (See Seasonal Forecast Alert Pg. 5). Additionally, impacts of widespread flooding and inter-communal violence have been compounded by protracted macroeconomic challenges, including high inflation and livelihood losses. A recent escalation in tensions and conflict have resulted in thousands of new displacements between Malakal and Tonga, located in the northeast. Planting of second season maize and sorghum crops is now underway in southern bimodal rainfall areas, and there is concern due to continued dry conditions, conflict, and socio-economic challenges. In **Djibouti**, planting of main season millet and sorghum crops continues for harvest from November, and previous dry conditions continue to cause concern for seasonal outcomes. However, recent precipitation has resulted in large rainfall surpluses. In **Eritrea**, wheat crops are in vegetative to reproductive stage while planting of main season sorghum crops is underway, and overall conditions remain favourable. In **Yemen**, main season sorghum crops are in vegetative to reproductive stage while harvesting of spring wheat crops is underway, and concern remains throughout the country due to conflict and related socio-economic challenges, including high costs of farm inputs and fuel, as well as recent heavy rainfall and flooding. Heavy rains and widespread flooding impacted much of the country in the second half of July through August, impacting lowland areas of Al Hodeidah, Al Mahwit, Hadramawt, Hajjah, Lahj, Raymah, Sa'dah, Sana'a, Shabwah, and Ta'iz governorates. The most affected governorates include Hajjah and Mahweet in the northwest and Marib in the centre, and torrential rains are forecast to continue through late August (See Seasonal Forecast Alert Pg. 5).

Northern East Africa & Yemen

In **Ethiopia**, Meher season (Long Rains) cereals are developing under mixed conditions for harvest from September. The country continues to face compounding challenges relating to prolonged drought, conflict in northern Tigray Region and adjacent areas of Amhara and Afar regions, and severe macroeconomic challenges exacerbated by the effects of the Ukraine war. Rainfall in August has provided some relief from severe rainfall deficits and improved crop prospects in East Oromia and North Somali but has also resulted in episodic heavy rains and flooding in Tigray, Afar, Amhara, Oromia, and Gambella regions. In SNNPR, concern remains due to below-average rains and dry conditions. Additionally, a return to below-average rainfall is expected for southern areas for the October to December period, likely leading to severe or exceptional

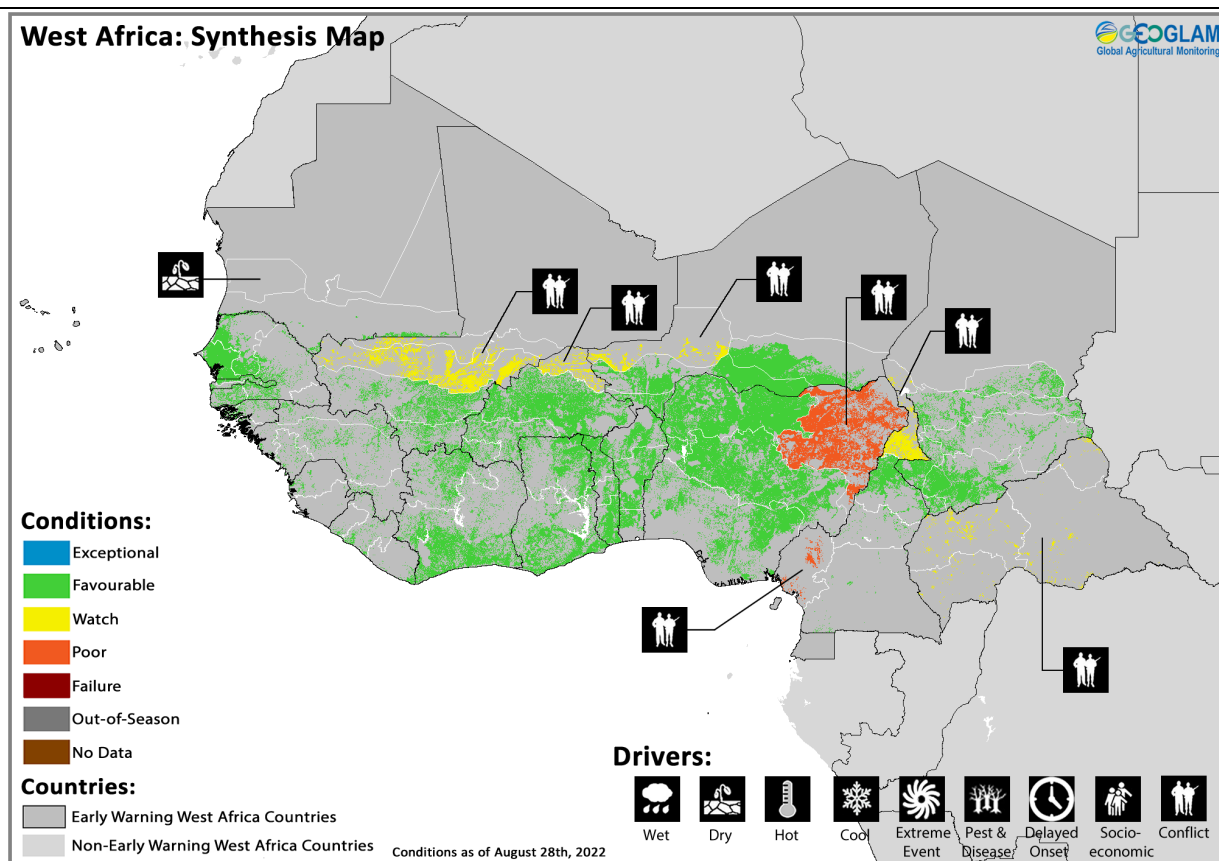


For detailed description of the pie chart please see description box on Pg. 16.

Southern East Africa

In **Somalia**, harvesting of *Gu* season maize and sorghum crops finalized under poor conditions due to the combined impacts of a delayed start to the season, below-average rains, hot temperatures, and an early end to the rainfall season. Recent rains may have allowed for minimal crop recovery in central areas, including Galgaduud and Mudug, and crops in Shabelle and Juba regions along the southern coast fared slightly better compared to other areas of the country. However, according to the joint FEWS NET and FSNAU Somalia Food Security Alert from September 5th, maize and sorghum harvests in areas of were near-total failure at only 13 to 20 percent of the long-term average. Land preparation is underway for *Deyr* season sorghum crops, and planting will begin in September. Severe or exceptional hydrological drought conditions are likely to worsen in central and southern areas for the October to December period (See Seasonal Forecast Alert Pg. 5). In **Uganda**, harvesting of first season cereals finalized in southern bimodal areas and is nearing completion in northern unimodal areas, and crops are unlikely to recover from generally poor seasonal rainfall performance throughout the season. Planting of second season maize crops is now underway, and while there were rainfall improvements in August, the forthcoming months might have insufficient moisture to support plant development (See Seasonal Forecast Alert Pg. 5). In eastern bimodal and minor producing regions in **Kenya**, harvesting of Long Rains crops finalized under failure conditions in the northeast and poor conditions in the east and coast due to poor seasonal rainfall performance and prevailing drought conditions. Conversely, maize production in Kwale region, located in the southeast of the country, was above-average due to sufficient rainfall received for late planted crops. Severe or exceptional drought conditions are likely to worsen in eastern areas for the October to December rainfall period (See seasonal Forecast Alert Pg. 5). In western unimodal rainfall regions, Long Rains cereals are in vegetative to reproductive stage for harvest from October, and growing conditions remain favourable. In **Rwanda**, harvesting of major Season B maize crops finalized under favourable conditions. Land preparation is underway for minor Season A maize crops, and planting will begin in September. In **Burundi**, harvesting of major Season B maize and rice crops is nearing completion, and overall conditions are favourable. In the **United Republic of Tanzania**, harvesting of *Masika* season cereals finalized in northern bimodal rainfall areas under mixed conditions. Below-average yields resulted in the northeast and along the northern coast due to below-average rains. Conversely, near-average yields resulted in the northwest due to sufficient rainfall received. Land preparation is underway for *Vuli* season maize crops in bimodal areas, and planting will begin in September.

West Africa



Crop condition map synthesizing crop 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.**

Along the south of the subregion, harvesting of main season maize crops finalized in **Nigeria** and is nearing completion in **Liberia**, **Cote d'Ivoire**, southern **Burkina Faso**, **Ghana**, **Togo**, and central and southern **Benin** while crops continue to develop in **Guinea**, northern **Benin**, northern **Cameroon**, and the **Central African Republic**. Harvesting of second season maize crops is underway in southern **Cameroon** while planting and development continues in **Cote d'Ivoire**, southern **Ghana**, central and southern **Togo**, central

and southern **Benin**, southern **Nigeria**, and central **Cameroon**. Along the Sahel, planting and development of main season cereals continues in **Mauritania**, **Senegal**, **Gambia**, **Mali**, **Burkina Faso**, **Niger**, and **Chad**.

Throughout the subregion, climatic conditions remain generally favourable except in southwestern **Mauritania**, with a dry spell more than 15 days, as well as in localized parts of central **Mali**, **Niger**, and **Nigeria** where the rainfall deficits range from slight to moderate with a short dry spell period of less than 10 days. Conversely, heavy rainfall has resulted in saturated soils and flooding in parts of southern **Niger**, northern **Nigeria**, **Chad**, and other localized areas of the subregion. However, flooding impacts are more severe in residential urban areas due to the obstruction of drainage channels, whereas impacts to agricultural areas are more localized and did not significantly affect agricultural production. In **Niger**, heavy rainfall and flooding have impacted parts of the country since mid-July, particularly in Zinder, Diffa, Tillabéri, and Maradi regions located along the south of the country. In **Nigeria**, parts of the country have been impacted by heavy rainfall and flooding from mid-June. Since June 20th, abundant rains were recorded over localized southern areas. Then on July 17th, flash floods were reported in Yobe state located in the northeast, and heavy rainfall from August 1st triggered flooding in several parts of Jigawa state located in the north, resulting in damage to wide areas of farmland and crops. In **Chad**, heavy rainfall and storms since June have resulted in severe flooding and significant damage in several regions. According to a recent OCHA report, nearly 2,700 hectares of crops and farmland have been destroyed as of late August. Recent heavy rainfall and additional forecast precipitation increases the risk of rising river levels and flooding in **Mali**, **Senegal**, **Guinea**, and **Sierra Leone**. Forecasts for September indicate above-average rainfall along the Sahel that may help to improve deficit areas, while below-average rainfall is expected along the Gulf of Guinea (See Regional Outlook Pg. 9). Concern remains in areas impacted by ongoing conflict, including northeastern **Nigeria**, the Far North and southwest regions of **Cameroon**, the **Central African Republic**, Lac region in **Chad**, northern **Burkina Faso**, central **Mali**, and western **Niger**. An additional factor weighing on production prospects is the limited application of fertilizers due to low availabilities and high prices, which have constrained access and might result in a contraction of yields, particularly in **Burkina Faso**, **Mali**, and **Ghana**.

Regional Outlook: Above-average rainfall in September is anticipated across the Sahel while below-average rainfall is forecast along the Gulf of Guinea

During July 26th to August 25th, conditions were wetter than average in many central and eastern Sahel areas, Mauritania, and central Côte d'Ivoire, and drier than average in portions of Senegal and southern Mali, western Sahel, and along the coastal Gulf of Guinea areas. Destructive flooding occurred in Chad, northeastern Nigeria, Sierra Leone, Cameroon, and Mauritania. Extreme heavy rainfall and destructive flooding have impacted many areas this season, including in Chad, northeastern Nigeria, Niger, Senegal, Sierra Leone, Cameroon, and Mauritania, according to [Floodlist](#) reports.

An outlook for May 1st to September 10th rainfall (Figure 1-middle) indicates average to above-average seasonal totals in most areas, with some deficits remaining in the south. In southern Mali, despite the very low rainfall received during July to mid-August in the southwest, forecasts indicate that these areas will improve to near-average conditions by mid-September. In central Nigeria's deficit areas, mixed levels of recovery are more likely. During September, above-average rainfall is anticipated across the Sahel, from western Mali to Chad, based on GEFS, ECMWF, and SubX forecasts. Below-average rainfall is forecast along the coastal Gulf of Guinea areas. This pattern will likely continue into October, according to the longer-range WMO forecast (Figure 1-right). Associated with the wet forecasts are heavy rainfall and saturated soils that will increase risks of flash floods, river flooding, and landslides.

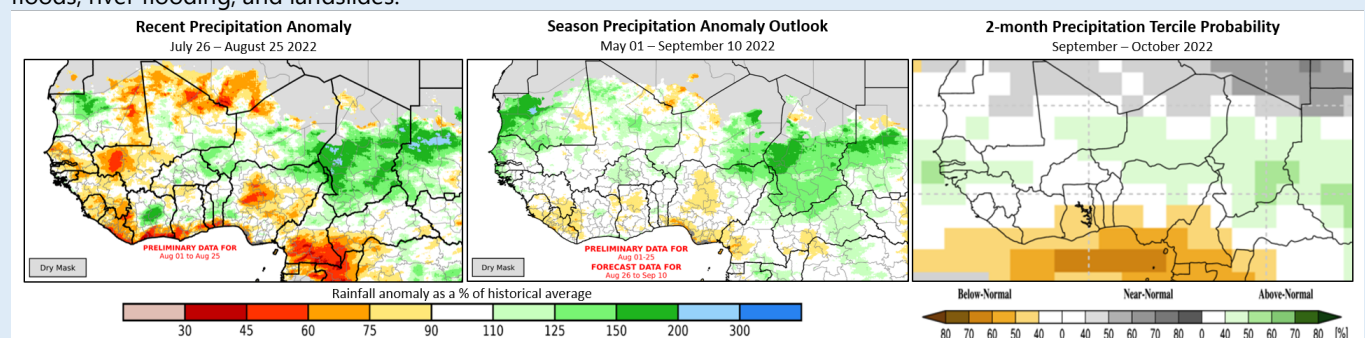
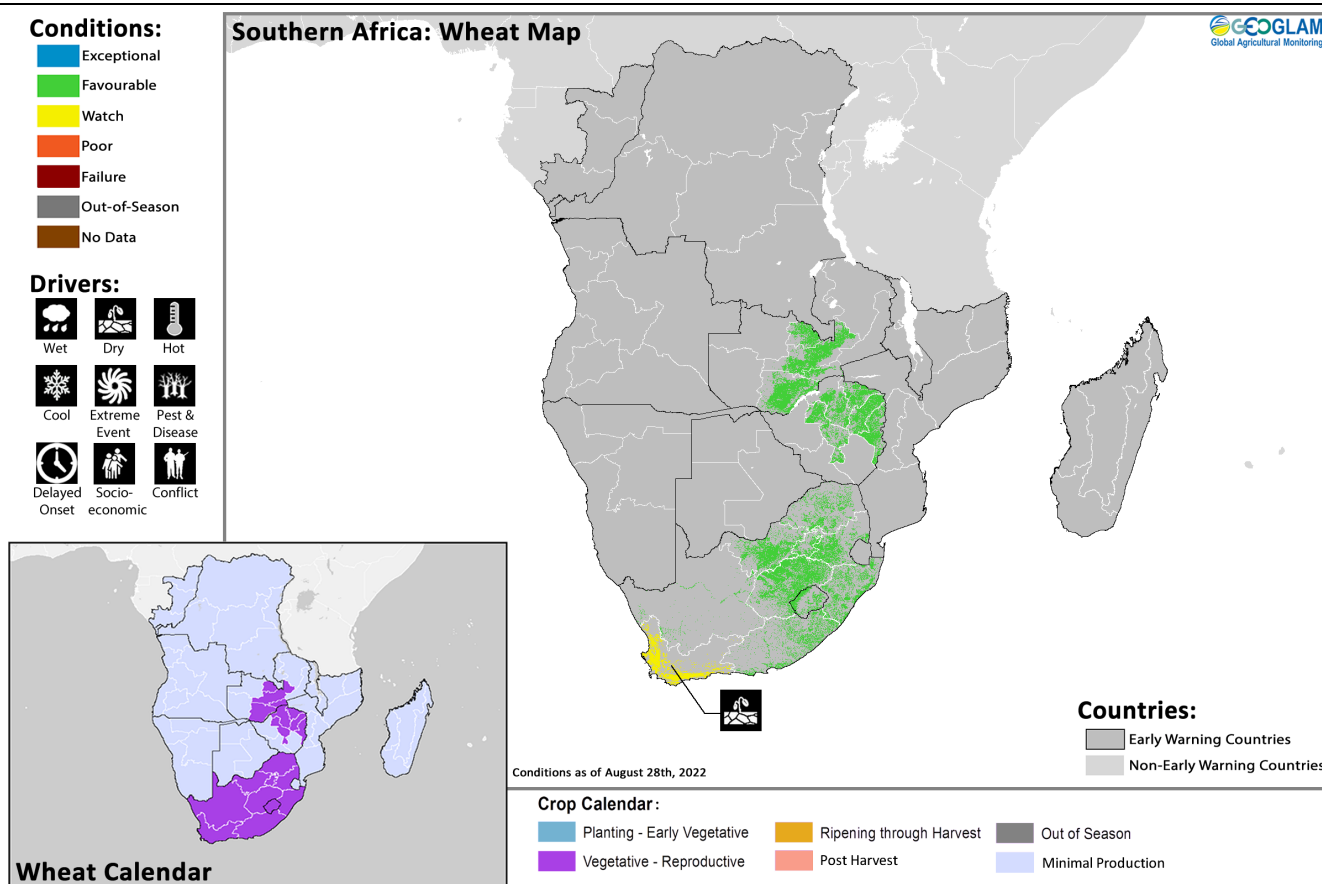


Figure 1. July 26th-to-August 25th and May 1st-to-September 10th, 2022 precipitation anomalies, and a probability forecast for September-to-October 2022 precipitation. The left two panels show CHC Early Estimates, which compare current precipitation totals to the 1981-2021 CHIRPS average for their respective accumulation periods. These show the percent of average for July 26th to August 25th, 2022 (left), and for May 1st to September 10th (middle-left), based on CHIRPS final data through July and preliminary data for August 1-25th. The outlook through September 10th uses a 15-day bias-corrected GEFS forecast from August 26th. Right: WMO probabilistic forecast for September-to-October 2022 precipitation, from the WMO Lead Centre Long-Range Forecast Multi-Model Ensemble. Source: UCSB Climate Hazards Center

Middle East & North Africa

In the Middle East and North Africa, harvesting of wheat finalized last month under mixed conditions with crop failure in **Morocco** and northern **Syria** and below-average yields in parts of **Algeria, Tunisia, Syria, Iraq, and Iran** due to persistent dryness throughout the season. Elsewhere, final yields were near-average. In **Algeria**, national wheat production is expected to be 20 percent higher than the previous year's output but slightly below-average at 3 million tonnes due to near-average yields in central and eastern areas and lower production in western areas. In **Egypt**, wheat production is reported by the government to be 7 percent above the previous year's output and 10 percent above the five-year average due to an increase in planted area as well as the use of improved seeds. Maize crops are in vegetative to reproductive stage for harvest from October while planting of *Nili* season (Nile Flood) rice crops continues, and conditions remain favourable. In **Iran**, harvesting of rice crops is just beginning and will finalize in September. Production is expected to be near-average, mainly in the main producing Mazandaran and Gilan provinces in the north, which represent 64 percent of national rice production, as well as in Khuzestan and Fars in the centre, which represent about 16 percent of national rice production, and despite a reduction of the irrigated summer crops area compared to 2020 in the minor producing Esfahan province. In **Iraq**, rice production is expected to decline sharply compared to the previous year as the planted area in the main producing provinces of Qadissiya and Najaf has been strongly reduced due to a lack of irrigation water.

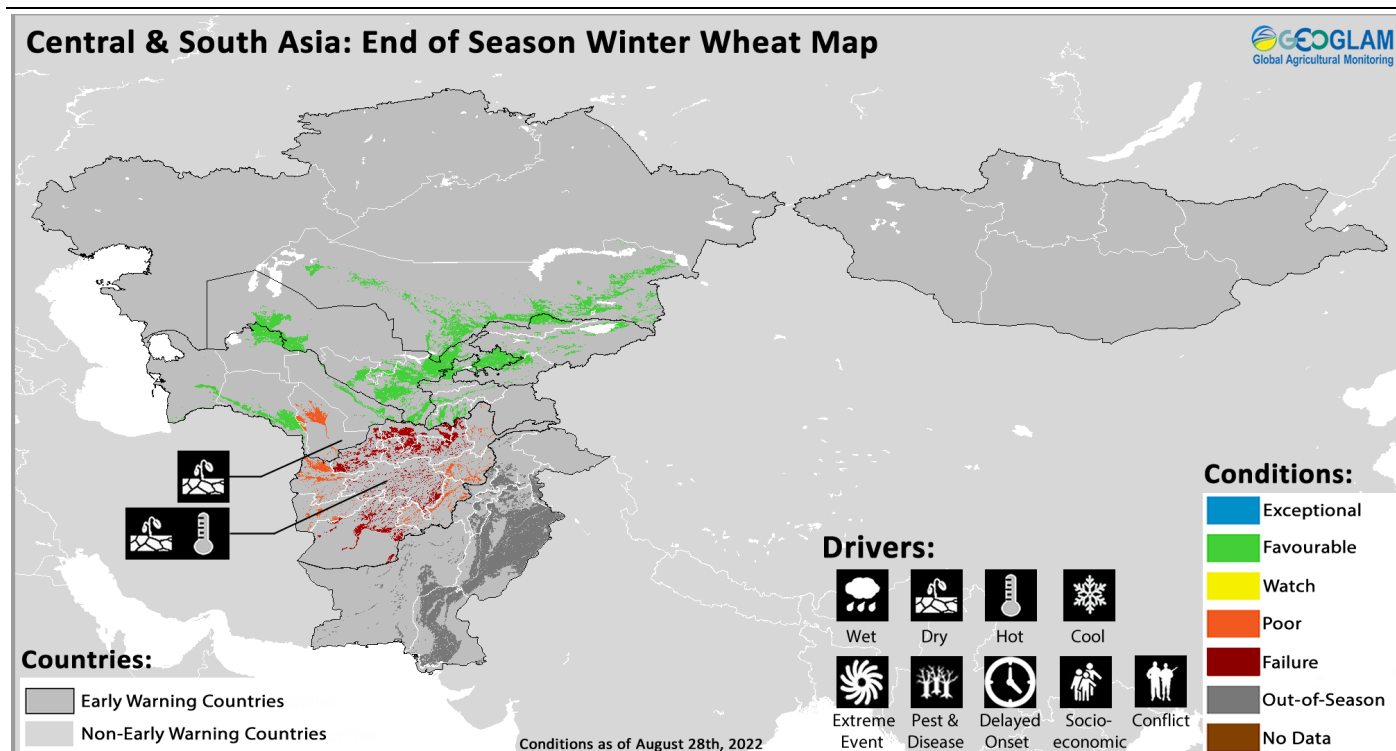
Southern Africa



Crop condition map synthesizing wheat 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 Southern Africa, wheat crops continue to develop across **Lesotho, South Africa, Zambia, and Zimbabwe** for harvest from September under generally favourable conditions except in the main producing region in **South Africa**. In **South Africa**, the winter rainy season has been relatively dry over the main producing Western Cape region located in the southwest of the country, and moderate rainfall deficits since the start of planting may curb yield outcomes. Rain and near-normal temperatures are needed during September for normal production. Conversely, conditions across the interior are favourable due to relatively high soil moisture content following wet conditions in the previous summer and autumn as well as sufficient irrigation water supply in dams and river systems. Overall, 2022 wheat production is forecast around 2.2 million tonnes, which is about a 5 percent decrease from the previous season, and yield is expected at 3.89 tonnes per hectare. In the **Democratic Republic of the Congo**, planting and development of main season cereals continues across the north, centre, and west of the country under favourable conditions despite recent below-average rainfall in parts of the north and centre. However, early estimates show some improvement for the second to third dekad of August in the centre, and there are also reports of localized flooding from heavy rainfall during early August in Maniema. In the East, harvesting of second season maize crops is nearing completion, and near-average yields are expected. Rainfall has generally been favourable, particularly over south Kivu, though ongoing conflict may affect harvesting activities.

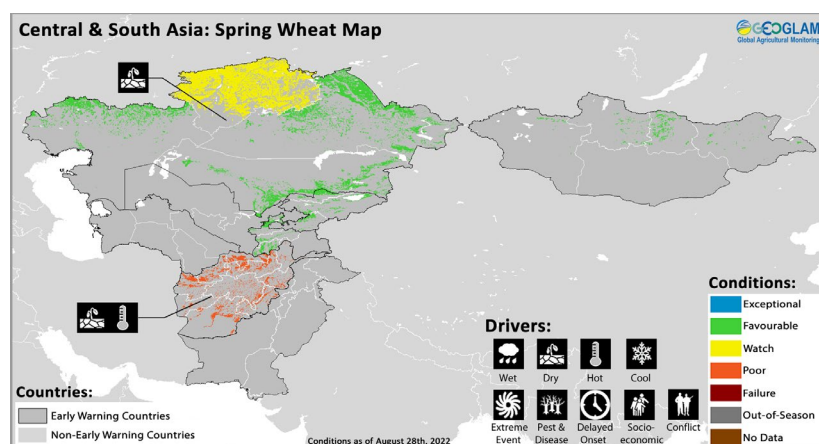
Central & South Asia



Crop condition map synthesizing Winter Wheat 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 Central and South Asia, harvesting of winter wheat finalized this month in **Afghanistan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan** under mixed conditions. Failure conditions resulted in parts of north, central, and southern **Afghanistan**, and poor conditions resulted in east and western regions of **Afghanistan** and Mary region of southeastern **Turkmenistan** due to persistent dry and hot conditions throughout the season. Elsewhere, yields are near-average.

Harvesting of spring wheat finalized in **Afghanistan** and is underway in **Kazakhstan** and **Tajikistan** while crops continue to develop in **Kyrgyzstan** and **Mongolia**. Poor conditions have resulted in most areas of **Afghanistan** due to persistent hot and dry conditions. However, production in the eastern regions of Laghman, Kunar, and Khost is near-normal. Additionally, conditions of recently sown *Kharif* season crops in **Pakistan** have downgraded due to widespread and unprecedented flooding that has completely submerged one-third of the country's land area. While conditions have improved in **Kazakhstan**, there is remaining concern in main producing regions in the north due to below-average precipitation during the season. Elsewhere in the subregion, conditions remain favourable. In **Afghanistan**, final yields are below-average as the country has been impacted by numerous climatic shocks, including severe multi-season drought, an earthquake in the southeast in late June, and off-season rains with subsequent flooding from July to August. In **Kazakhstan**, while conditions have improved from earlier season dryness, concern remains in the main producing regions of Akmola and Kostanay regions and in parts of the east. However, according to a recent statement from the Ministry of Agriculture, national wheat harvest is expected to reach a near to slightly above-average level of 13.4 million tonnes. In **Pakistan**, the country received 60 percent of the total normal monsoon rainfall in three weeks since the start of the monsoon season, resulting in flooding and landslides, particularly in Sindh province where crops are unlikely to recover, as well as in Balochistan, Khyber Pakhtunkhwa, and Punjab provinces where recently sown summer crops may be impacted. As of late August, catastrophic and unprecedented flooding continues to cause widespread destruction, and warnings have been issued for rising water levels of the Indus and Kabul rivers. As much as 55,000 km² of land is flooded, mainly in southern and central areas, and is visible from satellite imagery, particularly for Sindh and Balochistan provinces. Additionally, around 810,000 hectares of crops and orchards have been impacted. As of August 27th, the country has received 2.9 times the national 30-year

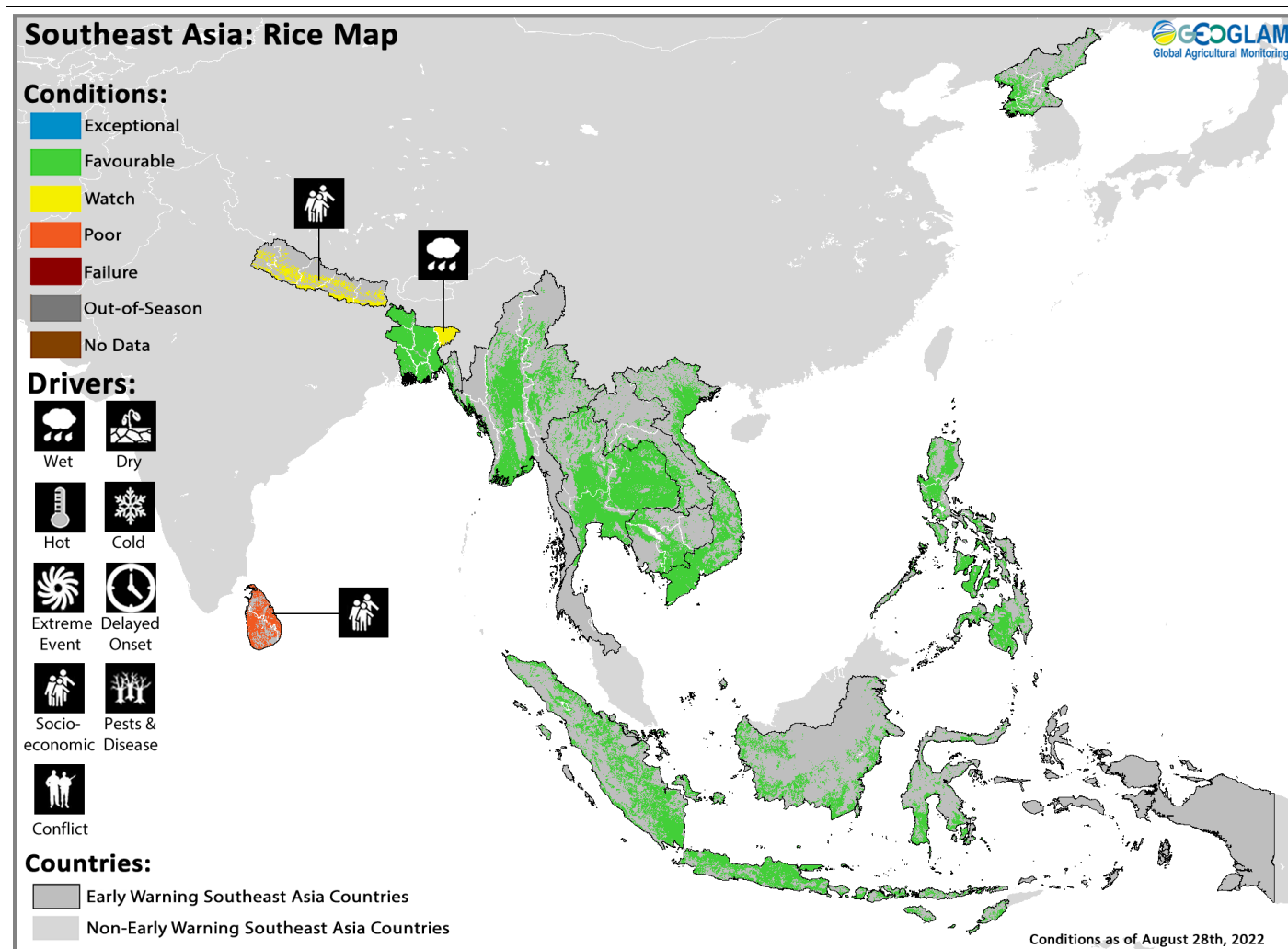


Crop condition map synthesizing Spring Wheat conditions as of August 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Crops that are in other than favourable conditions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

average rainfall. Floods and landslides have impacted more than 33 million people throughout the country, according to a joint report by the Government of Pakistan and the United Nations released on August 30th. While climatic conditions remain favourable for crop development in **Mongolia**, sudden and heavy rains have been impacting the country since early June, resulting in flash floods and infrastructure damage. Major flash floods and additional heavy rainfall in late July affected Bayanzurkh, Songinokhairkhan, and Chingeltei districts.

Across the subregion, there is ongoing concern due to elevated risks of a third consecutive year with below-average precipitation in parts of Central and Southern Asia, associated with anticipated La Niña conditions during fall and winter 2022-2023 (See CM4EW July Bulletin). Below-average October to May precipitation during the past two years, also associated with La Niña conditions, resulted in poor and failed crop conditions for winter wheat across parts of the region. Similar outcomes are possible for a third year in a row. Water resources have been impacted by two years of below-average seasonal snowpack in southern areas, particularly by this past year having the worst snow season in over 20 years.

Southeast Asia

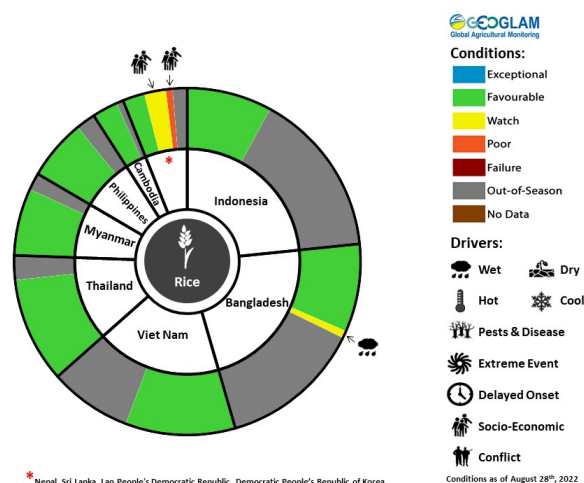


Crop condition map synthesizing rice conditions as of August 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Crops that are in other than favourable conditions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

In northern Southeast Asia, wet-season rice is in the growing to harvesting stage under favourable conditions with above-average seasonal rains received in most areas. Heavy rains have impacted some countries with flooding, and Tropical Storms Mulan and Ma-On brought heavy rains and flooding to parts of **Viet Nam**, northern **Thailand** and bordering areas of **Myanmar**, northern **Laos**, and the **Philippines**. No significant damage has been reported, and yields are expected to be near-normal. However, forecast above-average rainfall through November increases the risk of flooding and landslides throughout most parts of the subregion (See Regional Outlook Pg. 14). In **Indonesia**, conditions are favourable for dry-season rice with sufficient sunlight and water received during the growing period as sowing continues into the fifth month, while harvesting of the earlier sown crops continues. However, below-average September to November rainfall is forecast in northern Sumatra (See Regional Outlook Pg. 14). In the **Philippines**, wet-season rice planted from April to May is in the maturing to harvesting stage under favourable conditions with earlier sown crops beginning to harvest. Despite the passage of several large storm systems in the second half of July, including the severe thunderstorms from the southwest monsoon and the passage of a tropical depression in Southern Luzon and Western Visayas Region, no major crop

damage has occurred. In **Thailand**, wet-season rice is in the tillering stage under favourable conditions with an increase in sown area in the Northern and Central regions due to abundant rainfall and good paddy prices compared to the previous year. While some areas in the Northeastern region started planting later than the previous year due to heavy rainfall and flooding in May, and some areas in the North and Northeastern regions experienced localized crop damage due to heavy and continuous rainfall in late July, yield and production levels are still expected to increase from the previous year when there was extensive flood damage. In northern **Viet Nam**, summer-autumn rice (wet-season) is in the young panicle forming stage under favourable conditions. Harvesting activities for summer-autumn (wet-season) rice are ongoing in the south, and harvested area has reached 0.44 million hectares out of 1.74 million hectares planted. The yield is forecast to be slightly higher than last year due to warm weather and better irrigation preparation. Autumn-winter rice (wet-season) sowing is continuing in the south. In lowland areas of **Laos**, wet-season rice is mostly in

the young panicle forming stage, and conditions are favourable due to sufficient irrigation water supply and rainfall in all regions. In early August, heavy rains resulted in widespread floods in many parts of the country, including Huaphan, Xayabouly, Borkeo, Luangprabang, Vientiane Capital, Salavan, Savanakheth, and Champasak provinces. Some paddy-planted areas were affected in central regions, but no damage has been reported. Overall, production of wet-season rice is expected to increase this season. In upland areas, wet-season rice is in the young panicle forming stage under favourable conditions, and the rainy season is expected to provide sufficient rainfall for crop development (See Regional Outlook Pg. 14). In **Myanmar**, planting of wet-season rice is in the peak period with favourable monsoon rainfall received. Planting progress has reached 4.4 million hectares, accounting for 72.5 percent of the national plan, which is set at 6.07 million hectares, and is slightly faster than the previous year. Most planted crops are now at the tillering to panicle forming stage under favourable conditions. Heavy monsoon rains in August also brought flooding to wide areas, particularly in the lower and river basin areas. About 1,200 hectares of planted area have been affected by the floods, and over 1,000 hectares have been damaged. However, replanting operations will take place for the damaged fields. Conversely, below-average precipitation is forecast to continue in the north (See Regional Outlook Pg. 14). In **Cambodia**, planting of wet-season rice has reached around 2.38 million hectares and 91 percent of the national plan. Planted crops are now in the young panicle forming to grain filling stage under favourable conditions. Despite heavy rainfall in some areas as well as flooding in the North-west and Lowland regions, only limited areas reported damages. Early wet-season rice harvesting is underway, and the current yield is estimated at 4.07 tons per hectare, the same as the previous year. In **Sri Lanka**, harvesting of *Yala* season maize and rice crops is now underway, and significant yield declines are expected due to the severe shortages of fuel and fertilizer during the growing season. The government recently implemented fuel rations and subsidies to mitigate the situation. However, recent reports indicate a potential production decline of 50 percent compared to average. Additionally, southwest monsoon activity has resulted in intensified rainfall in early August, causing flooding and landslides in many areas. The Northern, Central, Western, Southern, and Sabaragamuwa provinces are the most affected, and agricultural lands and standing crops were also damaged in low-lying areas. In **Nepal**, harvesting of main season maize crops is underway for harvest from September while main season rice crops are in vegetative to reproductive stage, and concern remains throughout the country as production is likely to be impacted by the high price of fuel and fertilizer. In **Bangladesh**, main season maize crops are in vegetative to reproductive stage for harvest from October while planting of *Aman* season rice crops is underway. Conditions remain generally favourable except in Sylhet where heavy monsoon rains and runoff from northeastern India may impact crop outcomes. In the **Democratic People's Republic of Korea**, harvesting of main season maize crops is underway and will finalize in September while main season rice crops are in vegetative to reproductive stage for harvest from September, and conditions remain favourable throughout the country with average to above-average crop biomass in the main producing provinces.



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

Regional Outlook: In most surplus rainfall areas, wet conditions are expected to continue through November

In recent weeks, rainfall totals were above-average or average in most areas of the region, with particularly wet conditions in Thailand, Cambodia, and Indonesia (Figure 1-left). Rainfall was below-average in Bangladesh, northern Myanmar, and far northern Vietnam. Heavy rain from Tropical Storms Mulan and Ma-On (also called Florita) resulted in flooding and landslides in Vietnam, northern Thailand and bordering areas of Myanmar, northern Laos, and the Philippines, according to Floodlist reports. Seasonal rainfall totals for April 1st to August 25th are above-average in most northern and southern areas (Figure 1 middle-left). In many of these surplus rainfall areas, wetter-than-average conditions are expected to continue, as shown by converging forecasts from the 15-day GEFS (Figure 1-middle-right), SubX models, and the WMO forecast through November (Figure 1 right). Prevailing drier-than-average conditions may continue in northern Myanmar. Below-average September-to-November rainfall is anticipated in northern Sumatra, Indonesia.

Wetter-than-average conditions in the region, and high chances of extreme rainfall, are related to warmer-than-average Indo-Pacific Ocean temperatures, negative Indian Ocean Dipole, and La Niña conditions. During the coming months, high-impact flooding and landslides are highly likely.

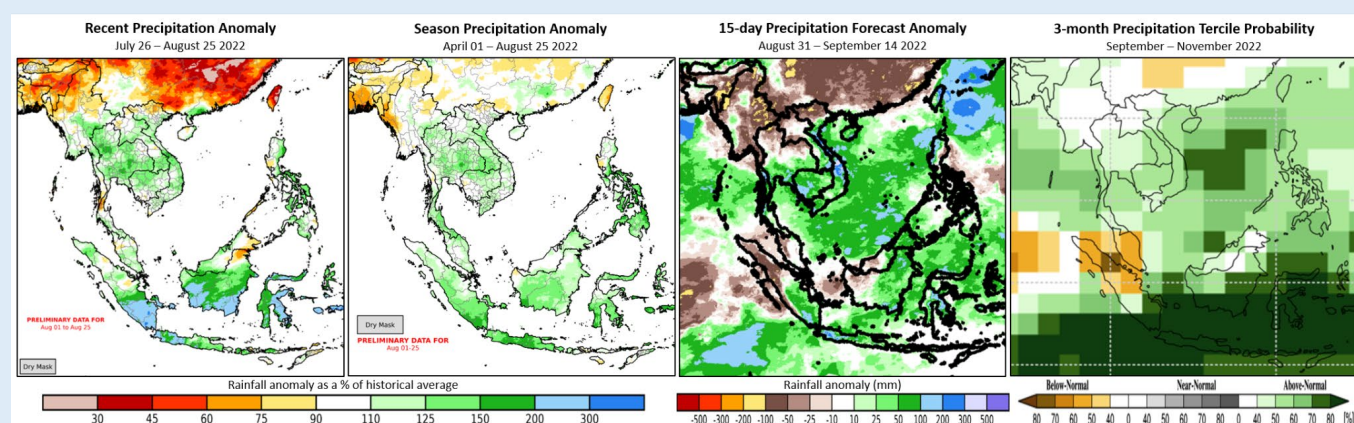
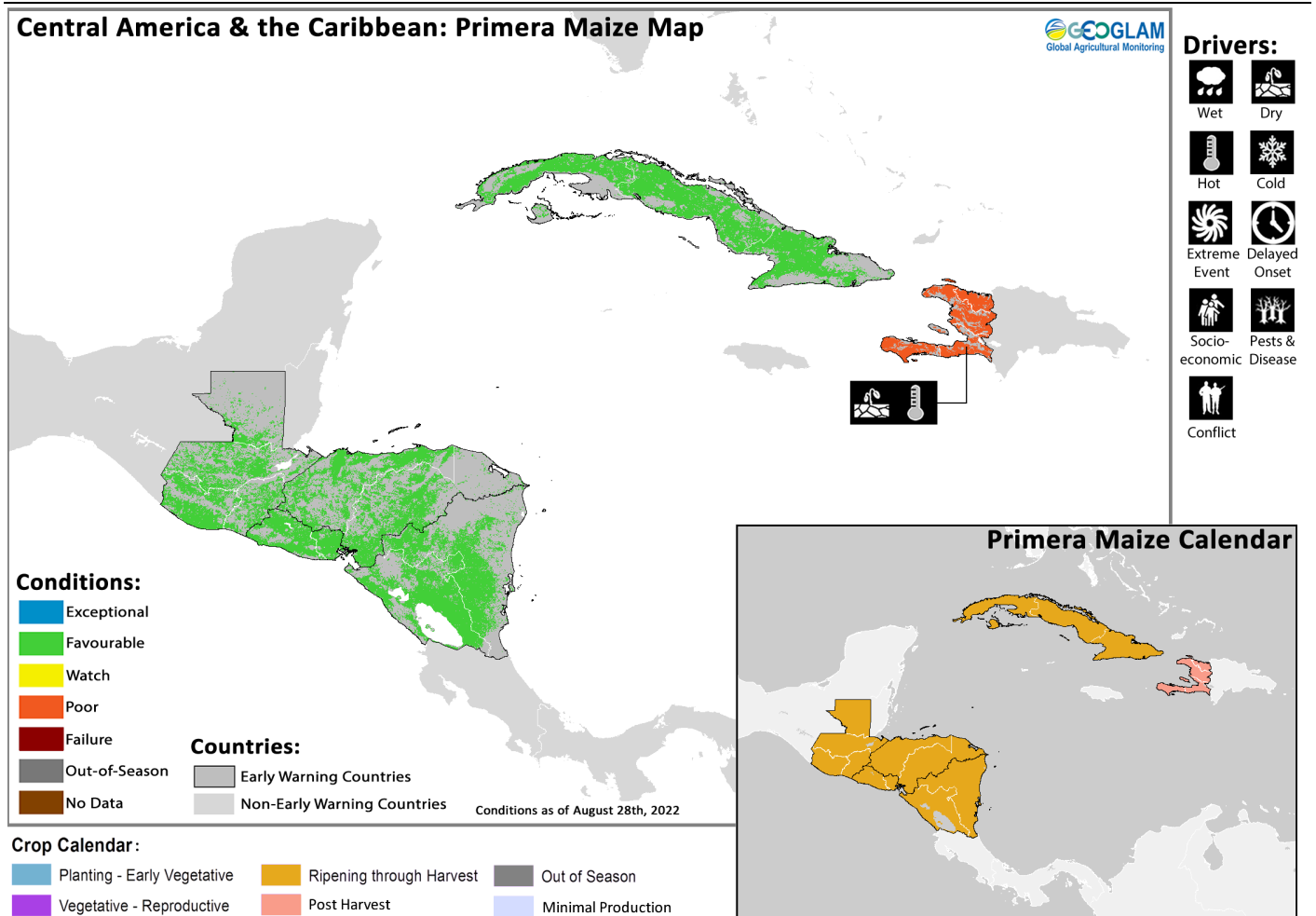


Figure 1. July 26th-to-August 25th and April 1st-to-August 25th, 2022 precipitation anomalies, a forecast for August 31st to September 14th, and a probability forecast for September-to-November 2022 precipitation. The left two panels are CHC Early Estimates, which compare current precipitation totals to the 1981-2021 CHIRPS average for their respective accumulation periods. These show the percent of average for July 26th to August 25th, 2022 (left), and for April 1st to August 25th (middle-left). Preliminary data is used for August 1st - 25th. Middle-right: A bias-corrected GEFS forecast for August 31st to September 14th precipitation, shown as the difference from average. Right: WMO probabilistic forecast for September-to-November 2022 precipitation, based on models initialized in August. From the WMO Lead Centre Long-Range Forecast Multi-Model Ensemble.

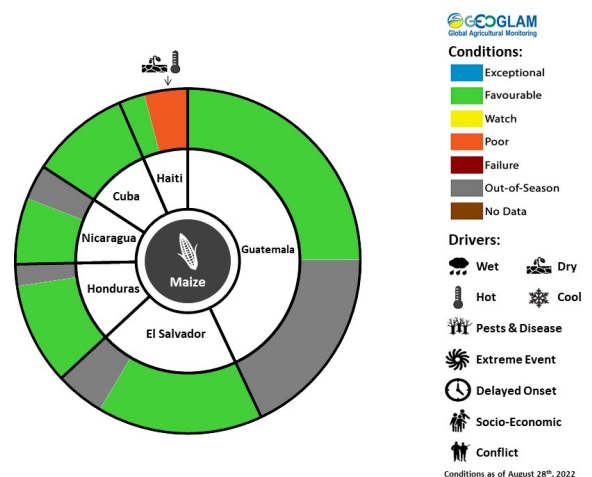
Source: UCSB Climate Hazards Center

Central America & Caribbean



Crop condition map synthesizing *Primera* season maize 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 Central America, harvesting of *Primera* season cereals is nearing completion in **Guatemala, El Salvador, Honduras, and Nicaragua**, and overall conditions remain favourable. Land preparation is underway for *Segunda* season maize and bean crops, and planting will begin in September. In **El Salvador**, the government distributed certified maize seed and fertilizers to 600,000 farmers to mitigate rising production costs. Sown area is above-average, and yield is also expected to be above-average despite the high prices of agricultural inputs. Additionally, favourable rains from April to mid-June benefitted crop development despite reduced precipitation in July. According to the official assessment, 2022 maize harvest could increase year on year due in part to generally good rainfall performance. Forecasts indicate a likelihood of above-average precipitation through October as well as an active hurricane season through November which could impact land preparation and planting of *Segunda* season cereals. In **Guatemala**, previous above-average rainfall in June resulted in minor crop losses in Alta Verapaz, particularly for maize. However, below-average rainfall in August prevented further soil saturation, and crop conditions are generally favourable with average yields expected. In **Honduras**, crop conditions are generally favourable, and good rainfall performance is expected to result in average yields. In **Nicaragua**, maize plantings increased to an average level due to favourable soil moisture and high market prices of maize that offset elevated production costs. Additionally, the government announced plans in March to distribute 155,000 packages of agricultural inputs to producers in 2022. While precipitation was below-average in the central-northern area during the July to August period, abundant rains in other areas since late April have supported crop development, and maize production and yields are forecast at a near-average level. Forecasts indicate above-average rainfall amounts through September. In **Haiti**, harvesting of main season cereals is nearing completion, and crops are unlikely to recover from rainfall deficits and temperature



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

increases during the *Printemps* season. The poorly-distributed first rainfall season has led to droughts, which have degraded crops over northwest, central, and southern areas of the country. Planting of second season bean and rice crops continues for harvest from October. While sowing activities were delayed due to rainfall deficits in the *Printemps* season, conditions have improved as increased rainfall in the second half of August helped to restore soil moisture and is expected to aid cropping activities for the second minor season. In **Cuba**, harvesting of main season maize crops is underway while second season rice crops continue to develop for harvest from September, and conditions remain favourable despite below-average precipitation between July and the first two decades of August.

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 8th, 2022.

Appendix

Crop Conditions:

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

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

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

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

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

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

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

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

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

Drivers:

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

Wet: Higher than average wetness.

Dry: Drier than average.

Hot: Hotter than average.

Cool: Cooler than average or risk of frost damage.

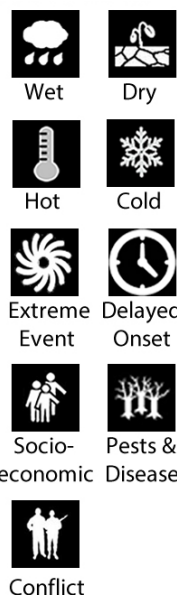
Extreme Events: This is a catch-all for all other climate risks (i.e. hurricane, typhoon, frost, hail, winterkill, wind damage, etc.)

Delayed-Onset: Late start of the season.

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

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

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



Crop Season Nomenclature:

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

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

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

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

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

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

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


Crop Season Nomenclature:

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

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



Global Agricultural Monitoring

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Contributing partners



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