

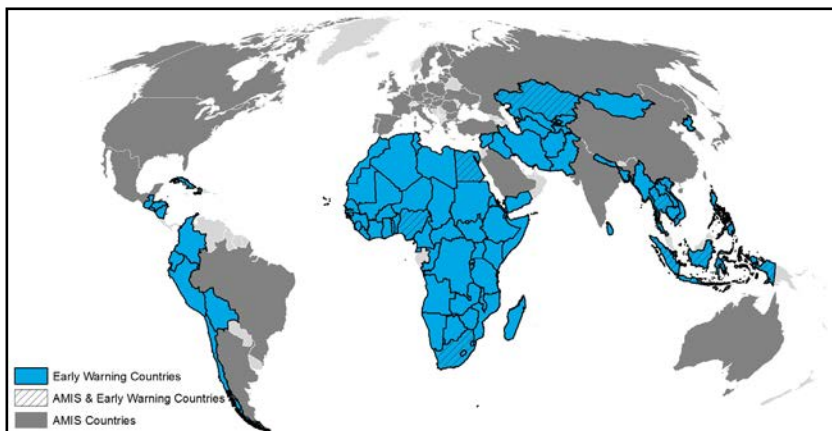


Crop Monitor

EARLY WARNING

Overview:

In **East Africa**, planting started this month for main season cereals in the south and there is concern due to a delay of onset rains and dry conditions. In **West Africa**, main season maize planting started this month across the south of the region and conditions are favourable with good rains received. In the **Middle East** and **North Africa**, winter wheat crops are generally favourable due to good rains throughout the season. However there is concern due to severe flooding in March over Iran and Iraq and dry conditions in Morocco and parts of Algeria. In **Southern Africa**, concern has worsened for main season maize crops and poor production is expected across much of the region. In **Central** and **South Asia**, winter wheat is exiting dormancy phase and conditions are generally favourable. In northern **Southeast Asia**, dry season rice is favourable except in parts of Thailand and Philippines where there is concern due to low rainfall and insufficient irrigation. In **Central America** and the **Caribbean**, *apante* bean harvest is complete and yield prospects are favourable.



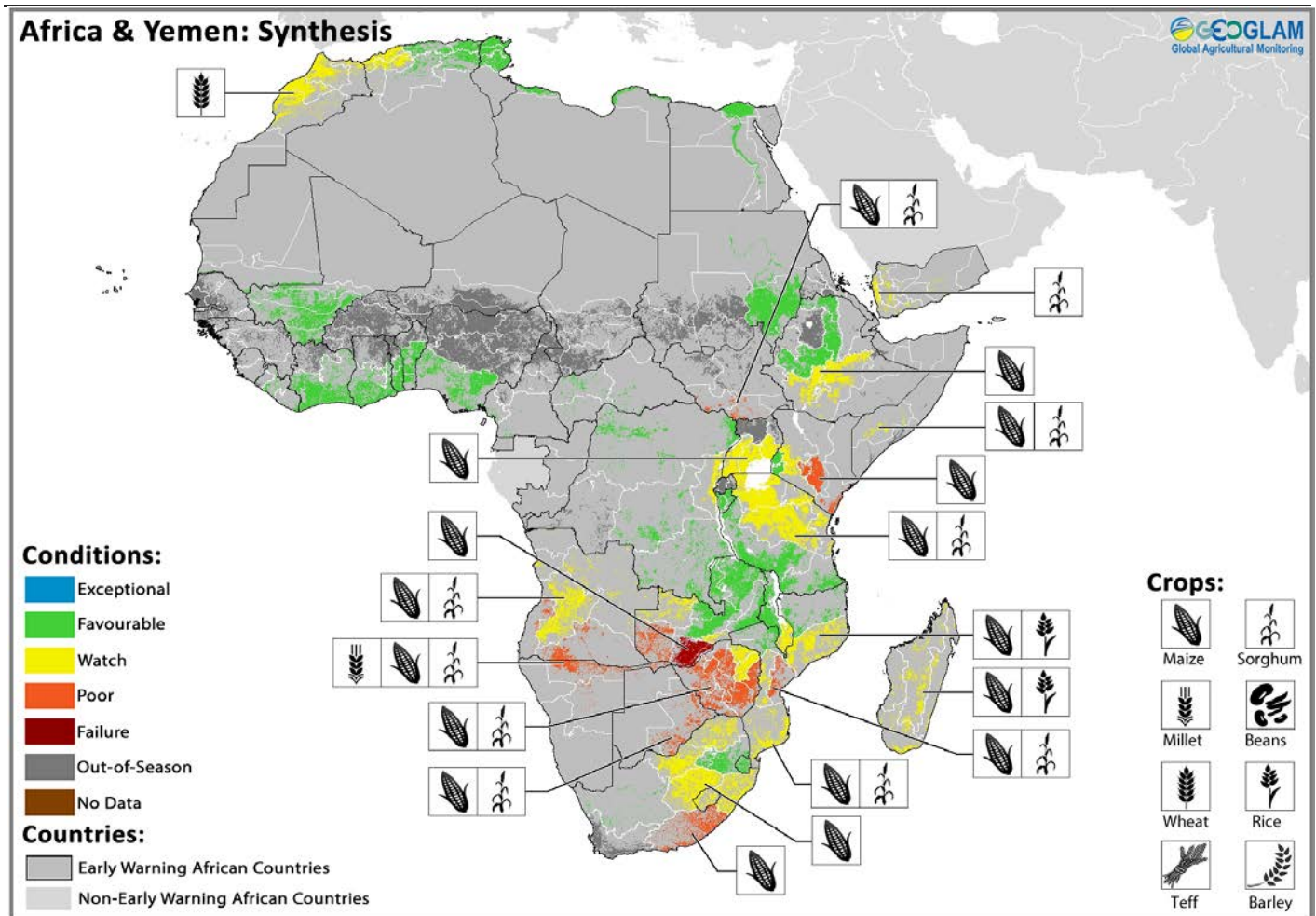
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GEOGLAM Crop Monitor for Early Warning

Crop Conditions at a glance

based on best available information as of March 28th



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

EAST AFRICA: In central and southern parts of the region planting of main season crops started in March and there is concern due to a delay of onset rains and dry conditions across many areas. Belg season planting is wrapping up and conditions are mixed with some dry weather in eastern Oromia and SNNPR.

WEST AFRICA: Main season maize planting started in March across the south of the region and onset of rains have been timely across all areas.

MIDDLE EAST & NORTH AFRICA: Weather conditions for the 2018-2019 winter wheat crop have been excellent with abundant rainfall since the start of the season. However, heavy rainfall in the last two weeks of March led to severe flooding in both the north and the south of Iran, eastern Iraq and eastern Syria. In addition, there is concern in Morocco and western Algeria due to below average rainfall and dry conditions.

SOUTHERN AFRICA: The main summer cropping season is coming to an end across much of the region. Production prospects have worsened across many areas due to intensifying-

drought in March. Tropical Cyclone Idai hit central Mozambique in the second week of March and caused heavy rains, winds and flooding and resulted in significant damage across central Mozambique, southern Malawi and eastern Zimbabwe (See Special Highlight pg. 10).

CENTRAL & SOUTH ASIA: 2018-2019 winter wheat is exiting dormancy stage and despite below average precipitation from late February, crop conditions are generally favourable.

SOUTHEAST ASIA: In the northern side of Southeast Asia, conditions are favourable for dry season rice. However, there is concern in northeastern Thailand and parts of the Philippines due to water shortages during the season that may impact final yields.

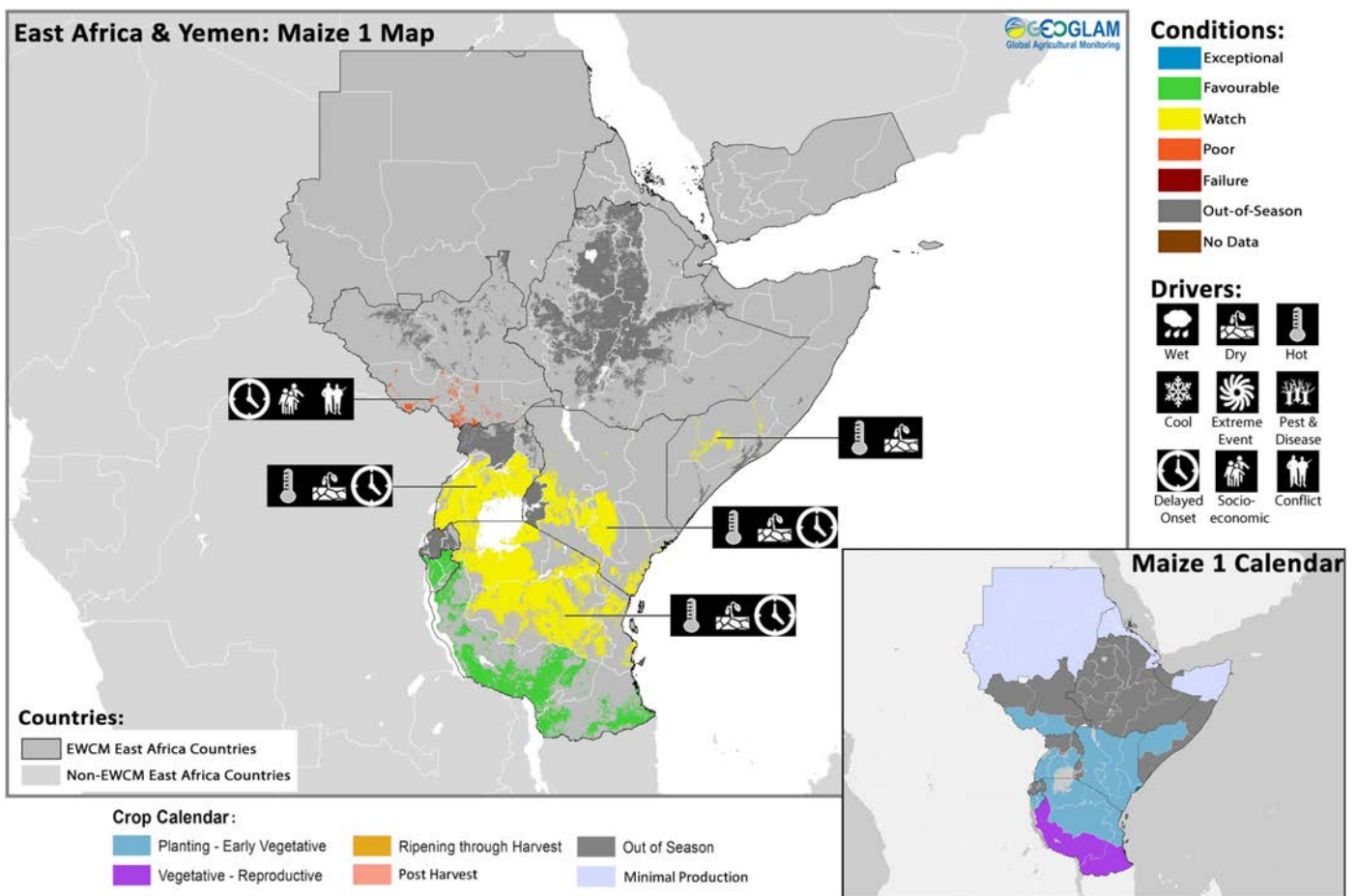
CENTRAL AMERICA & CARIBBEAN: Harvest is complete for *apante* season bean crops across Nicaragua and Haiti and yields are generally favourable due to good rains during the season. Planting of the main season rice crop started in Haiti and Cuba and there is some concern due to dry conditions in Haiti.

Global Climate Outlook: Weak to moderate El Niño conditions now present

Weak-to-moderate El Niño-Southern Oscillation (ENSO) conditions are present and are forecast to continue during the Northern Hemisphere spring (80% chance for April to June) and summer (60% chance for June to August). Associated with this event are increased chances of above normal April to June rainfall in parts of the southeastern United States, Central Asia, and southeastern South America, and increased chances of below normal rainfall in Southeast Asia, particularly for the maritime region, and in parts of eastern Southern Africa and northern South America. El Niño conditions during June to August would typically increase chances of below normal rainfall in Indonesia, the Philippines, northern and eastern Australia, India, Central America and parts of the Caribbean, northern South America, and northern Ethiopia. Forecasts are also tending towards a positive Indian Ocean Dipole mode during June to August. Such conditions tend to suppress rainfall in parts of Australia.

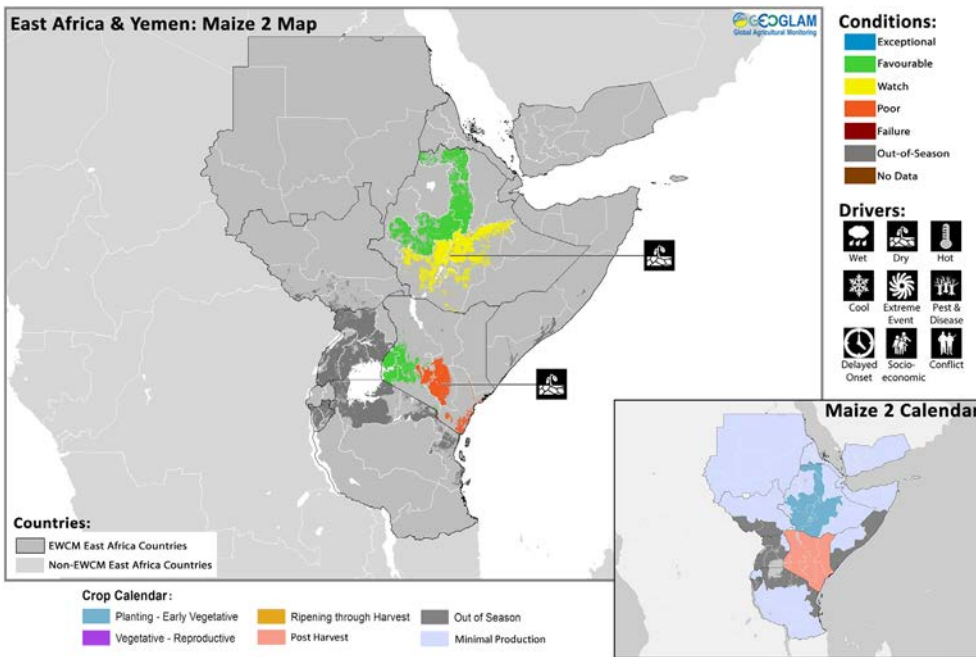
Source: UCSB Climate Hazards Center

East Africa & Yemen



Crop condition map synthesizing conditions as of March 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.**

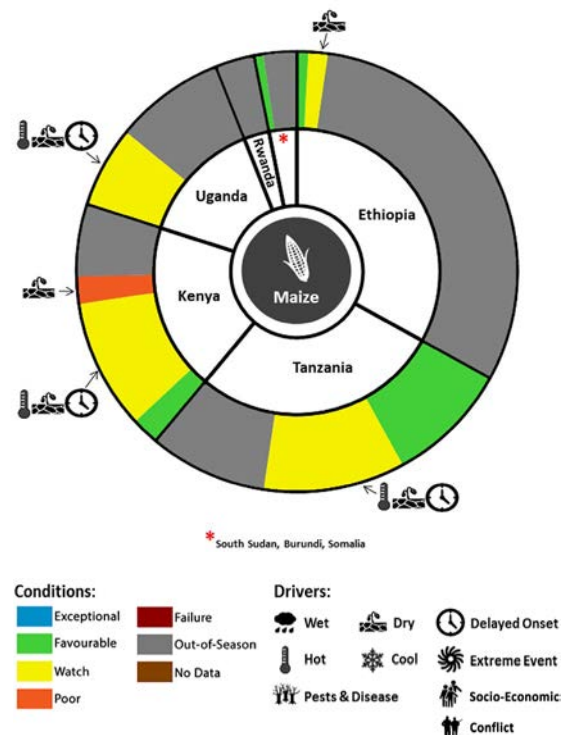
In central and southern parts of the subregion, planting of first/main season crops normally begins in March across Kenya, Uganda, Rwanda, Burundi and northern Tanzania with the onset of the March-May rainy season. However, in several cropping areas, planting operations were disrupted and delayed by severe early-season dryness coupled with above-average temperatures, as the Tropical Cyclone “Idai”, which formed in early March in the Mozambique Channel, redirected precipitations away from East Africa. As a result, weather forecasts, previously pointing to average to above-average March-May rains, are currently pointing to persisting dry conditions in April, followed by slightly improved rains in May and June (See Regional Outlook pg. 5). In **Kenya**, in high potential cropping areas of the southwestern “maize basket”, substantial rainfall deficits at the start of the “long rains” season, with cumulative precipitations in February and March estimated at 45-75 percent below-average, seriously disrupted and delayed planting operations. As the “long-rains” season normally extends until August in these areas, with rainfall forecasts pointing to below-average rains in April followed by improved precipitations for the remainder of the rains season, a near-average harvest, albeit delayed, is still possible. In



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bi-modal southeastern and coastal marginal agricultural areas, the early season dryness was more severe, with no significant precipitations received so far. In these areas, by contrast, with seasonal rains normally subsiding in early June, under the forecast of below-average rains in April, a reduced crop output is highly likely. Poor harvests will potentially result in a second consecutive reduced output, after the 2018/19 “short-rains” harvest, gathered last February, estimated at more than 60 percent below-average. Similarly, in **Uganda**, southern bimodal areas of **South Sudan** and some northeastern bimodal areas of **Tanzania**, delayed rains and dry conditions in March seriously affected planting and establishment of first season crops, and if poor rains in April will materialize, substantial cereal crop production shortfalls are expected. In

South Sudan, despite some localized security improvements since mid-2018, the prolonged conflict continues to constrain access to fields, and the economic crisis is resulting in soaring prices of inputs. In unimodal central and southern areas of the **United Republic of Tanzania**, where “msimu” crops will be harvested in May, rains in March were up to 60 percent below average, but the rainfall deficits did not have a major impact on vegetation conditions, as rainfall in previous months has been adequate. By contrast, in central Tabora and Singida provinces, where rains in February were also below-average, crops are currently affected by moisture stress. In **Rwanda** and **Burundi**, cumulative rains in February and March were about 50 percent below-average, but the precipitations received were generally sufficient for crop establishment and development, and vegetation conditions are generally good, except in the eastern parts of Rwanda, where precipitation amounts normally are lower and current vegetation conditions are below-average. In **Somalia**, “Gu” rains are normally fully established in April. However, there is some concern due to delay of onset rains in March and dry conditions already present and which may continue (See Regional Outlook pg. 5). In northern parts of the subregion, in **Ethiopia**, planting of “belg” crops, for harvest from June, is usually completed in March. Abundant early season rains benefited planting and germination of crops in northern “belg” receiving areas of eastern Oromia and Southern Tigray, while in parts of SNNP and in Eastern Oromia rains in February and March were 35-75 percent below average, with a negative impact on sowing activities and vegetation conditions. In the **Sudan**, prospects for the irrigated winter wheat crop are favourable. However, reduced availability of fuel and currency shortages, affecting ability to pay hired labour, are hindering agricultural operations, and the harvest, normally completed in March, will be delayed by at least one month.



For detailed description of the pie chart please see box below.

Regional Outlook: Drier than average February to April rainfall is likely across East Africa

Much of East Africa could be seeing below average rainfall throughout the February to April period, according to forecasts and estimates of rainfall to-date. Rainfall totals from late February through March are less than 80 percent of average in many western equatorial areas and less than 50 percent of average in drier eastern areas. Parts of southern Ethiopia, Kenya, northern Tanzania, and eastern DRC are showing deficits of 50 mm to 100 mm for this period (Figure 1-left). Temperatures have been higher than average across the region. East Africa's disorganized and weakened rainfall system has been largely attributed to the destructive Cyclone Idai and related, ongoing Indian Ocean conditions.

April may also be drier than average (Figure 1-right). The current April forecast and the next two-week forecast both depict regional scale deficits that are concentrated in, but not limited to, the equatorial zone from northeastern DRC to the eastern Horn. The next two-week forecast shows above average rainfall in parts of Tanzania and in central and northeastern Ethiopia (not shown). April is typically one of the wettest months of the year in the equatorial sector and is critically important for bimodal eastern Horn areas. In these areas seasonal rains begin in late February to late March and are only around three months in duration. Seasonal forecasts are currently less pessimistic with regard to May and June 2019 rainfall.

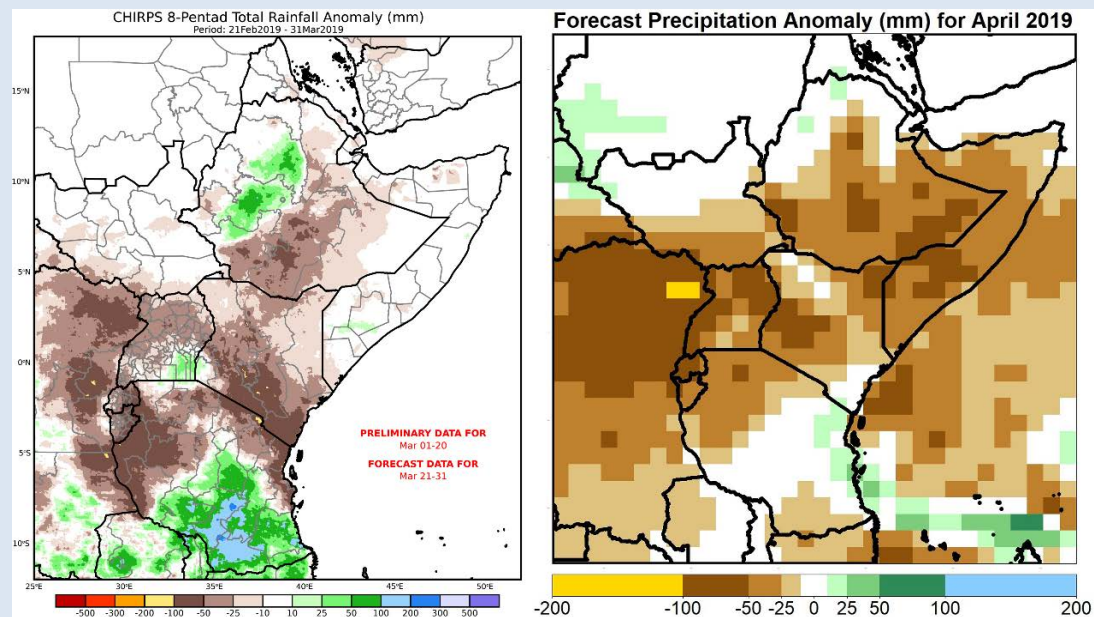
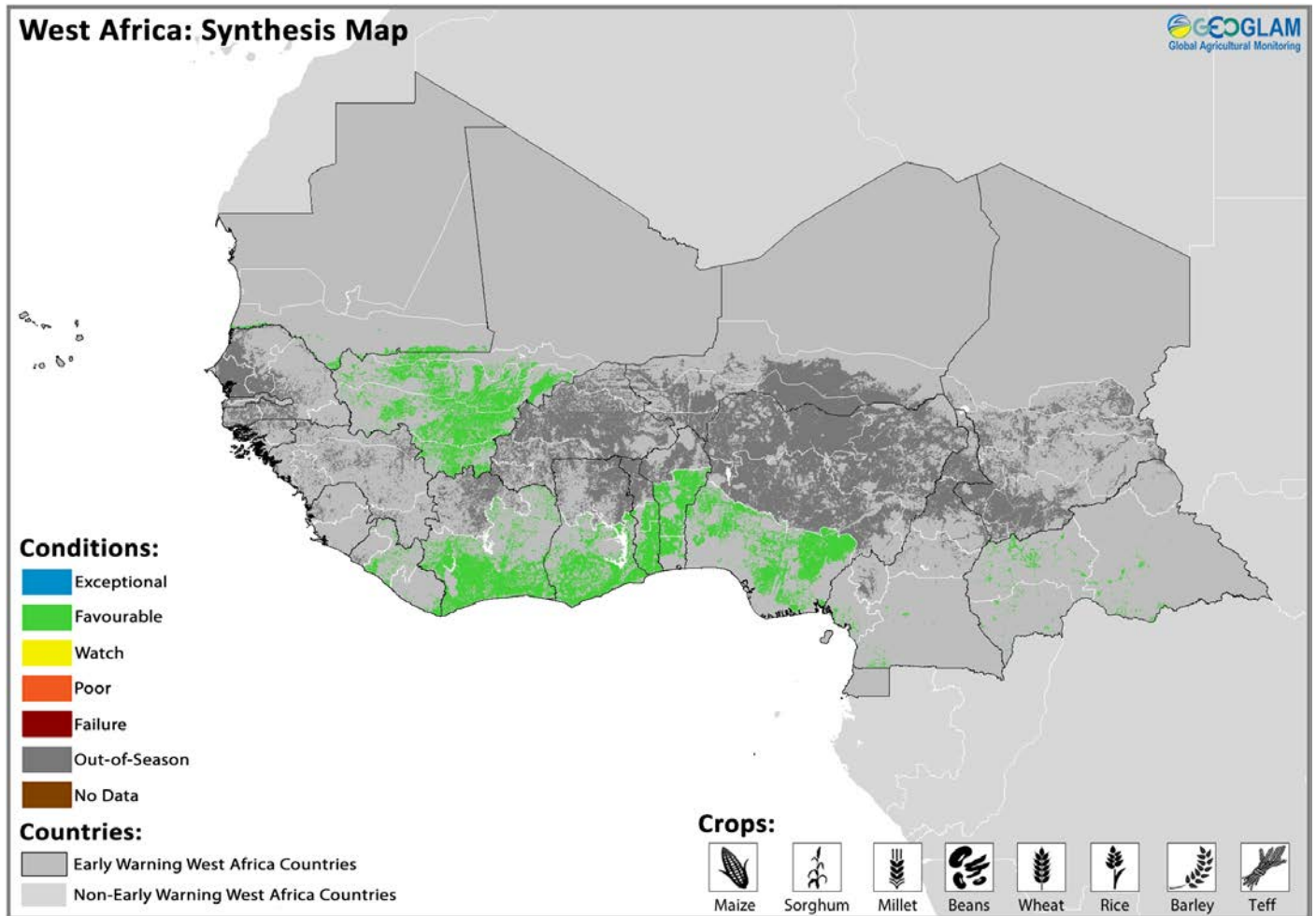


Figure 1. On the left, a preliminary estimate of February 21st through March 31st, 2019 rainfall in terms of the difference from the 1981 to 2018 average (Source: UCSB CHC). This Climate Hazards Center Early Estimate combines CHIRPS final and preliminary rainfall with an unbiased version of the 10-day GEFS ensemble mean forecast (<http://chg.geog.ucsb.edu/forecasts/gefs-chirps/>). On the right, the April 2019 rainfall forecast issued on March 28th from the National Centers for Environmental Prediction (NCEP) coupled forecast system model version 2 (Source: NWS/NOAA/CPC). It shows the forecast monthly total in terms of the difference from the 1982 to 2010 average.

Source: UCSB Climate Hazards Center

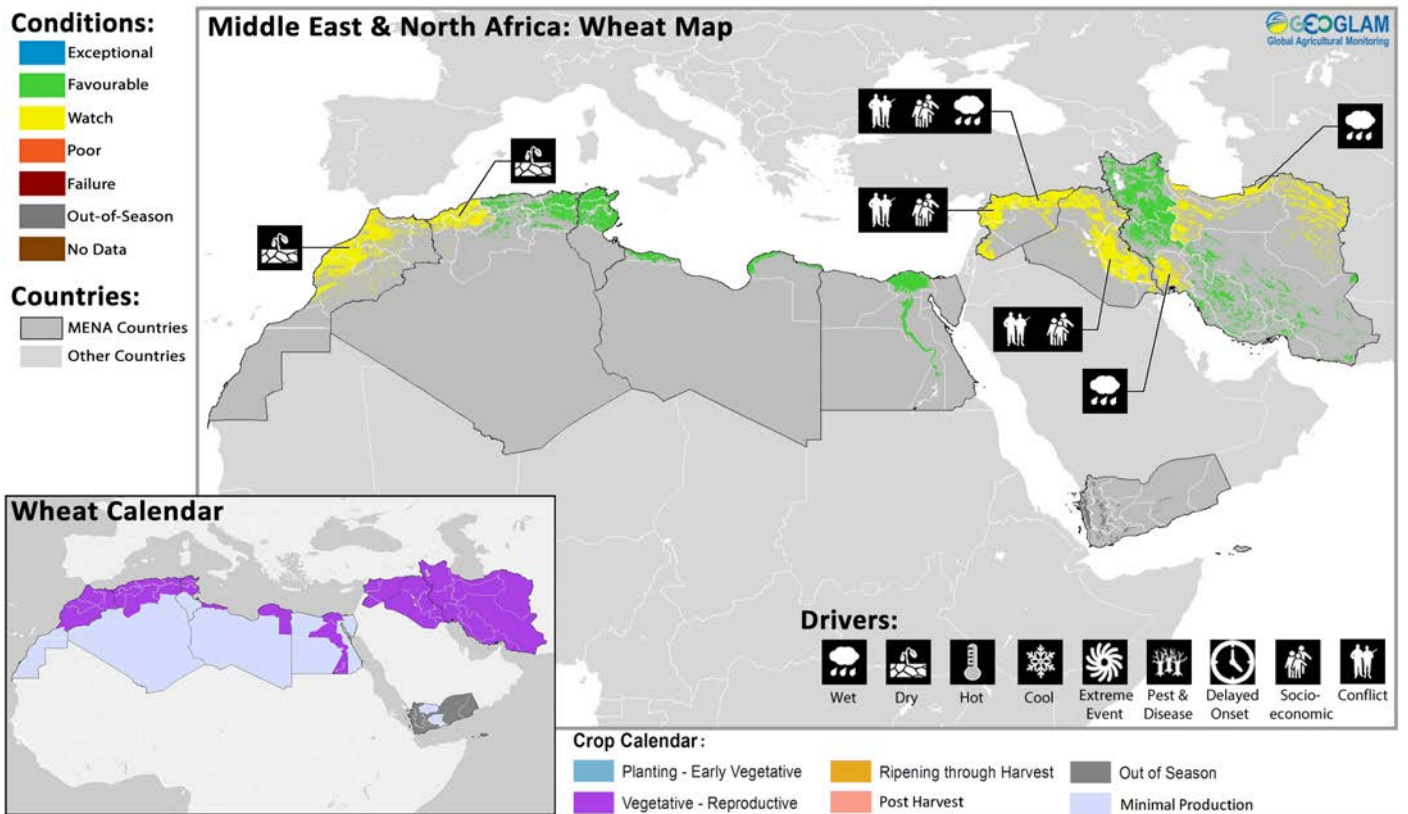
West Africa



Crop condition map synthesizing information as of March 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.**

Main season maize planting starting in March across the south of the region and onset of rains have been timely across all areas. Second season rice is now in vegetative stage across Mali and Mauritania. Growing conditions are favourable due to good weather supporting crop growth and no major crop infestation.

Middle East & North Africa

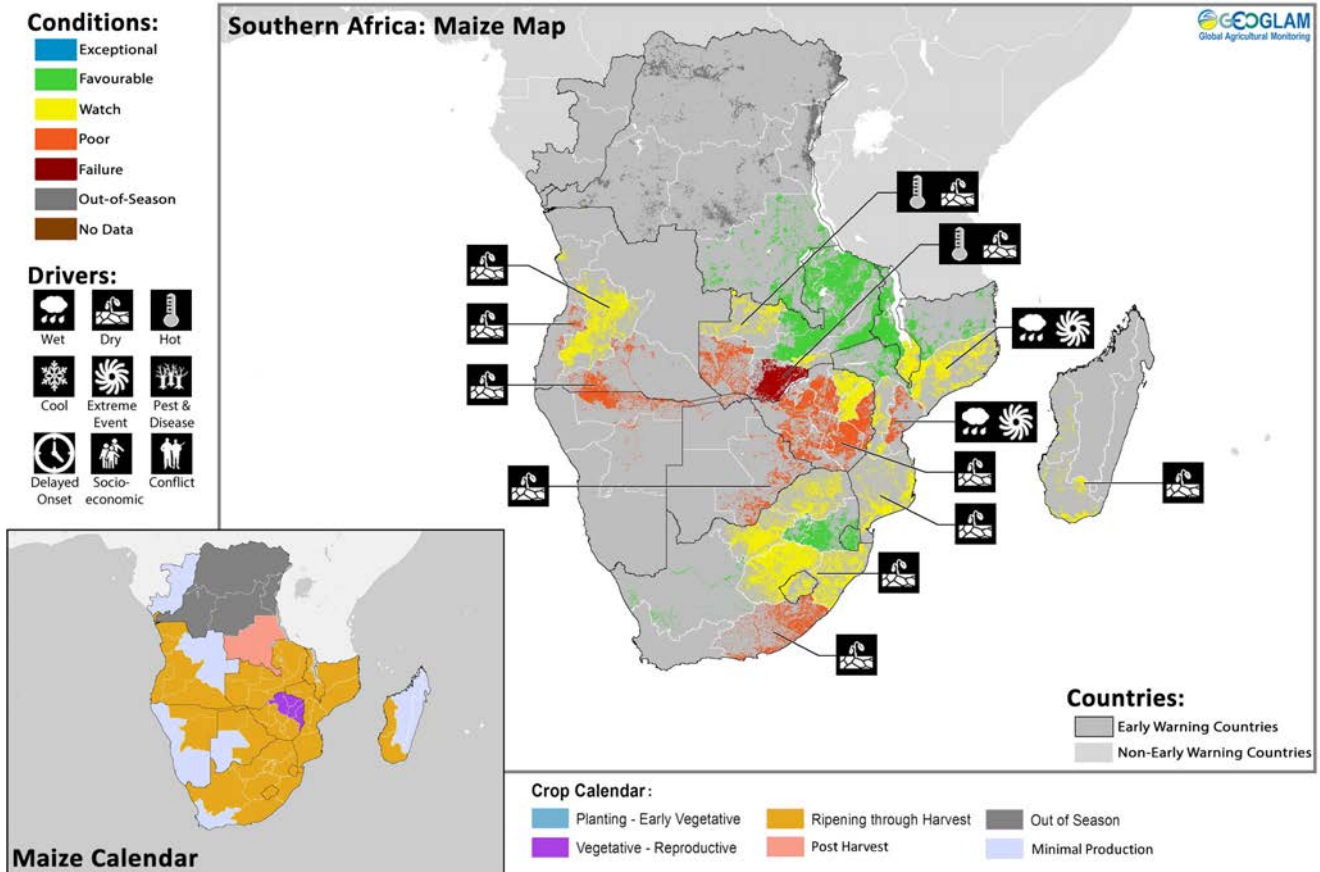


Crop condition map synthesizing information as of March 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Crops that are in other than favourable conditions are labeled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

In the Middle East, weather conditions for the 2018-2019 winter wheat crop have been excellent with abundant rainfall since the start of the season. Heavy rainfall in the last two weeks of March led to severe flooding across many parts of the subregion including north and the south of Iran, eastern Iraq and eastern Syria. In **Iran**, heavy rain in the last two weeks of March led to flash flood events across North Khorosan, Razavi Khorosan, Gilan, Mazandaran, Golestan, and Semnan provinces in the north of the country and Khuzestan in the south, resulting in deaths and severe infrastructure damage. Worst affected areas of Golestan province received 70 percent of average annual rain in the first 24 hours of the downpour. Across other heavily affected areas, rainfall totals for the two days of at the height of the downpour were above the average rainfall normally received throughout the whole month. An estimated 60,000 people have been displaced by the floods and there has been severe damage to infrastructure and agricultural areas. In **Iraq**, three days of torrential rain at the end of March led to major flooding across eastern provinces of Diyala, Wasit, Misau and Al Basrah governorates. Across these areas, cereal production is limited however, flooding also affected Kirkuk, Ninevah and Al Suleymaniah governorates in the wheat producing belt in the north. In **Syria**, some flooding has been reported in the east in Hassakeh. Even before flood events, crop prospects across **Syria** and **Iraq** were already constrained by ongoing or recently ceased conflict continuing to impact availability of agricultural inputs and affect agricultural production.

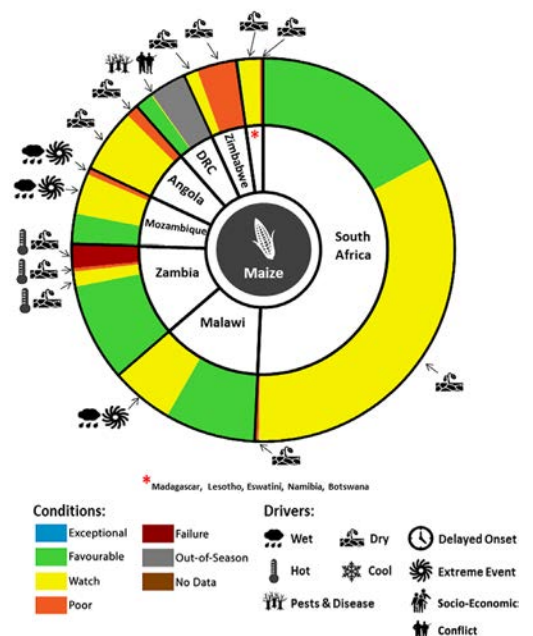
In North Africa, sufficient precipitation in autumn supporting winter wheat sowing and establishment was followed by generally average rains from January through March except in parts of Morocco and Algeria. In **Morocco**, drought conditions due to below average rainfall since December combined with above average temperatures across the west and north east (Oriental) have expanded across the whole of the country and worsened with below average rainfall in March. In western **Algeria**, there is concern due to below average rainfall in March which may impact winter wheat yields and further monitoring is needed.

Southern Africa



Crop condition map synthesizing information as of March 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 the main summer cropping season is coming to an end across much of the region. Production prospects have worsened across many areas due to intensifying drought in March, further compounding an already challenging season. After nearly a month delayed start of the rains resulting in reduced planted area across some of the key maize growing areas of South Africa and Zambia, some rainfall came in early January, reducing rainfall deficits in the east. However, this was followed by a number of long dry spells, the most significant of which lasted for 4-6 weeks from mid February to late March across the central and central west parts of the region resulting in widespread wilting across the worst affected areas of Angola, Namibia, Botswana, Zimbabwe and southern parts of Zambia and Mozambique. Dry conditions continued and intensified up until the second week of March when Tropical Cyclone Idai struck central Mozambique as a high impact event causing heavy rains and floods and resulting in significant damage across central Mozambique, southern Malawi and eastern Zimbabwe. In the **Democratic Republic of Congo**, conditions are generally favourable for main season cereals with near normal cumulative rainfall across the country despite some patches of below average rainfall. In **Angola**, rainfall has been erratic since the start of the season with the southern and coastal areas most affected by dry conditions due to a significant delay of onset rains by as much as 4 dekads in some areas resulting in reduced plantings. From this initial delay, rainfall remained below average across much of the country with some improvement towards the end of January. However, this was not enough to mitigate previous drought conditions and crops in the south most likely experienced extreme stress and wilting. Rainfall since the start of the season has been less than 50 percent of average for the south. Conditions in the northwest are considerably better than the south however, seasonal rainfall totals remain below average despite some improvement in rainfall towards the end of March. In the north, conditions remain favourable. In **Zambia**, production prospects are poor across the high maize producing districts in the south due to significant below average rainfall and above average temperatures at the start of the season in December followed by poor rainfall since late



For detailed description of the pie chart please see box below.

Special Alert: High maize producing areas of southern Zambia experiencing worst drought since 1973.

The main cropping season across southern Africa started with a late onset of rains that resulted in reduced planted area in some of the key maize growing areas for the region, including parts of South Africa and Zambia. This was followed by a number of long dry spells that negatively affected crop growth, the latest and most damaging of which lasted 4-to-6 weeks across many central and western areas. The high producing region of southern Zambia was at the epicenter of this 6-week dry spell. Analysis of the CHIRPS rainfall dataset indicates that a number of districts in southern Zambia are currently experiencing their driest season since at least 1981. These include districts which are typically among the 5 highest producing districts in the country (out of 75 districts). Yields are expected to be significantly below average across these areas. In March, a combined crop tour by representatives from IAPRI, Zambia Ministry of Fisheries and Livestock, USDA/FAS, and FEWS NET visited districts in southern and central Zambia. The team observed that in some of the worst affected parts of southern Zambia, many seasoned farmers who had planted several hectares in December 2018 lost their entire crop this year, as large maize fields permanently wilted (e.g. Image 1) due to the prolonged dryness. Given the high capital investment required for farming, the severity of crop loss experienced this year can impact on the capacity of these high-producing farmers to farm well in the 2019/2020 season, without targeted assistance. In addition to the direct impacts on farming, there are reports of dams running dry and significantly decreased ground water levels with implications not just for crops but also for livestock and water security. In normal years, Zambia is a surplus maize producer and an important regional exporter. Following impacts from drought, national maize production is expected to be significantly below average for the second consecutive year. While production and carry-over stock may be sufficient to meet domestic markets, regional export potential will most likely be affected. With widespread drought conditions and below average production prospects across the region in addition to recent damage from Cyclone Idai across neighboring countries, regional maize supply is of increasing concern.



Image 1. Maize field in southern Zambia showing impacts from drought conditions throughout the season and recent dry spell.

seasonal rainfall, further monitoring is needed. In **Botswana**, poor rainfall since the start of the season has resulted in reported decrease in planted area, decrease in water levels, and deteriorated pastures. From the start of the season, rainfall has been less than 80% of the average. While good rains came at the end of February with some improvement in vegetation conditions, many crops were already impacted by extreme moisture deficits and could not be salvaged. In **Mozambique**, Tropical Cyclone Idai made landfall in centre of the country March 14th as a high impact event with high winds and rains causing severe damage to infrastructure, homes and croplands notably over the coastal areas. Losses to national crop production and the current lack of food and water supplies will require high dependence on food assistance in the short and long term following this event

January. Some rainfall came in mid-February however, this was not enough to mitigate drought impacts and permanent wilting occurred in many areas (See Special Alert pg. 9). In the east and the north, conditions are generally favourable. In **Malawi**, conditions are favourable with abundant rainfall from late December to early January followed by generally average rains in February and March with some patches of below average rainfall in the central and south. National production estimates are over 25 percent above average due to increased planted area and good weather throughout the season. Recent flooding in the south from Tropical Cyclone Idai resulted in fatalities and significant damage to infrastructure, homes and croplands leaving thousands displaced (See Special Highlight pg. 10). In **Zimbabwe**, below average yields are expected across many areas due to drought conditions that have worsened from an initial delayed start in the season and high temperatures. While early January rainfall was near normal and above average in some areas which prompted some improvement in vegetation conditions. This was shortly followed by a dry spell starting mid-January and what little rain received throughout the season was insufficient to salvage crops that had suffered extreme moisture deficits and wilting occurred. Across worst affected areas of Matabeleland, Mashonaland, Masvingo and Midlands cumulative rainfall has been less than 80 percent of the average and production prospects are below average. Heavy rains from Cyclone Idai in March caused extensive flooding across the east and resulted in fatalities, damage to croplands, home and infrastructure (See Special Highlight pg. 10). In **Madagascar**, rainfall has been erratic and generally below average since December and vegetation conditions are below average. Rainfall improved at the end of February and then in March due to rainfall from Tropical Cyclone Idai. However, it is unlikely that this will significantly improve conditions due to previous dryness and below average cumulative

(See Special Highlight pg. 10). Conditions in the north remain favourable due to predominately average rainfall throughout the season. In **Lesotho**, rainfall has been inconsistent since the start of the year and crops have suffered moisture deficits. While good rains at the end of February and last two dekads of March have improved water levels and crop conditions in most areas, cumulative rainfall remains below average and conditions have yet to improve over the east. In **South Africa**, production is expected to be below normal for white maize (western areas) and slightly below normal for yellow maize (east). Dry conditions over especially the western production area (white maize) during early summer resulted in a smaller area planted. Recent dry conditions put further pressure on expected production. Rainfall during the next few days over especially the western production area is crucial. A continuation of recent warm and dry conditions in the west will result in further damage.

Special Highlight: Flooding and damage impact from Tropical Cyclone Idai

Tropical cyclone Idai started as a tropical depression that first made landfall in Mozambique on March 4th. Over the next few days it brought high rainfall to Mozambique and southern Malawi, before re-entering the Mozambique Channel on March 9th. After strengthening to Cyclone force, Idai made landfall in central Mozambique the night of March 14th, bringing heavy rains, and strong winds to central Mozambique and eastern Zimbabwe. Overall, the cyclone brought widespread flooding and significant damage across central Mozambique, eastern Zimbabwe and southern Malawi, causing fatalities and injuries, and significant damage to infrastructure, homes and croplands, as well as leaving hundreds of thousands displaced.

In Mozambique, significant flooding and damage resulted in Inhambane, Manica, Tete and Zambezia provinces with the worst affected areas in Sofala province. The extent of the flooding in Zambezia province is shown in Figure 1. for the period of March 14th through 20th at the height of the cyclone impact. From this high impact event, an estimated 1.85 million people are in need of humanitarian assistance and 131,000 people have been displaced across Sofala, Manica, Zambezia and Tete (UN OCHA). It is estimated that more than 715,000 ha of land has been affected by flooding including cropland, causing high concern for short and long term food security (UN OCHA). In Zimbabwe, cyclone Idai brought torrential rain and heavy winds over the eastern province of Manicaland. This followed a previously dry season with cumulative rainfall at 80 percent of the average and the heavy rain received from Idai resulted in riverine floods, flash floods and landslides over the worst affected districts of Chimanimani and Chipinge. An estimated 270,000 people are in need of humanitarian assistance (UNOCHA). In southern Malawi, an estimated, 868,900 people have been impacted and 87,000 people are estimated to be displaced by the event (UNOCHA). The worst affected areas are over Nsanje and Chikwawa districts. Prior to impacts from cyclone Idai, initial national crop prospects stood at 26% above average due to increased planting area and good rains received. Following flooding, further monitoring will be needed to assess the impacts on final yields.

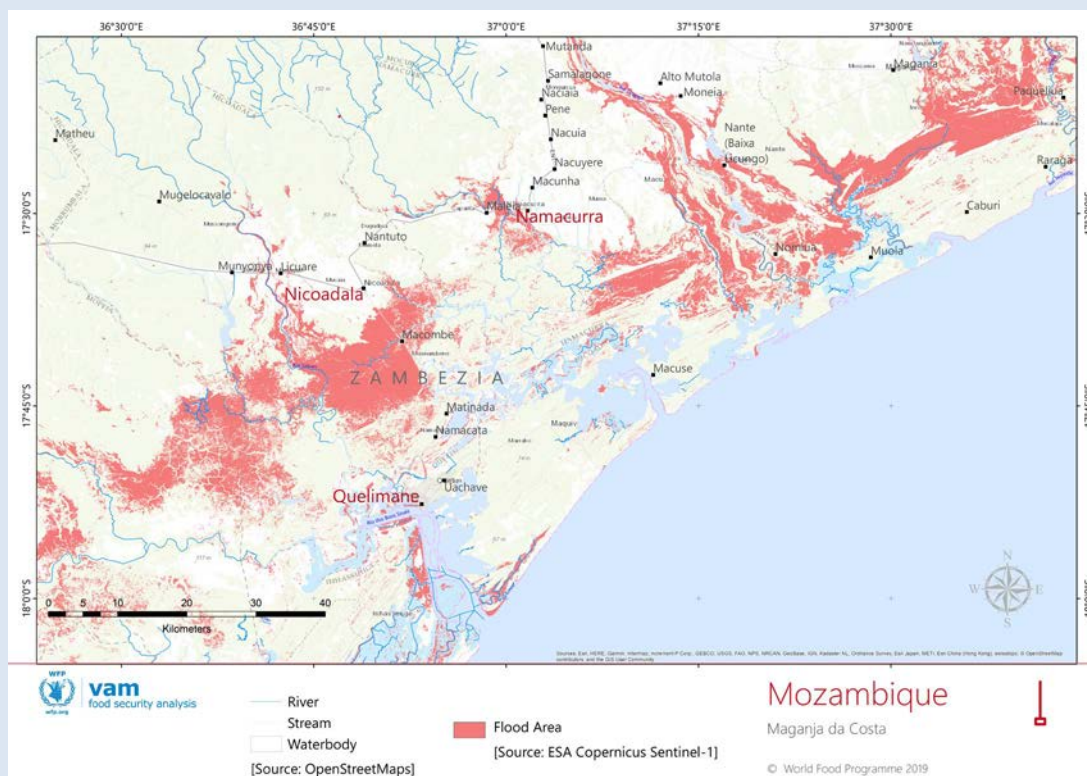
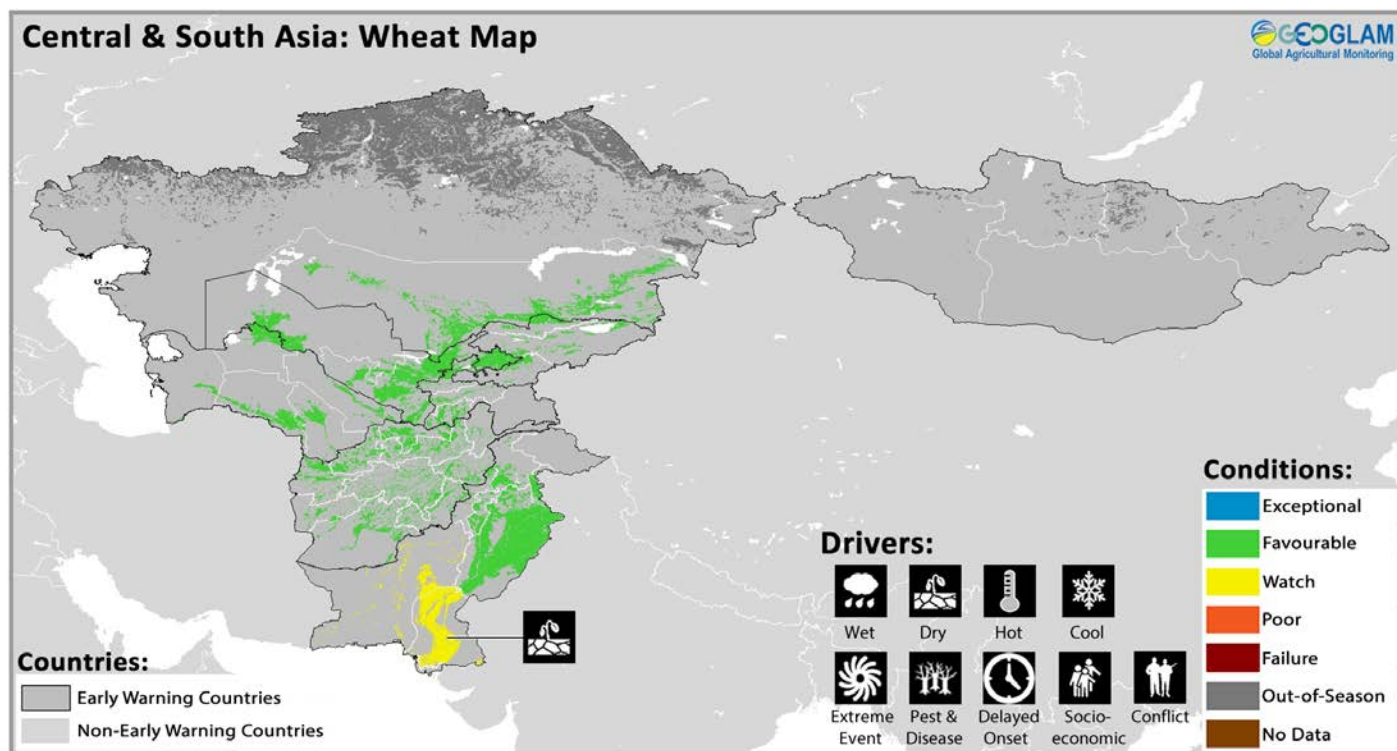


Figure 1. Flood extent over Zambezia province of central Mozambique for the period of 14-20 March. Source: WFP-VAM

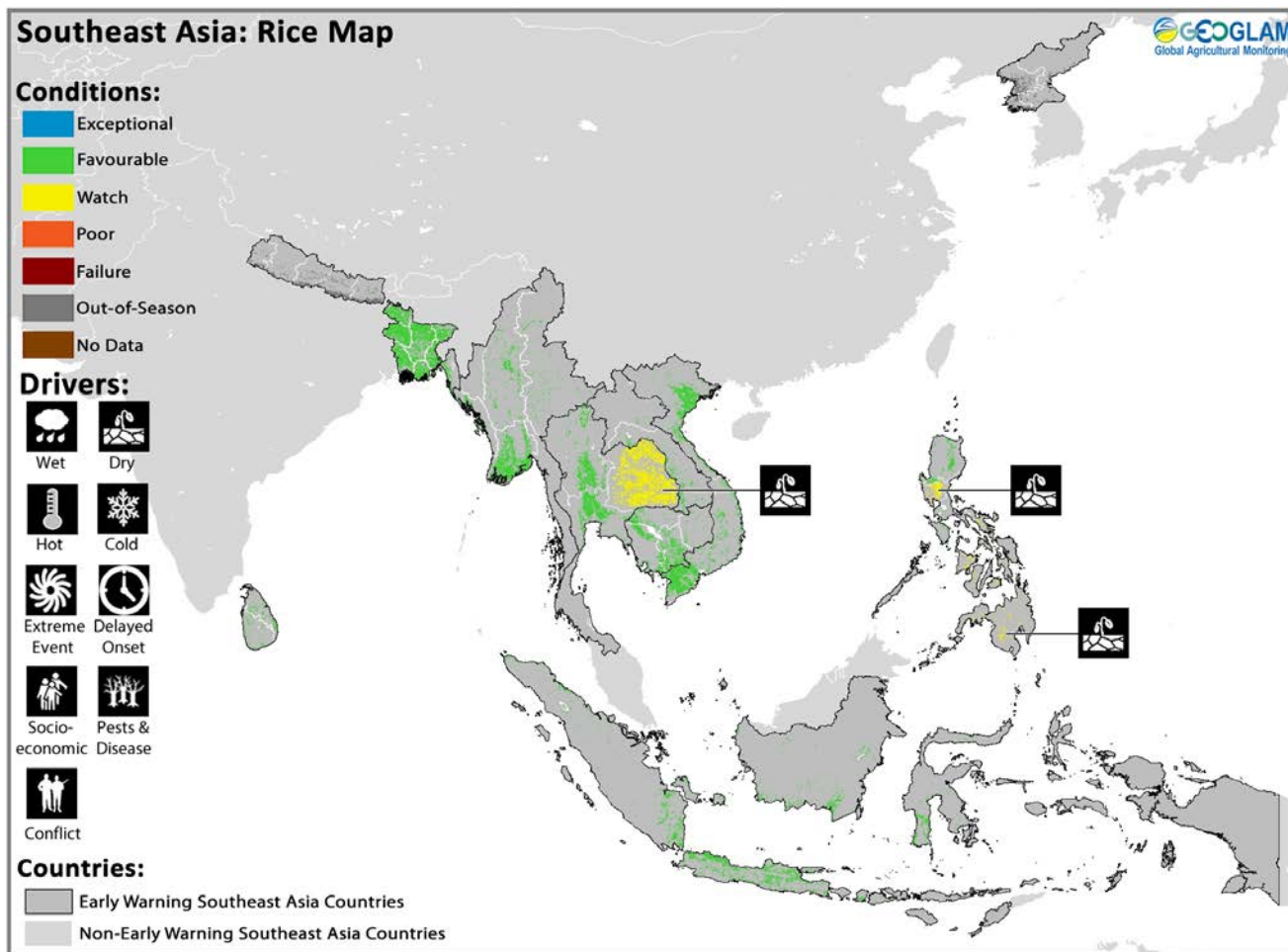
Central & South Asia



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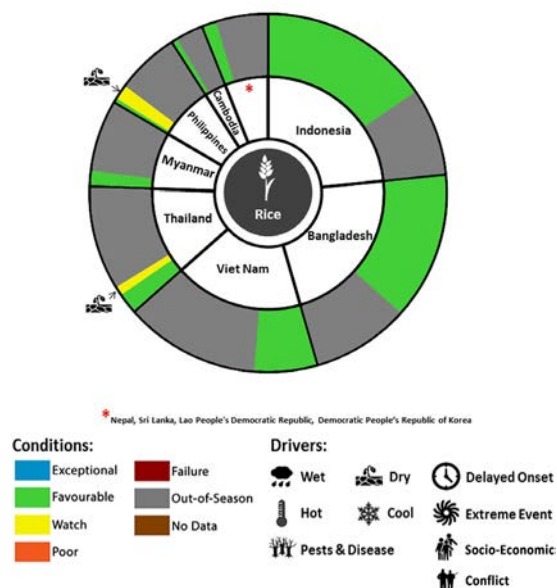
In Central Asia winter wheat, to be harvested from June, is exiting the dormancy phase and as of mid-March, despite below average precipitation from late-February, crops conditions are generally favourable. In **Uzbekistan** and **Turkmenistan**, rains from December 2018 to March 2019 were unevenly distributed. By contrast, in **Tajikistan** and **Kyrgyzstan**, well distributed snow cover during winter benefited soil moisture. Similarly, in southern and southeastern **Kazakhstan**, regular snowfalls between November 2018 and February 2019 ensured sufficient soil moisture and prevented crops from freezing. Planting of spring cereals across Central Asia is expected to start in April and adequate snow cover during winter is expected to benefit soil moisture levels during the summer period (June-August). In **Afghanistan**, frequent and well-distributed precipitation throughout the season has led to abundant soil moisture and favourable conditions for both winter wheat growth and spring wheat sowing now underway across the country. Record or near-record snow water volumes in many basins will provide ample water for seasonal irrigation into late spring and early summer. However, the significant snow pack that still exists in the upper elevations, does increase the risk of downstream flooding that could have negative impacts on croplands. In **Pakistan**, conditions for the *rabi* wheat crop, planted in November, are generally favorable with improvement over the main producing area of Punjab due to good rains in February. However, dry conditions continue across Sindh and Balochistan provinces where below average rainfall in November along with reduced irrigation water amounts impacted planting operations and continue to affect planted crops. Heavy rainfall at the start of March in Balochistan resulted in flash flooding across nine districts and severe infrastructure damage. In the long term, this may have a positive impact on previously dry conditions.

Southeast Asia



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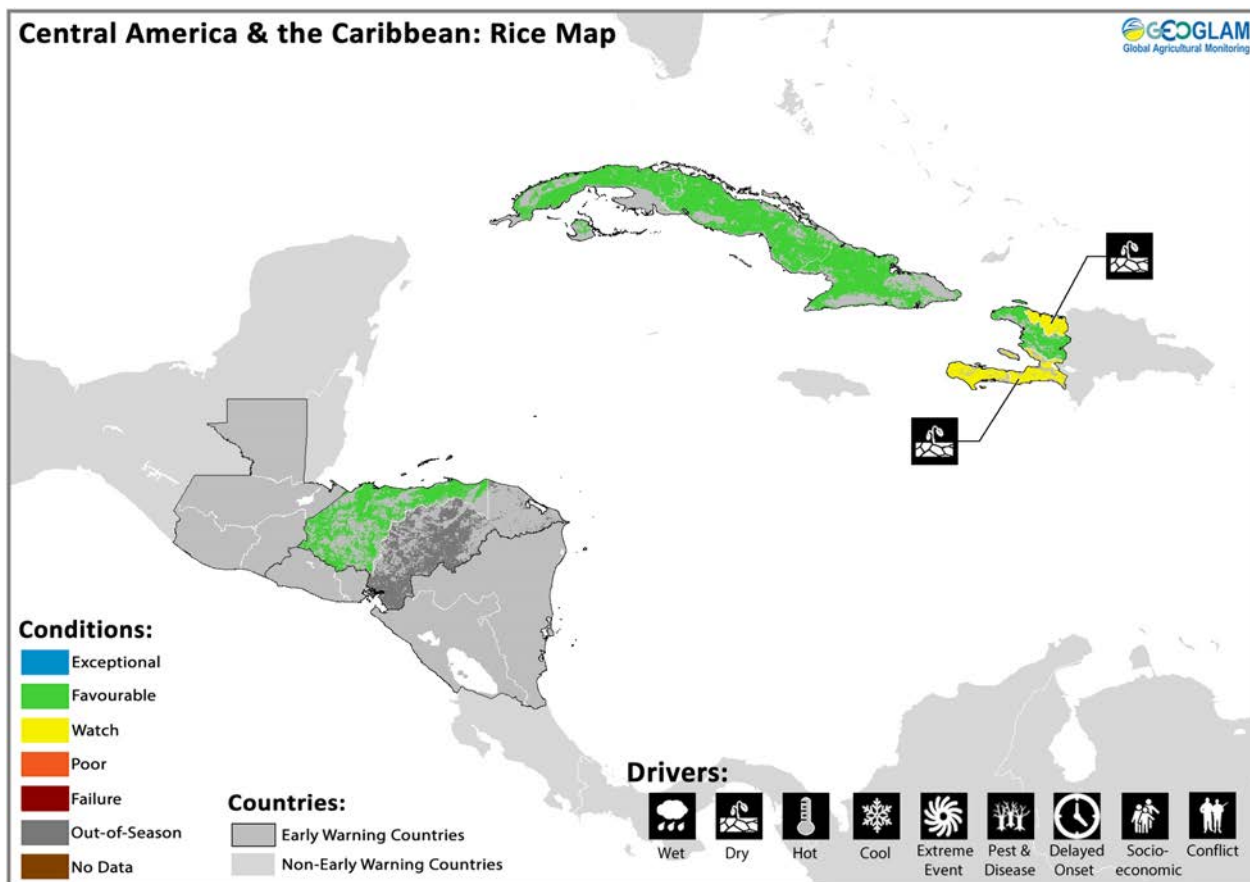
In the northern side of Southeast Asia, dry season rice crops are generally favourable. However, in northeastern Thailand and parts of the Philippines water shortages during the season may impact final yields and in Cambodia, there is some concern due to high temperatures in March impacting crop growth. In **Viet Nam**, conditions are favourable for winter-spring rice (dry-season rice) with sowing complete in the south and continuing in the north. Total sown area is noticeably higher in the north this year compared to last year due to warm weather. In **Thailand**, dry-season rice is harvesting under general favourable conditions with the exception of dry conditions in the northeastern region, which will potentially reduce final yields. In **Laos**, dry season rice is in young panicle forming stage and conditions are favourable due to sufficient water supply. In **Cambodia**, planted area of dry season rice is 9 percent higher than the previous year and yields have also increased slightly due to sufficient irrigation water and good weather. There is some concern due to high temperatures. In **Myanmar**, sowing of dry season rice continues and planting work has been smooth and in line with last year due to favourable growing conditions and stable weather. Early planted crops are already in reproductive stage and while some rains came in March, this did not have any significant damage for crops. In the **Philippines**, dry-season rice is in the maturing to harvesting stages under mixed conditions. Dry conditions in the southern areas during the critical growth stage may affect final yields. In **Indonesia**, conditions are favourable as sowing of wet-season rice enters into the final month. Harvest of the earlier sown fields continues with yields expected to be close to average owing to sufficient sunlight during the growing season. In **Nepal**, planting of main season maize started in February and conditions are favourable due good weather and sufficient irrigation water supply. In **Bangladesh**, the *boro* rice crop planted in December is in



For detailed description of the pie chart please see box below.

vegetative to reproductive stage and conditions are favourable due to sufficient rainfall and good weather. In **Sri Lanka**, harvest is complete for the main *maha* rice crop and production is favourable. Main season maize was severely affected by fall armyworm (FAW) outbreaks that reduced yields. However, production remains above the 5-year average and well above the 2017 drought- reduced level, as above-average plantings of maize partially offset the damage from the FAW infestation.

Central America & Caribbean



Crop condition map synthesizing information as of March 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.**

Harvest is complete for *apante* season bean crops across Nicaragua and Haiti and yields are generally favourable due to good rains during the season. In **Nicaragua**, *apante* harvest finished in March and yields are average do to good December to January rainfall and sufficient moisture levels notably over the mountainous areas of Matagalpa and Jinotega and central and southwest over Nueva Guinea and San Carlos. Some areas received below average precipitation throughout the season however, this resulted in only focalized damage and did not affect overall yields. In **Haiti**, *apante* bean crops are favourable with estimated average yields due to improved rainfall in January, except in the Nord and Nord-est departments where precipitation remained below average. Planting started in March for main season crops and there is concern in the Nord department due to reduced rainfall that may impact bean crops which are a surplus production in this area. In addition, main season rice planting has started and there is concern due to moisture deficits in the minor producing Nord-est, Ouest and Nippes departments, whereas in the major producing Artibonite, department, planting is underway with adequate moisture conditions and irrigation water supply. In **Cuba**, second season rice crops are now in vegetative to reproductive stage and conditions are favourable with above average irrigation water supply. Planting of the rain fed summer season rice is ongoing under favourable conditions due to average rainfall.

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 AMIS Market Monitor, published April 4th 2019.

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.



Sources and Disclaimers:

The Crop Monitor assessment is conducted by GEOGLAM with inputs from the following partners FEWS NET, JRC, WFP, ARC, Asia RICE, MESA, ICPAC, FAO GIEWS, Applied Geosolutions and UMD. The findings and conclusions in this joint multi-agency report are consensual statements from the GEOGLAM experts, and do not necessarily reflect those of the individual agencies represented by these experts. More detailed information on the GEOGLAM crop assessments is available at www.cropmonitor.org

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	

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Crop Season Nomenclature:

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

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Cover Photo by: Tamuka Magadzire

Early Warning partners



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