

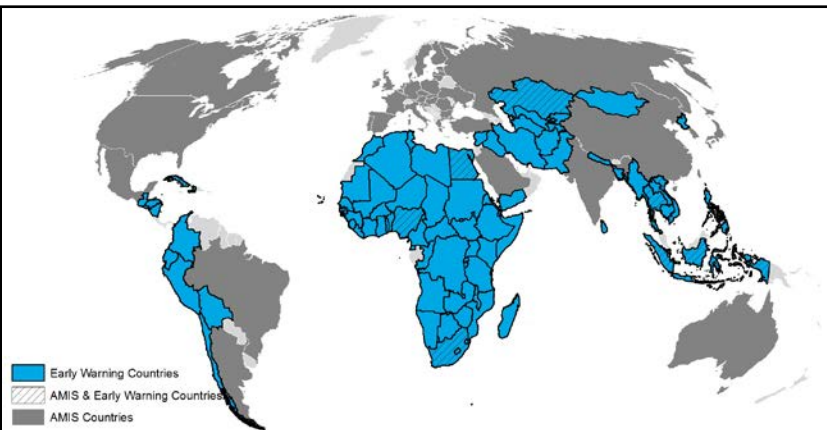


# Crop Monitor

## EARLY WARNING

### Overview:

In **West Africa**, main season crops are now out of season however, rice crops are ongoing and conditions are favourable. In northern **East Africa**, planting of the *belg* season is underway in Ethiopia and conditions are favourable. In the south of the subregion, land preparations are underway for main season crops across Uganda, northern Tanzania, and eastern Kenya and rains will commence in March. Maize crops are ongoing in **Southern Africa** and despite rains in February, concern remains due to carryover effects from early season dryness and some incidences of fall armyworm reported. In **Central and South Asia**, winter wheat is in dormancy and conditions are generally favourable despite some dryness and above average temperatures. In **Southeast Asia**, dry season rice planting is ongoing and under favourable conditions. In **Central America** and the **Caribbean**, the *segunda* season is complete and production was favourable across all areas.



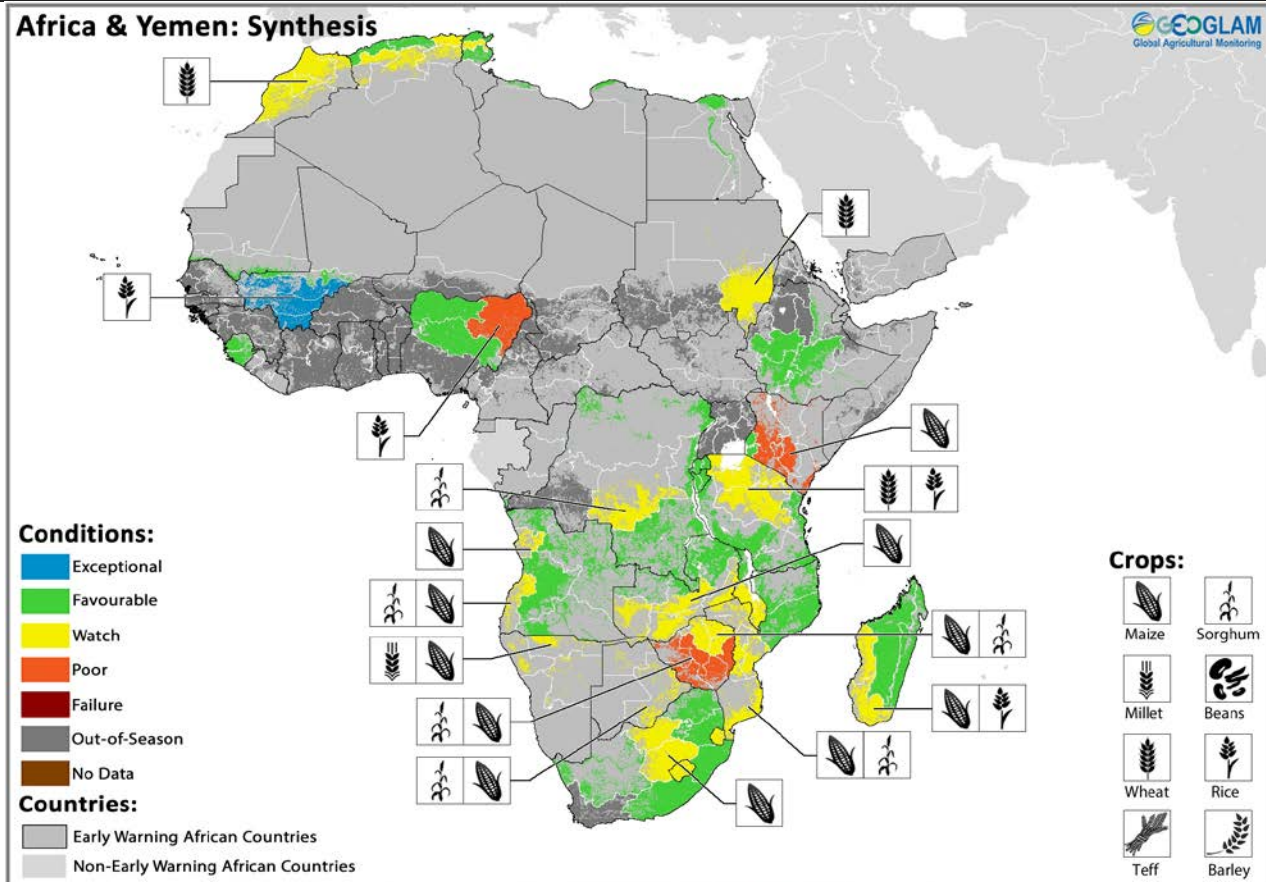
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# GEOGLAM Crop Monitor for Early Warning

## Crop Conditions at a glance

based on best available information as of February 28<sup>th</sup>



Crop condition map synthesizing information for all Crop Monitor for Early Warning crops as of February 28<sup>th</sup>. 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 the north of the sub region, crops are now out of season except in Ethiopia where planting of the *belg* season is underway and conditions are favourable with timely onset of rains. Across the south of the subregion, land preparation just starting for main season crops across Uganda, central Tanzania, East Kenya and planting will begin in March with the onset of the rains. Over the main producing regions in southern Tanzania crops are now in vegetative to reproductive stage and conditions are favourable with good rains received.

**WEST AFRICA:** Main and second season crops are now out of season and only rice crops are still ongoing across Mauritania, Sierra Leone and Nigeria and conditions are favourable. In Mali, main season rice harvest is complete and conditions were exceptional across the northern areas.

**MIDDLE EAST AND NORTH AFRICA:** Across the Middle East, winter wheat planting is complete and good rains have been received throughout the north of the region however, some concerns remain due to ongoing dryness in southern parts of Iran, Iraq and Syria. Across North Africa, 2018 winter wheat crop is ongoing and conditions are mixed with carryover effects from dry conditions early in the season.

**SOUTHERN AFRICA:** Main season maize is in vegetative stage and while above normal rainfall was received in early February over the previously dry central and southern regions of Malawi, much of Zambia and Zimbabwe, concern remains over these areas and much of the region due to carryover effects of early season dryness and high temperatures as well as minor impacts of fall armyworm over the region.

**CENTRAL AND SOUTH ASIA:** Winter wheat crops are now in dormancy stage and conditions are generally favourable in the subregion. In Afghanistan concern continues due to below average precipitation leading to reduced snow pack however, in Pakistan dry conditions have improved with rainfall in January and February.

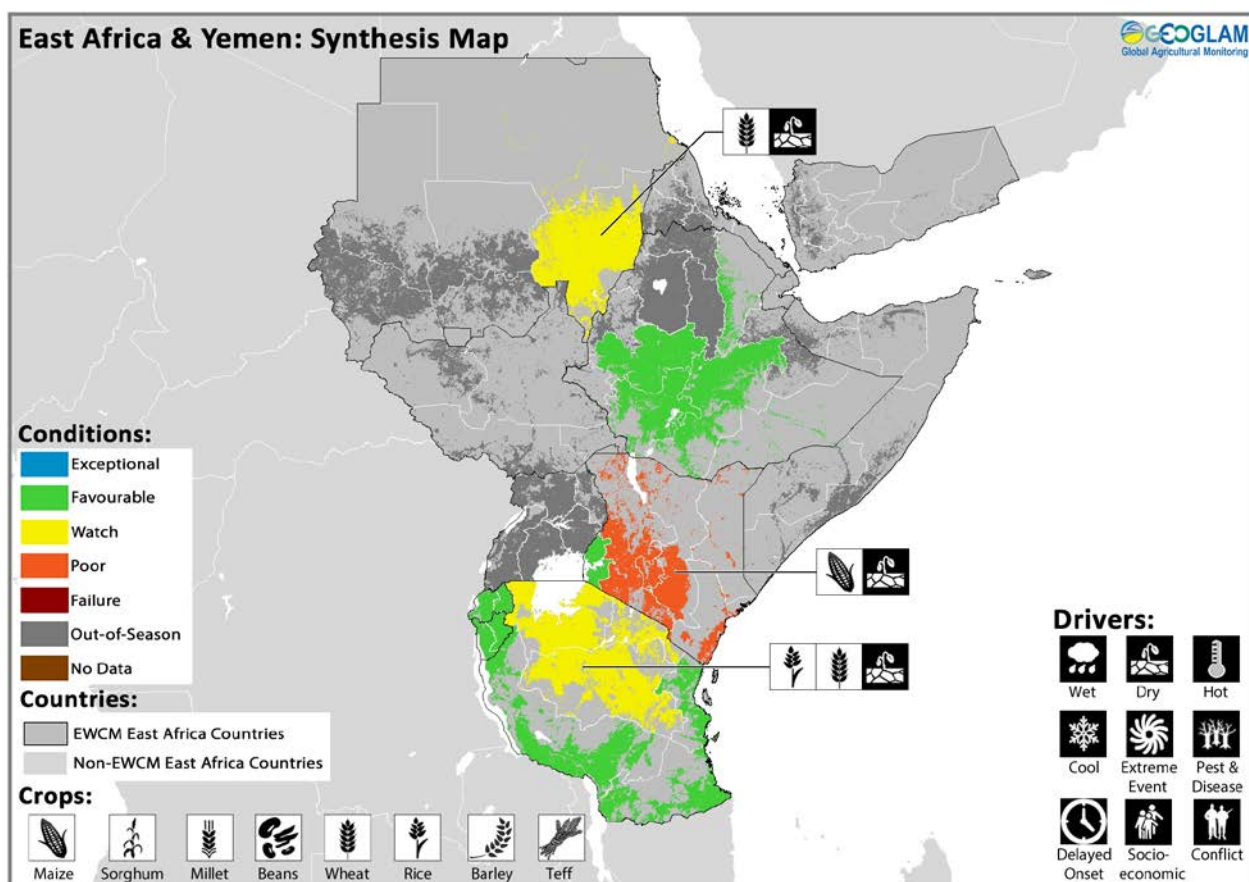
**SOUTHEAST ASIA:** In the northern side of Southeast Asia, dry season rice planting is ongoing and favourable across all countries. In Indonesia, the harvesting of wet season rice is in its second month and yield prospects are higher than the previous year.

**CENTRAL AMERICA & CARIBBEAN:** The *segunda (prostrera)* season maize and bean harvest completed at the start of February and production was favorable across all areas.

### La Niña advisory ongoing:

A La Niña advisory has been in effect since November 2017, and the probability of persistence through March is about 60%, double the typical probability for that month of the year. Thereafter, La Niña conditions are expected to dissipate to a neutral state. Associated with the event, drier than normal conditions currently prevail in southwest Asia, southeastern South America, eastern China, and the southern United States. Atypically for a La Niña event, areas of Southern Africa (Zimbabwe, Botswana, and parts of South Africa, Mozambique, Zambia, Malawi, and Madagascar) experienced an extended dry spell (from late December until the beginning of February) in the heart of the season, though widespread abundant rain has come in the recent weeks. Crops may not recover, however, and there are significant areas that did not receive the late rains. Though northern South America is frequently wetter than normal with La Niña, conditions in late 2017 – early 2018 have been drier than average. Wetter than normal conditions, as expected, have been experienced in Central America and the Caribbean, and in Southeast Asia (Philippines, Malaysia, and parts of Indonesia, Thailand, Cambodia, Laos, and Vietnam).

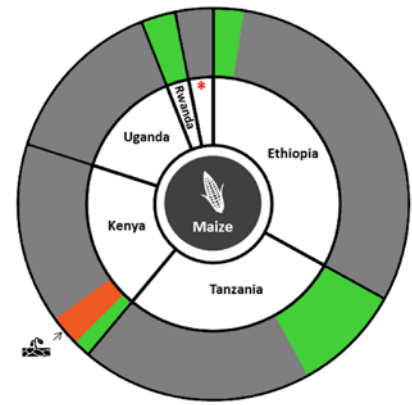
### East Africa and Yemen



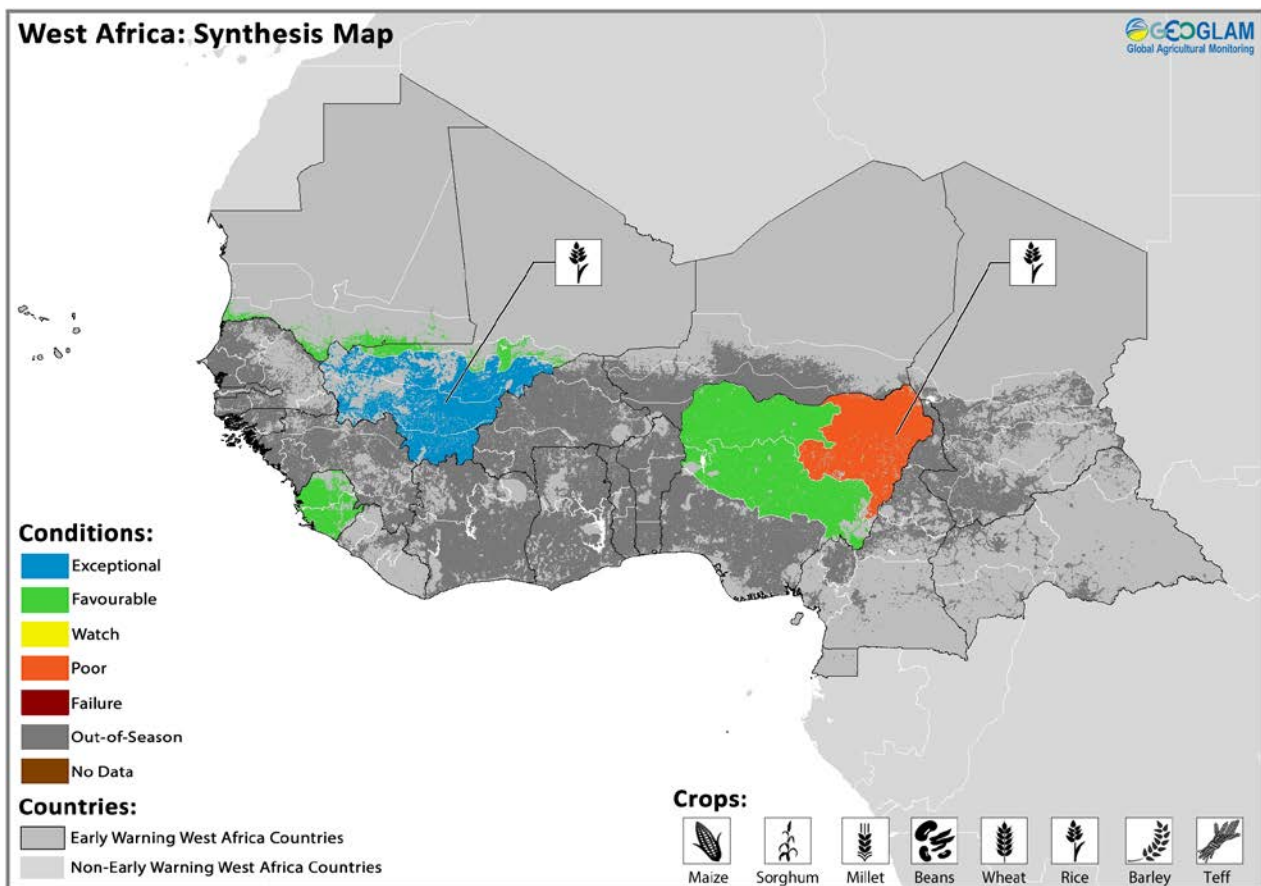
Crop condition map synthesizing conditions as of February 28<sup>th</sup>. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Conditions that are other than favourable are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

In the north of the subregion, many areas are now out of season however, planting of the *belg* season in Ethiopia is underway and onset of rains has been timely. Across the south of the subregion, land preparation just starting for main season crops across Uganda, central Tanzania, East Kenya and planting will begin in March with the onset of the rains. Over the main producing regions in southern Tanzania crops are now in vegetative to reproductive stage and conditions are favourable with good rains received. In **Ethiopia**, onset of the *belg* rains began in the middle of February and early season conditions are favourable for cereal crops with good rainfall amounts received. In **Sudan**, the 2018 wheat crop planted in November is now in vegetative stage and there is some concern due to dry conditions that may impact production. In **Somalia**, crops are now out of season and carryover effects of the four consecutive failed seasons continue to impact food security. In **Kenya**, secondary “short rains” season crop harvest is now complete in southeastern and coastal lowlands and production was poor across all areas except in the West where good rains were received. Land preparations are now underway for main season crops that will start in March. In **Uganda**, land preparation is underway for main season crops to be planted with the onset rains expected in March.

In **Rwanda** rice vegetative stage is on a favourable condition due to the crop being planted in flood valleys and rainfall received in the last weeks of February. In **Burundi** planting of season B crops started in February under favourable conditions. In the **United Republic of Tanzania**, *msimu* crops are ongoing over the main producing southern highlands and conditions are favourable with good rainfall amounts. Rice and wheat crops are ongoing across the country with concern over the centre and north due to dry conditions (under discussion). Land preparation for the main *masika* rains has started in the northern bimodal areas and planting will commence with the onset of the rains expected to arrive in March.



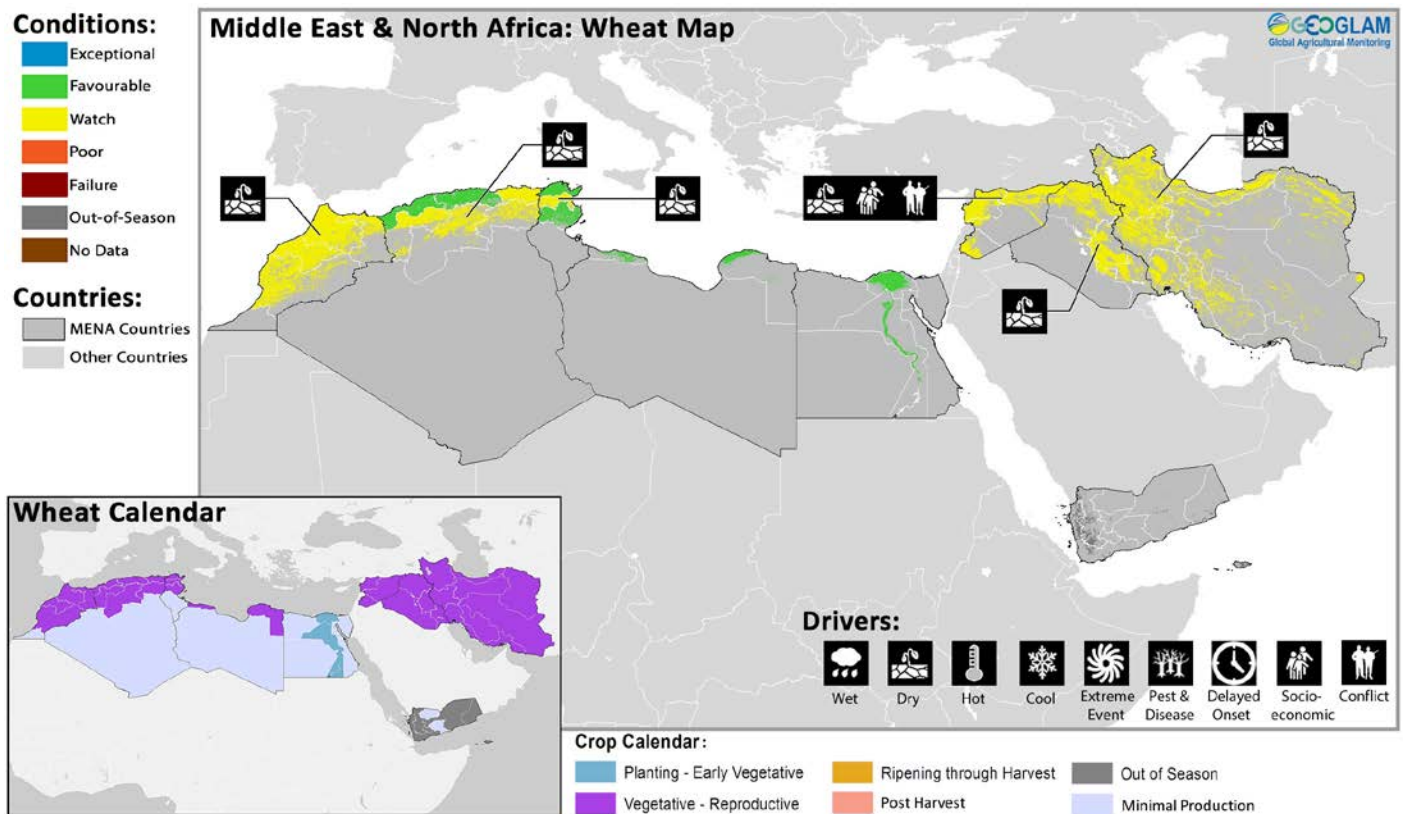
**West Africa**



Crop condition map synthesizing information as of February 28<sup>th</sup>. 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.**

Across West Africa, main and second season crops are now out of season and only rice is still ongoing across parts of the region. In **Mali**, rice harvest is complete and production is exceptional across all areas and favourable in Zone 4. In **Mauritania**, second season rice is ongoing and production prospects are favourable with harvests beginning in March. In **Sierra Leone**, planting of main season rice is ongoing and conditions are favourable at the start of the season. In northern **Nigeria**, second season rice crops are ongoing and conditions are favourable across all areas except in the northeast where ongoing conflict continues to impact agricultural activities. Harvest will begin in the central areas in March.

## Middle East &amp; North Africa

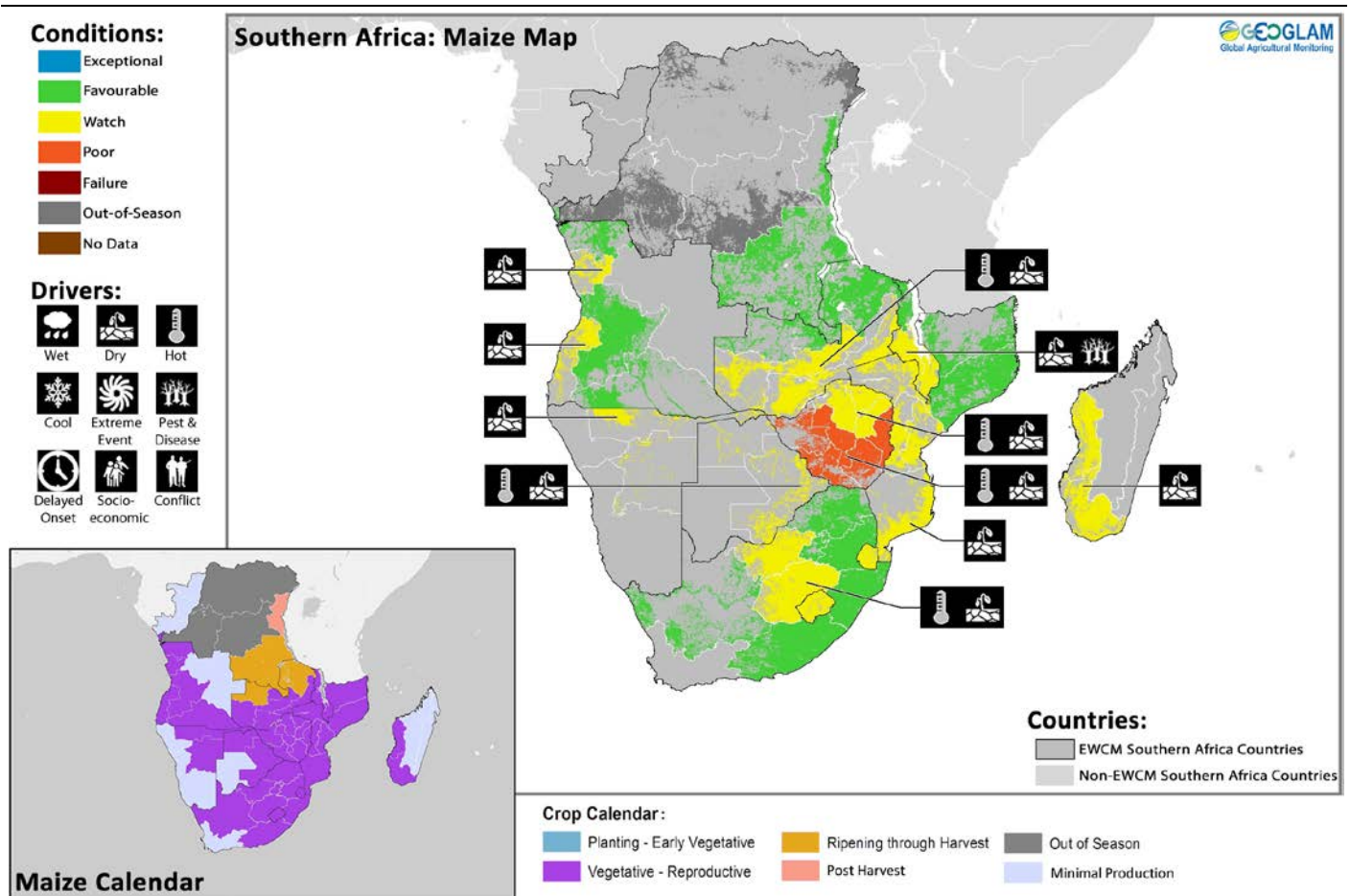


Across the Middle East, winter wheat planting is complete and good rains have been received throughout the north of the region however, some concerns remain due to ongoing dryness in southern parts of Iran, Iraq and Syria. In **Iran**, the extended dry spell that affected the country since October has ended in the north-west with the arrival of good rainfall. However, the centre and the south are still affected by drier than average conditions, in particular in the south. In **Iraq**, despite good rains since the start of January, after a dry October-December period, and temperatures above average by 2 to 3C, crop conditions remain below average over the northern part of Iraq. In contrast, southern Iraq has been affected by ongoing drought however, much of this area is irrigated. In the **Syrian Arab Republic**, despite good rains received in January and February after the October-December dry spell, biomass levels of winter crops remain below pre-conflict levels in the north of Syria, partly due to impact of conflict.

Across North Africa, 2018 winter wheat crop is ongoing and conditions are mixed with some carryover effects from dry conditions early in the season. In **Morocco**, although rainfall in January and February improved moisture levels, notably in the northern coast and eastern areas, concern persists across the central and south west due to a delayed onset of the rains and dry conditions. In **Algeria**, despite rainfall improvements in February, the 2017/2018 winter crop season continues to show a mixed condition with delay of onset rains and water deficits in the eastern and central parts however, normal precipitation has been received across the coastal and western areas. In **Tunisia** and **Libya** winter wheat crops are ongoing and conditions are favourable with good rains received however, in northern Tunisia rainfall distribution has been irregular with water deficits in the west and above average conditions in east. In **Egypt**, winter wheat and rice crops are ongoing and conditions are favourable due to good rains and temperatures.

*Crop condition map synthesizing information as of February 28<sup>th</sup>. 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.***

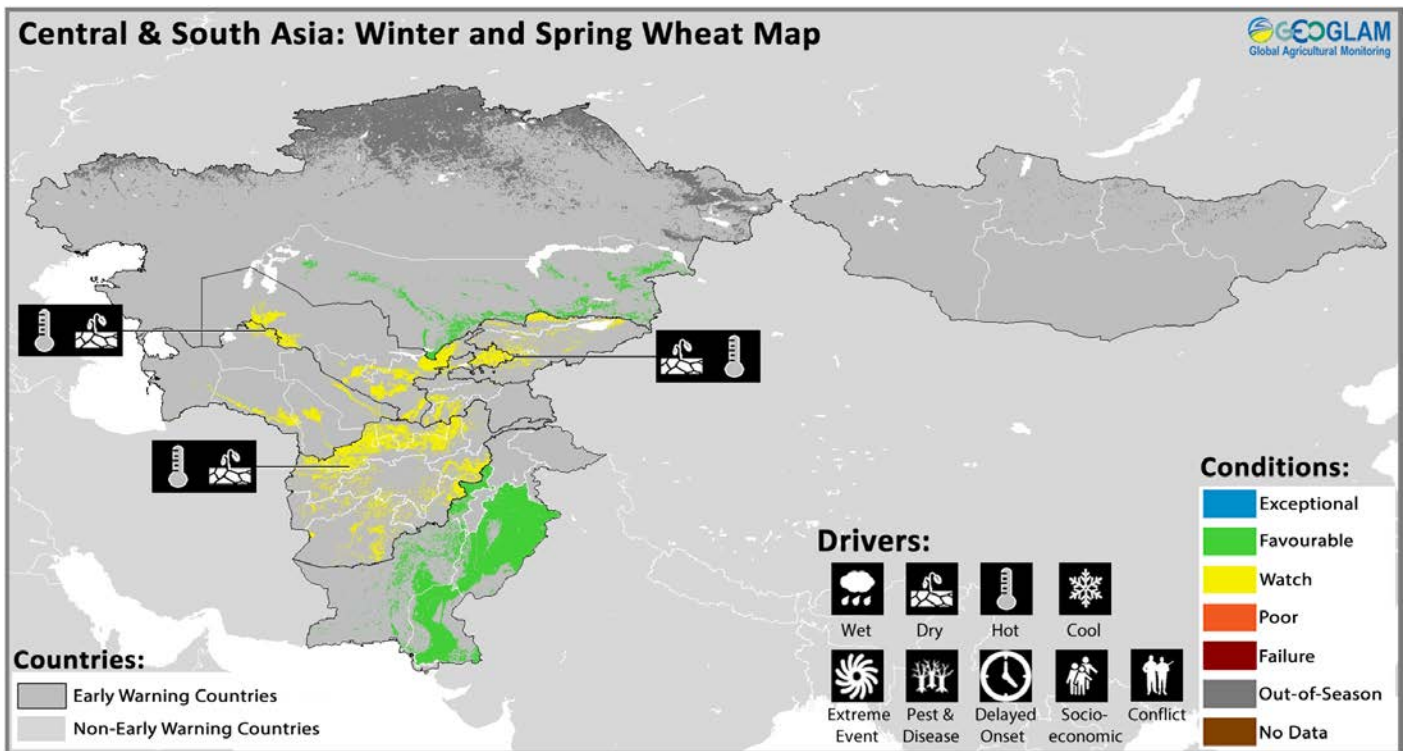
## Southern Africa



Crop condition map synthesizing information as of February 28<sup>th</sup>. 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, main season maize is in vegetative stage and while above normal rainfall was received in early February over the previously dry central and southern regions of Malawi, much of Zambia and Zimbabwe, concern remains over these areas and much of the region due to carryover effects of early season dryness and high temperatures as well as minor impacts of fall armyworm over the region. In **Namibia** and **Lesotho**, despite rainfall in February, concern remains across all areas due to poor rainfall and above average temperatures early in the season. In **Malawi**, while northern areas have experienced good rainfall since the start of the season, concern remains in the centre and south due to dry conditions. In **Botswana**, rainfall has been below normal since the start of the season and despite some rain in early February, high temperatures during same period may have increased evapotranspiration therefore maintaining moisture deficits. In **Angola**, rainfall deficits that started in November 2017 are ongoing across the central/southern coastal areas. Some rainfall in December improved conditions in Cunene and Cuando Cubango however, poor rainfall in January and early February encouraged moisture deficits resulting in crop stress and wilting in some parts including the North West (mainly Bengo). The main agricultural regions in Huila and Huambo have received close to average rainfall so far. In the **Democratic Republic of Congo**, conditions are favourable in the East and Katanga however below average rainfall in February over the central areas may impact sorghum crops. In **Zambia**, while conditions are favourable in the north, there are concerns regarding the negative impacts of the January dry conditions in the centre and south may have negatively impacted some crops. In **Zimbabwe**, production prospects are poor due to the prolonged dry spell early in the season and high temperatures causing temporary and permanent wilting, notably in early planted maize crops. In addition, presence of fall armyworm has been reported across all provinces and control efforts are underway. In **Madagascar**, despite some rainfall in February, production prospects are still lowered for main season maize over the West and South due to dry conditions. In **Mozambique**, concern remains across the South over Tete due to below average rainfall and high temperatures since the start of the season however, rainfall received in February has improved conditions slightly. In **South Africa**, above-normal rainfall has been received over most of the eastern maize production region, where yellow maize is produced, resulting in favourable conditions. Over the western parts, where white maize is produced, hot and dry conditions during December and much of January resulted in low planting rates (about 70 - 75% of the normal). Widespread rain has returned to both eastern and western regions since the end of January however, the additional planting in the west occurred after the planting window - resulting in great uncertainty towards the end of the season.

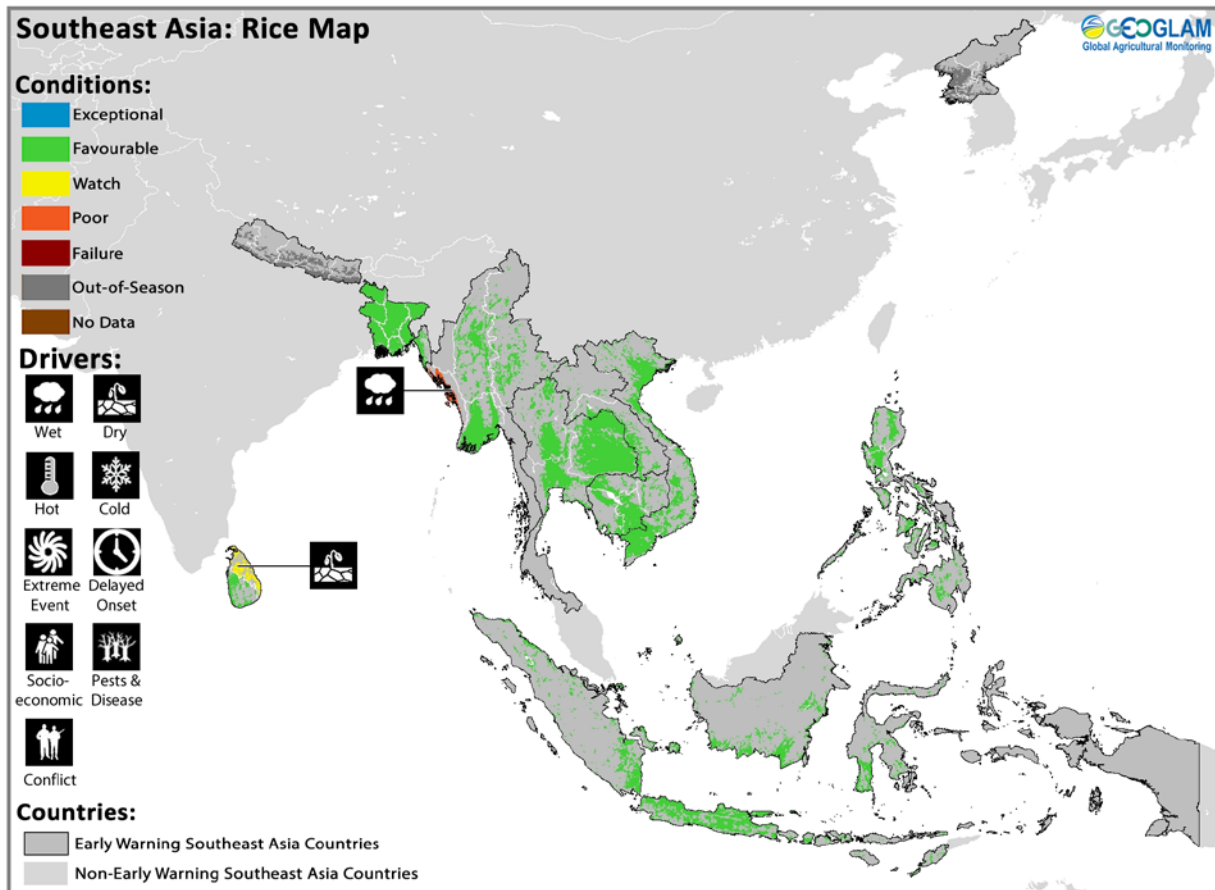
## Central &amp; South Asia



Across Central and South Asia winter wheat crops are now in dormancy stage and conditions are generally favourable in the subregion. In southern and south-eastern **Kazakhstan**, where winter wheat is cultivated, planting operations were hampered by above average rainfall in September-October. However, by mid-February, crops were reported to be in good conditions with only a small percentage of winterkill area. The 2018 winter-cereal crops, mainly wheat and barley, are now in dormant stage across most countries of the subregion and there is concern due to dry conditions and above average temperatures across the region. In **Uzbekistan** and **Turkmenistan** below-average rainfall amounts were reported between November 2017 and February 2018 however conditions remain favourable. In **Tajikistan**, there is concern due to reduced snow coverage. Snow is the main source of water for the Amu Darya river, an important water supply for agriculture in the whole subregion, this lack of snow raises concerns of shortage of water for irrigation during the summer period (June-August), not only in Tajikistan, but also in Uzbekistan and Turkmenistan. In **Afghanistan**, deficit precipitation conditions continued through February and conditions are worsening for winter wheat crops. The below-average precipitation has resulted in reduced snow pack which has serious implications for available irrigation water in the spring. In **Pakistan**, winter wheat is ongoing and conditions have improved and are favourable with rains in January and February supporting soil moisture levels.

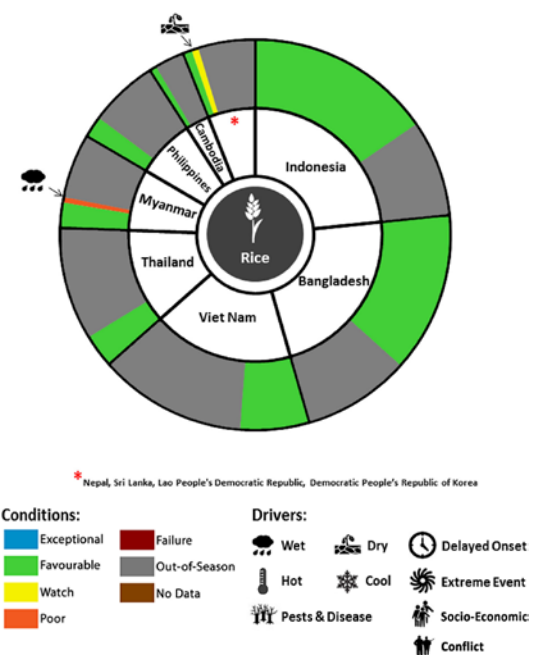
Crop condition map synthesizing information as of February 28<sup>th</sup>. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Crops that are in other than favourable conditions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

## Southeast Asia



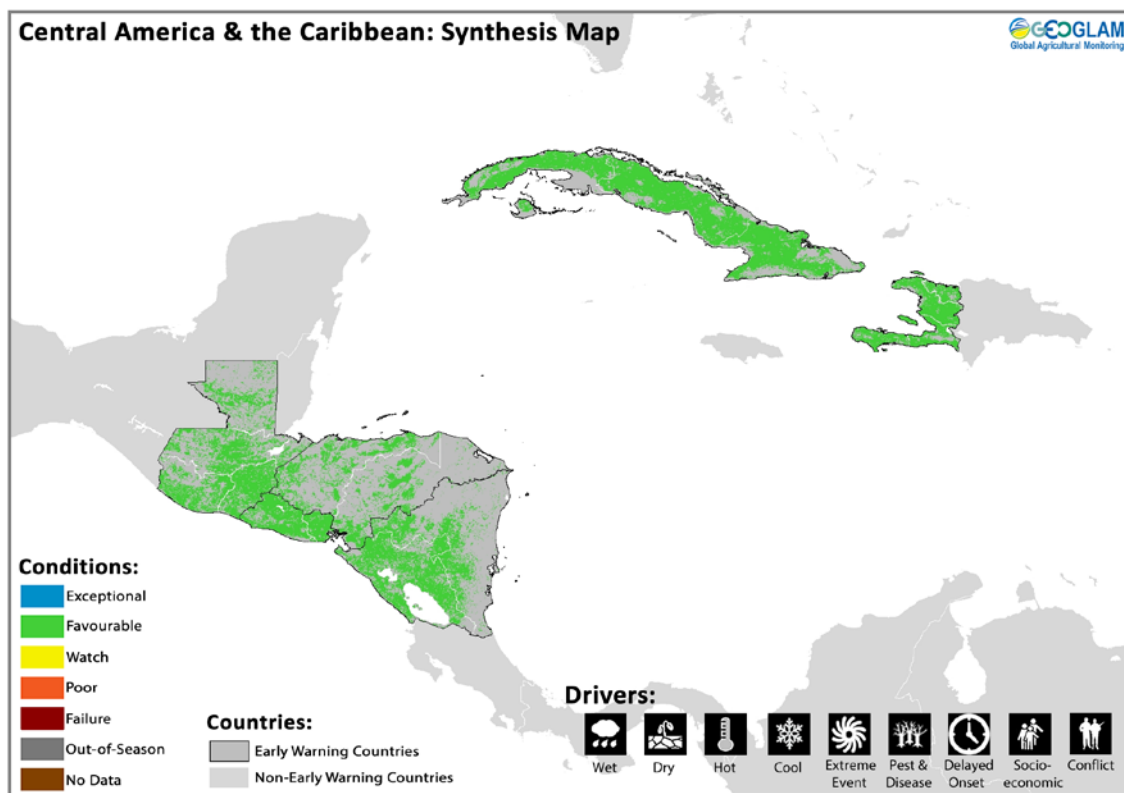
Crop condition map synthesizing information for rice as of February 28<sup>th</sup>. Crop conditions over the main growing areas are based on a combination of inputs, including remotely sensed data, ground observations, field reports, national, and regional experts. **Conditions that are other than favourable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

In the northern side of Southeast Asia, dry season rice planting is ongoing and favourable across all countries. In Indonesia, the harvesting of wet season rice is in its second month and yield prospects are higher than the previous year. In **Viet Nam**, sowing of the winter-spring rice (dry season rice) continues in the south under favourable conditions. Sowing has begun in the north after a delayed start due to cold weather. In **Thailand**, dry-season rice is in the vegetative stage under favourable conditions with no negative effects from earlier cold weather. In **Laos**, dry season rice is in transplanting stage and conditions are favourable with good weather supporting transplanting activities. In **Cambodia**, dry season rice planting is complete and conditions are favourable due to sufficient irrigation water. In **Myanmar**, dry season rice planting is ongoing and conditions are favourable despite some cold conditions in February. In the **Philippines**, conditions are generally favourable for dry-season rice. Multiple weather systems affected the country over the past month, resulting in some minor crop damage in southern growing areas. In **Indonesia**, sowing of the wet-season rice continues under favourable conditions and total sown area remains lower than normal due to uneven rainfall. Harvest of earlier sown wet-season rice continues with expected yields higher than last season. In **Bangladesh** winter wheat and *boro* rice planting finished at the end of January and early season conditions are favourable with good rains received. In **Nepal**, planting of the 2018 maize crop began in February and conditions are favourable with good rains at the start of the season. In **Sri Lanka**, harvest of the main *maha* maize and rice crops started at the beginning of February and will continue through the end of March and production prospects are favourable except for the rice crop in the northeast where there is concern due to dry conditions.



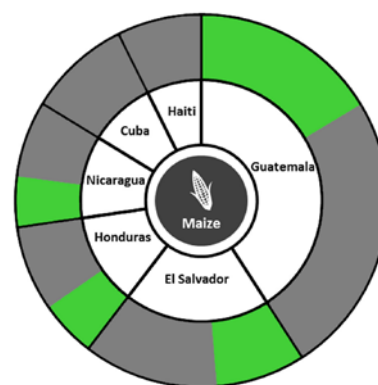


Central America & Caribbean



Crop condition map synthesizing information as of February 28<sup>th</sup>. 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 Central America, segunda (*prostrera*) season maize and bean harvest completed at the start of February and production was favorable across all areas with good timing and quantity of rainfall supporting normal crop development throughout the season, after the "dobla" (fold the plant to reach an optimum moisture point for consumption), harvest activities start over Guatemala and Honduras. In **Guatemala**, overall production was favourable despite some focalized losses over subsistence areas in the north and centre due to high rainfall quantities at the end of January. Development of the *apante* season bean crop is now ongoing over **Nicaragua** and conditions are favourable. In **Cuba**, conditions are favourable for second season maize and rice with good rains received. In **Haiti**, main season rice planting started in February and conditions are favourable with good rains at the start of the season.



Information on crop conditions in the main production and export countries can be found in the [AMIS Market Monitor](#), published March 1st 2018.

**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.

# Appendix

**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.



Wet



Dry



Hot



Cold



Extreme  
Event



Delayed  
Onset



Socio-  
economic



Pests &  
Disease



Conflict

## 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](http://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 (Winter/Spring)	Dry season (Autumn)	

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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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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Prepared by members of the GEOGLAM Community of Practice,  
Coordinated by the University of Maryland Center for Global  
Agricultural Research



The Crop Monitor is a part of  
GEOGLAM, a GEO global initiative.

Cover Photo by: Alkhalil Adoum

### Early Warning partners



ICPAC  
IGAD Climate Prediction  
& Applications Centre



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