

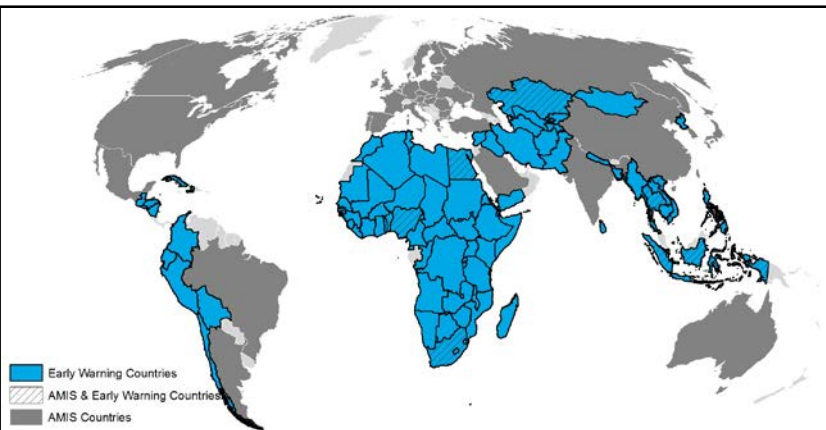


Crop Monitor

EARLY WARNING

Overview:

In **West Africa**, main season maize planting has started in the south and conditions are favourable. In northern **East Africa**, the *belg* season is underway in Ethiopia and there is concern due to dry conditions in March. In the south of the subregion, planting has begun for main season crops and conditions are favourable at the start of the season with timely onset of rains. In the **Middle East**, winter wheat is mixed due to dry conditions and ongoing conflict in the south. In **North Africa**, there is concern due to carryover effects of dry conditions early in the season impacting winter wheat. Maize crops in **Southern Africa** are in ripening stage and harvest will begin in May with mixed production prospects due to permanent damage from early season dryness. In **Central and South Asia**, there is worsening concern for winter wheat crops due to dry conditions and reduced snowpack expected to impact production. In **Southeast Asia**, dry season rice planting is almost complete and conditions are favourable. In **Central America** and the **Caribbean**, *apante* harvest is underway and conditions are favourable.



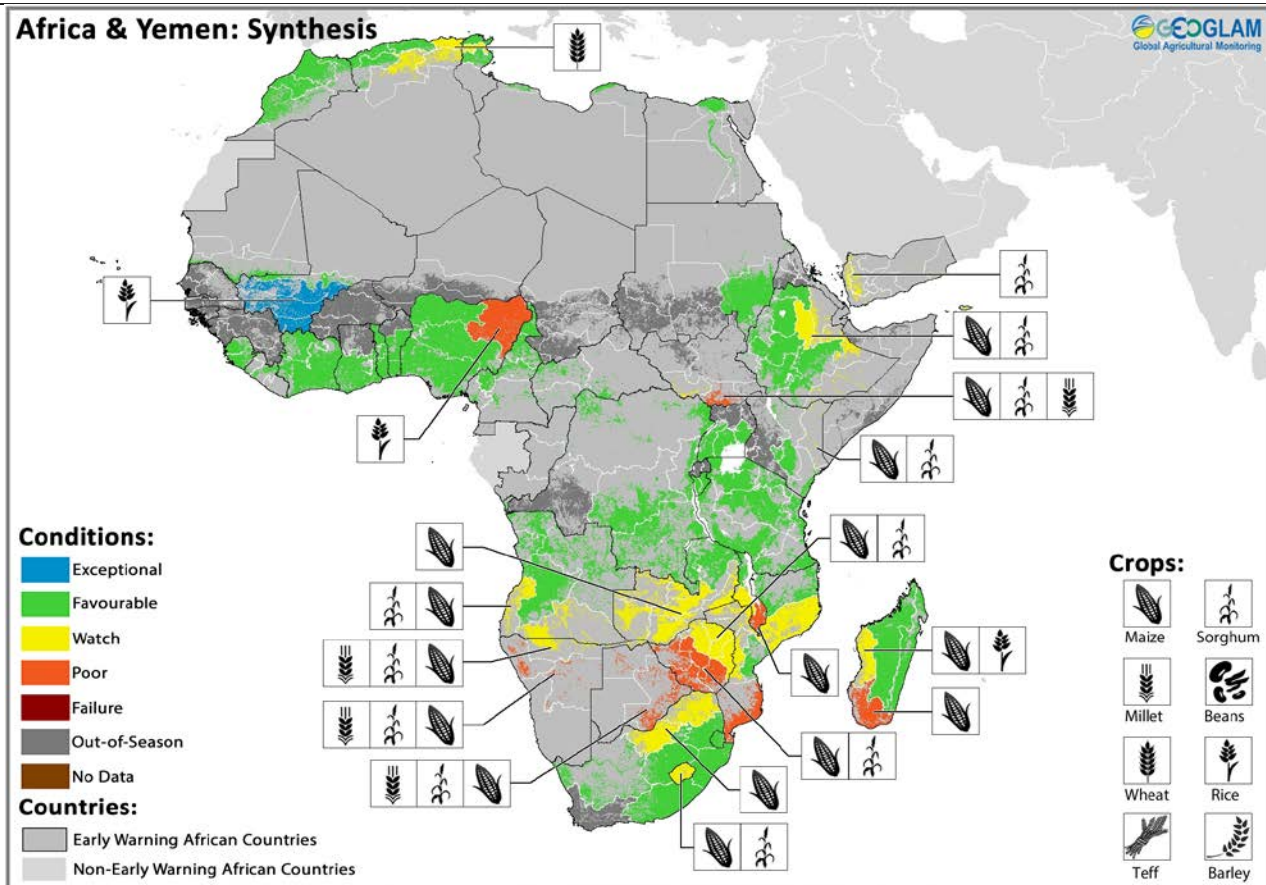
Contents:

- Conditions at a Glance.....2
- La Niña Update.....3
- East Africa & Yemen.....3
- West Africa.....4
- Middle East & North Africa.....5
- Southern Africa.....6
- Central & South Asia7
- Southeast Asia.....8
- Central America & Caribbean.....9
- Appendix – Terminology & Definitions.....10

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 the north of the sub region, the *belg* season is underway in Ethiopia and while the season started with timely onset of rains in February, there is concern due to dry conditions in March. Across the south of the sub region, planting is underway for main season crops across Uganda, central Tanzania, and East Kenya and conditions are favourable. Over the main producing regions in southern Tanzania harvest will start next month and conditions are favourable with good rains received.

WEST AFRICA: In southern West Africa land preparations for main season maize are underway and planting will commence in April and continue through May.

MIDDLE EAST & NORTH AFRICA: Across the Middle East, 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 impacting winter wheat crops. Across North Africa, conditions are mixed for the 2018 winter wheat crop with some carryover effects from dry conditions early in the season.

SOUTHERN AFRICA: Main season maize is in ripening through harvest 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.

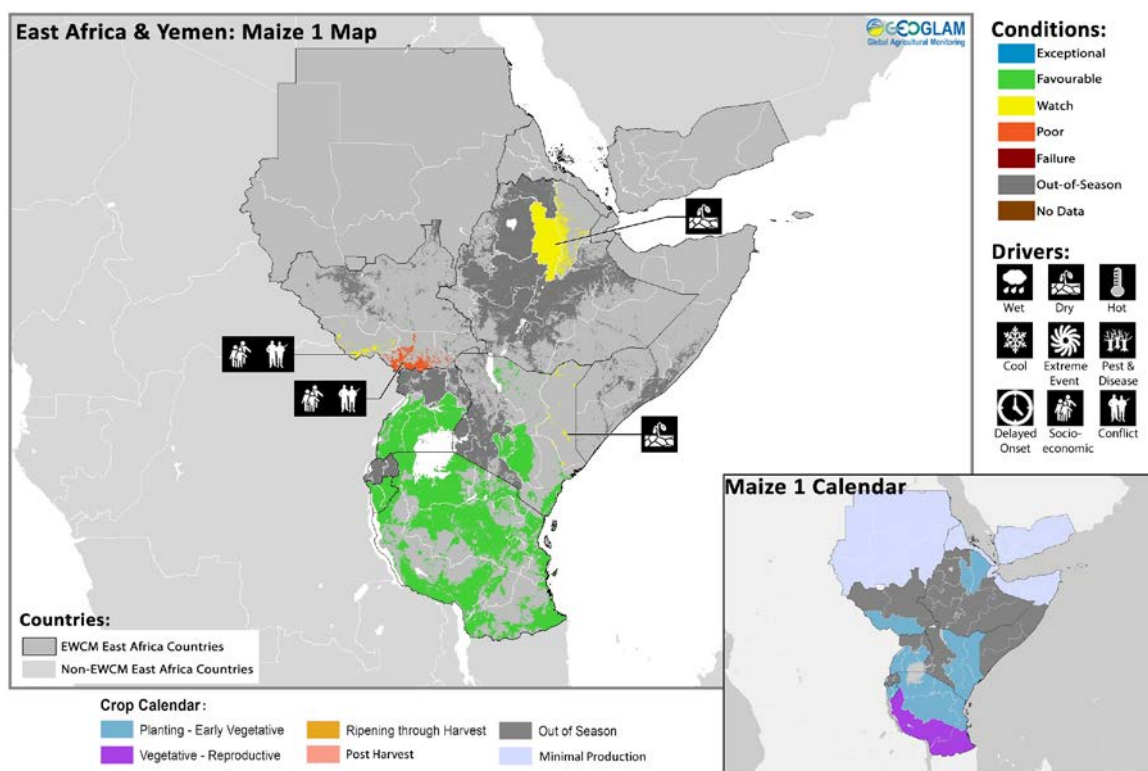
CENTRAL & SOUTH ASIA: Across Central Asia, below average precipitation and lack of snow during the winter, has led to below average soil moisture and raises concerns of water shortages for irrigation over the coming months.

SOUTHEAST ASIA: In the northern side of Southeast Asia, dry season rice planting is almost complete and conditions are favourable across all countries. In Indonesia, the harvesting of wet season rice is in its third month and yield prospects are good.

CENTRAL AMERICA & CARIBBEAN: Harvest of the *apante* season is ongoing over Nicaragua and conditions are favourable.

La Niña advisory ongoing:

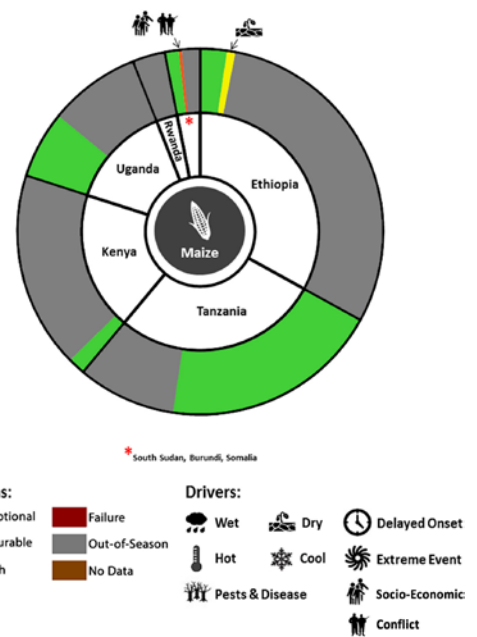
A La Niña advisory has been in effect since November 2017, though there is a 55% probability of transition to neutral conditions by the end of May. Associated with the event, drier than normal conditions have prevailed in southwest Asia, southeastern South America, eastern China, and the southern United 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 in the heart of the season (from late December until the beginning of February). Though there were widespread abundant rains in February, dry conditions returned in March, except in the South Africa, where crops have largely recovered from the dry spell. Production will be down in the other affected countries of Southern Africa. Northern South America is frequently wetter than normal with La Niña but conditions in late 2017-early 2018 have been drier than average. In Central America, the Caribbean, and Southeast Asia, rainfall has generally been abundant and crop conditions are good.

East Africa & Yemen

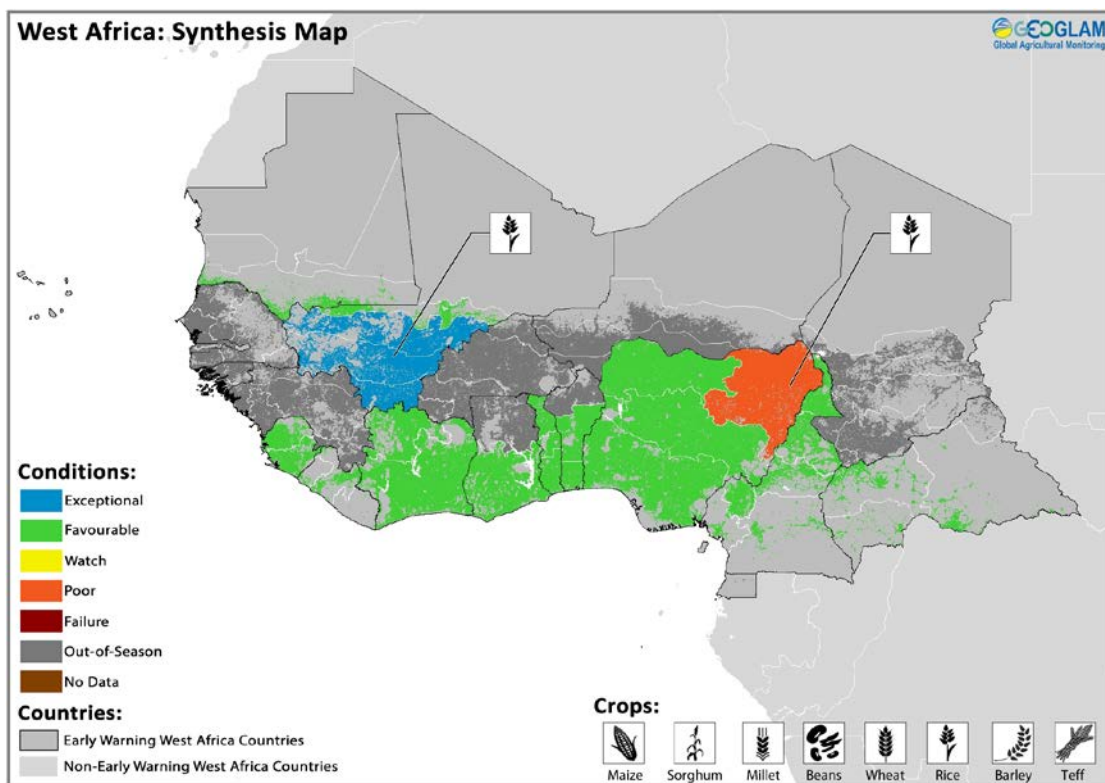
Crop condition map synthesizing conditions as of March 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Conditions that are other than favourable are labeled on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

In the north of the subregion, *belg* rains in Ethiopia had a timely onset in February but dry conditions in March had a negative impact on crop planting and establishment. Across the south of the subregion, planting has commenced for main season crops across Kenya, Uganda, and Tanzania and conditions are generally favourable with a timely onset and above-average precipitations at start of the March-May rainy season. In unimodal rainfall areas of central and southern Tanzania, *msimu* crops are in ripening stage; harvest will begin next month and production prospects are favourable. In **Ethiopia**, onset of the *belg* rains was timely in mid-February; subsequently, dry conditions in March affected crop planting and establishment in several areas of eastern Amhara, southern Tigray, western Oromia and northeastern Southern Nations, Nationalities, and Peoples' Region. In northern Somali region, where *belg* rains normally start in March, cumulative rains have been up to 74 percent below-average so far. Similarly, in Afar region, where *sugum* rains normally begin in March, rains have yet to start. By contrast, in agro-pastoral areas of Southern Somali region, where *gu/genna* rains usually start in April, an early onset of seasonal rains in some areas had a positive impact on rangeland conditions and land preparation activities. However, vegetation conditions are still below-average and crop prospects are uncertain due to the lingering effects on agricultural activities and input availability of prolonged drought conditions. In **South Sudan**, seasonal rains had an early onset in late February. Rains continued in March with adequate amounts in the southern bi-modal rainfall areas of the Greater Equatoria Region, where farmers engaged in the early planting of maize and garden crops. Currently, the security situation in some areas of the Greater Equatoria Region is improving and this may result in better access to land for farmers with an increase in planted area. However, overall crop prospects are unfavourable due to the impact of the conflict, which resulted in widespread displacements in several key-producing areas. In addition, Fall Armyworm (FAW) outbreaks are reported to be attacking germinating maize crops with likely negative effects on yields. Similarly, in **Somalia**, where *gu* rains start in April, an early onset of seasonal rains in March

prompted early planting activities in southern key-producing areas, and some early-planted crops have already germinated. However, crop prospects are uncertain due to the carryover effects of four consecutive poor rainy seasons. In **Sudan**, harvest of the 2018 wheat crop planted in November, currently underway, will be concluded in April and production prospects are favourable. In **Kenya**, planting is underway for main *long rains* season crops and conditions are favourable with abundant rainfall in March, which however triggered floods in Kajado and Makueni counties in the south and Kilifi County in the east. Despite the above average rainfall in March, below-average vegetation conditions persist in some eastern marginal agricultural areas and in most northeastern pastoral areas, due to the severe moisture deficits accumulated over more than one year of dryness. Improvement of crop and rangeland condition and full replenishment of water points will rely on continuing trend of good rains in the coming months. In **Uganda**, planting is underway for main season crops and conditions are favourable with timely onset of the rains. In **Burundi**, season B crops are in vegetative stage and conditions are favourable despite some early-season rainfall deficits in western parts. In the **United Republic of Tanzania**, the major *msimu* harvest will start in May in central and southern unimodal rainfall areas, and prospects are favourable as crops benefited from adequate rains, including in main producing areas of the southern highlands. Planting of *masika* crops has started in north-eastern bimodal rainfall areas under favourable conditions with a timely onset of seasonal rains. In **Yemen**, sorghum planting started in March and there is concern due to delayed start of the rains and dry conditions. In addition, ongoing conflicts impacts agricultural practices and access to fields.



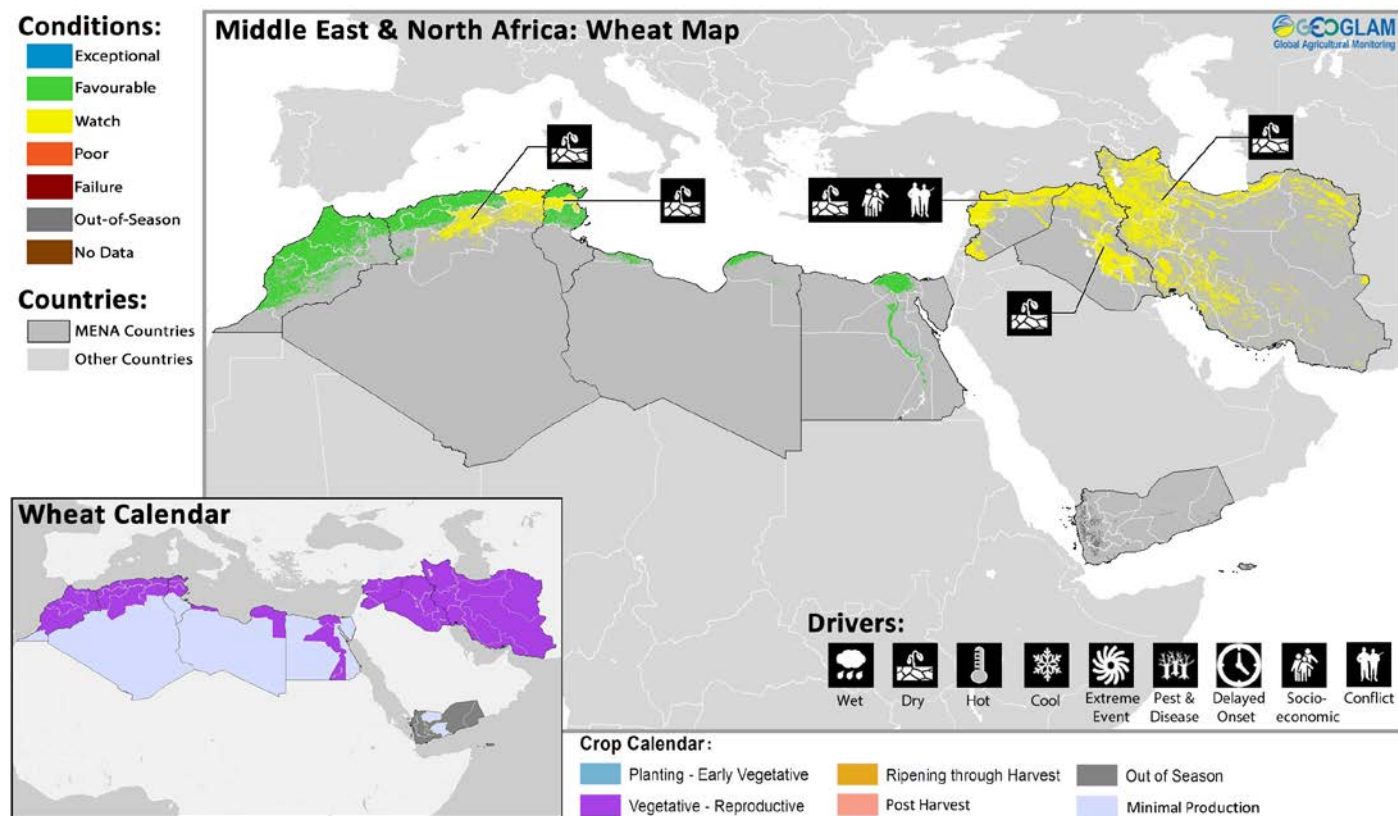
West Africa



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. **Regions that are in other than favourable conditions are labeled on the map with a symbol representing the crop(s) affected.**

In southern West Africa, land preparations for main season cereals are underway and planting will commence in April and continue through May across Sierra Leone, Liberia, Cote d'Ivoire, Ghana, Togo, Benin, Nigeria and Cameroon. In **Mauritania**, harvest is underway for second season rice and production prospects are favourable. 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 April. Main season cereals are now underway in the South and conditions are favourable at the start of the season.

Middle East & North Africa

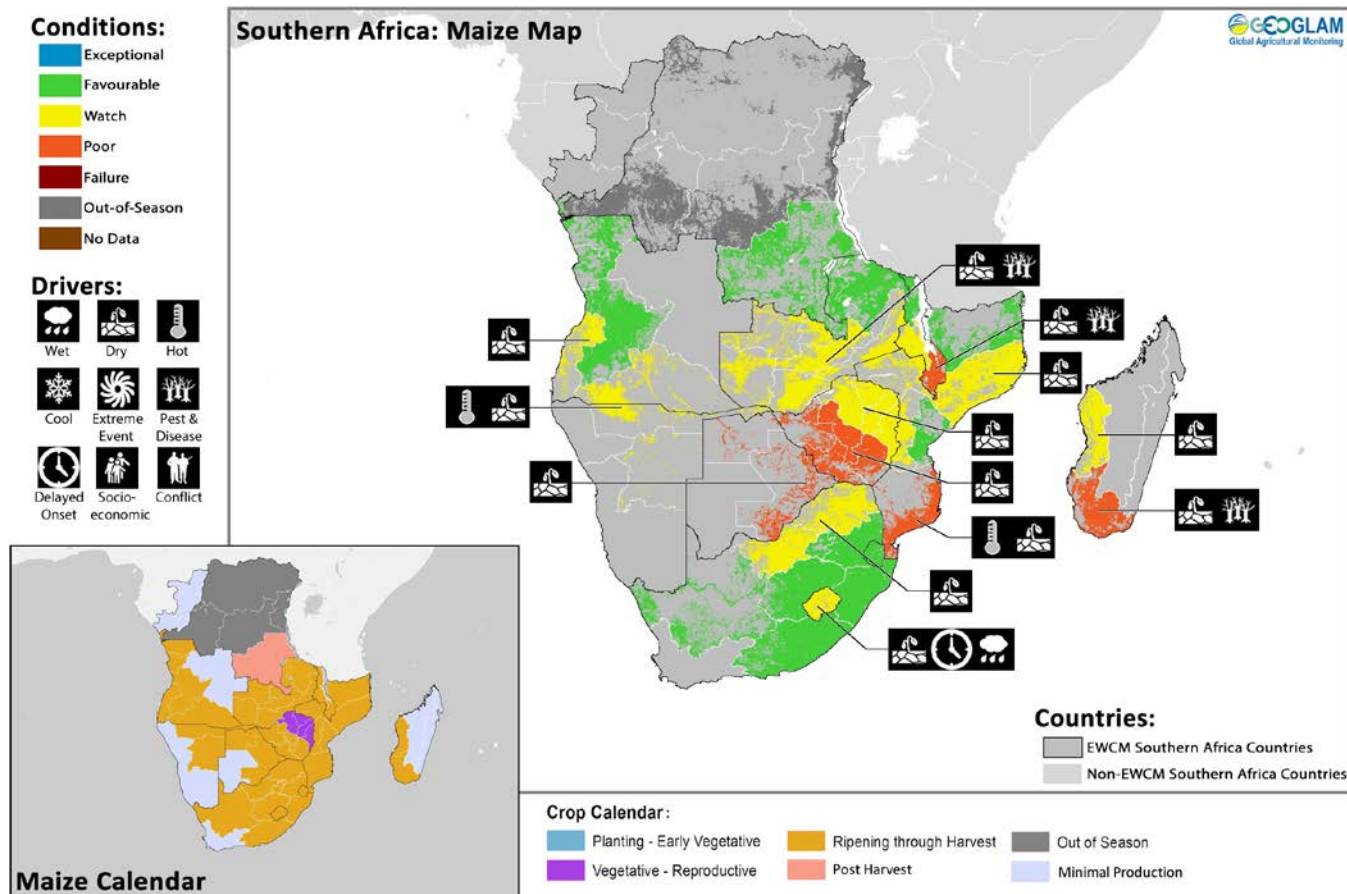


Crop condition map synthesizing information as of March 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Conditions that are other than favourable are labeled on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

Across the Middle East, good rains have been received in March throughout the north of the region however, some concerns over ongoing dryness in northern parts prevail. Temperatures remain unseasonably high speeding up winter crops' development. Although recent rainfall improved crop prospects in **Iran** following the extended dry spell that affected the country since October, drier than average conditions persist across the country and are expected to impact crops. In **Iraq**, despite improvement from good rains since the start of January following a dry October-December period, and temperatures above average by 2 to 3C, crop conditions remain below average due to carryover effects. In the **Syrian Arab Republic**, despite good rains received at the start of 2018 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.

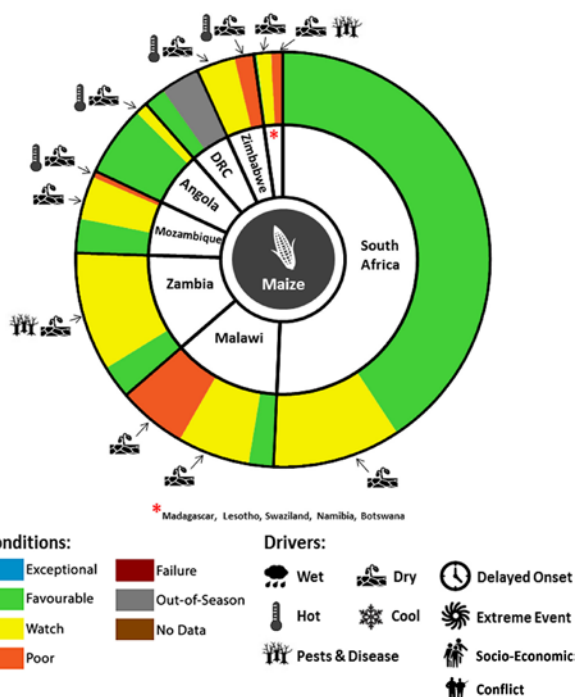
Across North Africa, the 2018 winter wheat crop season is ongoing and conditions are mixed with some carryover effects from dry conditions early in the season. In **Morocco**, rainfall in January and February improved moisture levels, notably in the northern coast and eastern areas, and conditions are favourable. In **Algeria**, the 2017/2018 winter crop season continues under mixed conditions with delayed onset of the rains and water deficits in the eastern and southern parts while normal levels of precipitation have been received across the coastal and western areas. In **Libya**, with limited production of winter wheat, crop conditions are favourable with adequate rains received. In **Tunisia**, there is concern in the north due to irregular rainfall distribution affecting winter wheat crops. In **Egypt**, winter wheat conditions, grown primarily under irrigation, are favourable.

Southern Africa



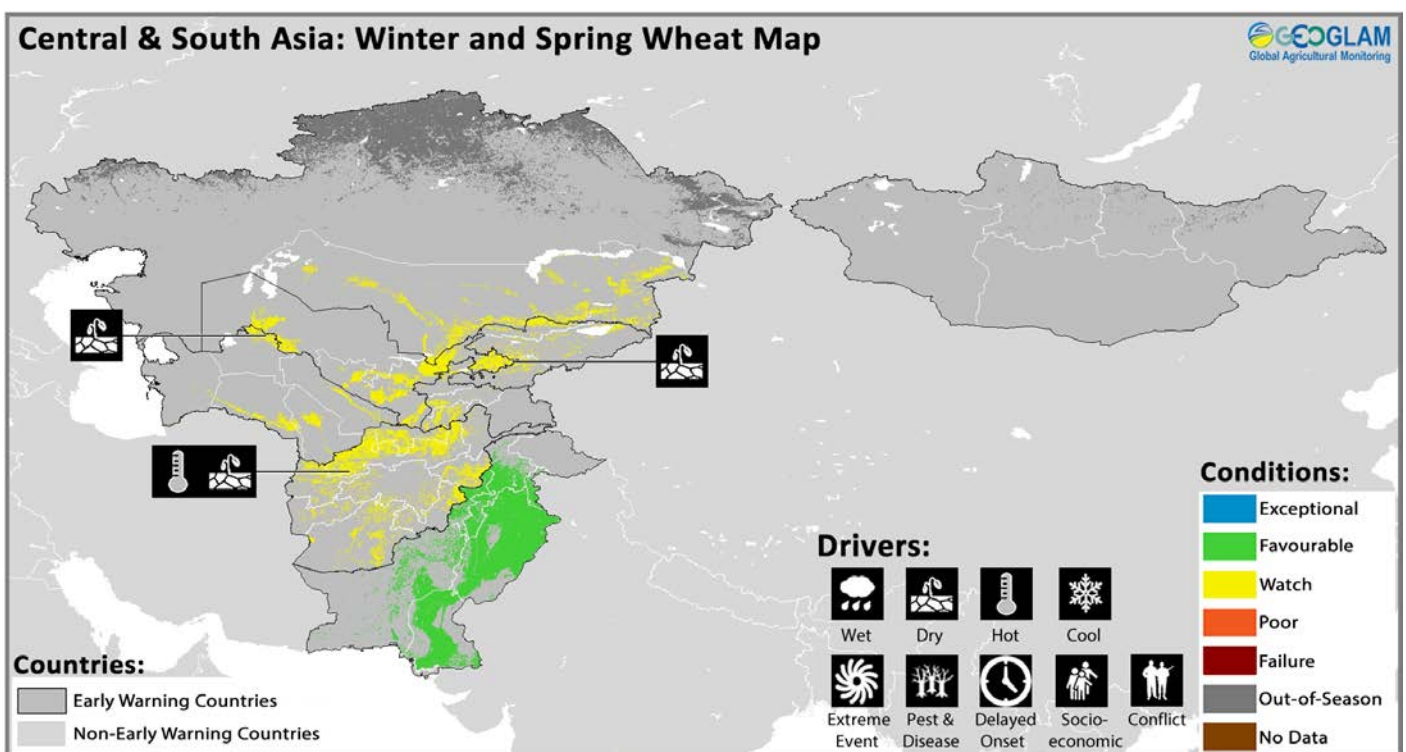
Crop condition map synthesizing information as of March 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Crops that are in other than favourable conditions are labeled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

In Southern Africa, main season maize is in ripening through harvest stage and while above normal rainfall was received in February over the previously dry central and southern regions, concern persists over these areas as permanent damage was sustained from early season dryness and high temperatures starting late December through late January as well as minor impacts of fall armyworm over the region. In **Namibia**, concern remains across all areas due to poor rainfall and above average temperatures early in the season. This has been the driest season for western Namibia in the past 37 years. In **Lesotho**, unexpected snow and frost and extreme temperatures (both high and low) had further negative impacts to planted crops following the early season dry spell in January and there is concern for unseasonable frost impacts on late planted crops. In **Malawi**, while the January dry spell was significant, many crops in central and northern areas were able to recover following February rains. However, the majority of crops in the south suffered significant moisture stress as well as impact from fall armyworm, and production prospects in these areas are poor. In **Botswana**, rainfall has been well below average since the start of the season notably over the eastern and northern areas and despite some rain in early February, crops remain poor due to permanent wilting sustained from early season dryness. Harvest is expected to begin in April and production prospects are below average. In **Angola**, rainfall deficits persist across the central/southern coastal areas and production prospects are below average. Some rainfall in December improved conditions however, poor rainfall throughout the start of the year encouraged moisture deficits resulting in crop stress and permanent wilting in some areas. The main agricultural regions in Huila and Huambo have received good rainfall throughout the season. In the **Democratic Republic of Congo**, conditions are favourable for sorghum and maize crops across all areas with good rains received. In **Zambia**, while conditions are favourable in the north, the early season dry spell from late December through January caused wilting to main season crops and production losses may occur.



In **Zimbabwe**, production prospects are poor over Matabeleland, Midlands and Masvingo due to the prolonged dry spell early in the season and high temperatures causing moisture stress and permanent wilting, notably in early planted maize crops. Manicaland and Mashonaland main season maize conditions improved with rainfall in February however, concern remains due to carryover impacts from early season dryness. In **Madagascar**, despite above average rainfall in February, poor seasonal performance with consistent below average rainfall and relatively high temperatures wilted crops beyond recovery in the south and less affected west. This in combination with fall armyworm impacts have led to poor production prospects for the 2018 season. In the east and central production prospects are favourable with good rains received. In **Mozambique**, below average rainfall and high temperatures since the start of the season has led poor production expected in the most affected south, however conditions have improved and are favourable in the center and north. In **South Africa**, above-normal rainfall continued through March 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.

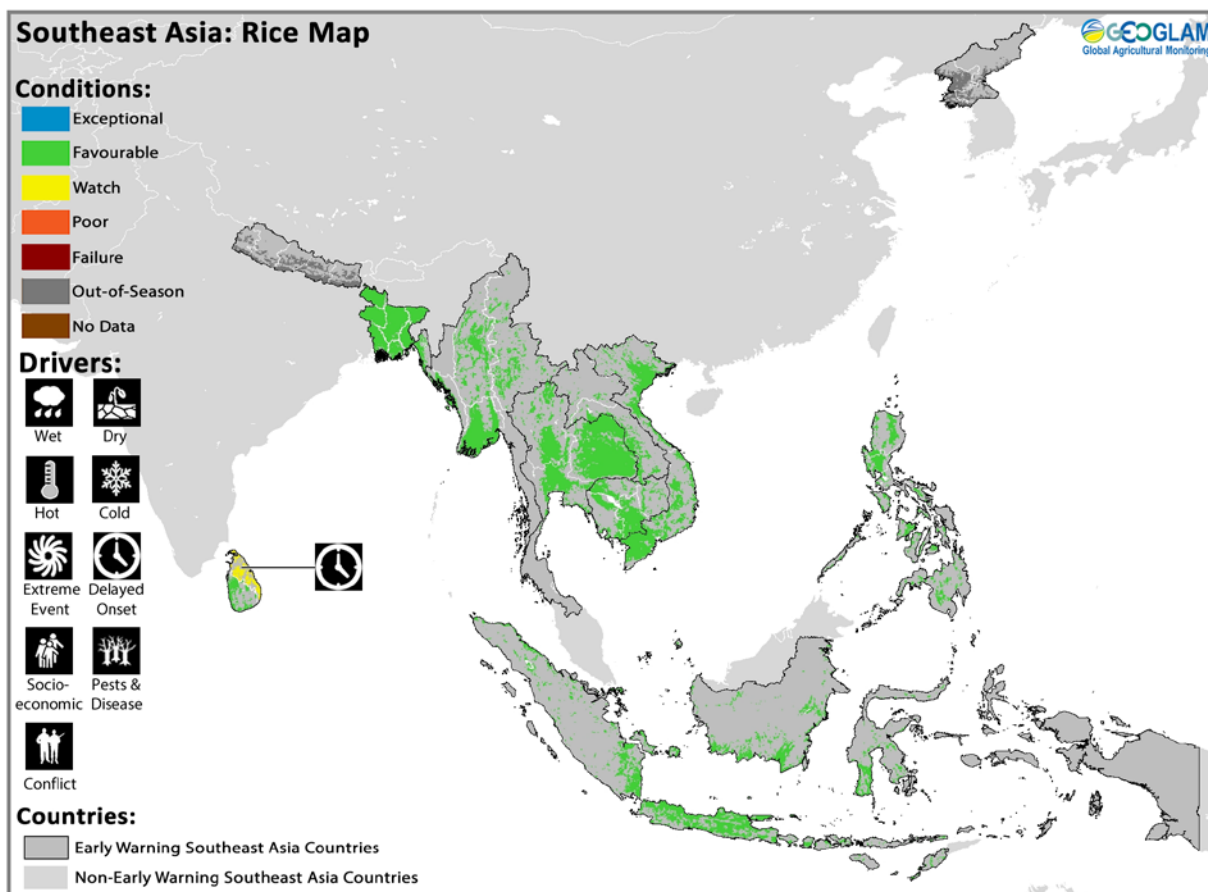
Central & South Asia



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.**

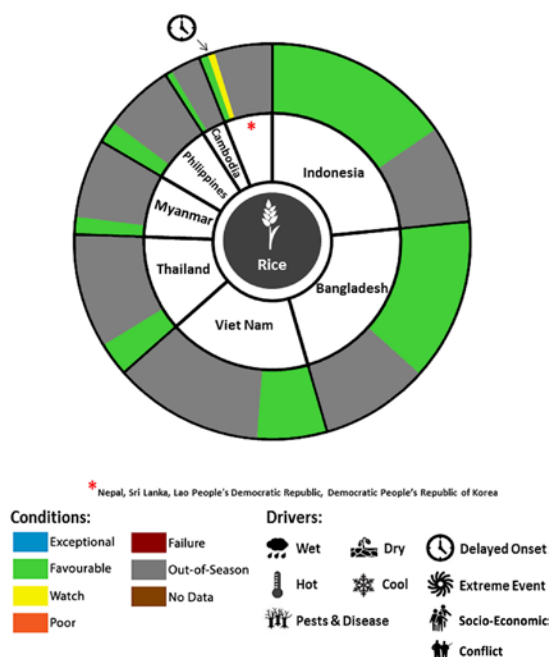
Across Central Asia, below average precipitation and lack of snow during the winter, has led to below average soil moisture and raises concerns of water shortages for irrigation over the next months. In southern and south-eastern **Kazakhstan**, lack of snow increased the probability of drought during summer months. 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 sub region, this lack of snow raises concerns of water shortages for irrigation during the summer period (June-August), not only in Tajikistan, but also in Uzbekistan and Turkmenistan. In **Uzbekistan** and **Turkmenistan** below-average rainfall amounts during previous months is expected to impact pasture lands. In **Afghanistan**, the seasonal snow pack has been well below normal throughout most of the winter wet season causing concern for winter cereal production. Although some areas in the north have reached normal levels of snow water equivalent, the majority never achieved their normal peak. Winter crops are highly dependent on the availability of water for irrigation and will require close monitoring throughout the spring. Abnormally hot temperatures have also been prevalent throughout the region. Early spring rains have been favourable for spring wheat planting throughout most of Afghanistan and particularly in the northern rainfed cropping areas. In **Pakistan**, winter wheat is in ripening through harvest stage and conditions are favourable with rains in January and February supporting soil moisture levels.

Southeast Asia

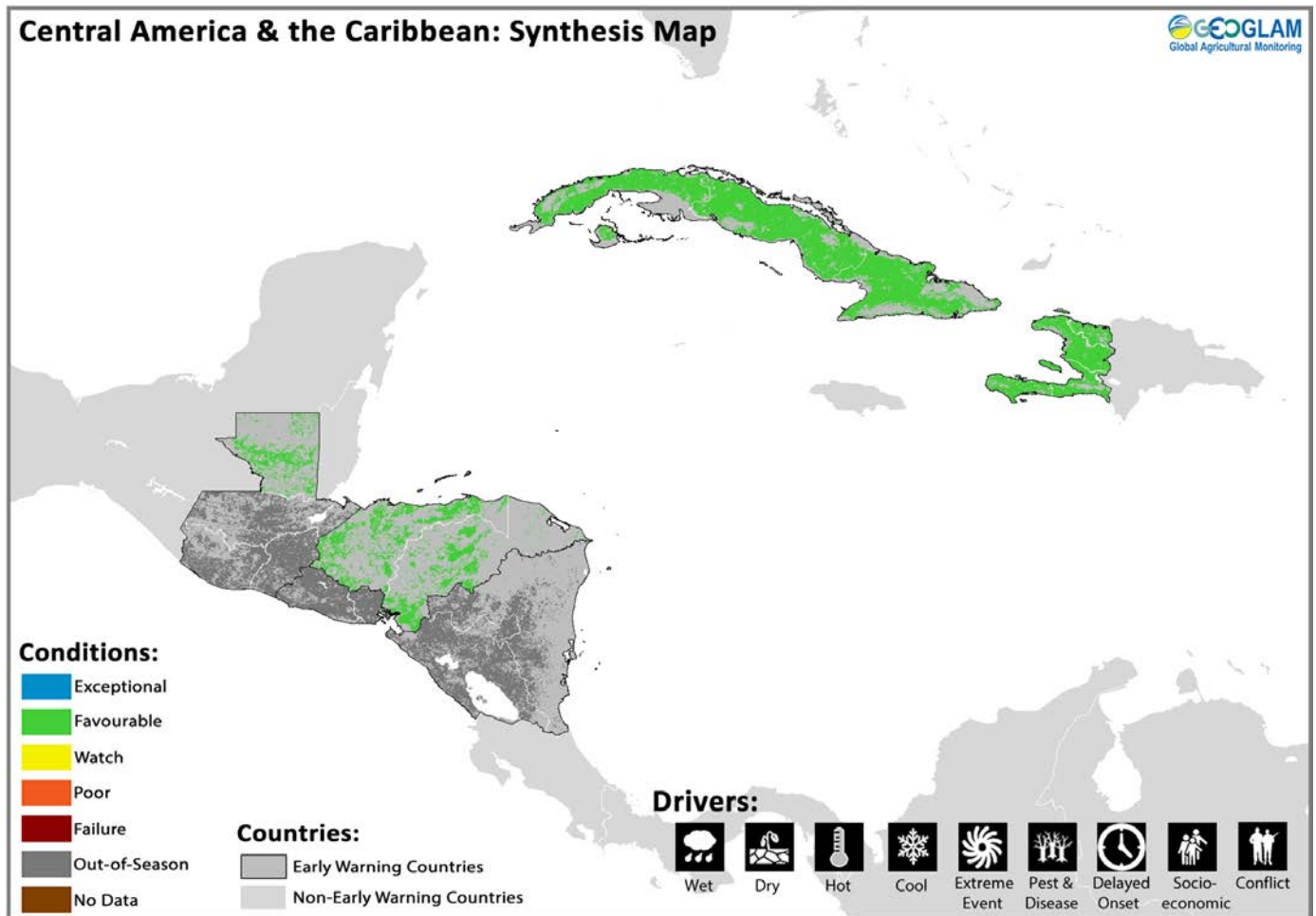


Crop condition map synthesizing information for rice as of March 28th. Crop conditions over the main growing areas are based on a combination of inputs, including remotely sensed data, ground observations, field reports, national, and regional experts. **Conditions that are other than favourable are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

In the northern side of Southeast Asia, dry season rice planting is almost complete and now in vegetative stage under favourable conditions. In Indonesia, the harvesting of wet season rice is in its third month and yield prospects are fair. In **Viet Nam**, sowing of the winter-spring rice (dry season rice) was completed in the south under favourable conditions, and there is an increase in total sown area relative to last year. Sowing continues in the north with a slightly lower total sown area so far due to earlier cold weather delays. In **Thailand**, dry-season rice is in the grain filling stage under favourable conditions owing to sufficient rainfall and irrigation water at the beginning of the season. In **Laos**, dry season rice planting is complete, crops are now in tillering stage and conditions are favourable. In **Cambodia**, dry season rice harvest is underway and conditions are favourable with a good production prospects due to an increase in area planted by 23 percent compared to the previous year. In **Myanmar**, dry season rice planting has been faster than the previous year and is now nearing completion conditions are favourable. Dry season rice harvest has started in the southern areas and yield is slightly below the previous year. In the **Philippines**, conditions are generally favourable for dry-season rice which is mostly in the maturing to harvesting stages. In **Indonesia**, conditions are generally favourable as sowing of the wet-season rice wraps-up with total sown area lower than normal due to variable rainfall. Harvest of earlier sown wet-season rice continues with favourable yields. In **Bangladesh**, harvest for the *boro* rice will start in April and 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. However, there is concern for wheat crops in central Terai plains, where water availability was limited by damages inflicted by last years to the irrigation infrastructure. In **Sri Lanka**, the 2018 main season harvest is expected to partially recover from 2017's poor level but remain below the normal levels.



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 of the *apante* season bean crop is underway over **Nicaragua** and conditions are favourable. In **Cuba**, conditions are favourable for second season 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 April 5th 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 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.

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.

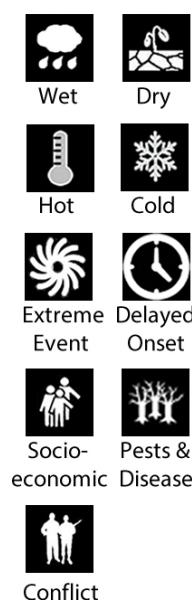
Extreme Events: This is a catch-all for all other climate risks (i.e. hurricane, typhoon, frost, hail, winterkill, wind damage, etc.)

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 (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	

i 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.

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


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



www.cropmonitor.org
@GeoCropMonitor



Prepared by members of the GEOGLAM Community of Practice, coordinated by the University of Maryland Center for Global Agricultural Research and funded through EOF SAC.



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

Cover Photo by: Christina Justice

Early Warning partners



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