

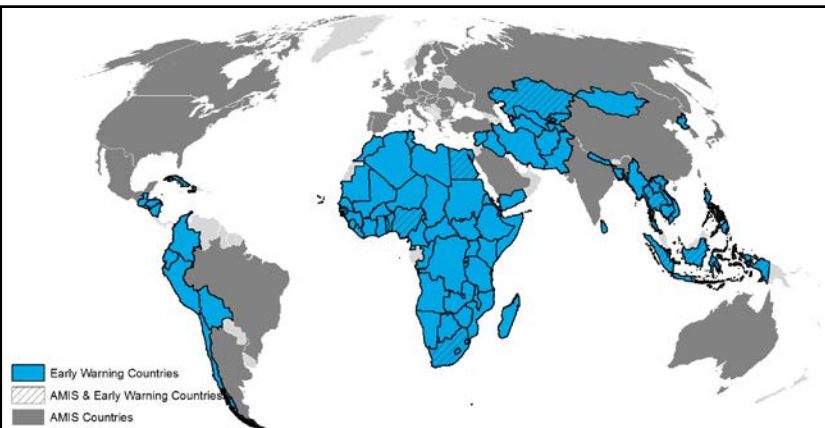
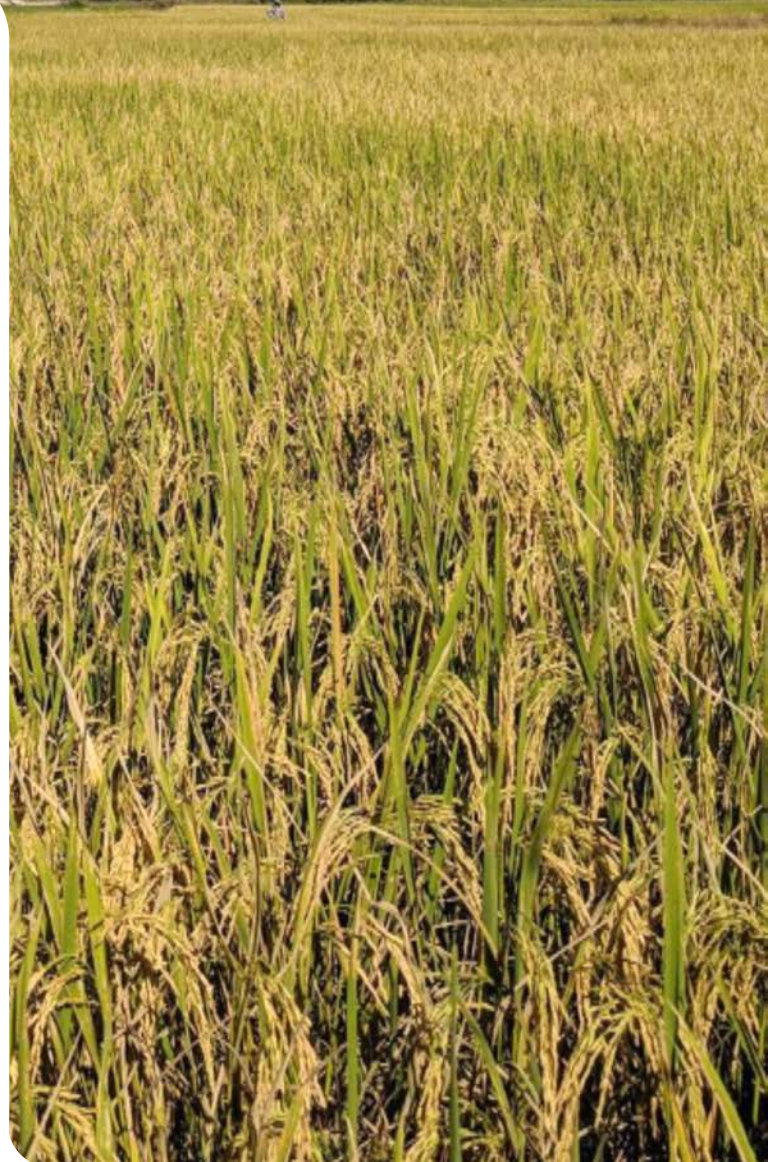



Crop Monitor

EARLY WARNING

Overview:

In **Africa**, conditions are mixed over the main season. In **West Africa**, the main season is complete and while production was generally favourable some poor conditions resulted due to below average rainfall. In **East Africa** main season harvest is underway and conditions are generally favourable despite fall armyworm impacts. Winter wheat harvests are complete in **Southern Africa** and production was favourable despite some concern from dry conditions during the season. In **Central and South Asia**, winter wheat planting has begun under favourable conditions at the start of the season. In **Southeast Asia**, wet season rice harvest is ongoing and will finish at the end of December with production concerns due to heavy rains and flooding during August and September. In **Central America and the Caribbean**, *segunda* season planting is complete and conditions are favourable.



Contents:

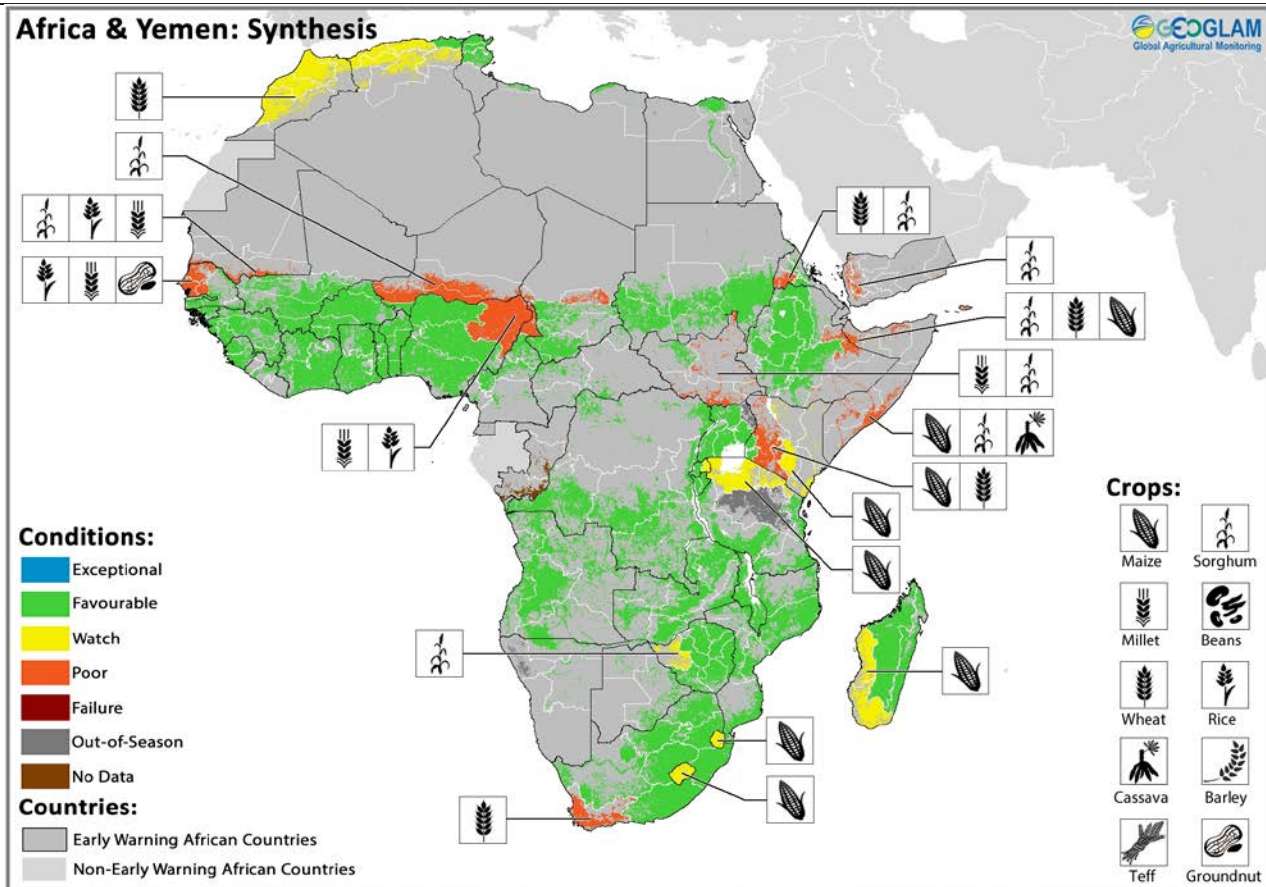
Conditions at a Glance.....	2
East Africa & Yemen.....	3
West Africa.....	5
Middle East & North Africa.....	6
Southern Africa.....	7
Central & South Asia	8
Southeast Asia.....	9
Central America & Caribbean.....	10
Appendix – Terminology & Definitions.....	11

Assessment based on information as of November 28th

GEOGLAM Crop Monitor for Early Warning

Crop Conditions at a glance

based on best available information as of November 28th



Crop condition map synthesizing information for all Crop Monitor for Early Warning crops as of November 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 over Sudan, Ethiopia and South Sudan main season harvest is underway and production prospects are generally favourable despite concern over fall armyworm outbreaks. Across the south of the sub region second season crops are underway and there is already concern due to a delay onset of the rains and dry conditions over Tanzania and Kenya however, over Uganda, Rwanda and Burundi conditions are favourable.

WEST AFRICA: Across the bimodal zone of West Africa main season harvest is complete and production was generally favourable however in areas affected by dry conditions and conflict throughout the season poor production resulted. Planting of second season maize is ongoing across the southern bimodal zone and there is concern over dry conditions at the start of the season.

MIDDLE EAST AND NORTH AFRICA: Across the Middle East, winter wheat planting is ongoing under favourable conditions despite some pockets of dryness, continuing conflict is expected to constrain production over Syrian Arab Republic and food insecurity is high. Across North Africa, planting of the 2018 winter wheat crop started in November under generally

favourable conditions except in Algeria and Morocco where dry conditions have affected the start of the season.

SOUTHERN AFRICA: Winter wheat harvest will commence in October and conditions are favourable however, production prospects are below average for South Africa due to dry conditions at the start of the season over the main producing areas.

CENTRAL AND SOUTH ASIA: Across Central and South Asia winter wheat planting is underway and conditions are favourable.

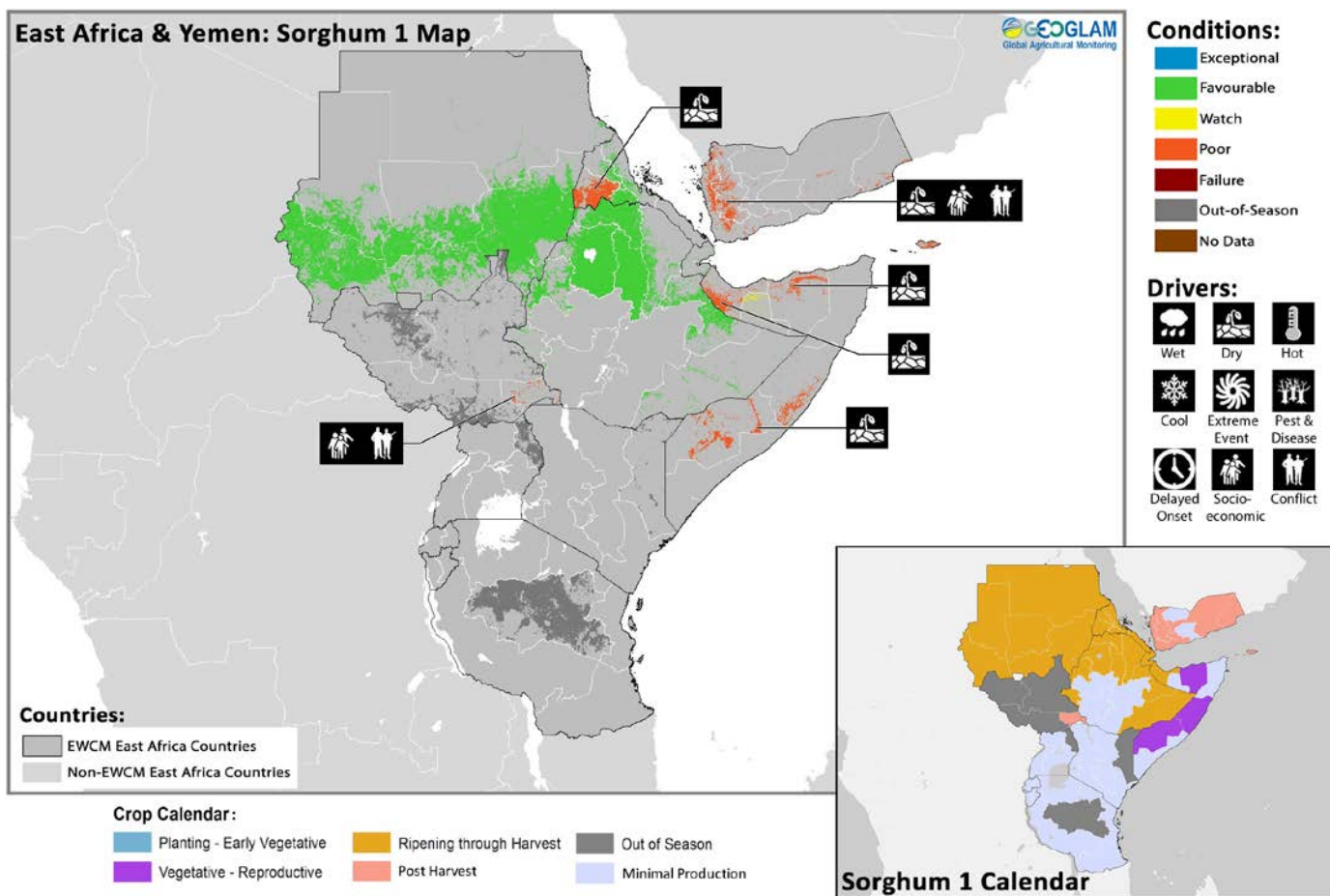
SOUTHEAST ASIA: In the Northern side of SE Asia, wet season rice is in the high season of harvesting in almost all countries. Overall the yield is estimated to be slightly below normal with poor production resulting over areas affected by heavy rains. In Indonesia, dry season rice is in peak harvest and production prospects are favourable.

CENTRAL AMERICA & CARIBBEAN: Across Central America, planting of *segunda* season maize and bean crops is ongoing and conditions are favorable with good timing and quantity of rainfall supporting normal crop development.

La Nina watch conditions declared:

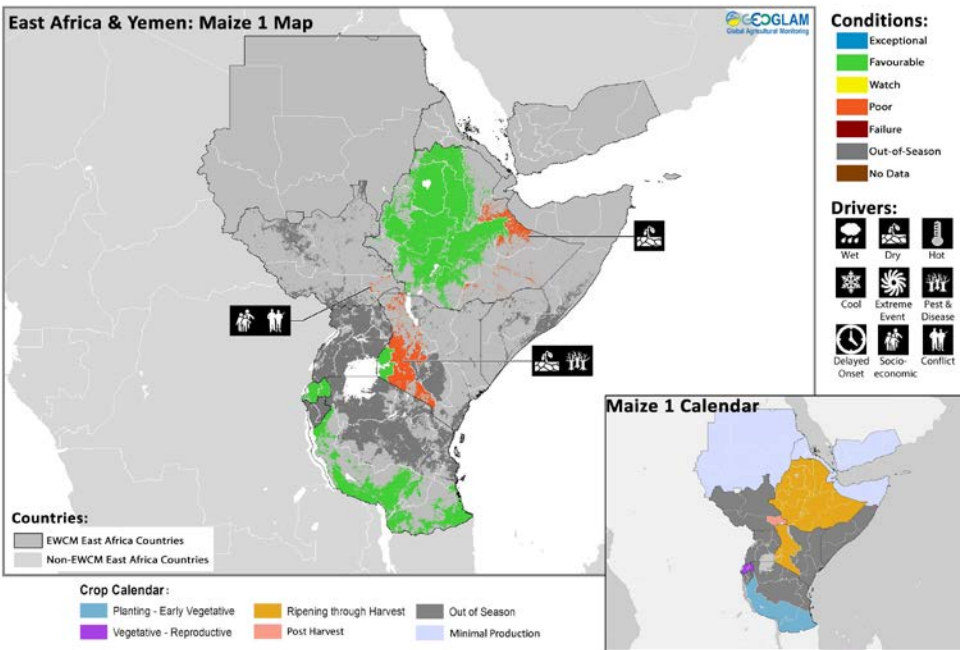
On November 9th, the U.S Climate Prediction Center announced a change in La Nina status from Watch to Advisory, meaning that La Nina conditions are observed and expected to continue. The probability of continuation through February is about 70%, double the typical probability for the calendar period. There is a 50% chance thereafter of La Nina persisting through April 2018. Above normal rains are favored for Central America, the Caribbean, northern South America, and parts of Southeast Asia (Philippines, Malaysia and eastern Indonesia). Drier than normal conditions are favored for western Indonesia (Java and Sumatra), southwest Asia, the Horn of Africa, southeastern South America, eastern China, and the southern United States. Though Southern Africa typically experiences above normal rains with La Nina, forecast models, responding to atypical conditions in the Indian Ocean, call for drier than normal conditions for parts of Mozambique, South Africa and Zimbabwe.

East Africa and Yemen



Crop condition map synthesizing conditions as of November 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.**

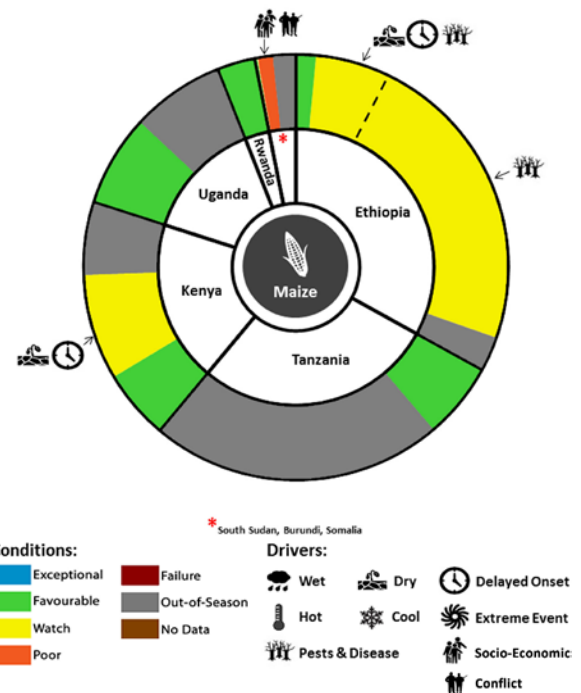
In the north of the sub region over Sudan, Ethiopia and South Sudan main season harvest is underway and production prospects are generally favourable despite concern over fall armyworm outbreaks. Across the south of the sub region second season crops are underway and there is already concern due to a delay onset of the rains and dry conditions over Tanzania and Kenya however, Uganda, Rwanda and Burundi conditions are favourable. In **Ethiopia**, *meher* harvest is ongoing and will complete in December and conditions are generally favourable due to good distribution and amount of the *kiremt* rains over most areas however, North and South Somali are poor due to dry conditions throughout the season. Fall armyworm infestations continue and have been reported across 8 regions SNNPR, Amhara, Benishangul Gumuz, Gambella, Oromia, Somali, Afar and Tigray with 26.6% of the total area planted infested however, production prospects remain favourable due to a large amount of the areas having been treated throughout the season. In **Eritrea**, main season crops are ongoing and while conditions have improved in Anseba, concern remains in Gash Barka due to delay onset at the start of the season and ongoing dry conditions that continued through November. In **Djibouti**, conditions are favourable for the main season sorghum and millet crops. In **Sudan**, harvest is underway for sorghum and millet crops and conditions



are favourable. In **South Sudan**, despite favourable weather, conditions are poor for main season crops due to ongoing widespread insecurity disrupting agricultural activities. However, in North Bahr-el-Ghazal and Warrap where conflict has had reduced impact, production prospects for the sorghum crop being harvested now are favourable. In **Kenya**, late season harvests in the rift valley wrapped up at the end of November and production was estimated at 20-30% below average due to delay of onset rains at the start of the season and dry conditions throughout. In addition, late season rains disrupted harvesting and drying operations and led to further losses. However, in the west, production was favourable for crops harvested August through September with good rains received. Planting of second season crops across the bimodal zone started

Crop condition map synthesizing conditions as of November 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 October and there is concern early in the season from dry conditions impacting production. In **Uganda**, second season maize planting is complete and conditions are favourable with good rains received at the start of the season. In **Rwanda**, season A planting which started in September is complete and conditions are favourable at the start of the season. In **Burundi**, planting of season A representing 35% of total crop production finished at the end of October and conditions are favourable. In the **United Republic of Tanzania**, the *vuli* season started in September over the bimodal north and there is concern over dry conditions impacting production. Planting of the *msimu* crops started over the main producing southern highlands in November and there is some concern over early season dryness however conditions remain borderline favourable. In main cropping areas of central and southern **Somalia**, the *deyr* rainy season has been characterized by severe dryness since October, with only one dekad of heavy rains in early November. With rains normally subsiding by early December, a recovery of crops is very unlikely and production prospects are poor. This is therefore expected to result in a fourth consecutive reduced harvest. In **Yemen**, conditions are poor across all areas due to ongoing conflict impacting agriculture activities.

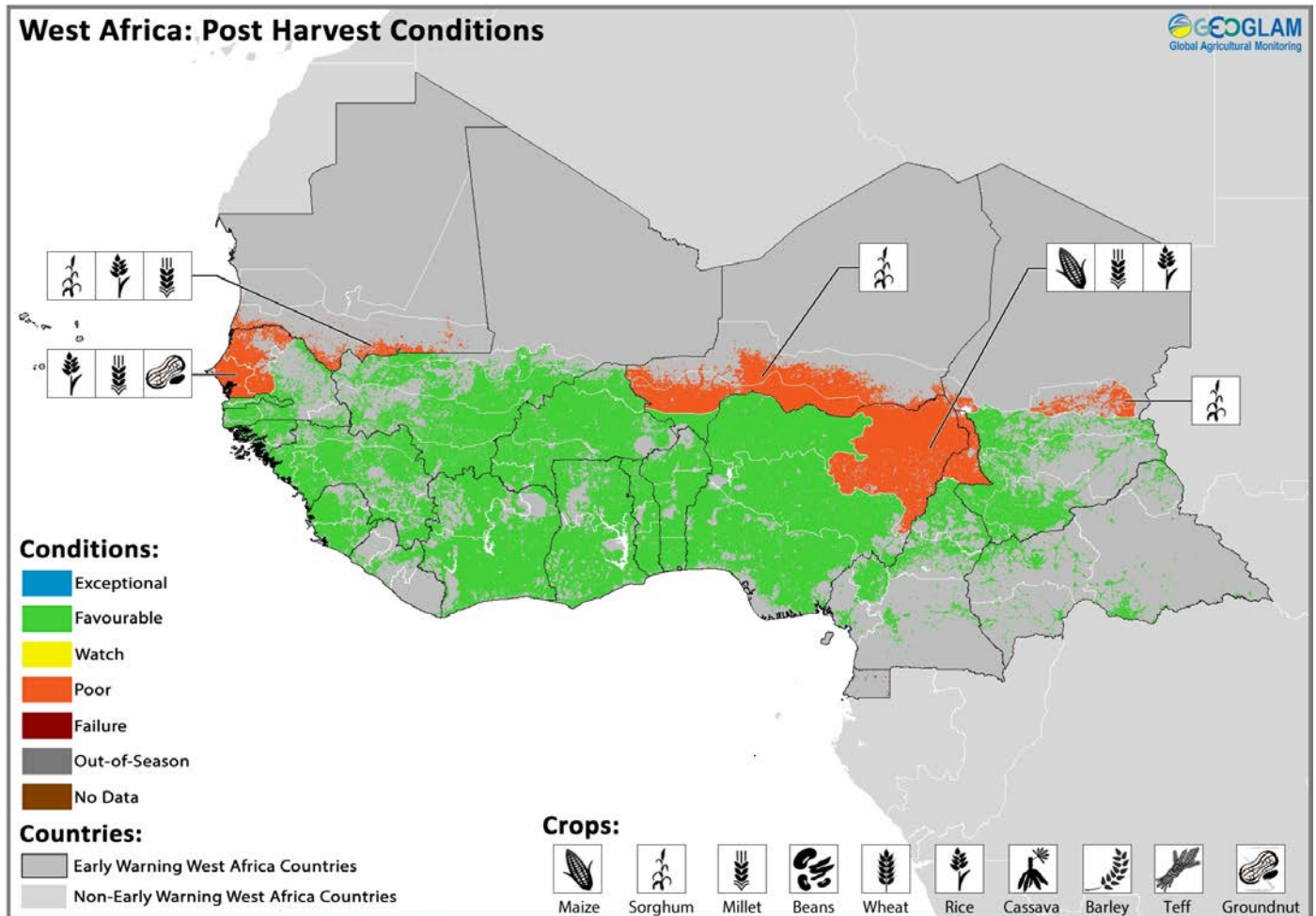


Update: Fall armyworm infestation continues across Ethiopia

Outbreaks of the non-native fall armyworm (FAW) continue across Ethiopia and more than 2.0 million ha of maize crops planted during the *meher* season are reported to be at risk. From *meher* planted maize 549 262.75 ha are infested, accounting for 26.6% of the total area planted whereas in preceding seasons planted maize (1,112,910ha) only 143,000ha was infested. In *meher*, only 42.9% of the 549 262.75 ha of FAW infested maize has been sprayed with pesticides while 57% was treated culturally by handpicking and killing. Harvests are now underway and will continue through December and the full impact of FAW on production is still unknown.

Source: FAO

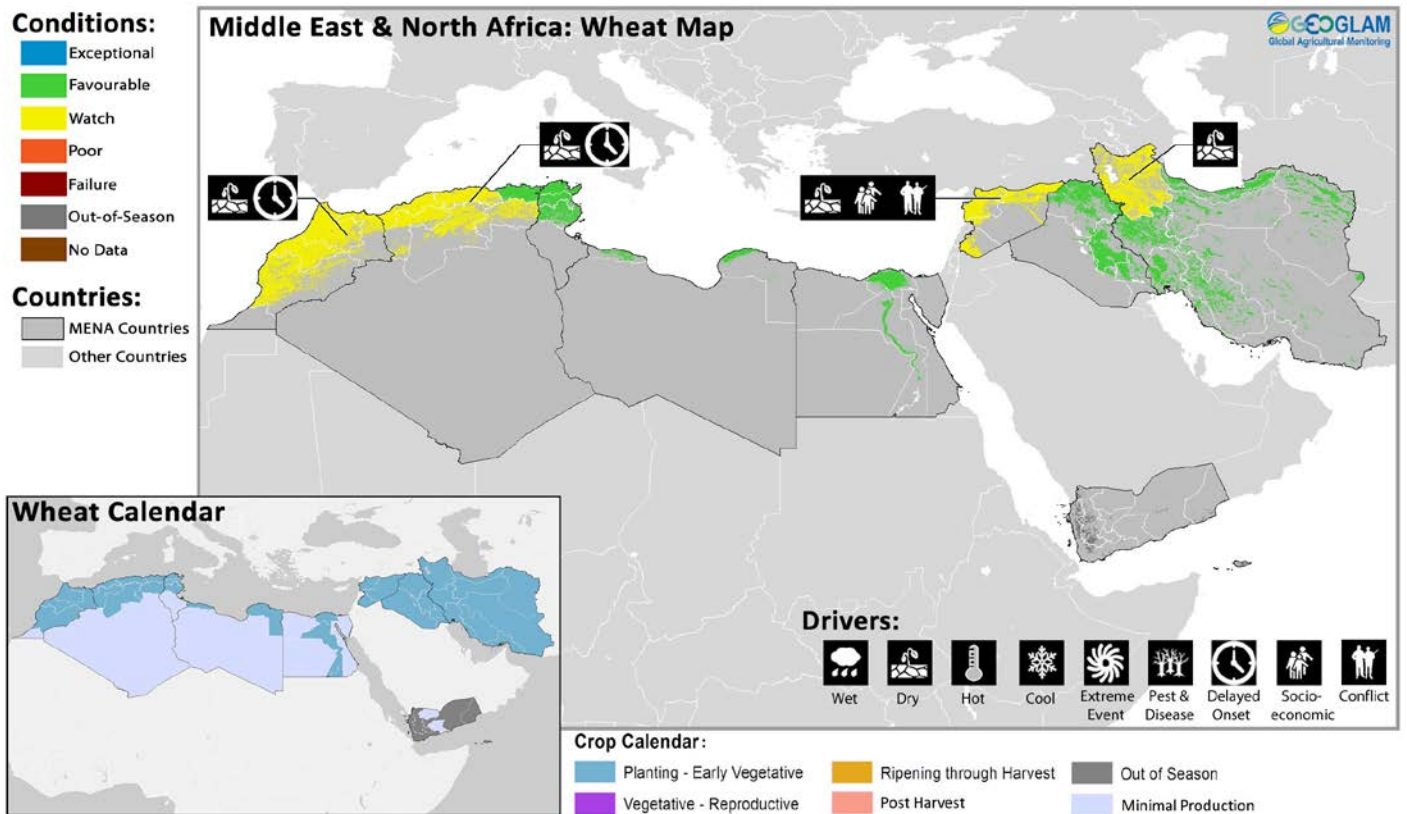
West Africa



Crop condition map synthesizing information as of November 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.**

Across the bimodal zone of West Africa harvest of the 2017 main season crops is complete and production was generally favourable. However, dry conditions throughout the season over parts of Mauritania, Senegal, Niger, and Chad and ongoing conflict in Nigeria and Cameroon impacted agricultural activities and resulted in poor production across these areas. In **Cameroon**, production was favourable for main and second season crops excepting Extreme Nord where ongoing conflict impacted agricultural activities throughout the season and poor harvests resulted for the main season. In **Nigeria**, production was favourable except in the northeast where ongoing conflict throughout the season impacted agricultural practices and harvests were poor. In **Mauritania**, main season production was poor due to delayed start to the season and declining rainfall amounts from early-September onwards causing dry conditions across the region excepting the east where rainfall was average. In **Niger**, production was poor due to below average rainfall amounts since August. This is the third consecutive year with below average rainfall over the region impacting production and food security is of concern. In **Chad**, production was favourable excepting the region of Lac and central parts of the country where dry conditions led to a poor harvest. Planting of second season maize is complete across the southern bimodal zone extending from Liberia to Cameroon and crops are now in vegetative and reproductive stage with concern due to delay onset of rains and dryness at the start of the season over Liberia, Cote d'Ivoire, Nigeria, and southern Cameroon.

Middle East & North Africa

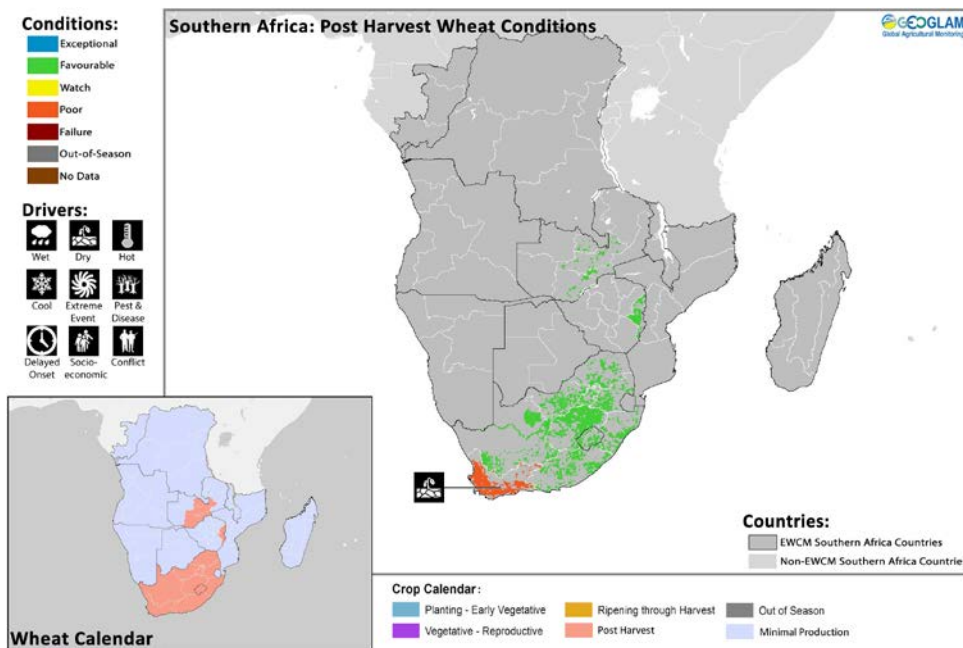


Crop condition map synthesizing information as of November 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Conditions that are other than favourable are labeled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

Across the Middle East, winter wheat planting is ongoing under favourable climatic conditions however, continuing conflict is expected to constrain production over Syrian Arab Republic and food insecurity is high. In **Iraq**, planting of the 2018 winter wheat crop is complete and conditions are favourable with good rains received. In **Iran**, conditions are generally favourable except in parts of the north west, (West and East Azarbayejan, Ardebil) and central north where it is estimated that only half of the normal rainfall has been received over the last three months. In **Syrian Arab Republic**, winter wheat planting which started in mid-October will continue through December and ongoing conflict in the region is expected to impact production. In addition, the west of Syria, notably over Aleppo and Idlib, has received only 30% of the normal rain over the last 3 months and dry conditions persist.

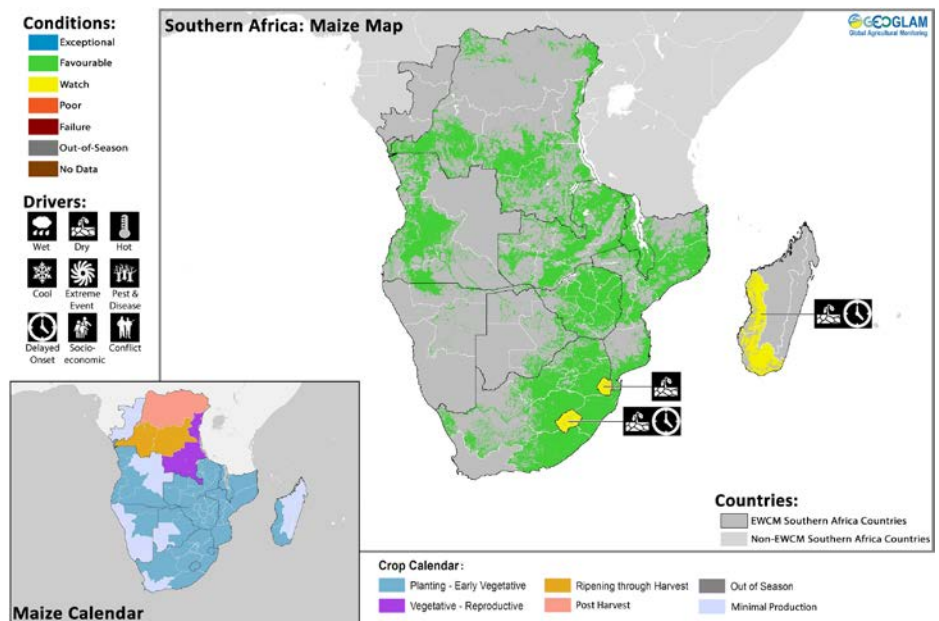
Across North Africa, planting of 2018 winter wheat crop started in November under generally favourable conditions except in Algeria and Morocco where dry conditions have affected the start of the season. In **Morocco**, there is concern across the country due to delayed onset of the rains at the start of the season. In **Algeria**, planting of winter wheat crops is underway and conditions are favourable except in the north west and north central where below average rainfall has been received and dry conditions persist. In **Tunisia**, **Libya** and **Egypt** conditions are favourable at the start of the season with good rains received.

Southern Africa



Crop condition map synthesizing information as of November 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.**

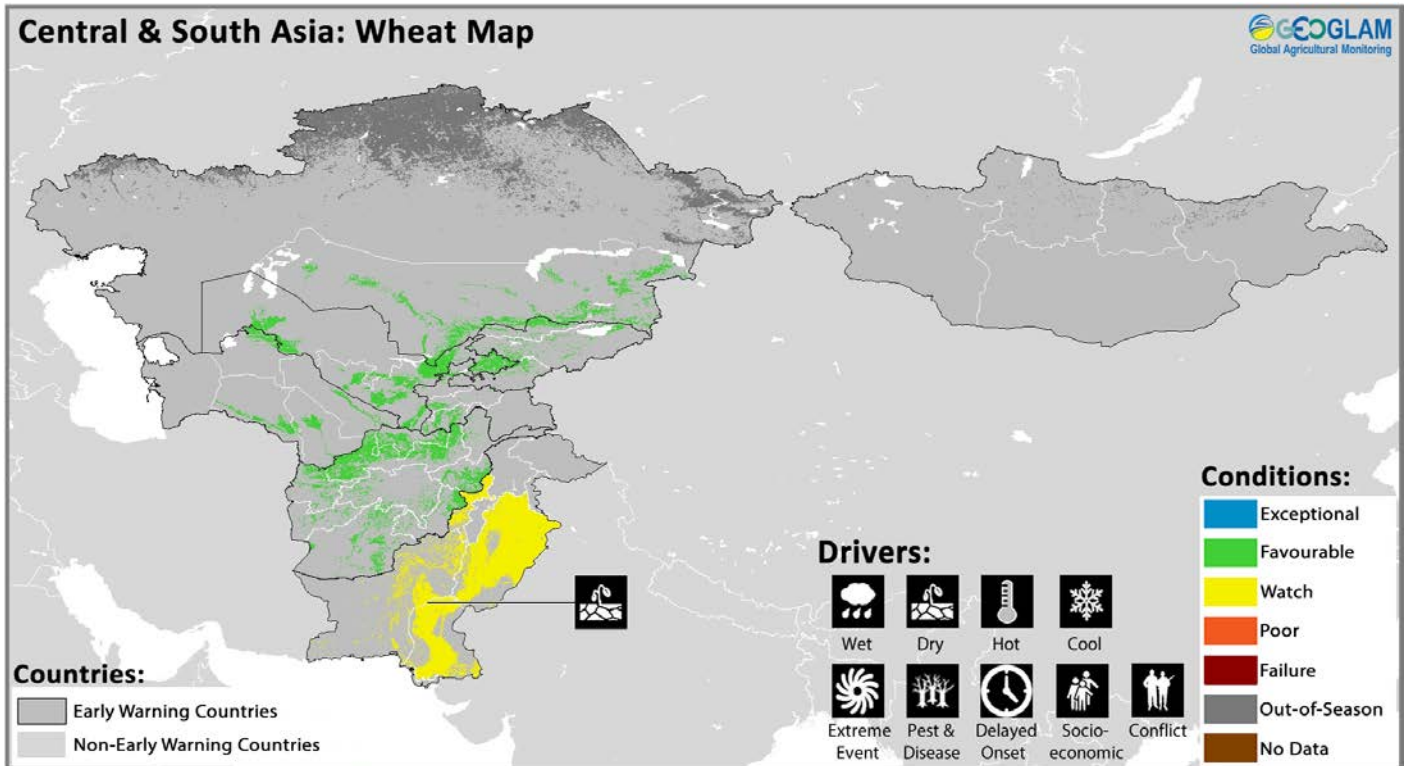
In **Lesotho** and **Swaziland** planting of main season maize commenced in October and will continue through December however, there is concern due to dry conditions at the start of the season and a delayed onset rains in some areas. In **Madagascar**, there is some concern for main season maize crops in the south, with below average rainfall in October although some rainfall in November improved conditions. Dry conditions also prevailed in October in eastern **South Africa**, but increased rainfall volumes were observed in November through early December. Over the western maize production areas, where the planting window carries on into late December, November has been quite dry (followed by normal rain in early December), and rainfall going forward will be important for planting in this area.



Crop condition map synthesizing information as of November 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 2017 winter wheat harvest is complete and production was favourable in **Zimbabwe** and **Zambia** with generally good rains received throughout the growing season. However, production in South Africa is estimated at a below-average level mostly due to dry conditions and consequently a reduced output in the main wheat-producing Western Cape province. Planting of 2018 main season crops is now underway across most areas with generally favourable conditions supporting early crop growth. However early seasonal dry conditions were observed in some parts of Angola, Lesotho, Swaziland, Madagascar, and South Africa reflecting low rains since October. In **Angola**, there is some concern over dry conditions at the start of the season over Highland and Coastal areas.

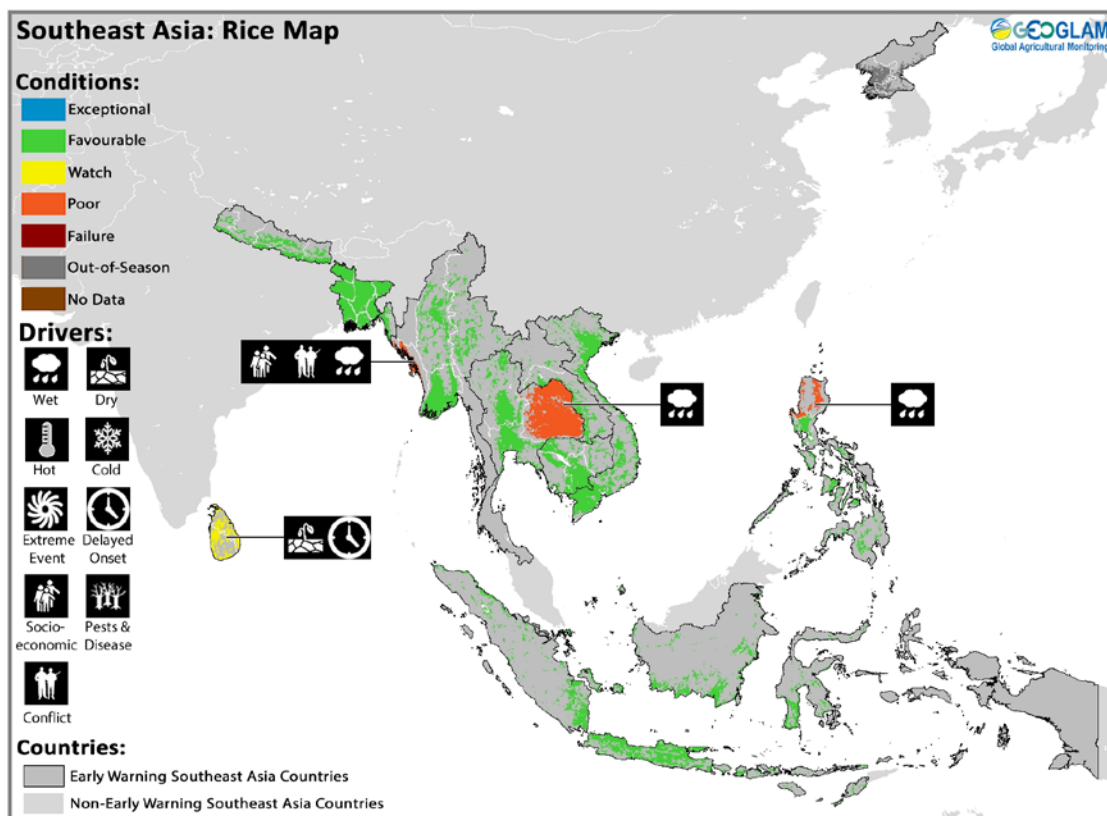
Central & South Asia



Crop condition map synthesizing information as of November 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.**

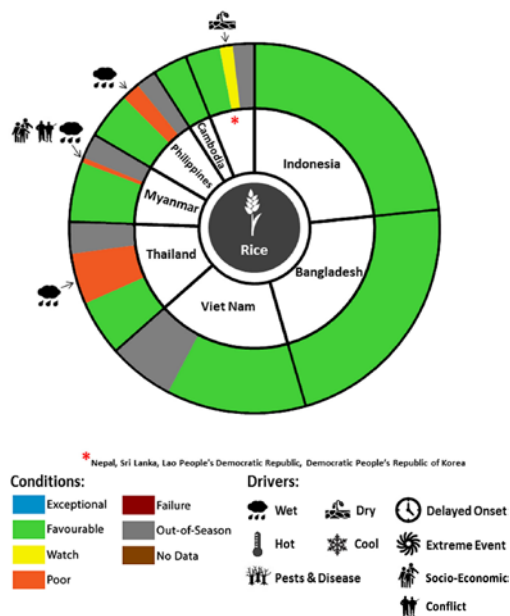
Across Central and South Asia winter wheat planting is underway and conditions are favourable. In **Kyrgyzstan**, precipitation in most area was adequate, with exceptions in Jalal-Abad where precipitation was above the five-year average and Chuy and Barken regions where there is concern over below average precipitation. In the south and south-east of **Kazakhstan**, where winter wheat is cultivated, the weather in November was favorable for growth with good rains received. However, across parts of West Kazakhstan and Almaty regions there is concern over low nighttime temperatures in November affecting crop growth. In **Tajikistan**, **Turkmenistan** and **Uzbekistan**, planting of winter wheat finished by the end of November under generally favourable conditions. In **Afghanistan**, planting of winter wheat and barley is underway and conditions are favourable at the start of the season with good rains and temperatures supporting crop growth. In **Pakistan**, harvest of the *kharif* crop is nearing completion for the main season rice and production prospects are favourable. Planting of the 2018 winter wheat crop started in October and is ongoing, however, there is concern due to dry conditions and low water availability for irrigation at the start of the season.

Southeast Asia

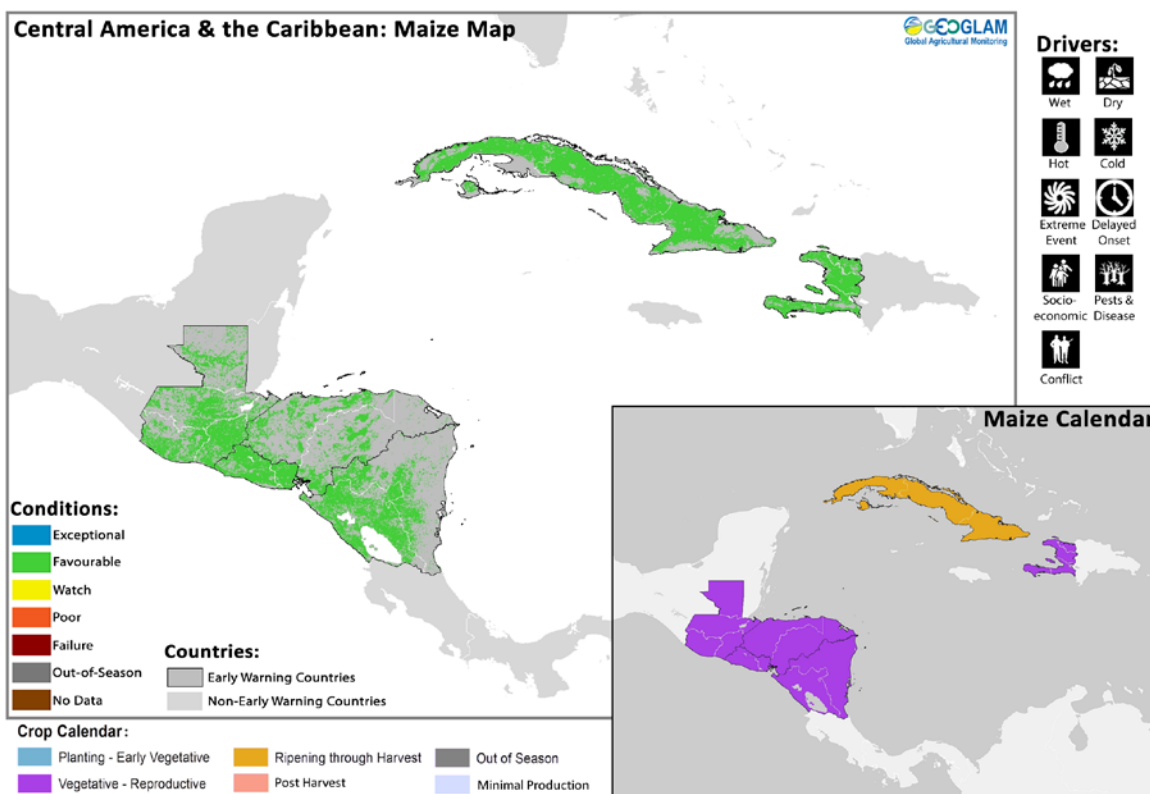


Crop condition map synthesizing information for rice as of November 28th. Crop conditions over the main growing areas are based on a combination of inputs, including remotely sensed data, ground observations, field reports, national, and regional experts. **Conditions that are other than favourable are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

In the Northern side of SE Asia, wet season rice is in the high season of harvesting in almost all countries. Overall the yield is estimated to be slightly below normal however, northeastern Thailand, northern Philippines and the coastal region of Myanmar where flood damage occurred during the harvesting period are expecting poor production. In Indonesia, the yield of dry season rice is expected to be higher than last year due to enough irrigation water and sunlight throughout the growing season. In **Viet Nam**, harvesting of wet-season rice continues under favourable conditions with yields slightly below average in the north and slightly above average in the south. In **Thailand**, wet-season rice is in the grain filling stage under generally favourable conditions except in the northeast, where conditions are poor due to October flood damage and disease outbreaks. In **Laos**, harvest of wet season rice is ongoing and will complete this month under favourable conditions. In **Cambodia**, harvest is ongoing in most areas with some late planted rice now in flowering stage. Estimated yields are slightly below last years' average. Planting of dry season rice started in November under favourable conditions. In **Myanmar**, harvest is ongoing for wet season rice and production prospects are generally favourable with average yields expected. However, in the southwest over Rakhine, production is expected to be poor due to heavy rains and flooding throughout the growing season that caused irreversible damage to planted crops. In the **Philippines**, harvesting has begun for wet-season rice planted in July-August under generally favourable conditions. Heavy rainfall and cyclones in October and November brought flood damage to northern regions of Luzon Island. In **Indonesia**, conditions are favourable as harvest of dry-season rice enters the peak period with higher yields than last year expected. Sowing of wet-season rice has been delayed due to insufficient rainfall. In **Bangladesh**, *aman* rice crop is ongoing and under favourable conditions. *Boro* rice planting started at the end of November and early season conditions are favourable with good rains received. In **Nepal**, harvest is underway for main season rice and despite concern over dry conditions during the season production prospects are favourable. In **Sri Lanka**, planting of the main *maha* season is underway and there is concern due to dry conditions at the start of the season and carryover effects of the poor *yala* season impacting food security.

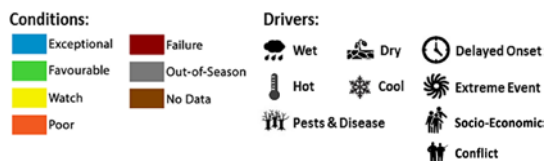
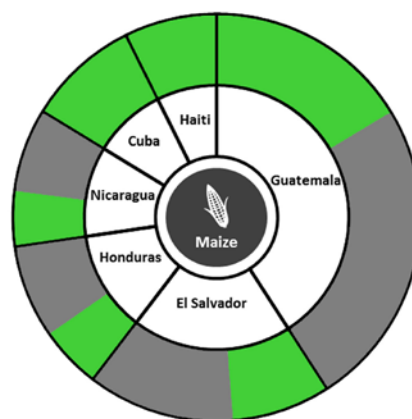


Central America & Caribbean



Crop condition map synthesizing information as of November 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 Central America, planting of *segunda* season maize and bean crops is ongoing and conditions are favorable with good timing and quantity of rainfall supporting normal crop development. In **Cuba**, conditions are favourable for main season maize and rice with good rains at the start of the season. In **Haiti**, second season rice harvests are underway and production prospects are favourable.



Information on crop conditions in the main production and export countries can be found in the [AMIS Market Monitor](#), published December 7th 2017.

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). 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



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

Cover Photo by: Christina Justice

Early Warning partners



ICPAC
IGAD Climate Prediction
& Applications Centre



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