

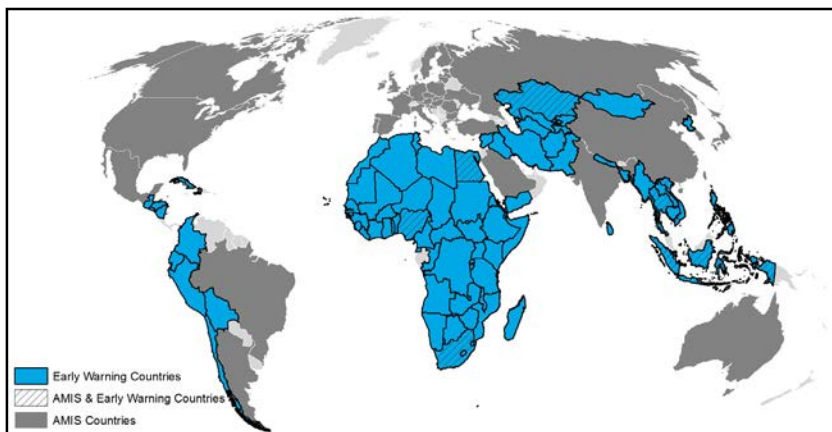


Crop Monitor

EARLY WARNING

Overview:

In **East Africa**, harvest is complete for main season cereals in the north of the subregion and yields were favourable except in Sudan and South Sudan due to flood damage, socioeconomic impacts, and conflict, and parts of Ethiopia due to dry conditions early in the season and to a lesser extent desert locust. In the south of the subregion, harvest is complete for second season crops and yields were generally average despite unprecedented flooding caused from record October to December rains. In **West Africa**, harvest of main season sorghum and millet is complete across the Sahel and yields were generally average except in Gambia and conflict affected areas. In the **Middle East** and **North Africa**, winter cereals are favourable due to good precipitation throughout the start of the season except in central Morocco where early season dryness continues to impact crops. In **Southern Africa**, there is concern for main season maize and sorghum crops across much of the central and south due to dry conditions from poor October to December rainfall and below-average rainfall forecast for February. In **Central and South Asia**, winter cereals, to be harvested from May 2020, are in dormancy stage and developing under generally favourable conditions. In **Southeast Asia**, wet-season rice harvest is complete and final yields were mixed due to early season drought damage in June and July followed by flood damage after August. Dry-season rice sowing is underway with some concern due to carryover dry conditions from the previous season. In **Central America** and the **Caribbean**, harvest is complete for *Segunda* season crops and yields are average due to abundant and well-distributed rainfall.



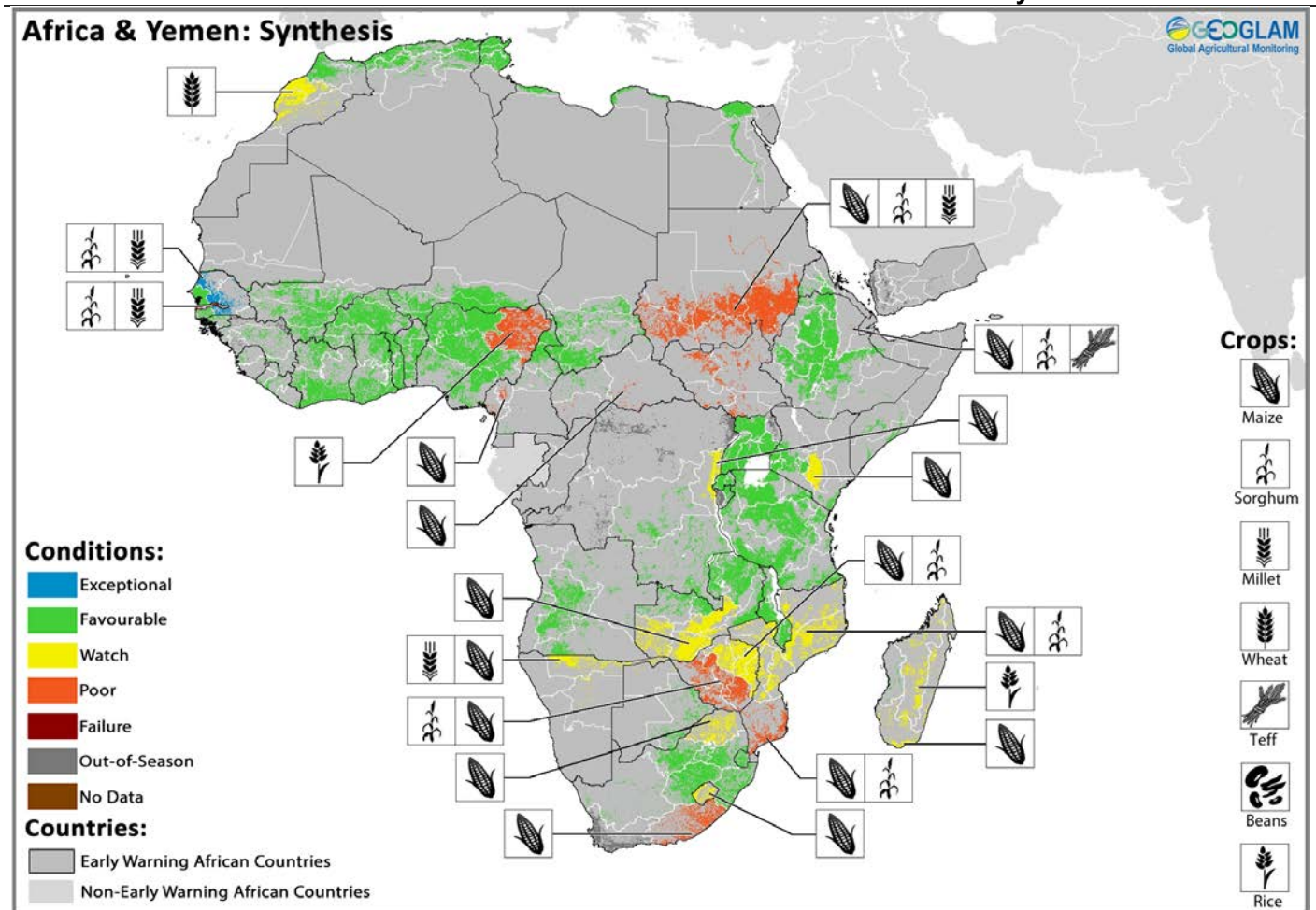
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GEOGLAM Crop Monitor for Early Warning

Crop Conditions at a Glance

based on best available information as of January 28th



Crop condition map synthesizing information for all Crop Monitor for Early Warning crops as of January 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 northern areas of the subregion, harvest of main season cereals is complete and yields were favourable except in Afar, Ethiopia due to dry weather and desert locust impacts and in Sudan and South Sudan due to flood damage, socioeconomic impacts, and ongoing conflict. In central and southern areas of the subregion, second season crop harvests are complete or nearing completion and yields were average due to abundant rains and in spite of severe flooding.

WEST AFRICA: Across the Sahel, harvesting of main season sorghum and millet crops is complete and conditions are favourable except in Gambia where production was below-average due to dry spells early in the season, and conflict affected areas of north Burkina Faso, northeast Nigeria, and parts of Cameroon and Central African Republic.

MIDDLE EAST & NORTH AFRICA: Planting is complete for the 2019/2020 wheat crop and conditions are favourable except in central Morocco where early-season dryness continues to impact crops.

SOUTHERN AFRICA: Main season maize and sorghum crops are in vegetative to reproductive stages and there is concern across central and southern parts of the region due to delayed rains and record dry conditions experienced from October to December. While some rains were received in January, forecasts indicate the chance of below average rainfall in February which could exacerbate already dry conditions (See Regional Outlook Pg.11).

CENTRAL & SOUTH ASIA: Conditions for 2019/2020 winter cereals are favourable with some slightly drier than average conditions across Uzbekistan, Turkmenistan, and west Kazakhstan.

SOUTHEAST ASIA: In northern Southeast Asia, harvest is complete for wet-season rice and yields were generally poor with below average yields reported in much of Cambodia, Myanmar, Laos, and Thailand. In Indonesia, planting is ongoing for wet-season rice with concerns due to rainfall deficits.

CENTRAL AMERICA & CARIBBEAN: Harvest is complete for *Segunda (Postrera)* season crops and final yields were average due to sufficient and well-distributed rainfall.

The GEOGLAM Crop Monitors is conducting a quick user survey in order to better understand whether the information provided in the reports fulfills the needs of the readers, and to collect suggestions for continual improvement. Please help us by taking a short amount of time to provide us with some feedback. [Take the Survey](#)

A survey link can also be found on the front page of the Crop Monitor website.

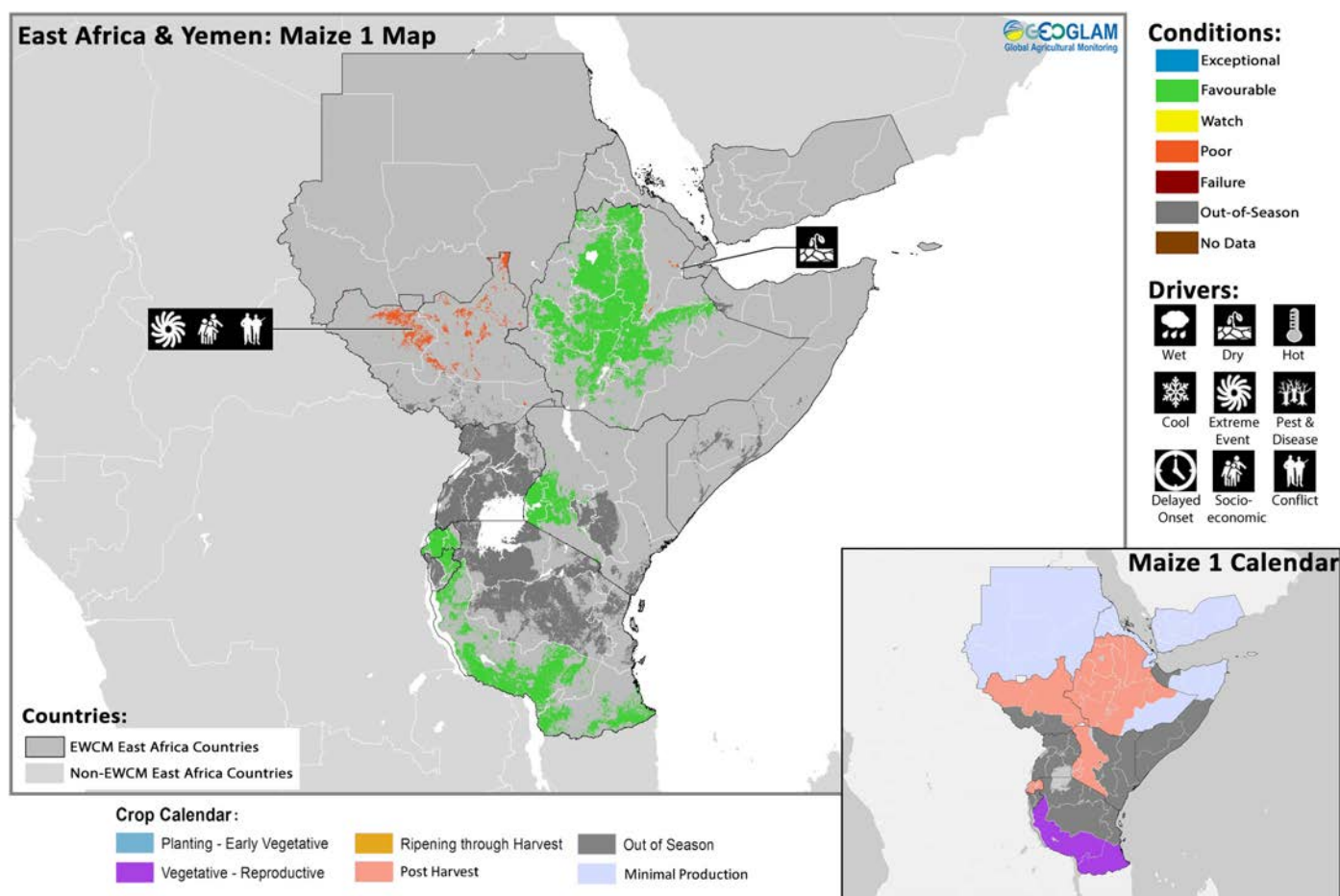
Thanks, The GEOGLAM Crop Monitor team

Global Climate Outlook: ENSO and IOD neutral conditions likely to continue through June 2020

El Niño-Southern Oscillation (ENSO) conditions are neutral and are most likely to remain neutral through June 2020. During late 2019 a strong positive Indian Ocean Dipole (IOD) suppressed rainfall in Australia and enhanced rainfall in East Africa. The IOD is now in a neutral state and is forecast to remain neutral through June 2020.

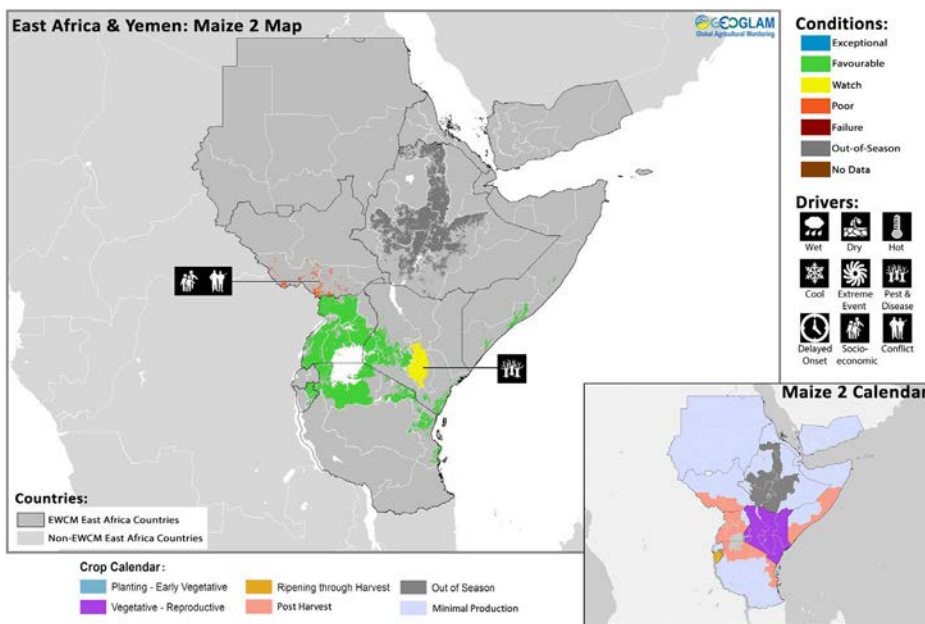
Source: UCSB Climate Hazards Center

East Africa & Yemen



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

Across the north of the region, including in **Eritrea, Ethiopia, Sudan,** and central and northern **South Sudan,** harvest finished in December for main season cereals and final yields were generally favourable due to abundant rains throughout the season except in Sudan, South Sudan, and parts of Ethiopia. However, a severe desert locust outbreak which has spread through the East Africa region since November has affected mainly pastoral and agro-pastoral areas of northeastern and eastern Ethiopia and central and southern Somalia and most recently moved into northern and central Kenya. This infestation is reported to be the worst experienced in 25 years and desert locusts are endangering food supplies in the region and there is significant concern for food security (See Alert Pg.5). In **Ethiopia,** national *Meher* production was average with some localized areas of below-average production in Afar region due to the impact of poor *Kiremt* rainfall, the ongoing desert locust infestation, and unseasonable rainfall. In those areas worst affected by desert locusts including East Amhara, Afar, and Tigray regions, localized crop yields were impacted; however, the main impact from desert locusts has been on pastoral and agro-pastoral areas in the south. In **Eritrea,** final yields were average following above-average rains

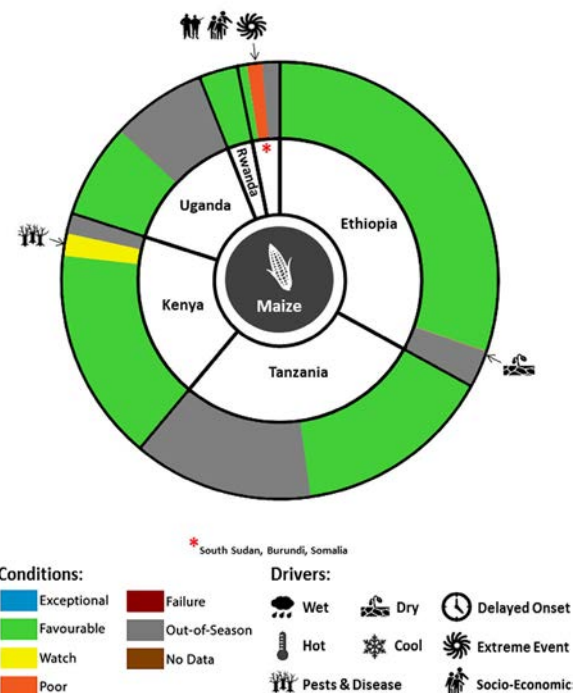


Crop condition map synthesizing information as of January 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Crops that are in other than favourable conditions are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

damage and socioeconomic factors, except in parts of Kapoeta and Western Equatoria regions where yields were generally favourable. Following one of the top three wettest October to December rainfall seasons in at least forty years, the country experienced an unprecedented scale of flooding across eastern and northern South Sudan. The floods significantly reduced the harvested area, offsetting the positive impact of an increase in plantings due to an improved security situation. While the conflict situation has improved in the south of the country over Kapoeta and Equatoria and production has been estimated to be above the 5-year average, this still remains below the pre conflict average. Socioeconomic factors such as the availability of farm inputs and labor are still a challenge. In **Kenya**, harvest of “long rains” maize finished in November in key growing areas of Rift Valley and Western provinces and final yields were average. In the **United Republic of Tanzania’s** southern highlands, *Msimu* maize crops are in vegetative to reproductive stages under favourable conditions.

In central and southern parts of the subregion, including Burundi, southeastern Kenya, Rwanda, central and southern Somalia, Uganda, and bimodal rainfall areas of the United Republic of Tanzania, harvest of second season crops is complete or nearing completion and crop prospects are generally favourable. The season started with heavy rains throughout October across most of the region and a tropical cyclone, triggering widespread flooding in central and southern **Somalia**, northeast **Kenya**, eastern **South Sudan**, and northeast **Tanzania**. In **Kenya**, harvest of the “short rains” cereal crop started in early February and an average output is expected with localized crop losses due to extreme rainfall and floods. While desert locusts have reached northern Kenya, the impact on “short rains” cereals are expected to be minimal. The national government is currently implementing aerial control measures to combat the locusts. However, there are access challenges in insecure areas in the northeast. Based on conducive ecological conditions for breeding and spreading, there is a likelihood of the infestation to extend through June. In **Somalia**, final *Deyr* season crop yields were above-average following favourable *Deyr* October-December rains in southern Somalia and many parts of central and northern regions. However, flooding caused by excessive rainfall in October and November resulted in crop damage in several areas along the Shabelle and Juba rivers. While flooding resulted in a reduction in maize yields, sorghum crop yields benefitted from the exceptional rainfall to make up for the maize losses and as a result, aggregate cereal yields were above-average. Additionally, the increased irrigation water availability due to high river levels abundant precipitation is expected to encourage recession agriculture, likely resulting in increased off-season plantings and an above-average off-season harvest in March. Despite favourable cereal and livestock production food security is still a significant concern due to floods during the season which disrupted livelihoods and caused significant large-scale displacement. In bimodal **Uganda** and northeast **Tanzania**, final yields for

throughout most of the season. In **Sudan**, final yields for key cereals including sorghum and millet were significantly below-average due to flooding, an extended and erratic rainy season, reduced access to inputs, and pest infestations. Additionally, the start of the rainy season in June was followed by a dry spell of more than 20 days causing many areas to be in need of replanting. Winter wheat is currently in vegetative to reproductive stages under favourable conditions; however, farmers will face key challenges for this winter’s cultivation including the high cost of agricultural inputs, fuel shortages, and reduced access to agricultural finance. Conflict continues to be a factor impacting agricultural activities as an estimated 41,672 people fled inter-communal violence within the country during the month of January. In **South Sudan**, final cereal crop yields were below-average due largely to flood



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

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second season maize crops were average due to above average rains from October to December. However, torrential rainfall caused localized crop damage in eastern Uganda and parts of Tanzania due to flooding and landslides. In **Rwanda**, final *A season* maize crop yields were above-average due to abundant seasonal rains received throughout the cropping period. This is expected to offset localized crop losses due to flooding, resulting in an overall average production.

Alert: East Africa currently experiencing the worst Desert Locust infestation in 25 years

There is an increasing threat to food security and livelihoods in East Africa as desert locust swarms increase in Ethiopia, Somalia, and continue to move south into Kenya where they have spread to northern, central, and southwest counties, approaching within 200 km of northeast Uganda and southeast South Sudan. Locust infestations are continuing to grow along the Red Sea coast with swarms forming from southern Egypt to Eritrea, and on the coast of Yemen. This is estimated to be the worst desert locust outbreak in 25 years in the East Africa region and the worst in 70 years for Kenya. Aerial and ground operations are underway but remain insufficient.

The locust outbreak has mainly affected pastoral and agro-pastoral areas of northeastern and eastern Ethiopia (Afar, Somali, and eastern Oromia) and central and southern Somalia (Hiraan, Galgaduud, Bakool and Bay regions) causing significant pasture losses. In Kenya, pasture losses have been relatively less significant but are increasing. Pastoral livelihoods and food security in these areas are at high risk. Main agricultural regions in countries where desert locusts are present have been largely outside of affected areas. Locust impacts on crops have been minimal except in parts of Ethiopia where *Meher* crops were affected in northern and southeastern Tigray, northeastern Amhara, and Eastern Oromia regions. Control operations were triggered and stemmed the impact, however, localized losses were incurred in Amhara region where an estimated 30 percent of sorghum crops were lost.

The current desert locust outbreak developed following abundant rains and floods beginning in July and continuing through October to December rainy season, bringing record rainfall and in some areas, the highest rainfall on record since 1981. The continuous abundant rains resulted in large areas of above-average biomass, creating an environment perfect for the intensification and spread of desert locusts. In addition, Tropical Cyclone Pawan, which made landfall in northeastern Somalia in December, provided additional rainfall for additional biomass growth in areas already serving as one of the main breeding grounds, accelerated locust reproduction.

Breeding in February is expected to increase locust numbers all three countries and sustained locust reproduction is expected through June 2020. There is a high likelihood for the swarms to spread to southern Ethiopia, southern Somalia, northeastern Uganda, and South Sudan, possibly in the coming days. Continuation and further spread of the current desert locust outbreak is expected as forecasts indicate the likelihood of wetter than average conditions for the start of February across Tanzania, western and southern Kenya, northern Zambia, and northern Mozambique (See Regional Outlook Pg. 6). Additionally, long-range forecasts for the March to May rains indicate the possibility of above-average rainfall in the region.

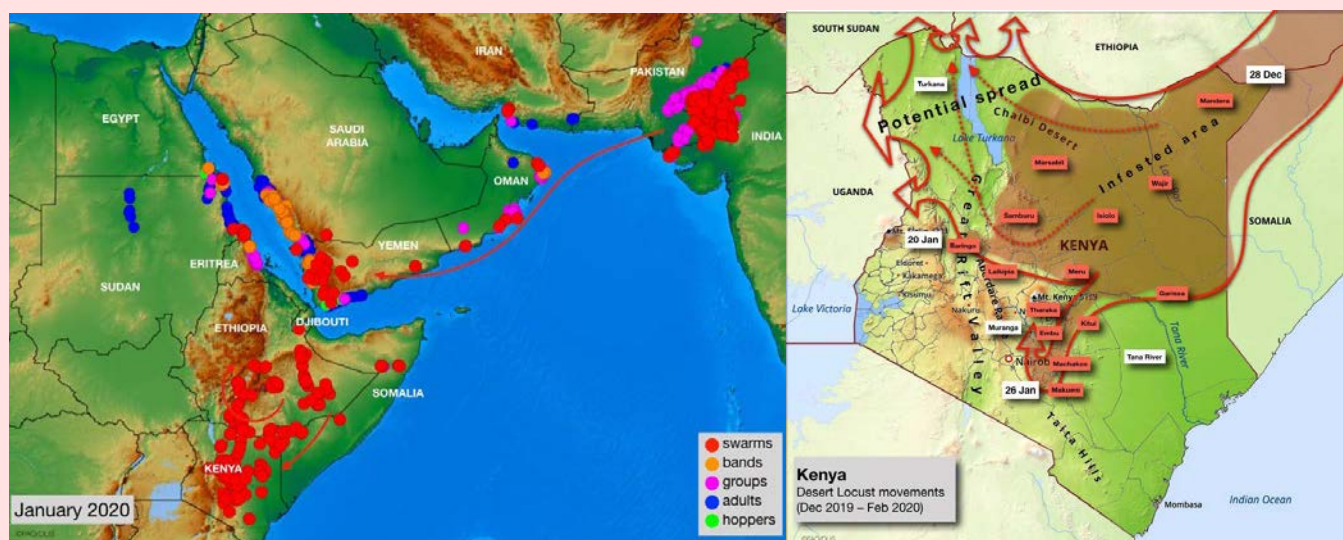


Figure 1. Desert locust presence and potential spread as of February 3rd 2020.

Source: FAO/DLIS

Regional Outlook: Wetter than average conditions expected to continue into February across the south of the region

January 2020 rainfall was above average in equatorial and southern areas of the region, including in western, central, and coastal Kenya, Tanzania, southwest Ethiopia, southeast South Sudan, and eastern and southern Uganda. Elsewhere January rainfall was near average.

Wet conditions and high intensity rainfall are likely during the first week of February in Tanzania and the Lake Victoria region, as shown by the short term forecast issued January 31st (Figure 1-top left). According to 30-day forecasts from several models, wetter than average conditions are expected for February as a whole, mainly in Tanzania, and also in western and southern Kenya, northern Zambia, and northern Mozambique (Figure 1- bottom left). This largely reflects the forecast heavy rains in early February, but there is consensus for wetter than average conditions in subsequent weeks. For the March to May 2020 season, long range outlooks indicate the chance of slightly above average rainfall in the region. While the previously influential strong positive Indian Ocean Dipole has relaxed to a neutral state, warmer than average western Indian Ocean temperatures may positively influence rainfall in some areas. Confidence is not high in MAM rainfall forecasts at present, so it will be important to keep watch on short term forecasts closer to and during the season.

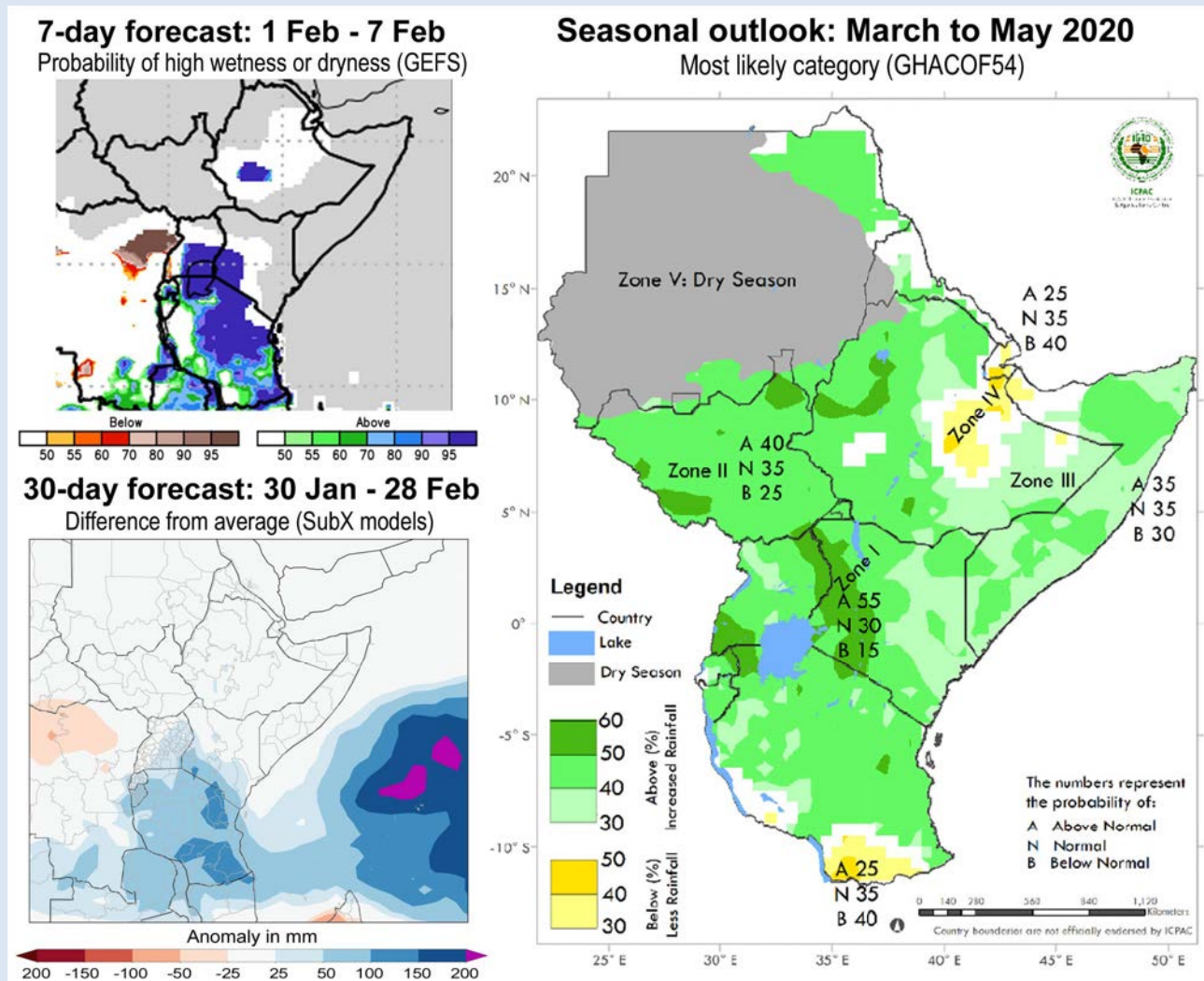
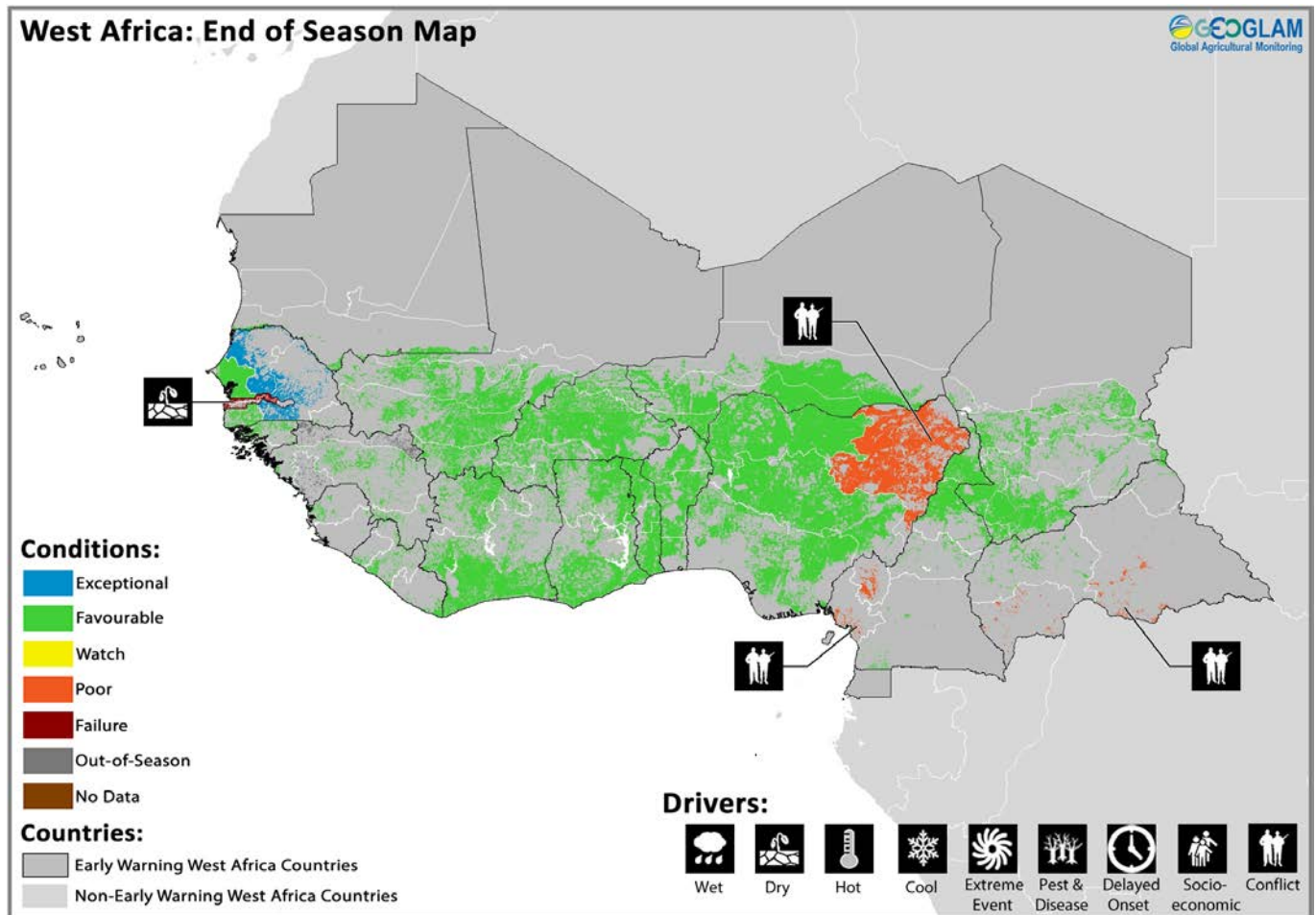


Figure 1. Short term, medium term, and long range seasonal forecasts for East Africa. Top left- Chances of rainfall in the first week of February 2020 being much wetter or drier than average. Dry (< 50% of average) or wet (> 150% of average). From the NOAA/NCEP/CPC Global Ensemble Forecast System (GEFS) on 1/31. Bottom left- Forecast rainfall for the 30-day period ending February 28th, shown as the difference from the 1999 to 2016 average. Image shows the average across four Subseasonal Experiment (SubX) model forecasts on 1/30. The 30-day forecast map provides a generalized outlook only, and does not accurately depict localized amounts. Right- The most likely outcome for March to May 2020 rainfall (above normal, normal, below normal) and corresponding probabilities, according to the Fifty Fourth Greater Horn of Africa Climate Outlook Forum (GHACOF54).

Source: UCSB Climate Hazards Center

West Africa

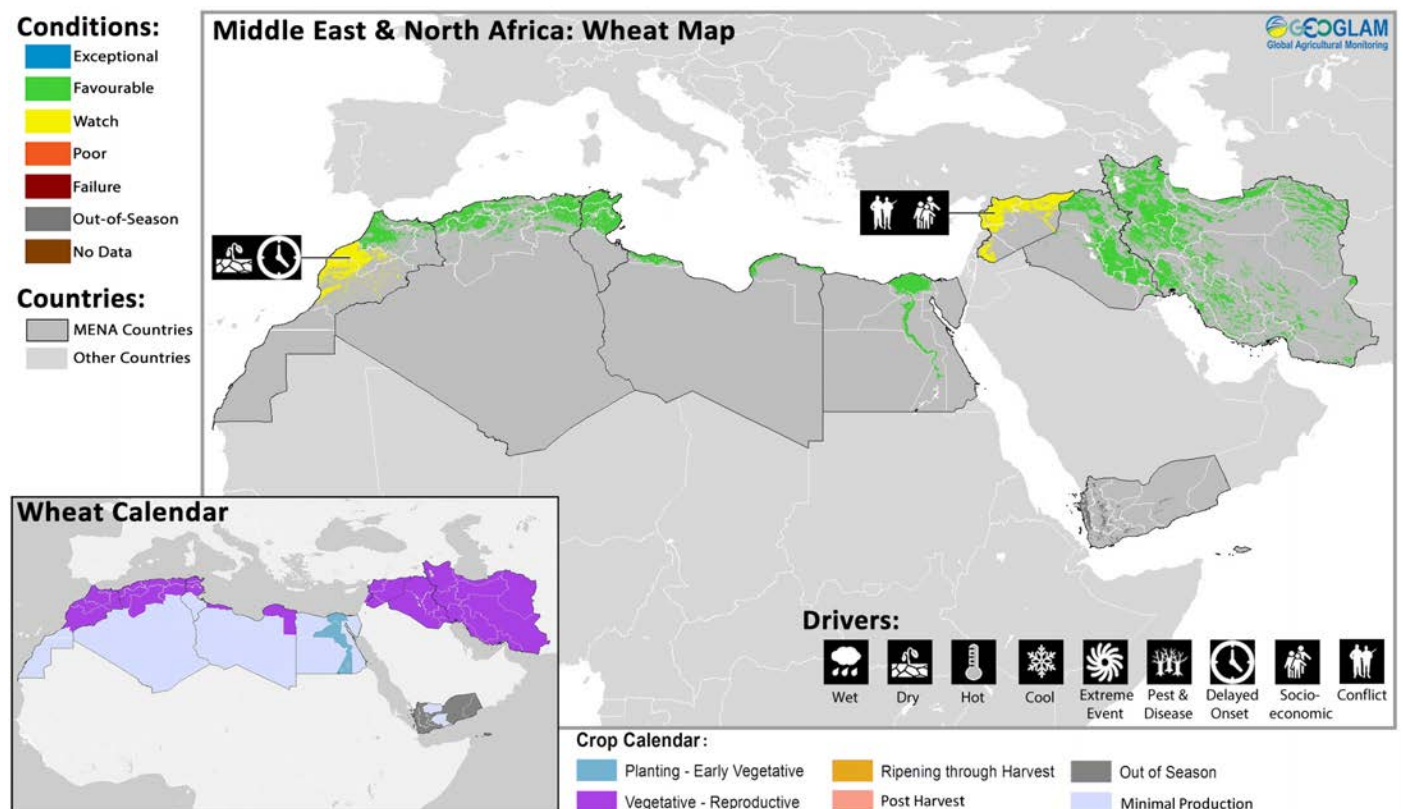


Crop condition map synthesizing information for all crops except for coastal Maize 1 as of January 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Crops that are in other than favourable conditions are labeled on the map with their driver.**

Across the Sahel region, harvesting of main season sorghum and millet crops finished in December and yields were favourable across the region except in **Gambia** due to extended dry-spells, and in north **Burkina Faso**, where insecurity and increasing flows of internally displaced persons are hampering agricultural activities. Overall 2019/20 cereal harvest for the region is estimated to be 14 percent above the 5-year average. However, significant declines have been reported in Gambia and locally in the conflict affected areas of the Sahelian countries of the Central and Eastern Basins in the region bordering Mali, Niger, and Burkina Faso. In **Gambia**, cereal production is estimated at 46 percent below the five-year average due to extended dry spells at the start of the rainy season that delayed planting operations and affected crop development. In **Mauritania**, the season has been characterized by a late onset, which had a negative impact on rainfed crop performance. However, the *dieri* (rainfed) cropping system accounts for only 14.5% of the production on average. The significant improvement in rainfall from August to late October resulted in increased surface water availability allowing for increased cropped area and yield in the irrigated and recession cropping system. Cereal production is estimated at 23 percent above the five-year average and 15 percent above the 2018 average due to an increase in rice and maize planted area that offset the impacts from rainfall deficits. Rainfed crop production is estimated at 17 percent below the five-year average and 32 percent below the 2018 level due to delayed onset rains and rainfall deficits through the end of the season. Pastoral areas in the southern part of the country have also been affected by significant drought. In **Burkina Faso**, adequate and well distributed rainfall was beneficial to main season crops and favourable yields resulted in the south. However, worsening violence and insecurity in Nord and Centre Nord regions continues to impact agricultural activities. In **Mali**, cereal production is estimated at 7 percent above last year's level and 25.5 percent above the five-year average. This is despite some pockets of below average yields in the western Sahel due to rainfall deficits and conflict affected areas in the central part of the country. In the central and bimodal rainfall areas of **Cameroon**, main season cereal harvest is complete and adequate and well distributed rainfall throughout the season benefitted crop development. However, insecurity continues to limit household access to fields and the 2019 cereal output is forecast at below the average level. In the Far-North region, following favourable weather conditions during the season and a slight increase in planted area, production is likely to reach average to above-average levels despite the ongoing civil unrest in the area. In the **Central African Republic**, harvesting of 2019 maize crops completed in September the 2019 cereal harvest at the national level is estimated to be above the recent five-year average, but still below the pre-crisis levels. However, heavy rain at the end of the season caused flooding across many areas and is expected to result in post-harvest losses. In addition, an increase in violence against civilians

since September negatively affected food access in late 2019 and conflict continues to disrupt market access. In **Senegal**, weather conditions improved from August and rainfall extended through the end of the season which partially offset the negative impacts of water deficits and cereal production is estimated to be 27 percent above the five-year average and four percent below 2018 levels. However, rainfall deficits and dry conditions affected pastoral areas across the north and central areas and notably in marginal pastoral areas of Matam and Podor area, where the growing season is just 3 months long and rainfall deficits caused a significant decrease in pasture and crop production. In **Niger**, average cereal production resulted due to average to above average rain throughout the season and despite damage from widespread floods. In **Chad**, good rains were received at the start of the season and cereal production is estimated above the five-year average. However, dry spells during the middle of the growing season of around 10 to 15 days affected Kanem, Bahr El Gazel, Wadi Fira, Moyen-Chari, Mandoul, and Logone Occidental regions and localized poor yields are reported. In **Nigeria**, 2019 staple cereal production is slightly lower than the previous season as well as the 5- year average due to persisting conflicts, flooding, and the damage from the prolonged rainy season. In northeast Nigeria, the ongoing conflict has limited access to farmland and inputs and flooding in August across Boro, Adamawa, and Yobe states exacerbated these negative effects and food security is of severe concern. Across the region, main season rice harvest is complete and conditions are favourable.

Middle East & North Africa

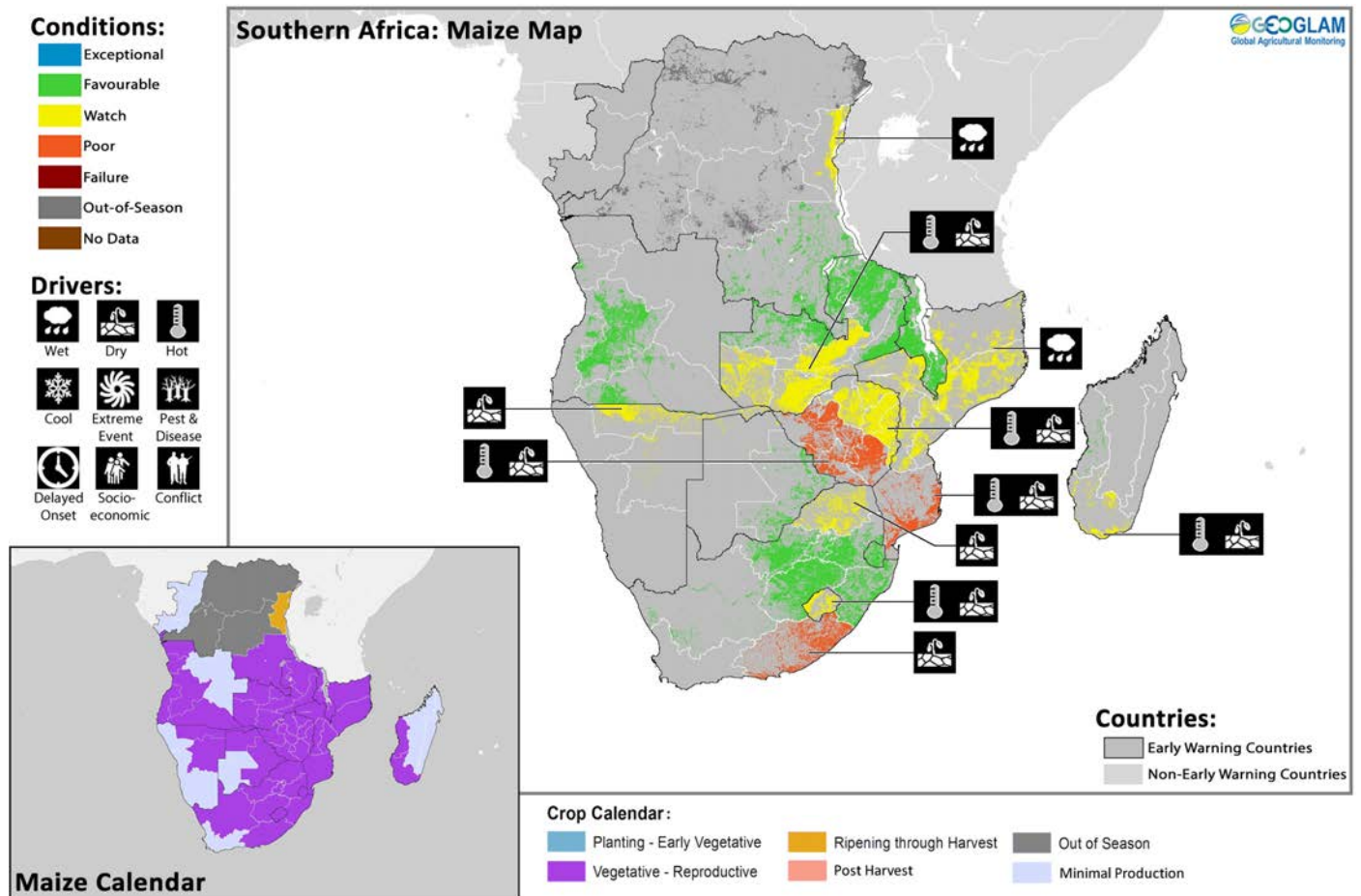


Crop condition map synthesizing information as of January 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts. **Crops that are in other than favourable conditions are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

In North Africa, planting for the 2019/20 winter wheat season started in October and conditions are favourable except in parts of central Morocco where dryness at the start of the season delayed planting and continues to impact crops. In **Morocco**, while rainfall improved in eastern Morocco in November, rains in the western and central parts of the country remained below average through the end of the planting window in December. **Algeria's** southwestern region also experienced a delayed rainfall onset; however, rainfall improved in December and conditions are now favourable. Across the rest of the country agro-climatic conditions for winter cereal planting have been favourable. In **Tunisia** and **Libya**, conditions are favourable with good rains throughout the start of the season. However, in Libya, continued military operations in Tripoli are expected to have a negative impact on agricultural activities. In **Egypt**, planting of winter cereals started in November and conditions are favourable through the start of the season due to adequate precipitation.

In the Middle East, planting of 2019/2020 winter cereals started in November across the region and conditions are favourable with mild temperatures and improved rains since December. However, in north eastern **Iran**, while vegetation conditions appear generally favourable from satellite imagery, some moisture deficits remain. In **Syria** and **Iraq**, conflict and socio-economic factors continue to impact agricultural production.

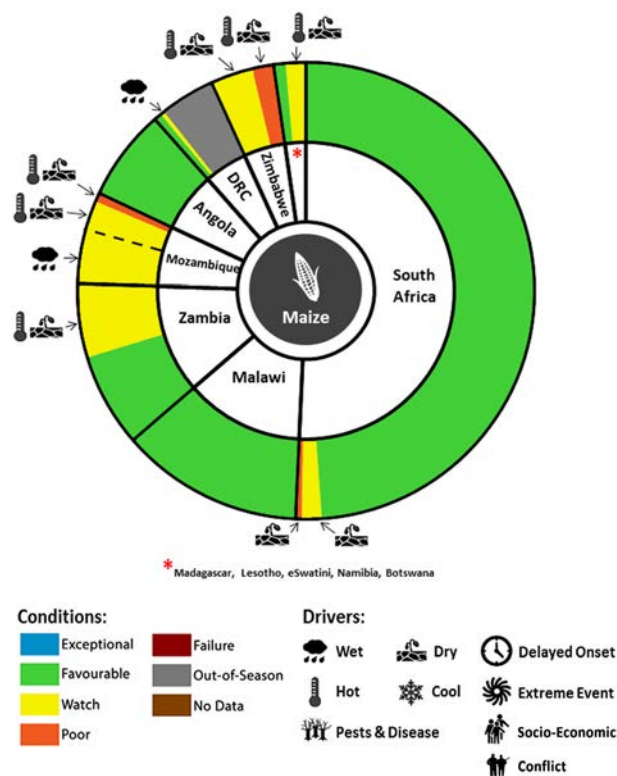
Southern Africa



Crop condition map synthesizing information as of January 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, maize and sorghum crops are in vegetative to reproductive stages and there is continuing concern due to erratic rainfall since the start of the season and dry conditions impacting crops across parts of Zimbabwe, Zambia, Mozambique, Madagascar, Namibia, Botswana, and South Africa. Rainfall picked up in January over much of the region and even causing flooding across parts of Madagascar and north and central Mozambique, while in southern Mozambique, northern Zambia and southern South Africa, rainfall deficits continued. While rainfall improved in January, forecasts indicate the potential for below-average rains through February across central and southwestern parts of the region (see Regional Outlook Pg. 11). Across much of this area, October to December 2019 rainfall was recorded as one of the 10 driest seasons since 1981 and further dry spells could exacerbate these impacts. According to a recent Southern African Development Community report, this October to December period was also one of the 3 driest seasons in southeastern Angola, northern Botswana, northeastern DRC, parts of southern Madagascar and Mozambique, north-eastern Namibia, parts of South Africa, western half of Zambia, and western and northern Zimbabwe. Reports from UNOCHA estimate at least 12.2 million people in Southern Africa are now severely food insecure and the lean season, which ordinarily lasts from October to March, could last longer than expected, as many farmers have either lost their crops or will not be able to harvest. In **Angola**, maize and sorghum conditions are favourable due to generally average rainfall in December and early January. In the south and northwest regions where rainfall was below-average with high temperatures early in the season, rainfall improved in early January and vegetation conditions show improvement; however, some patches of below-average conditions remain in the south. In **Botswana**, vegetation in the high producing eastern region are showing average to below-average conditions despite hot and dry conditions during December. Good rains were received in the country in early January, which are expected to improve conditions. In **eSwatini**, onset rains were timely with average to above-average rainfall in November. However, temperatures have been high and have led to some moisture deficits. In the **Democratic Republic of Congo**, despite favourable rainfall amounts through much of the season, 2019 cereal production is estimated to be slightly below-average due to localized flooding, fall armyworm damage across main maize-growing regions, and ongoing conflict in Kasai, North Kivu, South Kivu, Ituri, and Tanganyika provinces which continue to impact agricultural activities. In **Lesotho**, while rainfall improved in December and January, area planted is reported to be below-average due to delay of onset rains, poor rainfall, and above-average temperatures in November. In **Madagascar**, there is concern for maize crops in the south where dry and hot conditions have affected main season cereals and is likely to have affected planted area and vegetation conditions. In the northern half of Madagascar, heavy rainfall in the last dekad of January led to flooding in the central, western, and northeastern parts of the country, causing a dam to overflow, damaging infrastructure, and flooding hundreds of

hectares of rice fields. This has destroyed late first season crops that had not yet been harvested and young main season crops that were recently sown. In southern **Mozambique**, and Manica and Sofala provinces, dry conditions and high temperatures throughout December and January have caused low soil moisture and resulted in crop wilting. By contrast, in central and northern Mozambique, heavy rains resulted in severe flooding in December and January causing damage to cropped areas particularly in the lowland areas and affecting nearly 68,000 people. Flooding is reported to have damaged nearly 2,300 hectares of crops in central Mozambique and about 4,000 hectares of crops in northern Cabo Delgado. Early in the season, insufficient and erratic rainfall in southern and central parts of the country resulted in multiple rounds of planting by households due to successive crop loss. Production is expected to be well below-average in southern areas for the third consecutive season, with some areas facing total crop loss. In **Namibia**, carryover dry conditions from the previous season have decreased the water supply, reducing irrigation potential across north and central areas. In the central area, primarily irrigated maize crops have been affected by high temperatures and low irrigation dam levels. In the north, recent dry conditions have affected crops following adequate rains for much of the earlier parts of the season. In **Zambia**, while rains have been favourable across much of the North, East, Central, and Copperbelt, rains in December and January were below-average across the South, Luapula, and Lusaka provinces followed by heavy rains and reports of flash floods in the Southern province. The hardest hit areas in the south have been Gwembe and Siavonga districts where flooding destroyed crops. These areas had already been suffering from drought and high levels of food insecurity, and with the recent damage from floods, the food security situation is expected to worsen. In **Zimbabwe**, extensive drought has significantly impacted crop prospects. In the Mashonaland Provinces, some rainfall occurred in mid-January after prolonged dry spells which improved crop conditions in some areas; however, many areas experienced poor germination and high moisture stress which is likely to reduce yields. The rest of the country received little to no rainfall, resulting in continued drought conditions in most areas and was exacerbated by exceptionally warm temperatures during January. This has resulted in significantly below normal planted area, permanent and near-permanent crop losses, persistent water and pasture challenges, and livestock losses. Matebeleland South province has been the worst affected by low planted areas with reports indicating that in some parts of the province up to 70 percent of households did not plant. In Masvingo and Matebeleland North provinces, planted area has also been reduced and to a lesser extent Southern Midlands and Manicaland although across all provinces, planted area is reported to be below the five-year average and less than last year. Fall Armyworm is being reported across most of the country with African Armyworm incidences reported in parts of the Midlands Province. In **South Africa**, conditions are favourable as widespread rain occurred over most of the maize production region from November to January, improving previously dry conditions. Current estimates for area planted are above the five-year average. However, some dry conditions remain in parts of Limpopo as well as in the Eastern Cape.



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

Regional Outlook: Rainfall improvements in January while below average Feb-Mar rainfall is likely across Central and South of the region.

Mixed rainfall patterns were seen across the region in January, an important month for regional crop production. Areas with below average rainfall include southern Madagascar, southern and eastern Mozambique, and parts of Zimbabwe, Zambia, Namibia, South Africa, and Botswana. According to preliminary CHIRPS estimates (Figure 1-left) and other data, the most severe 1-month deficits were in southern Mozambique, southern Madagascar, central Namibia, and parts of central and eastern Zimbabwe and western Zambia. There is increased concern for adverse impacts to crop production in some of these areas, where overall drier than normal conditions have persisted for two to four months and are forecast to continue. Extremely warm ($>+7^{\circ}\text{C}$) early January Land Surface Temperature anomalies in Zimbabwe, southern Zambia and southern Mozambique exacerbated the adverse impacts of earlier dry and warm conditions and severe crop water stress. In these areas, the combined influence of low and poorly distributed seasonal rainfall totals, and recent low late-January rainfall have resulted in poor growing conditions.

January rainfall was highly above average in the northeast, in Tanzania, northern Mozambique, and northern Madagascar. Areas in northern and southern South Africa and in central and northern Angola also saw higher than average January rainfall totals. Late January storms are also likely to have produced January surpluses in northeast Zambia. Severe storms produced flooding in a number of areas in January. According to [Floodlist](#), some of the worst impacts were in Madagascar (Alaotra-Mangoro, Analamanga, Betsiboka, Boeny, Diana, Melaky, and Sofia) and Mozambique (Zambezia, Cabo Delgado, Sofala provinces), where in total more than 50 people were killed and 150,000 people were displaced.

The two week forecast, issued January 30th, shows a medium to high chance of below normal rainfall in central and southern Mozambique, Madagascar, southern and eastern Zimbabwe, northeastern South Africa, Botswana, and Namibia. Northern areas are forecast to receive above average rainfall, and the forecast high amounts indicate an increased risk for flooding in some areas. This forecast is consistent with ongoing conditions, and earlier seasonal forecasts, which showed a tendency for enhanced rains in the northeast and suppressed rains in the central region, particularly the central-east (see the [January 17th, 2020 report](#)). Longer range forecasts have indicated that this regional pattern is likely to persist through February and potentially into March.

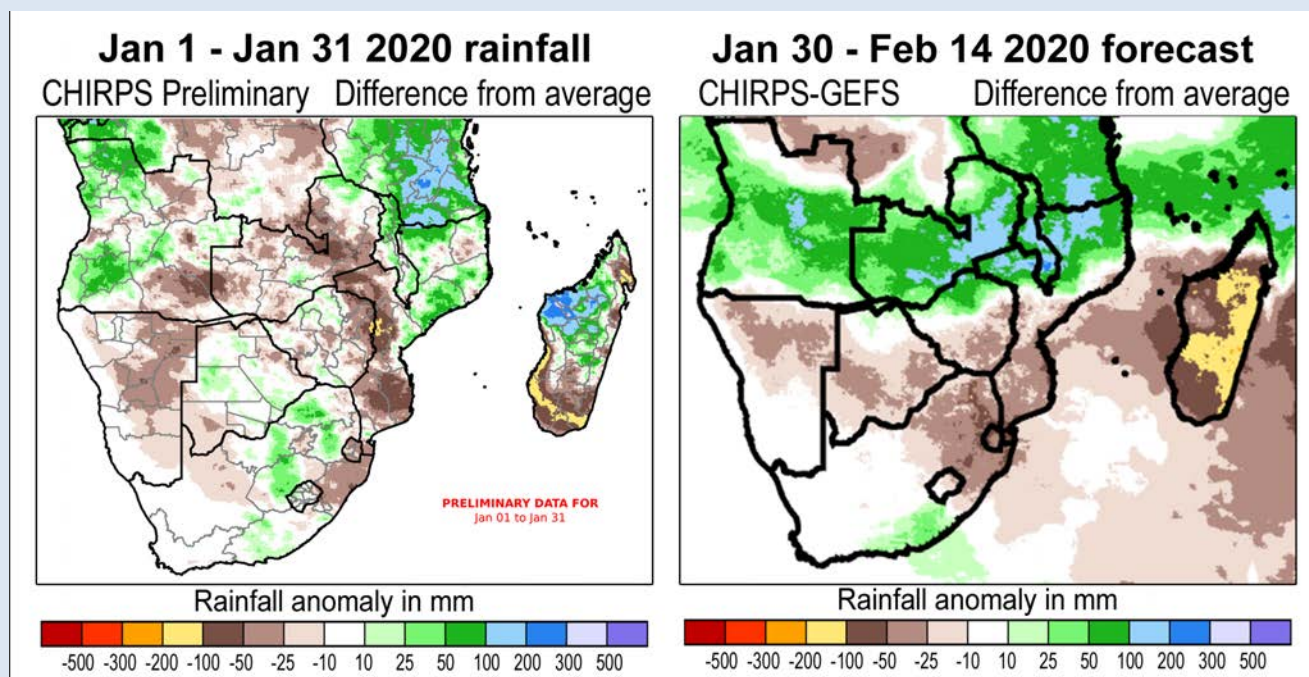
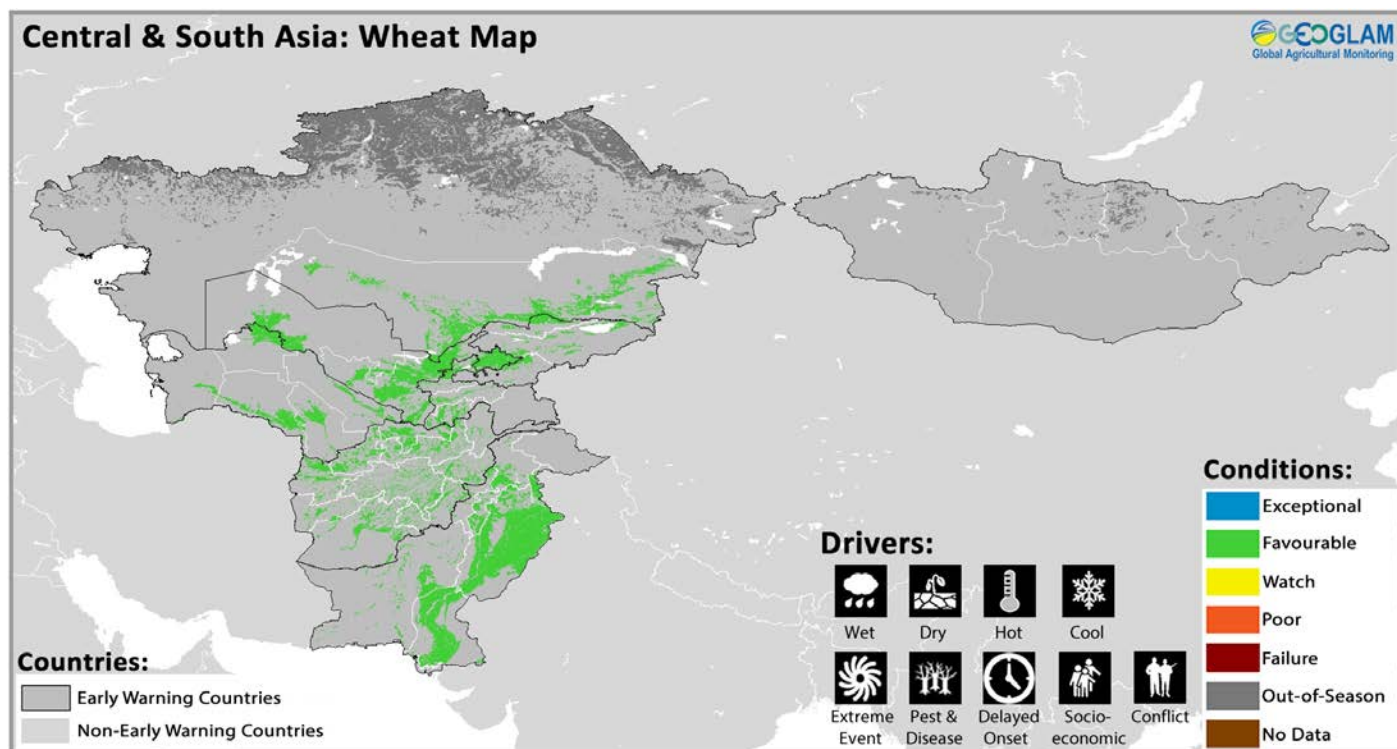


Figure 1. Preliminary estimates for January rainfall and the two-week forecast, each in terms of the difference from average. Left- CHIRPS Preliminary rainfall anomaly for Jan 1-31, 2020. Anomaly based on the CHIRPS 1981-2018 average. Right- Forecast Jan 30-Feb 14, 2020 rainfall anomaly from CHIRPS-GEFS (unbiased GEFS ensemble mean). Anomaly based on CHIRPS-GEFS hindcast 1982-2018 average.

Source: UCSB Climate Hazards Center

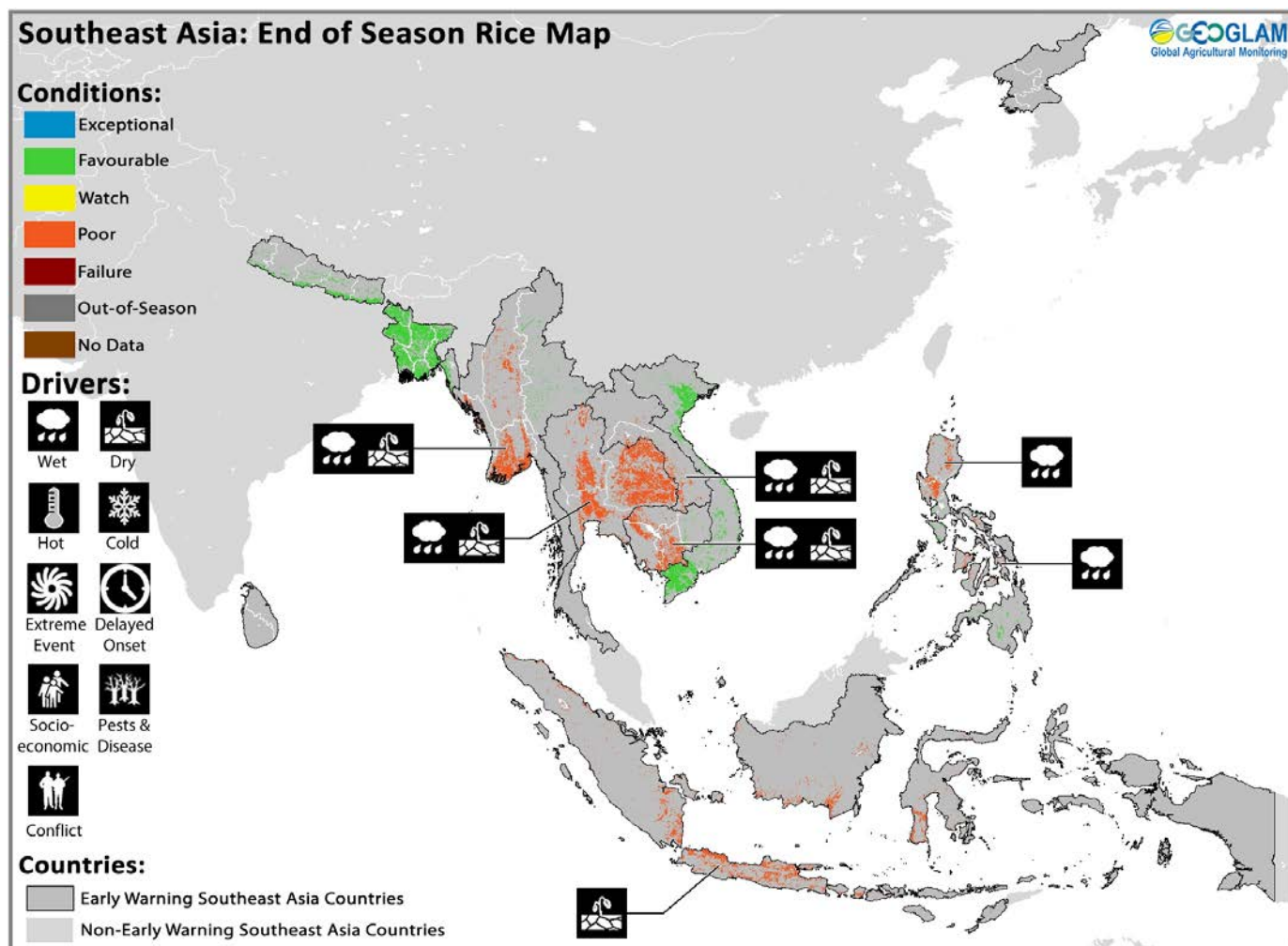
Central & South Asia



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

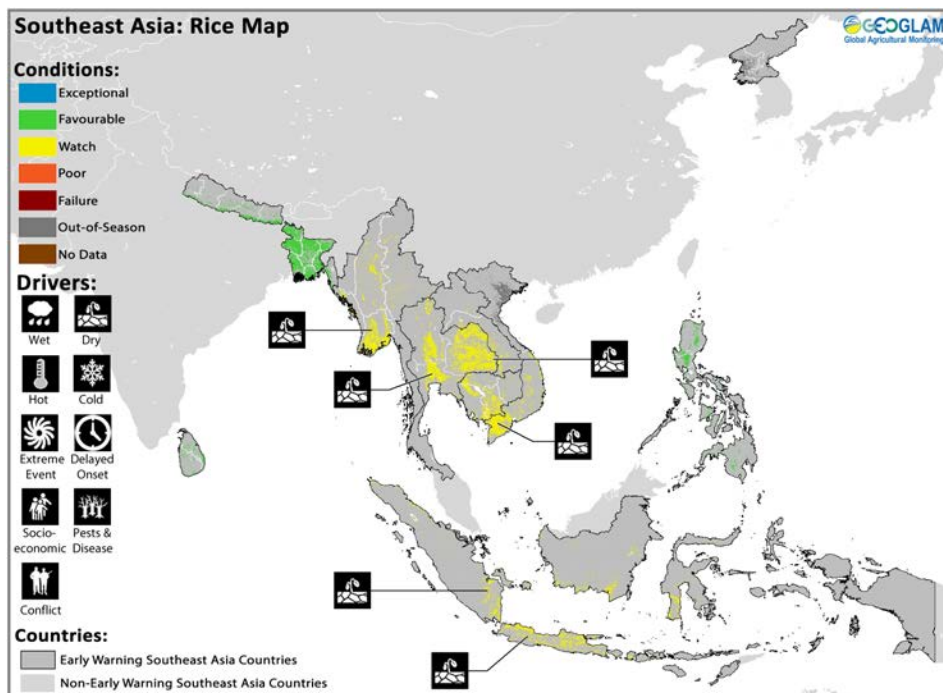
In Central Asia, planting of the 2020 winter-planted cereal crops, to be harvested from May 2020, took place between September and November 2019 under slightly drier than average conditions. Dry conditions still remain across parts of **Uzbekistan, Turkmenistan,** and west **Kazakhstan**; however, it is too early to assess the impact on winter cereals. In **Afghanistan**, irrigated winter wheat planting finished in late December and early January under average conditions. Precipitation has been well distributed across the country since October except at lower altitudes in the northern and northeastern areas bordering Tajikistan, Turkmenistan, and Uzbekistan. Consistent widespread precipitation in January has resulted in significant increases in snowpack of all basins across the country except in the north; however, heavy precipitation is forecast for mid-February and may improve snow water volumes in this area. There is a possibility of an elevated flooding risk in eastern, central, and western Afghanistan due to potential early season snowmelt resulting from above-average temperature forecasts across the region. In general, the above-average precipitation received through the end of January will provide favorable soil moisture conditions for normal growth of irrigated and rainfed crops, and pastures during the main growing season in the country. In **Pakistan**, harvest finished in December for main season rice and maize and above-average production resulted due to high planted area. Planting of the 2020 mostly irrigated *Rabi* wheat crop started in October and is progressing at a normal pace, supported by near-average rains and adequate irrigation water supplies. In **Mongolia**, while crops are now out of season, extreme winter weather (dzud) may impact livestock and early aid response has been triggered to support vulnerable herder populations.

Southeast Asia



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

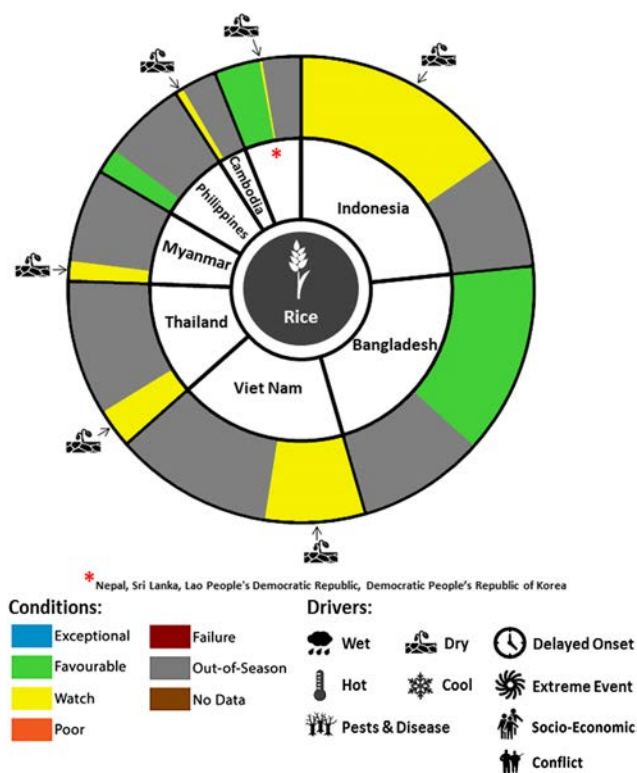
In the northern Southeast Asia, harvest of wet-season rice almost finished in December and the planting of dry-season rice has started in most countries and areas excluding north Vietnam, and crops are in seeding to early growing stages. Growing conditions are generally fair under stable weather conditions; however, planted area is estimated to be below-average due to irrigation water shortages. In **Indonesia**, harvest of dry-season rice is completed and yields were slightly above last years' yields, though with a noticeable reduction in harvested area relative to last year due to water shortages. Wet-season rice sowing is continuing for the fourth month, albeit with a reduction in total sown area due to continuing water shortages. Harvesting has begun with yields slightly lower than last year due to the drought. In the **Philippines**, yields were reduced for earlier sown wet-season rice due to the effects of moisture stress, while for later sown crops yields were favourable due to normal rainfall levels. Conditions are generally favourable for dry-season rice in the vegetative stage. However, December's Typhoon Kammuri brought some damage to central and southern parts of Luzon and parts of Visayas followed by typhoon Phanfone which, according to government reports, displaced an estimated 174,000 hectares. In **Thailand**, wet-season rice harvest finished in December and yields were mixed nationwide due to dry conditions at the beginning of the season followed by damage from heavy rainfall and flooding in August and September. There is now concern for dry-season rice crops nation-wide due to the reduction of available water for irrigation, which is also expected to decrease the total sown area compared to last year. In **Viet Nam**, harvest of summer-autumn rice (wet-season rice) is complete and final conditions were mixed as a mid-season drought in the north reduced expected yields while in the south, wet-season rice yields are expected to be slightly higher than last year. Dry-season rice (winter-spring rice) is developing in the south under watch conditions because of an expected shortage of fresh water for irrigation due to saline intrusion. Sowing has not yet begun in the north. In **Laos**, lowland wet-season rice harvest completed in December and final paddy production is estimated to reach about 3.1 million tons, or 4.3 tons per hectare. Final yields were slightly lower than last year due to drought and flood damage. In the northern upland rice region, yields were reduced due to drought and pests damage during the growing stage. Dry-season rice planting has reached 36 percent of the national plan of 90 thousand hectares and crops are in seeding to tillering stage. Water shortages are present due to little to no rainfall and low irrigation water availability. In **Myanmar**, more than 74 thousand hectares of wet-season rice were damaged by heavy rains during the season and 40 thousand hectares were replanted. The remaining damaged area will be used for growing winter crops.



Crop condition map synthesizing rice conditions as of January 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.**

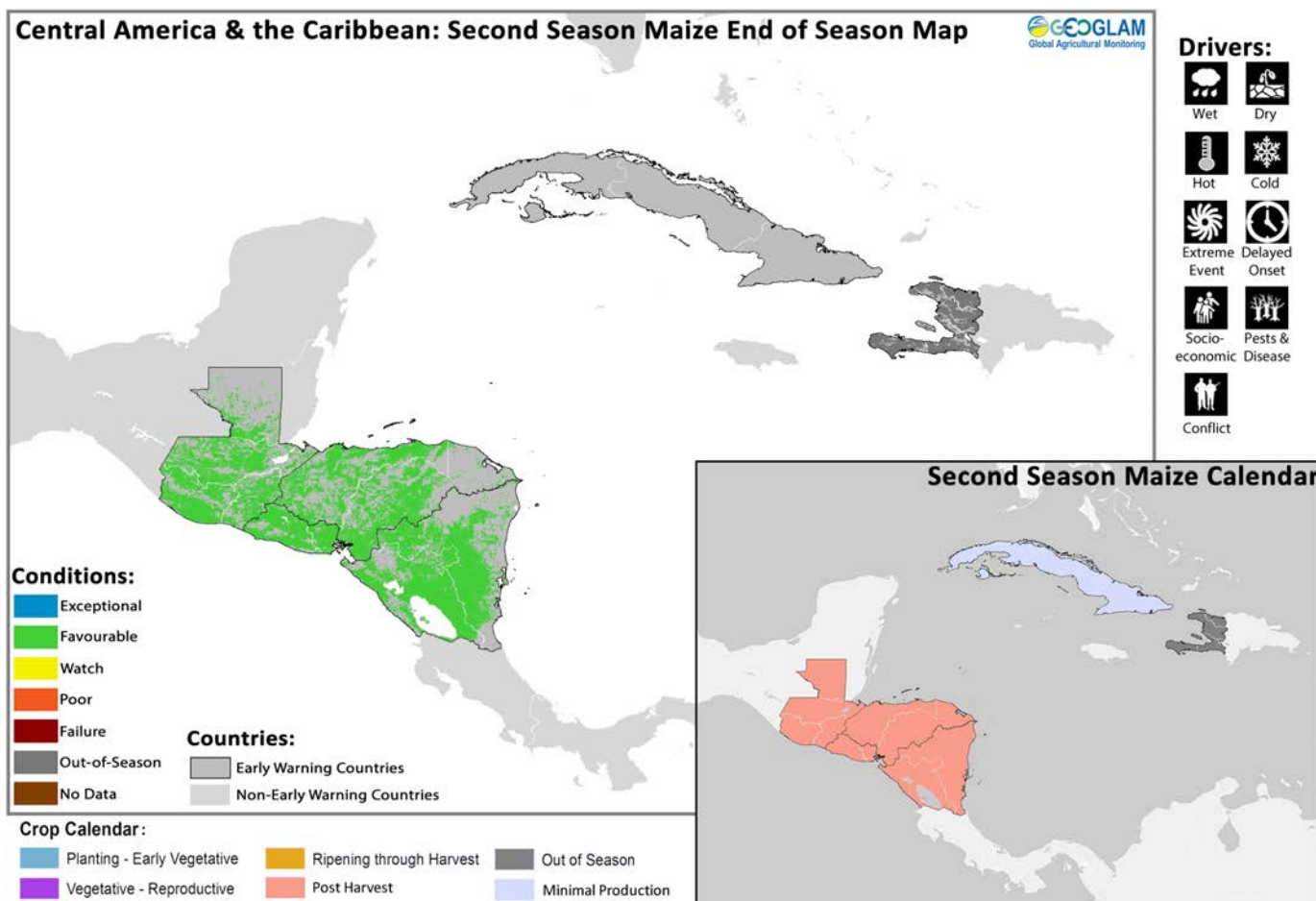
In addition, an unexpected heavy rain hit during the second week of November, providing water for the early reproductive wet-season rice crops in central Myanmar. Dry-season rice planting has reached 37% of the national plan of 1.1 million hectares and the planting progress is similar to last year. However, scarcity of water storage in dams and reservoirs is expected to reduce the area planted considerably. Depending on water availability, the area might be substituted by winter crops. Unexpected rains came in January; however, there were no adverse effects on planting work. In **Cambodia**, harvesting of wet-season rice finished in December and final yields are in line with last year at 3.6 tons per hectare. However, total production saw a 13.8 percent decrease from last year, mainly due to drought damage, as well as flood damage. Dry season rice is in tillering to maturity stage and the planted area has reached 559 thousand hectares.

Growing condition is generally favourable; however, some areas farther away from irrigation sources in the Mekong low land have been affected by drought damage due to lowered supply of irrigation water. In **Sri Lanka**, conditions are favourable for the main *Maha* rice crop with good rains through the start of the season. In **Nepal**, harvest finished in December for rice crops and production prospects are favourable. In **Bangladesh**, harvest is complete for the 2019 *Aman* crop, which accounts for 35 percent of the annual output, and production was average due to good weather conditions since the start of the season. Planting of the main *Boro* rice crop, which accounts for 55 percent of annual output, started in December and conditions are favourable at the start of the season.



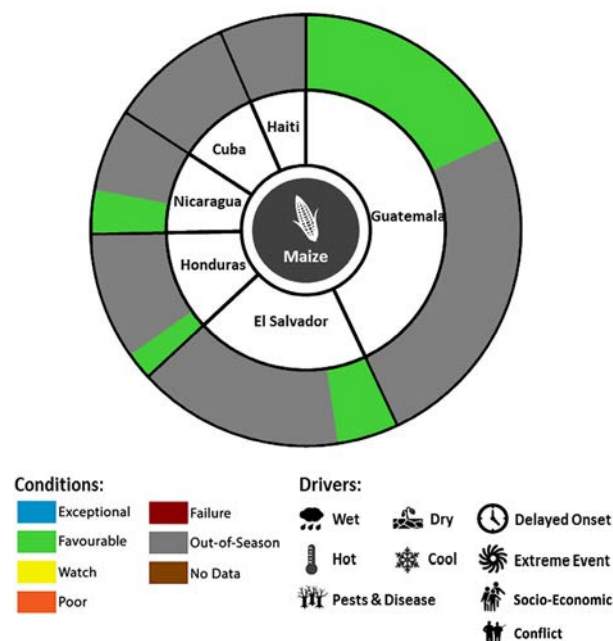
For detailed description of the pie chart please see description box on pg. 16.

Central America & Caribbean



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

In Central America and the Caribbean, harvest of the *Segunda* (Postrera) season bean and maize crops is complete and production was average due to good rains throughout the season and favourable weather. In **El Salvador**, average yields resulted for the *Segunda* maize and bean crops. In **Guatemala**, *Segunda* season yields were favourable, for the minor maize crop, which makes up 20 percent of annual production, and for the major bean crop due to average to above-average rainfall during the season. However, some small and subsistence farmers in Alta Verapaz and Izabal have been affected by floods in the second dekad of January which could result in post-harvest losses. In **Honduras**, improved rainfall since late September contributed to average output for maize and beans. In **Nicaragua**, average production resulted for *Postrera* season maize and bean crops. With good rains since December, planting of the *Apante* bean crop is started in late December and early January under favourable conditions. In **Haiti**, final yields for second season crops were favourable including in Sud department and, to a lesser extent, in the southwest despite the below-average rains and dry conditions since October. Harvesting of main season rice completed in November and yields were average throughout most of the country, including the Artibonite department where about 80 percent of national rice production is obtained. Harvest has started for bean crops and yields could be reduced in the North and the North-East because of a water deficit observed since the end of December and in Artibonite because of strong winds. In **Cuba**, harvest finished in December for the main “Winter” season crops,



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

which make up 60 percent of the total annual production, and, despite below-average precipitation in November production was average due to overall favourable weather conditions. Starting in September, fuel shortages affected some agricultural activities in the southern coastal areas however, this did not have a large impact on national production.

Pie Chart Description: Each slice represents a country's share of total regional production. The proportion within each national slice is colored according to the crop conditions within a specific growing area; grey indicates that the respective area is out of season. Sections within each slide are weighted by the sub-national production statistics (5-year average) of the respective country. The section within each national slice also accounts for multiple cropping seasons (i.e. spring and winter wheat) and are a result of combining totals from multiple seasons to represent the total yearly national production. When conditions are other than favourable icons are added that provide information on the key climatic drivers affecting conditions.

Information on crop conditions in the main production and export countries can be found in the Crop Monitor for AMIS, published February 6th 2019.



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

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.



Crop Season Nomenclature:

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

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

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

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

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

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

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

Crop Season Nomenclature:

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

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



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Cover Photo by: Catherine Nakalembe

Contributing partners



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