

# Crop Monitor for AMIS

## Overview:

As of the end of September, conditions are favourable for rice and soybeans while mixed for wheat and maize. In the northern hemisphere, spring wheat harvesting is wrapping up under favourable conditions while winter wheat sowing is beginning under mixed conditions. In the southern hemisphere, winter wheat conditions are mixed due to dry conditions. For maize, conditions are mixed in the has harvest draws near a close in the northern hemisphere. In the southern hemisphere, sowing has begun in Argentina. Rice conditions are favourable in all major growing areas. Soybean conditions are generally favourable except for some areas in Canada and Ukraine.

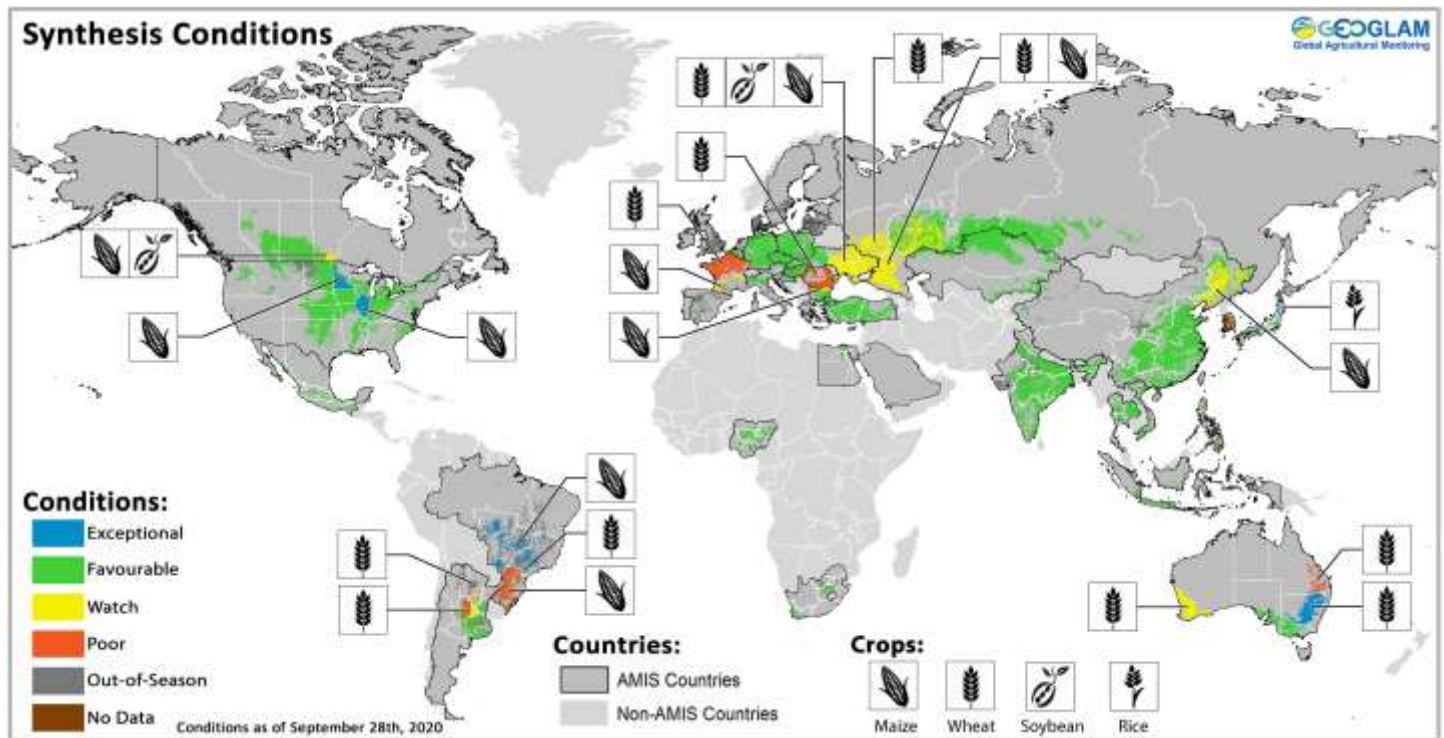


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*Assessment based on information as of September 28<sup>th</sup>*

## At a glance for AMIS countries (as of September 28th)



Crop condition map synthesizing information for all four AMIS crops as of September 28th. Crop conditions over the main growing areas for wheat, maize, rice, and soybean are based on a combination of national and regional crop analyst inputs along with earth observation data. **Crops that are in other than favourable conditions are displayed on the map with their crop symbol.**

### Crop Conditions at a Glance

**Wheat** - In the northern hemisphere, spring wheat continues to be harvested under favourable conditions. Sowing of winter wheat is underway with some issues in the EU, Ukraine, and the Russian Federation due to drought. In the southern hemisphere, dryness and frosts are affecting Argentina, while Australia is having a predominantly good season besides Queensland.

**Maize** - In the southern hemisphere, Brazil is wrapping up the harvest of the summer-planted crop (larger season) while Argentina is sowing the spring-planted crop. In the northern hemisphere, harvesting is underway with some

mixed conditions in parts of the EU, Ukraine, the Russian Federation, and China.

**Rice** - In China, both single-season and late-season rice are being harvested. In India, harvest is beginning for Kharif rice in the northern states. In Southeast Asia, conditions are favourable for both wet-season rice in the northern countries and dry-season rice in Indonesia.

**Soybeans** - In the northern hemisphere, harvesting is beginning under generally favourable conditions with some small areas of concern in Ukraine and Canada.

### Forecasts at a Glance

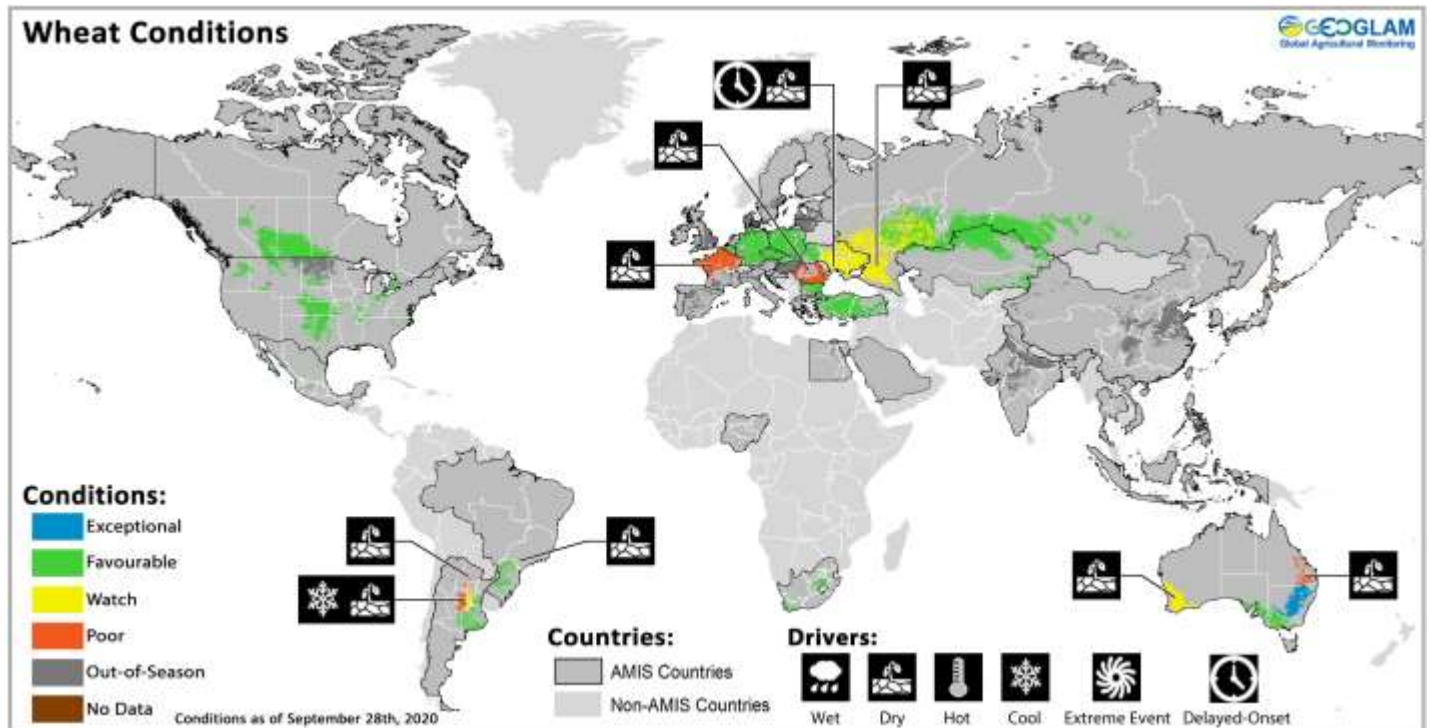
**Climate Influences** - El Niño-Southern Oscillation (ENSO) is currently in the La Niña phase. La Niña conditions are expected to continue from October to February (~85% chance).

**The United States** - For October, warmer and drier than average conditions are likely across most of the contiguous US with the exception of a likely increase in rainfall in the Pacific Northwest and Florida.

**Argentina** - The three-month forecast indicates an increased likelihood of below-average rainfall and above-average temperatures across most of the country with the exception of the north and northwest regions.

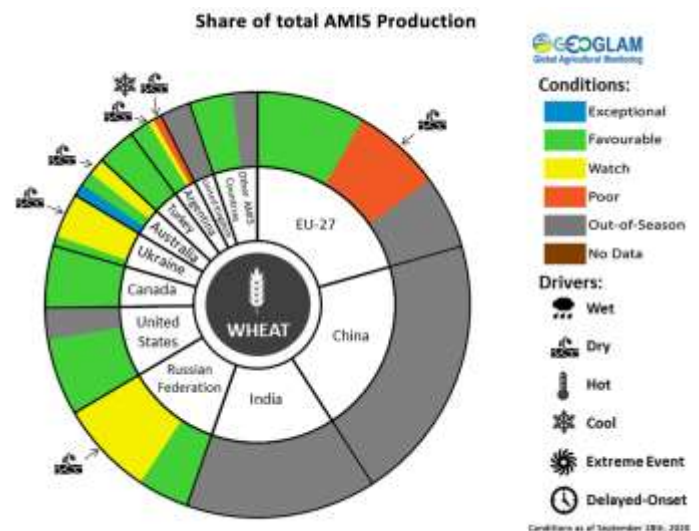
**Southeast Asia** - The three-month forecast indicates an increased likelihood of above-average rainfall in Thailand, Laos, Vietnam, the Philippines, and Indonesia.

## Wheat Conditions for AMIS Countries



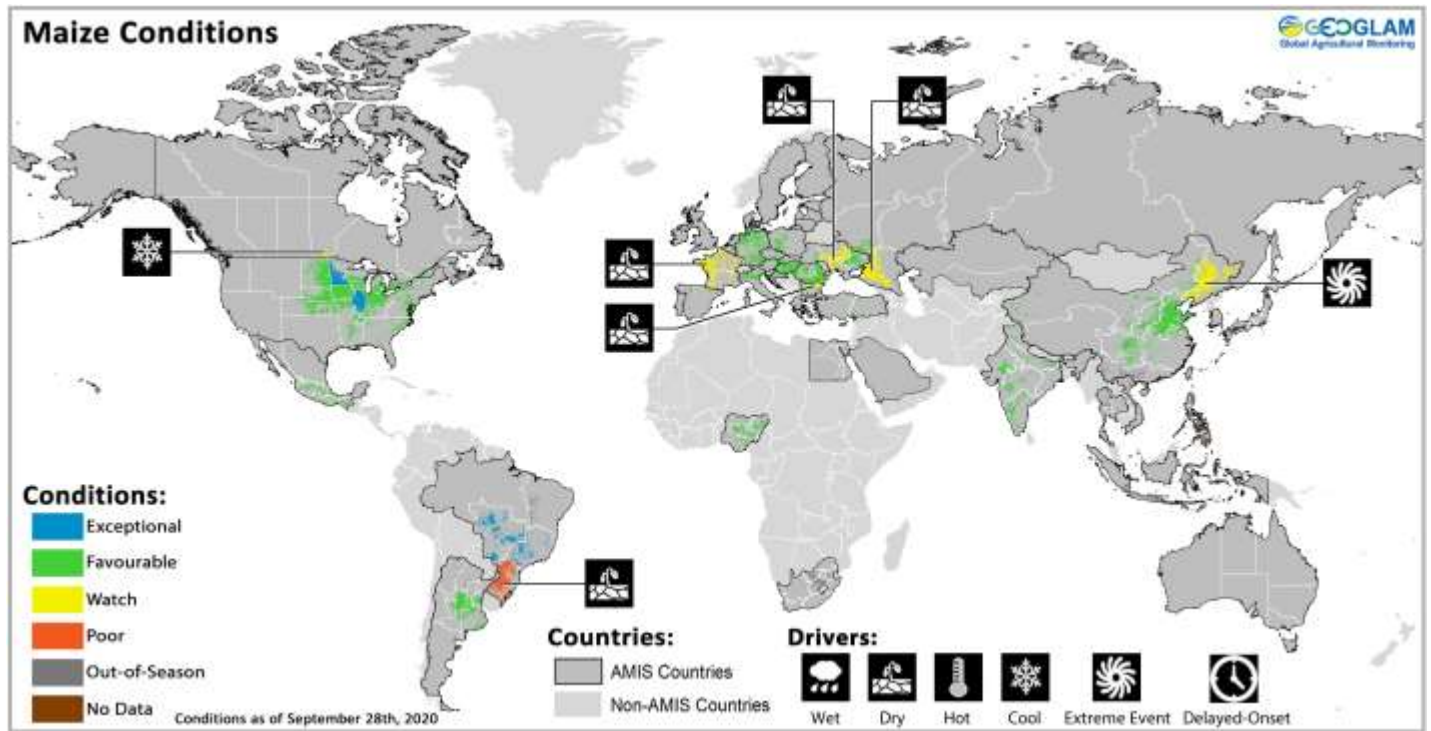
Wheat crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of September 28<sup>th</sup>. Where crops are in other than favourable conditions the climatic drivers responsible for those conditions are displayed. Crop Season Specific Maps can be found in Appendix 2.

**Wheat:** In the **EU**, winter wheat sowing has begun under generally favourable conditions except for France and Romania where dryness from the summer persists. In **Ukraine**, sowing of winter wheat is beginning under mixed conditions due to drought across much of the country, which is delaying sowing for much of the crop. In the **Russian Federation**, spring wheat harvesting is wrapping up under favourable conditions. Winter wheat sowing is progressing under dry conditions, particularly in the south, which is hampering emergence and more rainfall is needed before winter dormancy. In the **US**, sowing of winter wheat is ongoing under favourable conditions. In **Canada**, spring wheat harvest is progressing is under favourable conditions with slightly above average yields expected. In **Argentina**, conditions are mixed with recent rainfall in the south improving conditions. However, in the north and west regions, crop conditions are poor and mostly irreversible due to prolonged dryness throughout the season. In **Australia**, conditions are generally favourable except for Queensland which experienced persistent dryness and Western Australia following a dry September. By contrast, New South Wales is showing exceptional conditions with an expansion of sown area.



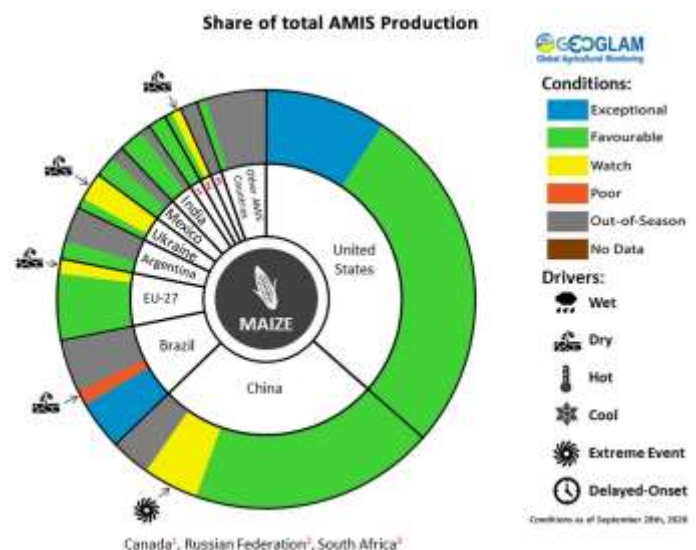
For detailed description of the pie chart please see box on page 6.

## Maize Conditions for AMIS Countries



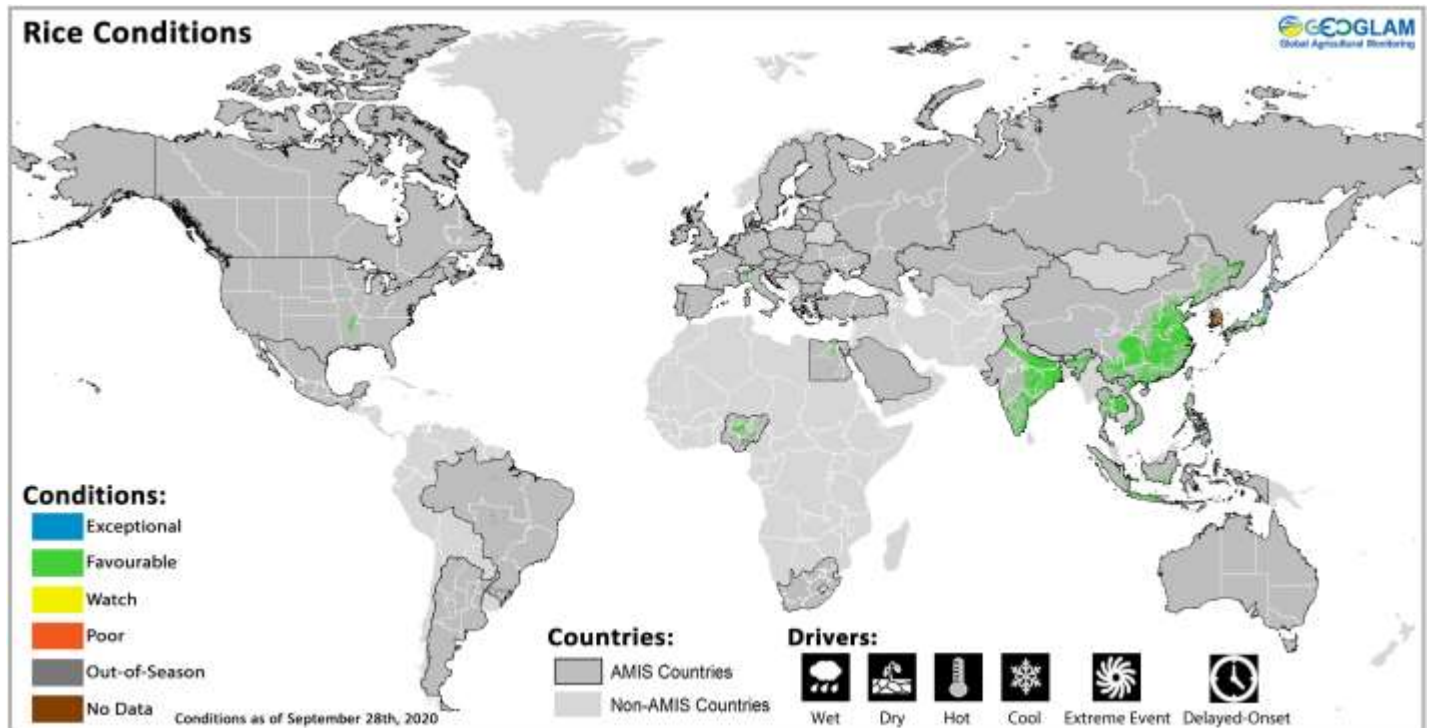
Maize crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of September 28<sup>th</sup>. Where crops are in other than favourable conditions the climatic drivers responsible for those conditions are displayed. Crop Season Specific Maps can be found in Appendix 2.

**Maize:** In **Brazil**, harvest of the summer-planted crop is wrapping up under exceptional conditions in the Central-West and Southeast regions while under poor conditions in the South region due to prolonged drought. In the **US**, harvesting is beginning under favourable to exceptional conditions with the highest yields in Minnesota and Illinois. In **Canada**, conditions are favourable across much of the country as harvest begins, however, recent frosts in southwestern Manitoba may impact yields and crop quality. In **Mexico**, sowing is wrapping up for the spring-summer crop under favourable conditions. In the **EU**, conditions are generally favourable, except for France, Bulgaria, and Lithuania where prolonged dryness has reduced expected yields. In **Ukraine**, harvesting is beginning under mixed conditions due to the severe summer drought in the central and southern regions. In the **Russian Federation**, harvesting is ongoing under mixed conditions due to dryness in the south during the flowering and early grain filling stages. In **China**, conditions are generally favourable for harvesting of spring and summer planted crops with some possible concerns in the Northeast region due to storm damage. In **India**, harvesting of Kharif maize has begun under favourable conditions with an increase in sown area compared to average and last year's levels. In **Argentina**, sowing is beginning for the spring-planted crop under favourable conditions with recent rains raising the pace.



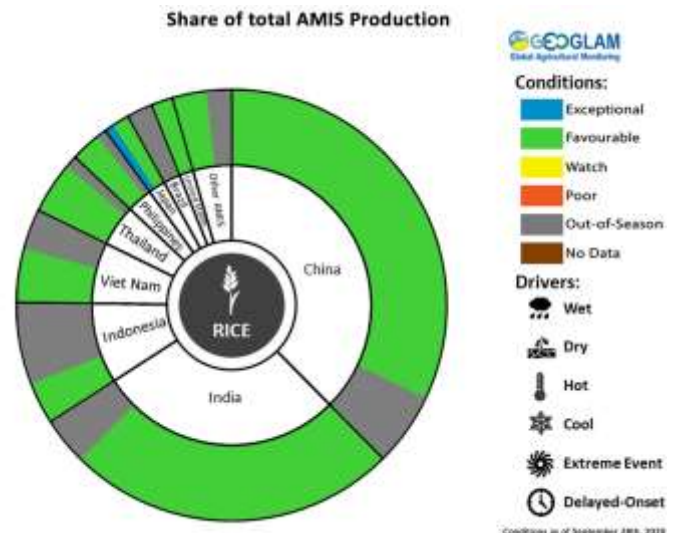
For detailed description of the pie chart please see box on page 6.

## Rice Conditions for AMIS Countries



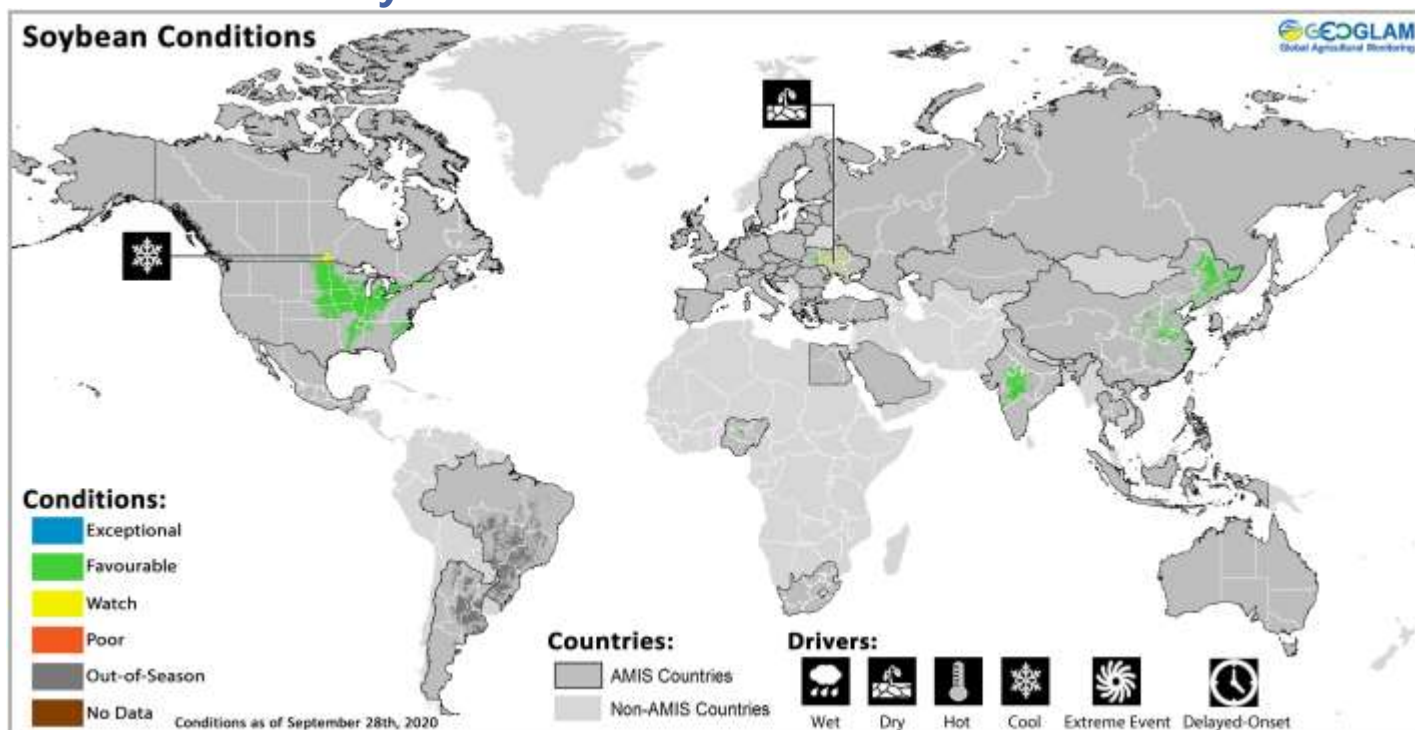
Rice crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of September 28<sup>th</sup>. Where crops are in other than favourable conditions the climatic drivers responsible for those conditions are displayed.

**Rice:** In **China**, conditions are favourable as harvesting of single-season rice continues and harvesting of late-season rice begins. In **India**, conditions are favourable for Kharif rice beginning to be harvested in the northern states. Sown area is above the average and last year's levels. In **Indonesia**, sowing of dry-season rice continues past the normal window due to below normal rainfall earlier in the season. However, with the recent recovery of irrigation waters, conditions are now favourable as the harvesting of earlier sown crops continues. In **Viet Nam**, conditions are favourable in the south for the harvest of summer-autumn (wet-season) rice and the continued development autumn-winter (wet-season) crop. In the north, summer-autumn (wet-season) rice is under favourable conditions with ample rainfall. In **Thailand**, conditions are favourable for wet-season rice in the vegetative to reproductive stage with abundant rainfall supporting growth. In the **Philippines**, wet-season rice is under favourable conditions with crops sown from July-August in the tillering stage. In **Japan**, conditions are generally favourable across most of the country with exceptional conditions in the north. In the **US**, harvesting is continuing under favourable conditions.



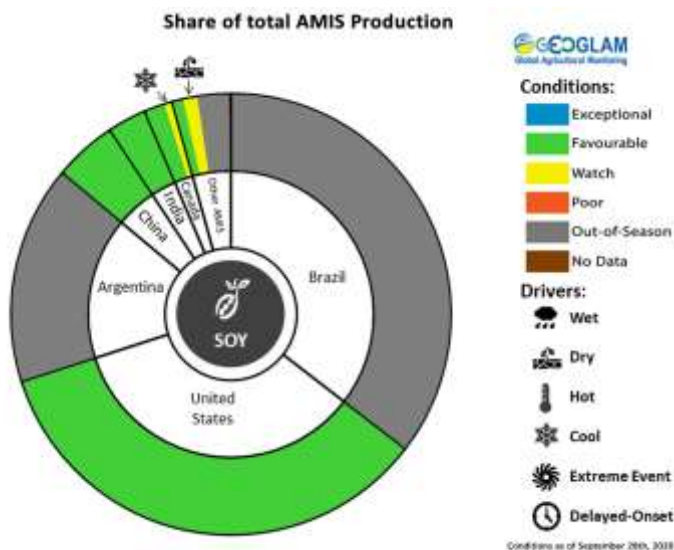
For detailed description of the pie chart please see box on page 6.

## Soybean Conditions for AMIS Countries



Soybean crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of September 28<sup>th</sup>. Where crops are in other than favourable conditions the climatic drivers responsible for those conditions are displayed. Crop Season Specific Maps can be found in Appendix 2.

**Soybeans:** In the **US**, conditions are favourable to exceptional as harvesting is well underway with record yields expected across much of the country. In **Canada**, harvest is beginning under generally favourable conditions, however, yields and crop quality may be impacted by recent frosts in Manitoba. In **China**, conditions are favourable as harvesting continues. In **India**, harvesting has begun under favourable conditions. Sown area is higher this year than the average and last year's levels. In **Ukraine**, harvest is ongoing under mixed conditions due to the severe summer drought, particularly in the southern and central regions.



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

**Information on crop conditions in non-AMIS countries can be found in the [GEOGLAM Crop Monitor for Early Warning](#), published October 8<sup>th</sup>**

**Pie chart description:** Each slice represents a country's share of total AMIS production (5-year average). Main producing countries (representing 95 percent of production) are shown individually, with the remaining 5 percent grouped into the "Other AMIS Countries" category. The proportion within each national slice is coloured 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.

## Climate Forecasts for AMIS Countries

### Climate Influences: La Niña Advisory

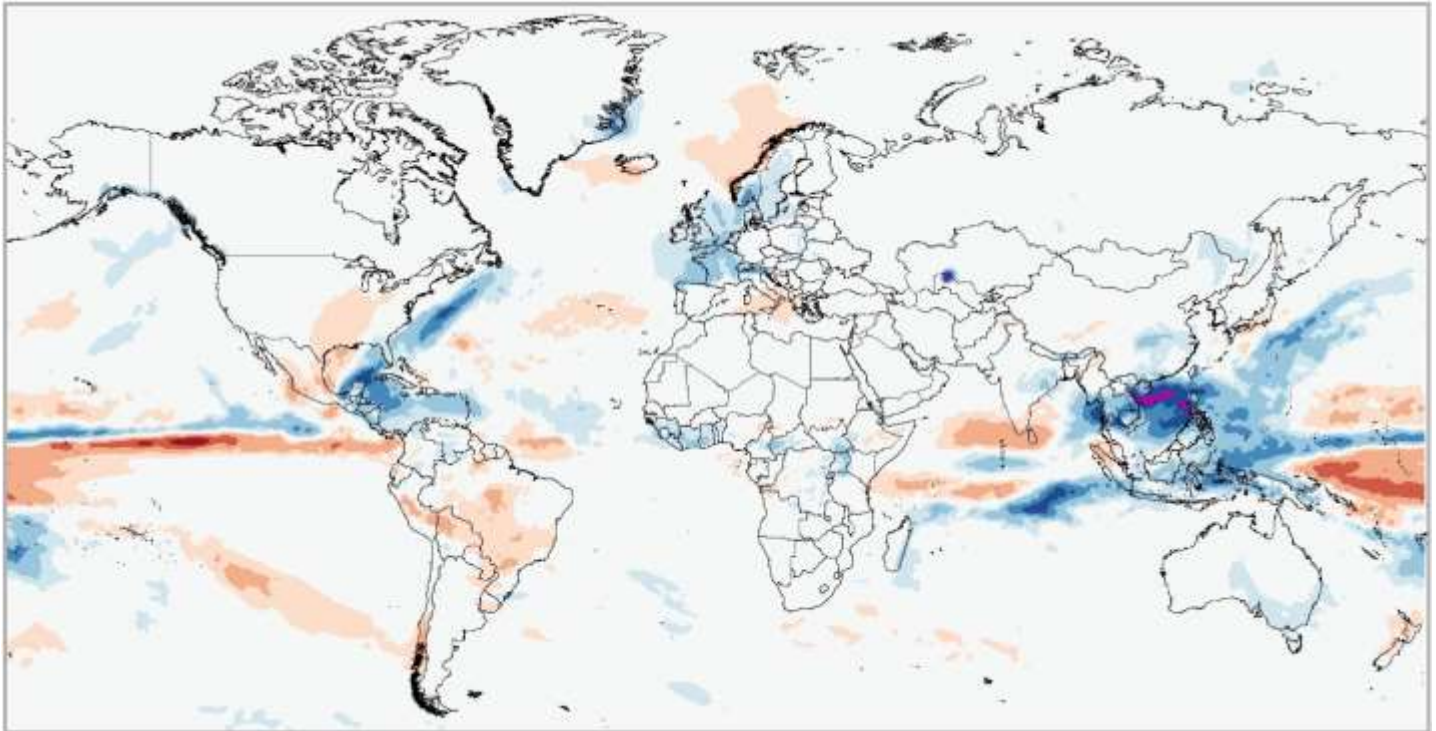
The El Niño-Southern Oscillation (ENSO) is currently in the La Niña phase. La Niña conditions are expected to continue from October to February (~85% chance) and potentially through February to April (~60% chance).

La Niña conditions typically reduce October to February/May rainfall in East Africa, the southern United States, the northern Middle East, and southern Central Asia. Southern Brazil, northern Argentina, eastern China, the Korean Peninsula, and southern Japan typically see reduced rainfall into January. La Niña conditions typically increase October to February/May rainfall in Southeast Asia, Southern Africa, southern Central America, northern South America, and in southernmost India and Sri Lanka. Australia and Indonesia typically see increased rainfall into December.

Additionally, a negative Indian Ocean Dipole may be at the beginning stage. A negative Indian Ocean Dipole typically reduces rainfall in East Africa and increases rainfall in parts of southern and central Australia.

Source: UCSB Climate Hazards Center

### Global 30-day Subseasonal (SubX) Rainfall Forecast Anomaly



Multimodel mean subseasonal forecast of global rainfall anomaly for the 30-days starting from October 1<sup>st</sup> showing areas of above or below-average rainfall. The image shows the average of four Subseasonal Experiment ([SubX](#)) model forecasts from that day. The anomaly is based on the 1999 to 2016 model average. Skill assessments of SubX can be accessed [here](#). Source: UCSB Climate Hazards Center

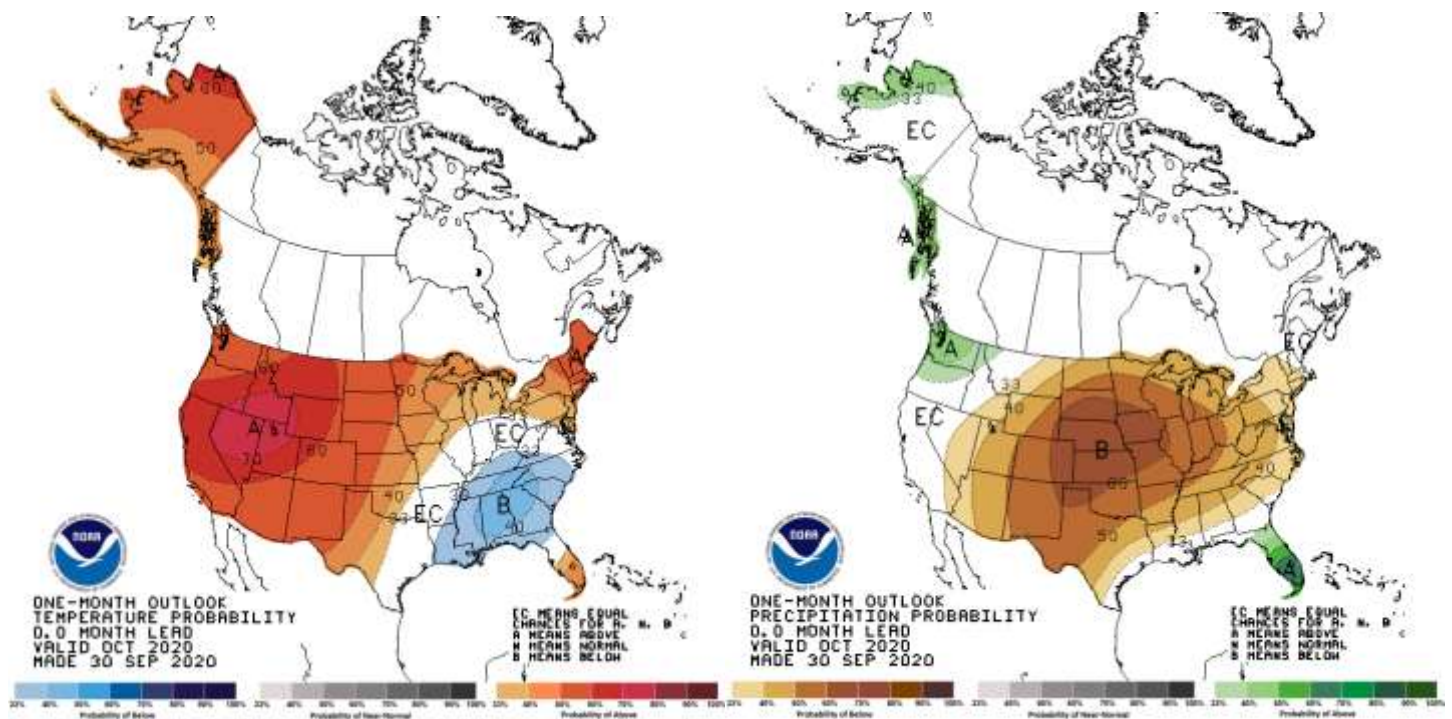
The 30-day SubX forecast indicates a likelihood of above-average rainfall over Central America, the United Kingdom, Ireland, France, Belgium, Netherlands, Switzerland, northern Italy, southern Norway, Sweden, Slovakia, southern West Africa, southeast Cameroon, western Central African Republic, South Sudan, Uganda, western Ethiopia, the eastern Democratic Republic of the Congo, central-east India, southern Myanmar, Thailand, Laos, Cambodia, Vietnam, Central and southern China, the Philippines, Indonesia, and southeast Australia. There is also a likelihood of below-average rainfall across central United States, Mexico, central Peru, Bolivia, Paraguay, central Brazil, southern Uruguay, southern Chile, Southern Italy, Sri Lanka, northern Sumatra in Indonesia, and southern Japan.

## United States Climate Outlook

In October 2020, the temperature outlook is for likely above-average temperatures across the western and central United States, New England region, and Florida. There is a chance of below-average temperatures in the lower Ohio Valley, Tennessee Valley, and parts of the Southeast and Gulf Coast. The precipitation outlook for October shows high potential for above-average precipitation in the Pacific Northwest and southern Florida. Below-average precipitation is most likely across most of the interior US from the southern plains and southern Rockies to the Great Lakes and central East Coast.

**Hurricane Delta:** Based upon the currently predicted path of Hurricane Delta, it is expected to bring heavy rainfall to the Louisiana coast and the lower Mississippi Valley on Friday October 9<sup>th</sup>. The heavy rainfall will then move north into the Tennessee Valley and parts of the interior southeast.

### October 2020 Temperature and Precipitation Outlooks



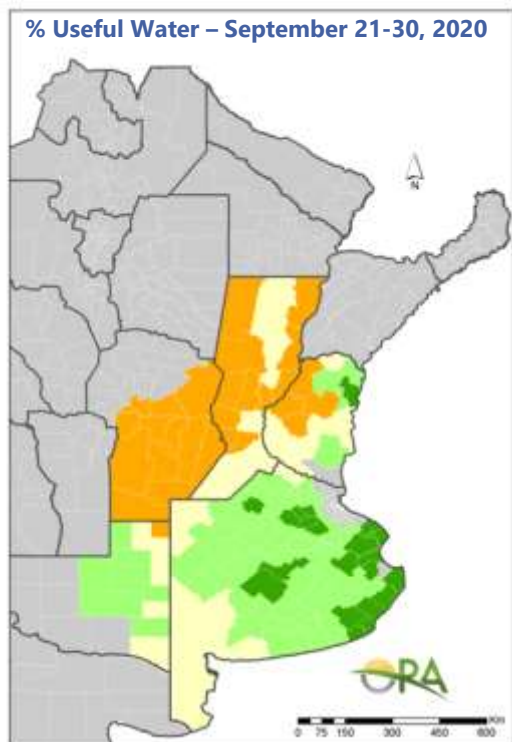
*The official 30-day forecast as of 30 September 2020 from NOAA/National Weather Service, National Centers for Environmental Predictions, Climate Prediction Center.*

For the longer October-November-December (OND) 2020 period, temperatures are likely to be above-average across the majority of the Contiguous United States (CONUS) with the highest likelihood in the southwest. Below-average precipitation is likely from southern California across the southern CONUS all the way to the Southeast with the strongest possibility focused on Texas and New Mexico. However, above-average precipitation is likely from the Pacific Northwest across to eastern Montana.

Source: NOAA Climate Prediction Center



## Argentina Current Water Reserves and Forecasts for Wheat and Maize

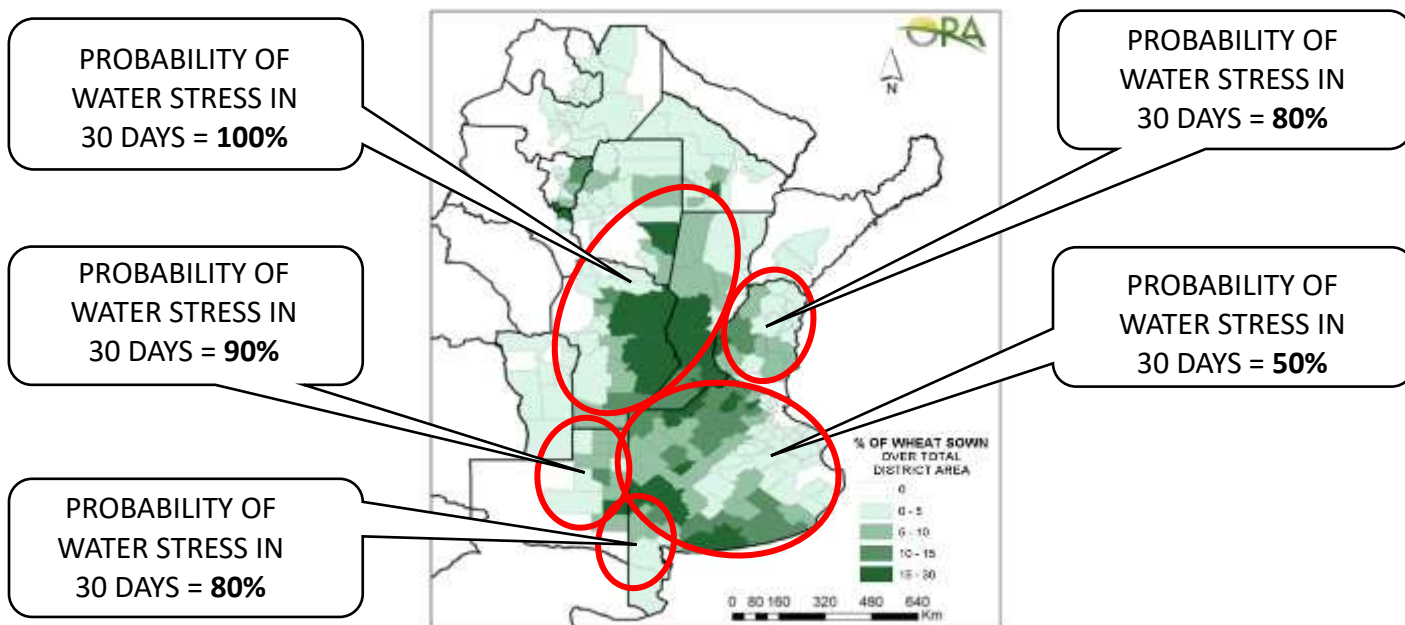


At the national scale, wheat sown area reached 6,7 million hectares, 3% lower than the previous year. In the province of Buenos Aires, the crops are mostly on vegetative stages and evolve under favourable conditions. Many plots in provinces of Córdoba and Santa Fe are starting reproductive stages with different levels of damage due to prolonged dry conditions.

For maize, almost 10% of the intended area is already sown. The most advanced provinces are Entre Ríos (54%) and Santa Fe (39%).

Source: Office of Agricultural Risk. <http://www.ora.gob.ar/descargas.php>

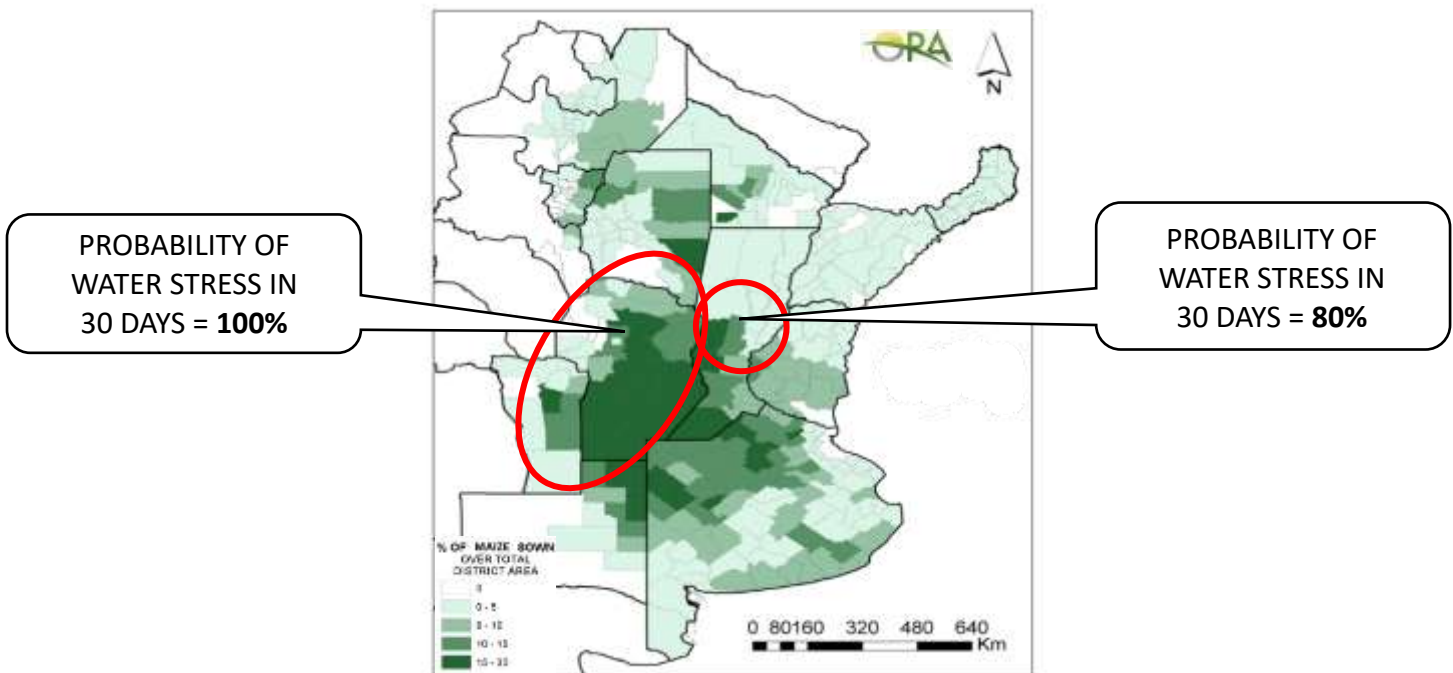
### 30-day Wheat Water Stress Probability Scenarios



The scenarios were developed based on the weather forecast of the SMN <https://www.smn.gob.ar/pronostico-trimestral>

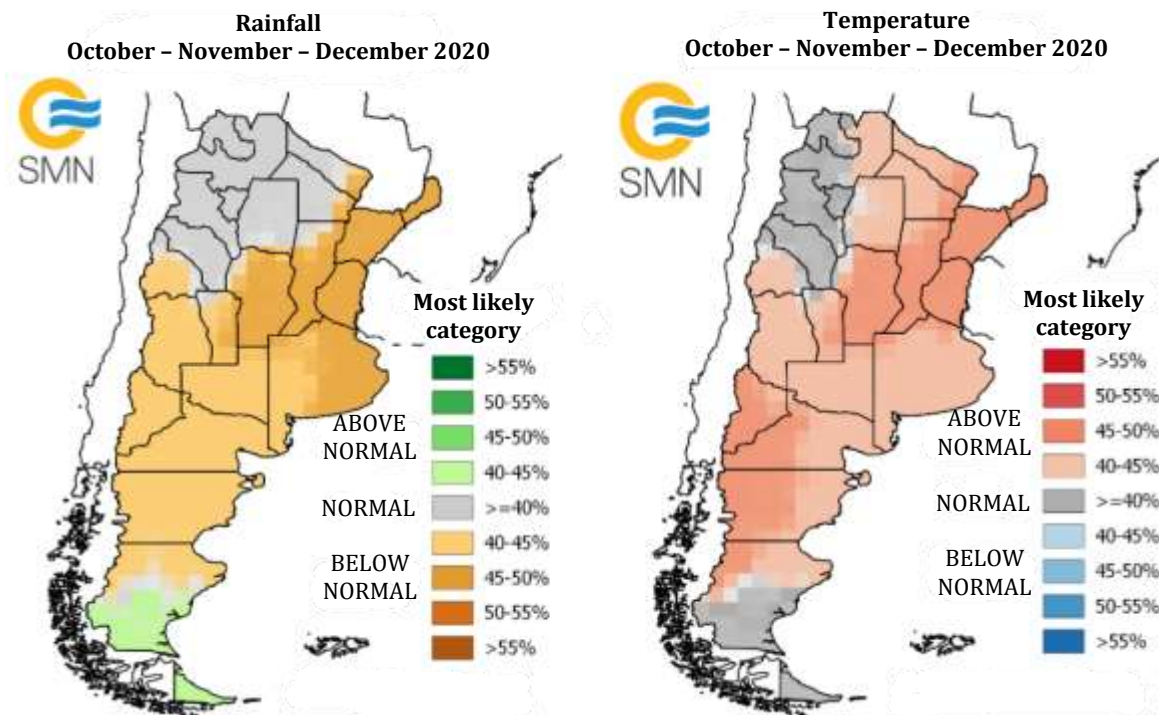
\* Assessment based on information as of September 28<sup>th</sup>

### 30-day Maize Water Stress Probability Scenarios



The scenarios were developed based on the weather forecast of the SMN <https://www.smn.gob.ar/pronostico-trimestral>

### Three Month Forecast



<https://www.smn.gob.ar/pronostico-trimestral>

Over the next three months, normal to below-normal precipitation is likely over La Pampa, Cuyo, and western Buenos Aires. Below normal precipitation is likely over Santa Fe, Córdoba, the Litoral region, and eastern Buenos Aires. Normal to above-normal temperatures are likely in the north, Buenos Aires and La Pampa. Above normal temperatures are likely over Córdoba, Santa Fe, and the Litoral region.

\* Assessment based on information as of September 28<sup>th</sup>

## Southeast Asia Current Seasonal Conditions plus 3-month Forecast

Rainfall from late-August to late-September was average to slightly below-average across much of the northern parts of the region, with rainfall totals ranging from 40-80% of average in western Myanmar, north-central Thailand, central Laos, Vietnam, and the Philippines. In contrast, rainfall was average to above-average in the southern half of the region, including rainfall totals exceeding 200% of average in southern Thailand, Malaysia, and Indonesia (Figure 1-left). This spatial pattern of slightly below-average rainfall in the north and above-average rainfall in the south is consistent with the seasonal rainfall anomaly since April 1st (Figure 1-middle). However, given the sufficient rainfall experienced in this region over the course of a growing season, these slight deficits in the north are unlikely to have adverse effects on production in the area, which is about halfway through its primary rice season.

The 3-month forecast indicates an increased likelihood of above-normal rainfall in Thailand, Laos, Vietnam, the Philippines, and Indonesia, providing favourable growing conditions throughout the region (Figure 1-right).

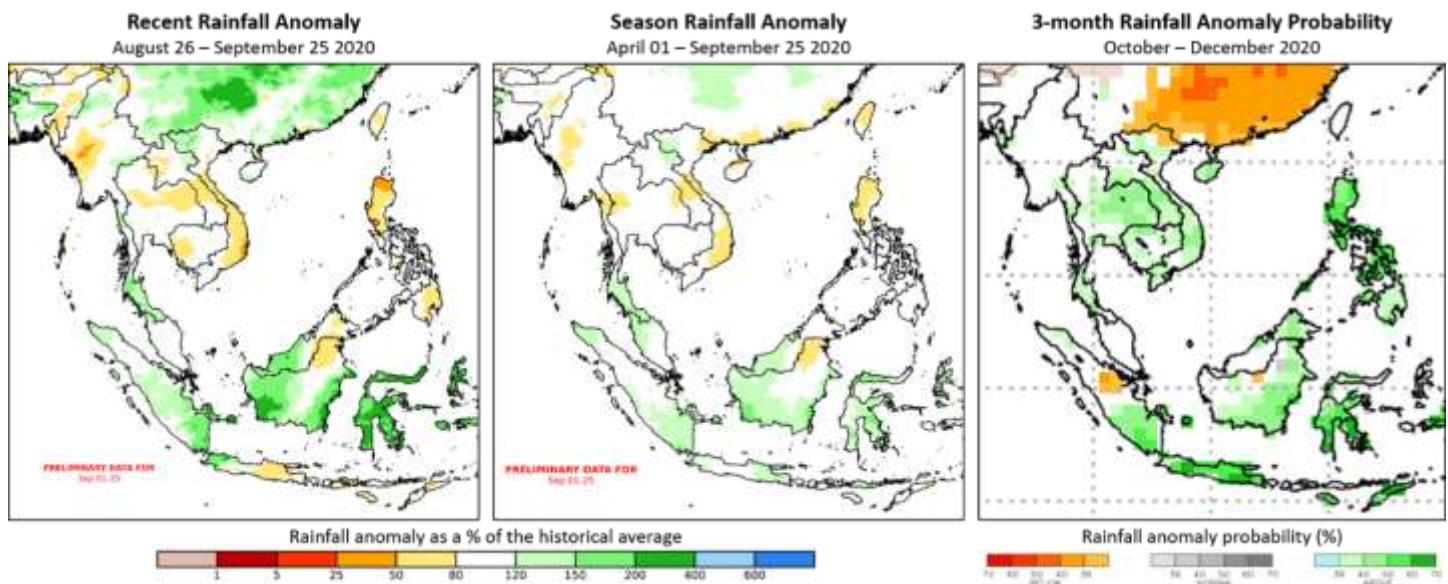


Figure 1. Estimated percent-of-average anomaly for August 26th to September 25th, estimated percent-of-average anomaly since April 1st, and a 3-month probability forecast. The left and middle panels are UCSB Climate Hazards Center Early Estimates. They compare 2020 rainfall amounts to the 1981-2019 CHIRPS average. On the right is the 3-month NMME experimental probabilistic forecast for October to December, 2020, based on September conditions. The forecast probability is calculated as the percentage of all 79 NMME ensemble members that fall in a given tercile (above/below/near normal).

Source: UCSB Climate Hazards Center

## Appendix 1: Terminology & Definitions

### Crop Conditions:

**Exceptional:** Conditions are much better than average\* at the 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 more than 5% below average. This is only used when conditions are not likely to be able to recover, and impact on production is likely.

**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.

### Conditions:



### 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:** Wetter than average (includes water logging and floods).

**Dry:** Drier than average.

**Hot:** Hotter than average.

**Cool:** Cooler than average or risk of frost damage.

**Extreme Events:** Catch-all for all other climate risks (i.e. hurricane, typhoon, frost, hail, winter kill, wind damage, etc.). When this category is used the analyst will also specify the type of extreme event in the text.

**Delayed-Onset:** Late start of the season



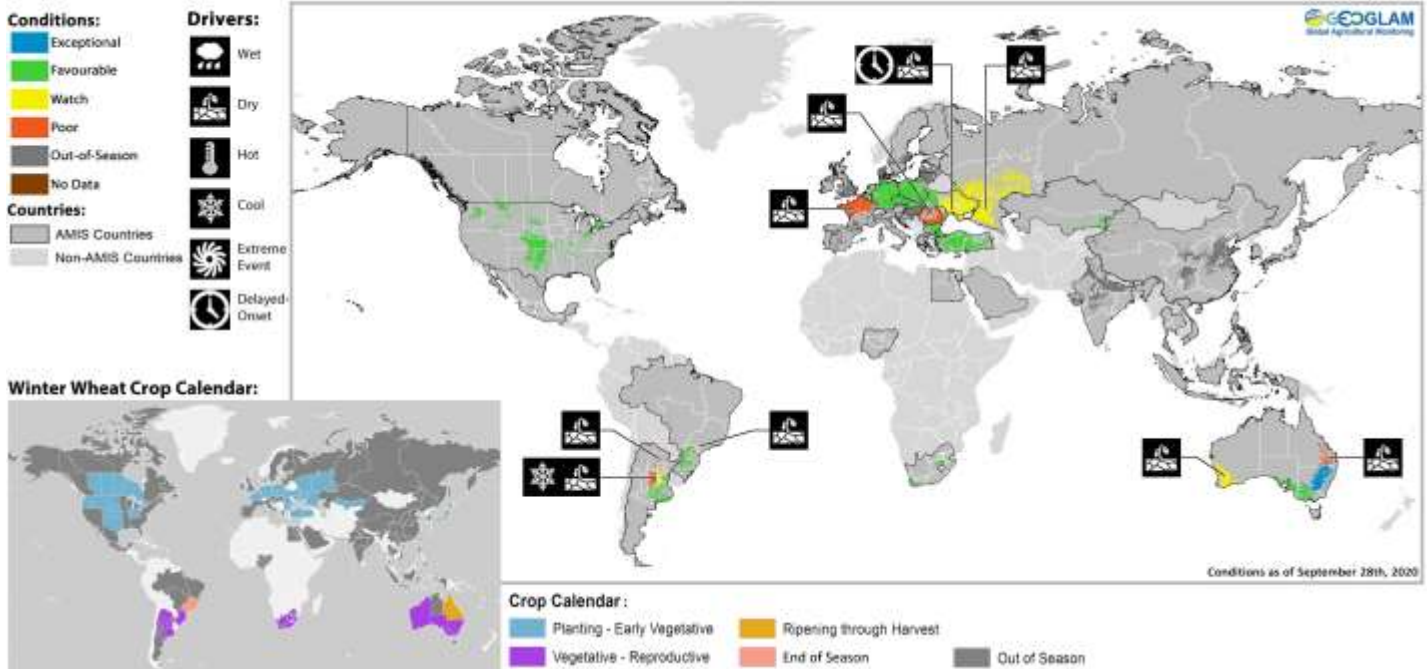
### Crop Season Nomenclature:

In countries that contain multiple cropping seasons for the same crop, the following chart identifies the national season name associated with each crop season within the Crop Monitor. Within the Crop Monitor for AMIS countries, the larger producing season (most recent 5 years) has been assigned to the first season.

Crop Season Nomenclature				
Country	Crop	Season 1 Name	Season 2 Name	Season 3 Name
Argentina	Soybean	Spring-planted	Summer-planted	
Brazil	Maize	Summer-planted (larger producing season)	Spring-planted (smaller producing season)	
Canada	Wheat	Winter-planted	Spring-planted	
China	Maize	Spring-planted	Summer-planted	
China	Rice	Single-season	Late-season	Early-season
China	Wheat	Winter-planted	Spring-planted	
Egypt	Rice	Summer-planted	Nili season (Nile Flood)	
India	Maize	Kharif	Rabi	
India	Rice	Kharif	Rabi	
Indonesia	Rice	Wet-season	Dry-season	
Mexico	Maize	Spring-planted	Autumn-planted	
Nigeria	Maize	Main-season	Short-season	
Nigeria	Rice	Main-season	Off-season	
Philippines	Rice	Wet-season	Dry-season	
Russian Federation	Wheat	Winter-planted	Spring-planted	
Thailand	Rice	Wet-season	Dry-season	
United States	Wheat	Winter-planted	Spring-planted	
Viet Nam	Rice	Wet-season	Dry-season	

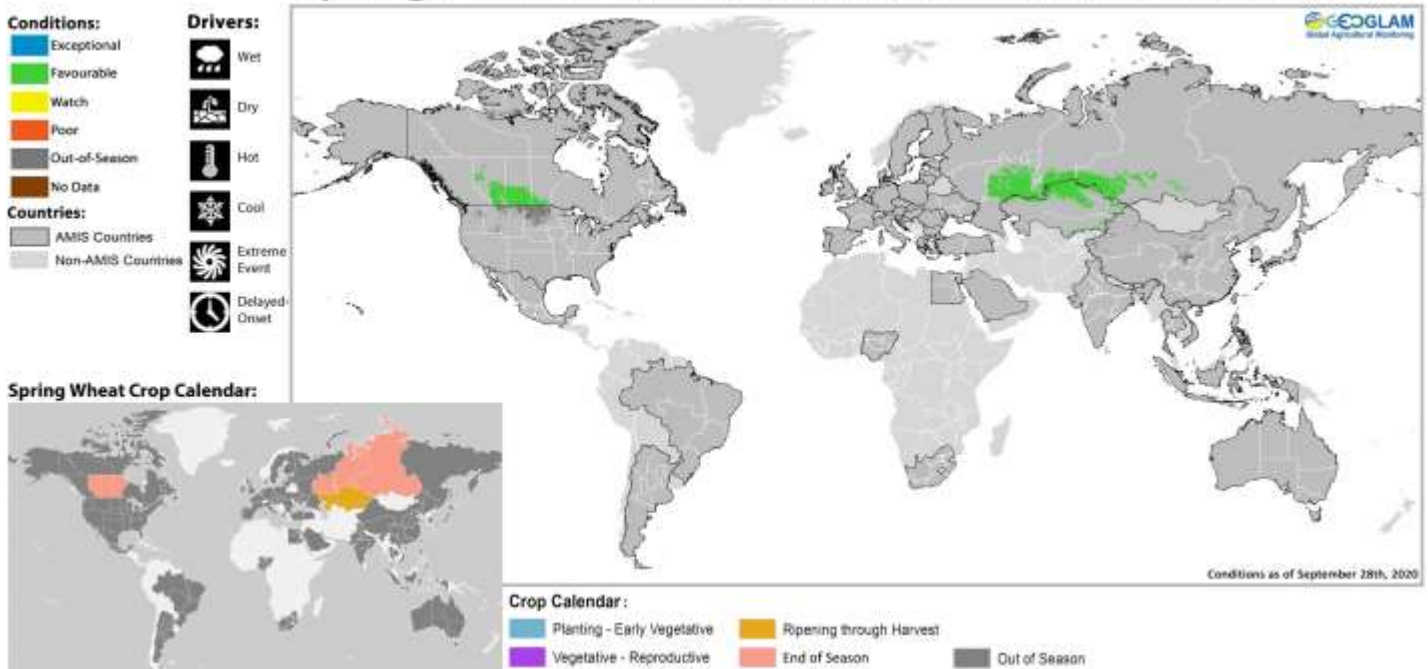
## Appendix 2: Crop Season Specific Maps

### Winter Planted Wheat Conditions for AMIS Countries



Winter wheat crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of September 28th. Where crops are in less than favourable conditions the climatic drivers responsible for those conditions are displayed. The crop calendar is provided as a point of reference to provide information on what part of the life cycle the crops are currently in for each area.

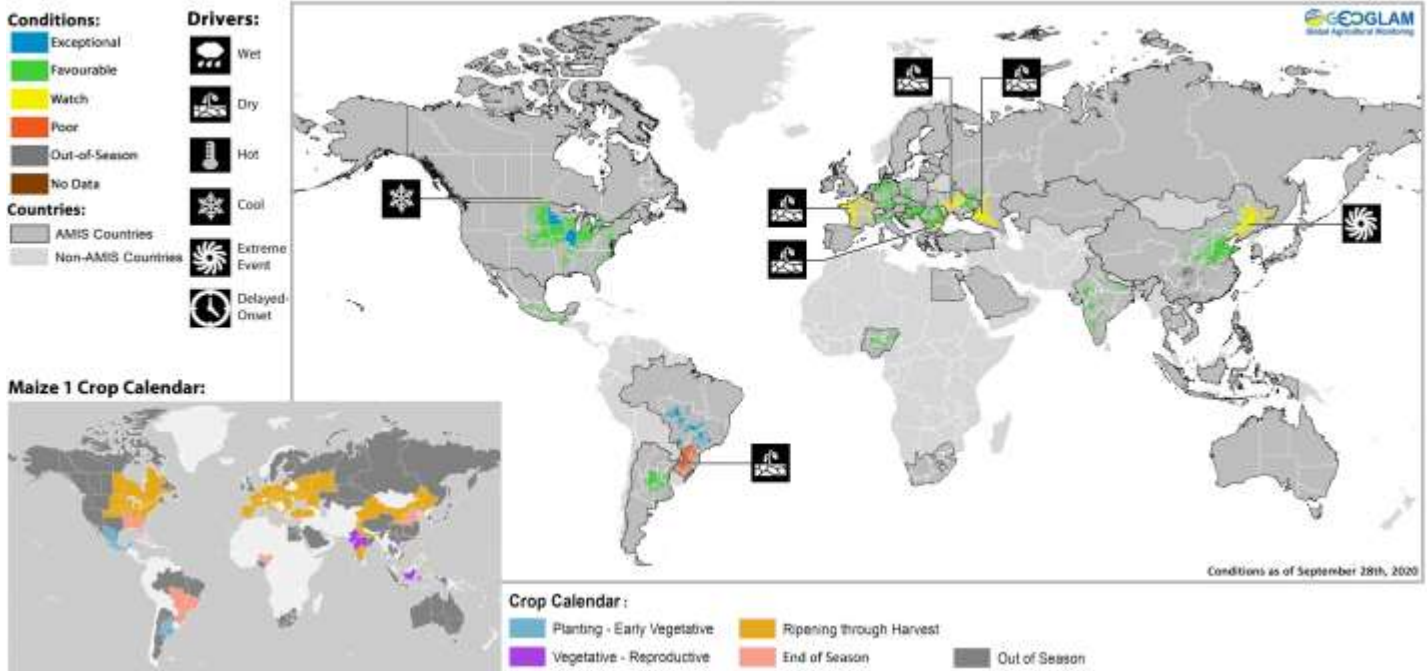
### Spring Planted Wheat Conditions for AMIS Countries



Spring wheat crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of September 28th. Where crops are in less than favourable conditions the climatic drivers responsible for those conditions are displayed. The crop calendar is provided as a point of reference to provide information on what part of the life cycle the crops are currently in for each area.

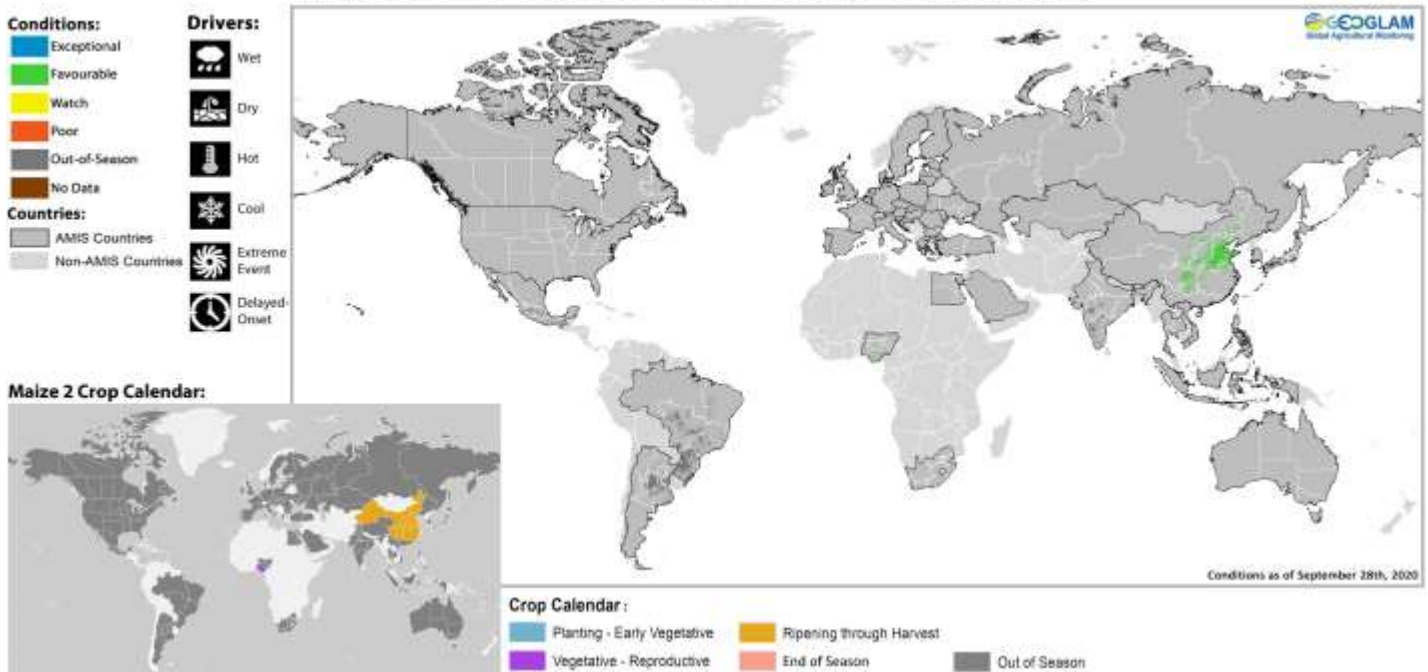
\* Assessment based on information as of September 28<sup>th</sup>

## Maize 1 Conditions for AMIS Countries



Maize 1 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of September 28th. Where crops are in less than favourable conditions the climatic drivers responsible for those conditions are displayed. The crop calendar is provided as a point of reference to provide information on what part of the life cycle the crops are currently in for each area.

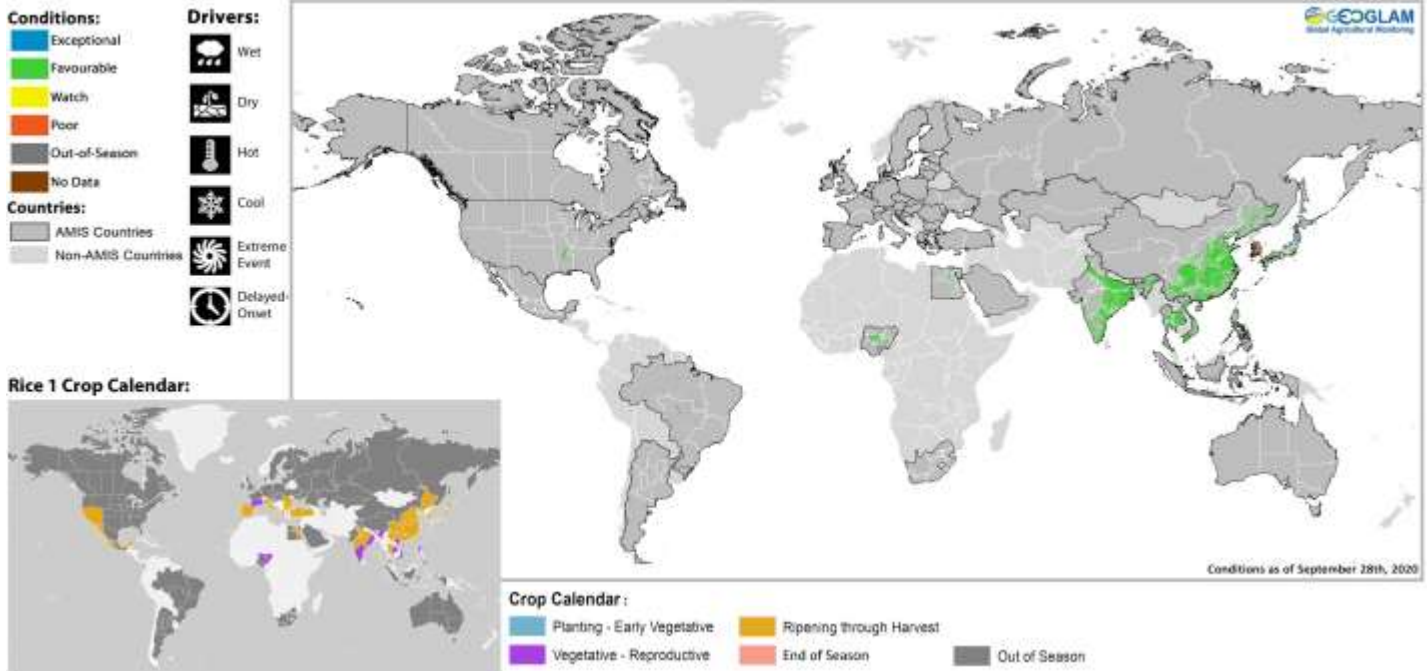
## Maize 2 Conditions for AMIS Countries



Maize2 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of September 28th. Where crops are in less than favourable conditions the climatic drivers responsible for those conditions are displayed. The crop calendar is provided as a point of reference to provide information on what part of the life cycle the crops are currently in for each area.

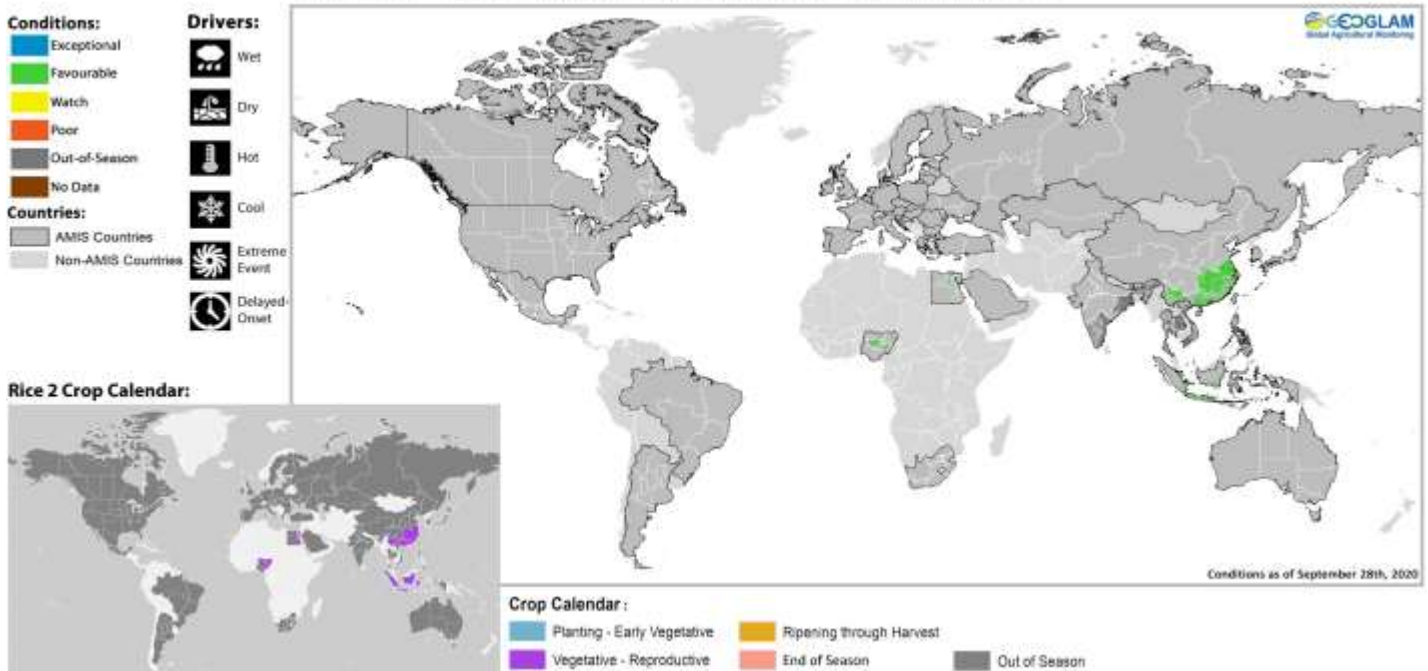
\* Assessment based on information as of September 28<sup>th</sup>

## Rice 1 Conditions for AMIS Countries



Rice 1 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of September 28th. Where crops are in less than favourable conditions the climatic drivers responsible for those conditions are displayed. The crop calendar is provided as a point of reference to provide information on what part of the life cycle the crops are currently in for each area.

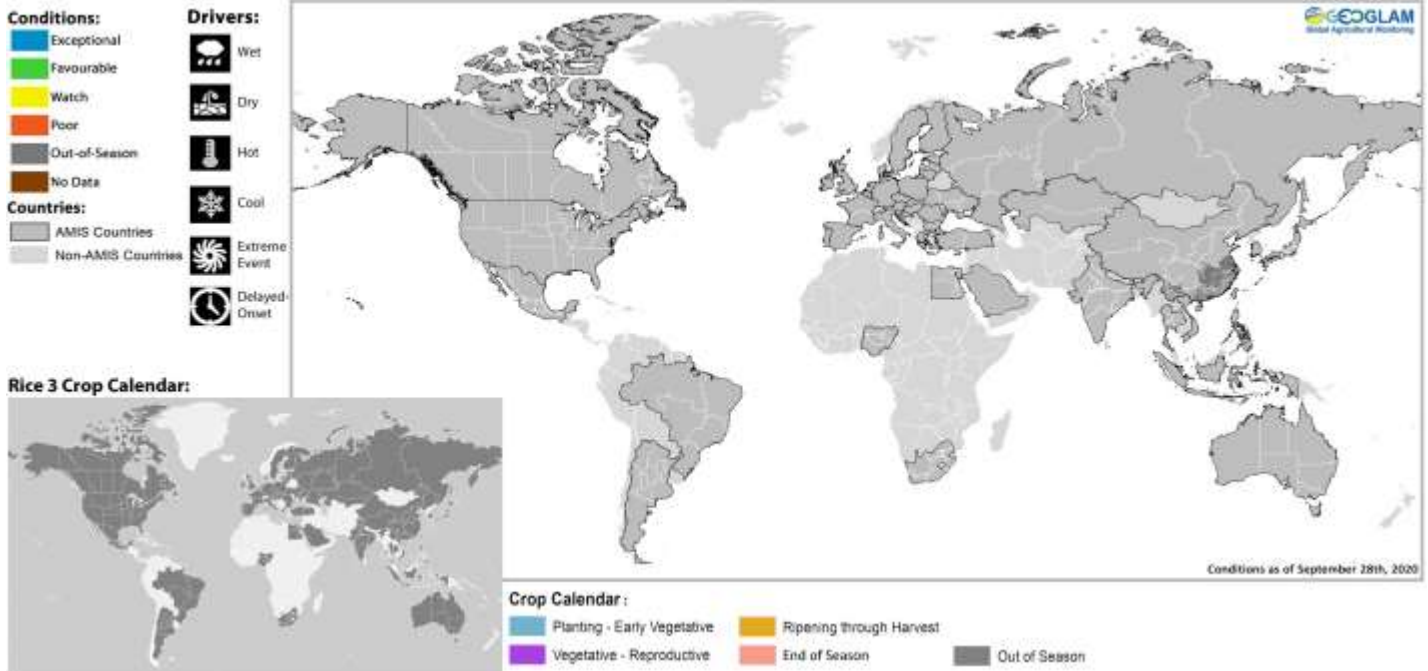
## Rice 2 Conditions for AMIS Countries



Rice 2 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of September 28th. Where crops are in less than favourable conditions the climatic drivers responsible for those conditions are displayed. The crop calendar is provided as a point of reference to provide information on what part of the life cycle the crops are currently in for each area.

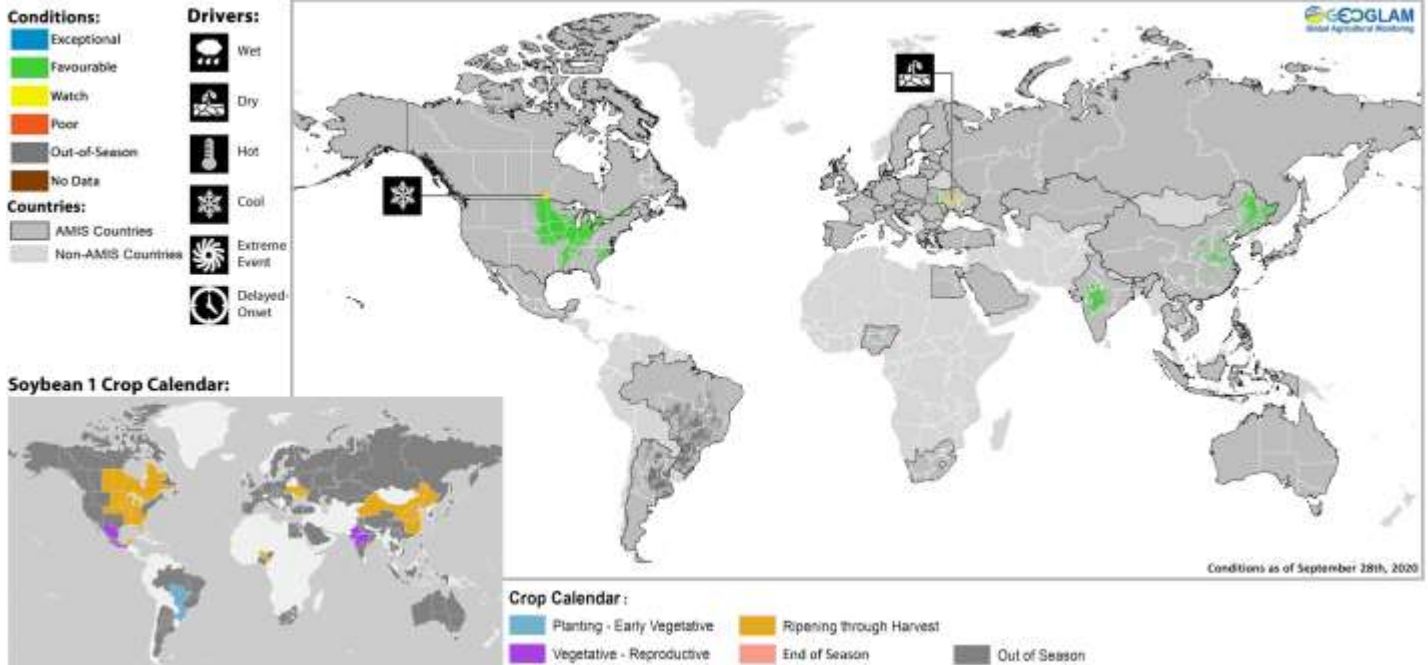
\* Assessment based on information as of September 28<sup>th</sup>

### Rice 3 Conditions for AMIS Countries



Rice 3 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of September 28th. Where crops are in less than favourable conditions the climatic drivers responsible for those conditions are displayed. The crop calendar is provided as a point of reference to provide information on what part of the life cycle the crops are currently in for each area.

### Soybean 1 Conditions for AMIS Countries

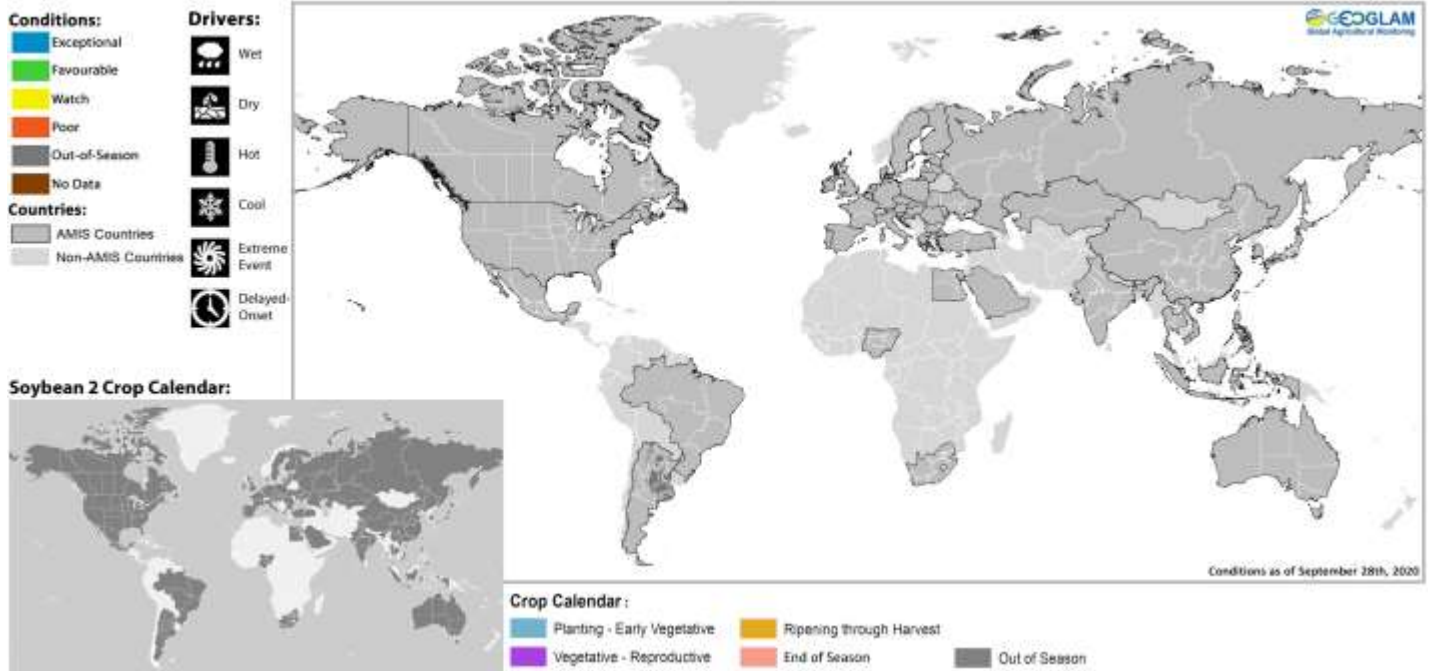


Soybean 1 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of September 28th. Where crops are in less than favourable conditions the climatic drivers responsible for those conditions are displayed. The crop calendar is provided as a point of reference to provide information on what part of the life cycle the crops are currently in for each area.

\* Assessment based on information as of September 28<sup>th</sup>



## Soybean 2 Conditions for AMIS Countries



Soybean 2 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of September 28th. Where crops are in less than favourable conditions the climatic drivers responsible for those conditions are displayed. The crop calendar is provided as a point of reference to provide information on what part of the life cycle the crops are currently in for each area.



Prepared by members of the GEOGLAM Community of Practice  
Coordinated by the University of Maryland with funding from NASA Harvest  
Climatic Influences by Climate Hazards Center of UC Santa Barbara

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

*Photo courtesy of Brian Barker*

<https://cropmonitor.org/>

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#### Sources & Disclaimer

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