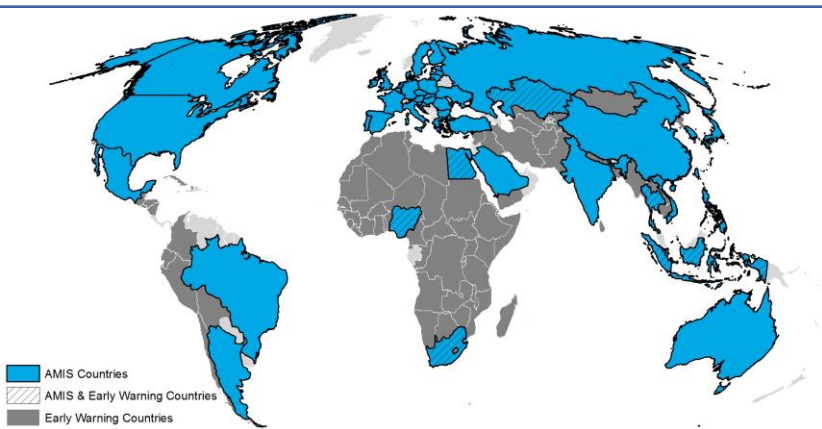




# Crop Monitor for AMIS

## Overview:

As of the end of May, conditions are generally favourable for maize and soybeans while mixed for wheat and rice. In the Northern Hemisphere, dry conditions persist over winter wheat areas in the EU, Ukraine, southern Russian Federation, and in parts of the US western plains. Spring wheat sowings are ongoing under favourable conditions. For maize, conditions are generally favourable in the Northern Hemisphere except for dry conditions in Europe, Ukraine, and parts of southern Brazil. Rice conditions are favourable in China, India, and the US, while persistent dry conditions in Southeast Asia are impacted dry-season rice in the north and wet-season rice in Indonesia. Soybean harvest is wrapping up in the Southern Hemisphere while in the Northern Hemisphere conditions are generally favourable.

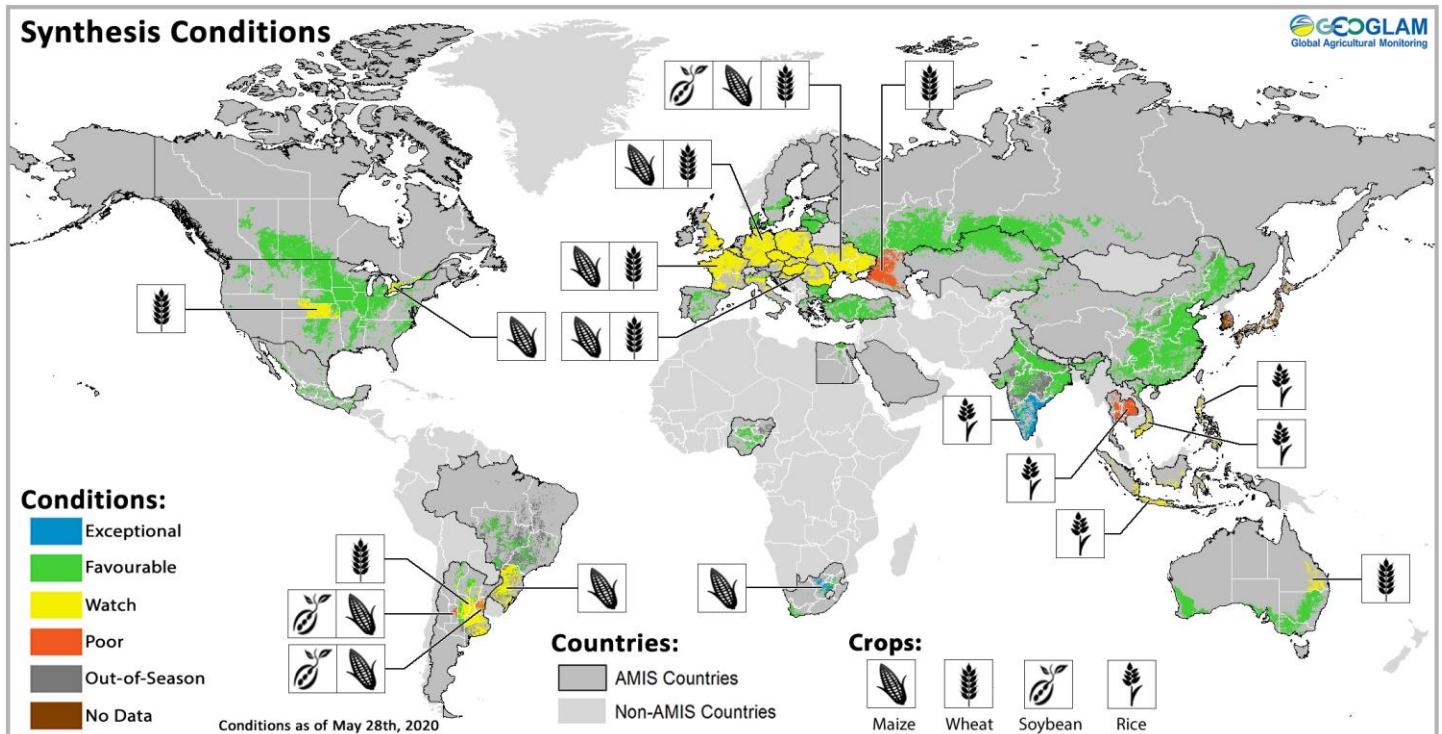


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*Assessment based on information as of May 28<sup>th</sup>*

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



Crop condition map synthesizing information for all four AMIS crops as of May 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, conditions are mixed in the EU, the Russian Federation and Ukraine, while generally favourable in the US, Canada, the Russian Federation and China. In the southern hemisphere, sowing of winter wheat is beginning in Argentina and Australia.

**Maize** - In the southern hemisphere, harvest is ongoing for Argentina, wrapping up in South Africa and conditions are generally favourable in Brazil. In the northern hemisphere, harvest is ongoing in India and Mexico, while sowing is ongoing in the US, Canada, the EU, and Ukraine.

### Forecasts at a Glance

**Climate Influences** - El Niño-Southern Oscillation (ENSO) is currently neutral and is expected to remain so through the northern hemisphere summer.

**Australia** – The latest three-month rainfall outlook (June to August), issued by the Bureau of Meteorology on 28 May 2020, suggests that wetter than average conditions are very likely for most winter crop producing regions,

**Rice** - In China, conditions are favourable for both early-season and one-season rice. In India, harvest of Rabi rice wraps up under very good conditions. In Southeast Asia, harvest continues for dry-season rice in northern countries and wet-season rice in Indonesia under mixed conditions.

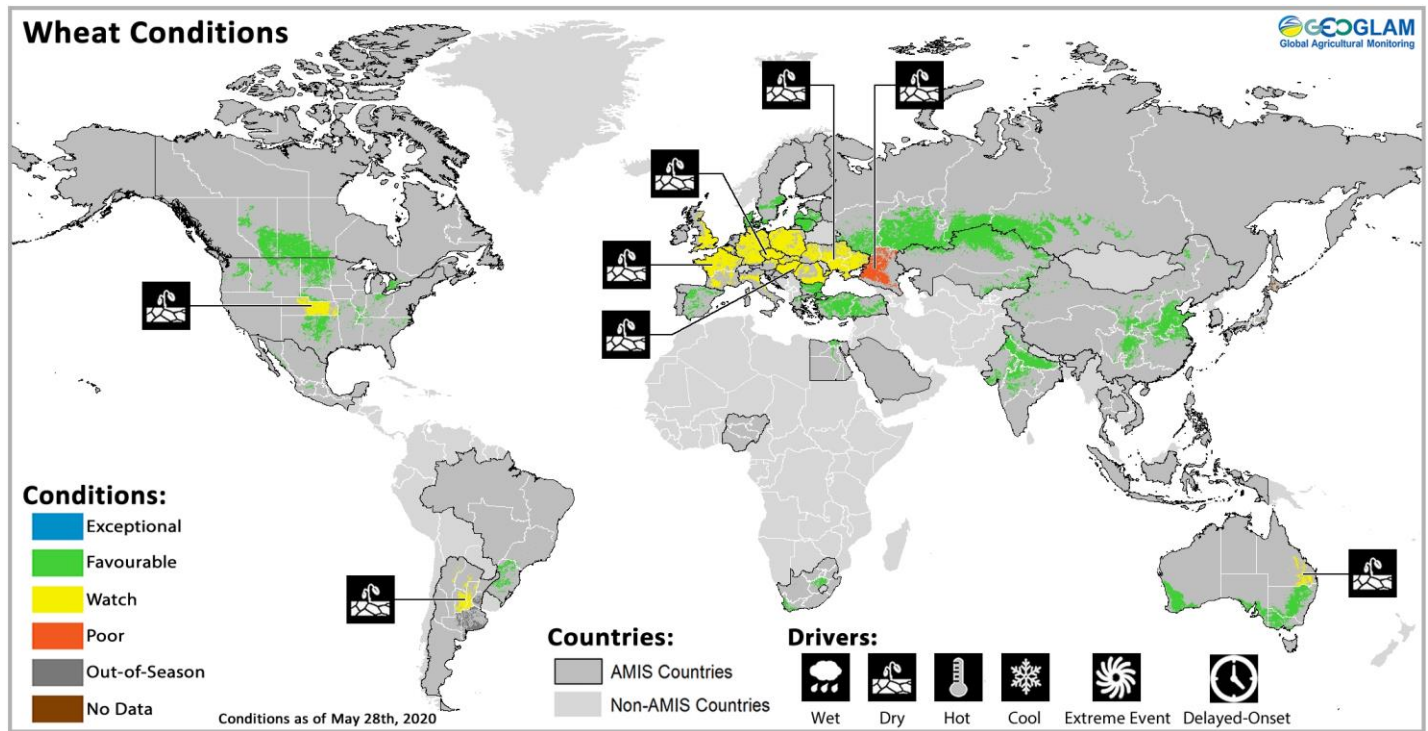
**Soybeans** - In the southern hemisphere, harvest is wrapping in Argentina under generally favourable conditions. In the northern hemisphere, sowing is ongoing in the US, Canada, China and Ukraine under favourable conditions.

with roughly equal chances of a wetter or drier than average three months across parts of southern Western Australia and central Queensland.

**Indonesia** - Both short- and long-term forecasts predict rainfall across Indonesia will continue to be above average.

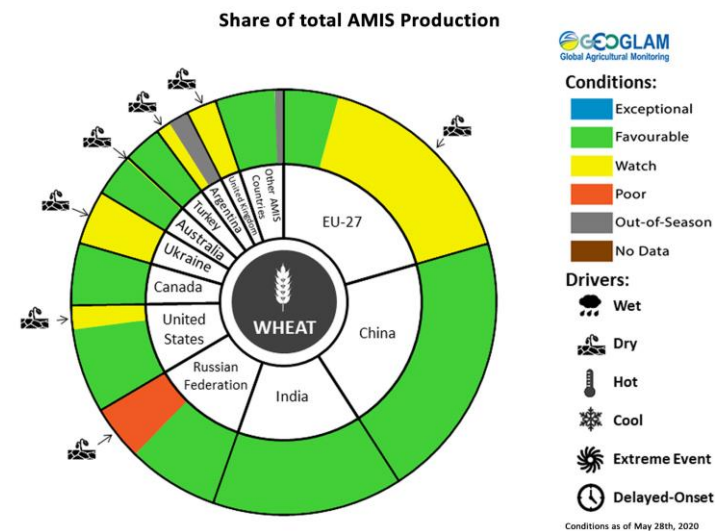


## Wheat Conditions for AMIS Countries



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 May 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.

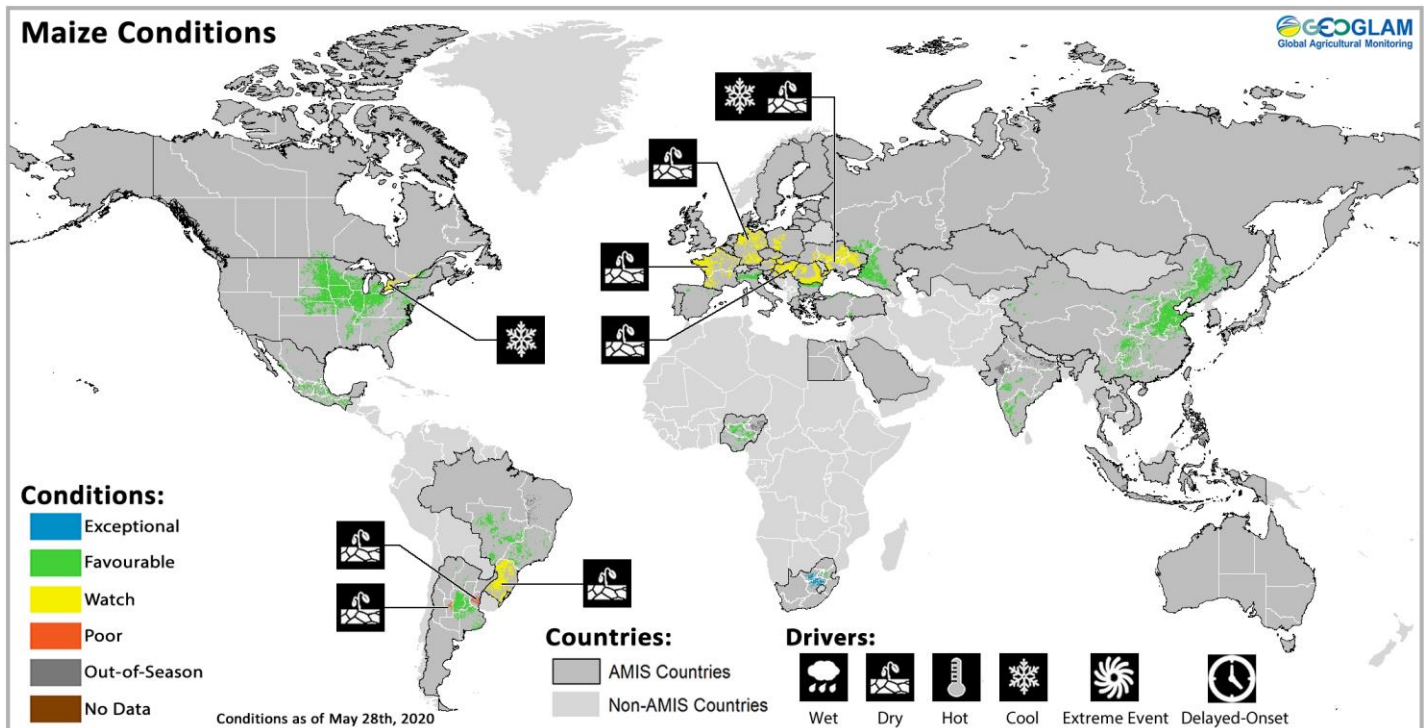
**Wheat:** In the **EU**, dry conditions continue to restrain growth across much of central Europe. Rainfall over the next month will be required to sustain yields. In the **UK**, winter wheat is under watch conditions due to persistent dryness this spring. In **Turkey**, winter wheat conditions are favourable. In **Ukraine**, winter wheat is under watch conditions as dryness persists especially in the south where the situation is approaching critical. In the **Russian Federation**, conditions are generally favourable for winter wheat with the exception of the southern regions where drought has caused damage. Sowing of spring wheat is ongoing under favourable conditions. In **Kazakhstan**, winter wheat conditions are favourable in the south while sowing of spring wheat gets into full swing in the north under favourable conditions. In **China**, winter wheat is under favourable conditions with an increase in sown area compared to last year. Spring wheat sowing is ongoing under favourable conditions. In **India**, the harvest is wrapping up under very good conditions with a bumper crop expected. In the **US**, winter wheat is under generally favourable conditions albeit with some dryness in the western reaches of the Great Plains. Spring wheat sowing is progressing under favourable conditions. In **Canada**, conditions are favourable across the country for winter wheat germination and spring wheat sowing. In **Australia**, sowing is beginning across the country under generally favourable conditions except for some dryness in Queensland.



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

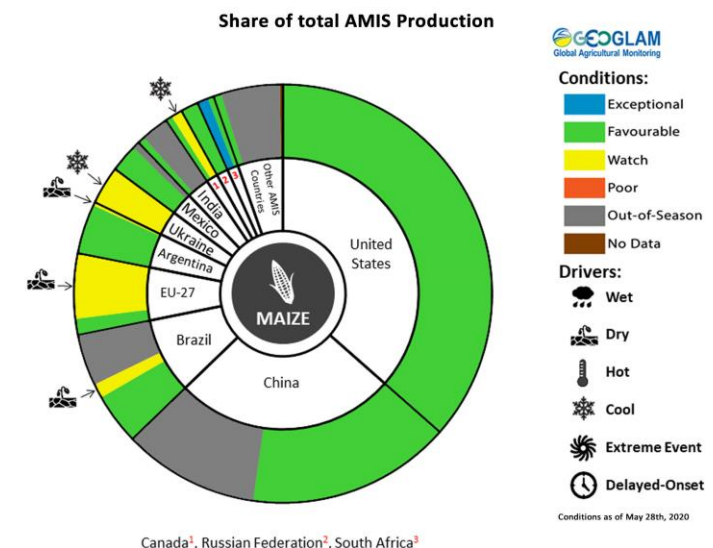
\* Assessment based on information as of May 28<sup>th</sup>

## Maize Conditions for AMIS Countries



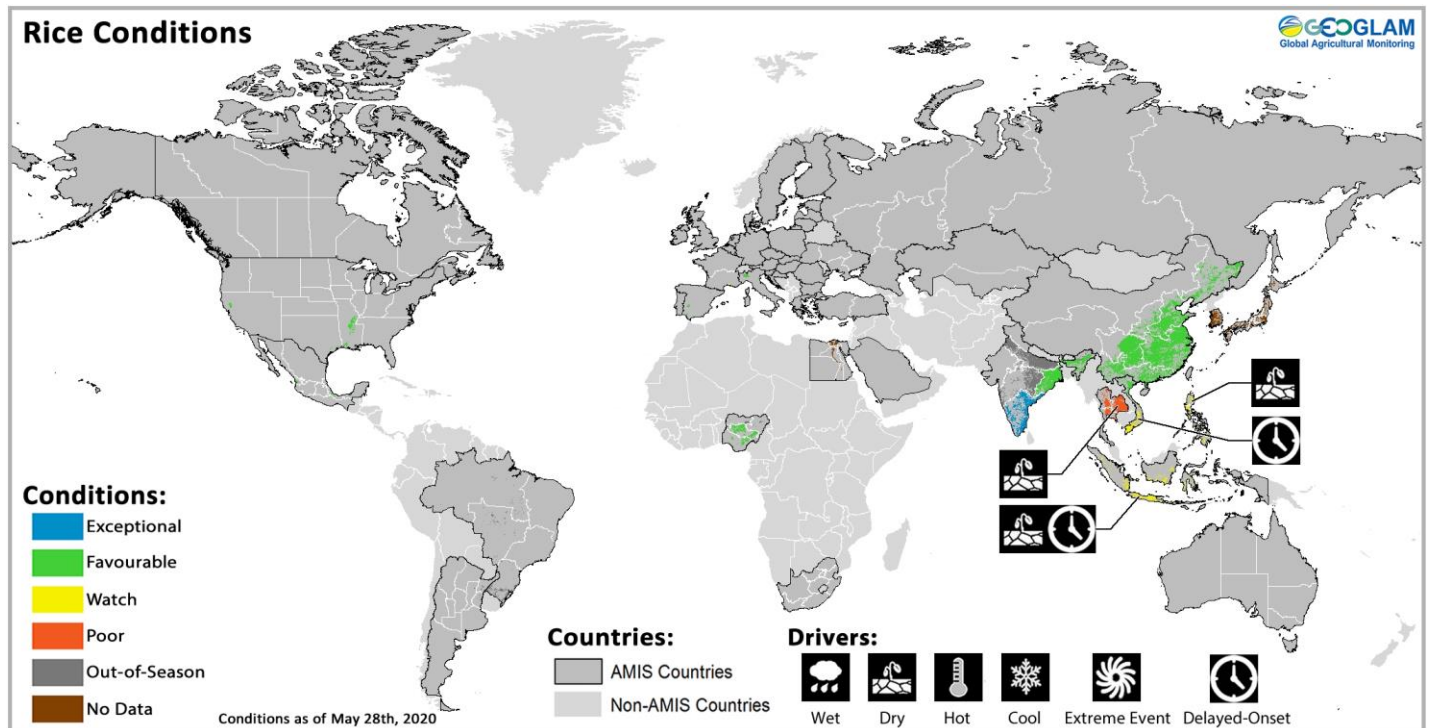
Maize crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of May 28<sup>th</sup>. Where crops are in other than favourable conditions the climatic drivers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

**Maize:** In **Brazil**, the summer-planted (larger season) crop has shown good development in the Central-West, however a persistent lack of rain in the south, particularly in Parana, has hampered crop development. An increase in total sown area is estimated mainly in the states outside of the south. In **Argentina**, harvest of both the spring-planted and summer-planted crops is continuing under generally favourable conditions except for the provinces of San Luis and Entre Ríos, where prolonged dry conditions have taken its toll on the crops. In **South Africa**, the harvest is wrapping up under exceptional conditions in the central growing states. In the **US**, conditions are favourable with crop development on schedule. In **Canada**, conditions are mixed as cold conditions have put crops in Ontario behind normal development. In **Mexico**, harvest is ongoing for the autumn-winter (smaller season) crop under favourable conditions. Sowing of the spring-summer (larger season) crop continues under favourable conditions. In the **EU**, conditions are largely under watch as the crop is emerging under dry conditions across most countries. In **Ukraine**, low temperatures and frosts have been unfavourable for crop development. In the **Russian Federation**, conditions are generally favourable. In **India**, harvest of the Rabi crop is wrapping up under favourable conditions. In **China**, spring-planted maize is under favourable conditions for continued sowing in the northeast and early vegetative development in the south.



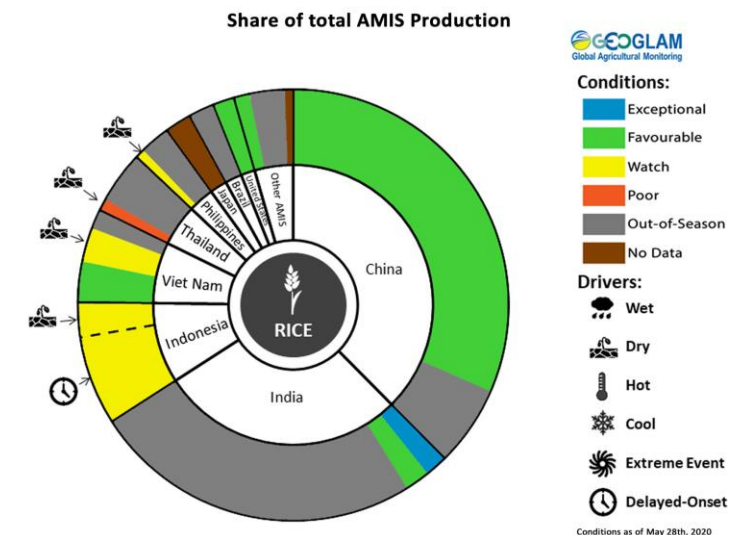
For detailed description of the pie chart please see box on page 6.

## 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 May 28<sup>th</sup>. Where crops are in other than favourable conditions the climatic drivers responsible for those conditions are displayed.

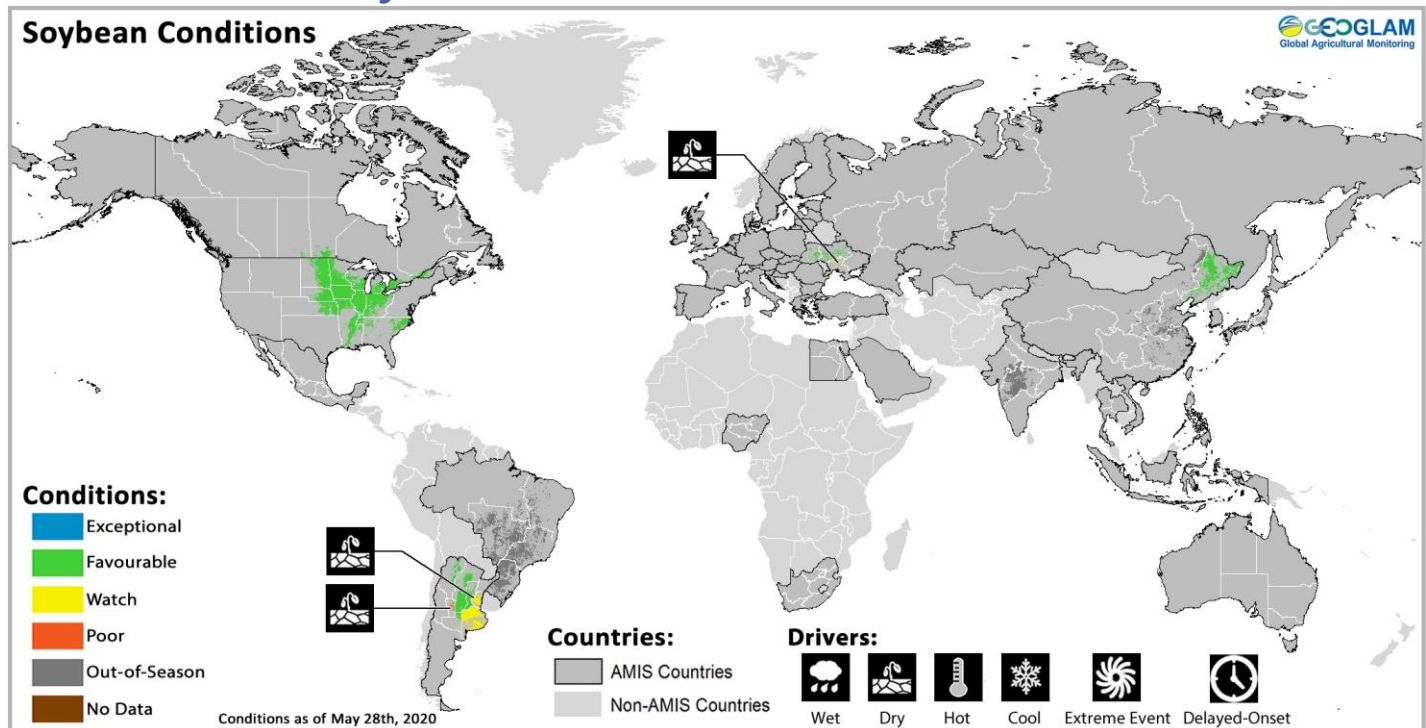
**Rice:** In **China**, sowing of one-season rice is ongoing under favourable conditions. Early-rice in the south is under favourable conditions with an increase in sown area compared to last year. In **India**, harvest of Rabi rice is wrapping up under favourable to exceptional conditions with a sizable increase in the harvest compared to last year. In **Indonesia**, harvesting of wet-season crops continues into the fifth month with yields estimated to be slightly lower than last year due to the prolonged drought. Sowing of dry-season crops continues to be delayed by the protracted wet-season crops. In **Viet Nam**, conditions are favourable for the dry-season (winter-spring) rice in the north. In the south, harvesting of dry-season (winter-spring) rice is ongoing under favourable conditions with higher yields than last year expected. Sowing progress of wet-season (summer-autumn) rice in the south is slow due to the effects of dry conditions and salinity. In **Thailand**, conditions are poor as harvesting of dry-season rice continues. A shortage of irrigation water and rainfall during the season resulted in a large reduction of sown area compared to last season and reduced yields. In the **Philippines**, harvesting of dry-season rice continues with below-average yields expected due to insufficient irrigation water supply during the reproductive stage. In the **US**, conditions are favourable as sowing wraps up.



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

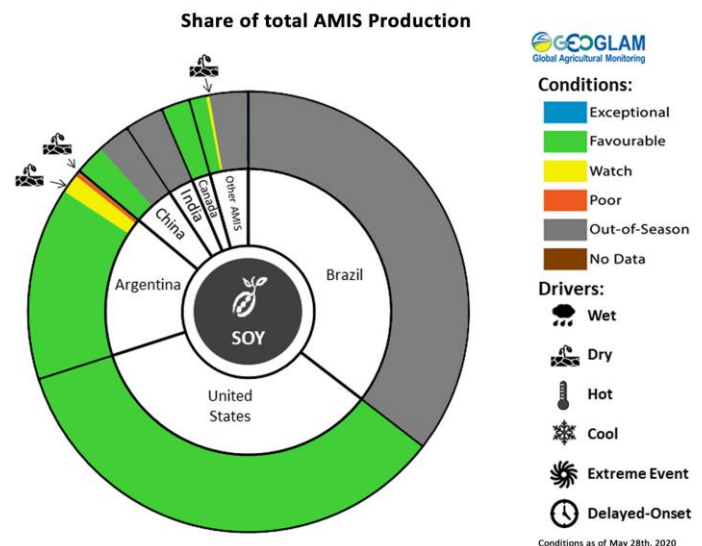


## Soybean Conditions for AMIS Countries



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 May 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 **Argentina**, harvest is wrapping up for both the spring-planted and summer-planted crops under generally favourable conditions except for San Luis and Entre Ríos due to dry conditions during the reproductive stages. In the **US**, conditions are favourable as the crop has been emerging slightly ahead of schedule. In **Canada**, sowing is ongoing under favourable conditions as temperatures warm up. In **China**, sowing is beginning under favourable conditions in the northeast. In **Ukraine**, conditions are mixed due to low soil moisture in the south and low air temperatures slowing development elsewhere.



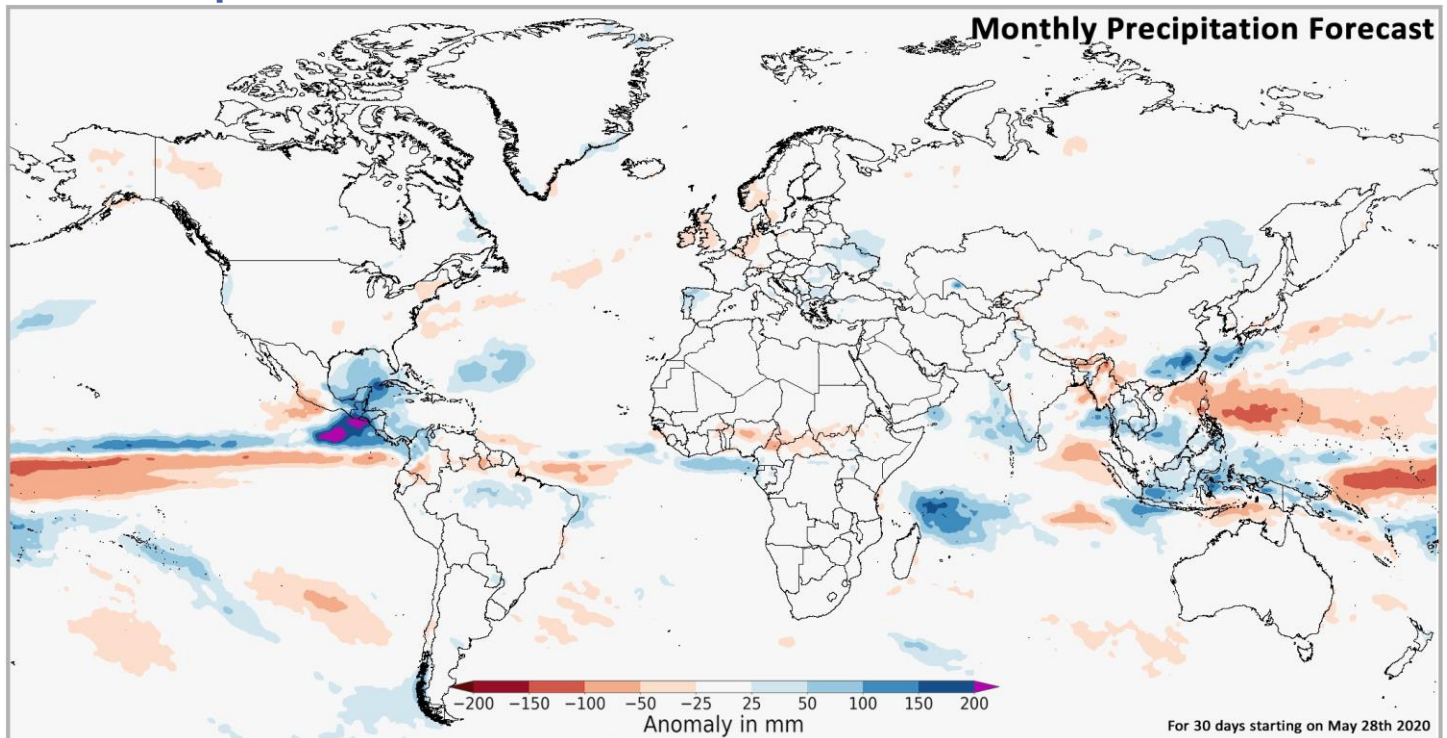
For detailed description of the pie chart please see box below.

**Information on crop conditions in non-AMIS countries can be found in the [GEOGLAM Crop Monitor for Early Warning](#), published June 4<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

### Global Precipitation Forecast



Multimodel mean subseasonal forecast of global precipitation for 30 days from May 28<sup>th</sup> 2020, showing areas of above- or below-average forecast rainfall. Multimodel mean subseasonal forecasts data was provided by the [Climate Hazards Center, UCSB](#). These subseasonal forecasts are produced by the [NMME-SubX](#) project.

### Climate Influences: ENSO Neutral

El Niño-Southern Oscillation (ENSO) is currently neutral and is expected to remain so through the northern hemisphere summer. By the end of the year (October – December), there are essentially equal chances of either remaining neutral or La Niña conditions. La Niña conditions during October-December typically reduce rainfall in East Africa, Central Southwest Asia, southern Brazil and central Argentina, and increase rainfall in Southern Africa, Australia, and eastern Brazil.

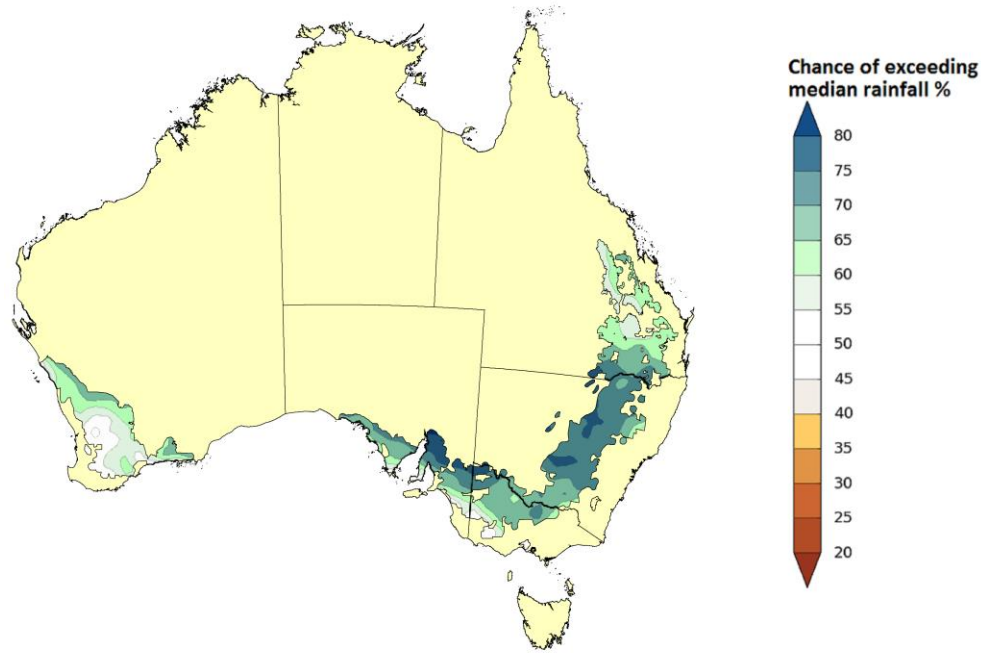
Source: UCSB Climate Hazards Center

### Australian Climate Outlook for winter 2020

The rainfall outlooks presented here provide an indication of how favourable conditions for agricultural production are likely to be over winter. The latest three-month rainfall outlook (June to August), issued by the Bureau of Meteorology on 28 May 2020, suggests that wetter than average conditions are very likely for most winter crop producing regions, with roughly equal chances of a wetter or drier than average three months across parts of southern Western Australia and central Queensland.

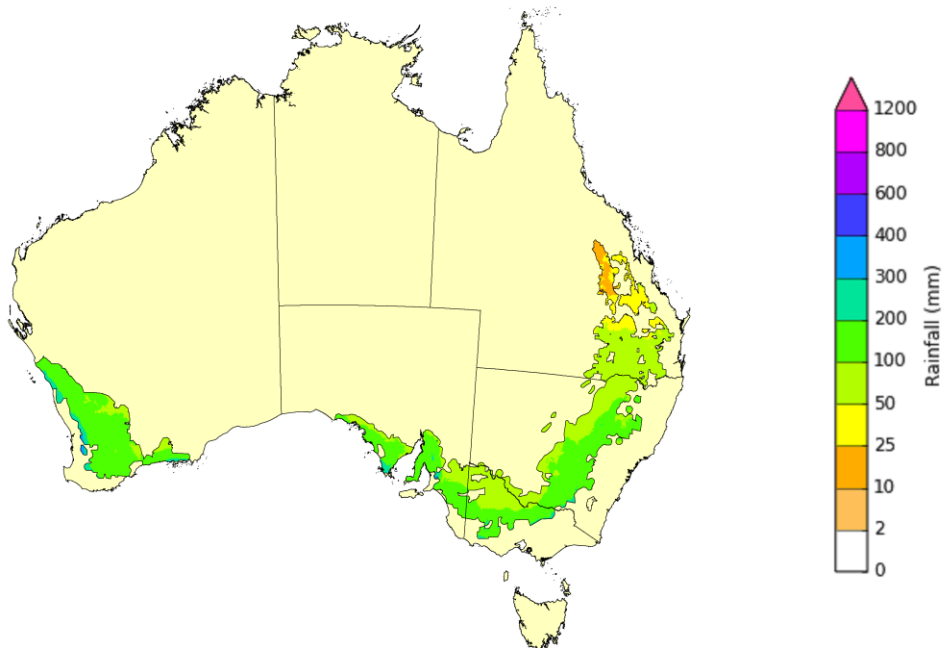
It is highly likely there will be enough winter rainfall to sustain crops through to spring in regions where crops were in a strong position at the start of winter. There is a 75% chance of receiving between 50 and 200 millimetres in most Australian cropping regions. However, in northern cropping regions in Queensland there is a 75% chance of receiving rainfall totals of between 10 and 50 millimetres. In areas of Queensland with low soil moisture these probable low three-month rainfall totals are unlikely to be sufficient to sustain crop production.

### Chance of exceeding median rainfall June to August 2020



Note: Rainfall outlook is displayed for cropping regions only.  
Source: Bureau of Meteorology

### Rainfall totals that have a 75% chance of occurring, June to August 2020



Note: Rainfall outlook is displayed for cropping regions only.  
Source: Bureau of Meteorology

The outlook for maximum and minimum temperatures for June to August 2020 indicates average daytime temperatures are likely across all winter cropping regions. Night-time temperatures are expected to be hotter than average in central and northern New South Wales, and Queensland.

Source: ABARES

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



## Southeast Asia Current Conditions plus Short- and Long-term Forecasts

Rainfall in late April and May was well-below average in the northern half of the region (Figure 1-left), further increasing the seasonal rainfall deficits from [December to April](#), which recorded less than 80% of the historical average rainfall across Myanmar, Laos, Thailand, Cambodia, Vietnam, eastern Malaysia, and the southern Philippines. In contrast, May rainfall was 50-200 mm above average (>120%) across Indonesia (Figure 1-left), providing favourable conditions for the start of dry-season rice planting.

Both short- and long-term forecasts predict rainfall across Indonesia will continue to be above average. Figure 1-middle indicates how the 15-day forecasted rainfall would affect the to-date seasonal rainfall anomaly. Rainfall totals could be more than 100 mm (120%) above average across much of Indonesia, while deficits in the northern half of the region could exceed 100 mm (<80% of average). The long-term forecast shows a relatively high probability of above-normal rainfall through August 2020 (Figure 1-right). The long-term forecast for northern Southeast Asia is less conclusive.

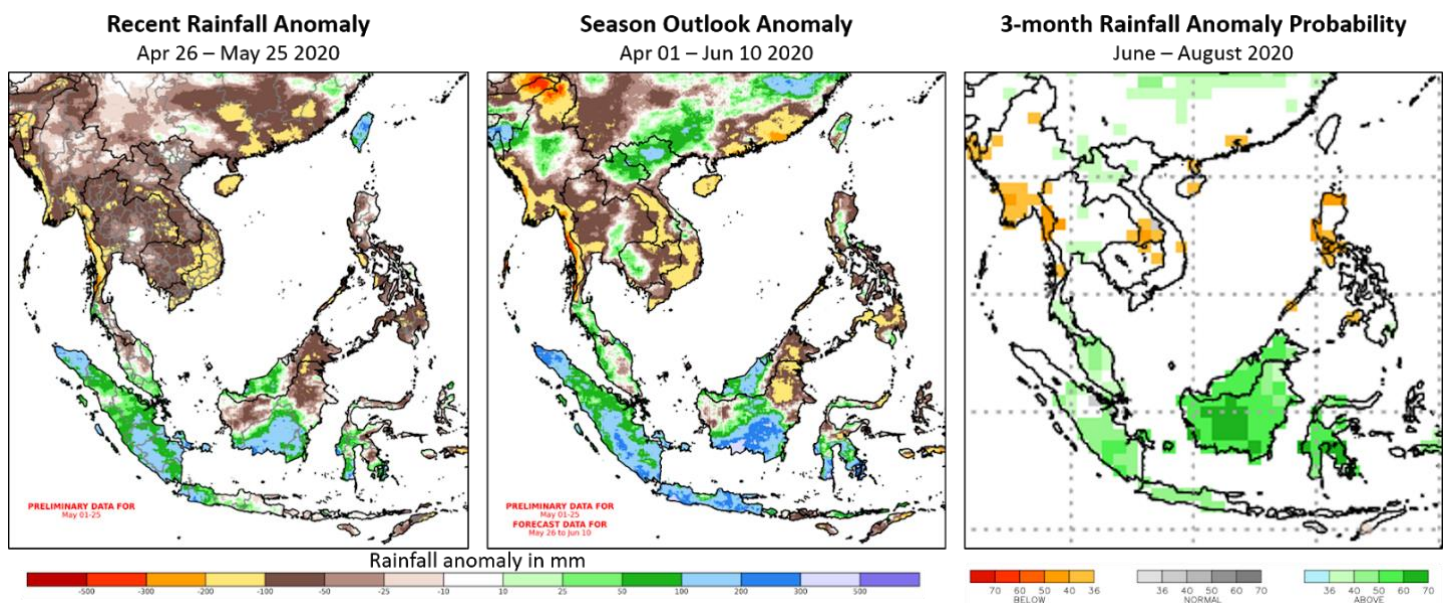


Figure 1: Estimated and forecast rainfall since April 1st and a 3-month forecast. The left panel is the UCSB Climate Hazards Center Early Estimate for April 26th to May 25th, based on preliminary CHIRPS for May 1st to May 25th. The middle panel is an extended seasonal outlook. It shows how the post-April 1st anomaly will change if the 15-day unbiased GEFS forecast from May 26th materializes. These compare 2020 rainfall amounts to the 1981-2019 CHIRPS average. On the right is the 3-month NMME experimental probabilistic forecast for June to August 2020, based on May 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:

	Exceptional
	Favourable
	Watch
	Poor
	Out-of-Season
	No Data

### 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

	Wet
	Dry
	Hot
	Cool
	Extreme Event
	Delayed-Onset

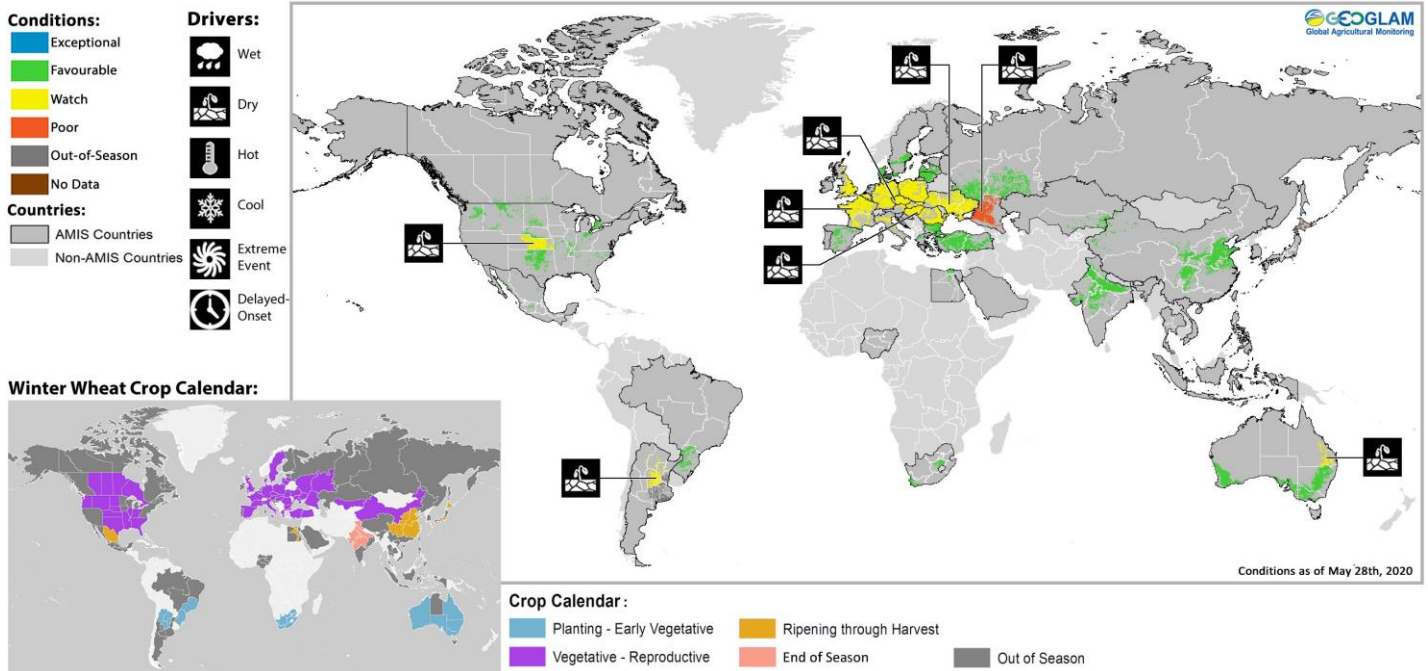
### Crop Season Nomenclature:

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	

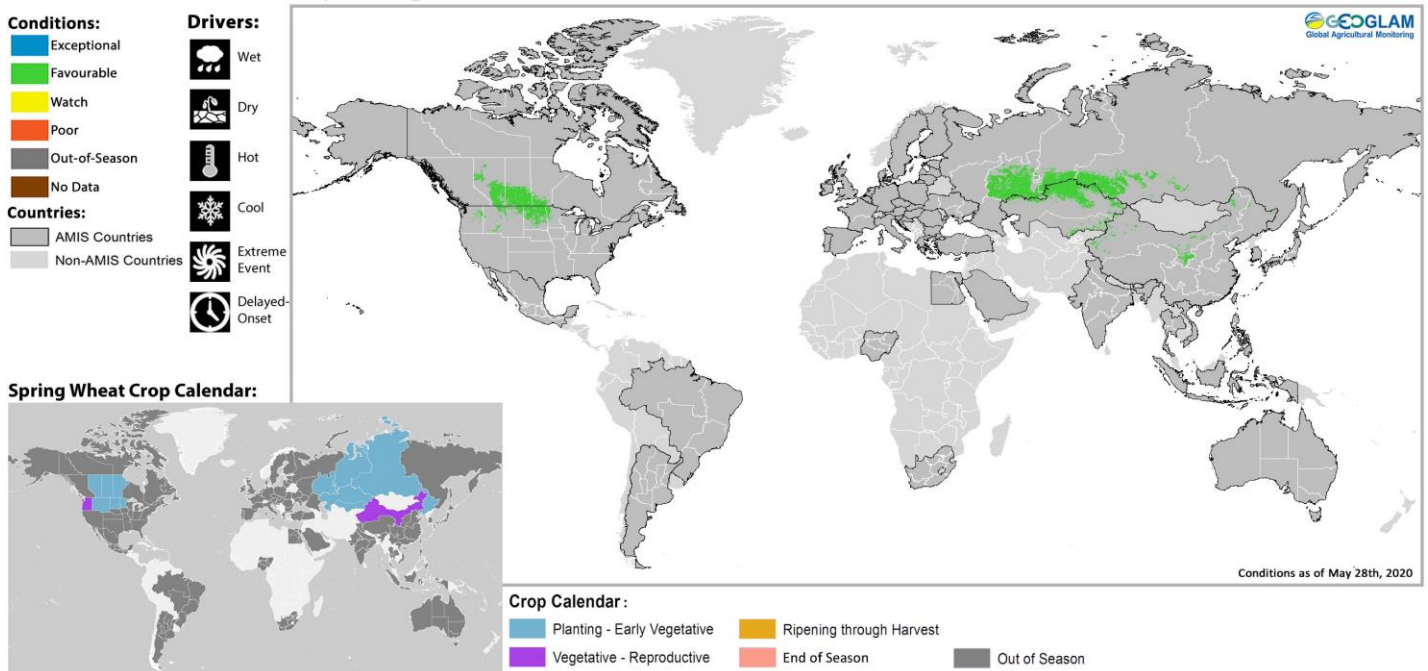
## Appendix 2: Crop Season Specific Maps

### 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 May 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

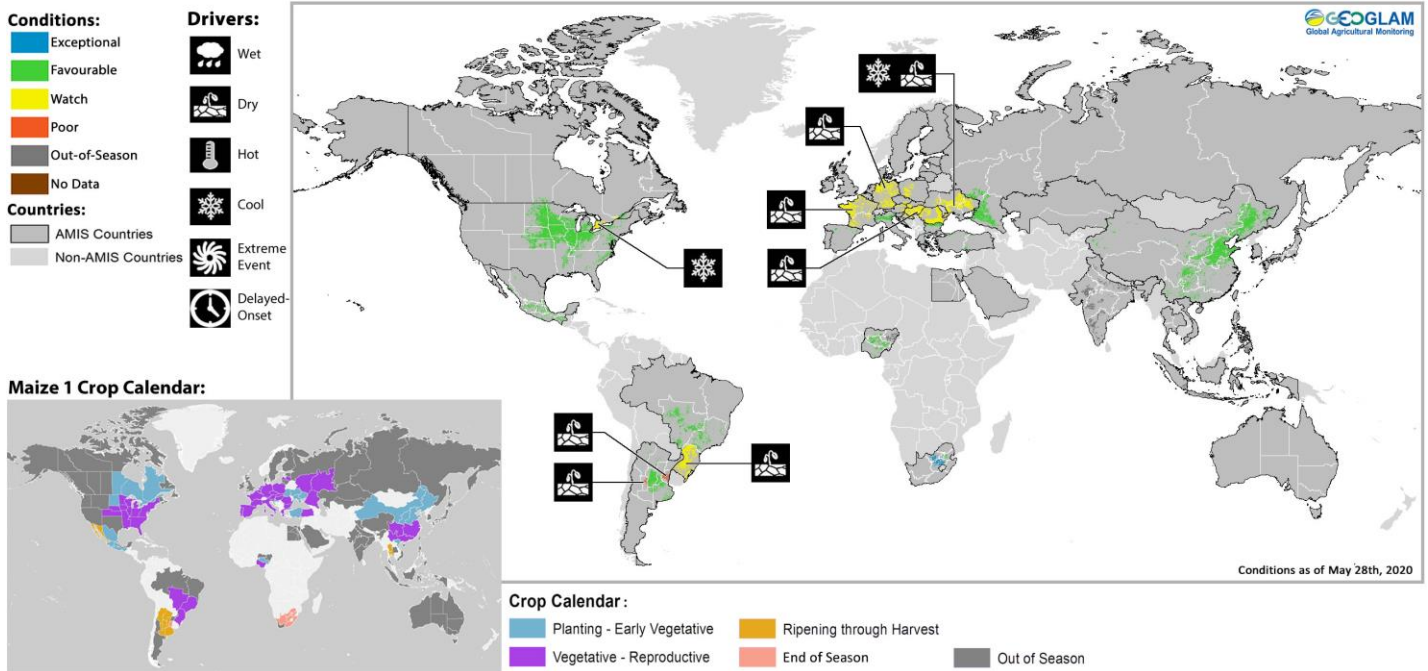


Spring wheat crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of May 28th. Where crops are in less than favourable conditions the climatic drivers responsible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

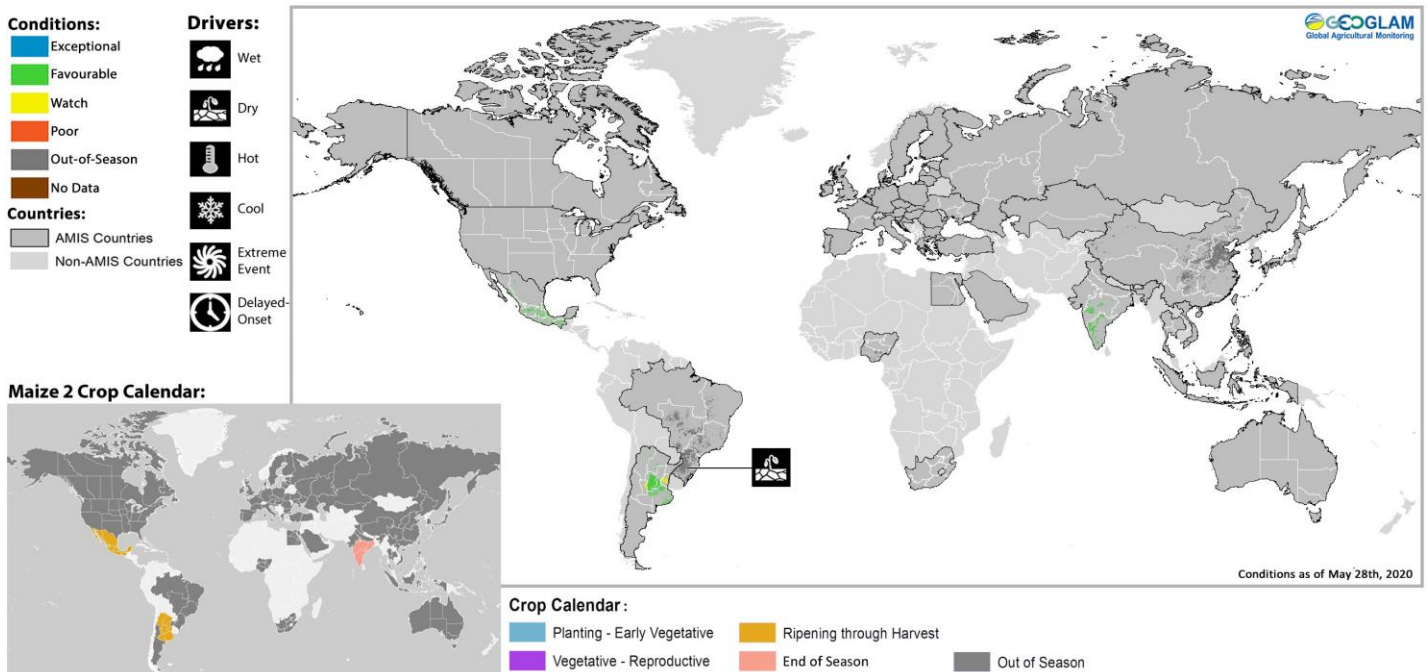


## Maize 1 Conditions for AMIS Countries



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 May 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.

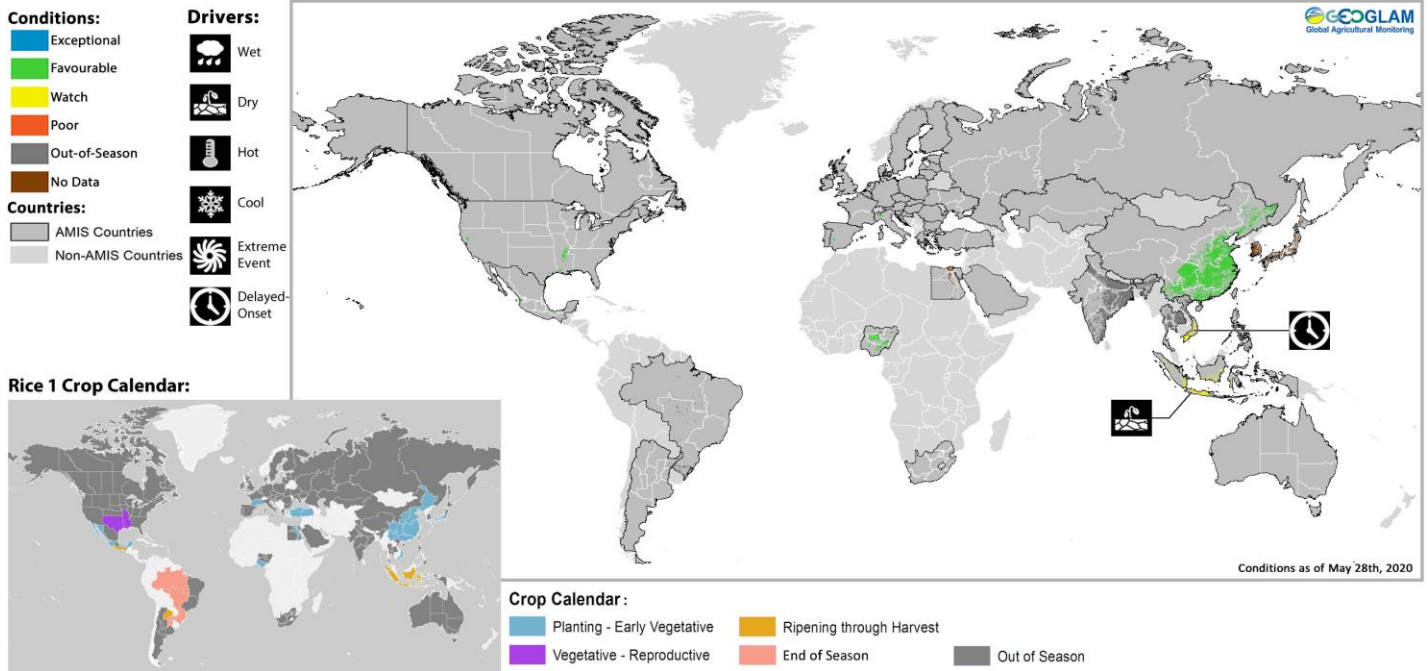
## Maize 2 Conditions for AMIS Countries



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 May 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.

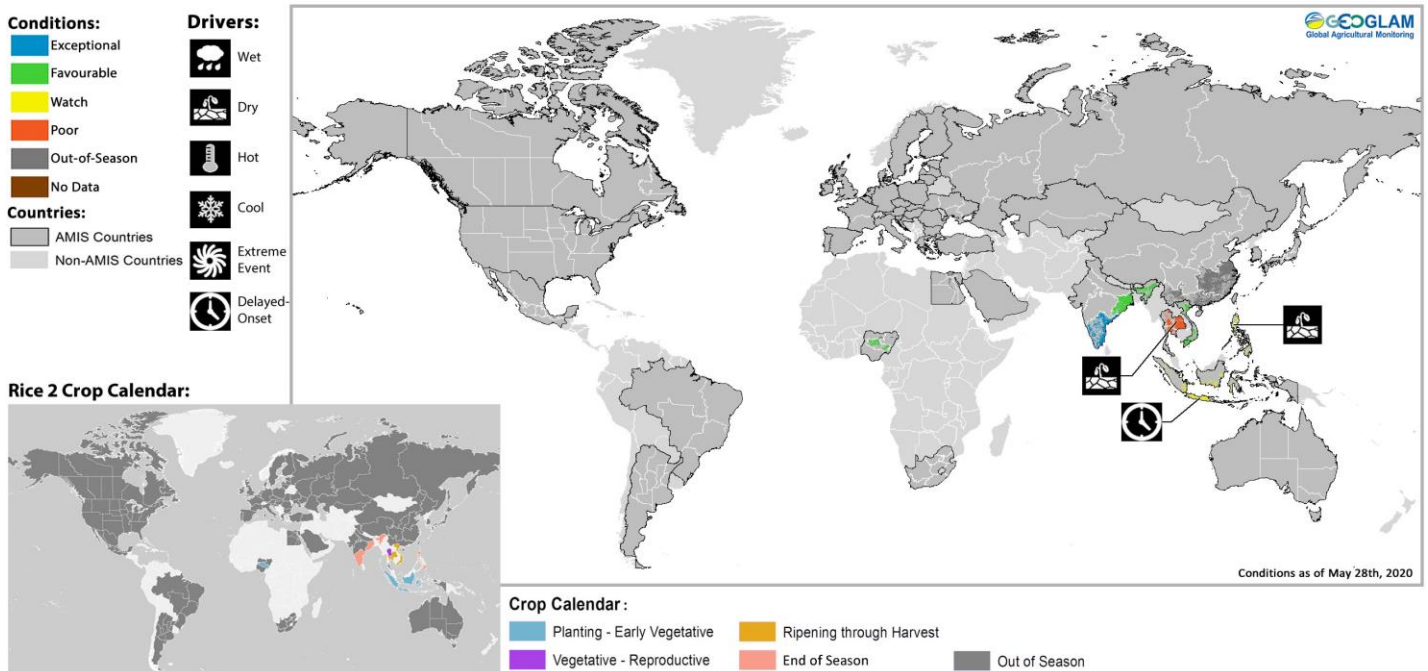
\* Assessment based on information as of May 28<sup>th</sup>

## 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 May 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.

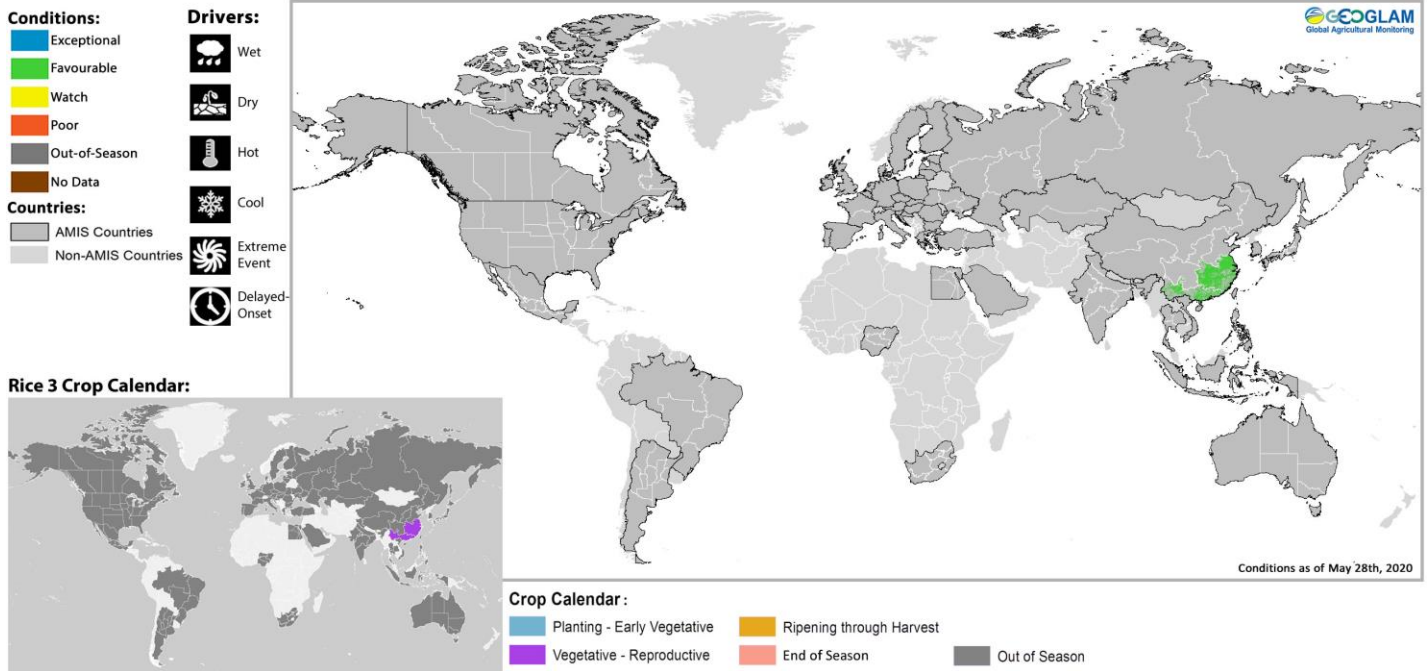
## Rice 2 Conditions for AMIS Countries



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 May 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.

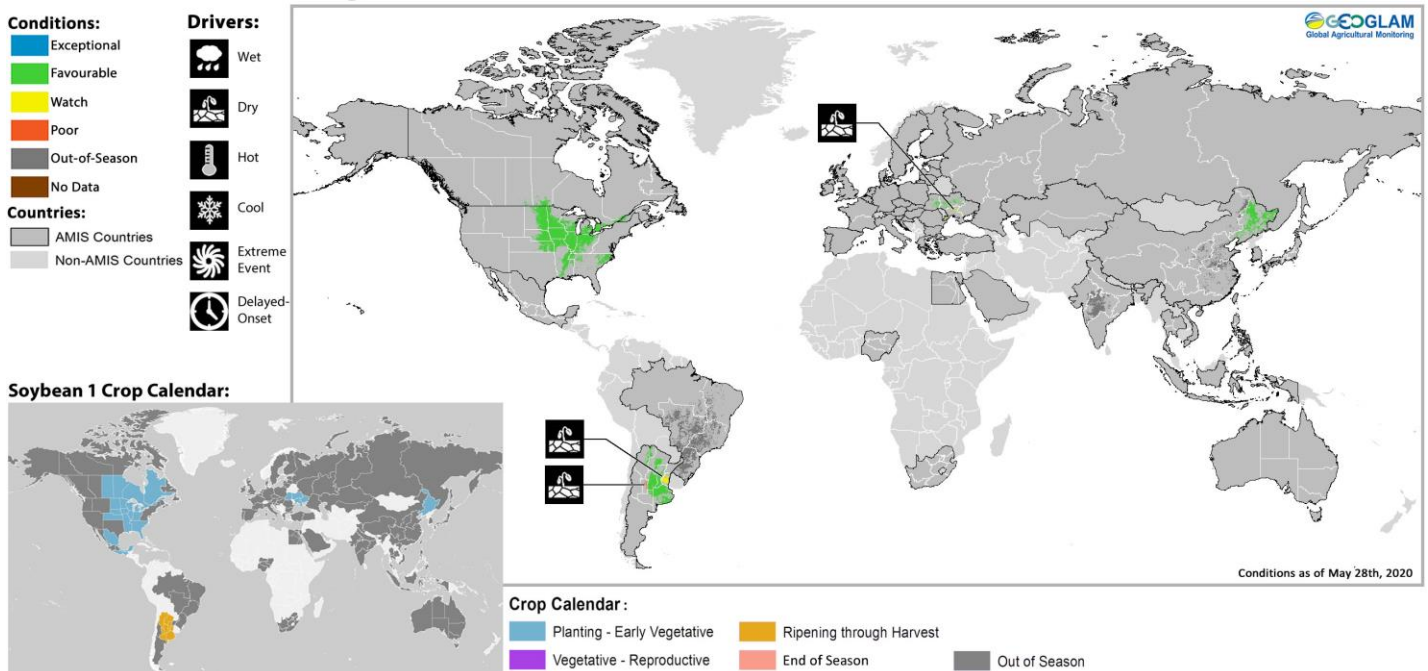


## Rice 3 Conditions for AMIS Countries



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 May 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

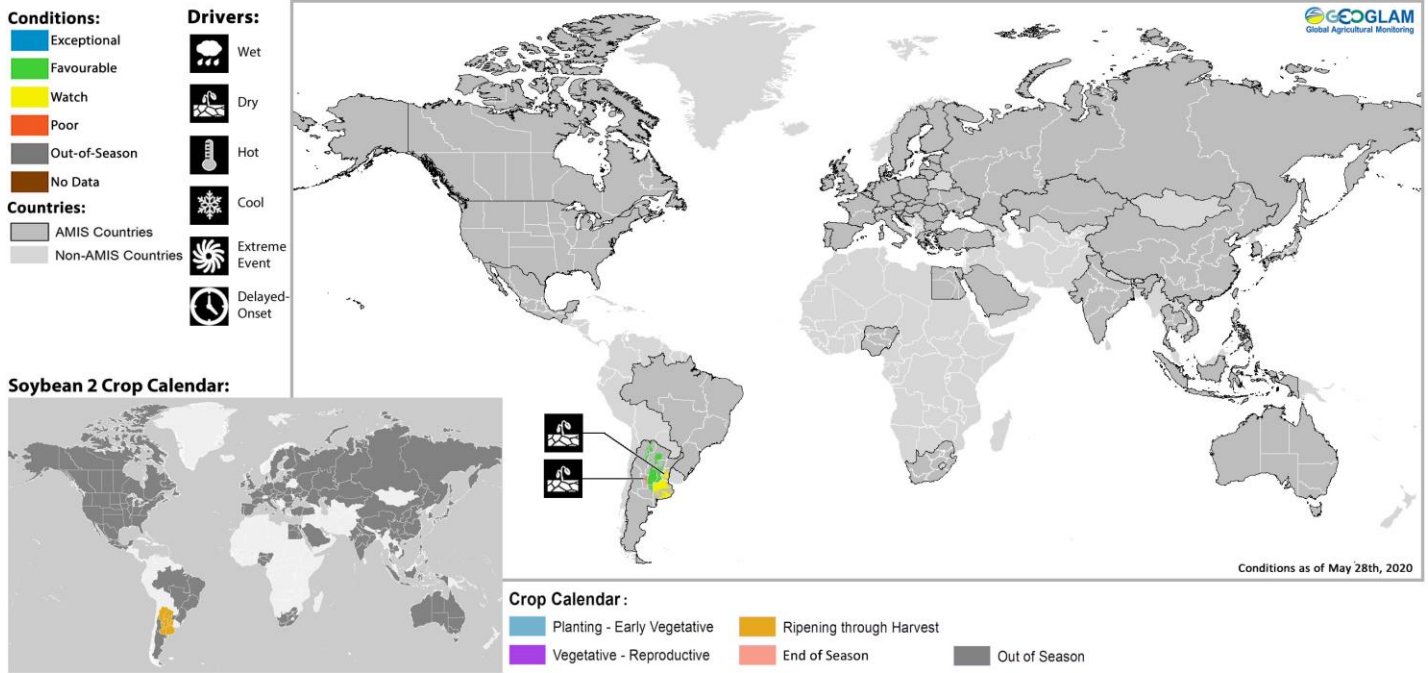


Soybean 1 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of May 28th. Where crops are in less than favourable conditions the climatic drivers responsible 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 May 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 May 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 May 28<sup>th</sup>



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/>

[@GEOCropMonitor](#)

#### Sources & Disclaimer

Sources and Disclaimers: The Crop Monitor assessment is conducted by GEOGLAM with inputs from the following partners (in alphabetical order): Argentina (Buenos Aires Grains Exchange, INTA, Agroindustry ministry), Asia Rice Countries (AFSIS, ASEAN+3 & Asia RICE), Australia (ABARES & CSIRO), Brazil (CONAB & INPE), Canada (AAFC), China (CAS), EU (EC JRC MARS), Gro Intelligence, India (NCFC), Indonesia (LAPAN & MOA), International (CIMMYT, FAO GIEWS, IFPRI & IRRI), Japan (JAXA, MAFF), Mexico (SIAP), Russian Federation (IKI), South Africa (ARC & CSIR & GeoTerraImage & SANSA), Thailand (GISTDA & OAE), Ukraine (NASU-NSAU & UHMC), USA (NASA, UMD, USGS – FEWS NET, USDA (FAS, NASS)), Viet Nam (VAST & VIMHE-MARD). The findings and conclusions in this joint multiagency report are consensual statements from the GEOGLAM experts, and do not necessarily reflect those of the individual agencies represented by these experts.

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