

# Crop Monitor for AMIS

## Overview:

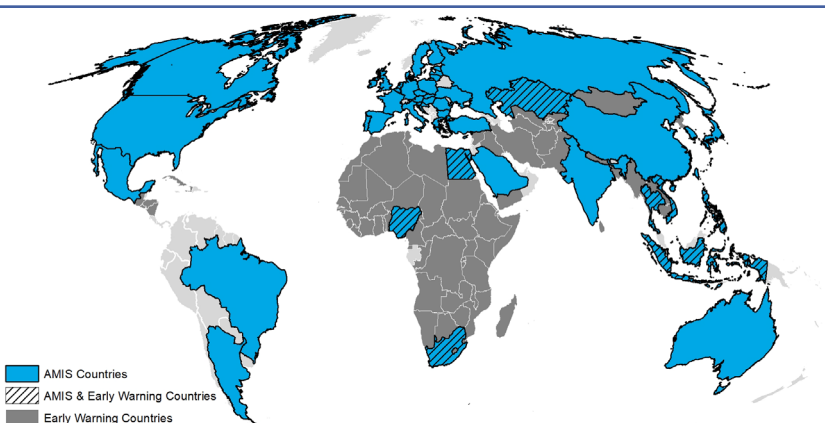
At the end of August, conditions remain generally favourable for wheat and soybeans while mixed for rice and maize. In the northern hemisphere, wheat harvest is wrapping up while some areas of concern for wheat remain in North America, Europe, and Central Asia. In the southern hemisphere, dry conditions persist in Argentina impacting newly planted wheat. Maize harvest is wrapping up in the southern hemisphere while hot and dry conditions hit in the northern hemisphere. Rice conditions remain generally favourable with areas of concern in China. Soybean conditions remain generally favourable in the northern hemisphere.



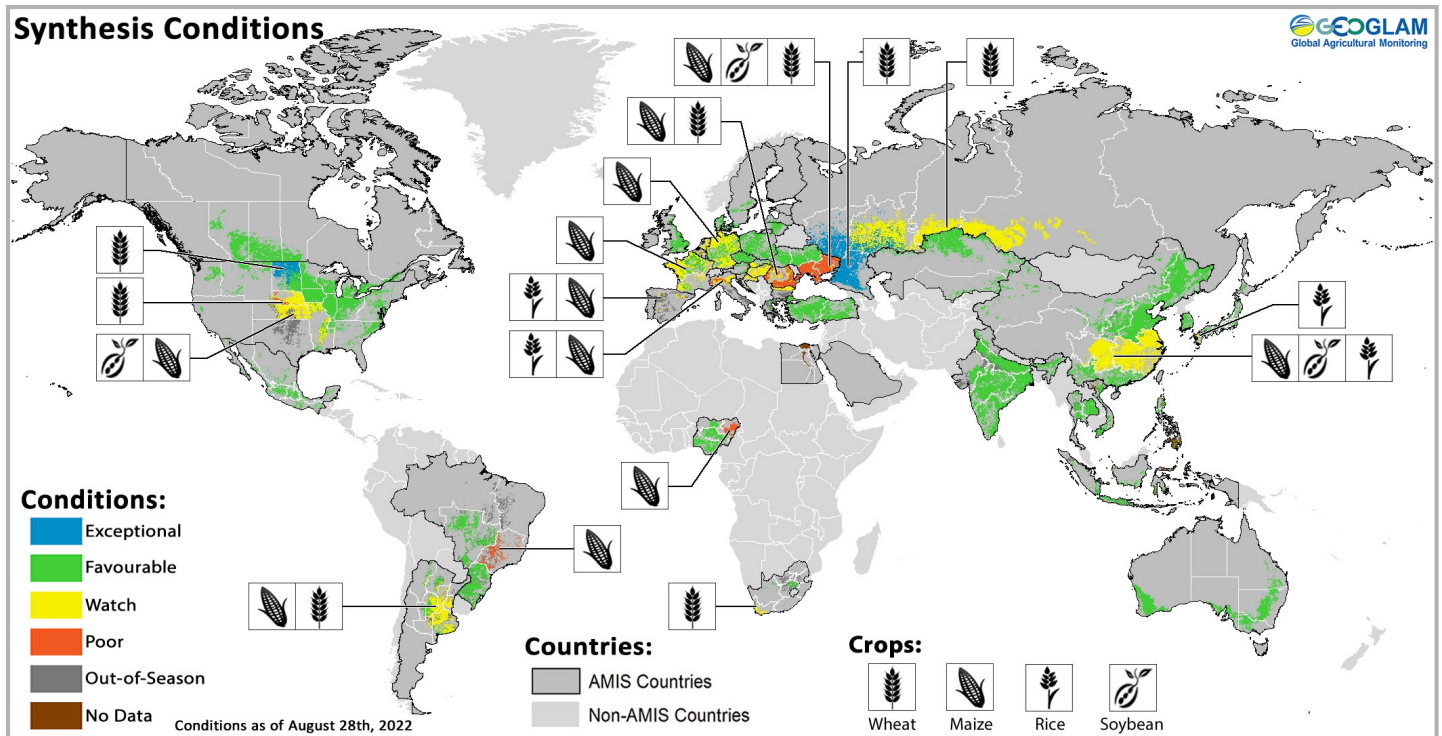
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*Assessment based on information as of August 28<sup>th</sup>*



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



Crop condition map synthesizing information for all four AMIS crops as of August 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, winter wheat harvesting is wrapping up while spring wheat harvest begins. In the southern hemisphere, dry conditions continue to impact early development in Argentina.

**Maize** - In the southern hemisphere, harvesting is wrapping up in Brazil and Argentina. In the northern hemisphere, hot and dry weather is impacting crops in the US, China, and Europe.

**Rice** - In China, there is extreme heat with dry conditions in the Yangtze River basin. In India, Kharif rice transplanting is complete. In Southeast Asia, wet-season rice is growing the northern countries and dry-season rice in Indonesia.

**Soybeans** - In the northern hemisphere, conditions are generally favourable except for some minor dry conditions in the US and China as well as disruptions due to the ongoing war in Ukraine.

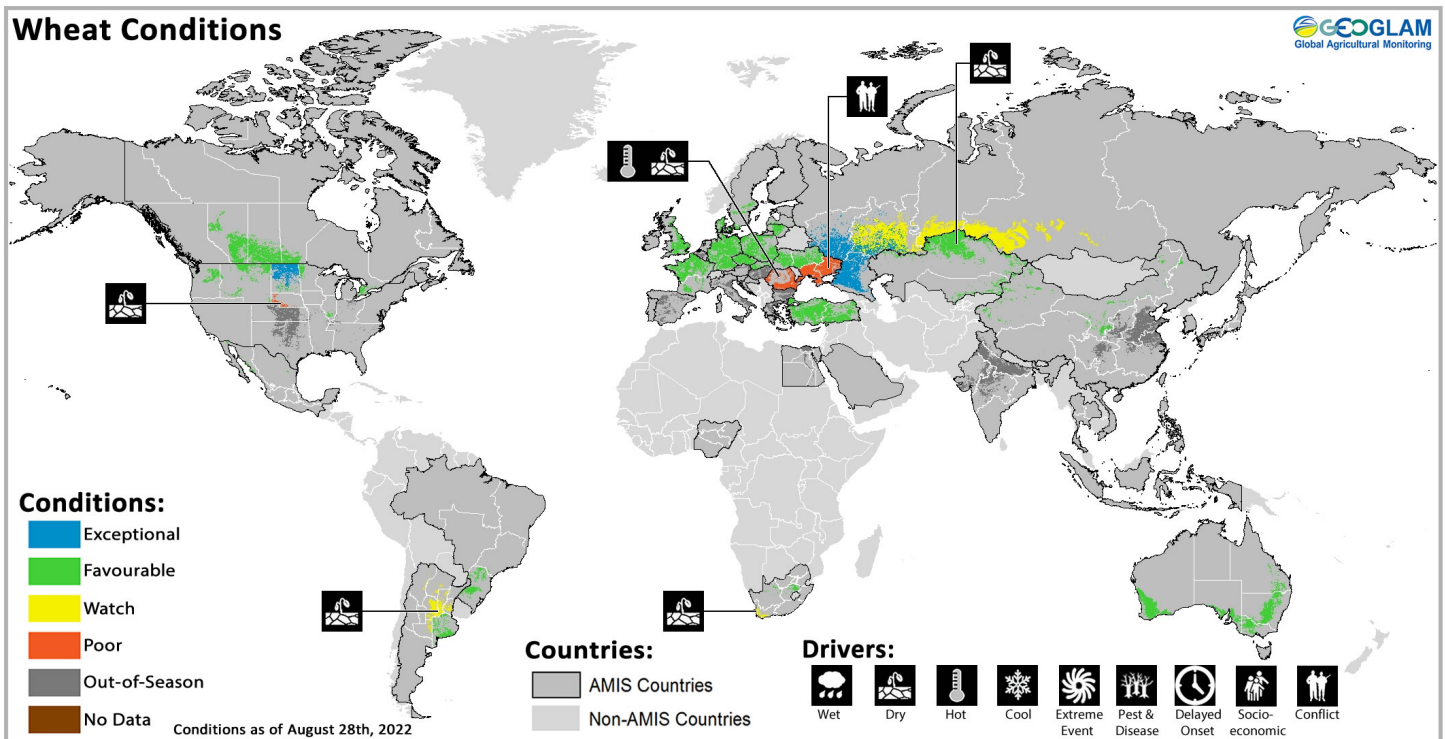
### Forecasts at a Glance

**Climate Influences** - ENSO is currently in the La Niña phase and will likely continue into early 2023 (80% chance for September to November and 60% chance for December to February). Negative Indian Ocean Dipole (IOD) conditions are present and will likely continue into December.

**Southeast Asia** – Above-average rainfall is anticipated across most of the region.

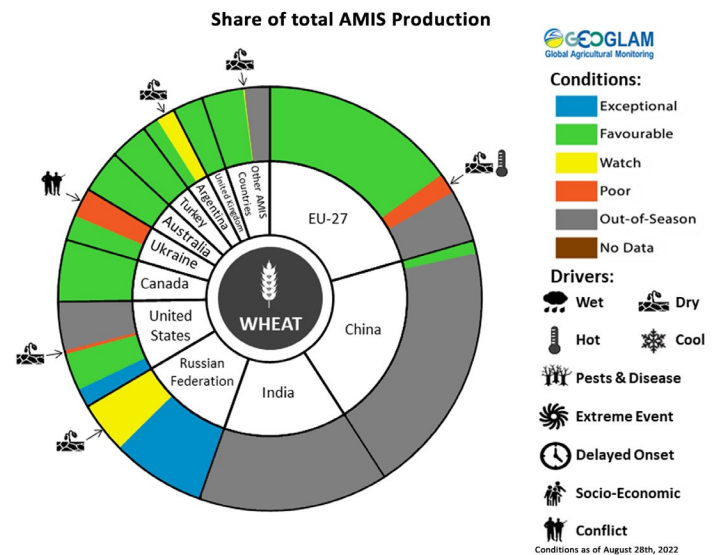
*While the Crop Monitor for AMIS is primarily focused on documenting crop conditions based on environmental factors, the war in Ukraine and in other conflict areas will very likely negatively impact the ability of the crop to be harvested.*

## 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 August 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.

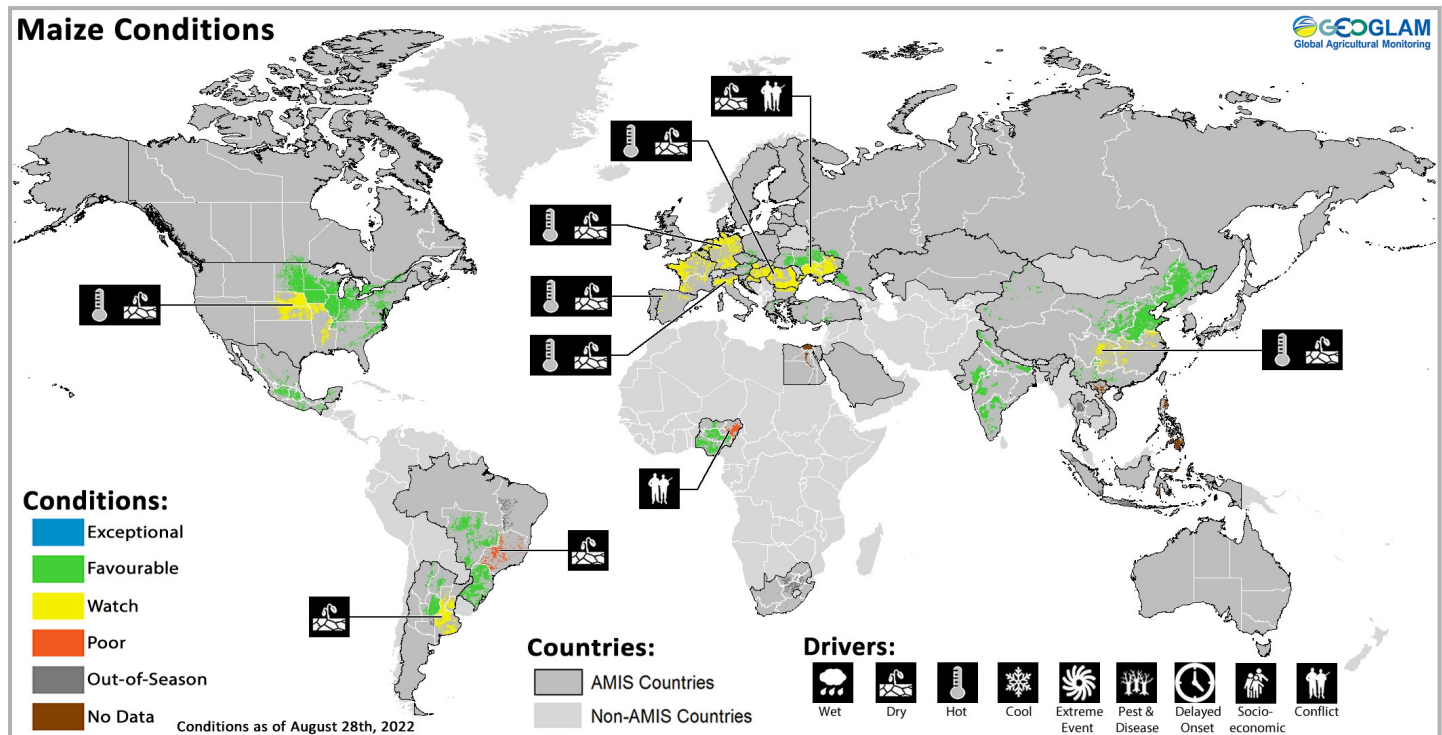
**Wheat:** In the **EU**, recent hot and dry conditions benefited final harvesting across northern Europe. In the **United Kingdom**, harvest is wrapping up under favourable conditions. In **Ukraine**, harvesting is wrapping up with generally good yields away from the conflict zone and reduced yields near the war zone. In the **Russian Federation**, harvesting of winter wheat is completing with exceptional yields. However, dry conditions have developed over spring wheat areas throughout August. In **Turkey**, harvesting is wrapping up aided by dry conditions. In **China**, spring wheat harvesting is ongoing. In the **US**, harvesting of winter wheat is wrapping up in the north, while spring wheat harvesting continues with exceptional conditions in the Dakotas. In **Canada**, winter wheat harvesting is wrapping up while spring wheat harvesting is beginning. In **Australia**, conditions are favourable across all states; however, ongoing wet conditions in parts of southern Queensland and northern and central New South Wales may reduce the intended sown area in those regions. In **Argentina**, sowing has finished as ongoing dry conditions continue to be of concern; however, recent rainfall has improved conditions in Buenos Aires.



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

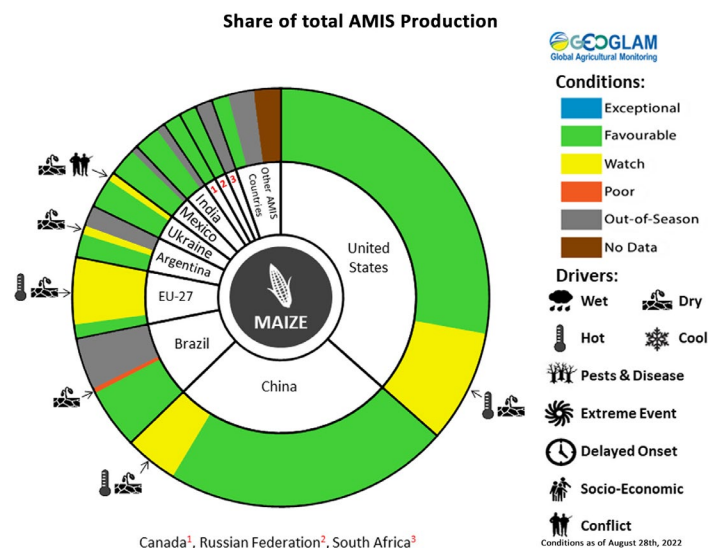
\* Assessment based on information as of August 28<sup>th</sup>

## Maize Conditions for AMIS Countries



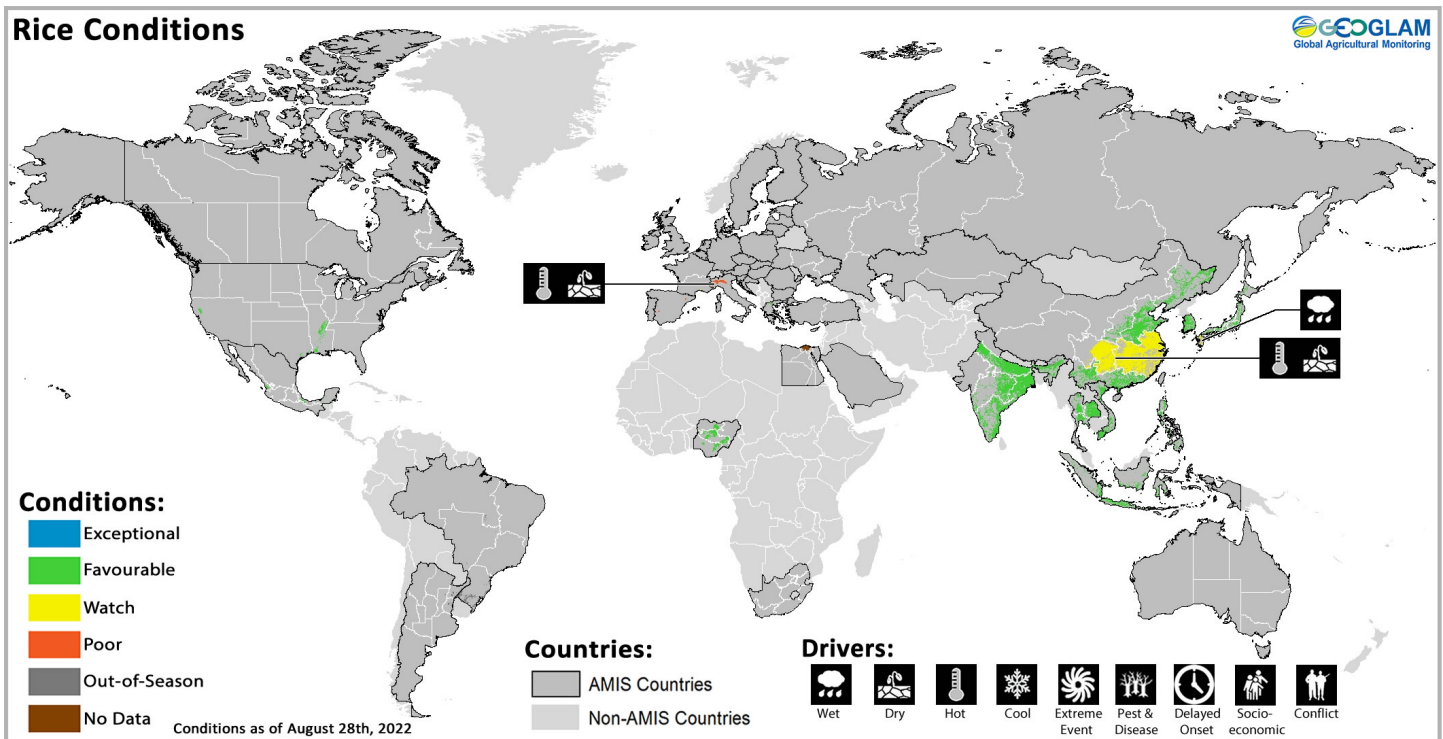
Maize crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of August 28<sup>th</sup>. Where crops are in other than favourable conditions the climatic drivers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

**Maize:** In **Argentina**, harvesting of the late-planted crop (smaller season) is wrapping up under generally favourable conditions, but with heterogeneous yields. Sowing of the early-planted crop (larger season) has begun under dry conditions. In **Brazil**, harvesting of the summer-planted crop (larger season) is wrapping up under favourable conditions in the Central-West and South regions, while poor in the Southeast region. In the **US**, conditions are mixed as earlier hot and dry weather, particularly along the western and southern Corn Belt, continues to be of concern. In **Canada**, conditions have improved in Ontario despite recent excess heat. In **Mexico**, conditions are favourable as sowing continues for the spring-summer season (larger season). In the **EU**, exceptionally hot and/or dry weather conditions in large parts of Europe continue to substantially reduce yield outlooks. In **Ukraine**, conditions remain mixed in the south and east due to the ongoing war and recent hot and dry weather. In the **Russian Federation**, conditions are favourable. In **China**, conditions are generally favourable except for in the Yangtze River basin where drought has impacted crops. There is a slight reduction in the total sown area compared to last year. In **India**, sowing of Kharif crops is complete with a total sown area similar to last year.



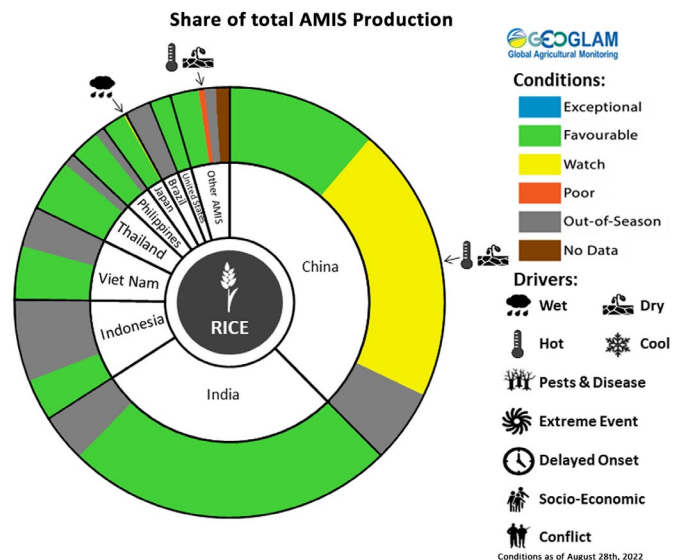
For detailed description of the pie chart please see box on page 6.

## 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 August 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.

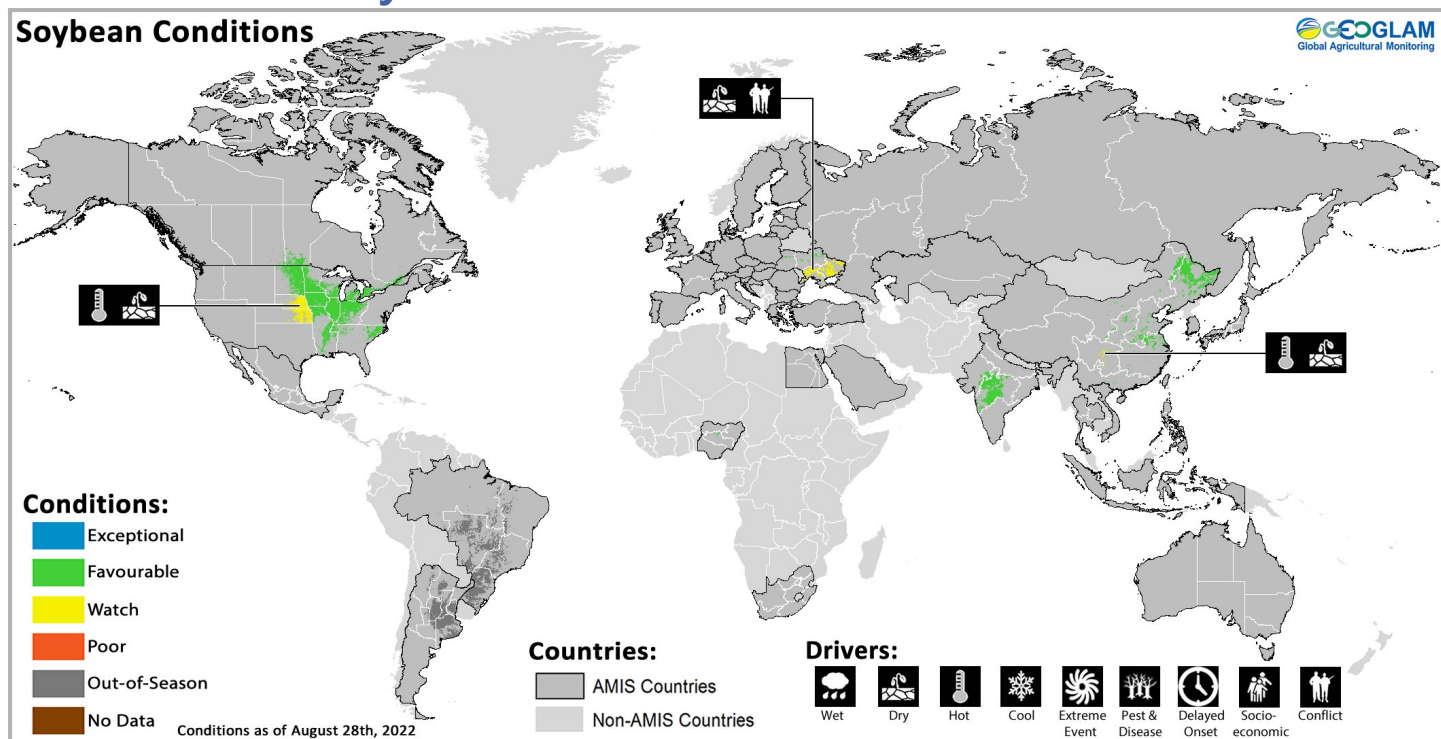
**Rice:** In **China**, persistent extreme heat along with dry conditions within the Yangtze River basin has forced the early ripening of single-season rice and also affected late-season rice, reducing yields. Elsewhere conditions are favourable. In **India**, transplanting of Kharif rice is mostly complete with a reduction in the total sown area compared to last year and the average. In **Indonesia**, conditions are favourable as dry-season rice sowing continues into the fifth month, while the harvesting of the earlier sown crops continues. In **Viet Nam**, summer-autumn rice (wet-season) is under favourable conditions across the country with harvesting ongoing in the south. Autumn-winter rice (wet-season) sowing is continuing in the south. In **Thailand**, wet-season rice is in the tillering stage under favourable conditions with an increase in sown area in the Northern and Central regions due to abundant rainfall. In the **Philippines**, wet-season rice is under favourable conditions with earlier sown crops beginning to harvest. Despite the passage of several large storm systems, no major crop damage has occurred. In **Japan**, conditions are generally favourable. In the **US**, harvesting is ongoing in Louisiana and Texas under favourable conditions.



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

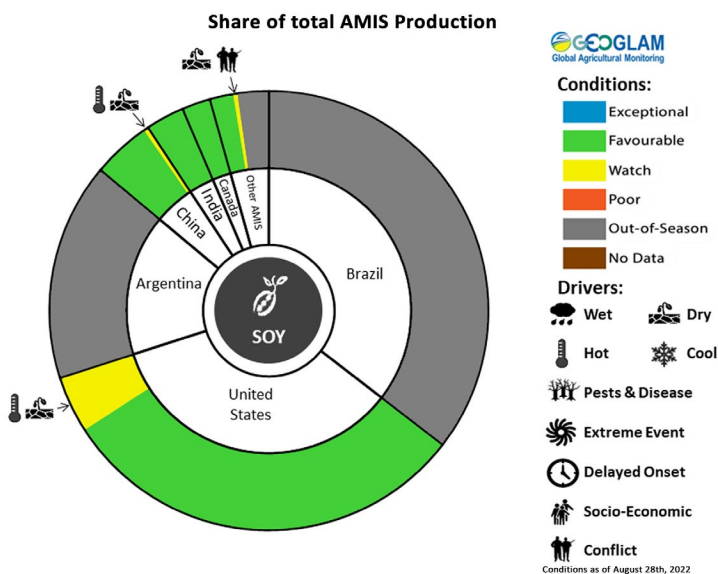
\* Assessment based on information as of August 28<sup>th</sup>

## 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 August 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 remain generally favourable, however, hot and dry conditions are beginning to impact crops on the western edge of the main growing states. There is an increase in total sown area compared to last year. In **Canada**, conditions have improved across the country. In **China**, conditions are favourable in the vegetative to reproductive stages. There is a large increase in the total sown area as compared to last year. In **India**, conditions are favourable with the majority of the sowing completed. The total sown area is in line with last year. In **Ukraine**, conditions are favourable in the western, central, and northern regions. However, in the southern and eastern regions, conditions are mixed due to recent hot and dry weather coupled with disruptions due to the ongoing war.



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

**Information on crop conditions in non-AMIS countries can be found in the [GEGLAM Crop Monitor for Early Warning](#), published September 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 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). When conditions are other than 'favourable', icons are added that provide information on the key climatic drivers affecting conditions.

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

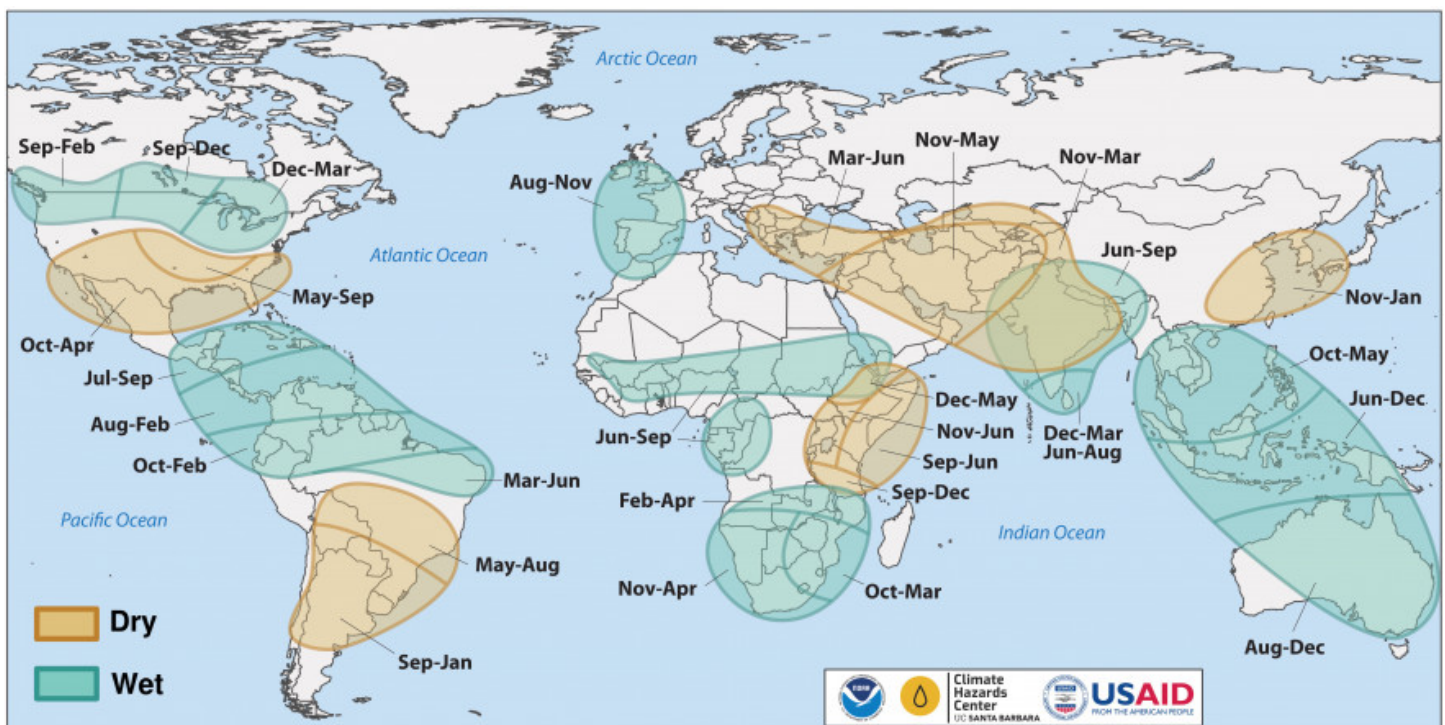
## Climate Influences: La Niña Advisory and Likely Negative Indian Ocean Dipole

The El Niño–Southern Oscillation (ENSO) is currently in the La Niña phase, according to the IRI/CPC. La Niña conditions will likely continue into early 2023 (80% chance for September to November and 60% chance for December to February).

Negative Indian Ocean Dipole (IOD) conditions are present and may continue into December, according to the Australia Bureau of Meteorology forecast (99% chance for October and 63% chance for December).

During the next several months, there are increased risks of severe drought across the Horn of Africa, and heavy rainfall and flooding in Australia and southeast Asia. Additionally, a third year in a row with La Niña conditions raises concerns about repeat dry conditions in eastern East Africa, southern South America, Central and Southern Asia, and southern North America.

Source: UCSB Climate Hazards Center

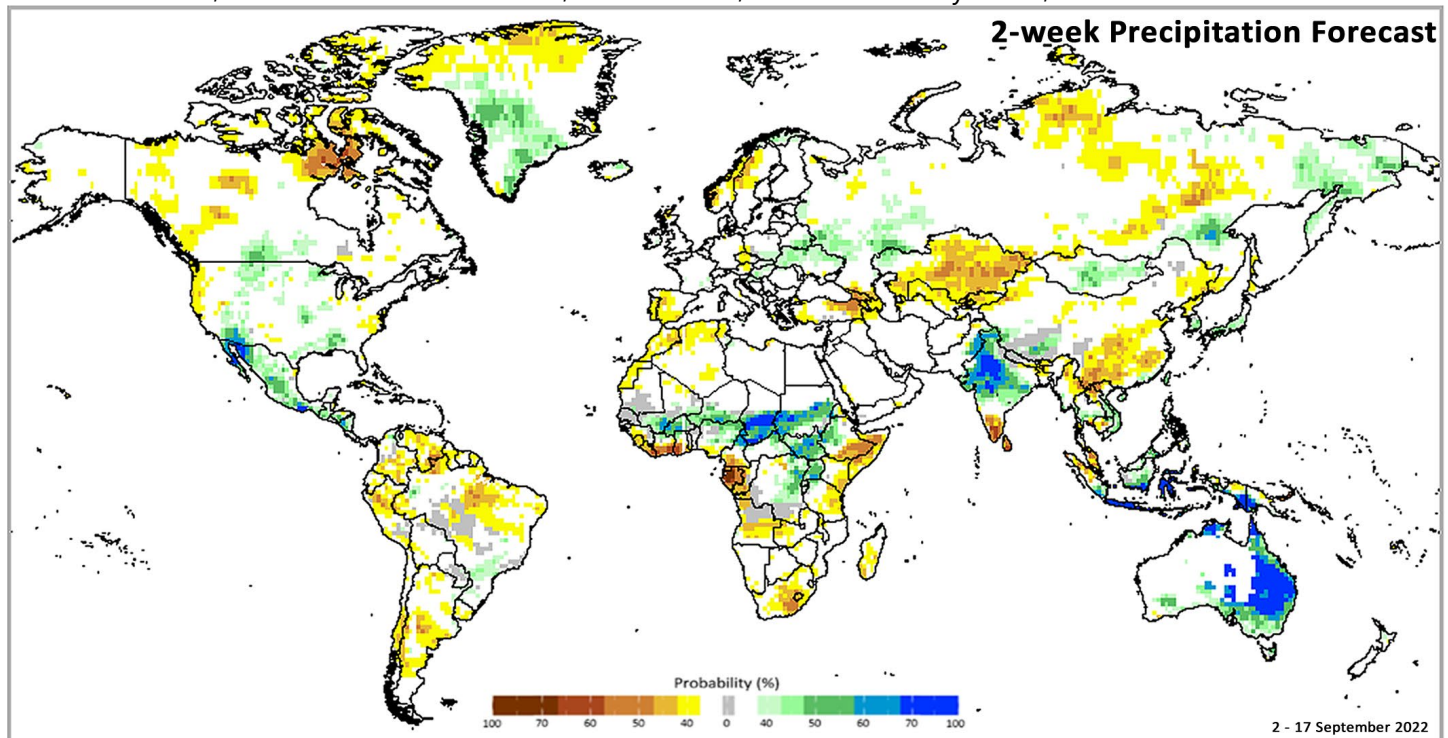


Location and timing of likely above- and below-average precipitation related to La Niña events. Based upon observed precipitation during 21 La Niña events since 1950, wet and dry correspond to a statistically significant increase in the frequency of precipitation in the upper and lower thirds of historical values, respectively. Statistical significance at the 95% level is based on the resampling of precipitation during neutral El Niño–Southern Oscillation conditions. Source: FEWS NET & NOAA & CHC <https://fewsn.net/la-ni%C3%B1a-and-precipitation>

## Global Two-week Forecast of Areas with Above or Below-Average Precipitation

The two-week forecast (Figure 1) indicates a likelihood of above-average rainfall over southern Greenland, northern Iceland, south-central Canada, north-central, central, and southern areas of the United States, Central America, southern Brazil, southern Sahel areas, western areas of East Africa, eastern areas of the Democratic Republic of Congo, Ireland, France, Hungary, Poland, Belarus, Ukraine, west, east, and southeastern areas of the Russian Federation, Mongolia, South Korea, southern Japan, Taiwan, eastern Pakistan, central and northern India, southern Myanmar, southern Thailand, southern Laos, southern Viet Nam, eastern Malaysia, central and eastern Indonesia, southern Papua New Guinea, Australia, and northern New Zealand.

There is also a likelihood of below-average rainfall over northern Greenland, west, north, and eastern areas of Canada, west and eastern areas of the United States, Cuba, much of South America, northwestern Africa, the Gulf of Guinea, southern Africa, south an eastern areas of East Africa, Portugal, Spain, northern United Kingdom, Austria, Czech Republic, Norway, Sweden, Turkey, Georgia, Armenia, Azerbaijan, northern Iraq, northwestern Iran, Kazakhstan, Uzbekistan, Kyrgyzstan, central areas of the Russian Federation, north and southeastern China, the Democratic People's Republic of Korea, northern Japan, southern India, Sri Lanka, eastern Nepal, Bangladesh, northern Myanmar, northern Laos, northern Viet Nam, Cambodia, western Myanmar, and western Indonesia.



IRI SubX Precipitation Biweekly Probability Forecast for 2 – 17 September 2022, issued on August 29<sup>th</sup>, 2022. The forecast is based on statistically calibrated tercile category forecasts from three SubX models. Source: [IRI Subseasonal Forecasts Maproom](#)



## Southeast Asia Outlook

In recent weeks, rainfall totals were above-average or average in most areas of the region (Figure 1-left). Rainfall was below-average in Bangladesh, central and northern Myanmar, northern Laos, and eastern Malaysia. In Thailand, highly above-average rainfall led to flooding in multiple provinces in August.

An outlook for April 1st to August 10th indicates largely above-average season-to-date rainfall totals across southern and northeastern areas. Ongoing rainfall deficits could intensify in southern Bangladesh and central Myanmar from forecast drier-than-average conditions (Figure 1-middle left). Myanmar may continue to receive below-average rainfall through August, based on the WMO forecast (Figure 1-middle-right). In northeastern areas, the two-week forecast shows mainly above-average rainfall during late August and early August.

Models continue to predict a transition to wetter-than-average conditions in northeastern areas during September to November (Figure 1-right). In most southern areas, wetter-than-average conditions will very likely continue through November, based on agreement from a large majority of models from multiple forecasting centers. These are indicating typical impacts from possible warmer-than-average conditions in the Indo-Pacific Ocean region, negative Indian Ocean Dipole, and La Niña conditions. Models also indicate relatively dry conditions in northern Indonesia and west Malaysia, and above-average temperatures in Bangladesh, Myanmar, southern Thailand, the Philippines, and Indonesia.

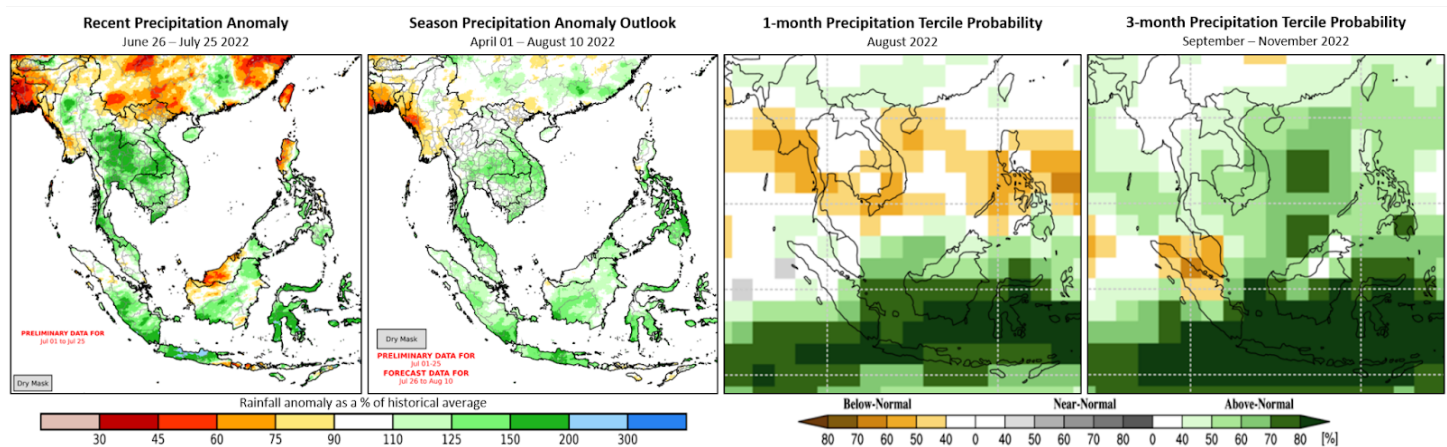


Figure 1. June 26th to August 25th and April 1st to August 10th, 2022 precipitation anomalies, and probability forecasts for August and September-to-November 2022 precipitation. The left two panels are CHC Early Estimates, which compare current precipitation totals to the 1981-2021 CHIRPS average for their respective accumulation periods. These use a combination of final and preliminary data, and for the middle-left, also a two-week bias-corrected GEFS forecast. Left: Percent of average for June 26th to August 25th, 2022. Middle-left: Percent of average for April 1st to August 10th. Preliminary data for August 1st - 25th; forecast data for August 26th to August 10th. The right two panels show WMO probabilistic forecasts for August (middle-right) and September-to-November (right) 2022 precipitation, based on models initialized in August. From the WMO Lead Centre Long-Range Forecast Multi-Model Ensemble.

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

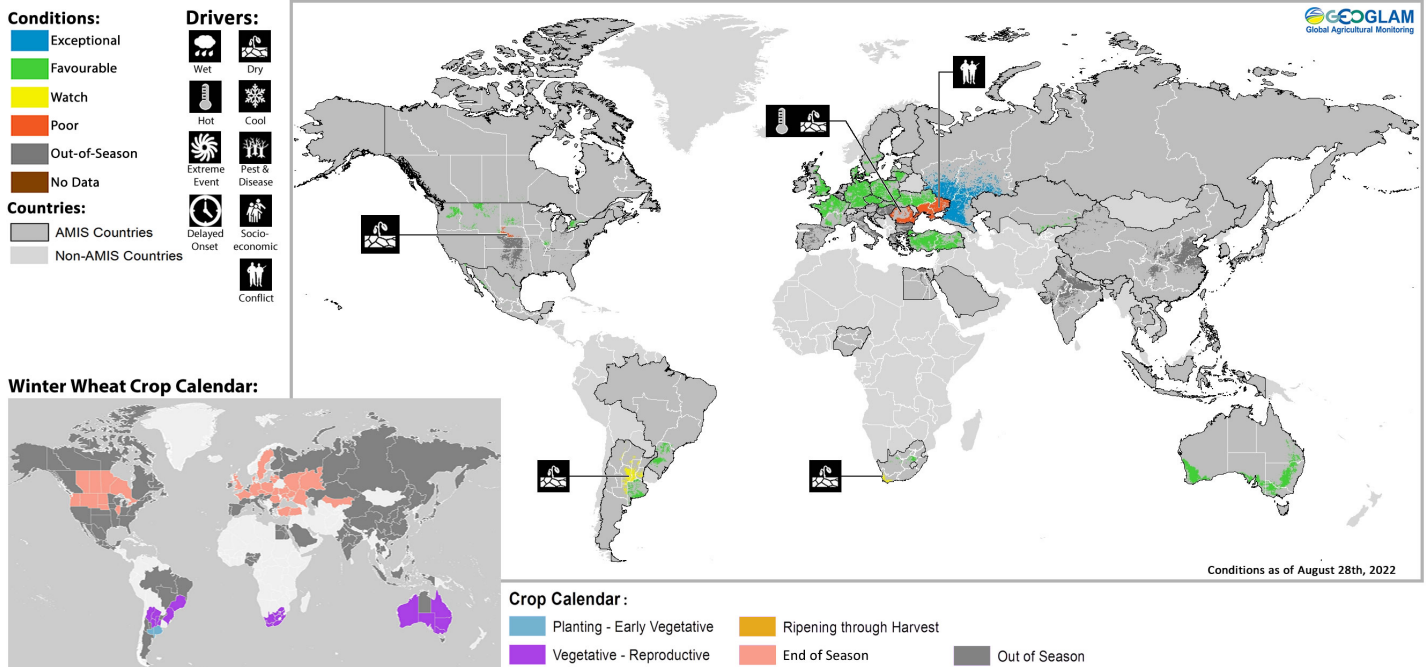
### Crop Season Nomenclature:

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	

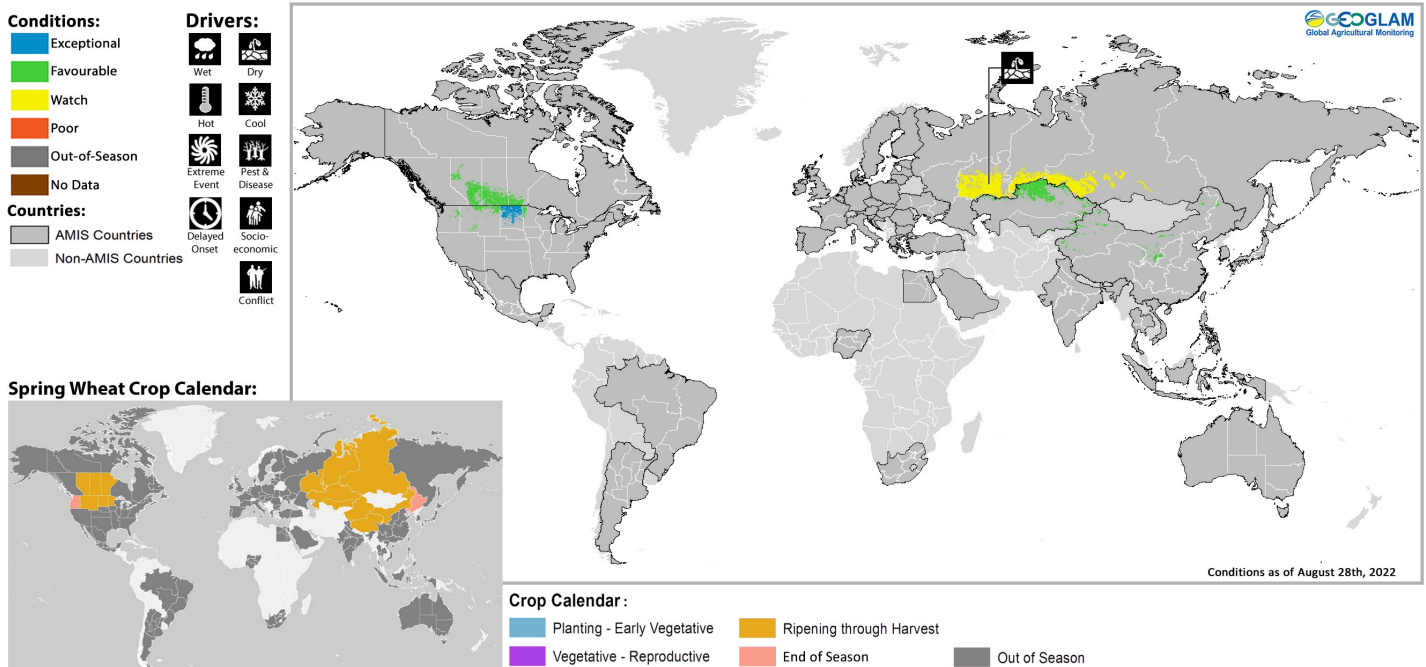
## Appendix 2: Crop Season Specific Maps

### 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 August 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.

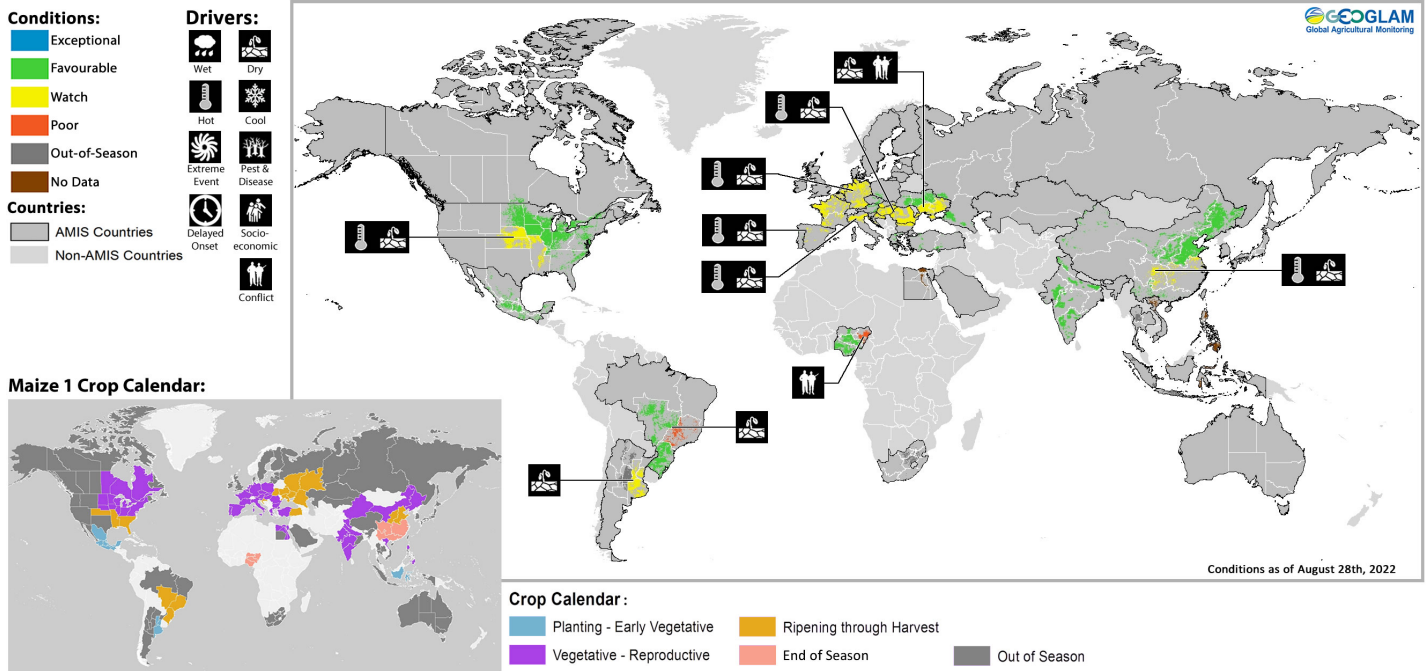
### Spring Planted Wheat Conditions for AMIS Countries



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 August 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.

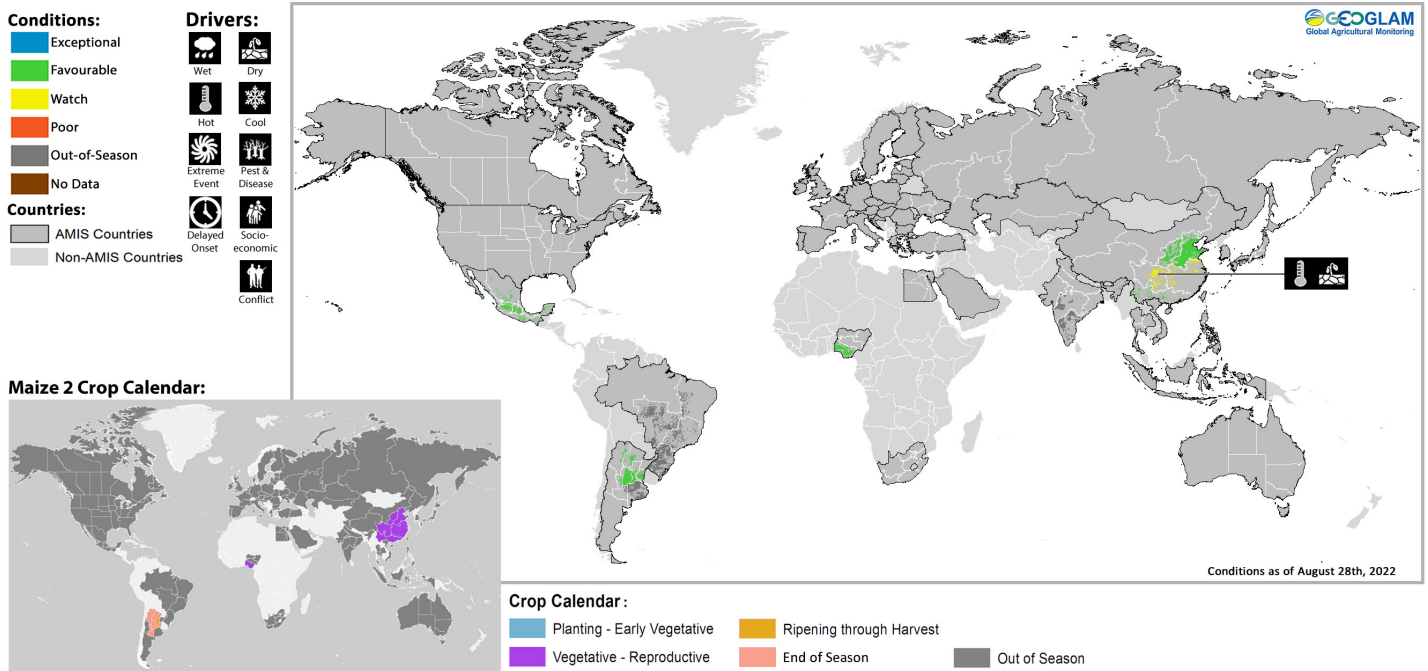
\* Assessment based on information as of August 28<sup>th</sup>

## 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 August 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.

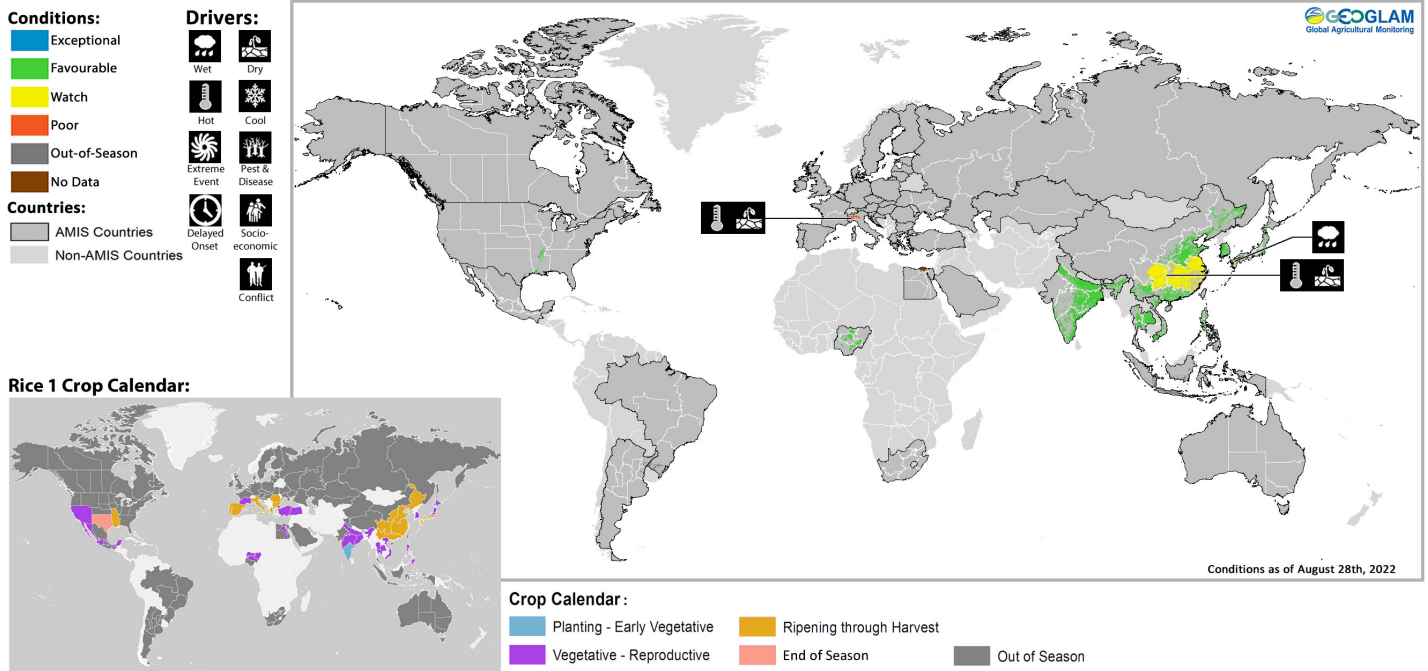
## Maize 2 Conditions for AMIS Countries



Maize 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 August 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.

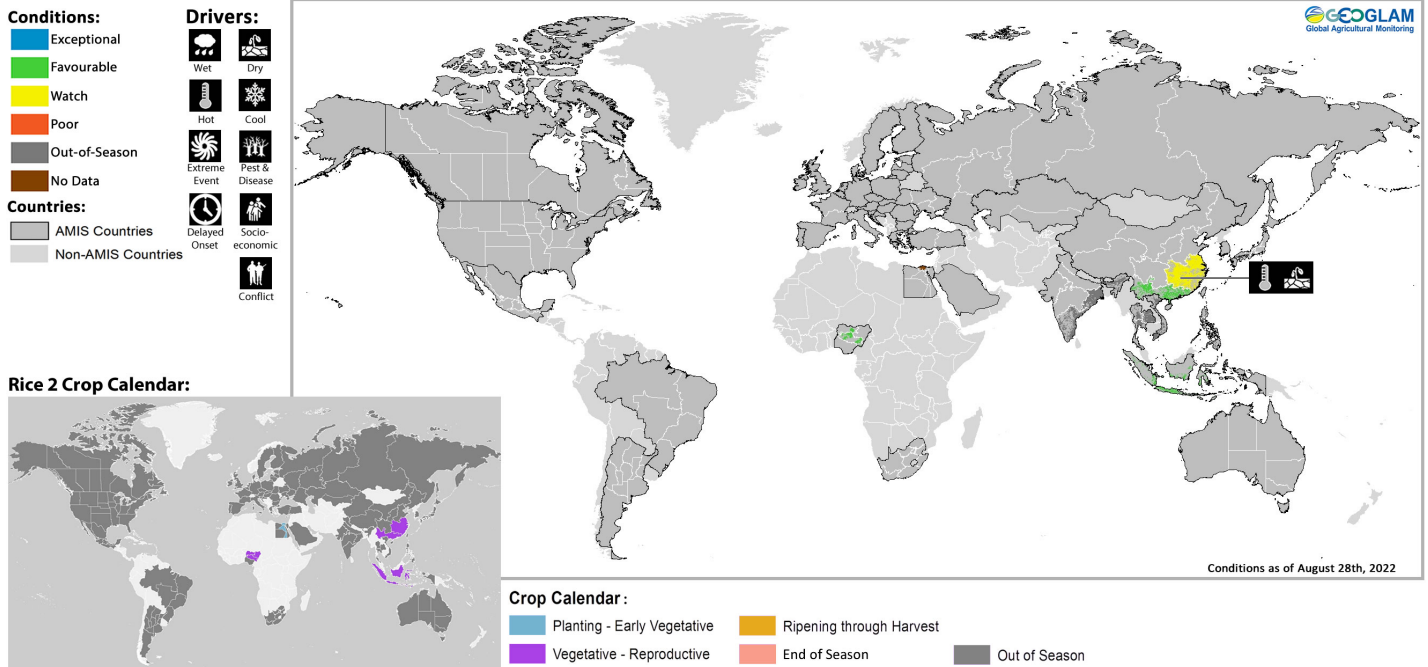
\* Assessment based on information as of August 28<sup>th</sup>

## 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 August 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.

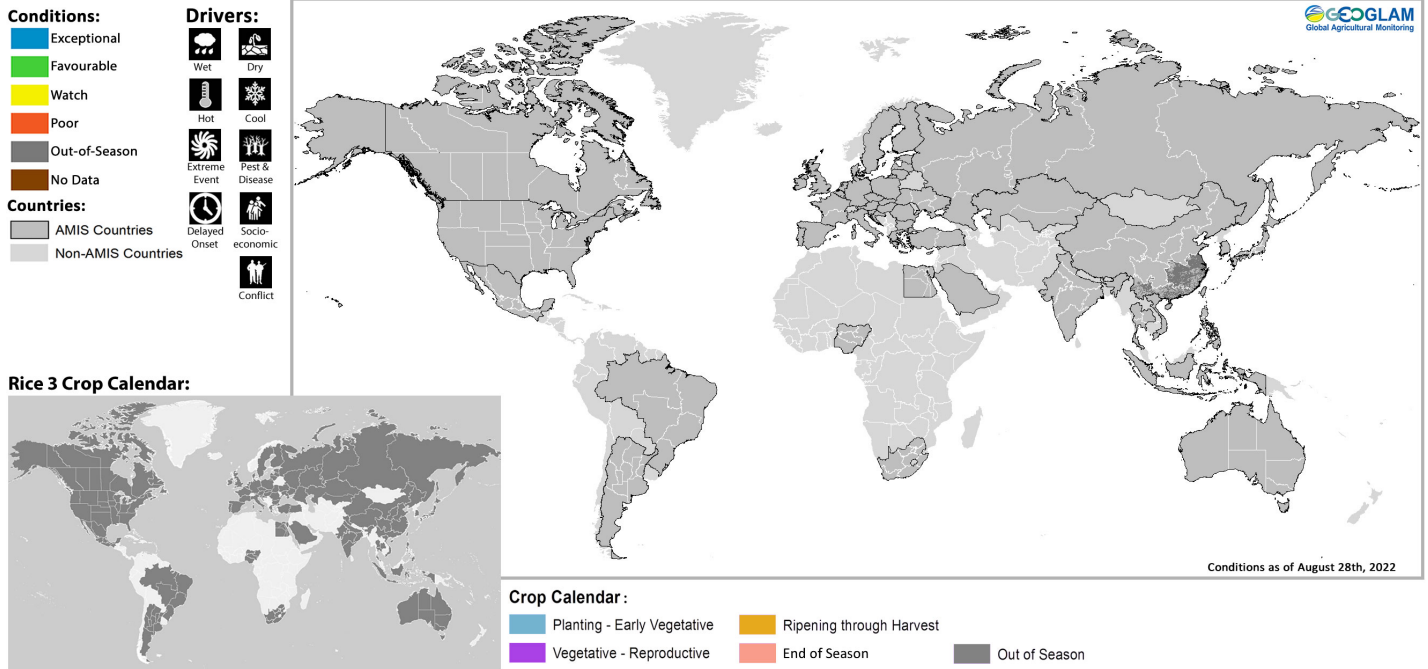
## Rice 2 Conditions for AMIS Countries



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 August 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.

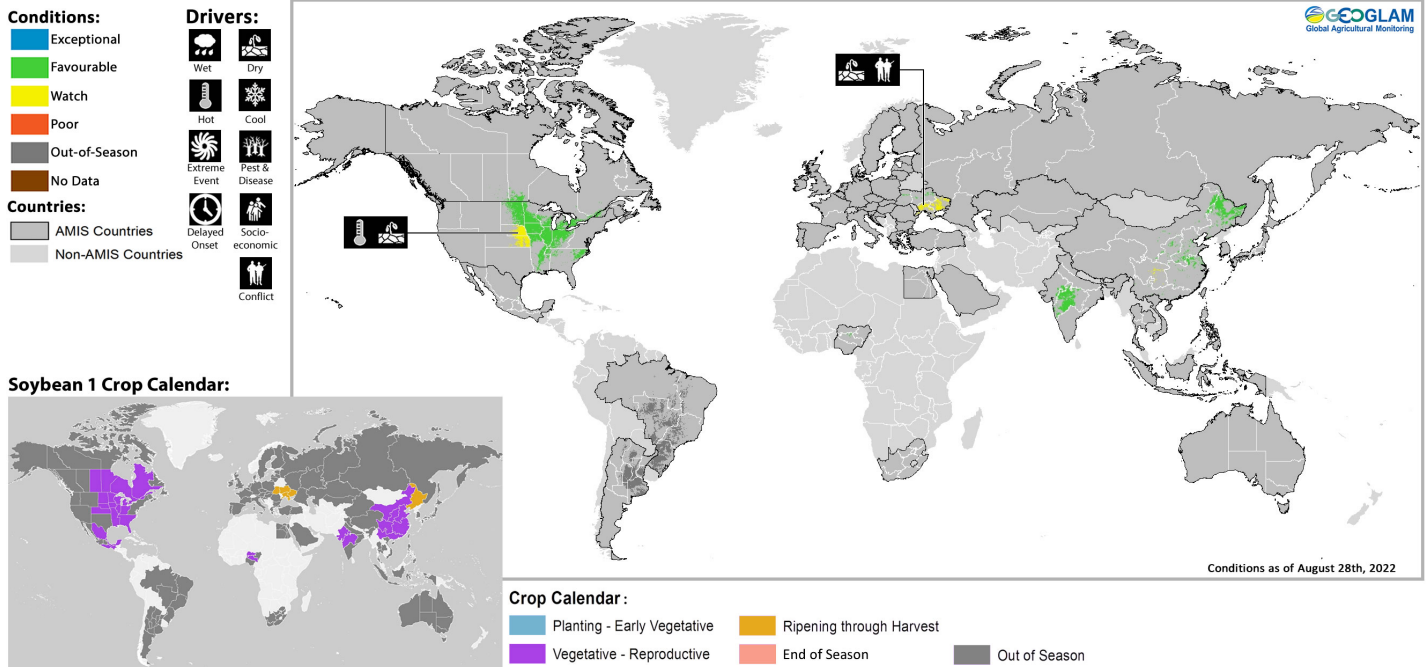
\* Assessment based on information as of August 28<sup>th</sup>

## 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 August 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.

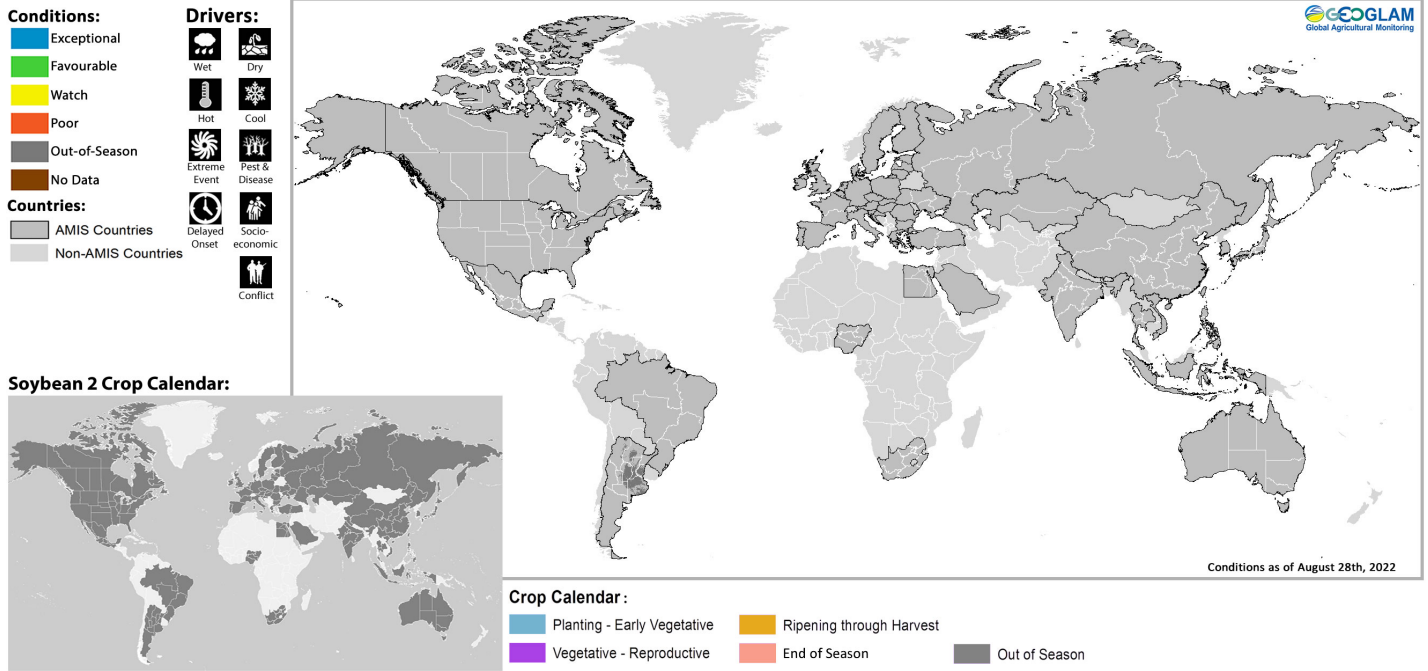
## Soybean 1 Conditions for AMIS Countries



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 August 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 August 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 August 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 August 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, MAGyP), 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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