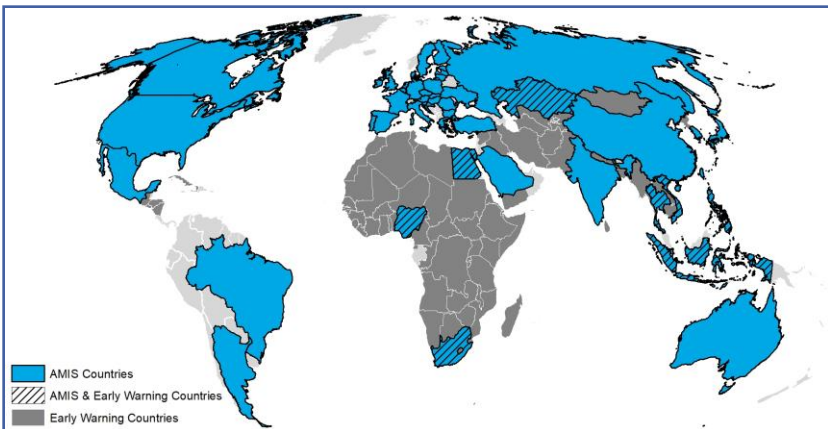




Crop Monitor for AMIS

Overview:

At the end of October, conditions are generally mixed for wheat while favourable for maize, rice, and soybeans. For wheat in the northern hemisphere, sowing of winter wheat is wrapping up with a few areas of concern while harvesting begins in the southern hemisphere. For maize, harvesting is wrapping up in the northern hemisphere while sowing begins in the southern hemisphere. Rice harvesting is ongoing in China and India while recent heavy rains have impacted some countries in northern Southeast Asia. Harvesting is wrapping up for soybeans in the northern hemisphere.

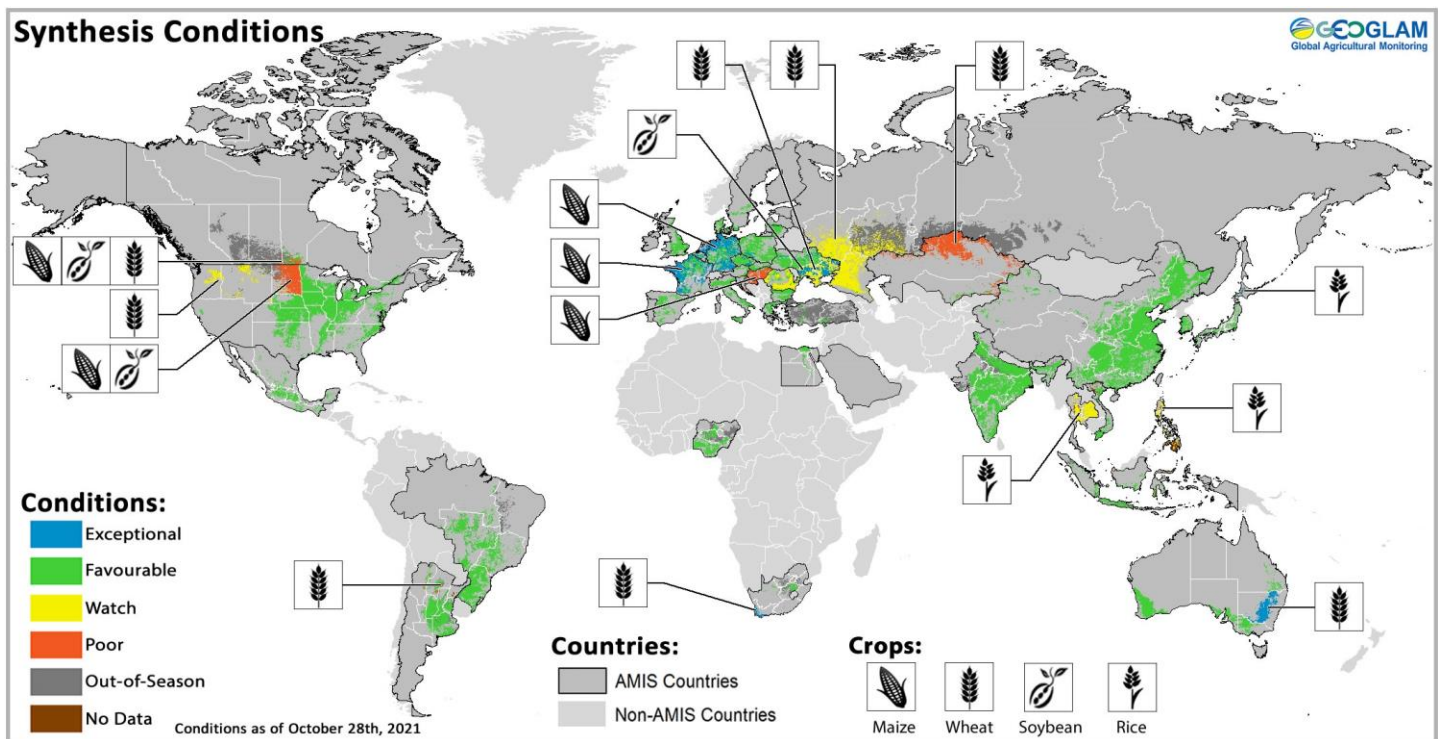


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Assessment based on information as of October 28th

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



Crop condition map synthesizing information for all four AMIS crops as of October 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, sowing of winter wheat is ongoing with areas of concern in the Russian Federation, southern Ukraine, Romania, and the northwestern US. In the southern hemisphere, harvesting is beginning under generally favourable conditions.

Maize - Harvesting in the northern hemisphere is wrapping up while sowing in the southern hemisphere is speeding up.

Forecasts at a Glance

Climate Influences - The El Niño-Southern Oscillation (ENSO) is currently in the La Niña phase with NOAA CPC/IRI issuing a La Niña Advisory in October. La Niña conditions are expected to continue during November to January (93% chance) and into April (63% chance for February-March-April).

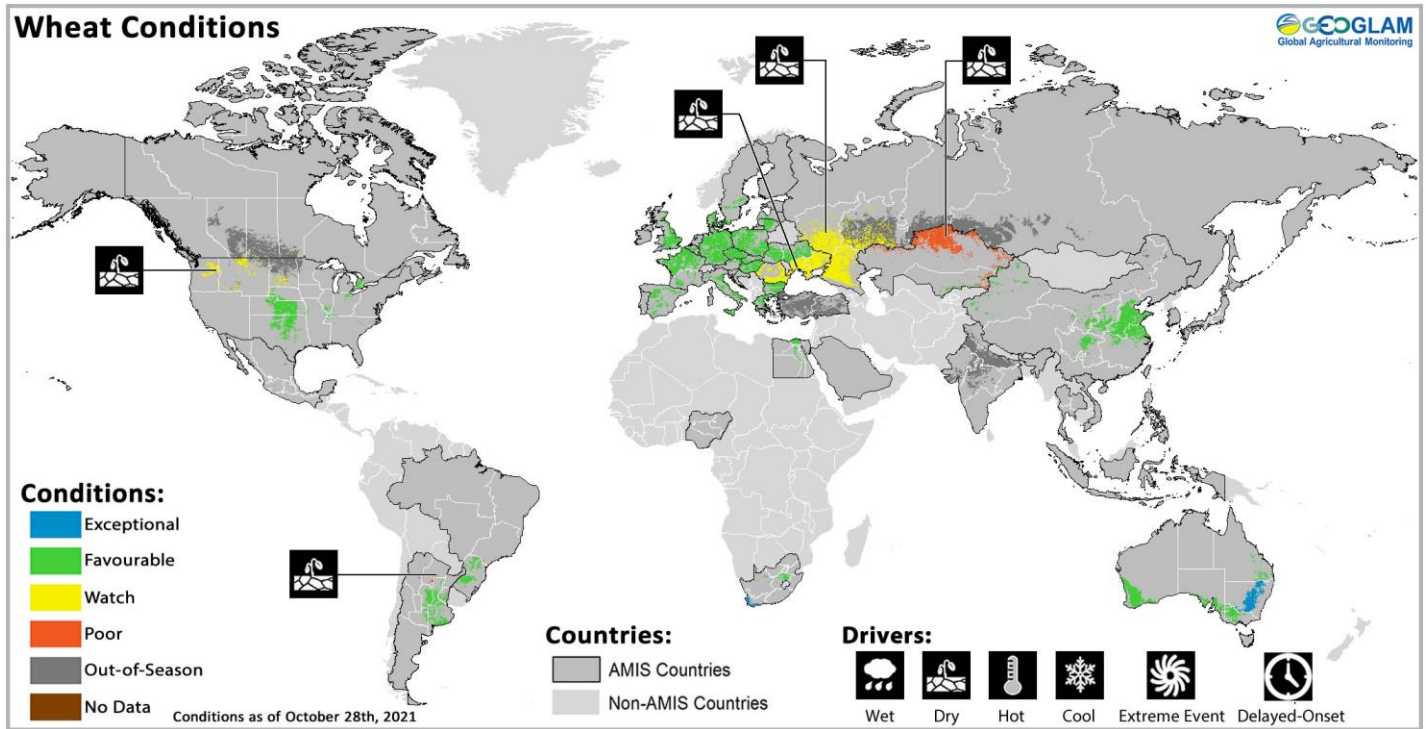
Rice - Harvesting is ongoing in China and India. In Southeast Asia, heavy rains in Thailand and the Philippines have impacted wet-season rice conditions, while in Indonesia dry-season rice is harvesting and wet-season rice has begun sowing.

Soybeans - In the northern hemisphere, harvesting wrapping up under generally favourable conditions. In the southern hemisphere, sowing is beginning in Brazil.

Argentina – The rainfall in October was again below-average across almost the entire country, continuing the trend of the previous months. Rainfall over the next two weeks is also forecast to primarily in the northeast and to be generally below-average.

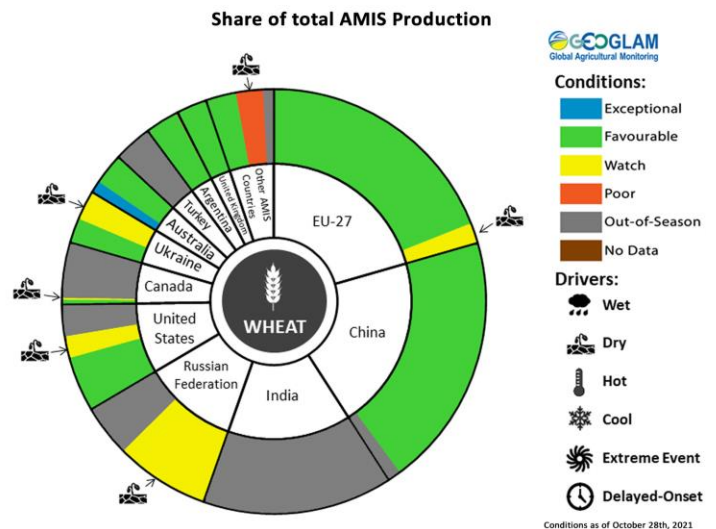
Brazil – The short-term (2-week) and the extended forecasts shows likely below-average rainfall in the south while above-average rainfall across the north, northeast, and parts of the southeast.

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 October 28th. 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.

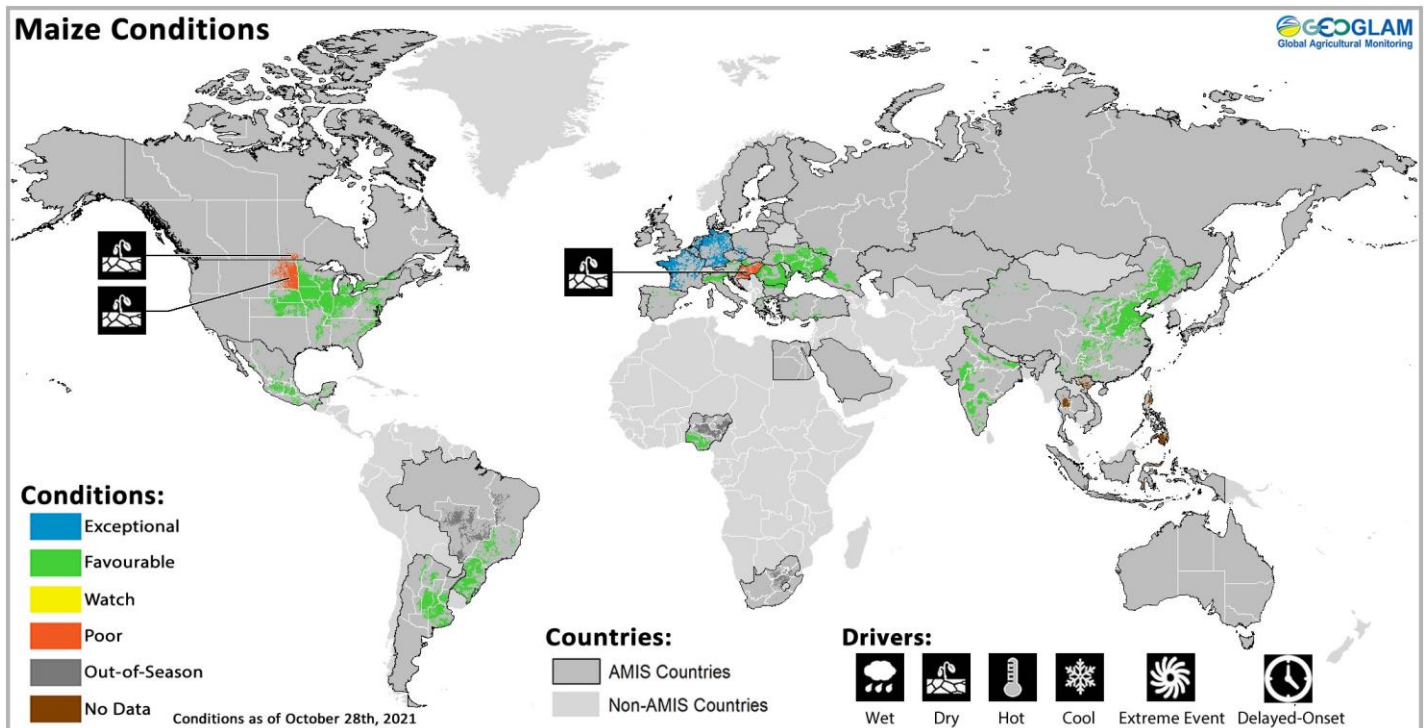
Wheat: In **Argentina**, harvesting is beginning under favourable conditions, except in the north due to prolonged dryness. In **Australia**, conditions are favourable to exceptional in most areas with harvesting beginning in the northern cropping regions. In the **EU**, sowing of winter wheat is ongoing under favourable conditions despite some delays due to excess rainfall in the central EU countries. In the **United Kingdom**, sowing is ongoing under favourable conditions. In **Ukraine**, conditions are mixed with soil moisture deficits in the southern and eastern regions potentially affecting crop establishment. In the **Russian Federation**, concerns remain for winter wheat establishing as dry conditions persist, potentially reducing total sown area. In **China**, sowing of winter wheat continues under favourable conditions. In the **US**, the majority of the winter wheat crop has emerged under mixed conditions due to long-term dryness in the northern and northwest growing regions. In **Canada**, winter wheat is under favourable conditions in the main producing province of Ontario, while drought continues in the Prairies.



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

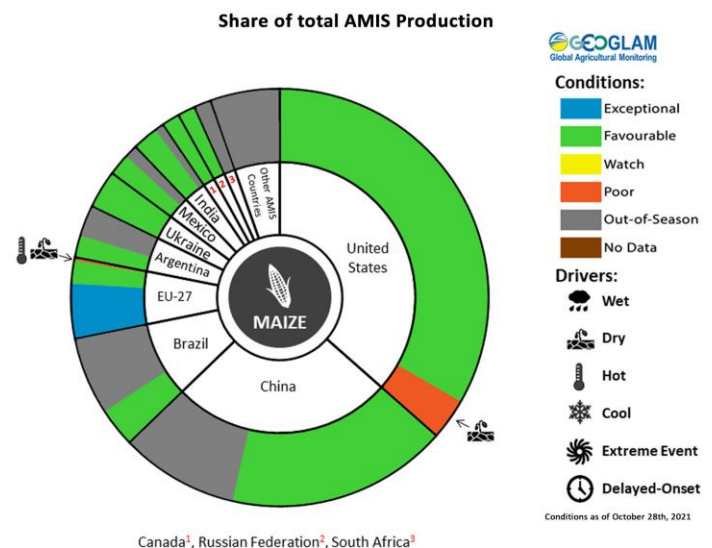
* Assessment based on information as of October 28th

Maize Conditions for AMIS Countries



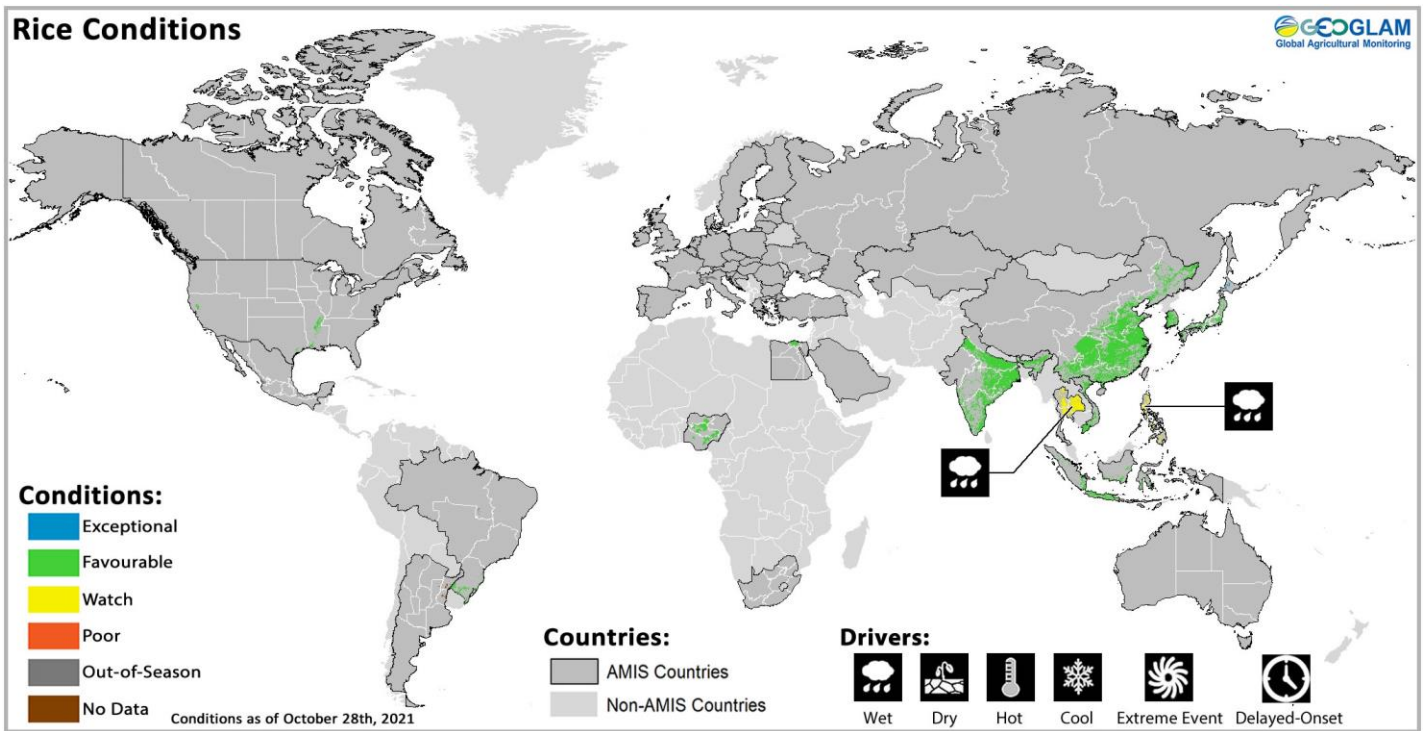
Maize crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of October 28th. Where crops are in other than favourable conditions the climatic drivers responsible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

Maize: In the **US**, harvesting continues under generally favourable conditions except in the Dakotas where persistent dryness has reduced yields. However, an increase in sown area has offset yield losses. In **Canada**, harvesting is continuing under favourable conditions in Ontario and Quebec, while under poor conditions in Manitoba. In **Mexico**, harvesting of the spring-summer crop is ongoing under favourable conditions. In the **EU**, harvesting is wrapping up under mostly favourable to exceptional conditions despite a delay in the central EU countries due to excess rainfall. In **Ukraine**, harvesting continues under favourable conditions. In the **Russian Federation**, conditions are favourable as harvest wraps up. In **China**, harvesting of the summer-planted crop is wrapping up under favourable conditions. In **India**, harvesting of Kharif season crops is ongoing under favourable conditions. In **Brazil**, sowing of the spring-planted crop (smaller season) is beginning under favourable conditions. In **Argentina**, conditions are favourable as the sowing of the early-planted (larger season) progresses.



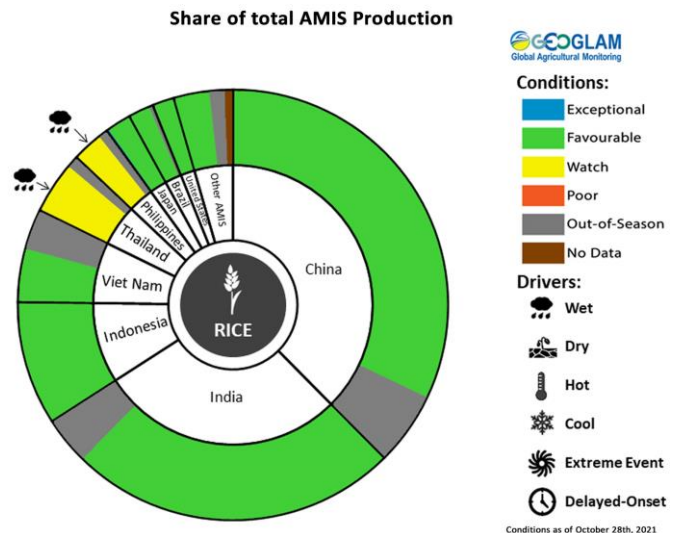
For detailed description of the pie chart please see box on page 6.

Rice Conditions for AMIS Countries



Rice crop conditions over maingrowing 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 October 28th. 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.

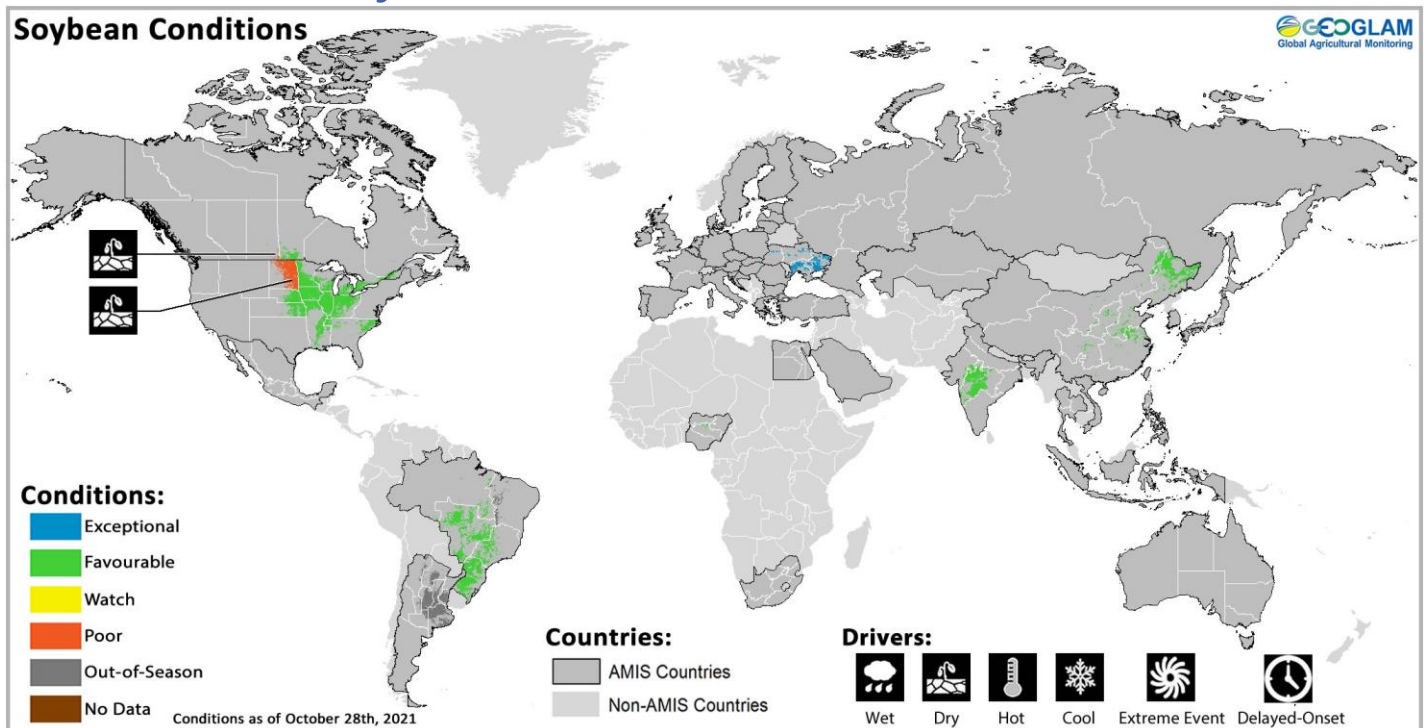
Rice: In **China**, conditions are favourable as harvesting of the single-cropping rice is wrapping up while the harvesting of the late-season crop continues. In **India**, harvesting of Kharif season crops is underway in the central and northern states under favourable conditions with an increase in sown area compared to last year. In **Indonesia**, harvesting of dry-season rice is continuing under favourable conditions with yields slightly higher than the previous year. Sowing of wet-season rice is beginning under favourable conditions, albeit slightly behind last year's pace. In northern **Viet Nam**, wet-season rice is beginning to harvest in some provinces under favourable conditions. In the South, harvesting of summer-autumn (main wet-season) rice is wrapping up with yields slightly higher than the previous year. Autumn-winter (wet-season) rice is entering the harvesting stage also with increased yields expected compared to the previous year. In **Thailand**, wet-season rice is in the grain filling stage under mixed conditions as a result of excess rainfall and widespread flooding from tropical cyclone Dianmu. In the **Philippines**, wet-season rice sown in July and August is under mixed conditions due to moderate to heavy rainfall from an enhanced Southwest monsoon. In **Japan**, harvest is wrapping up under generally favourable conditions with above-average yields in Hokkaido. In the **US**, harvesting is wrapping up under favourable conditions. In **Brazil**, sowing is ongoing under favourable conditions.



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

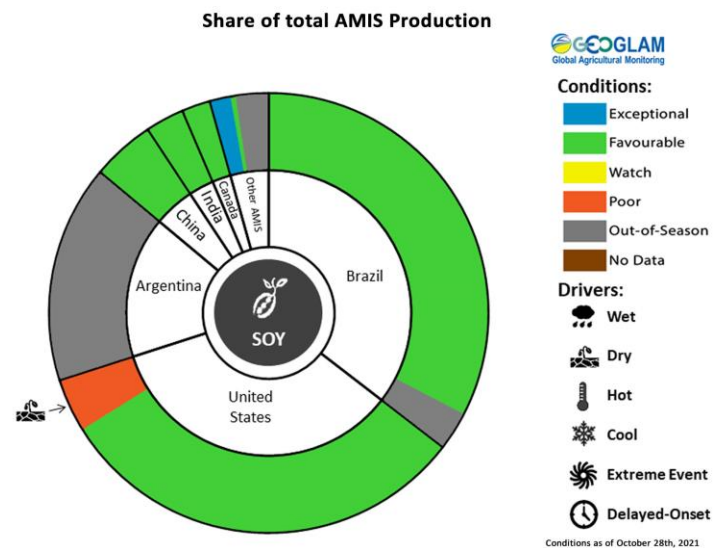
* Assessment based on information as of October 28th

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 October 28th. 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**, harvesting is wrapping up under generally favourable conditions except in the Dakotas where persistent dryness has reduced yields. However, an increase in sown area compared to last year has offset yields. In **Canada**, harvesting continues with favourable conditions in the main producing province of Ontario, while yields are reduced in the Prairies due to drought during the growing season. In **China**, conditions are favourable as harvesting wraps up. In **India**, harvesting is wrapping up under favourable conditions. Sown area is similar to last year's area and above-average. In **Ukraine**, harvesting is wrapping up under exceptional conditions with above-average yields. In **Brazil**, sowing has begun in the main producing regions under favourable conditions.



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 November 4th

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

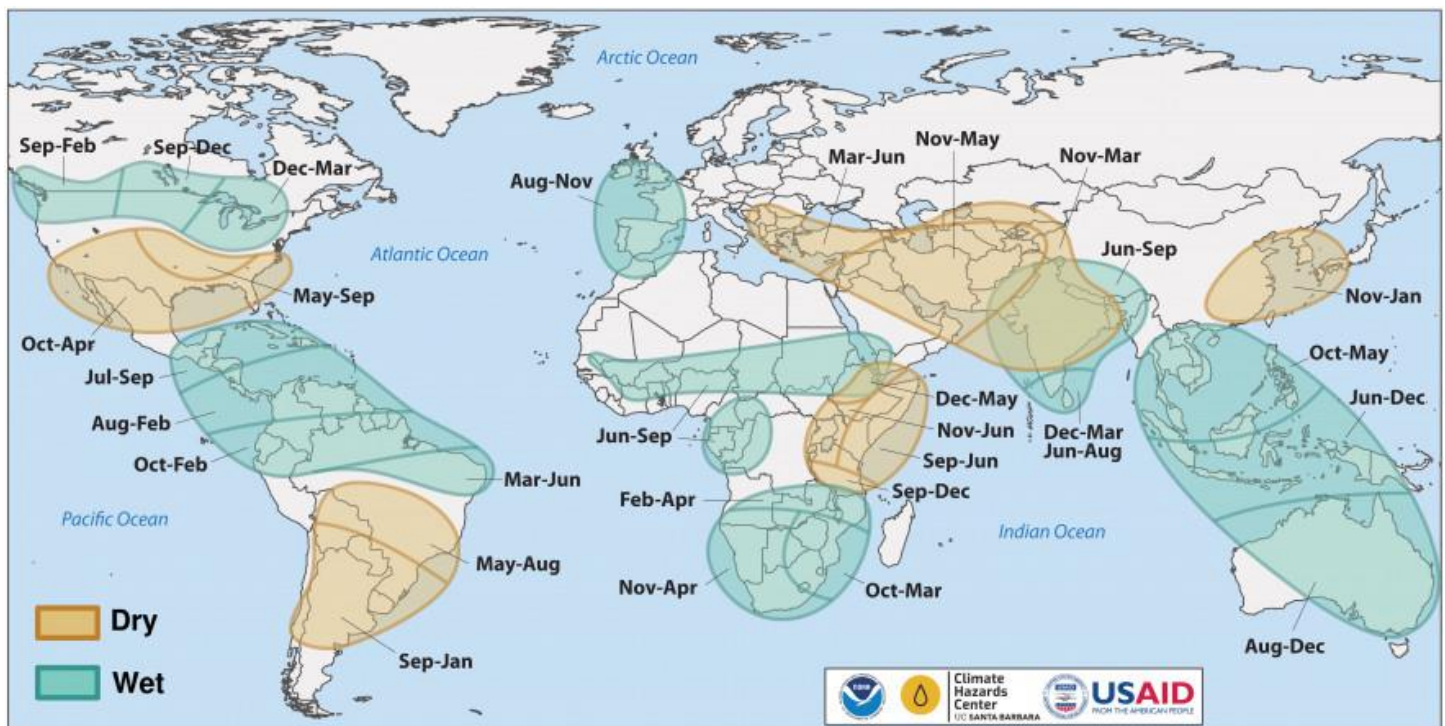
Climate Influences: La Niña event likely to develop and negative IOD underway

The El Niño-Southern Oscillation (ENSO) is currently in the La Niña phase with NOAA CPC/IRI issuing a La Niña Advisory in October. La Niña conditions are expected to continue during November to January (93% chance) and into April (63% chance for February-March-April). Climate forecasts also anticipate exceptionally warm west Pacific Ocean conditions, which can amplify the impact of cool eastern Pacific La Niña conditions.

La Niña conditions typically increase the chances of below-average precipitation in East Africa, Central and South Asia, southern South America, the southern United States, northern Mexico, and eastern East Asia. There are elevated risks of a two-year sequence of dry conditions in these regions, associated with La Niña conditions last year and this year. La Niña conditions typically increase the chances of above-average precipitation in parts of Southeast Asia, Australia, Southern Africa, and northern South America.

The Indian Ocean Dipole (IOD) is in a negative state. Most models forecast a return to neutral by December. Negative IOD conditions typically increase the chances of above-average precipitation in Southeast Asia and Australia, and below-average precipitation in East Africa.

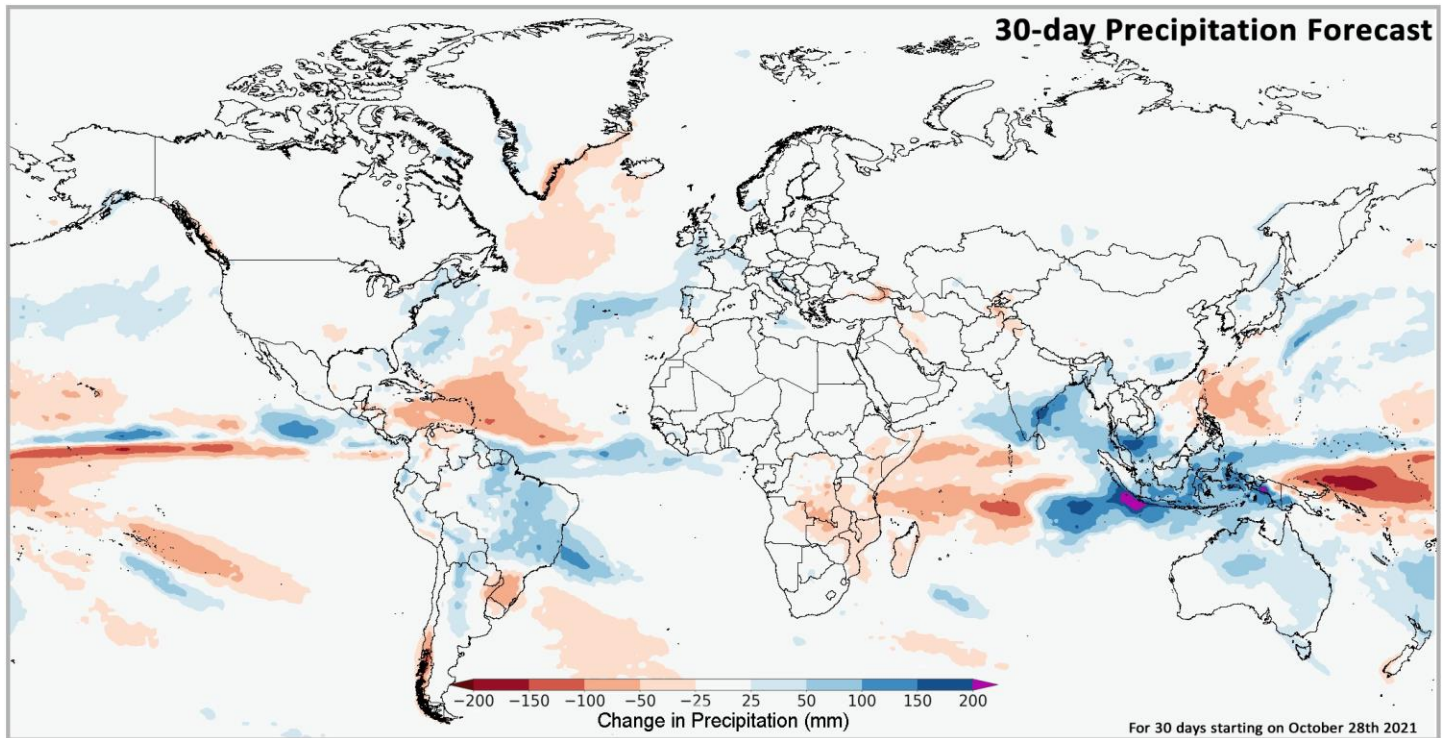
Source: UCSB Climate Hazards Center



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://fewnet.net/la-ni%C3%B1a-and-precipitation>

Global 30-day Forecast of Areas with Above or Below-Average Precipitation

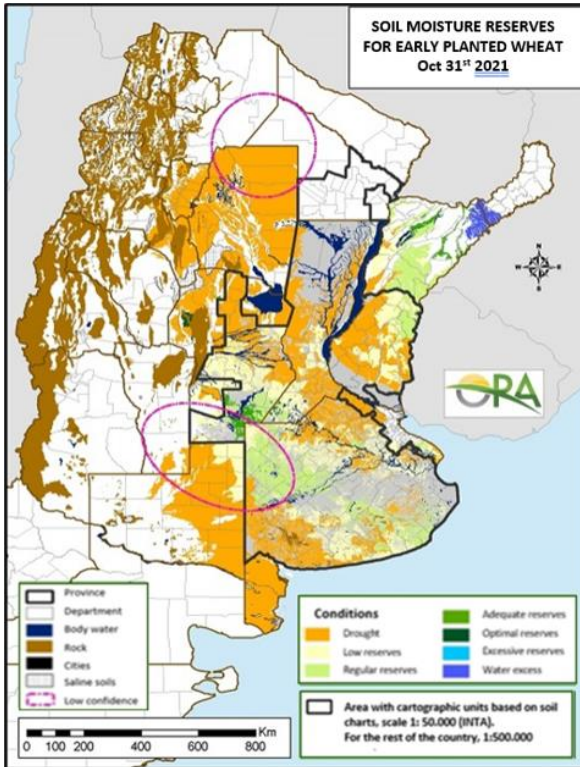
The 30-day precipitation forecast indicates a likelihood of above-average rainfall over the northeast of the United States, central and northern Brazil, western Ecuador, central Peru, central Bolivia, western Paraguay, northern and western Argentina, Wales, northeastern France, Portugal, southern India, northern Myanmar, southern China, northern Japan, Indonesia, and northern and eastern Australia. There is also a likelihood of below-average rainfall in the Dominican Republic, southern Brazil, eastern Paraguay, Uruguay, southern Chile, southern Ethiopia, Somalia, Kenya, southern Democratic Republic of Congo, Burundi, Tanzania, eastern Angola, Zambia, Mozambique, northeastern Zimbabwe, Madagascar, and northern Philippines.



Forecast of areas with above or below-average precipitation over the next 30-days starting on October 28th, 2021. The image is the multimodel mean of precipitations anomaly from the Subseasonal Experiment ([SubX](#)) model forecasts for 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

Argentina: Current Water Reserves and Wheat Sowing Probability

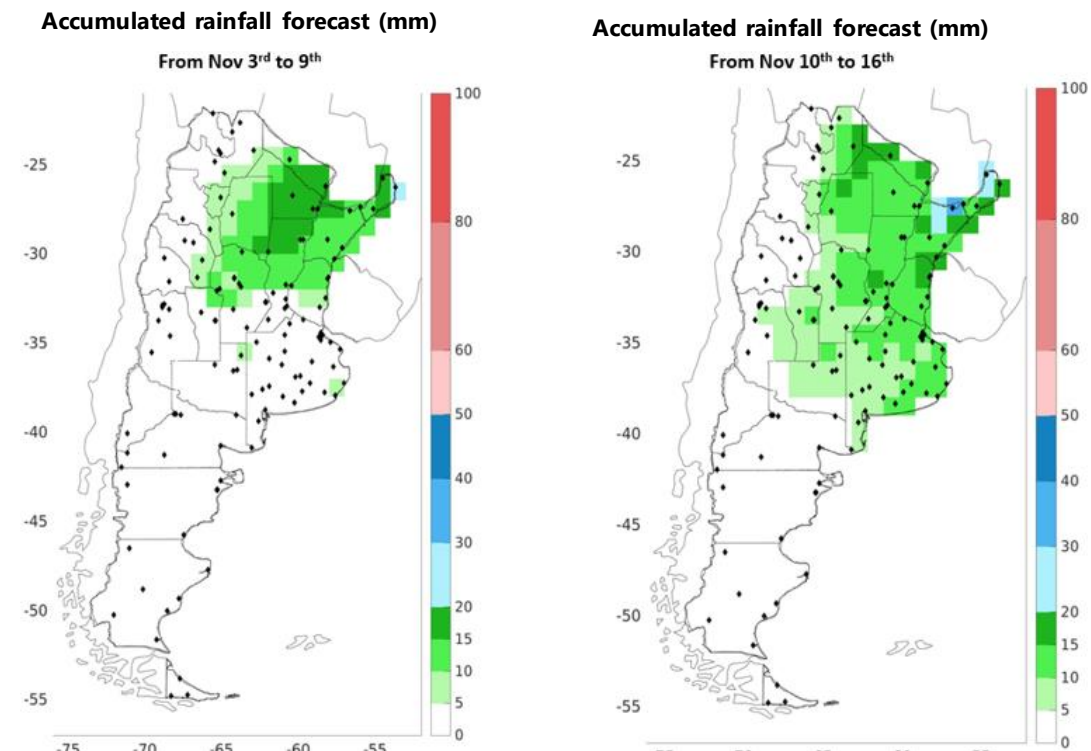
% Useful Water – October 26, 2021



- The rainfall in October was again below-average across almost the entire country, continuing the trend of the previous months.
- As a consequence, wheat plots in the central region along with most of Santa Fe and Entre Ríos remain in some deficit.
- Rains at the end of October improved the water situation in the south of Córdoba, northeast of La Pampa, and northwest of Buenos Aires.
- In the north-west of Buenos Aires, south-west of Santa Fe and south-east of Córdoba, water reserves range from regular to scarce.
- The best water conditions are present in the south of Buenos Aires, where reserves are either regular or adequate.

Source: Office of Agricultural Risk. http://www.ora.gob.ar/camp_actual_cultivos.php?idcultivo=8

Accumulated Rainfall Forecast



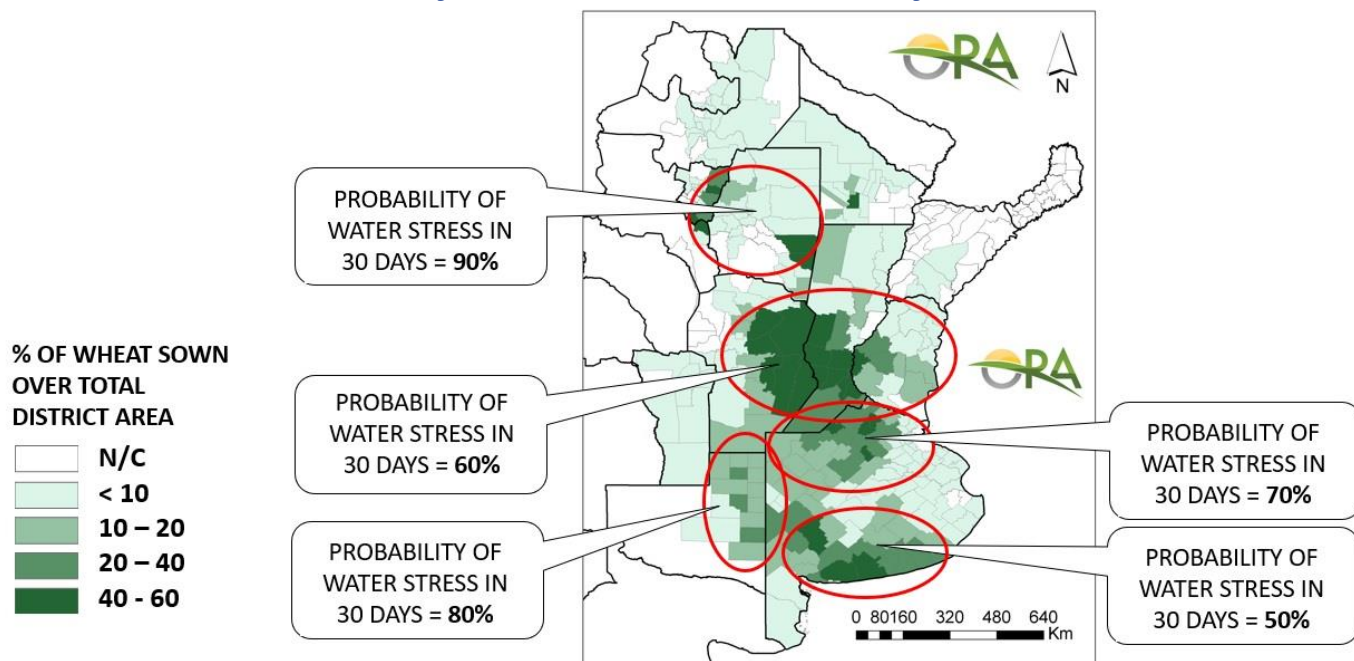
Forecasts from the SERVICIO METEOROLÓGICO NACIONAL

<https://www.smn.gob.ar/clima/perspectiva>

* Assessment based on information as of October 28th

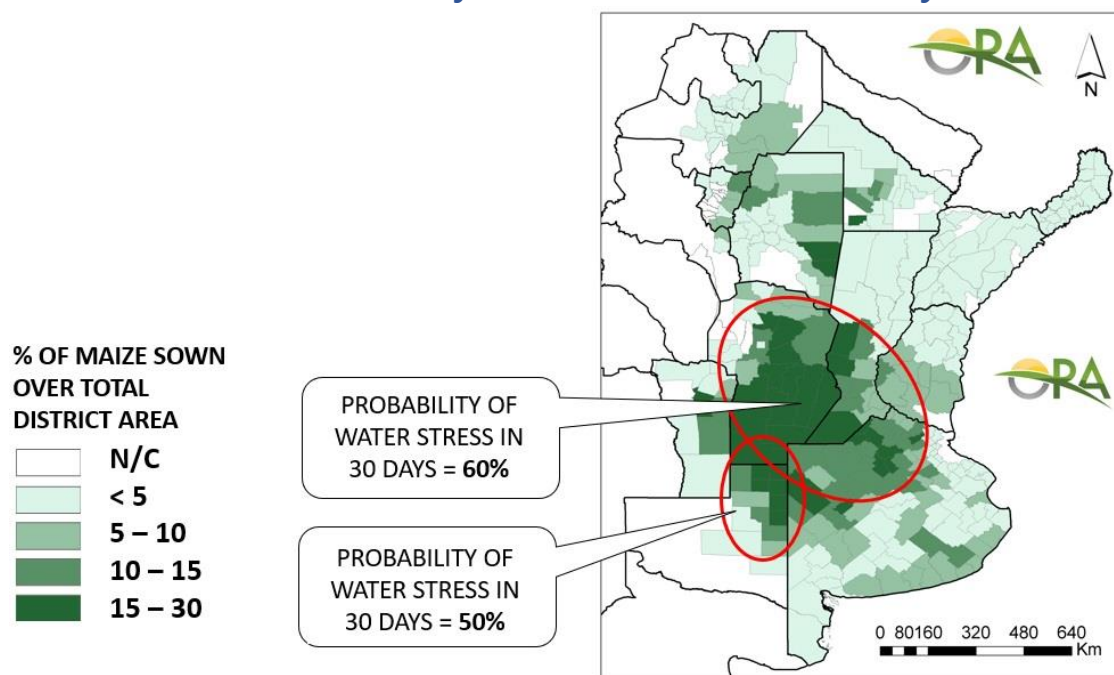
For the week of November 3rd to 9th, the rains are expected to be concentrated in the northeast of the country and, to a lesser extent, in the north of Córdoba, Santa Fe and Entre Ríos. For the week of November 10th to 16th, rains are expected over wheat areas, although in general they would not exceed 15mm. According to this forecast, in the next two weeks the rains would be below-average. Quarterly trends also indicate lower rainfall in the main producing area.

30-day Wheat Water Stress Probability Scenarios



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

30-day Maize Water Stress Probability Scenarios



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

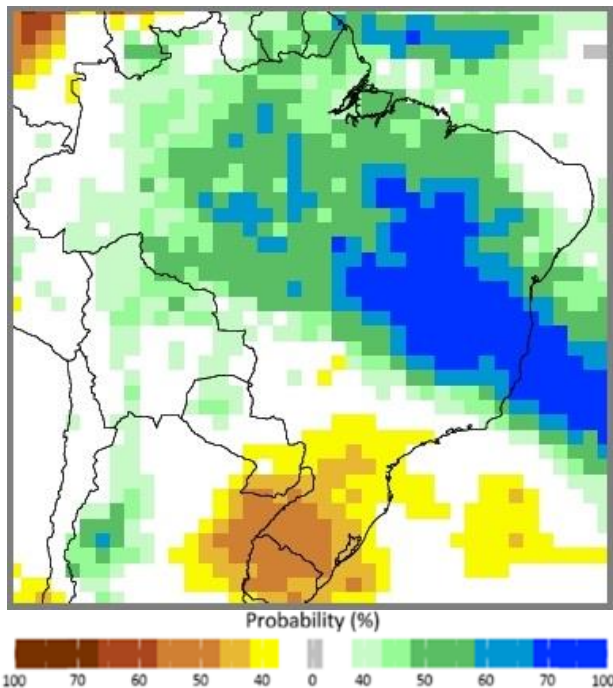
* Assessment based on information as of October 28th

Brazil Outlook

Over the next two weeks (November 6th-19th), above-average rainfall is likely over much of the northern, central, and eastern regions. However, below-average rainfall is likely over much of the south. Over the extended forecast (December-January-February 2021), there is a 40% probability of below-average rainfall continuing across the south. Conversely, there is 40-60% probability of above-average rainfall across much of the north and northeast, along with part of the southeast. Temperatures are likely to be near normal for much of the country with the exception of the very south and parts of the central-west region.

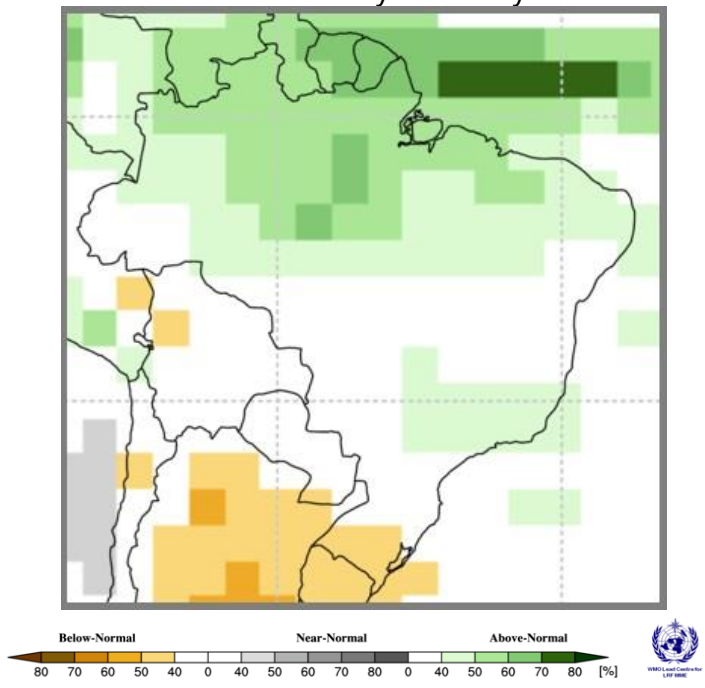
2-Week Rainfall Probability

November 6th – 19th 2021



3-Month Rainfall Anomaly Probability

December-January-February 2021



Left: IRI SubX Precipitation Biweekly Probability Forecast for November 6th to 19th, issued on October 29th. The forecast is based on statistically-calibrated tercile category forecasts from three SubX models. Image from the [IRI Subseasonal Forecasts Maproom](https://www.iri.columbia.edu/forecasting/seasonal/forecasts/2021/11/06-19-2021).

Right: Multi-model ensemble probabilistic forecast for December-January-February (DJF) 2021 precipitation from the WMO Lead Centre for Long-Range Forecast Milt-Model Ensemble at https://www.wmolc.org/seasonPmmeUI/plot_PMME.

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

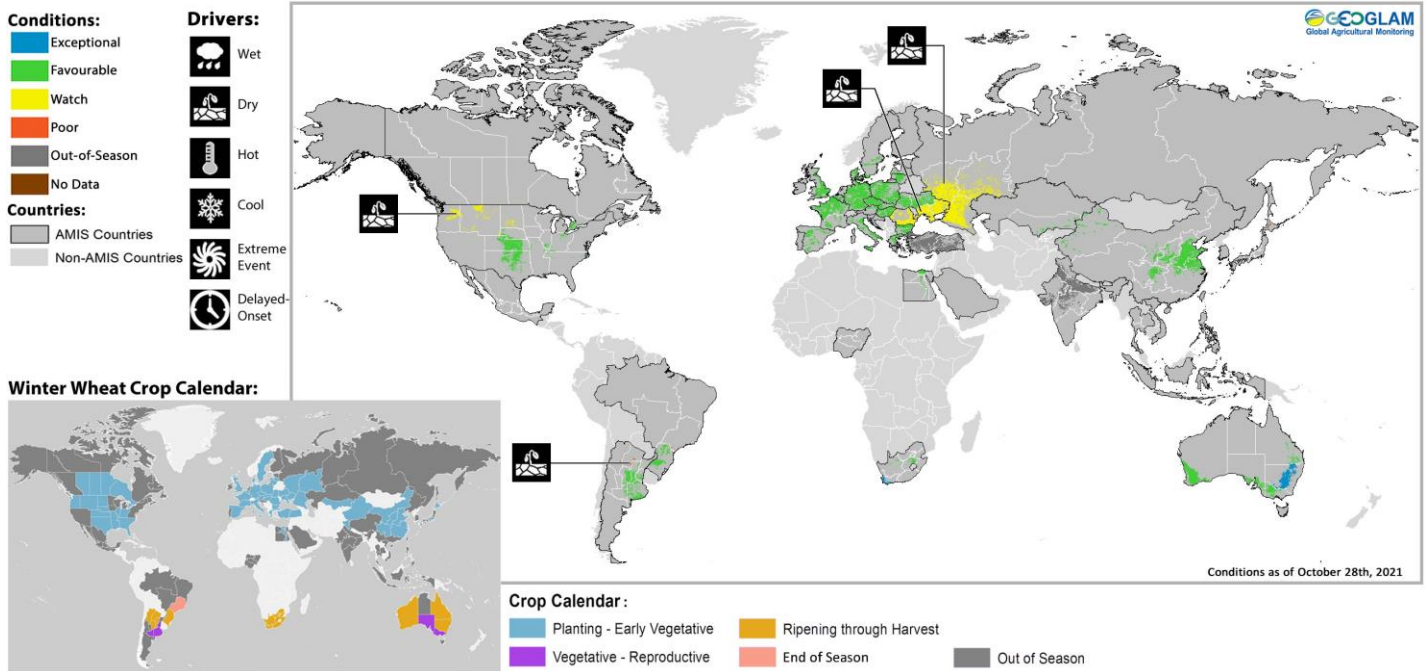
Crop Season Nomenclature:

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	

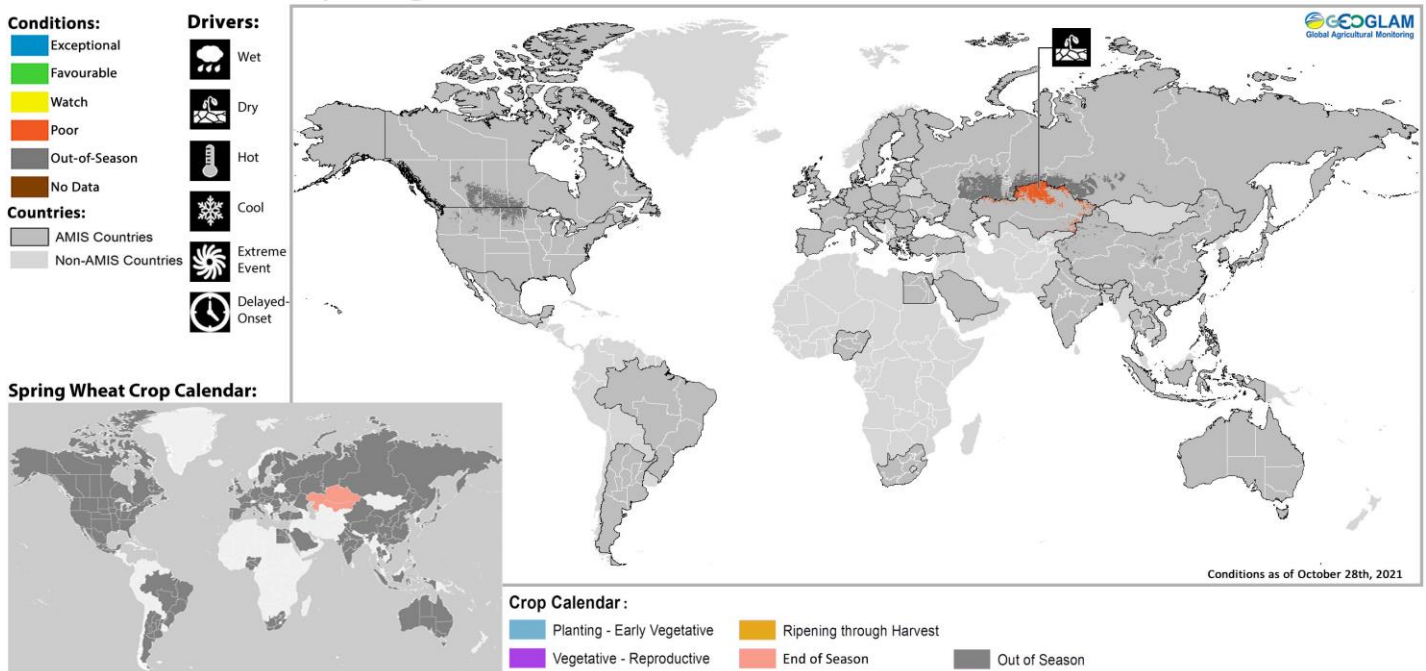
Appendix 2: Crop Season Specific Maps

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 October 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.

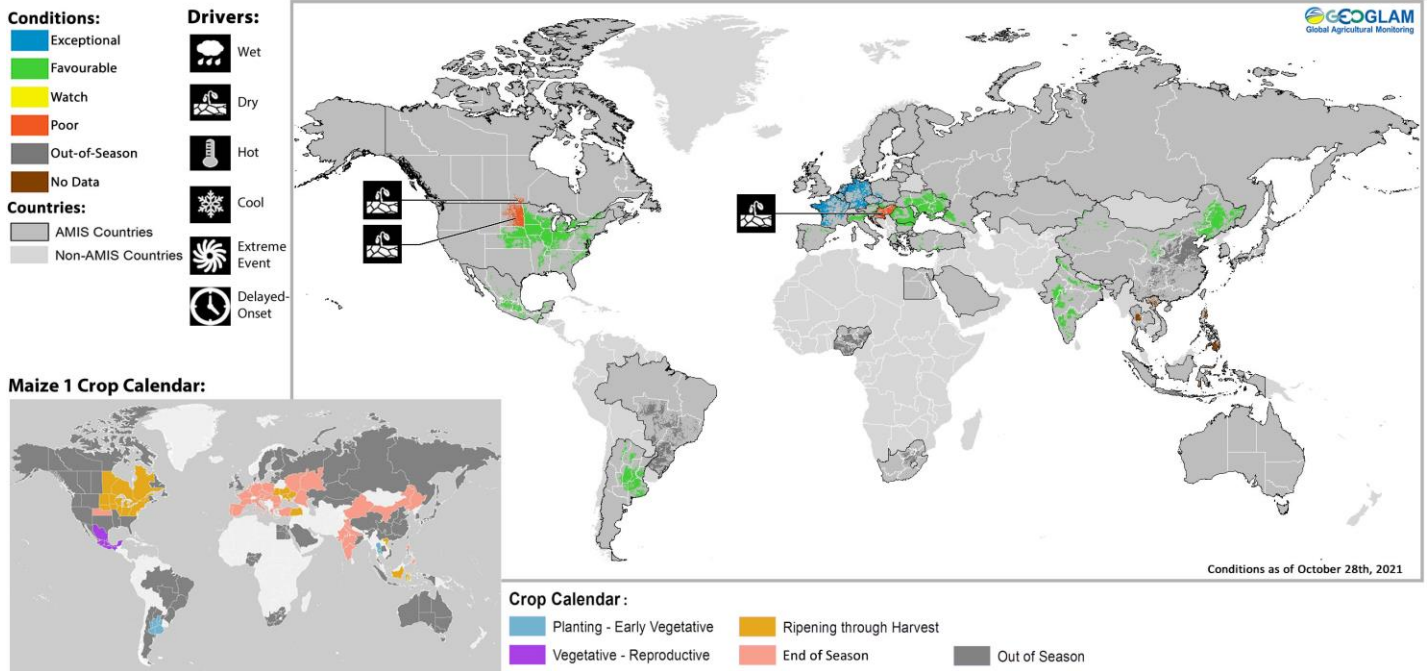
Spring Planted Wheat Conditions for AMIS Countries



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 October 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.

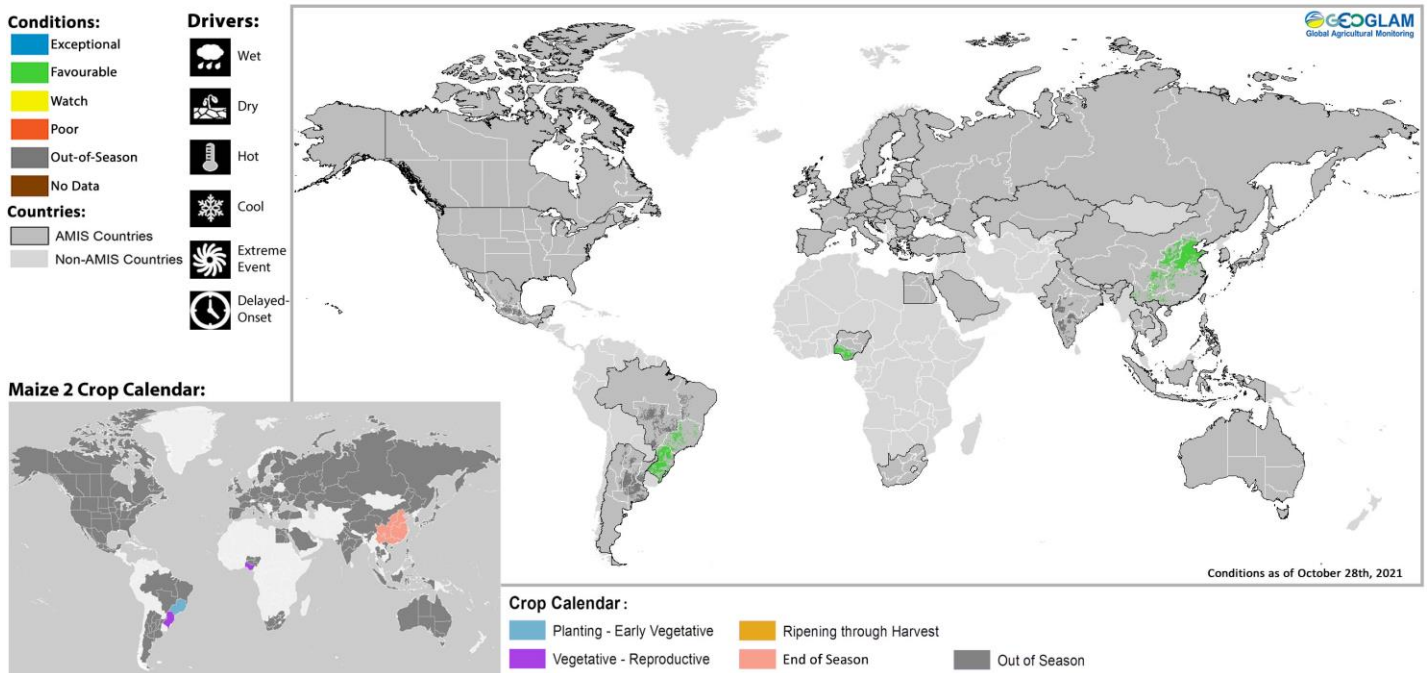
* Assessment based on information as of October 28th

Maize 1 Conditions for AMIS Countries



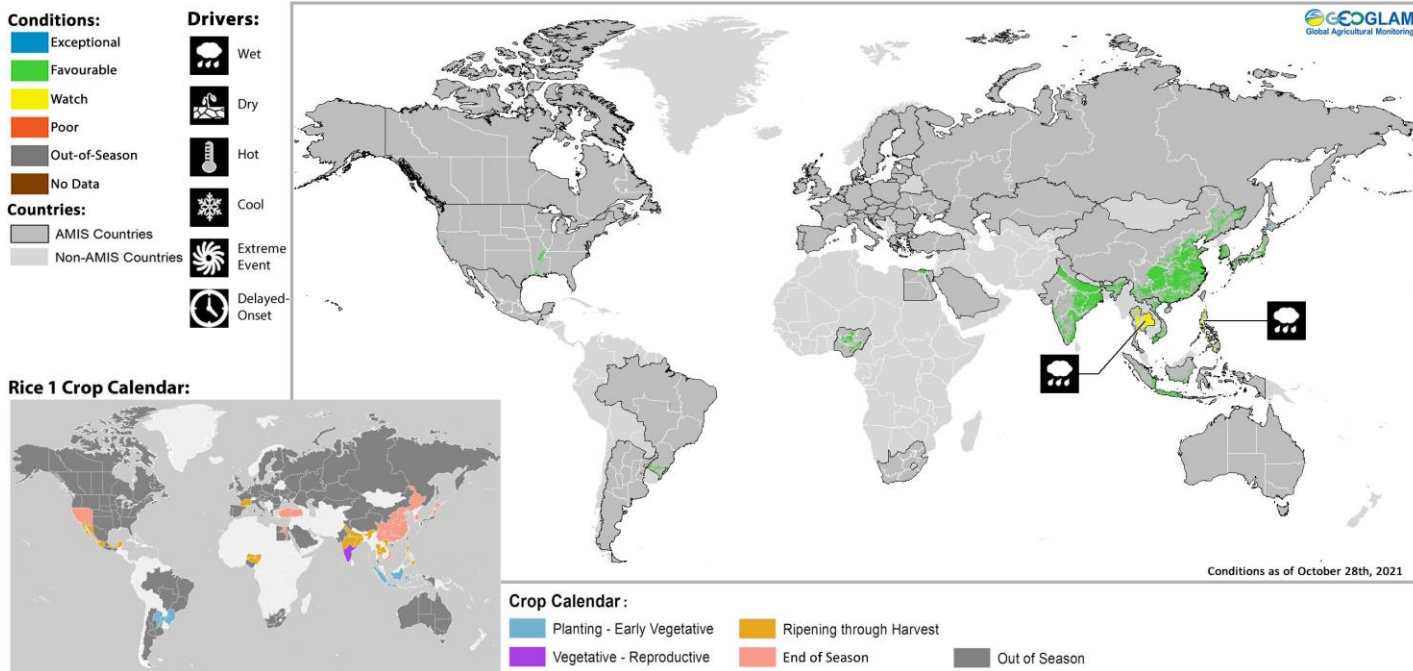
Maize 1 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of October 28th. Where crops are in less than favourable conditions the climatic drivers responsible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



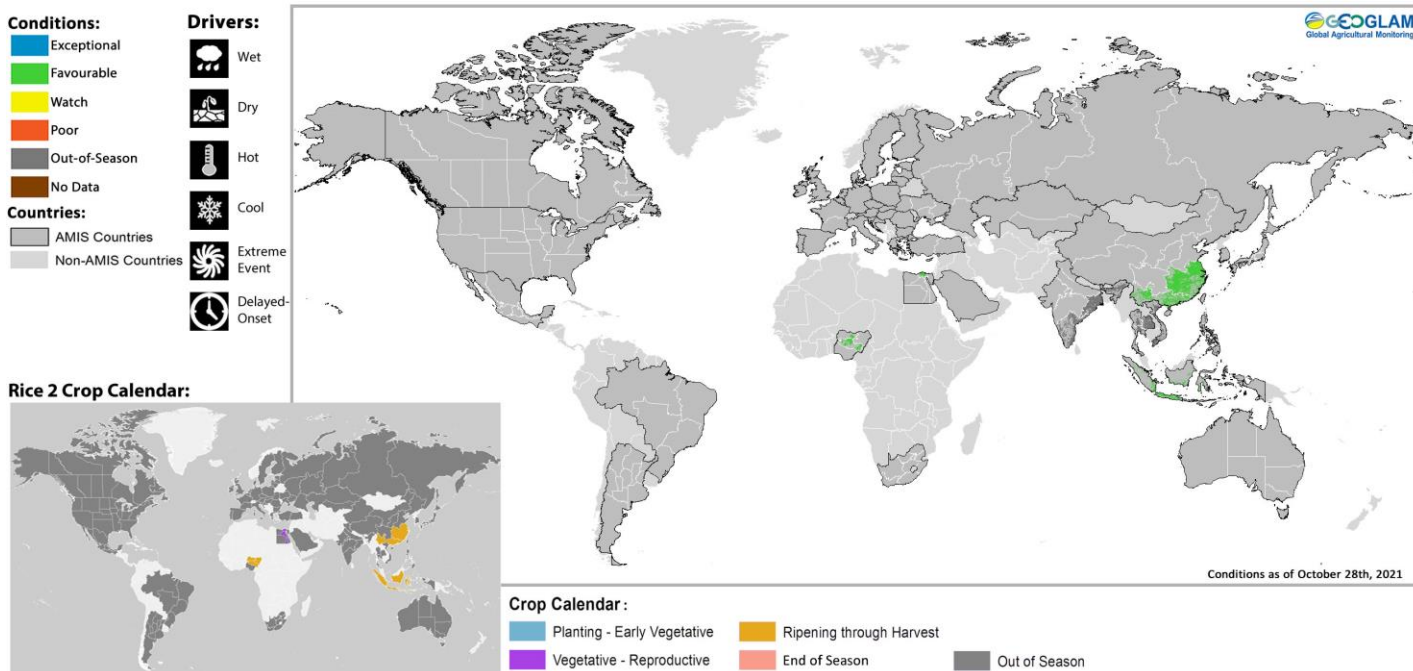
Maize 2 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of October 28th. Where crops are in less than favourable conditions the climatic drivers responsible 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 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 October 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.

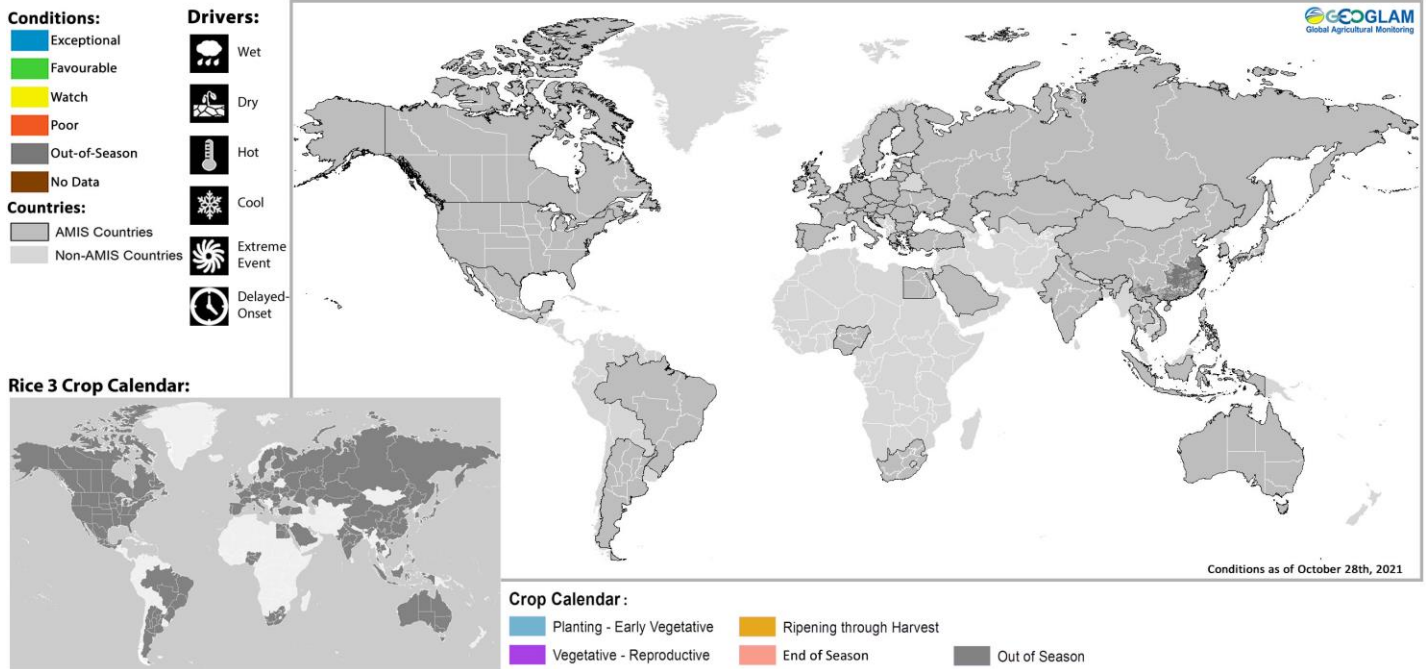
Rice 2 Conditions for AMIS Countries



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 October 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.

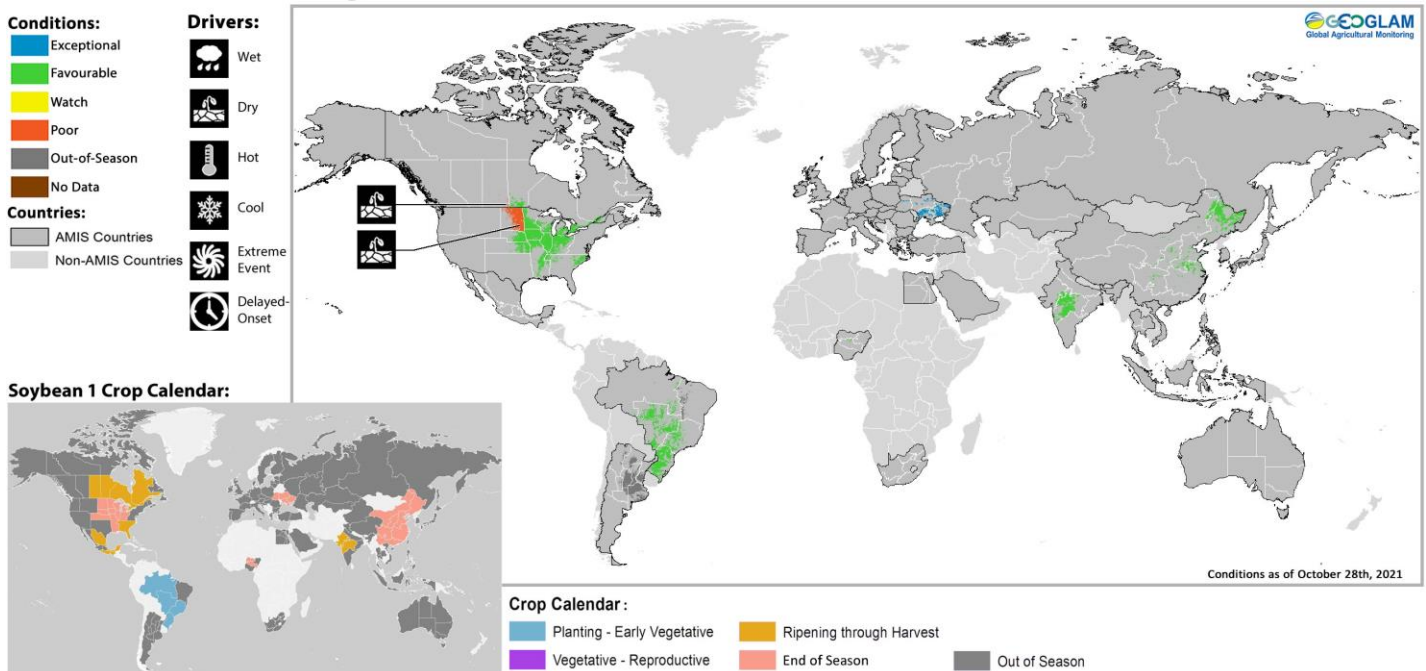
* Assessment based on information as of October 28th

Rice 3 Conditions for AMIS Countries



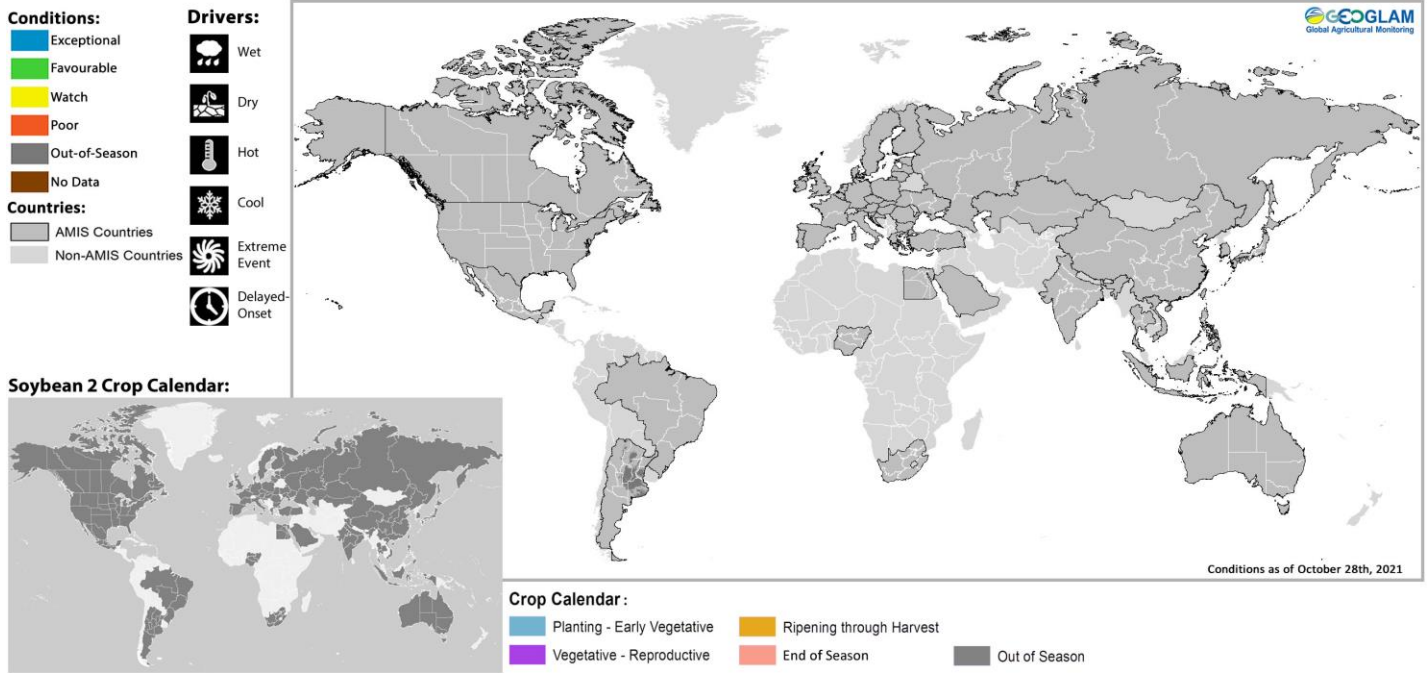
Rice 3 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of October 28th. Where crops are in less than favourable conditions the climatic drivers responsible 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 October 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 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 October 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 October 28th



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](#)

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