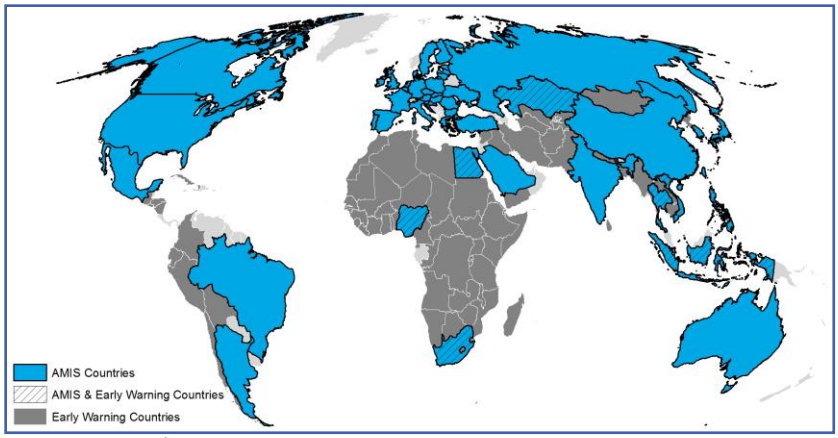
Crop Monitor for AMIS

Overview:

As of the end of November, conditions are mixed for wheat, maize, and rice, while favourable for soybeans. In the Northern Hemisphere, spring wheat harvest is wrapping up while winter wheat is in early vegetative stage heading into dormancy. In the Southern hemisphere, wheat conditions remain mixed in Australia, Argentina, and South Africa. Maize harvest is wrapping up under mixed conditions in western Europe and the northern US. Meanwhile, the sowing of spring-crop maize is ongoing in South America. Rice in Asia is under mixed conditions with some adverse conditions across Southeast Asia. Soybean harvest is wrapping up under generally favourable conditions in the Northern Hemisphere and sowing in the Southern Hemisphere under favourable conditions.



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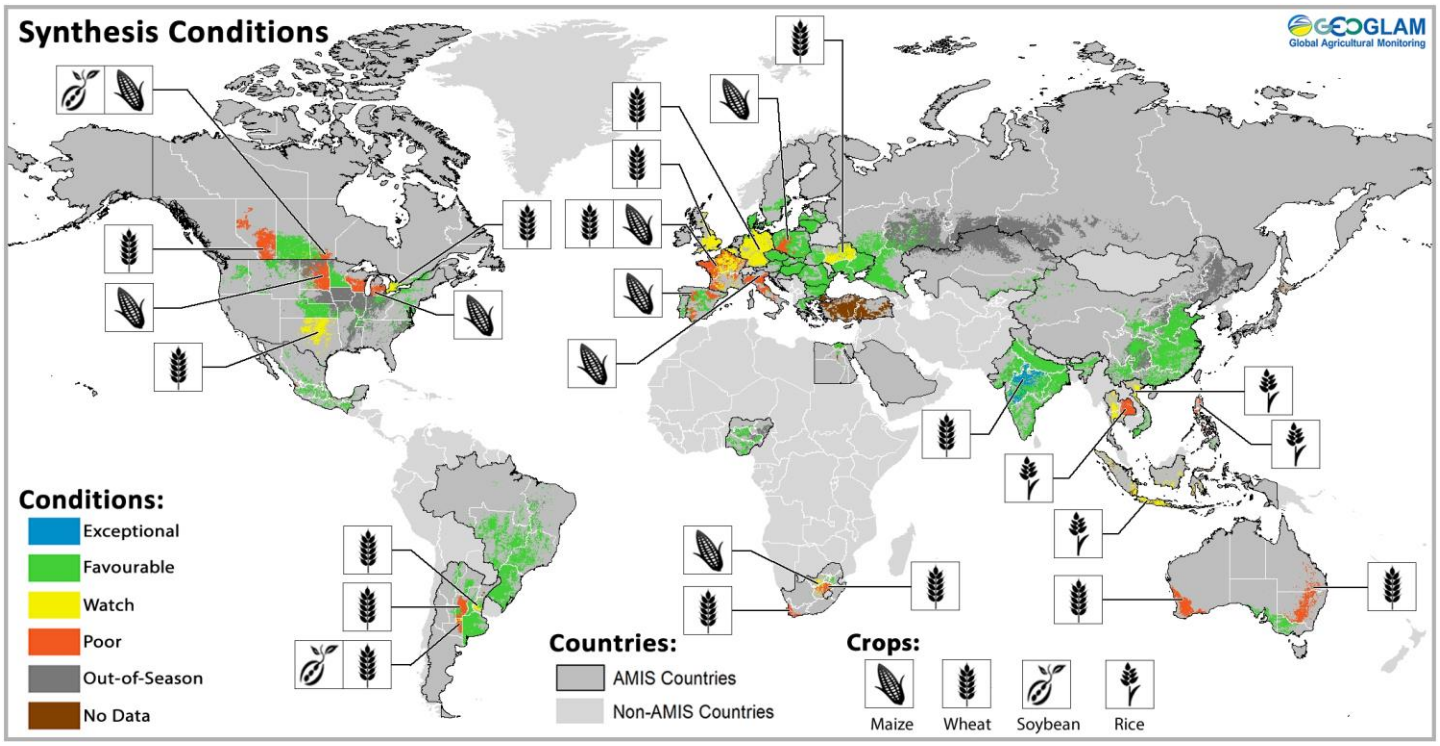
Conditions at a glance for AMIS countries (as of November 28th)



Crop condition map synthesizing information for all four AMIS crops as of November 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.***

Conditions at a glance

Wheat - In the northern hemisphere, spring wheat harvest wraps up in Canada under mixed conditions. Winter wheat conditions remain generally favourable except for a few areas. In the southern hemisphere, mixed conditions remain in Australia and Argentina.

Maize - In the northern hemisphere, harvest is wrapping up under mixed conditions particularly in North America and Europe, while under favourable conditions in Ukraine and the Russian Federation. In the southern hemisphere, sowing of the spring crop continues under favourable conditions in Argentina and Brazil.

Rice - In China, late-season rice harvest is finishing. In India, Kharif rice is harvesting while Rabi rice is sowing. In Southeast Asia, conditions are downgraded for wet-season rice across the northern region due to adverse weather conditions. In Indonesia, dry-season rice is harvesting under favourable conditions while the sowing of wet-season rice is behind schedule.

Soybeans - In the northern hemisphere, harvest is wrapping up under mixed conditions in Canada. In the southern hemisphere, sowing continues in Brazil and Argentina under favourable conditions.

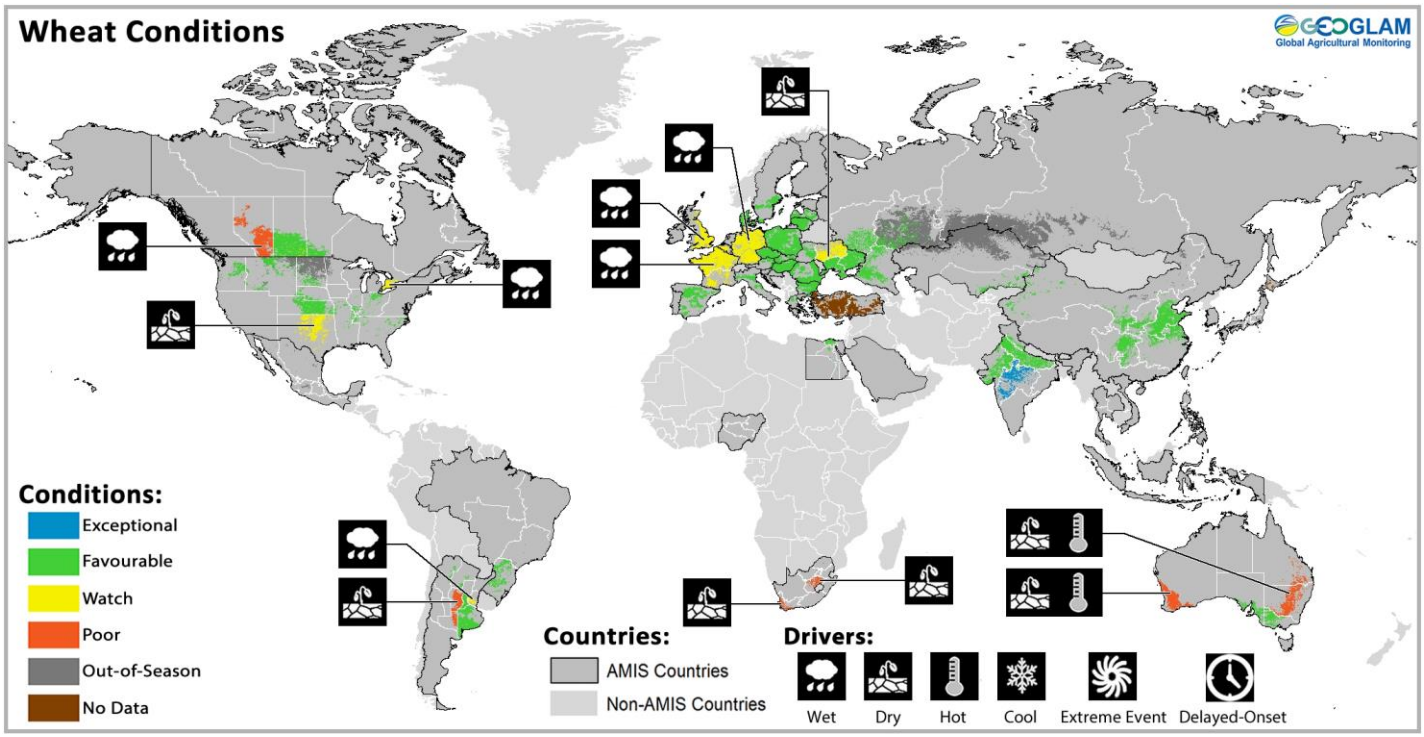
Neutral ENSO & Positive IOD:

El Niño-Southern Oscillation (ENSO) conditions are neutral and are most likely to remain neutral through June 2020. The Indian Ocean Dipole (IOD) is in a strong positive state and is forecast to remain positive through the rest of 2019, potentially into January 2020. A positive IOD tends to enhance rainfall in parts of East Africa and suppress rainfall in Australia.

Source: UCSB Climate Hazards Center

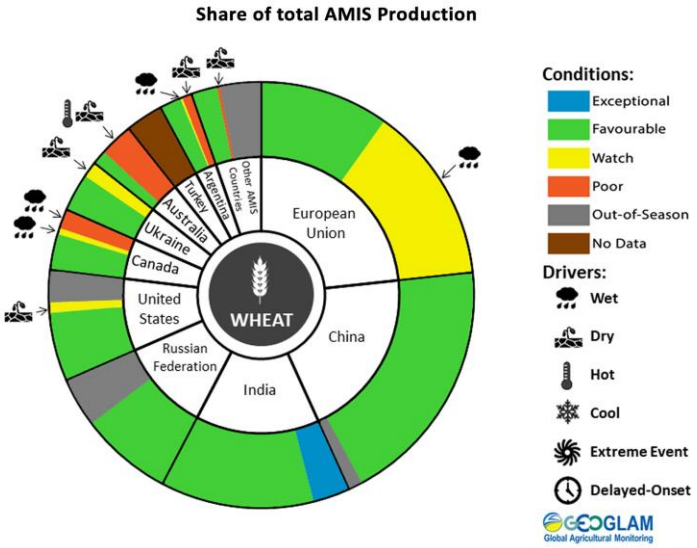
* Assessment based on information as of November 28th

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 November 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.

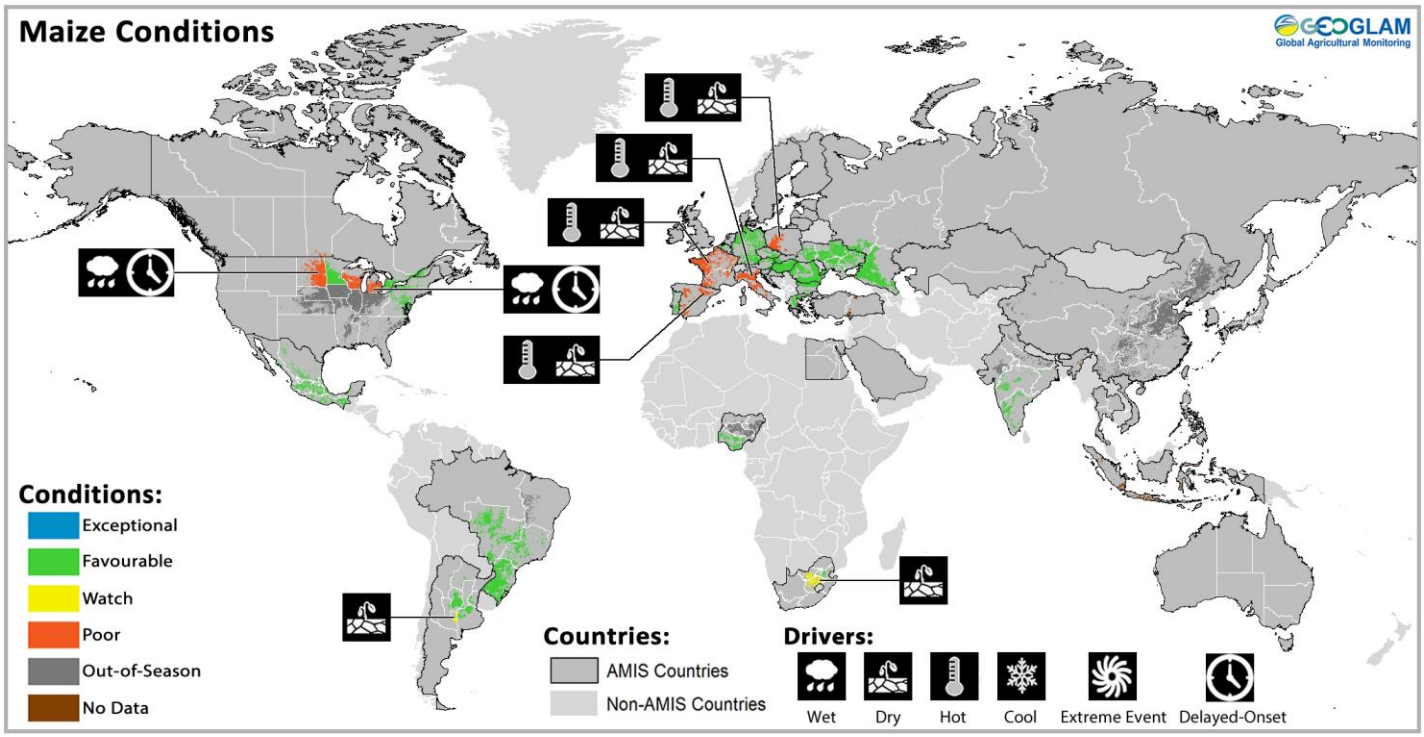
Wheat: In the **EU**, sowing of winter wheat started under mixed conditions due to variable climate conditions. In **Ukraine**, winter wheat conditions have improved as very warm weather in November is facilitating crop development despite some areas of low soil moisture. In the **Russian Federation**, conditions are favourable for winter wheat entering dormancy with only spot areas of dryness in the south. In **Kazakhstan**, winter wheat conditions are favourable as the crop enters dormancy. In **China**, conditions are generally favourable for winter wheat in the early vegetative stage heading into winter. In the **US**, winter wheat is favourable across most of the country except for the southern Great Plains, which has been experiencing dryness this fall. In **Canada**, spring wheat is wrapping up under mixed conditions due to excessive moisture and delayed crop maturity, with some of the crop expected to remain on the field over winter. Winter wheat is under mixed conditions going into winter due to the late sowing caused by the delayed harvest of spring crops. In **Australia**, below-average rainfall and above-average temperatures in early spring, particularly in Western Australia and southern New South Wales, have significantly reduced yields. In **Argentina**, harvest is wrapping up in the northern region under generally favourable conditions. However, conditions are mixed for Buenos Aires and Entre Ríos, and poor for La Pampa and Cordoba due to prolonged dry conditions throughout the season.



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

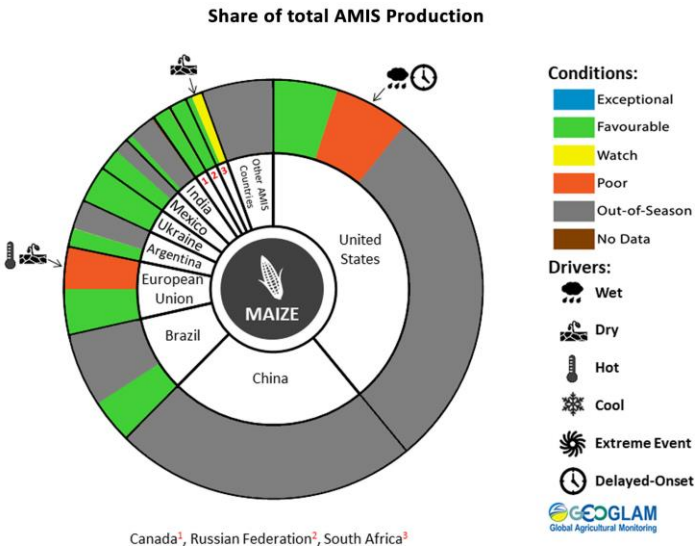
* Assessment based on information as of November 28th

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 November 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**, harvest is still ongoing in the northerly regions of the country, with an expected decrease in production from those states due to both a reduction in harvested area and yields. In **Canada**, harvest is wrapping up under variable conditions due to a lack of heat during the season and a late start, particularly in Ontario, the main producing province. In **Mexico**, harvest of the spring-summer crop is continuing under generally favourable conditions, total sown area is reduced compared to the 5-year average. In **India**, sowing of Rabi maize is beginning under favourable conditions. In the **EU**, rainfall is hampering harvest in France and Germany in an already mixed condition season due to summer heatwaves. In **Ukraine**, harvest is wrapping up under favourable conditions. In the **Russian Federation**, harvest is finishing under favourable conditions with an increase in yields compared to last year. In **Brazil**, sowing continues for the spring-planted crop (smaller season) under favourable conditions. In **Argentina**, conditions are favourable as sowing of the spring-planted crop is boosted by recent rainfall.



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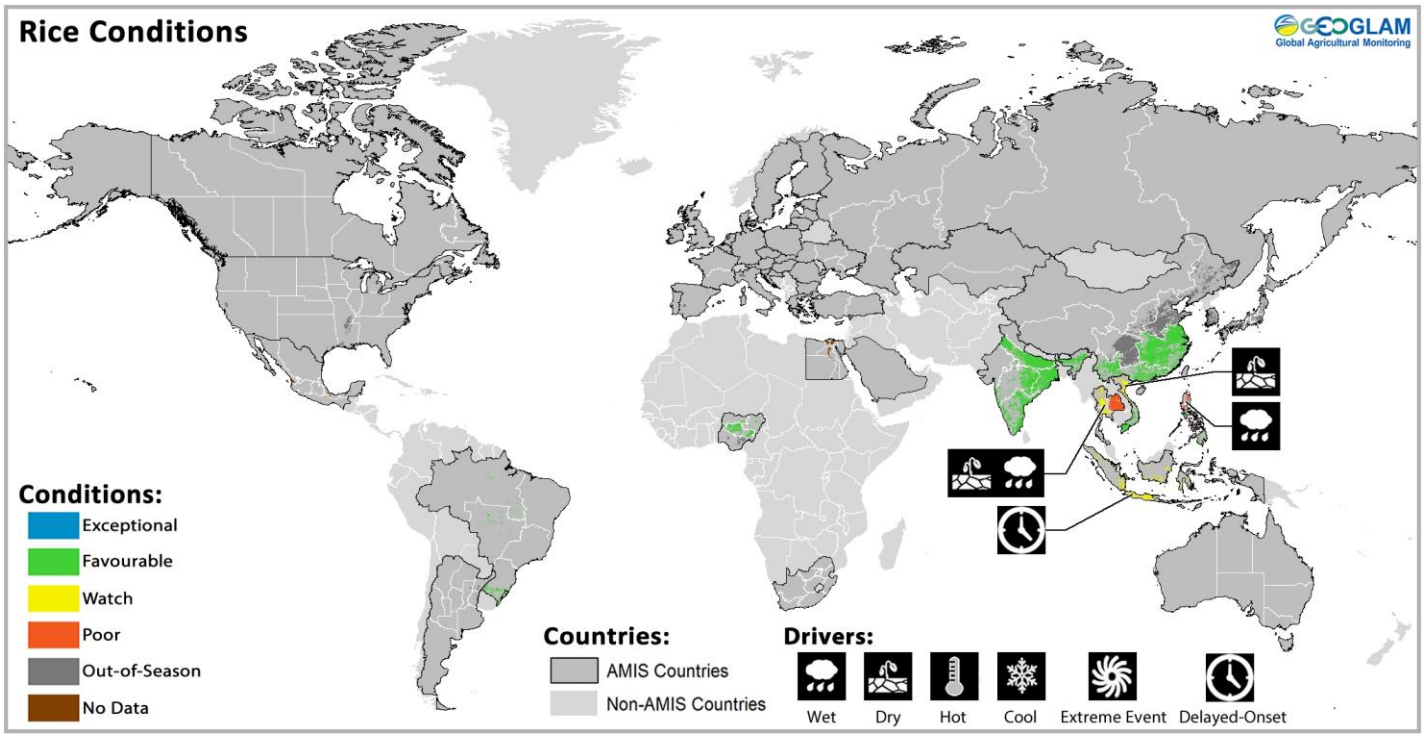
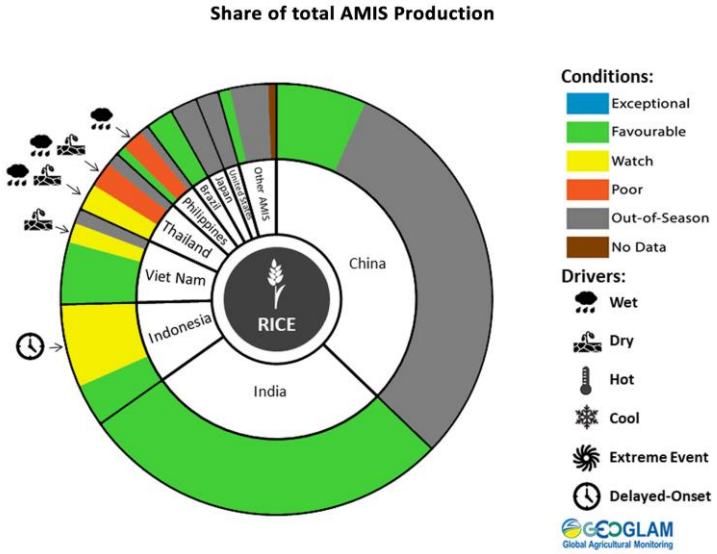
Rice Conditions for AMIS Countries



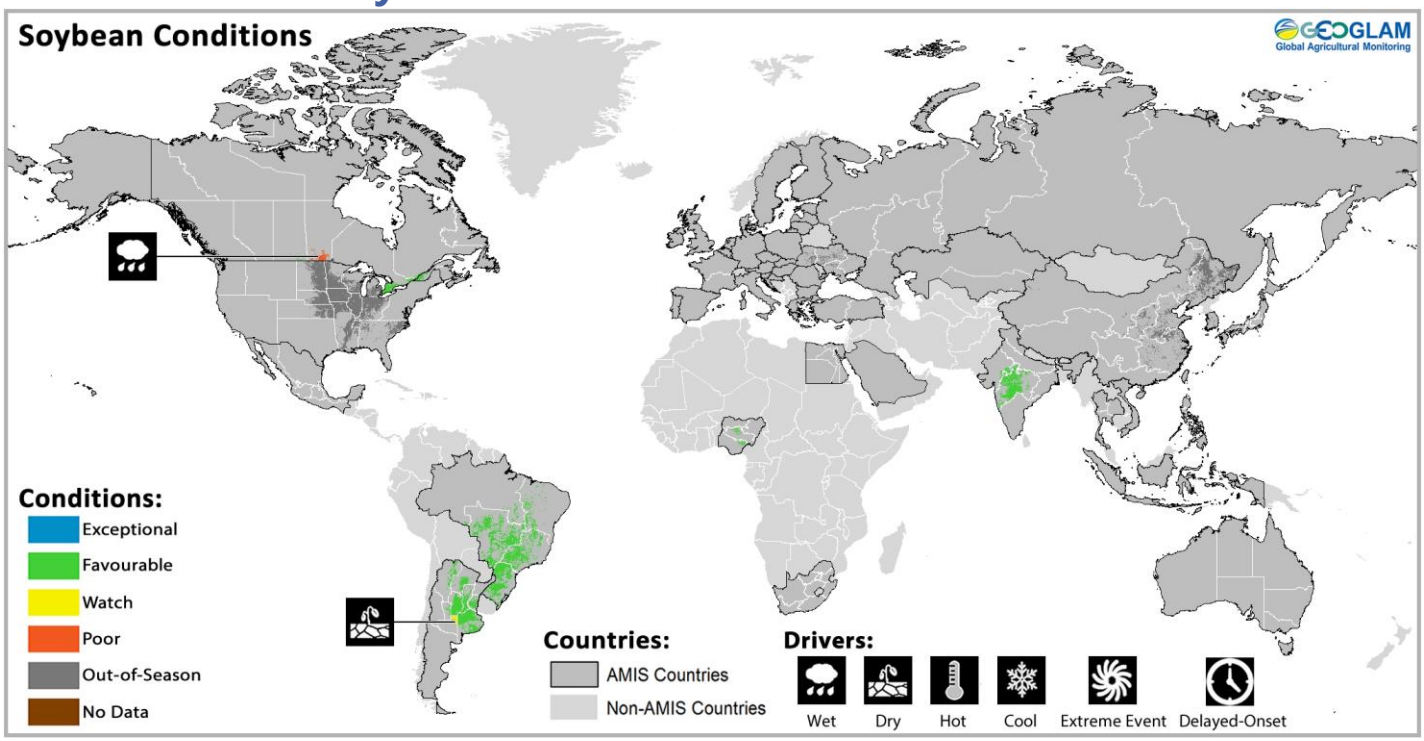
Rice crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of November 28th. Where crops are in other than favourable conditions the climatic drivers responsible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

Rice: In **China**, late-season rice harvest is finishing under favourable conditions with slightly higher yields compared to last year. In **India**, conditions are favourable as harvesting of Kharif rice has been completed in the northern states and is continuing in the southern and eastern states. Rabi rice sowing has begun in southern states under favourable conditions. In **Indonesia**, harvest of dry-season rice is wrapping up with yields slightly above last year's, albeit with a noticeable reduction in harvested area relative to last year due to water shortages. Wet-season rice sowing is continuing at a delayed pace due to continuing water shortages. In **Viet Nam**, harvest of summer-autumn rice (wet-season rice) is ongoing under mixed conditions, as a mid-season drought in the north has reduced expected yields. In the south, wet-season rice yields are expected to be slightly higher than last year and sowing of dry-season rice has begun. In **Thailand**, wet-season rice conditions remain mixed nation-wide due to dry conditions at the beginning of the season followed by damage from heavy rainfall and flooding of fields in August and September. In the **Philippines**, yields of earlier sown wet-season rice are reduced due to the effects of moisture stress, while later sown crops are under favourable conditions having experienced normal rainfall levels. In **Brazil**, conditions are favourable, however sowing is delayed due to excessive rainfall.



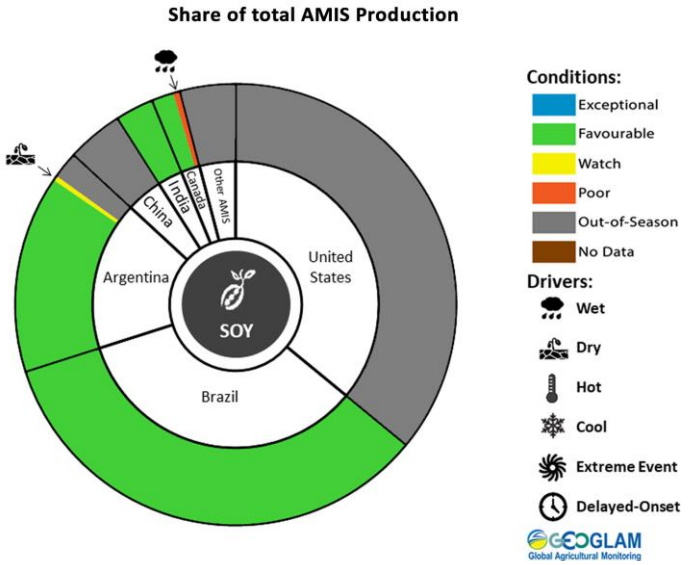
For detailed description of the pie chart please see box on page 6.

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 November 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 **Canada**, harvest is wrapping up under generally favourable conditions with the exception of areas in Manitoba, where below normal precipitation during the season reduced overall yields. In the prairies, wet conditions have led to high moisture content in most of the crop and inability to harvest some areas. In **India**, harvest is wrapping up under favourable conditions. In **Brazil**, conditions are favourable despite the delay in sowing compared to last year. An increase in total sown area is expected compared to last year. In **Argentina**, sowing is beginning under generally favourable conditions, supported by recent rainfall.



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 December 5th

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 November 28th

Appendix 1: Terminology & Definitions

Crop Conditions:

Exceptional: Conditions are much better than average* at time of reporting. This label is only used during the grain-filling through harvest stages.
Favourable: Conditions range from slightly lower to slightly better than average* at reporting time.
Watch: Conditions are not far from average* but there is a potential risk to final production. The crop can still recover to average or near average conditions if the ground situation improves. This label is only used during the planting-early vegetative and the vegetative-reproductive stages.
Poor: Crop conditions are well below average*. Crop yields are likely to be 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.

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	

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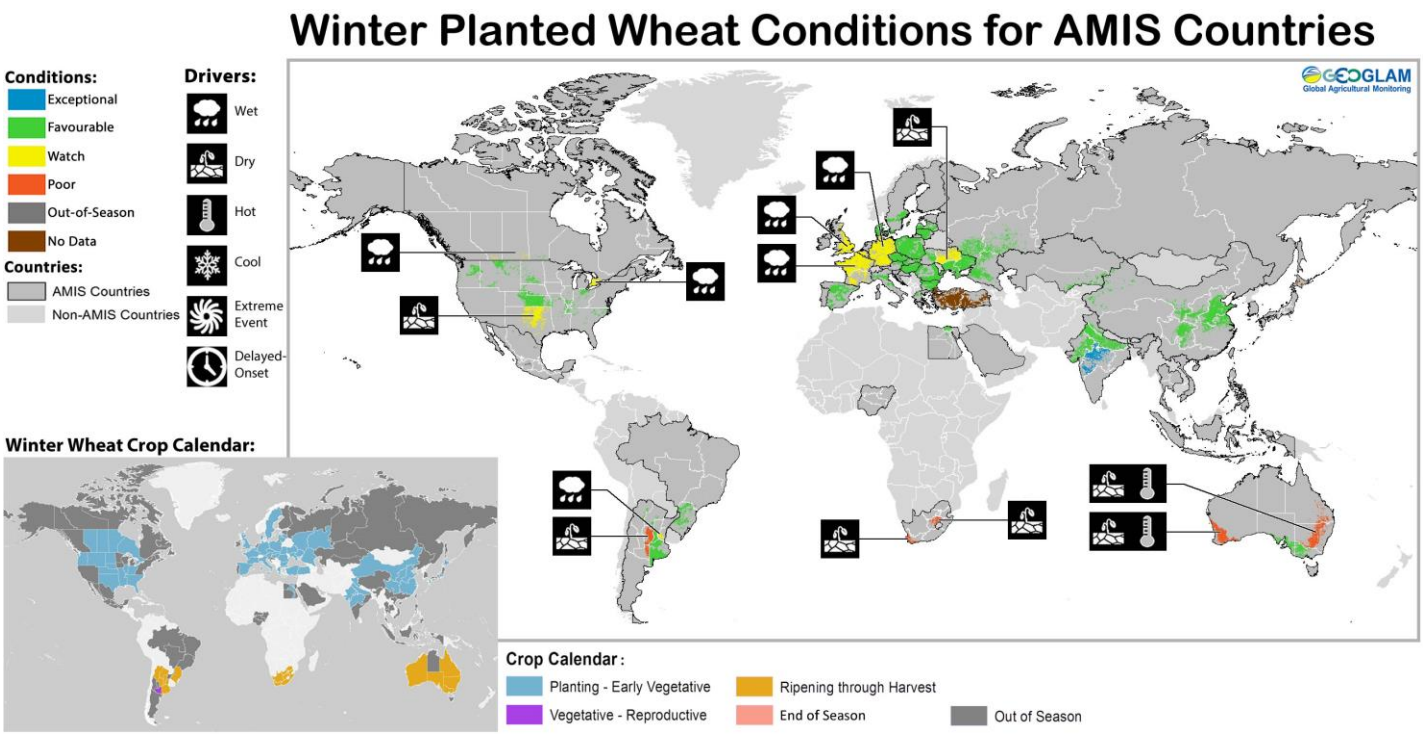
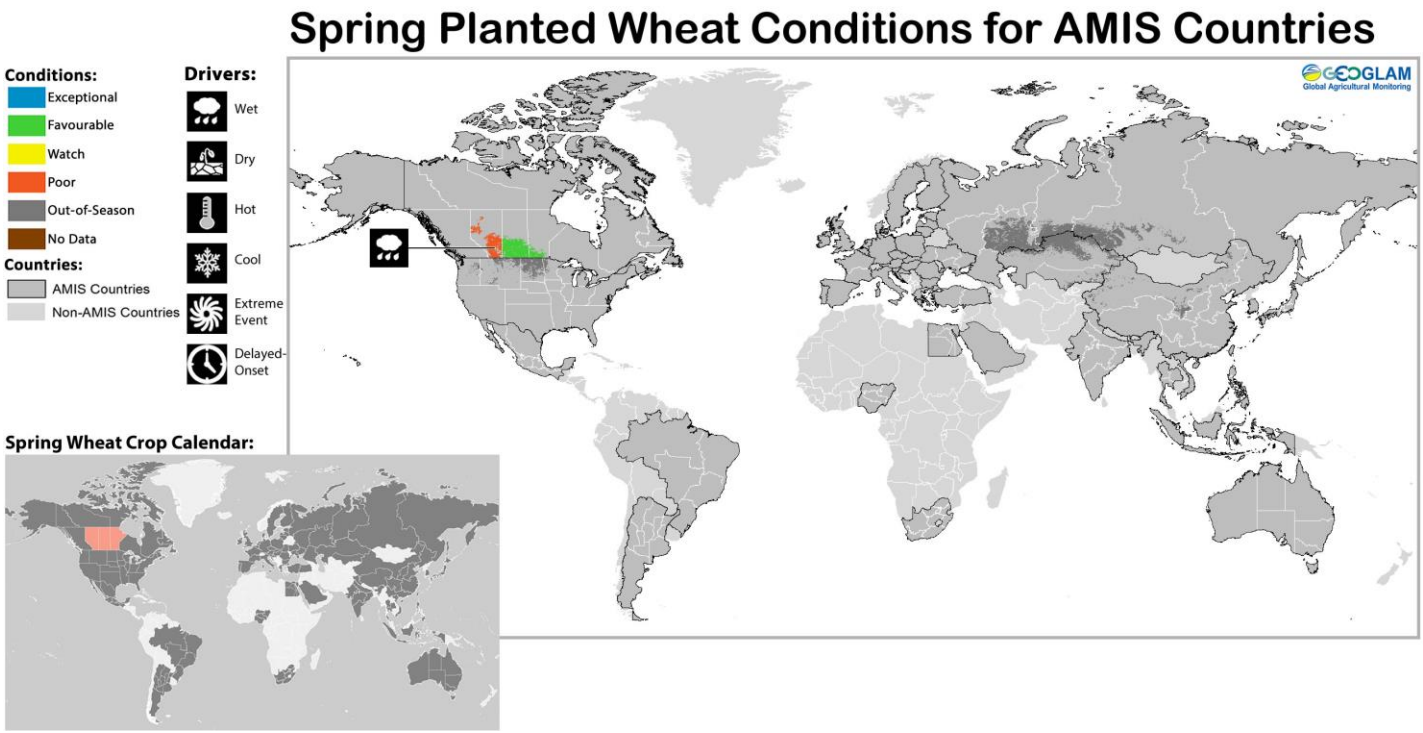
Appendix 2: Crop Season Specific Maps



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 November 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 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 November 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.

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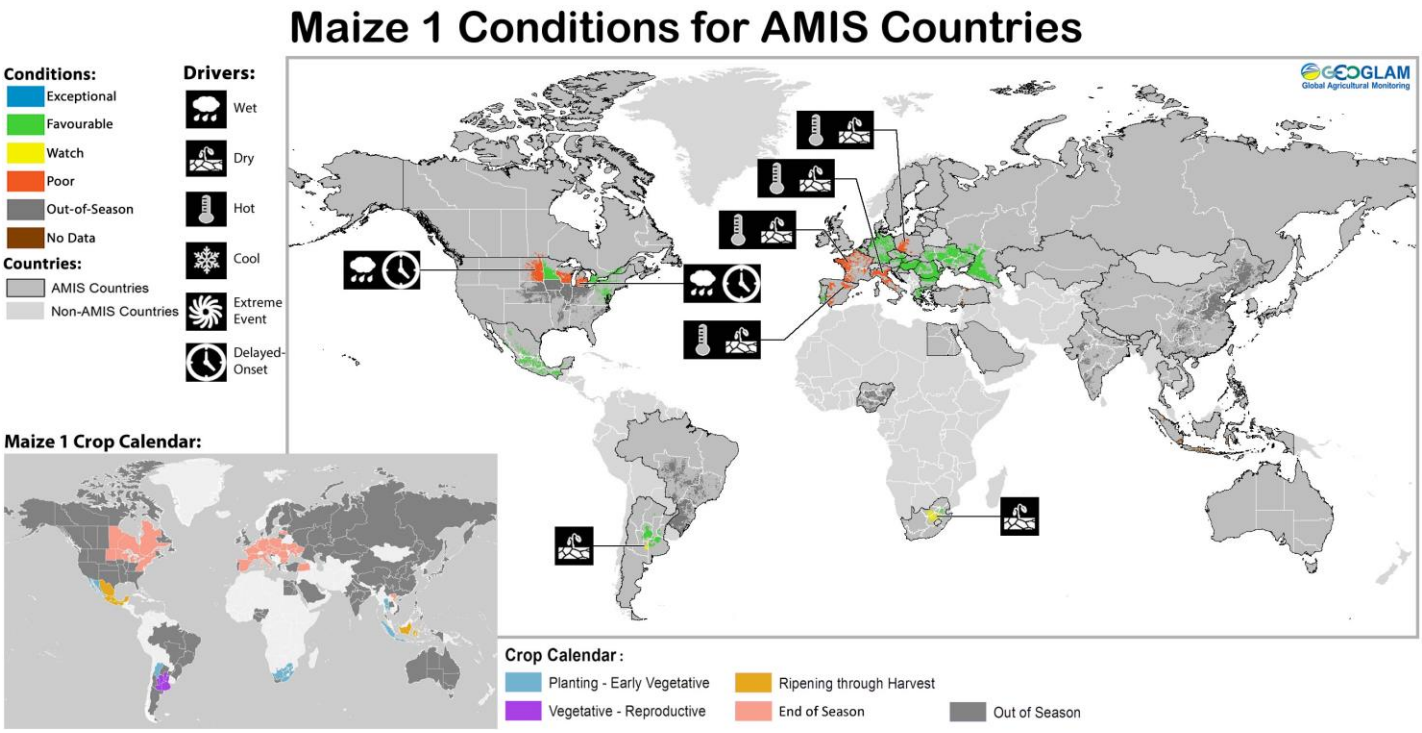
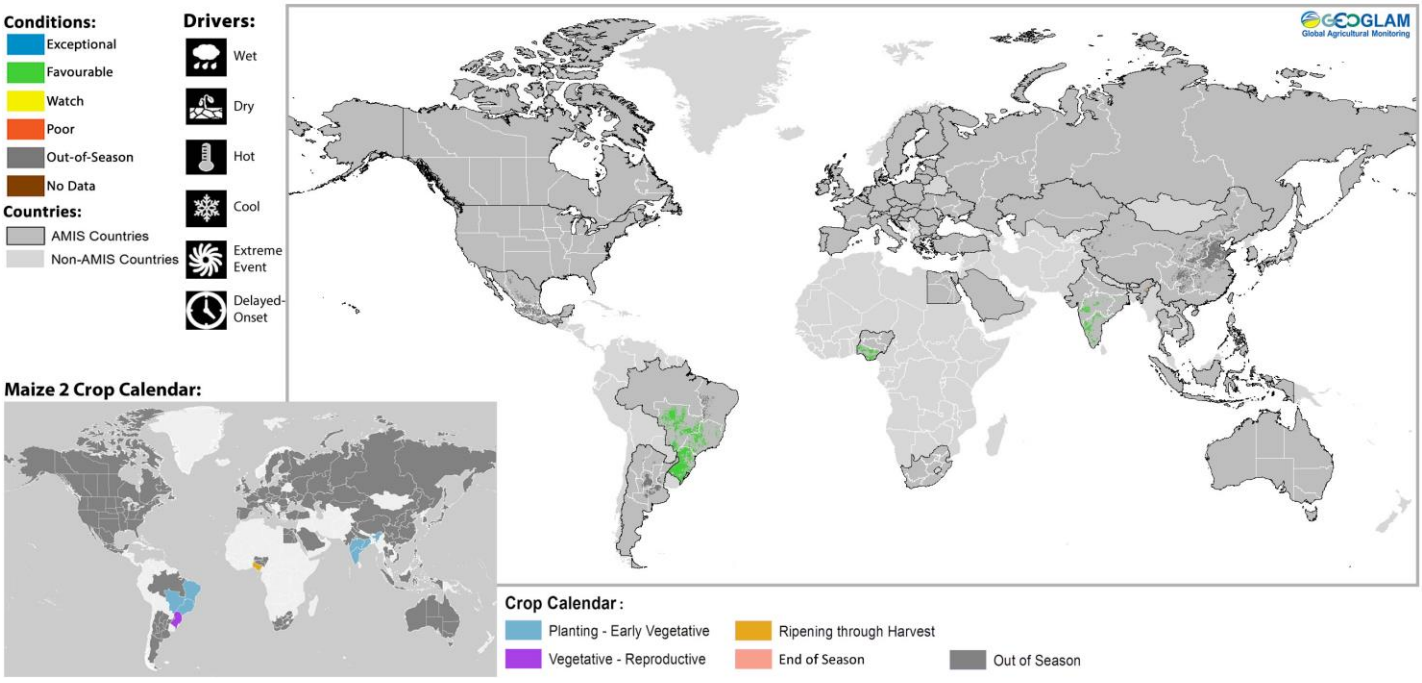


Maize 1 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of November 28th. Where crops are in less than favourable conditions the climatic drivers responsible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



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 November 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.

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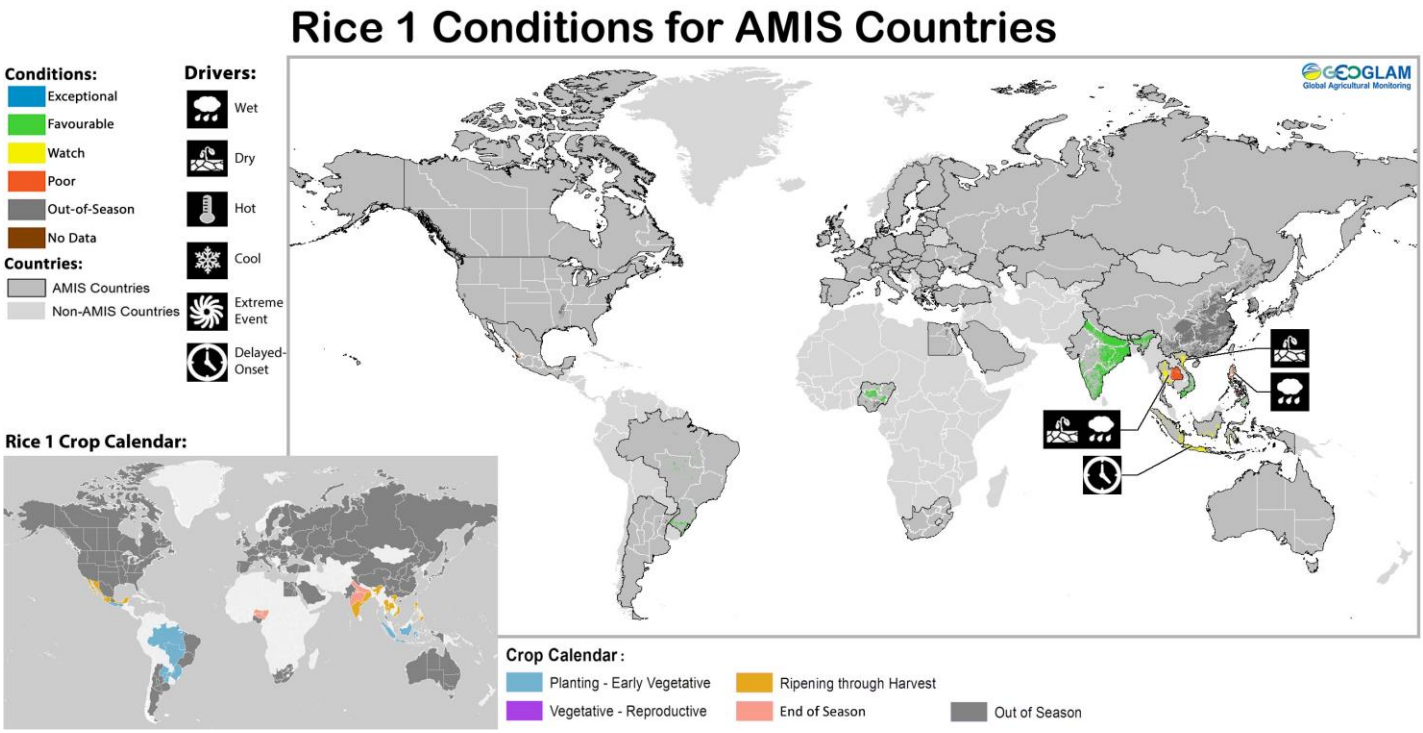
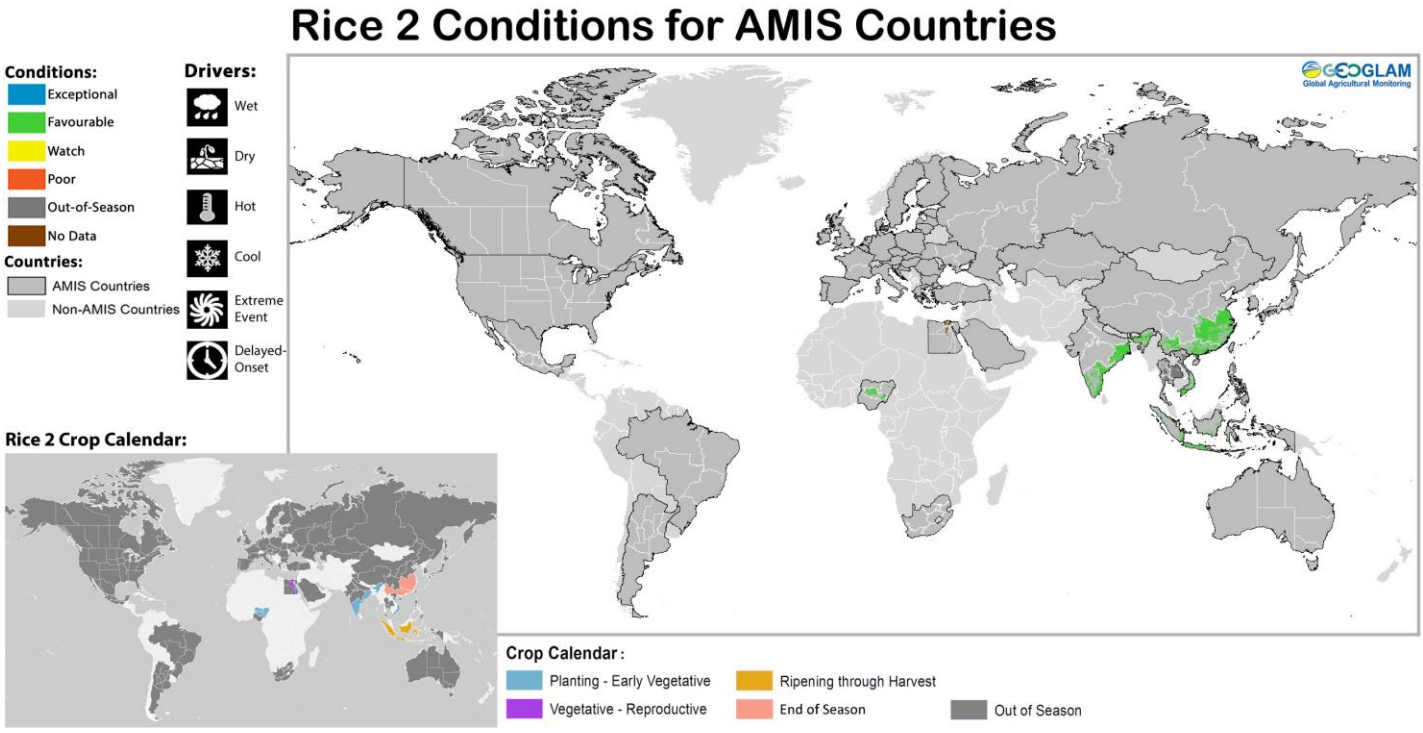


Rice 1 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of November 28th. Where crops are in less than favourable conditions the climatic drivers responsible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



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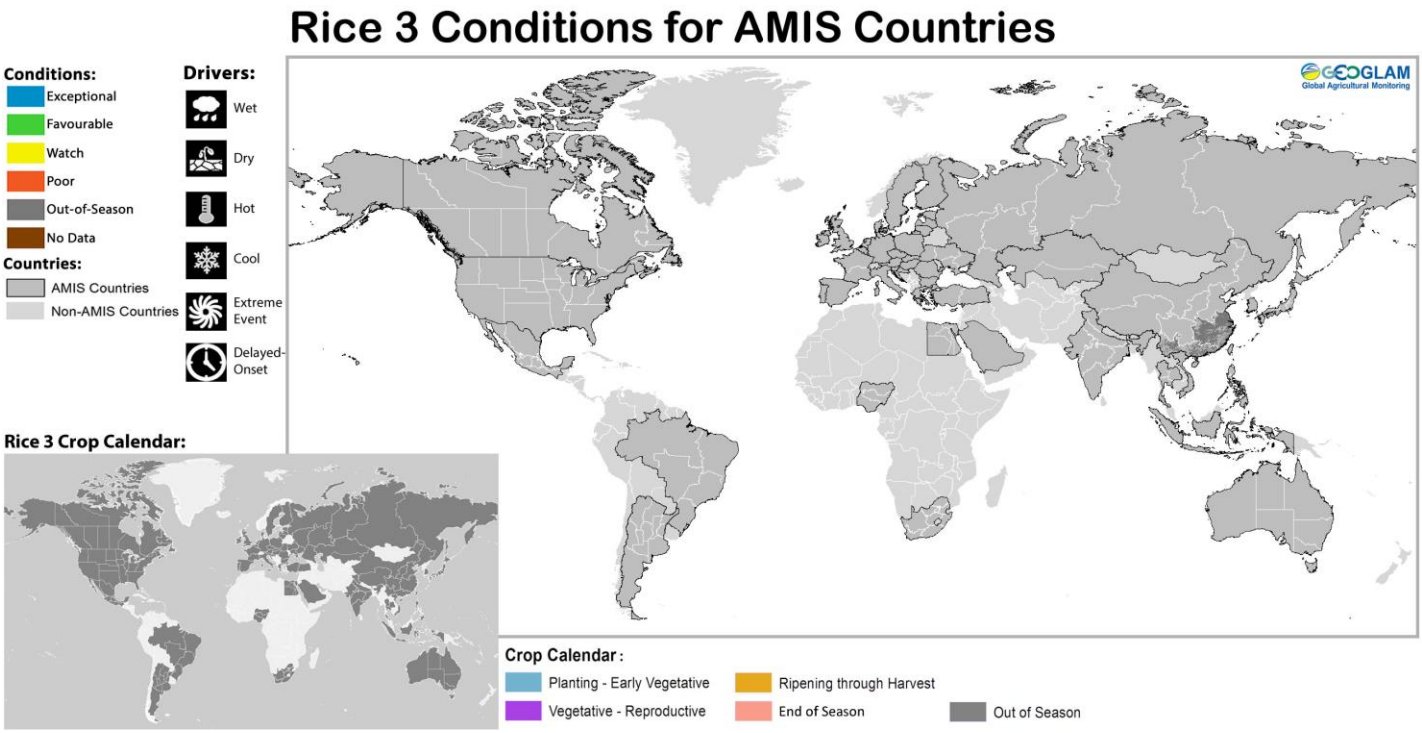
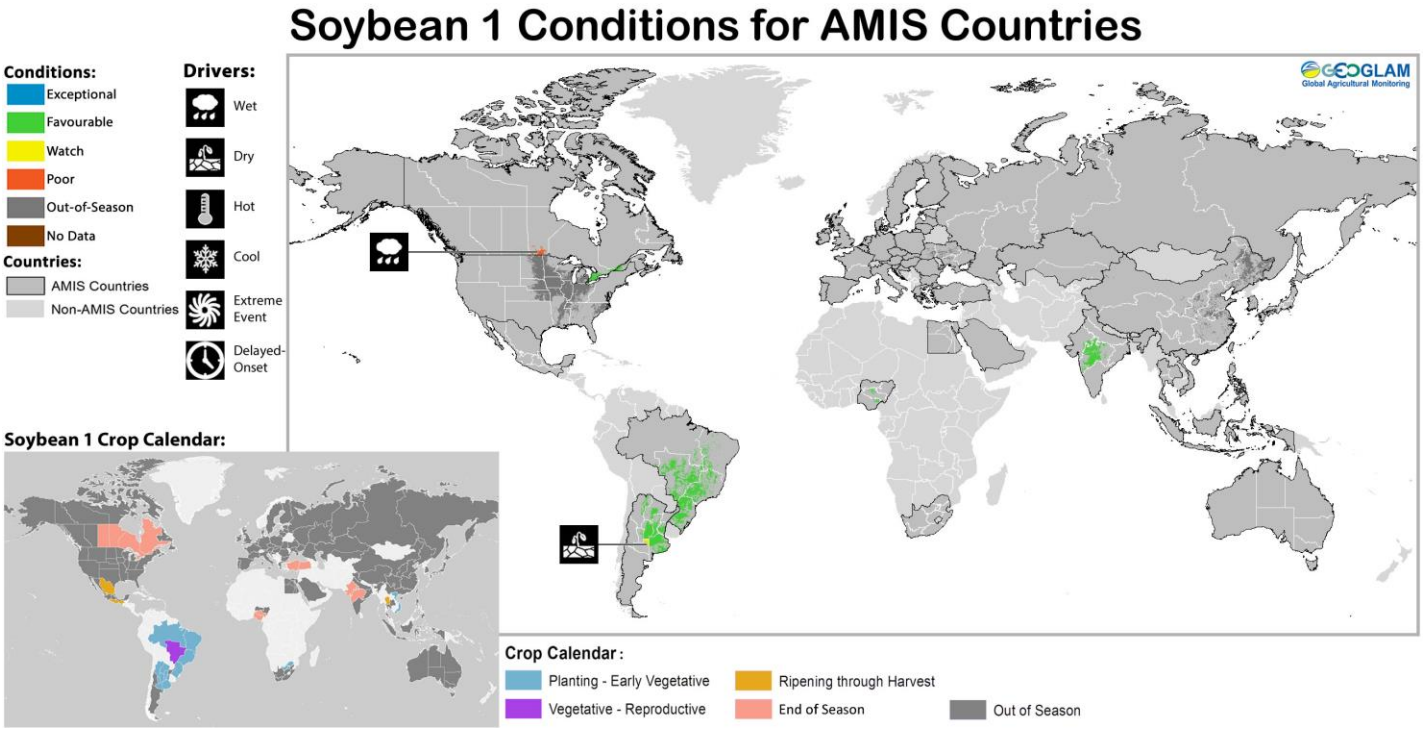


Rice 3 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of November 28th. Where crops are in less than favourable conditions the climatic drivers responsible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

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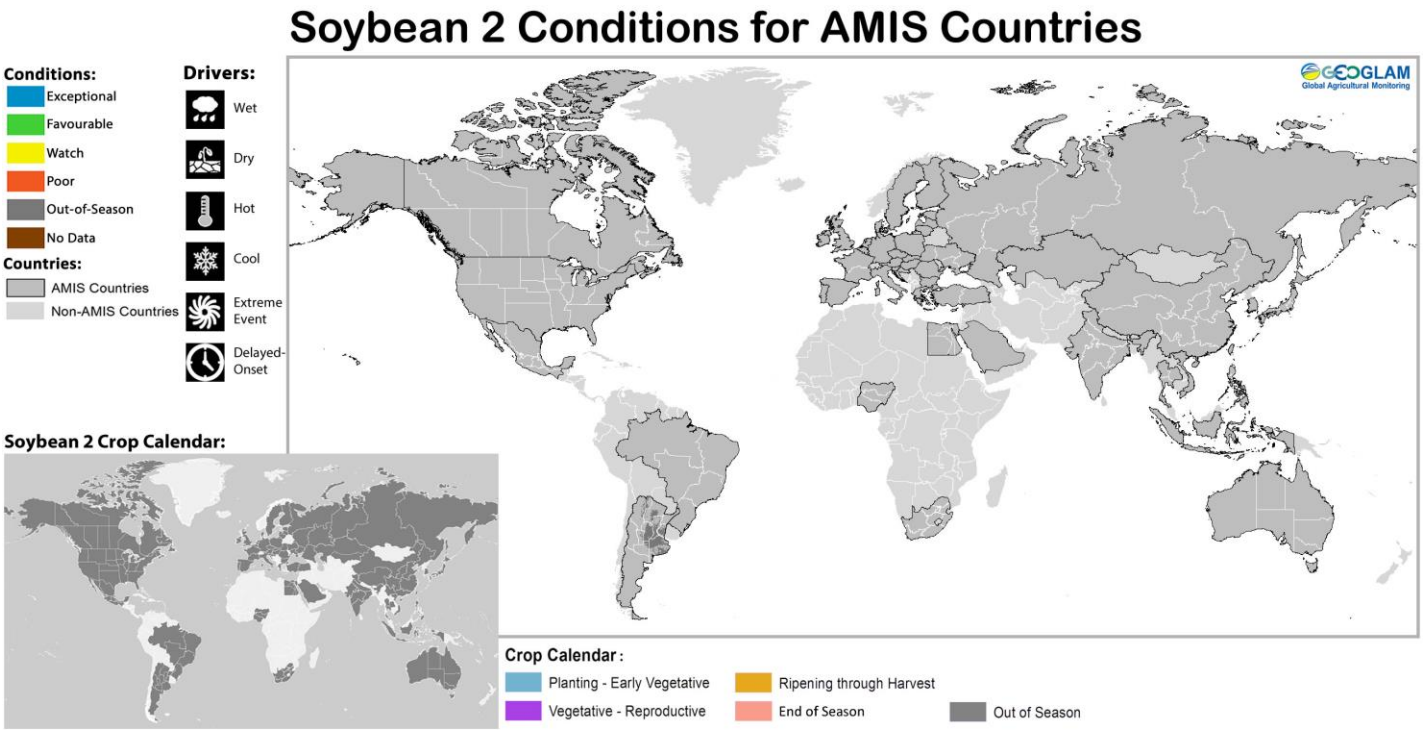

Soybean 2 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of November 28th. Where crops are in less than favourable conditions the climatic drivers responsible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

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Prepared by members of the GEOGLAM Community of Practice
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Climatic update by Climate Hazards Center of UC Santa Barbara

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

Photo courtesy of Mike Humber

https://cropmonitor.org/

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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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