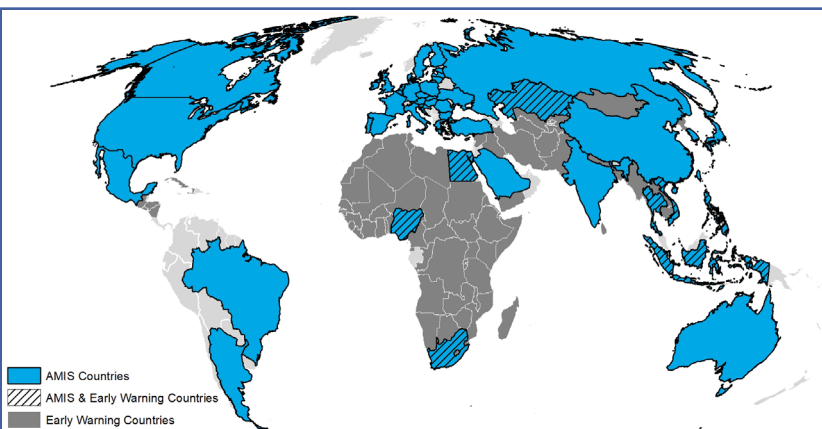




Crop Monitor for AMIS

Overview:

At the end of April, conditions are generally favourable for maize and rice, while mixed for wheat and soybeans. In the northern hemisphere, areas of concern for winter wheat remain as spring wheat sowing begins. Maize harvesting continues in Argentina and Brazil as sowing expands in the northern hemisphere. Rice conditions remain favourable in most countries. Soybean harvesting continues in Argentina and Brazil under mixed conditions.

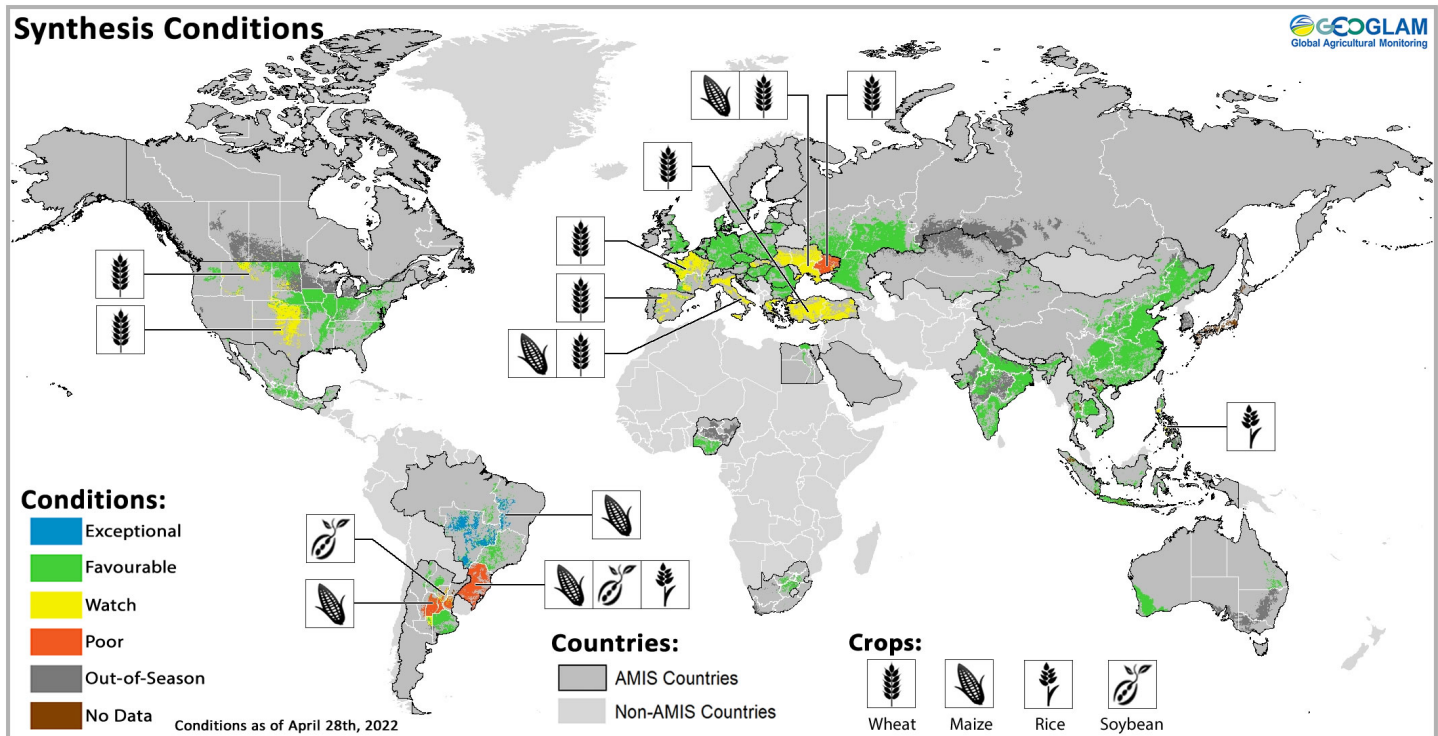


Contents:

| | |
|--|----|
| Conditions and Forecasts at a Glance..... | 2 |
| Wheat Conditions..... | 3 |
| Maize Conditions..... | 4 |
| Rice Conditions..... | 5 |
| Soybeans Conditions..... | 6 |
| Climate Forecasts..... | 7 |
| Appendix I – Terminology & Definitions..... | 13 |
| Appendix II – Crop Season Specific Maps..... | 14 |

Assessment based on information as of April 28th

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



Crop condition map synthesizing information for all four AMIS crops as of April 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 conditions are mixed in Europe and the US due to climatic conditions while the continuing war in Ukraine creates additional uncertainties. Harvesting continues in India with some areas experiencing extreme heat.

Maize - In the southern hemisphere, harvesting continues in Brazil, Argentina, and South Africa. In the northern hemisphere, sowing is ongoing in the US, Europe, Ukraine, the Russian Federation, and China.

Forecasts at a Glance

Climate Influences - The El Niño-Southern Oscillation (ENSO) is currently in the La Niña phase and is expected to remain as La Niña through at least July (73% chance) according to the IRI/CPC.

Brazil – The short-term (2-week), rainfall is likely to be below-average across much of the Central-West and South regions. Extended May-June-July forecast shows likely below-average rainfall over much of the South, while above average over the North and Northeast regions.

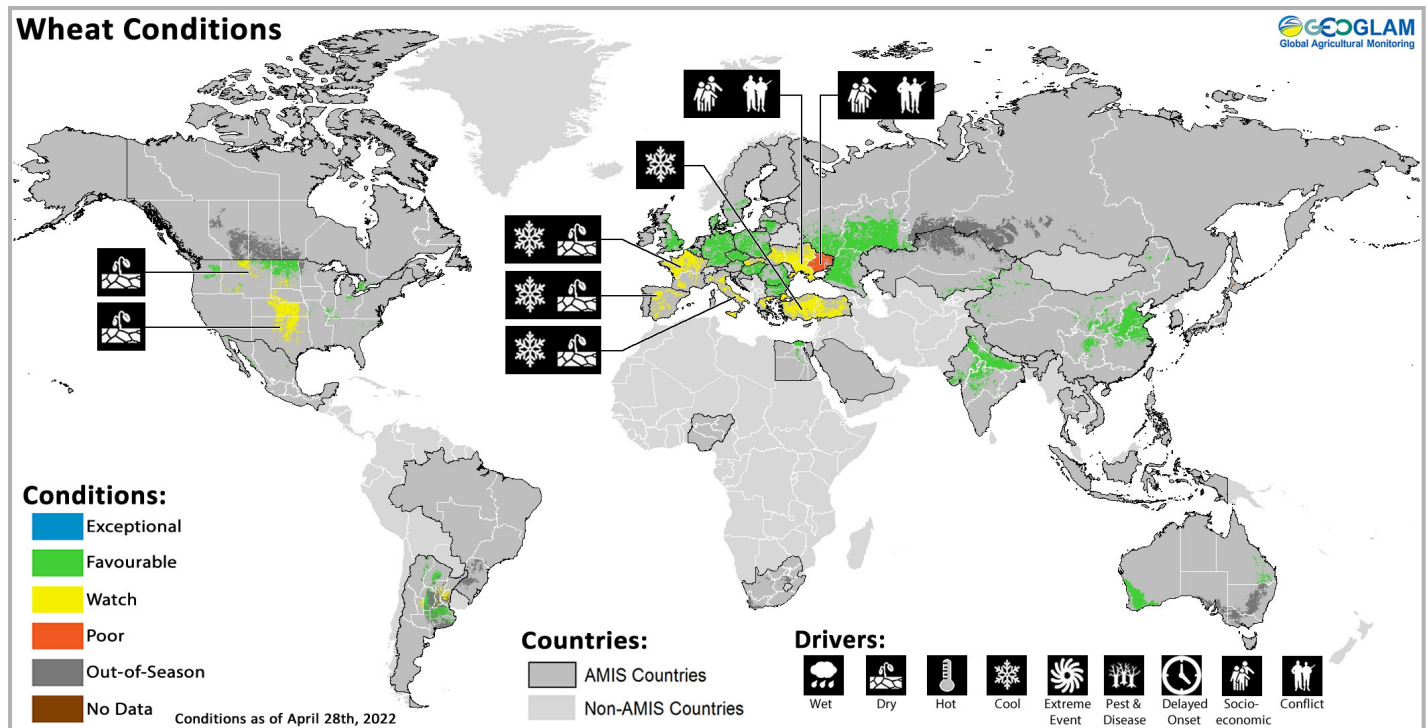
Rice - Rabi rice is harvesting in India. Single-season rice is sowing in China. In Southeast Asia, harvesting is continuing for dry-season rice in the northern countries and wet-season rice in Indonesia. In the Americas, harvesting is ongoing in Brazil, while sowing continues in the US.

Soybeans - In the southern hemisphere, harvesting is ongoing in Argentina and Brazil with areas of reduced yields. In the northern hemisphere, sowing is beginning in the US and Ukraine.

Europe – The short-term (2-week), rainfall is likely to be average across most countries. However, the extended May-June-July forecast shows likely below-average rainfall over much of southern Europe.

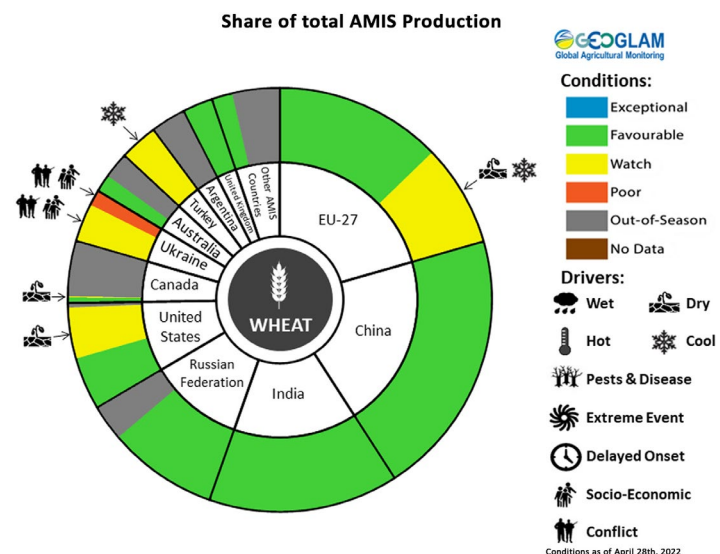
United States – The short-term (2-week) outlook shows possible above-average rainfall over the northern and central plains, while the long-term (3-months) outlook shows below-average rainfall over much of the Great Plains and the Pacific Northwest.

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 April 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.

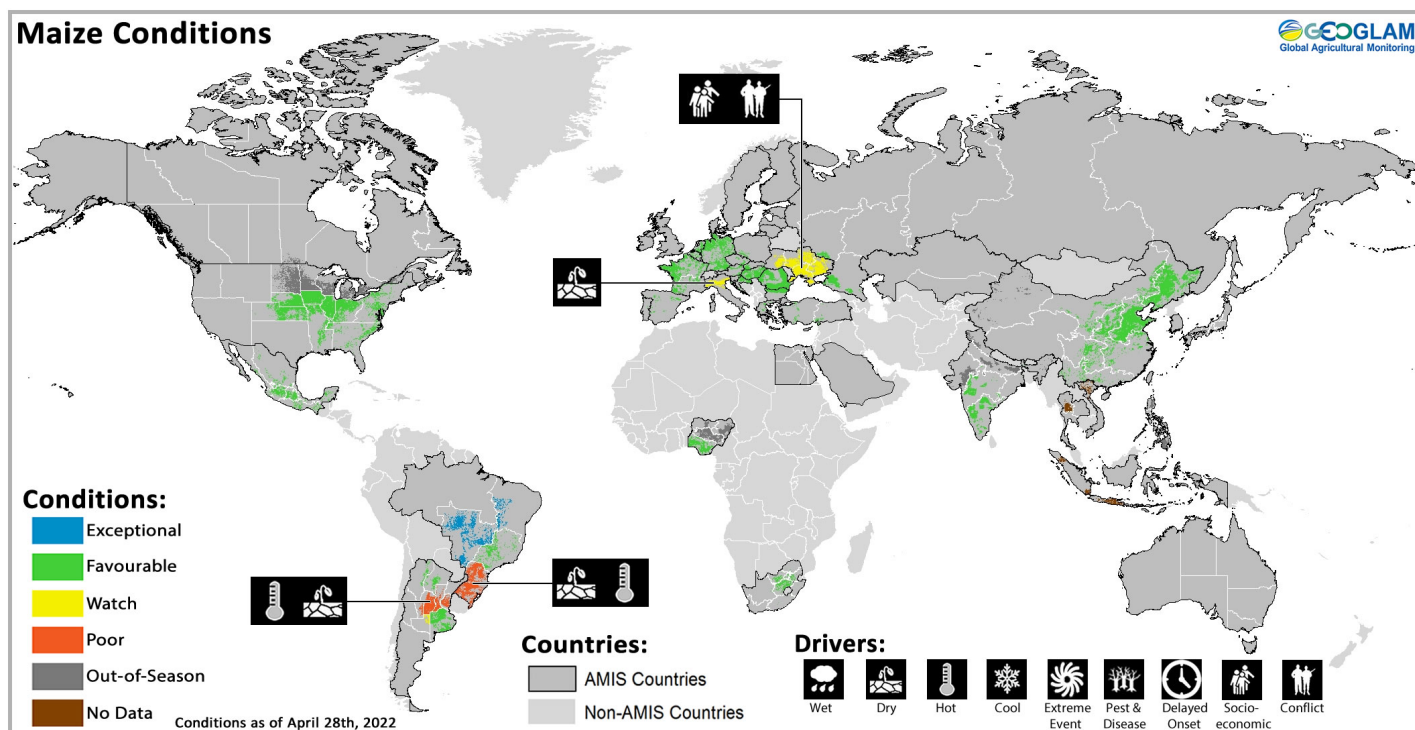
Wheat: In the **EU**, conditions are generally favourable, albeit with some pockets of dryness. Recent cold spells in the southern countries have slowed crop development. In the **United Kingdom**, winter wheat conditions are favourable. In **Ukraine**, the ongoing war continues to bring significant uncertainties as to the ability of the farmers to safely perform fieldwork and harvest their crops over the next few months. In the **Russian Federation**, winter wheat conditions are favourable as warm and wet weather continues. Sowing of spring wheat has begun in Volga under favourable conditions. In **Turkey**, below-average temperatures have slowed crop development. In **China**, conditions are favourable for both winter and spring wheat. In **India**, harvesting is ongoing under generally favourable conditions, however, above-average temperatures in the States of Punjab and Haryana have led to the early maturity of the crop and thus reduced final yields. In the **US**, winter wheat throughout much of the Great Plains continues to be impacted by the long-term dryness. Spring wheat sowing is off to a slow but favourable start. In **Canada**, winter wheat conditions remain mixed in the central and western Prairies while favourable in Manitoba and Ontario. In **Australia**, sowing is just beginning in Queensland and Western Australia under favourable conditions.



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

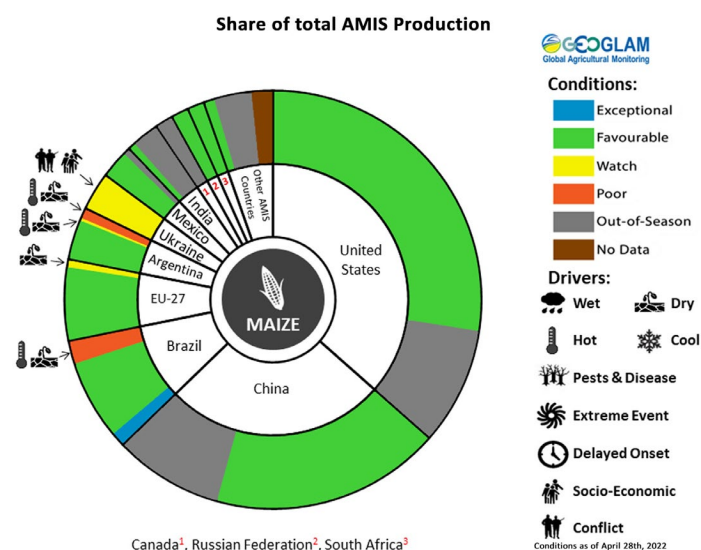
* Assessment based on information as of April 28th

Maize Conditions for AMIS Countries



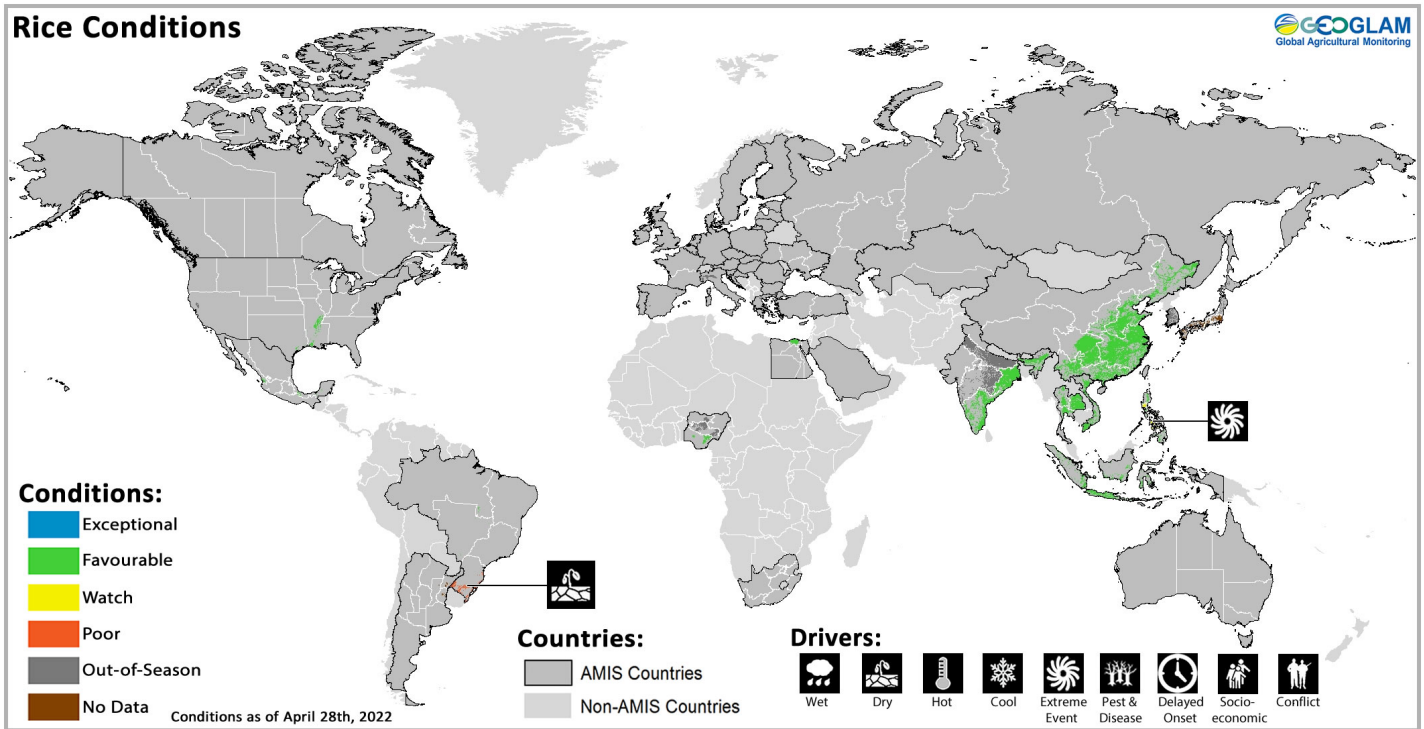
Maize crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of April 28th. Where crops are in other than favourable conditions the climatic drivers responsible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

Maize: In **Brazil**, harvesting of the spring-planted crop (smaller season) is continuing with reduced yields in the main producing South region. The summer-planted crop (larger season) is developing under favourable conditions. In **Argentina**, harvesting of the early-planted crop (larger season) is continuing with reduced yields due to earlier hot and dry weather. Conditions of the late-planted crop (smaller season) remain favourable. In **South Africa**, harvesting is ongoing under favourable conditions. In **India**, harvesting of the Rabi crop is wrapping up under favourable conditions. In the **US**, sowing is progressing slower than usual due to cool and wet weather across much of the Corn Belt region. In **Mexico**, harvesting has begun for the autumn-winter crop (smaller season). There is a reduction in the total sown area compared to the five-year average. In the **EU**, sowing is ongoing under generally favourable conditions, albeit delayed in most areas due to unseasonably cool weather. In **Ukraine**, sowing is progressing under the uncertainties of war with a substantial reduction in total sown area forecasted for this season. In the **Russian Federation**, sowing has begun under favourable conditions. In **China**, the sowing of the spring-planted crop continues under favourable conditions.



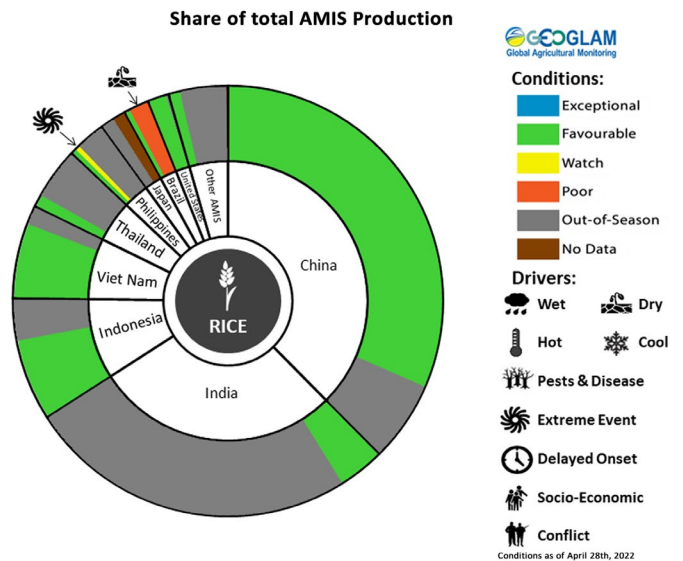
For detailed description of the pie chart please see box on page 6.

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 April 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.

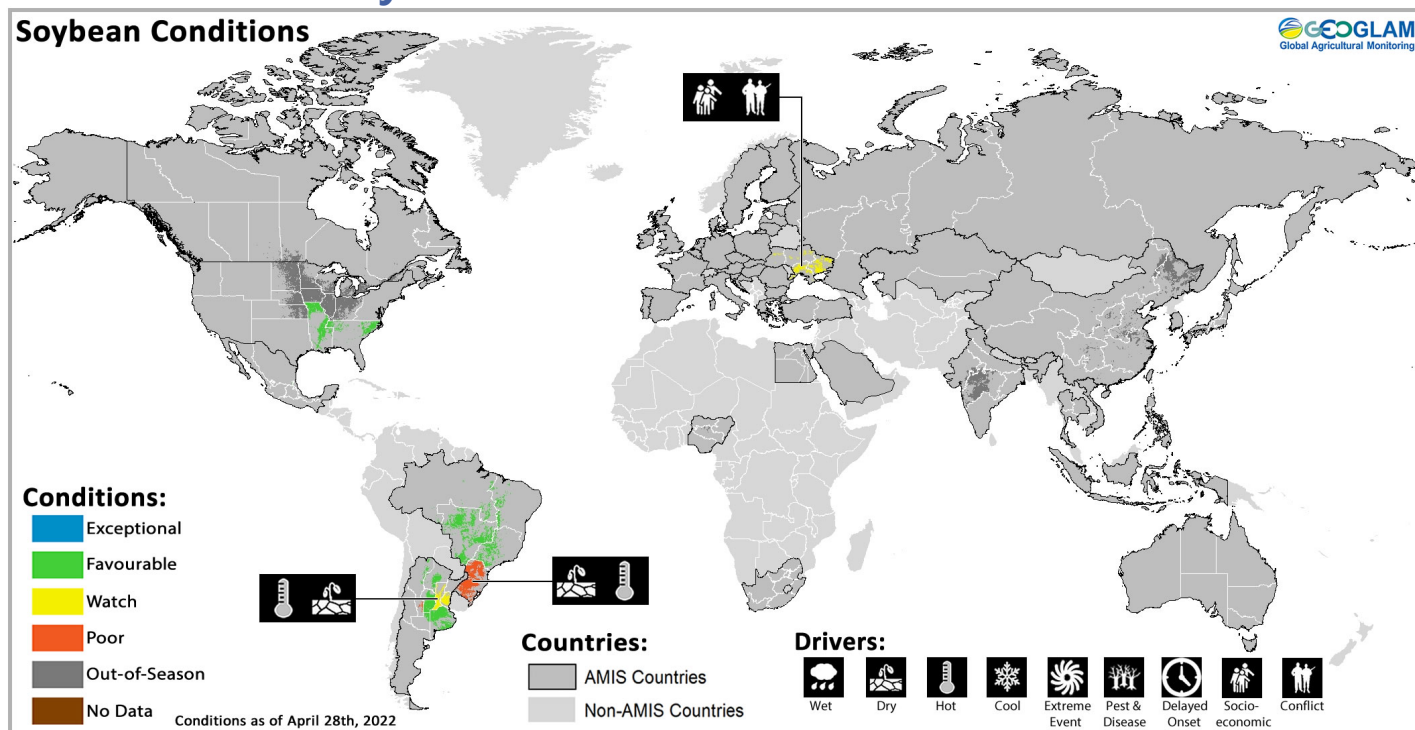
Rice: In **China**, conditions are favourable for the sowing of single-season rice and the continued development of early-season rice. In **India**, harvesting of the Rabi crop is ongoing under favourable conditions. In **Indonesia**, harvesting of wet-season rice enters the fourth month with good yields owing to ample rainfall and sunlight during the growing season. In **Viet Nam**, winter-spring rice (dry-season) is in the tillering and young panicle forming stages in the north, while harvesting in the south. Sowing of summer-autumn rice (wet season rice) has begun in the Mekong River Delta under favourable conditions. In **Thailand**, dry-season rice is harvesting with an expected increase in yields compared to last year due to ample rainfall throughout the season. The total sown area is increased compared to last year. In the **Philippines**, harvesting of dry-season rice is continuing under generally favourable conditions. However, tropical storm Megi caused significant damage to the crops in the Visayas region and will result in a reduction in yields. In **Brazil**, harvesting is continuing under mixed conditions due to high temperatures and water deficits in the south region. In the **US**, sowing is ongoing under favourable conditions.



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

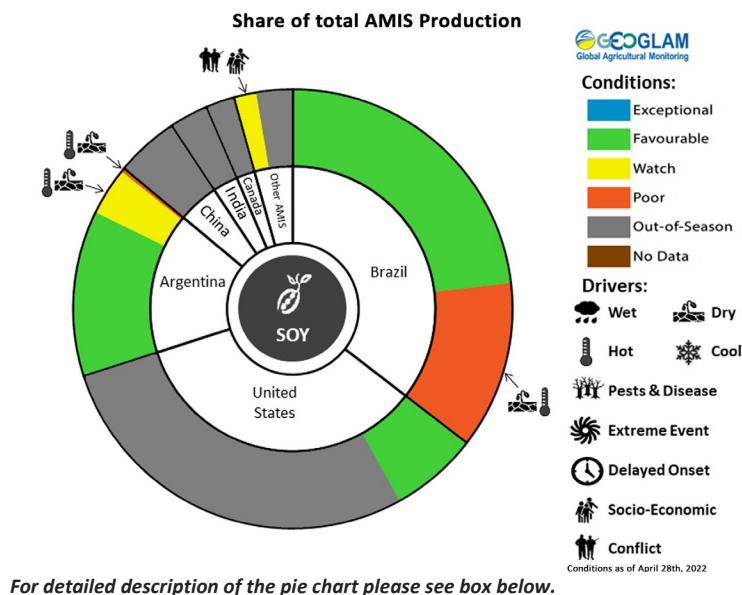
* Assessment based on information as of April 28th

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 April 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 **Brazil**, harvesting is wrapping up under poor conditions in some regions. Despite an increase in sown area compared to last season, a reduction in yields is expected due to a lack of rainfall associated with high temperatures during the reproductive stages in the South region and Mato Grosso do Sul state. In **Argentina**, harvesting is progressing for the early-planted crop (larger season) and beginning for the late-planted crop (smaller season) under mixed conditions. The impact of dry conditions throughout the growing season has impacted yields, particularly in Santa Fe, Entre Rios, and San Luis. The yields for the late-planted crop (smaller season) are now at risk due to frosts. In the **US**, sowing is off to a slow start due to due to cool and wet weather. In **Ukraine**, sowing is progressing under the uncertainties of 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 [GEOGLAM Crop Monitor for Early Warning](#), published May 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 April 28th

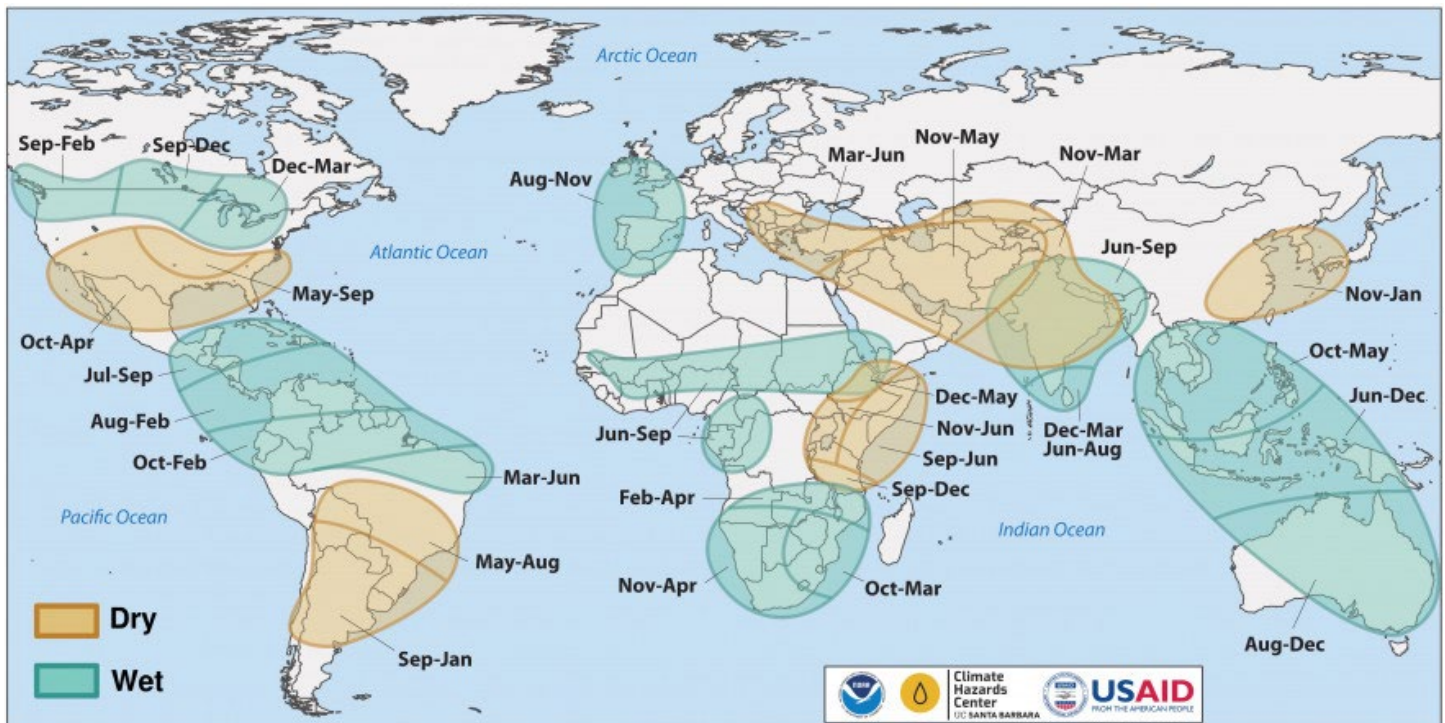
Climate Influences: La Niña Advisory and Likely Negative Indian Ocean Dipole

The El Niño-Southern Oscillation (ENSO) is currently in the La Niña phase and is expected to remain as La Niña through at least July (73% chance) according to the IRI/CPC. Long-range forecasts show higher-than 50% chances of La Niña, and very low chances of El Niño, through the end of 2022.

If La Niña conditions occur in late 2022 it would be the third event in a row, which is highly uncommon. Another La Niña could elevate the risks of repeated dry conditions in negatively-affected regions, such as eastern East Africa, southern South America, Central and Southern Asia, and southern North America, where several rainfall seasons have been below-average since late 2020.

Negative Indian Ocean Dipole conditions are likely to develop in June and last through September or longer. Negative IOD conditions are associated with above-average rainfall in Australia and below-average rainfall in East Africa.

Source: UCSB Climate Hazards Center

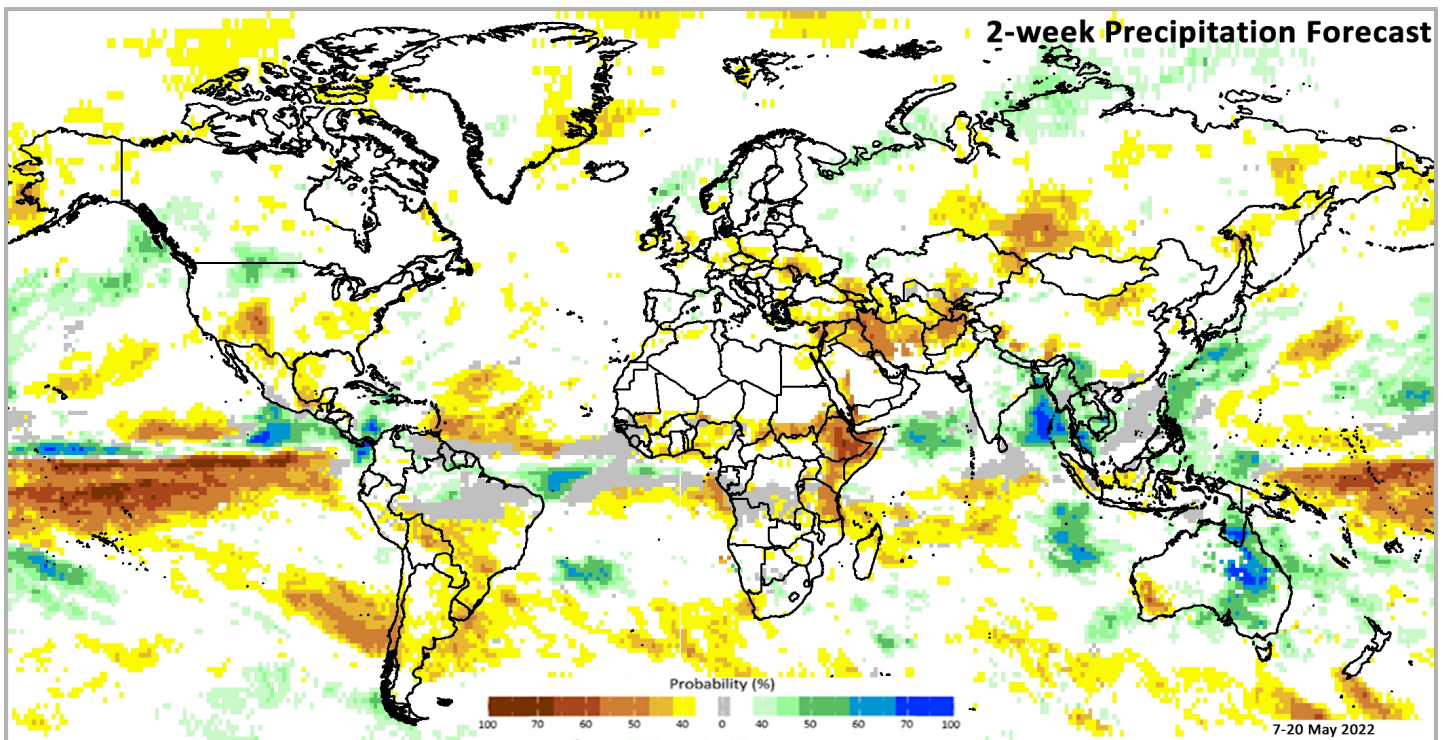


Location and timing of likely above- and below-average precipitation related to La Niña events. Based upon observed precipitation during 21 La Niña events since 1950, wet and dry correspond to a statistically significant increase in the frequency of precipitation in the upper and lower thirds of historical 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://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 the northern Great Plains in the US and the southern Prairies in Canada, Panama, northern Brazil, eastern India, Bangladesh, southwest China, Myanmar, Laos, Thailand, southern Viet Nam, and eastern Australia.

There is also a likelihood of below-average rainfall over the US southwest, southern Mexico, Bolivia, southern and central-west Brazil, Paraguay, Uruguay, Argentina, southern and eastern Germany, southwest Poland, northeastern Romania, Moldova, southwest Ukraine, southern and Siberian of the Russian Federation, southern Turkey, Syria, Lebanon, Iraq, northern and western Iran, southern and eastern Kazakhstan, eastern Uzbekistan, Kyrgyzstan, Tajikistan, eastern Turkmenistan, Afghanistan, southern Mali, Côte d'Ivoire, southern Niger, Nigeria, southern Chad, northern Central African Republic, southern Sudan, Eritrea, Ethiopia, Somalia, Kenya, southern Uganda, central and eastern Tanzania, northern Madagascar, northern China, Indonesia, and Western Australia.

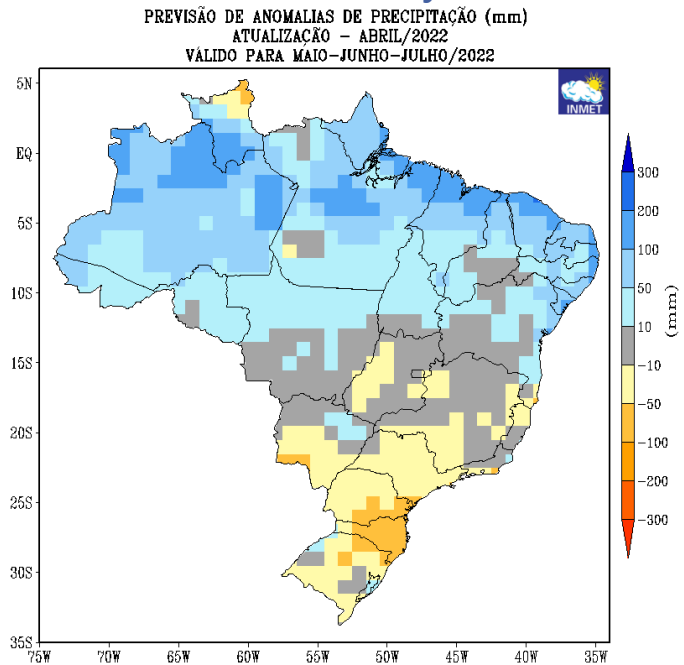
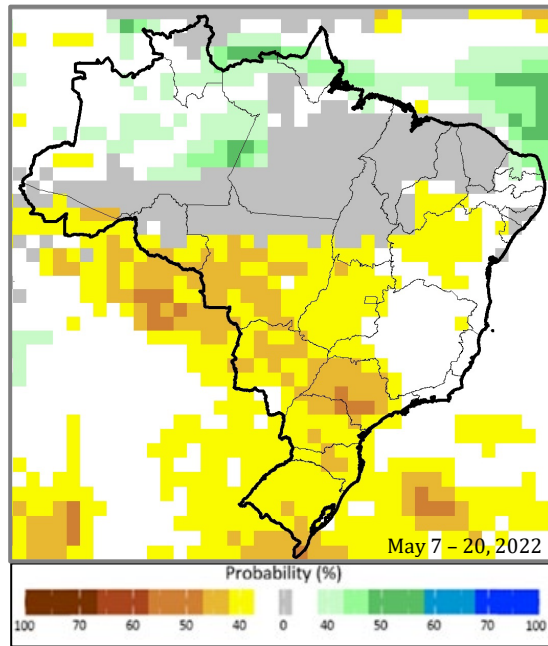


IRI SubX Precipitation Biweekly Probability Forecast for 7-20 May 2022, issued on April 29th, 2022. The forecast is based on statistically calibrated tercile category forecasts from three SubX models. Source: [IRI Subseasonal Forecasts Maproom](#)

Brazil Outlook

For the May 7 - 20 short-term outlook, there is the possibility of below-average precipitation across Mato Grosso, Goiás, Mato Grosso do Sul, Sao Paulo, Paraná, Santa Catarina, and Rio Grande do Sul. For the longer-term seasonal May-June-July (MJJ) 2022 outlook, below-average precipitation is likely to continue over Mato Grosso do Sul, Sao Paulo, Paraná, Santa Catarina, and the Rio Grande do Sul. Above-average precipitation is likely over much of the north and northeast states.

Short-term Precipitation Outlook and Extended Anomaly



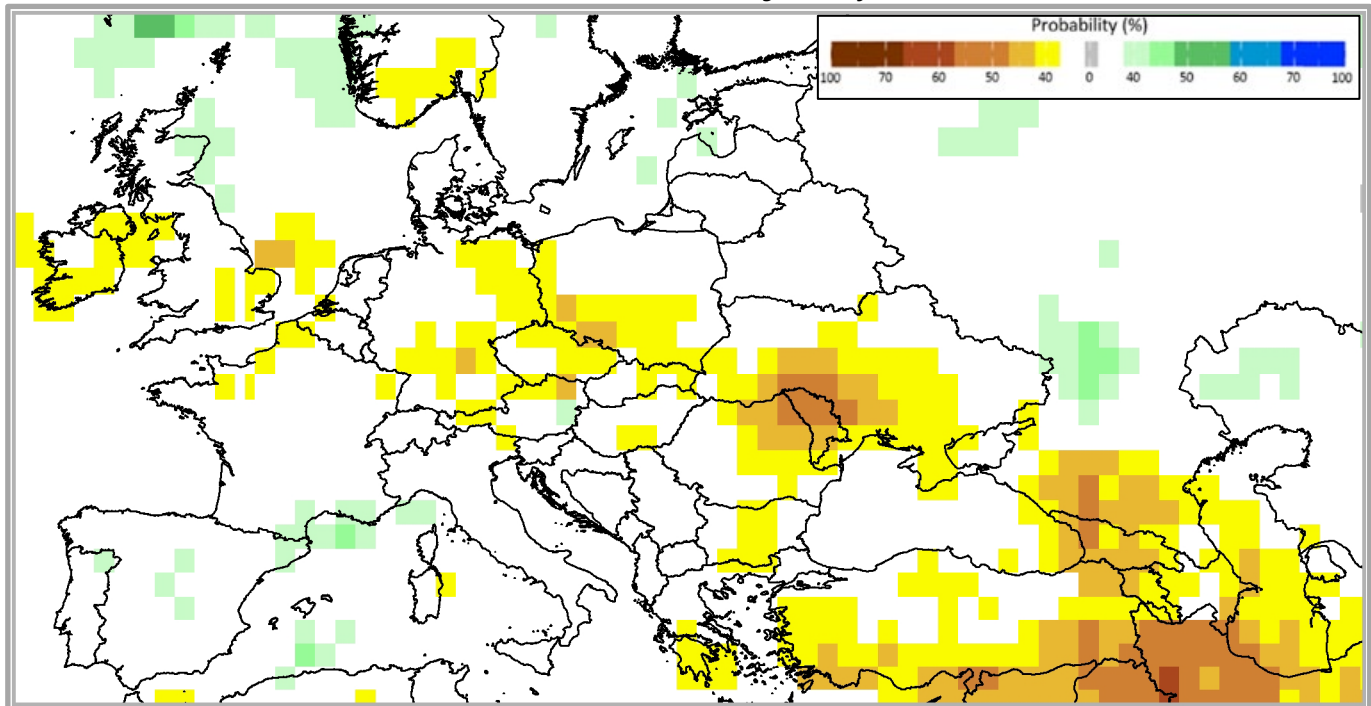
left: IRI SubX Precipitation Biweekly Probability Forecast for 7-20 May 2022, issued on April 29th, 2022. The forecast is based on statistically-calibrated tercile category forecasts from three SubX models. Image from the [IRI Subseasonal Forecasts Maproom](#).

Right: Forecast for May-June-July (MJJ) 2022 precipitation anomaly, issued April 2022. Source: National Institute of Meteorology (INMET)

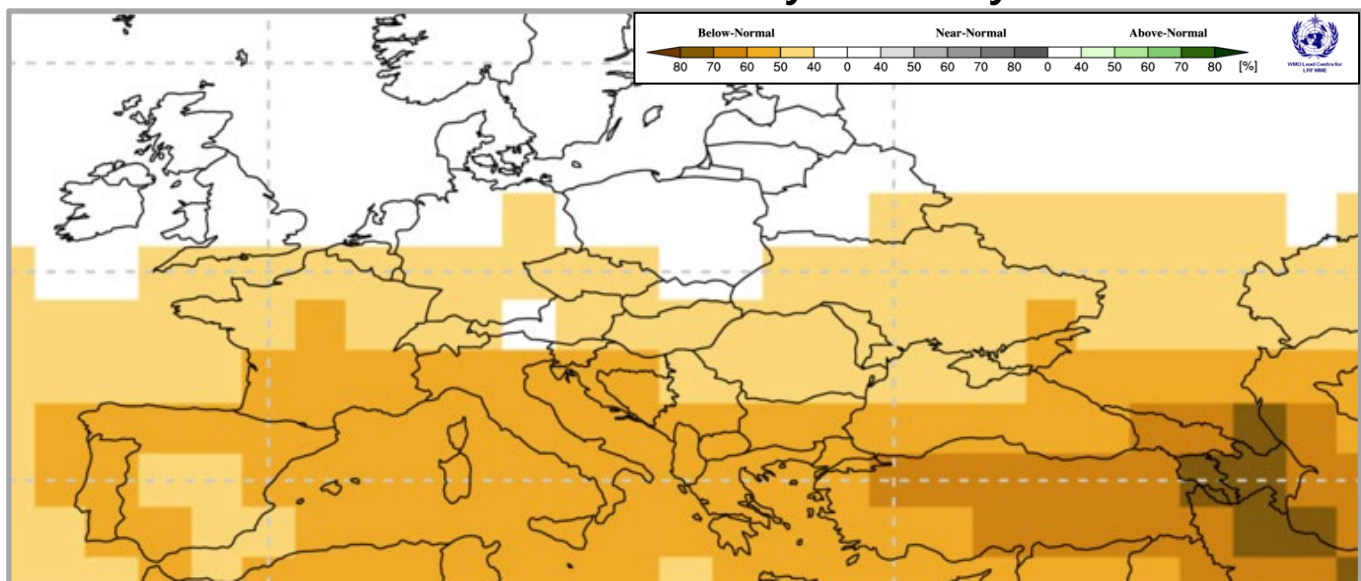
Europe Outlook

The two-week forecast (Figure 1) indicates likely below-average rainfall is likely in southwest Poland, northeast Romania, Moldova, southwestern Ukraine, the southern Russian Federation, and parts of southern Turkey. The long-term May-June-July 2022 forecast (Figure 2) predicts likely below-average precipitation across all of southern Europe with the highest probabilities in Portugal, Spain, southern France, Italy, Croatia, Bosnia and Herzegovina, Montenegro, Albania, Kosovo, North Macedonia, Bulgaria, Greece, Turkey, and the southern Russian Federation.

2-Week Rainfall Probability (May 7-20, 2022)



3-Month Rainfall Anomaly Probability



Top: IRI SubX Precipitation Biweekly Probability Forecast for 7-20 May 2022, issued on April 29th, 2022. 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/subseasonal/).

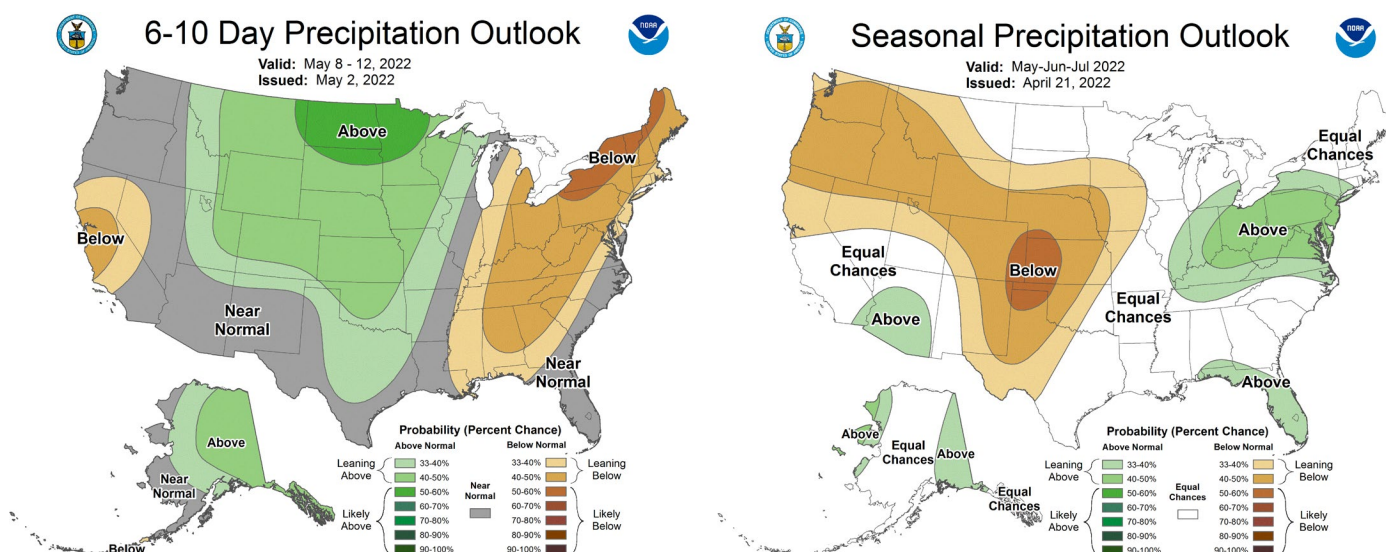
Bottom: Multi-model ensemble probabilistic forecast for May-June-July (MJJ) 2022 precipitation from the WMO Lead Centre for Long-Range Forecast Milt-Model Ensemble at https://www.wmolc.org/seasonPmmeUI/plot_PMME.

United States Outlook

For the May 8-12 short-term outlook, there is the possibility of below-average precipitation in California and across the Appalachians. Conversely, there is the possibility of above-average precipitation in the northern plains and extending down into the central plains. At the same time, temperatures are likely to be above-average across the eastern plains and from the mid-west down into the Gulf of Mexico. Below-average temperatures are likely in the coastal portion of the mid-Atlantic states and across the western half of the US.

For the longer-term seasonal May-June-July (MJJ) 2022 outlook, above-average precipitation is likely over Pennsylvania, Ohio, Indiana, northern Kentucky, West Virginia, Maryland, Delaware, Virginia, Florida, and southern Arizona. Below-average precipitation is likely across the southern and central plains, the northern Rockies, and the Pacific Northwest. At the same time, temperatures will likely be above average across most of the contiguous US, with the highest likelihood centered over Utah, Colorado, Arizona, New Mexico, and northwest Texas.

Short-term and the May-June-July Precipitation Outlooks



The official 6 -10 day outlook issued on May 2nd, 2022, and the extended May-June-July outlook issued on April 21st, 2022 from NOAA/National Weather Service, National Centers for Environmental Predictions, Climate Prediction Center. Images from <https://www.cpc.ncep.noaa.gov/products/forecasts/>.

Source: NOAA Climate Prediction Center

* Assessment based on information as of April 28th

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 |

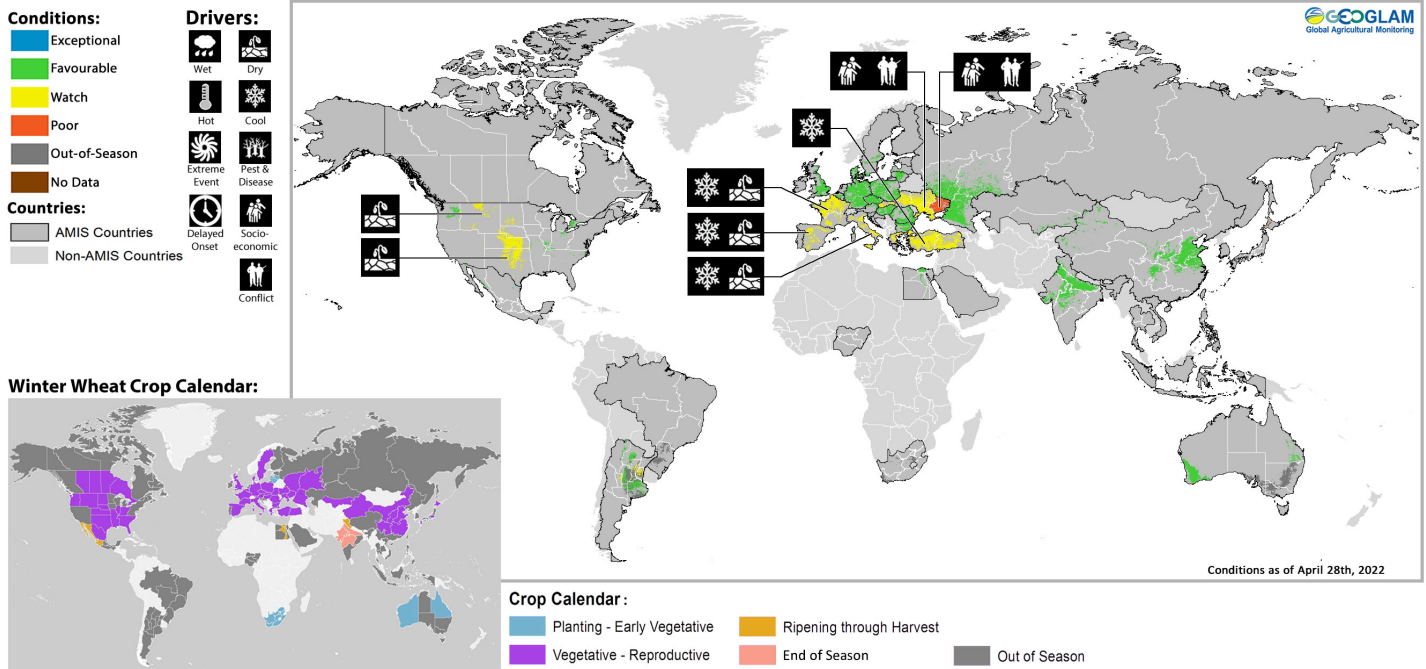
Crop Season Nomenclature:

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 | |

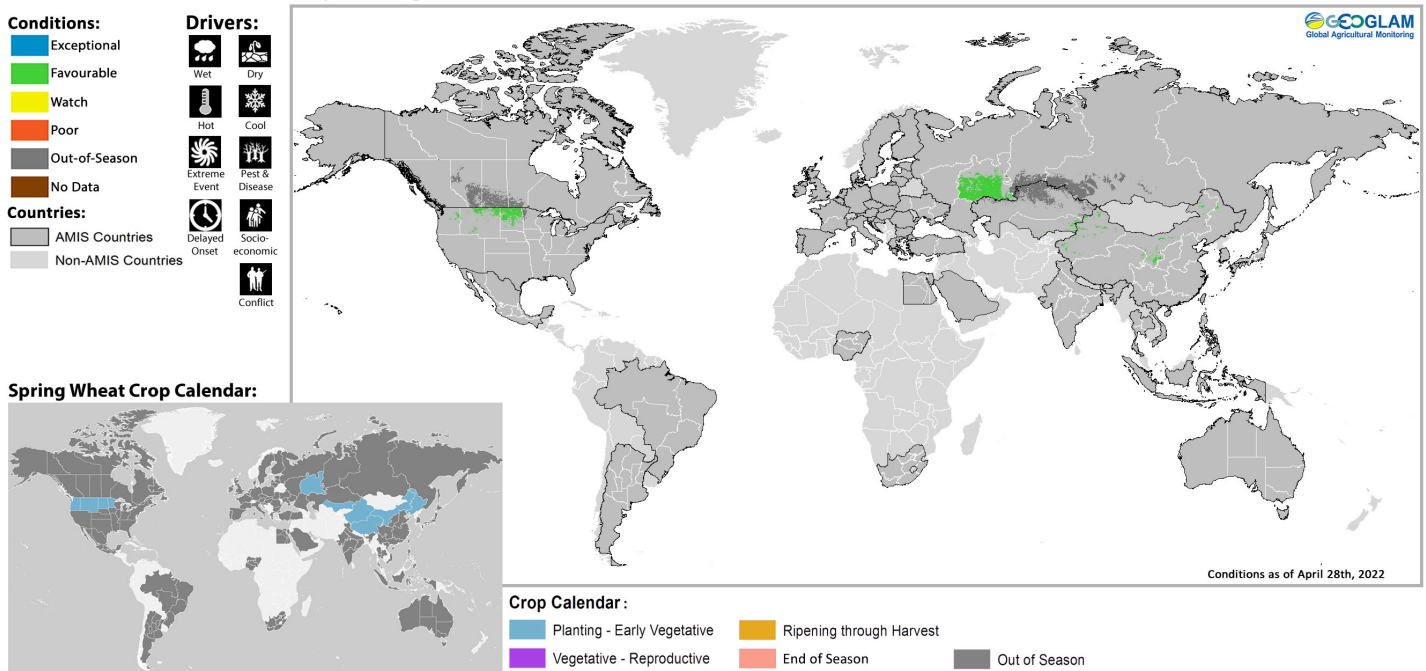
Appendix 2: Crop Season Specific Maps

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 April 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.

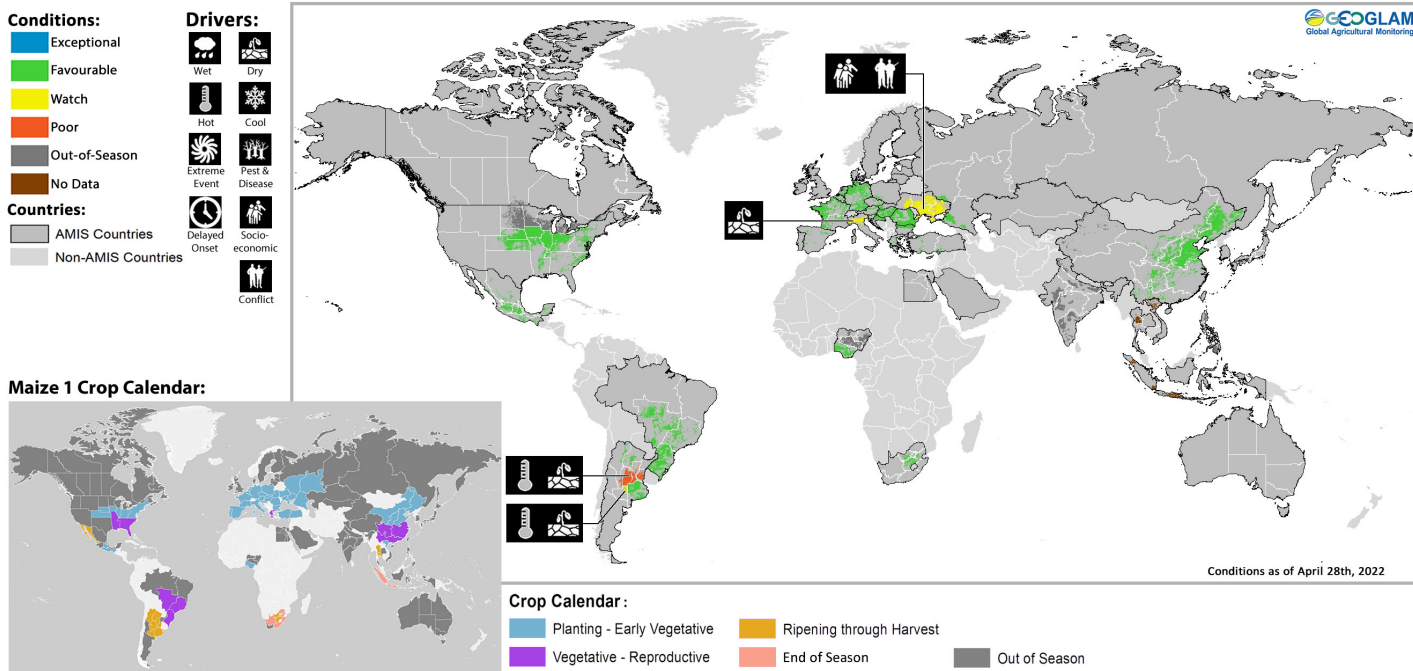
Spring Planted Wheat Conditions for AMIS Countries



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 April 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.

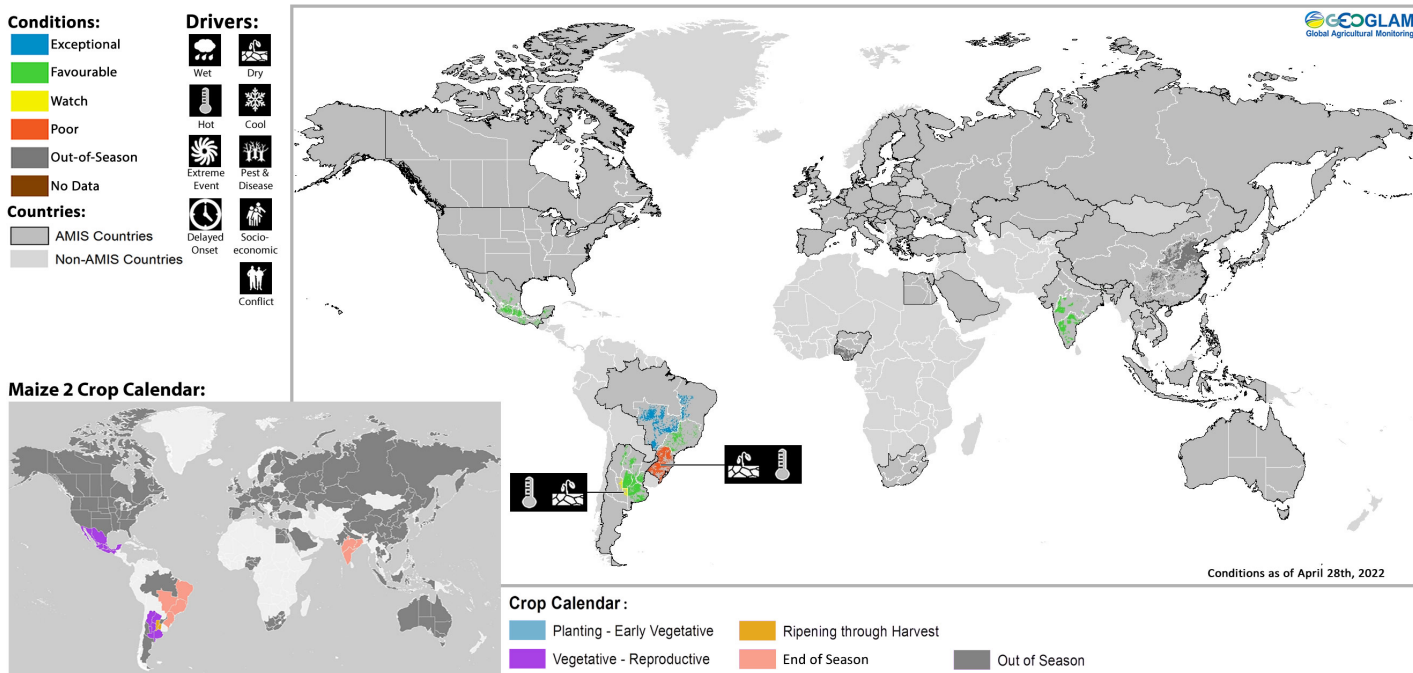
* Assessment based on information as of April 28th

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 April 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.

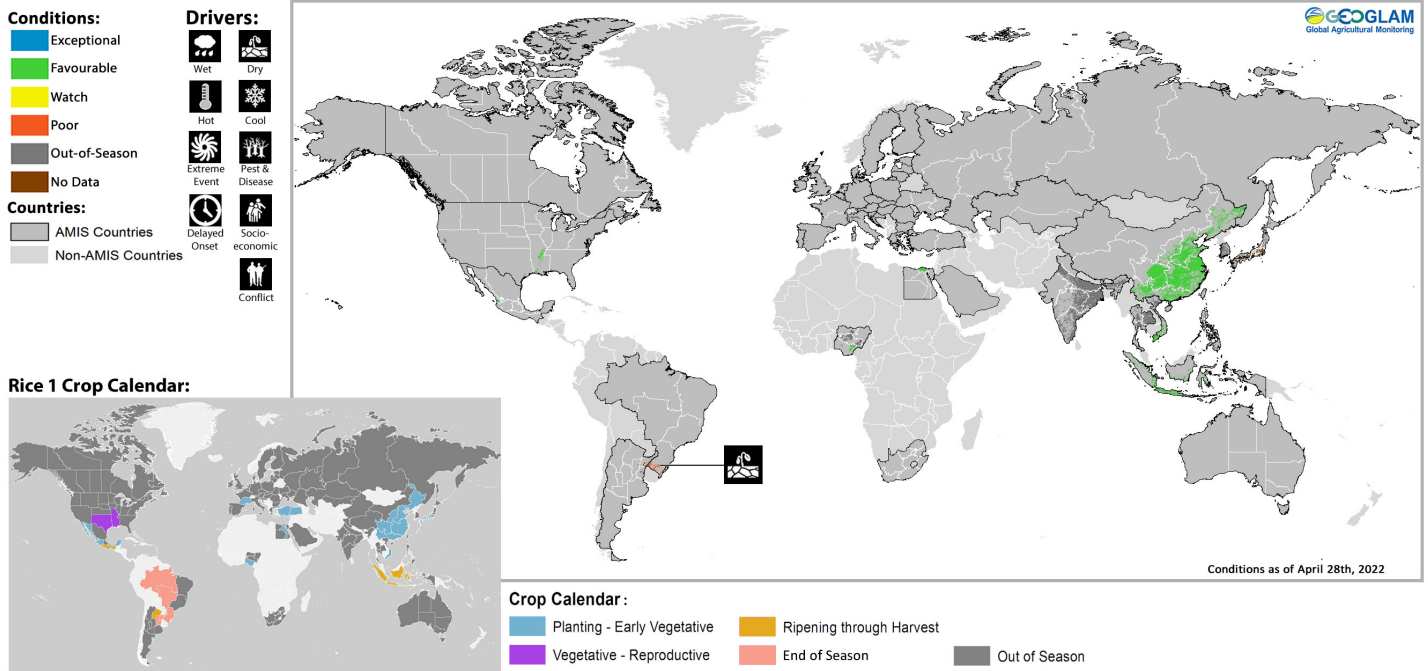
Maize 2 Conditions for AMIS Countries



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 April 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.

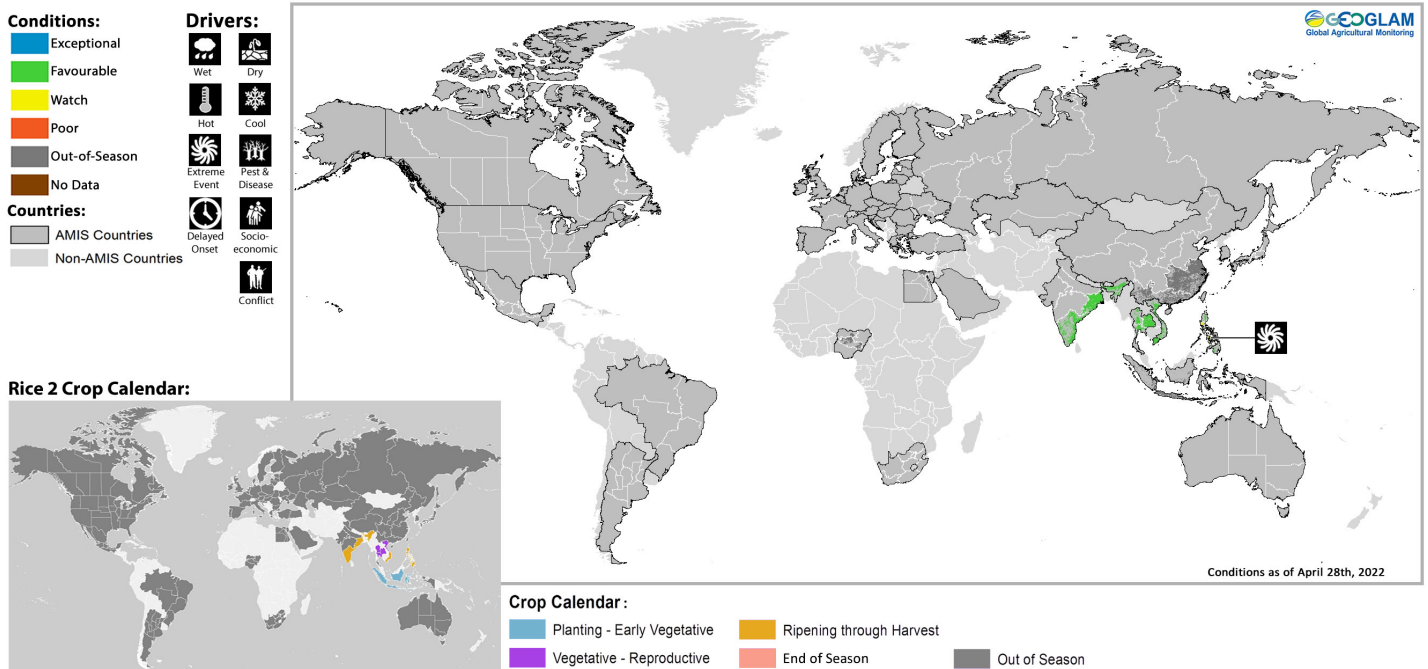
* Assessment based on information as of April 28th

Rice 1 Conditions for AMIS Countries



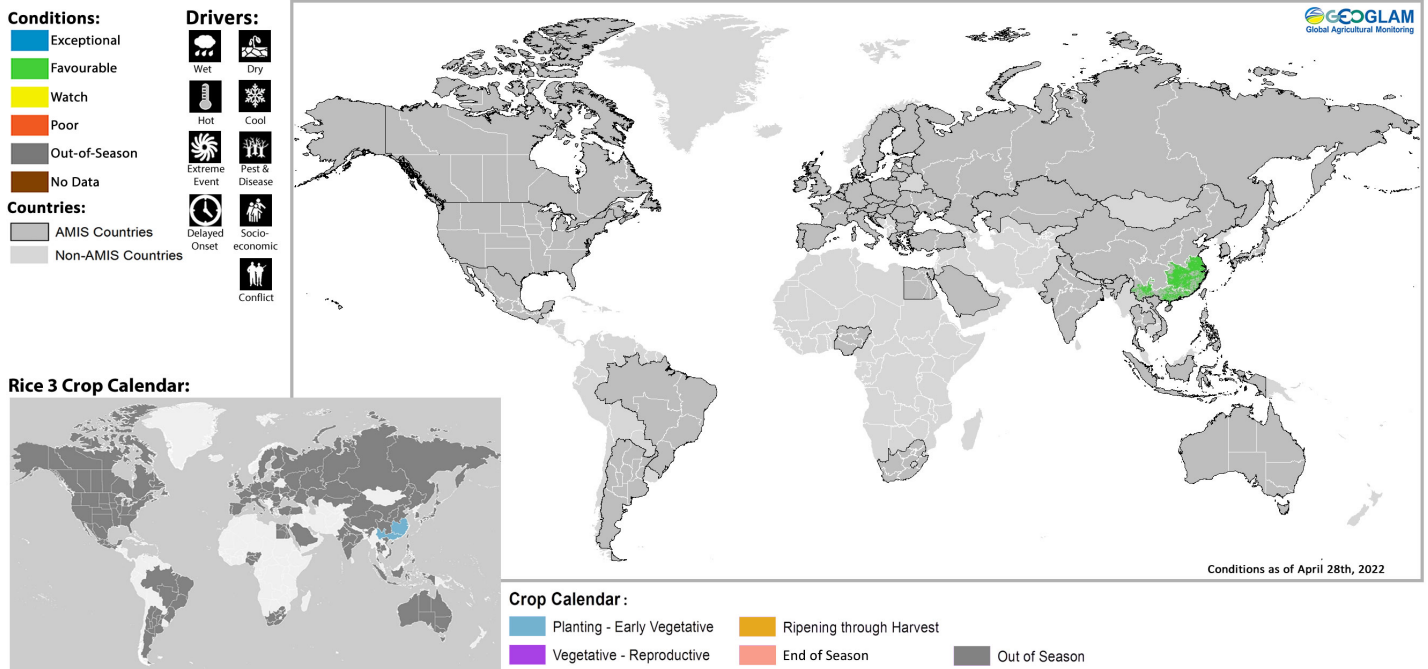
Rice 1 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of April 28th. Where crops are in less than favourable conditions the climatic drivers responsible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



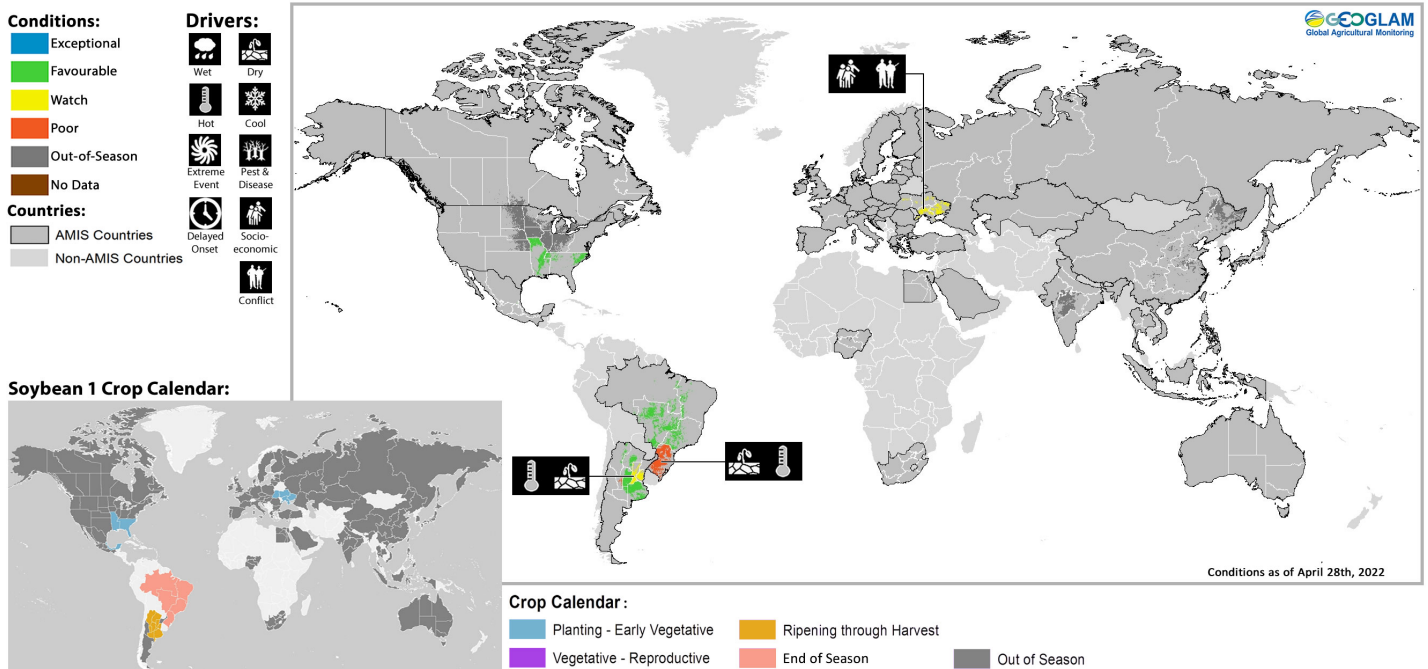
Rice 2 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of April 28th. Where crops are in less than favourable conditions the climatic drivers responsible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



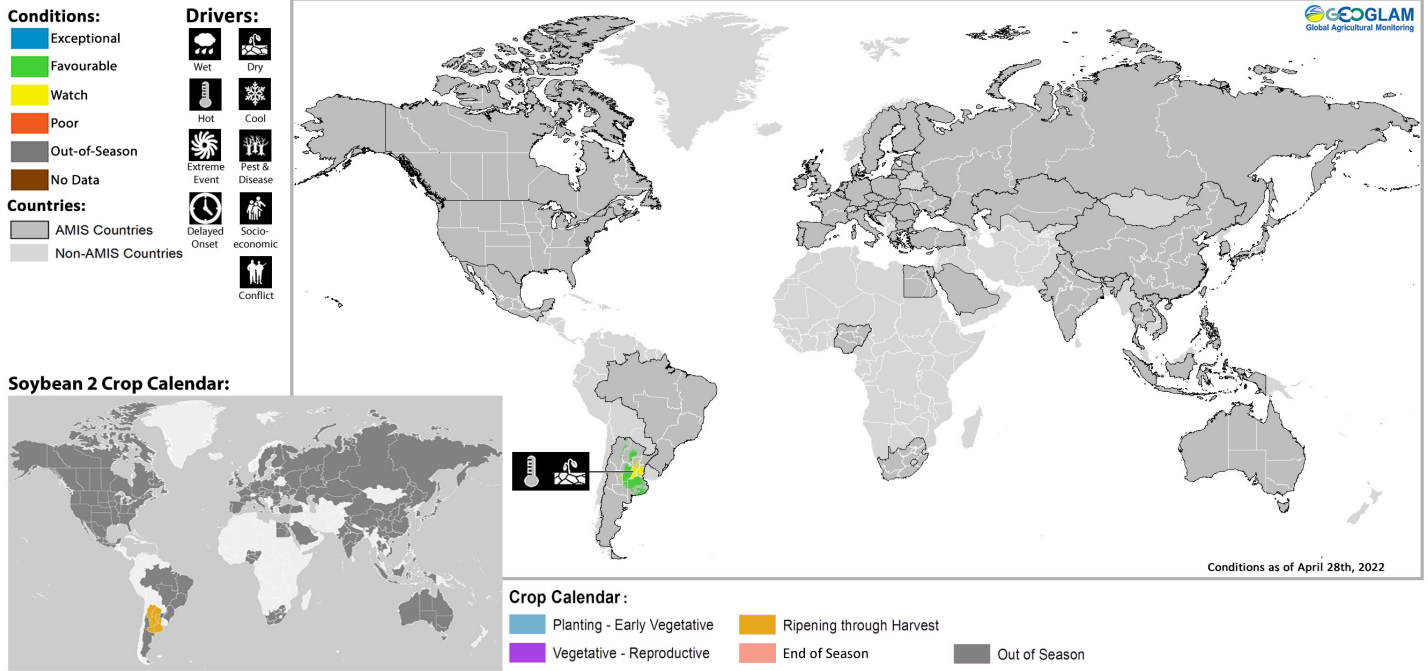
Rice 3 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of April 28th. Where crops are in less than favourable conditions the climatic drivers responsible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

More detailed information on the GEOGLAM crop assessments is available at <https://cropmonitor.org>