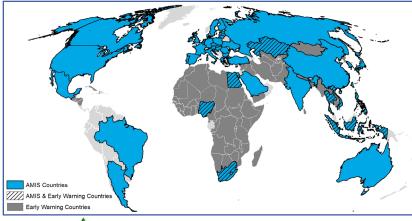




Overview:

At the end of July, conditions remain generally favourable for rice and soybeans while mixed for wheat and maize. In the northern hemisphere, areas of concern for wheat remain in North America, Europe, and Central Asia. In the southern hemisphere, dry conditions persist in Argentina. Maize harvest continues in the southern hemisphere while hot and dry conditions hit in the northern hemisphere. Rice conditions remain generally favourable. Soybean conditions remain generally favourable in the northern hemisphere.







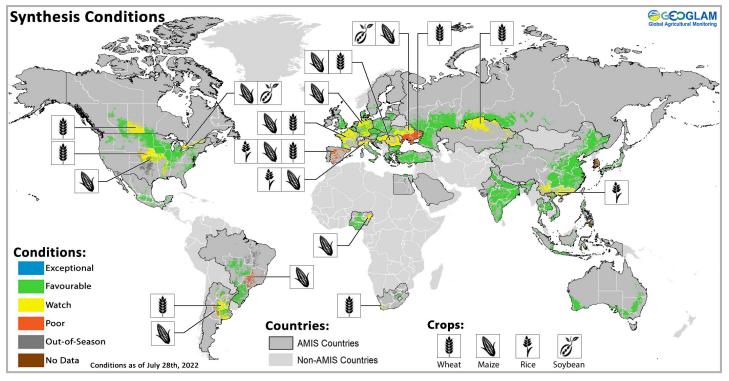
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The Crop Monitor is a part of GEOGLAM, a GEO global initiative.





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

Crop condition map synthesizing information for all four AMIS crops as of July 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 progressing under mixed conditions, while spring wheat conditions improve. In the southern hemisphere, dry conditions continue to impact sowing and early development in Argentina

Maize - In the southern hemisphere, harvesting continues in Brazil and Argentina. In the northern hemisphere, hot and dry conditions are impacting crops in the US, Canada, and Europe.

Forecasts at a Glance

Climate Influences - Weak La Niña conditions are likely to continue until September (60% chance), then strength after that (66% chance for October to December). Negative Indian Ocean Dipole (IOD) conditions are emerging and are forecast to last through November or longer.

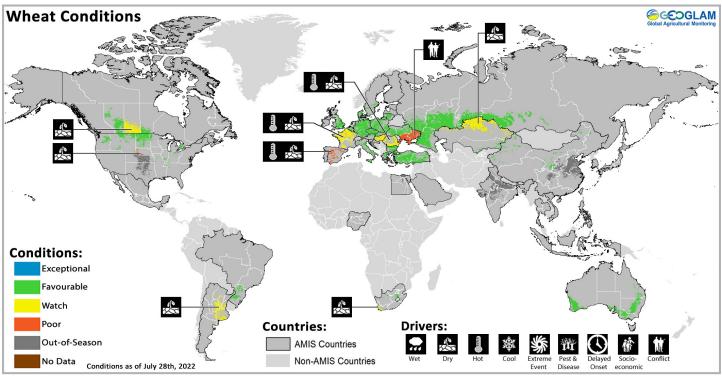
Europe –The short-term (2-week) forecast shows likely below-average rainfall across northern Europe, while the extended August-September-October forecast shows likely below-average rainfall over most of Europe. **Rice** - In China, harvesting of early-season rice is wrapping up. In India, Kharif rice is currently transplanting. In Southeast Asia, conditions are favourable for wet-season rice in the northern countries and dry-season rice in Indonesia.

Soybeans - In the northern hemisphere, conditions are generally favourable except for dry conditions in Canada and the ongoing war in Ukraine.

Southeast Asia – Above-average rainfall is anticipated across most of the region except for northern Indonesia and west Malaysia from September to November.

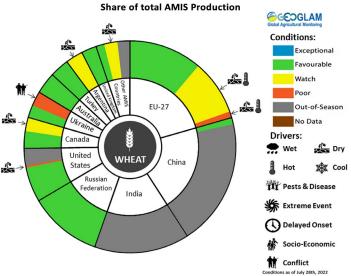
United States – The short-term (2-week) outlook shows possible above-average rainfall across the west, while below-average across the centra Plains. The long-term August-September-October) outlook shows possible below-average across the Plains and the Mid-West.

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 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 July 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.

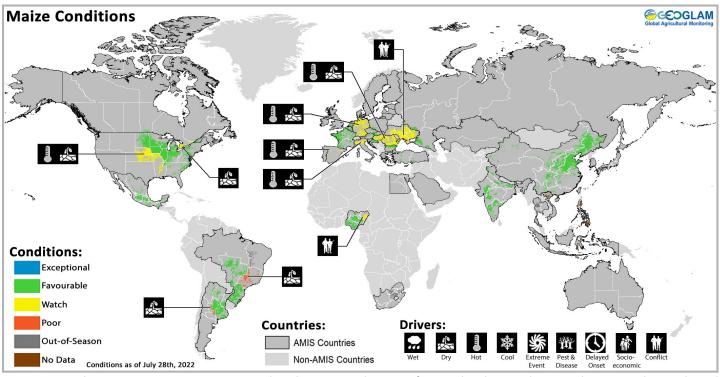
Wheat: In the EU, harvesting is continuing across Europe with Spain, Portugal, France, and Romania impacted the most by the recent hot and dry weather. In the United Kingdom, conditions remain favourable owing to timely rains. In Ukraine, harvesting is progressing, however, the ability to harvest near the conflict zones and within the occupied territories remains in question. In the Russian Federation, harvesting of winter wheat is ongoing under favourable conditions. Spring wheat conditions are favourable. In Turkey, harvesting is ongoing under favourable conditions. In China, spring wheat harvesting is beginning. In the US, harvesting of winter wheat is continuing with reduced yields in the central and southern Great Plains due to prolonged dryness. Spring



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

wheat conditions are favourable. In **Canada**, conditions have improved for spring wheat in Alberta and Manitoba with increasing rains and warmer temperatures. Dry conditions are developing over winter wheat areas in Ontario. In **Australia**, winter wheat crops continue to develop under favourable conditions, despite heavy rainfall and flooding during July across eastern parts of the country. In **Argentina**, sowing continues to be hampered by dry conditions throughout the country, which is also expected to reduce the total area sown compared to last year.

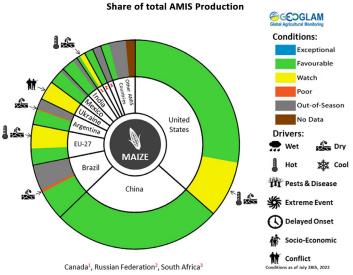
Wheat Conditions for AMIS Countries



Maize Conditions for AMIS Countries

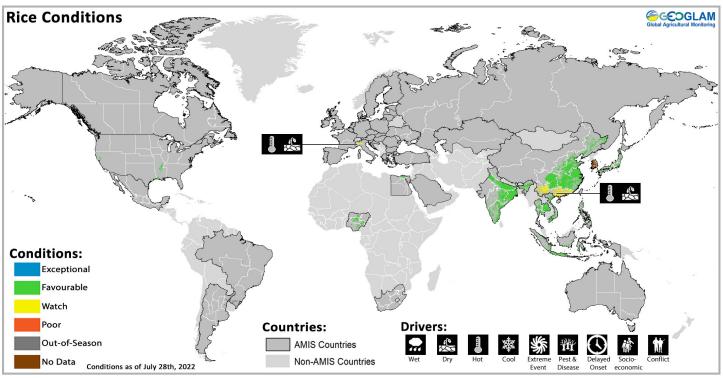
Maize crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of July 28th. Where crops are in other than favourable conditions the climatic drivers responsible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

Maize: In **Argentina**, harvesting of the lateplanted crop (smaller season) is progressing throughout the country as grain moisture levels drop. Yields are heterogeneous, but near-average at the province level. In **Brazil**, harvesting of the summer-planted crop (larger season) is progressing with a reduction in yields in the southeast region due to a lack of rain during the reproductive stage. In the **US**, conditions are generally favourable, however, recent hot and dry weather, particularly along the western and southern Corn Belt, might affect crops. In **Canada**, dry conditions through late June and July may impact crops in Ontario. In **Mexico**, conditions are favourable as harvesting is



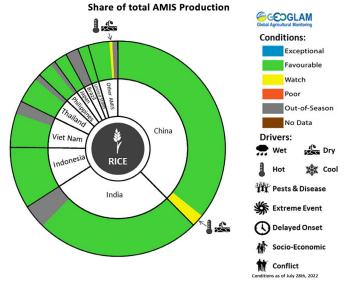
wrapping up for the autumn-winter crop (smaller For detailed description of the pie chart please see box on page 6.

season) as sowing continues for the spring-summer season (larger season). In the **EU**, conditions are generally favourable, however, recent hot and dry weather has impacted Spain, Italy, Hungary, Romania, and Germany. In **Ukraine**, conditions remain mixed due to the uncertainties of the ongoing war. In the **Russian Federation**, conditions are favourable. In **China**, conditions have improved in the North China Plain owing to recent rainfall. In **India**, sowing is ongoing under favourable conditions, but slightly behind last year's pace.



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 July 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.

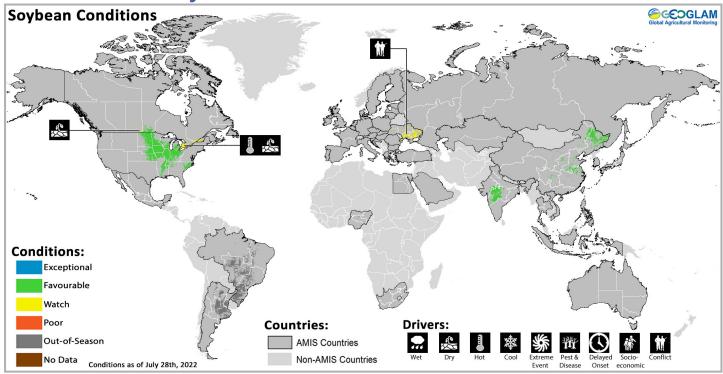
Rice: In **China**, harvesting of early-season rice is wrapping up under favourable conditions, while hot and dry conditions impact late-planted rice in the south. Single-season rice is under favourable conditions. In India, transplanting of Kharif rice is progressing across most of the country under favourable conditions. In Indonesia, harvesting of wet-season rice is wrapping up under favourable conditions. Recent rainfall has helped to support the sowing of dry-season rice. In Viet Nam, harvesting of winter-spring rice (dry-season) is wrapping up in the north with slightly lower yields than last year due to erratic weather and a switch away from industrial fertilizers. Summer-autumn rice (wet-season) is under favourable conditions with harvesting just For detailed description of the pie chart please see box on page 6. beginning in the south. Sowing of autumn-winter



rice (wet-season) is beginning in the south. In **Thailand**, wet-season rice is in the tillering stage under favourable conditions. A total sown area increase compared to last year is expected due to ample rainfall. In the Philippines, wet-season rice is under favourable conditions, despite the passage of several tropical cyclones. In Japan, conditions are favourable for early season crop development. In the **US**, conditions are favourable, albeit with a reduction in the total sown area compared to last year.

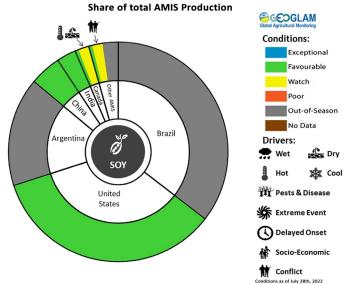
Rice Conditions for AMIS Countries

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 July 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, conditions remain favourable despite recent hot weather along the western and southern growing regions. There is a slight increase in total sown area compared to last year. In Canada, dry conditions have developed over the main producing province of Ontario, while conditions have improved in Manitoba. There is a reduction in the sown area compared to the 5-year average, most likely driven by a mixed beginning to the season in the Prairies. In China, conditions are favourable with the crop in the vegetative to reproductive stages. In India, sowing is wrapping up under favourable conditions and an increase in total sown area compared to last year and the average. In Ukraine, climatic conditions remain supportive while the war continues to bring uncertainties.



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

Information on crop conditions in non-AMIS countries can be found in the <u>GEOGLAM Crop</u> <u>Monitor for Early Warning</u>, published August 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 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.

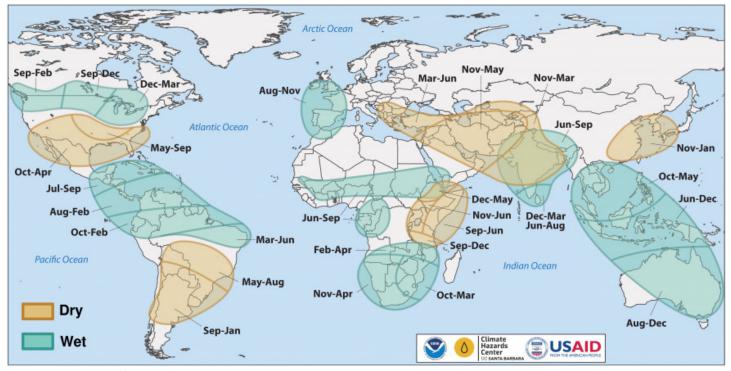
Climate Influences: La Niña Advisory and Likely Negative Indian Ocean Dipole

The El Niño-Southern Oscillation (ENSO) is currently in the La Niña phase and is expected to remain as La Niña into early 2023, according to the IRI/CPC. Weak La Niña conditions are likely during July to September (60% chance) and are forecast to strengthen after that (66% chance for October to December). There are low chances for El Niño conditions during this time.

If La Niña conditions persist or redevelop in late 2022, it would be the third year in a row with a La Niña event, which is uncommon. 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 multiple rainfall seasons have been below average since late 2020.

Negative Indian Ocean Dipole (IOD) conditions are emerging and are forecast to last through November or longer. Models indicate that this may be a strong IOD event. Negative IOD and La Niña conditions often happen in tandem. During previous tandem events, there have been severe drought impacts across the Horn of Africa, and heavy rainfall and flooding in Australia and southeast Asia.

Source: UCSB Climate Hazards Center

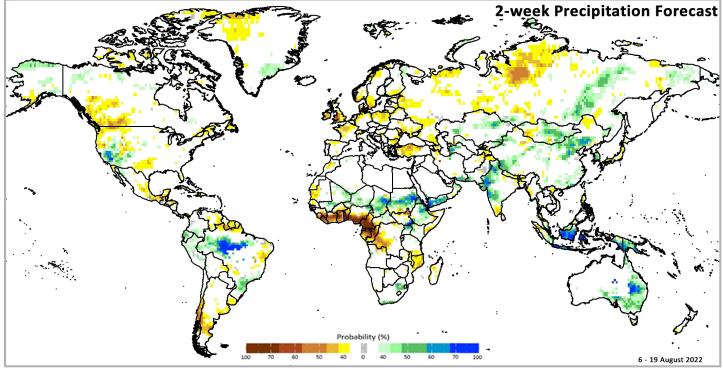


Location and timing of likely above- and below-average precipitation related to La Niña events. Based upon observed precipitation during 21 La Niña events since 1950, wet and dry correspond to a statistically significant increase in the frequency of precipitation in the upper and lower thirds of historical 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 <u>https://fews.net/la-ni%C3%B1a-and-precipitation</u>

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 southwest in US, Baja California and Baja California Sur in Mexico, southern Columbia, Ecuador, northern Peru, northern and southeast Brazil, southern Mali, Niger, northeast Nigeria, Chad, Sudan, Eritrea, northern and eastern Ethiopia, southern South Sudan, northern Uganda, northwest Kenya, southern and northcentral South Africa, Yemen, southern Iran, western Turkmenistan, northeastern Kazakhstan, eastern Kyrgyzstan, southwest Pakistan, eastern India, northeast China, central Mongolia, Republic of Korea, Malaysia, Indonesia, Papua New Guinea, and southern and eastern Australia.

There is also a likelihood of below-average rainfall over the western Prairies in Canada, the Pacific Northwest and southern Plains in the US, eastern Mexico, northern Guatemala, northern Honduras, eastern Venezuela, Southern Guyana, Suriname, French Guiana, northeast Brazil, Uruguay, southern Argentina, central and southern Chile, Ireland, the United Kingdom, northern Spain, northern France, northern Germany, Poland, southern Norway, southern Sweden, Bulgaria, western Turkey, southern Ukraine, western Russian Federation, western Mauritania, eastern Guinea, Sierra Leone, Liberia, Côte d'Ivoire, southern Burkina Faso, Ghana, Togo, Benin, southern Nigeria, Cameroon, Equatorial Guinea, Gabon, the Republic of the Congo, the western Democratic Republic of the Congo, southern Tanzania, northern Mozambique, southern Somalia, northeast South Sudan, Southern India, Tajikistan, western Mongolia, and southern Japan.

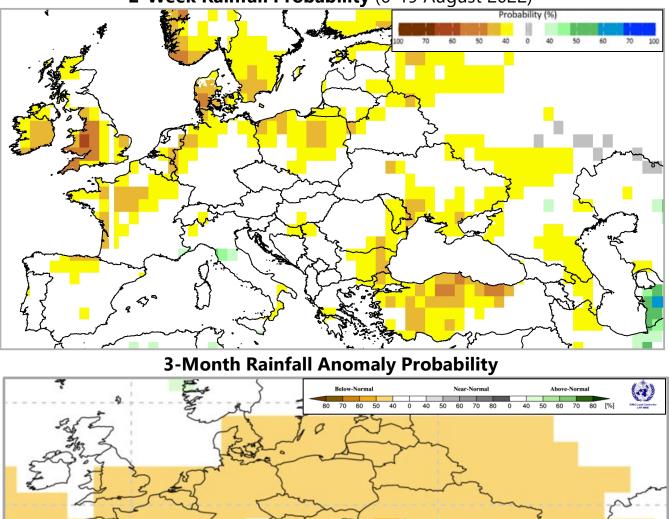


IRI SubX Precipitation Biweekly Probability Forecast for 6 – 19 August 2022, issued on July 29th, 2022. The forecast is based on statistically calibrated tercile category forecasts from three SubX models. Source: IRI Subseasonal Forecasts Maproom

Europe Outlook

The two-week forecast (Figure 1) indicates likely below-average rainfall over northern Spain, Ireland, the western United Kingdom, northern France, eastern Belgium, eastern Netherlands, northern Germany, Denmark, Poland, southern Norway, southern Sweden, southern Finland, northern Belarus, western Russian Federation, southern Ukraine, Moldova, eastern Romania, Bulgaria, western and central Turkey, and Azerbaijan. During this time above-average temperatures are likely over south-eastern Europe.

The long-term August-September-October 2022 forecast (Figure 2) predicts likely below-average precipitation across the majority of Europe except for Ireland, the northern United Kingdom, Norway, Sweden, and Finland. The highest probabilities are in southern Portugal, Romania, and Turkey. During the long-term forecast, temperatures are forecast to be very likely above-average across all of Europe.



2-Week Rainfall Probability (6-19 August 2022)

Top: IRI SubX Precipitation Biweekly Probability Forecast for 6 – 19 August 2022, issued on July 29th, 2022. The forecast is based on statistically-calibrated tercile category forecasts from three SubX models. Image from the <u>IRI Subseasonal Forecasts Maproom</u>. **Bottom:** Multi-model ensemble probabilistic forecast for August-September-October (ASO) 2022 precipitation, issued in July from the WMO Lead Centre for Long-Range Forecast Milt-Model Ensemble at <u>https://www.wmolc.org/seasonPmmeUI/plot_PMME</u>.

-00

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 July.

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 July 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.

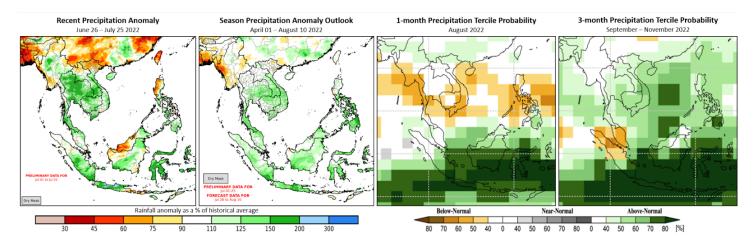


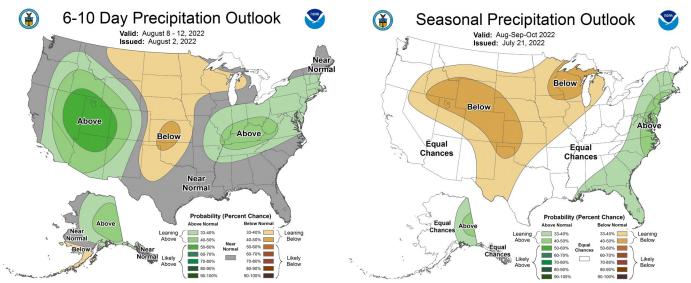
Figure 1. June 26th to July 25th and April 1st to August 10th, 2022 precipitation anomalies, and probability forecasts for August and September-to-November 2022 precipitation. The left two panels are CHC Early Estimates, which compare current precipitation totals to the 1981-2021 CHIRPS average for their 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 July 25th, 2022. Middle-left: Percent of average for April 1st to August 10th. Preliminary data for July 1st - 25th; forecast data for July 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 July. From the WMO Lead Centre Long-Range Forecast Multi-Model Ensemble.

Source: UCSB Climate Hazards Center

United States Outlook

For the 8 -12 August outlook, there is the possibility of below-average precipitation across the Central Plain up into the Northern Plains and eastward to the Great Lakes. The highest likelihood is centered over Kansas. Conversely, there is the possibility of above-average precipitation in the Rockies, Ohio Valley, and Tennessee Valley. At the same time, temperatures are likely to be above-average across the majority of the Continental US, except for in the southwest.

For the longer-term seasonal August-September-October (ASO) 2022 outlook, below-average precipitation is possible across all of the Great Plains and extending west into the central Rockies. Additionally, below-average precipitation is possible in the Mid-West, centered over Wisconsin. Above-average precipitation is possible across the East Coast and extends into the Gulf coast. At the same time, temperatures are likely to be above-average across most of the country, with the highest likelihood centered in New England and the central Rockies.



Short-term and the August-September-October Precipitation Outlooks

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

Source: NOAA Climate Prediction 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.

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		





Wet

Hot

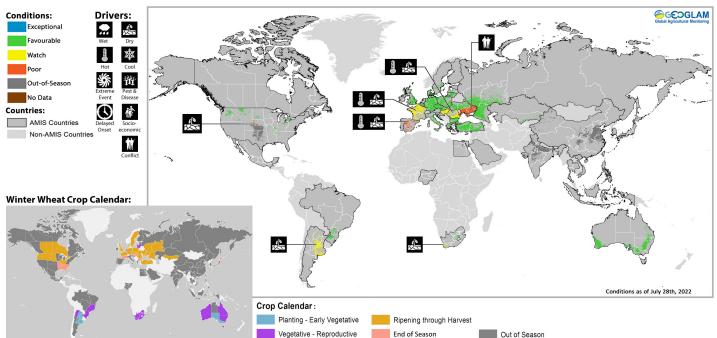
Cool

Extreme Event

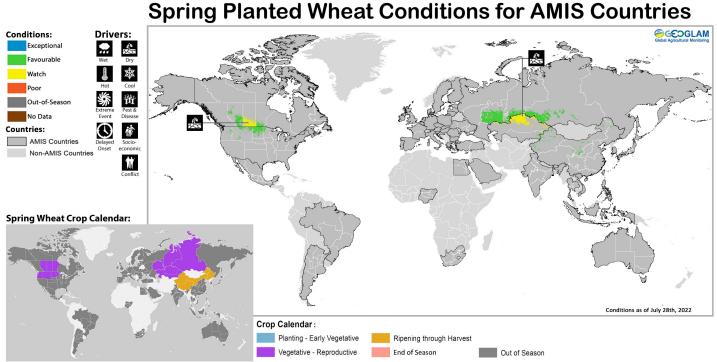
Delayed-Onset

Dry Dry

Appendix 2: Crop Season Specific Maps

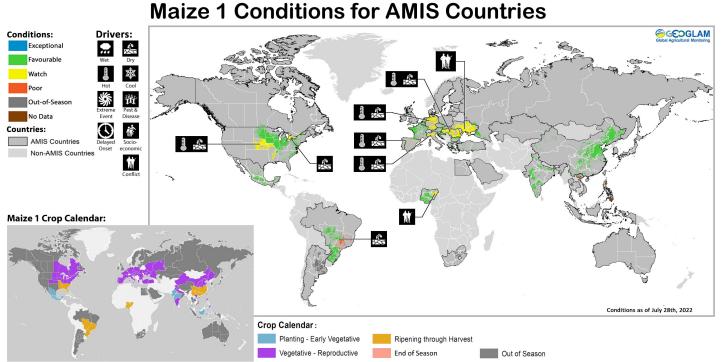


Winter wheat crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of July 28th. Where crops are in less than favourable conditions the climatic drivers responsible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

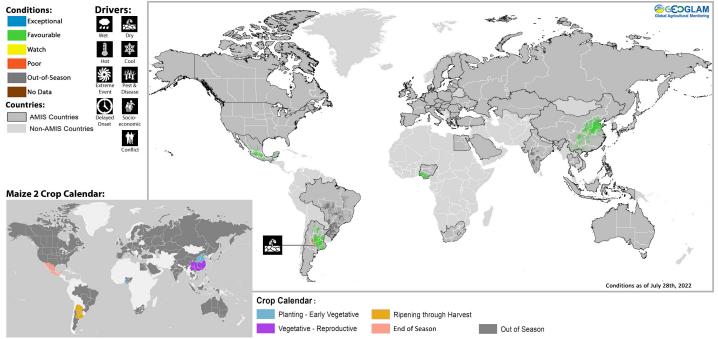


Spring wheat crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of July 28th. Where crops are in less than favourable conditions the climatic drivers responsible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

Winter Planted Wheat Conditions for AMIS Countries



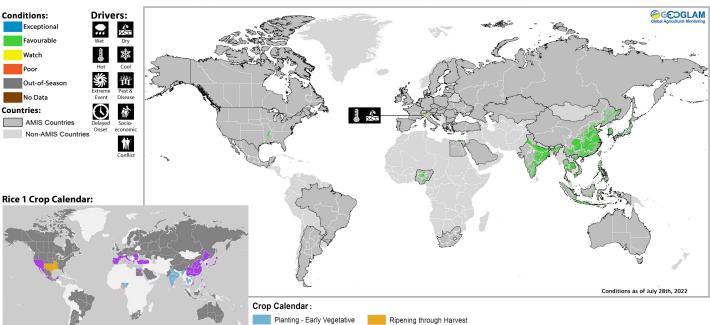
Maize 1 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of July 28th. Where crops are in less than favourable conditions the climatic drivers responsible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

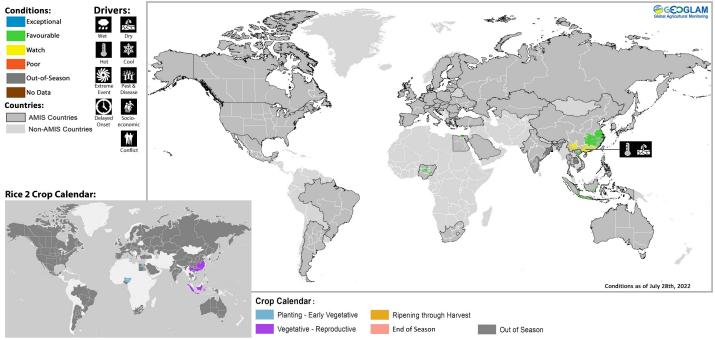
* Assessment based on information as of July 28th



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 July 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.

End of Season

Out of Season

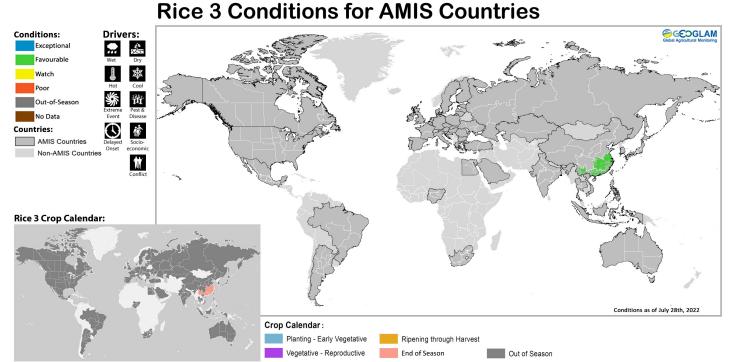


Rice 2 Conditions for AMIS Countries

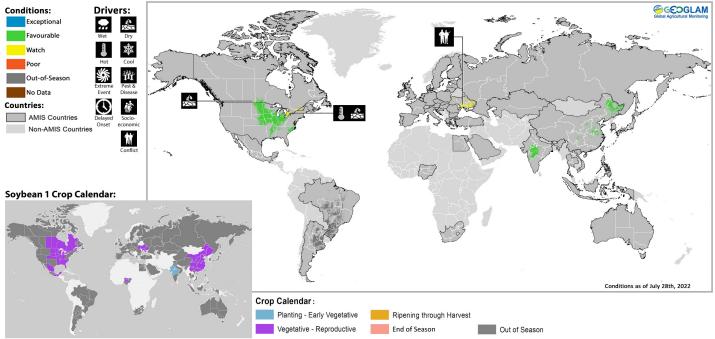
Vegetative - Reproductive

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 July 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



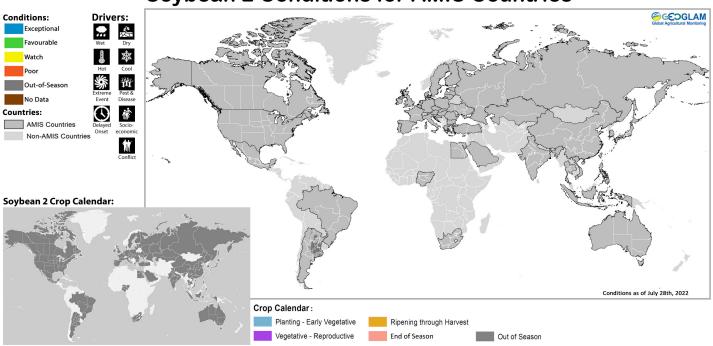
Rice 3 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of July 28th. Where crops are in less than favourable conditions the climatic drivers responsible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



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 July 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



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/

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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, 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 & GeoTerralmage & 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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