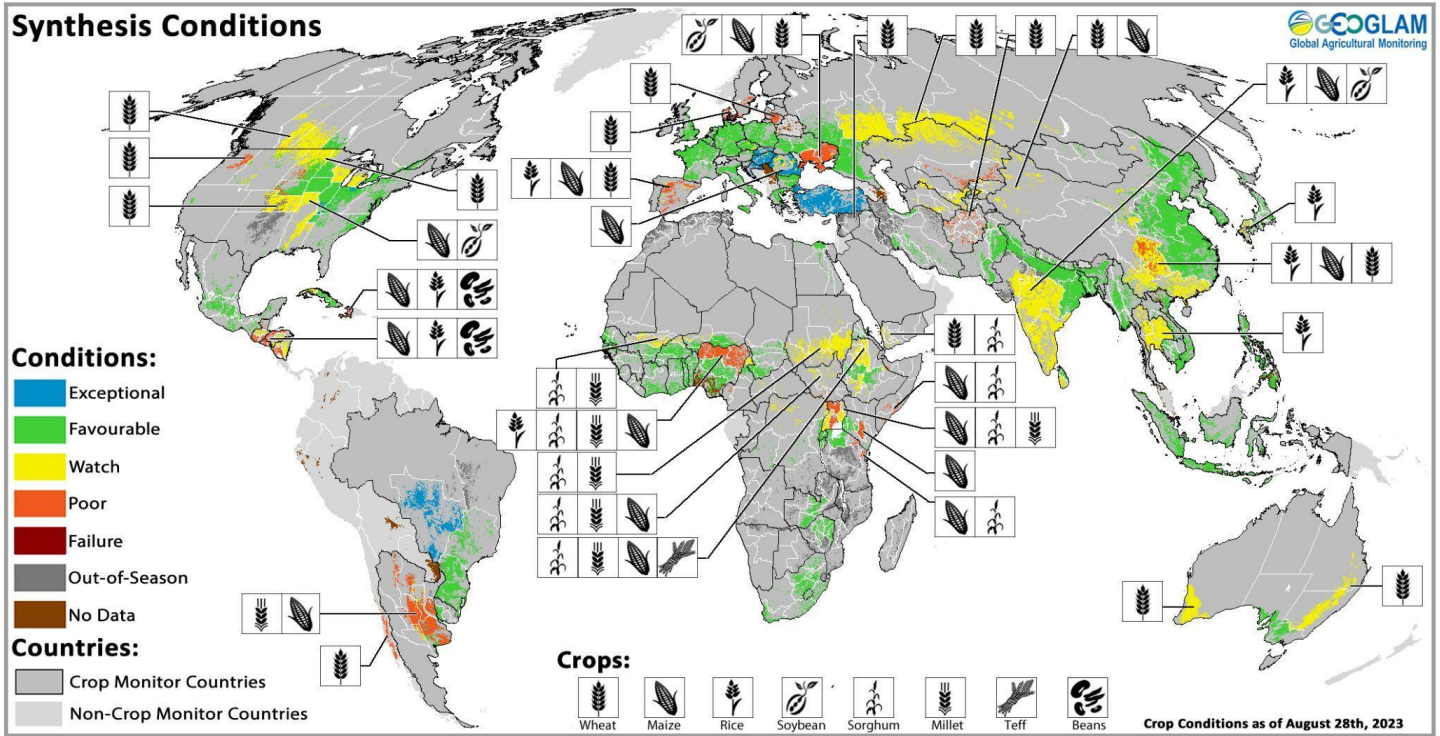


GEOGLAM Global Crop Monitor

Synthesized from the Crop Monitor for AMIS, the Crop Monitor for Early Warning, and direct submissions from individual countries.



Crop condition map synthesizing information for all Crop Monitor crops as of August 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, and national and regional experts. **Regions that are in other than favourable conditions are labeled on the map with a symbol representing the crop(s) affected.**

	Wheat	Maize	Rice	Soybean	Legend:
Current Conditions					Positive Better
Compared to last month					Mixed Similar
Compared to last year					Negative Worse

See Appendix I for detailed methodology description

Global Crop Overview

Global crop conditions at the end of August are mixed for rice and soybean, negative for wheat and positive for maize, compared to previous month. For **wheat**, there are areas of concern with drought in several areas in the northern hemisphere while the harvest is wrapping up and dry conditions in the southern hemisphere, while the crop is under development. For **maize**, conditions are improving compared to previous month with exceptional yields in Brazil, and mixed conditions in the northern hemisphere during the harvest. For **rice**, conditions are mixed and worsening compared to last month, with dry and hot conditions in China, delayed rains in India and drought and damage from pests and disease in Thailand. For **soybeans**, conditions are improving compared to previous month but still mixed, with persistent drought that continues to impact central plains, and limited precipitation in India. The remaining crops are covered in the [CM4EW](#) publication.

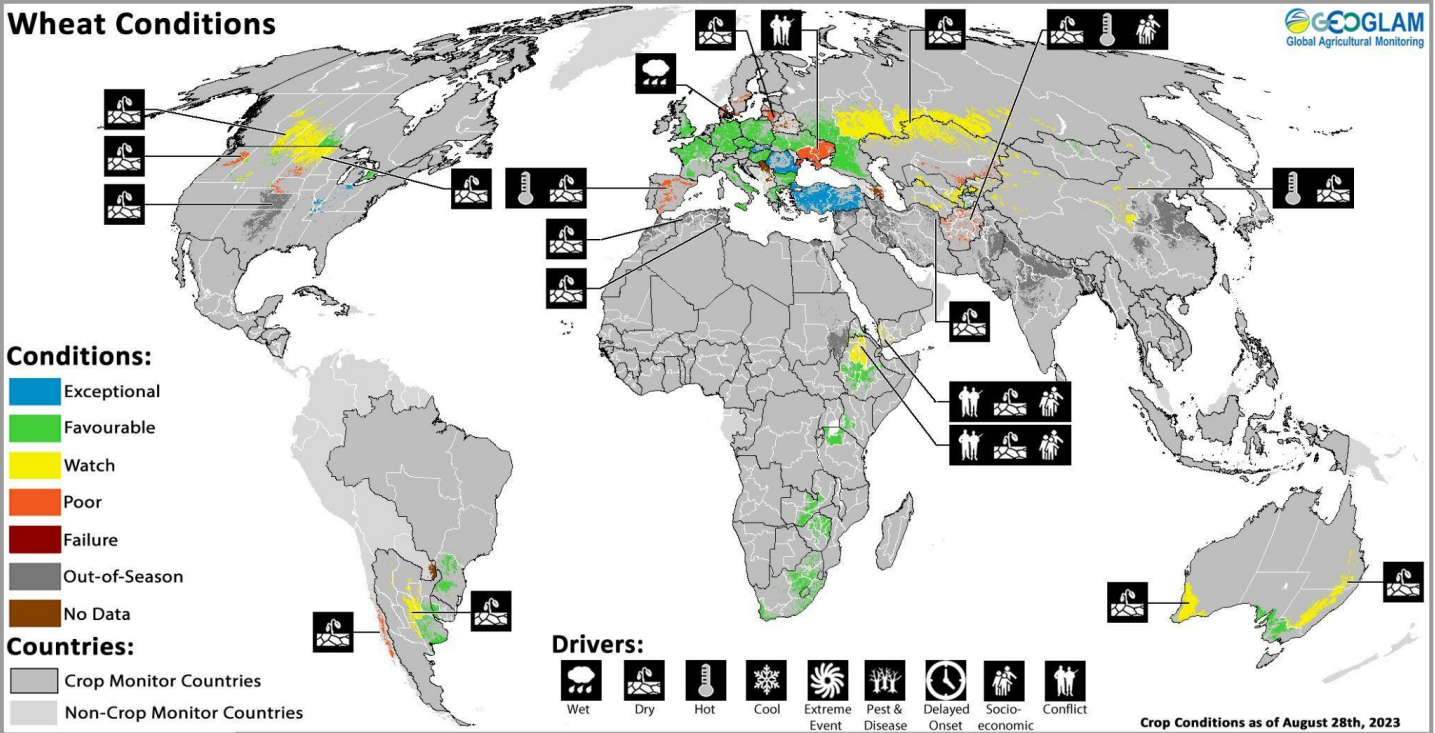
Global Climate Influences

El Niño is currently present, and models predict a strong intensity during October to January. Positive Indian Ocean Dipole (IOD) conditions may also develop during September to January. El Niño events are estimated to affect crop yields on at least 25 percent of global croplands. The current El Niño event is expected to have significant impacts on regional precipitation and agricultural yield outcomes.

Source: UCSB Climate Hazards Center

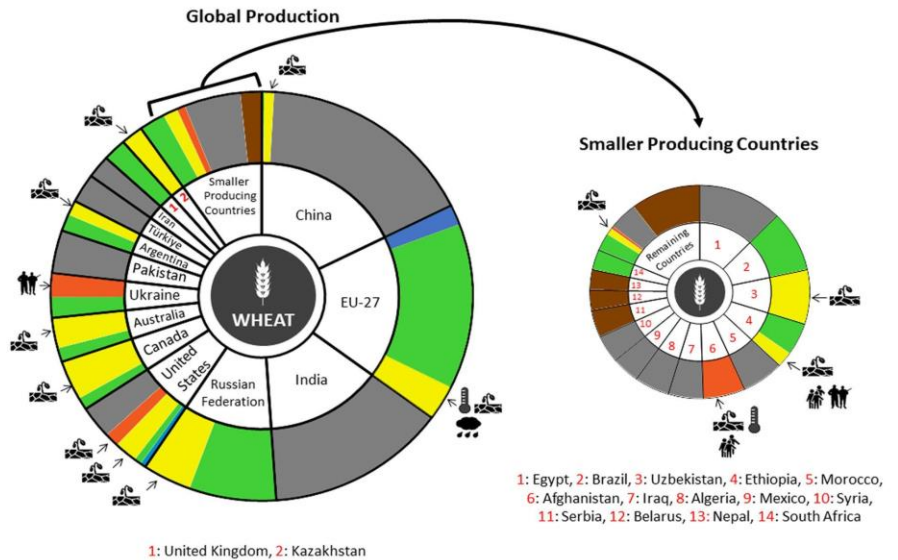
WHEAT

Wheat Conditions

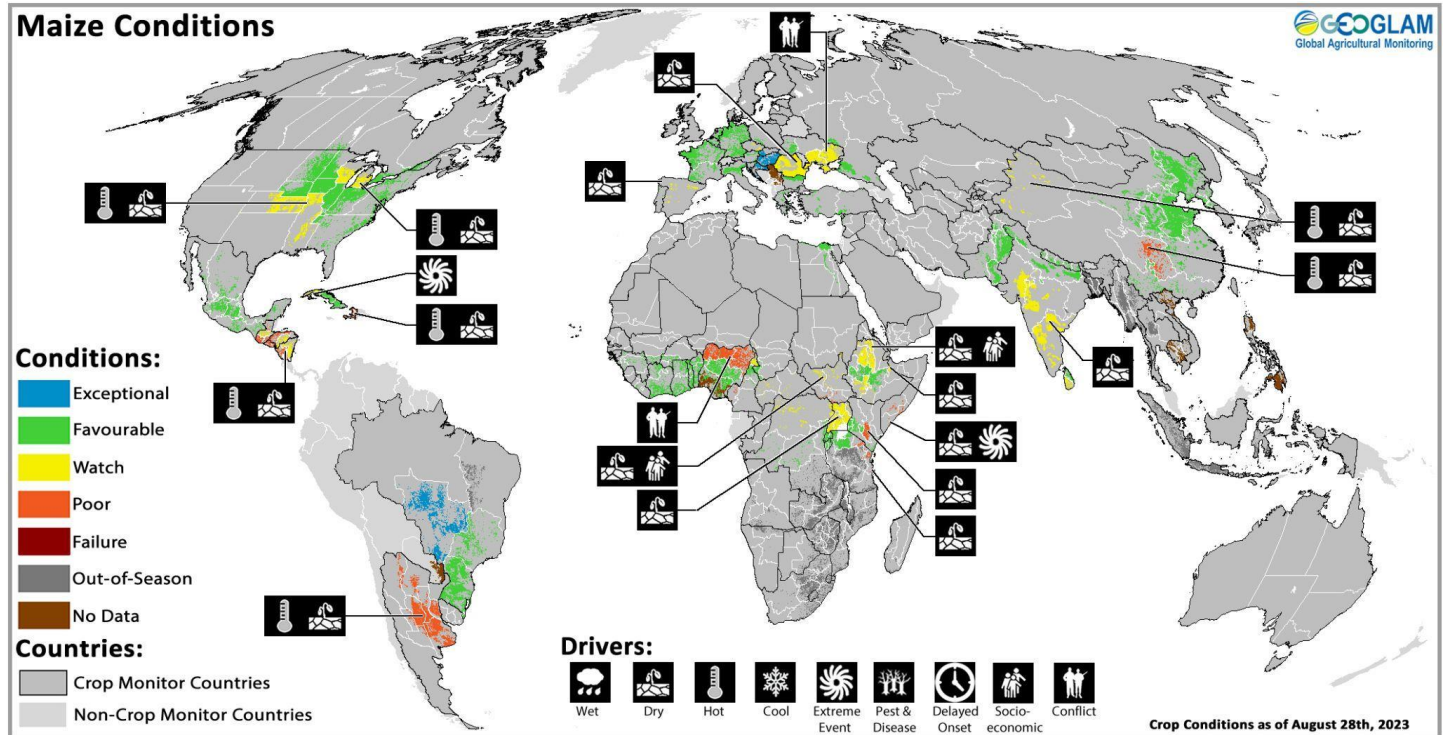


Wheat crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Conditions are based upon information as of August 28th.

In **North America**, below average winter wheat yields are expected in the US, together with downgraded spring wheat conditions. In Canada, conditions remain mixed due to summer drought. In **South America**, in Argentina, dry conditions are expanding, and in Chile conditions are poor due to dryness. In **Europe**, harvest finalized under mixed conditions, with dryness in Lithuania and Latvia. In Ukraine, end of season conditions are favourable for unoccupied territories. In the Russian Federation, winter harvesting is favourable, with persistent drought on spring crops. In **Central and South Asia**, wheat harvesting is complete or nearing completion throughout the subregion, and persistent seasonal dry conditions are expected to result in yield declines in Afghanistan and southern Kazakhstan and may impact yields in Turkmenistan, Uzbekistan, and Kyrgyzstan. In **Oceania**, in Australia, dry conditions are expanding into New South Wales while the south and southeast remain favourable. In **MENA**, Wheat harvesting was finalized in June under mixed conditions due to erratic and insufficient rainfall in many areas. Rice crops are developing under favourable conditions in Egypt and Iran despite a lack of irrigation water in northeastern Iran. In **West Africa**, Harvesting of main season cereals is underway in the south while planting and development continues in the northern Sahelian zone, and agro-climatic conditions are generally favourable except in localized areas impacted by July rainfall deficits. In **Southern Africa**, wheat crops continue to develop under favourable conditions in Zambia, Zimbabwe, South Africa, and Lesotho with near-average yields expected.



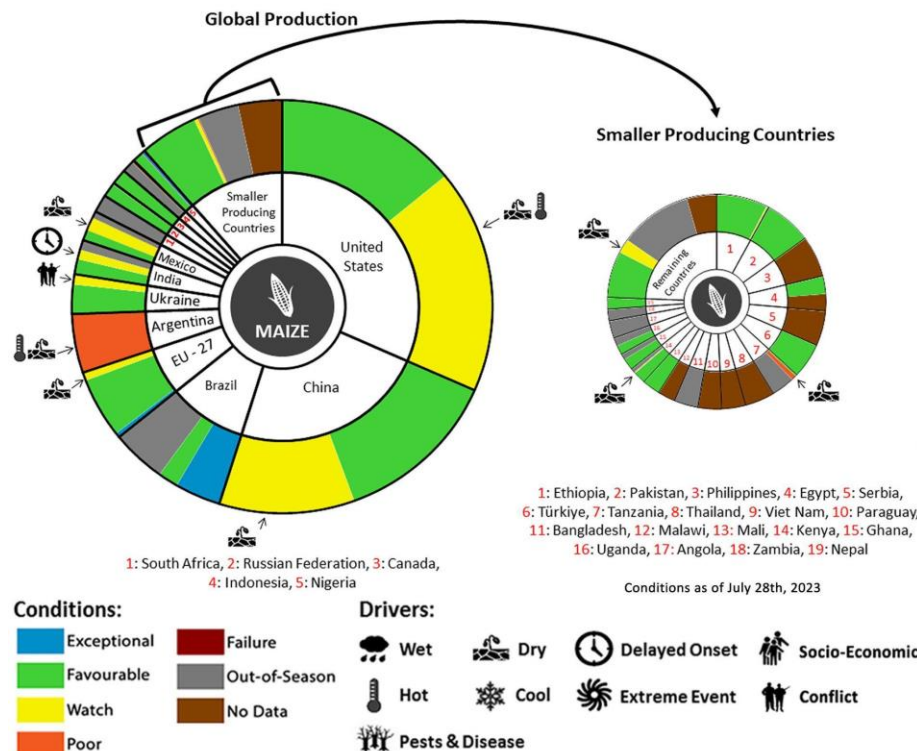
MAIZE



Maize crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Conditions are based upon information as of July 28th.

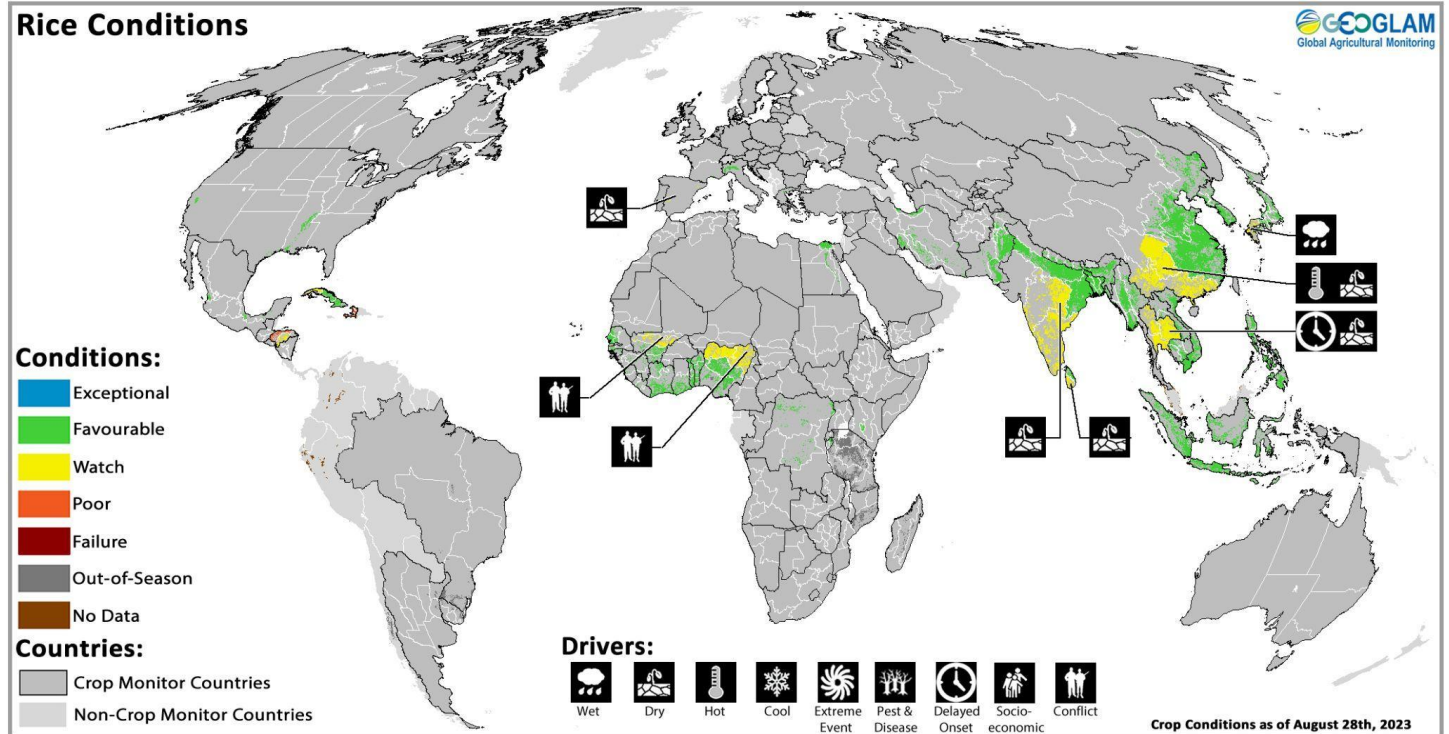
In **South America**, in Brazil, above-average summer-planted (larger season) crop yields are expected in the major producing central-west. In Argentina, drought and extreme heat significantly impacted the late-planted (usually smaller season) crop. In **Central America & the Caribbean**, harvesting of Primera season cereals is underway in all regions with significant concern for potential yield declines due to prolonged irregular and below-average rainfall as well as high temperatures that prevented soils from maintaining adequate moisture levels. In **North America**, conditions improved in parts of the Corn Belt with above-average yields possible in some eastern states while severe drought continues to impact parts of the interior in the US. In Mexico, conditions have improved for the Spring-Summer (larger season) crop as Hurricane Hilary and tropical showers provided much-needed moisture relief. In **Europe**, heatwaves and dry conditions impacted Romania and the Czech Republic, and water use restrictions may impact yields in Spain. In Ukraine, conditions in unoccupied regions are favourable despite a prolonged period of hot and dry weather that accelerated ripening.

In **East Asia**, in China, harvesting of the spring-planted crop is nearing completion with concern in the northwest and southwest due to persistent dry and hot weather. Conditions are favourable for the summer-planted crop except in the southwest. In **South Asia**, Kharif crops are developing with expanding dry conditions in all areas except in the north. In **East Africa**, Planting and development of main season cereals is underway in the north under mixed conditions regarding dry concerns and socio-economic challenges as well as conflict in Sudan and Yemen. In Ethiopia, Meher conditions have degraded due to recent worsened rainfall performance. In the south, harvesting of main season cereals finalized with poor conditions in parts of Kenya, Somalia, and the United Republic of Tanzania. In **West Africa**, Harvesting of main season cereals is underway in the south while planting and development continues in the northern Sahelian zone.



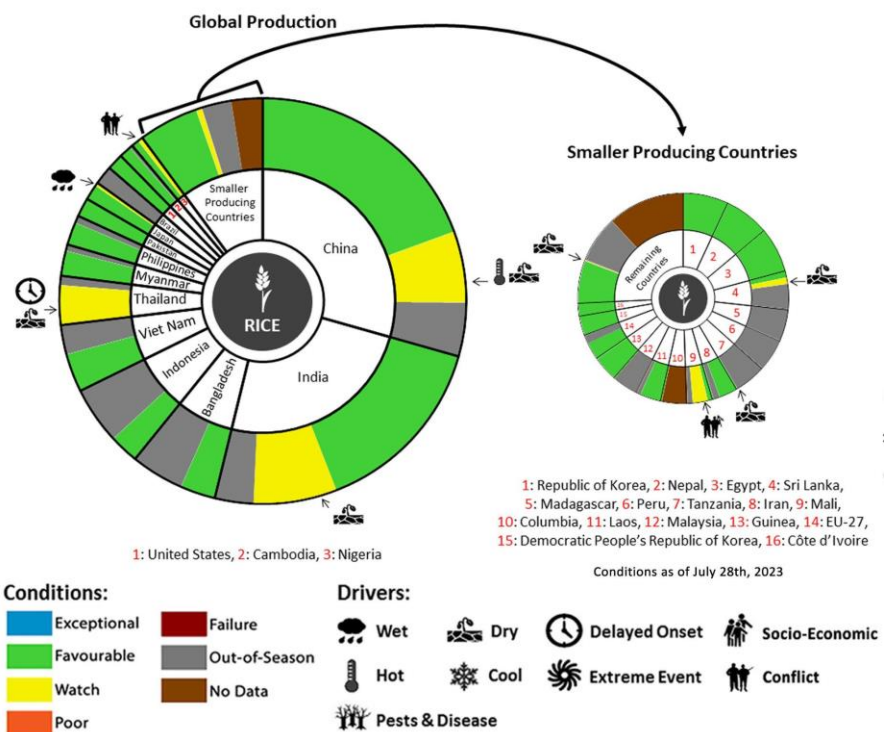
For detailed description of the pie chart, please see box on page 5.

RICE



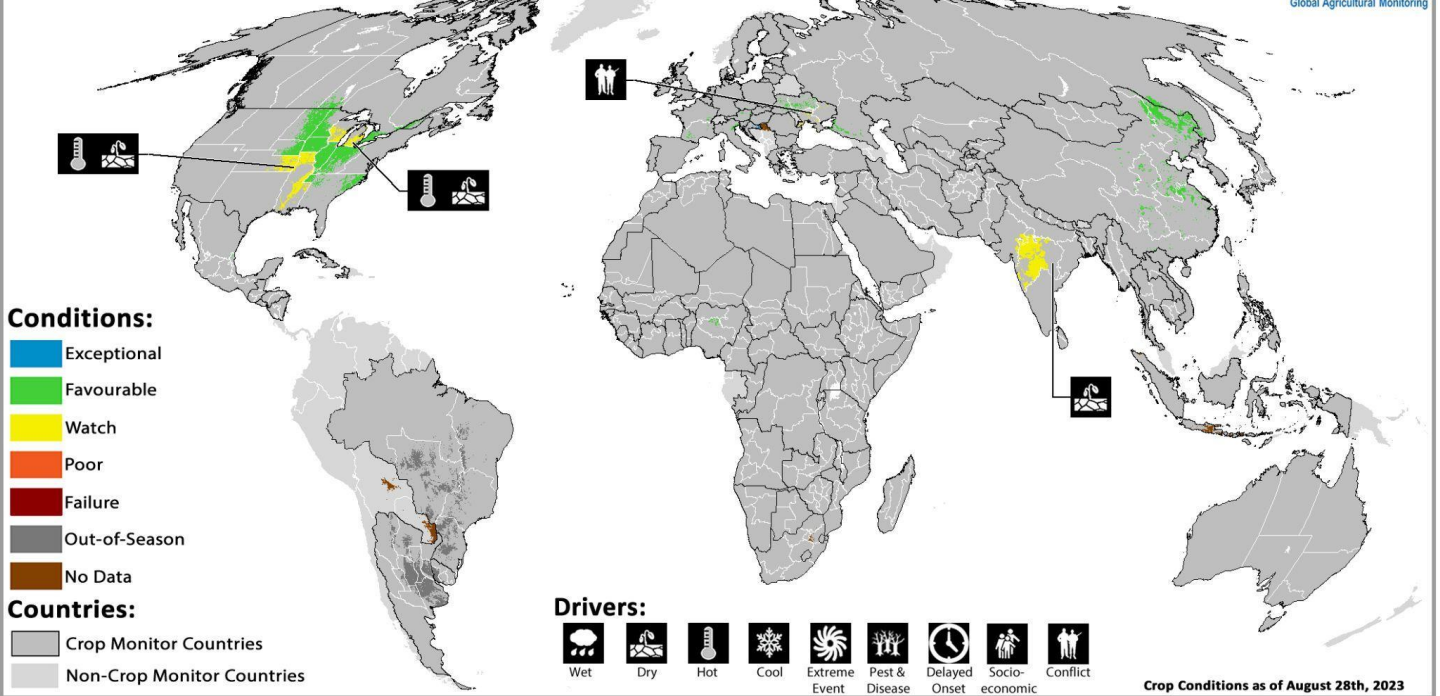
Rice crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Conditions are based upon information as of July 28th.

In **East Asia**, in China, harvesting of the single-season crop commenced while the late-season continues to develop with expanding dry and hot concerns in the south and southwest. In **South Asia**, In India, Kharif season crops recovered from delayed rainfall onset in the east while deficient rainfall is now impacting the centre. In Sri Lanka, harvesting of Yala season rice and maize crops is beginning under mixed conditions with concern in Matara district located in the Southern Province and Kurunagala district located in the North Western Province as below-average rainfall in the first half of 2023 resulted in drought-like conditions and water shortages in some reservoirs. In **Southeast Asia**, planting of wet-season rice is nearing completion, and the total planted area is forecast to decrease slightly as the delayed start of the rainy season resulted in a shortage of agricultural water. Crops are now in the tillering to harvesting stage, and growing conditions are generally favourable except in Thailand where the water shortage is significantly impacting crops. Additionally, heavy rainfall and typhoons resulted in flooding in some areas, but crop damage was minimal. In Indonesia, planting of dry-season rice continued in August. Farmers are still preparing their fields following the end of the wet-season harvest in July, and overall growing conditions are favourable. The current total planted area is 3.9 million hectares, which is 6.1 percent lower than last year. Harvesting activities for earlier planted crops continued into the second month in August with a current harvested area of 1.7 million hectares, which is slightly delayed compared to last year, and yields are near-normal despite less precipitation received during the growing season. In the Philippines, wet-season rice is in the maturing to harvesting stage under favourable conditions despite the passage of three tropical cyclones in July. In late July, Super Typhoon Doksuri (locally named Egay) made landfall twice in the northern tip of the country and triggered floods in parts of Central Luzon.



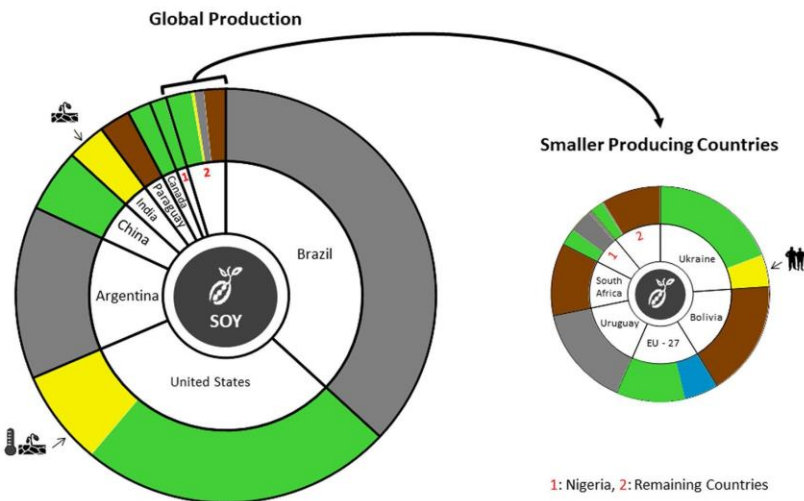
SOYBEAN

Rice Conditions



Soybean crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Conditions are based upon information as of July 28th.

In **North America**, persistent drought continues to impact parts of the Lake States, Central Plains, and Delta region of the US, while conditions improved elsewhere. In Canada, conditions are favourable as recent precipitation in parts of the Prairie region improved pod fill. In **Europe**, favourable to exceptional conditions prevail. In Ukraine, generally conducive weather has mostly benefited crop development in areas that were able to plant. In **East Asia**, conditions are favourable as recent precipitation in parts of the Prairie region improved pod fill in China. In **South Asia**, conditions in India have been downgraded to watch due to limited precipitation received in August.



Pie Chart Description: Each slice represents a country's share of total Global production (5-year average). Main producing countries (representing 90-95 percent of production) are shown individually, with the remaining 5-10 percent grouped into the "Smaller Producing 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 (e.g., spring and winter wheat). When conditions are other than 'favourable', icons are added that provide information on the key climatic drivers affecting conditions.



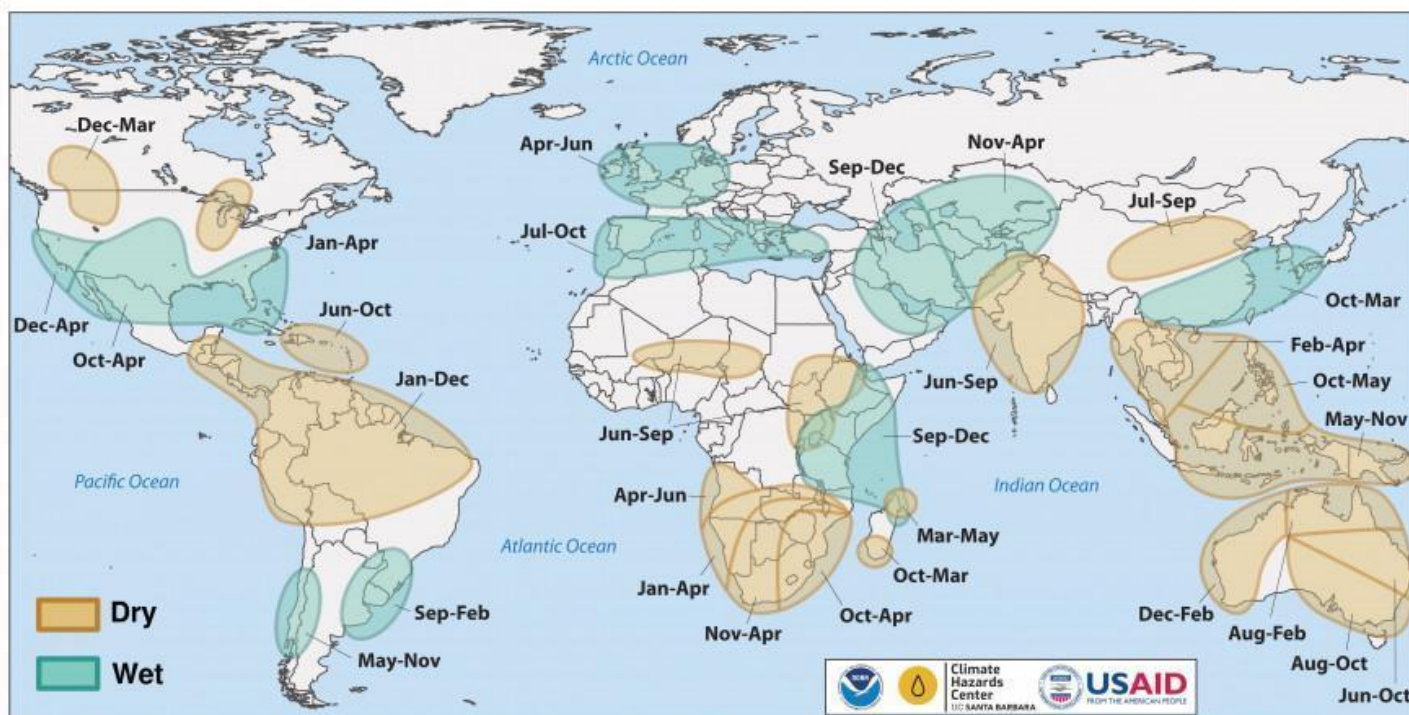
Global Climate Influences: El Niño Advisory

The El Niño–Southern Oscillation (ENSO) is currently in the El Niño phase and forecast to reach a strong level of intensity during October to January (66% chance) and remain active until March to May (82% chance), according to the IRI/CPC forecast.

El Niño events tend to enhance precipitation in Central Asia, southern North America, south–eastern South America, southern Europe, east and southern East Africa, and south and eastern China. Drier-than-average conditions tend to occur in Central America, the Caribbean, northern South America, parts of west and northern East Africa, Southern Africa, India, Northern China, the Maritime Continent, and Australia.

Positive Indian Ocean Dipole (IOD) conditions are forecast for September to January, according to the Australian Bureau of Meteorology. Sea surface temperatures began showing signs of positive IOD development in August. Positive IOD conditions typically enhance the drying influences of El Niño in Australia and the Maritime Continent, and substantially increase the chances of a wet and intense East Africa short rains season during El Niño events.

Source: UCSB Climate Hazards Center



Location and timing of likely above- and below-average precipitation related to El Niño events. Based upon observed precipitation during 22 El Niño 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](#)

El Niño 2023/2024 anticipated regional and global climate and agricultural yield impacts

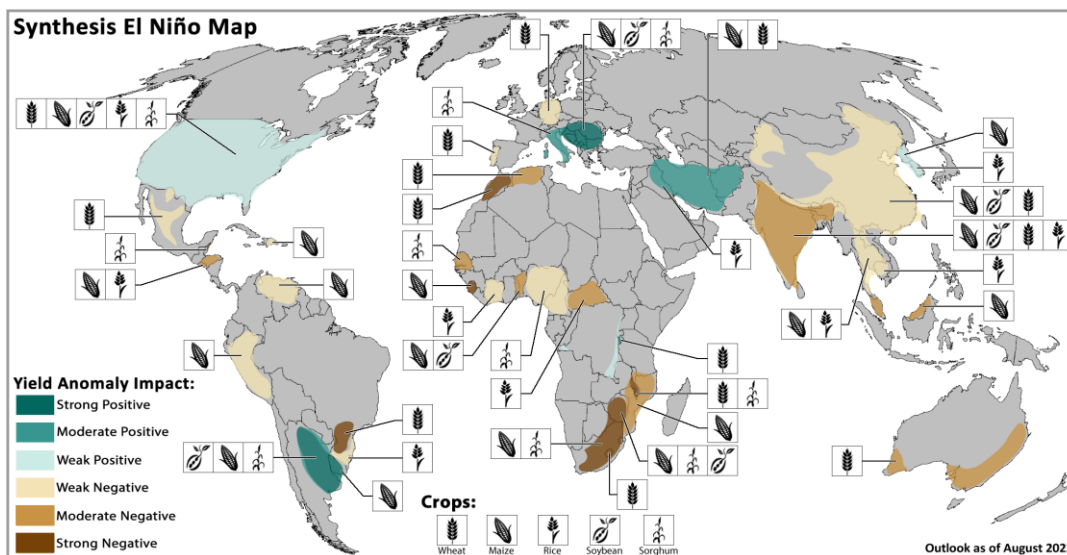
- The ongoing El Niño will likely be a strong event that will reach peak strength from October to January.
- **Wheat:** Historically, the impact of El Niño events on wheat yields has been modest at the country scale. Average yield declines relative to expected yields are around 5% or less in India, China, Australia, southeastern South America, and parts of Europe and North Africa, although Morocco tends to experience yield deficits of up to 15%.
- **Maize:** Past El Niño events have led to deficit maize production in India, China, southeastern Africa, and parts of Central America and northern South America. The effects tend to be strongest in southeastern Africa where average deficits are around 10 to 15% relative to expected yields in Zimbabwe and South Africa, with some events resulting in deficits of over 50%.
- **Rice:** Past El Niño events have reduced rice yields in major production regions of South and Southeast Asia. The strongest impacts of El Niño events have been in India and Thailand, which were the world's two leading rice exporters in 2022/2023. Average yield declines in India and Thailand during El Niño events have been 2 to 4% with declines of 5 to 10% possible.

- **Soybeans:** El Niño events tend to improve soybean yields in both the United States and Argentina, while reducing yields in India. Yields tend to be around 3% and 8% above expected levels in the United States and Argentina, respectively, while they are around 9% below expected levels in India on average.

Following three consecutive years of La Niña, the El Niño–Southern Oscillation (ENSO) is currently in the El Niño phase. The ongoing El Niño is forecast to be a strong event, reaching its maximum intensity in late 2023 and persisting through early 2024. El Niño events are estimated to affect crop yields on at least 25 percent of global croplands. Characteristics of an El Niño, like its intensity, are related to the severity of the global climate impacts. The current forecast for a strong El Niño is expected to have significant impacts on regional precipitation patterns and agricultural yield outcomes at the regional and possibly global level.

While crop yield impacts vary from one El Niño event to another, average global-mean soybean yields generally improve during an El Niño event while global mean rice yields, and to a lesser extent wheat yields, slightly decrease. The ongoing El Niño has already affected seasonal precipitation in different parts of the globe, impacting ongoing cropping seasons notably in Central America, East Africa, India, and Southeast Asia. This El Niño also raises concerns for upcoming cropping seasons in some areas, including parts of Southern Africa, Southeast Asia, Central America, northern South America, Australia, and elsewhere.

For more information on El Niño impacts to ongoing and upcoming cropping seasons see the [Crop Monitor August Special Alert](#).

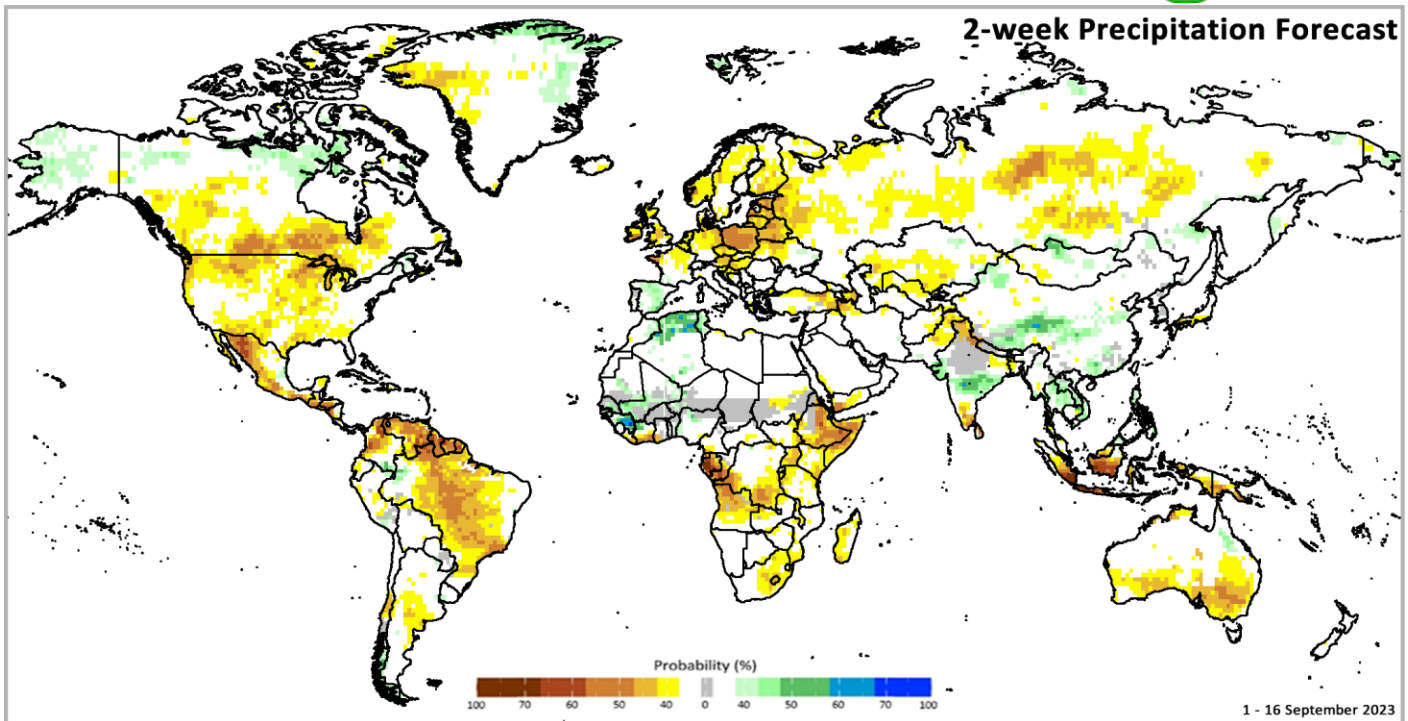


Historical crop yield conditions during El Niño events for wheat, maize, rice, soybeans, and sorghum using FAO country level yield data and ERSSTv5 from 1961–2020. In countries with more than one crop affected, the color reflects the strongest effect. Source: Crop Monitor Special Report, August 2023

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

The two-week forecast indicates a likelihood of above-average rainfall over central-eastern Mexico, southern Colombia, northwestern Brazil, southern Peru, southern Chile, southwestern Uruguay, northern Morocco, Algeria, Tunisia, parts of the Sahel region in West Africa, Spain, southwestern France, eastern Ukraine, northeastern Kazakhstan, northern Mongolia, China, southern Pakistan, central India, Myanmar, Thailand, Laos, northeastern Cambodia, Viet Nam, the Philippines, and northeastern Australia.

There is also a likelihood of below-average rainfall over much of Canada, the United States, Mexico, Central America and the Caribbean, Peru, Ecuador, Colombia, Venezuela, Guyana, Suriname, French Guiana, Brazil, central Chile, Argentina, the Gulf of Guinea in West Africa, northwestern and southeastern portions of Southern Africa, Madagascar, much of East Africa, Yemen, northern Europe, Turkey, Azerbaijan, northern Iran, Russia, Kazakhstan, Uzbekistan, southwestern Mongolia, southern Japan, eastern Afghanistan, northern Pakistan, south and northern India, Sri Lanka, Bangladesh, Malaysia, Indonesia, Papua New Guinea, and much of Australia.



IRI SubX Precipitation Biweekly Probability Forecast for 1 – 16 September 2023, issued on 1 September 2023. The forecast is based on statistically calibrated tercile category forecasts from three SubX models. Source: [IRI Subseasonal Forecasts Maproom](#)



The Crop Monitor is a part of GEOGLAM, a GEO global initiative.
 Prepared by members of the GEOGLAM Community of Practice.
 Coordinated by the University of Maryland with funding from NASA Harvest.
 Synthesized from the Crop Monitor for AMIS, the Crop Monitor for Early Warning, and direct submissions from individual countries.

<https://cropmonitor.org/>

@GEOCropMonitor

Crop Conditions:

Appendix 1:

Terminology & Definitions

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 5-25% below-average. This is only used when conditions are not likely to be able to recover, and an impact on production is likely.

Failure: Crop conditions are extremely poor. Crop yields are likely to be 25% or more below-average.

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, environmental, and anthropomorphic 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

Pest & Disease: Destructive insects, birds, animals, or plant disease.

Socio-economic: Social or economic factors that impact crop conditions (i.e., policy changes, agricultural subsidies, government intervention, etc.)

Conflict: Armed conflict or civil unrest that is preventing the planting, working, or harvesting of the fields by the farmers.



Crop Condition Indicators:

Current Crop Conditions: The current crop condition indicators are based on only the crops that are currently in season. Crops with "No Data" are not counted. The crop condition is considered "Positive", with a green-coloured crop symbol, when 85-100% of active crops are currently under favourable to exceptional conditions. The crop conditions are considered "Mixed", with an orange-coloured crop symbol, when only 70-85% of active crops are under favourable to exceptional conditions. The crop conditions are considered "Negative", with a dark red-coloured crop symbol when only 0-70% of active crops are under favourable to exceptional conditions.

Crop Condition Comparisons: Crop condition changes are measured between the current month's conditions compared to the previous month and exactly one year ago. Only active crops are considered. If there is a -5% change in global crop conditions, then the crop conditions are considered "Deteriorating" (indicated by a down arrow). If there is a +5% change in global crop conditions, then the crop conditions are considered "Improving" (indicated by an up arrow). Otherwise, crop conditions are considered "Stable" (indicated by a dash).