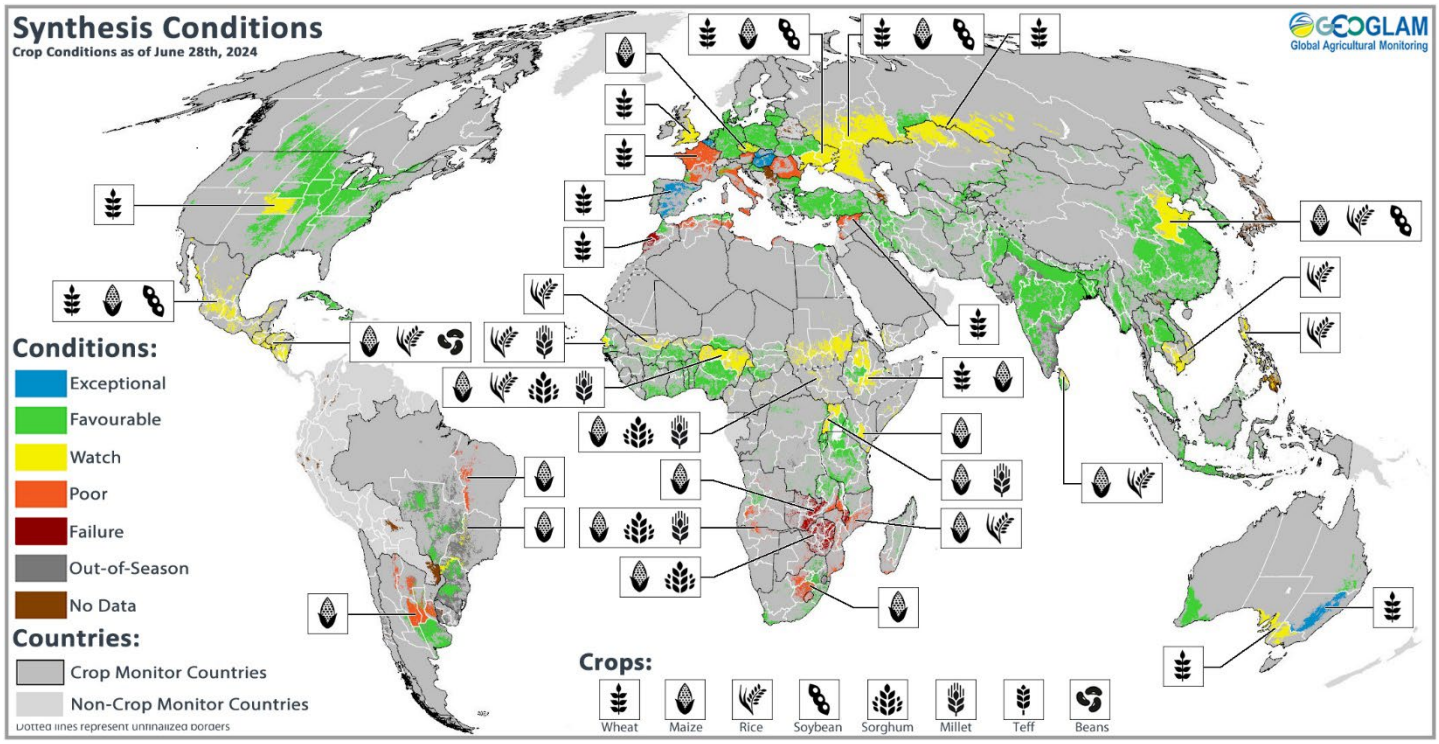
GEOGLAM Global Crop Monitor

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 June 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 labelled on the map with a symbol representing the crop(s) affected.***

	Wheat	Maize	Rice	Soybean
Current Conditions				
Compared to last month	↑	↓	↓	–
Compared to last year	↓	↑	↑	↑

Legend:

Positive	↑ Better
Mixed	– Similar
Negative	↓ Worse

See Appendix I for detailed methodology description

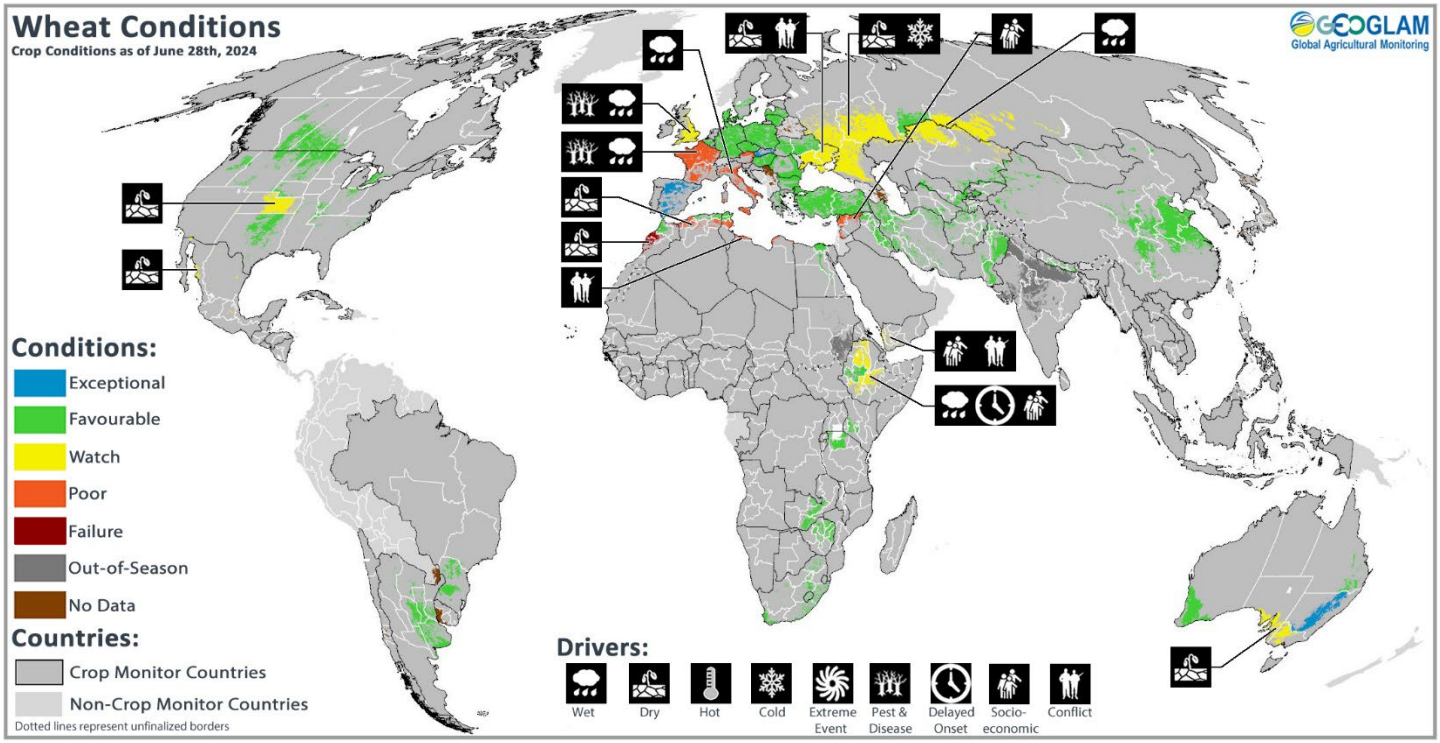
Global Crop Overview

Global crop conditions at the end of June are favourable for rice and soybeans, while mixed for wheat and maize. For **wheat**, areas of concern remain in parts of North America, Europe, North & East Africa, Central Asia, and Australia. For **maize**, areas of concern remain in South America, China, Central America, Africa, and parts of Europe. For **rice**, conditions are generally favourable except for in parts of China, Southeast Asia, Central America, and parts of West Africa. For **soybeans**, conditions are generally favourable except in parts of China, Ukraine, and the Russian Federation. The remaining crops are covered in the CM4EW publication.

Global Climate Influences

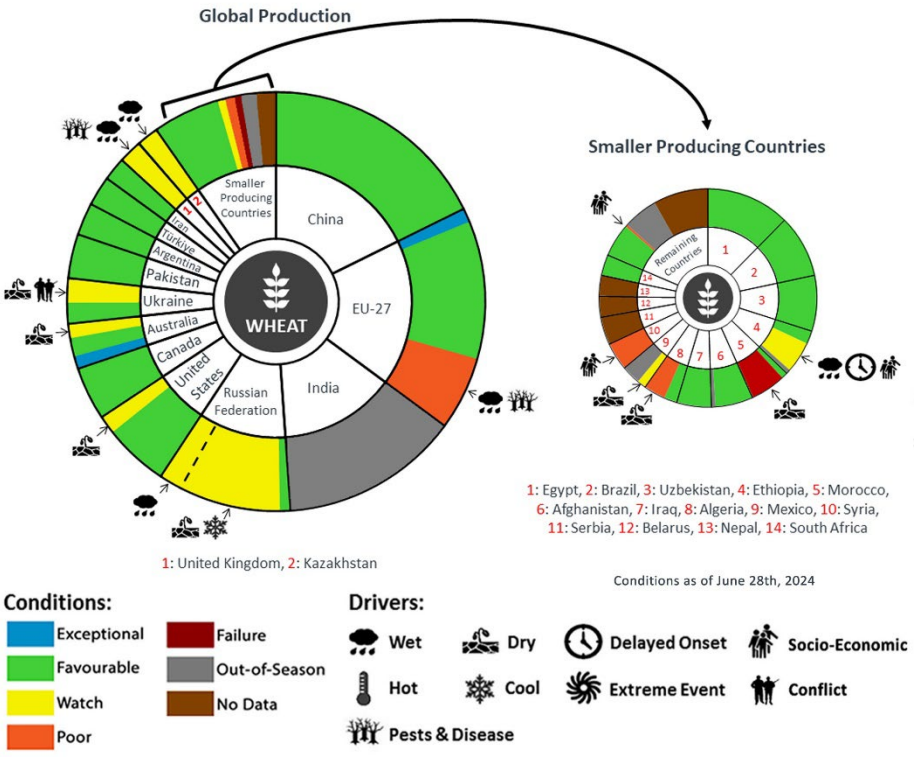
ENSO-neutral conditions have been present since May 2024. The CPC/IRI predicts a 65% chance of La Niña during the summer of 2024, and chances remain high into early 2025. May 2024 was the hottest May on record and the 12th consecutive month of record-breaking global temperatures. 2024 will be among the top five warmest years on record. For further details, see page 6.

WHEAT



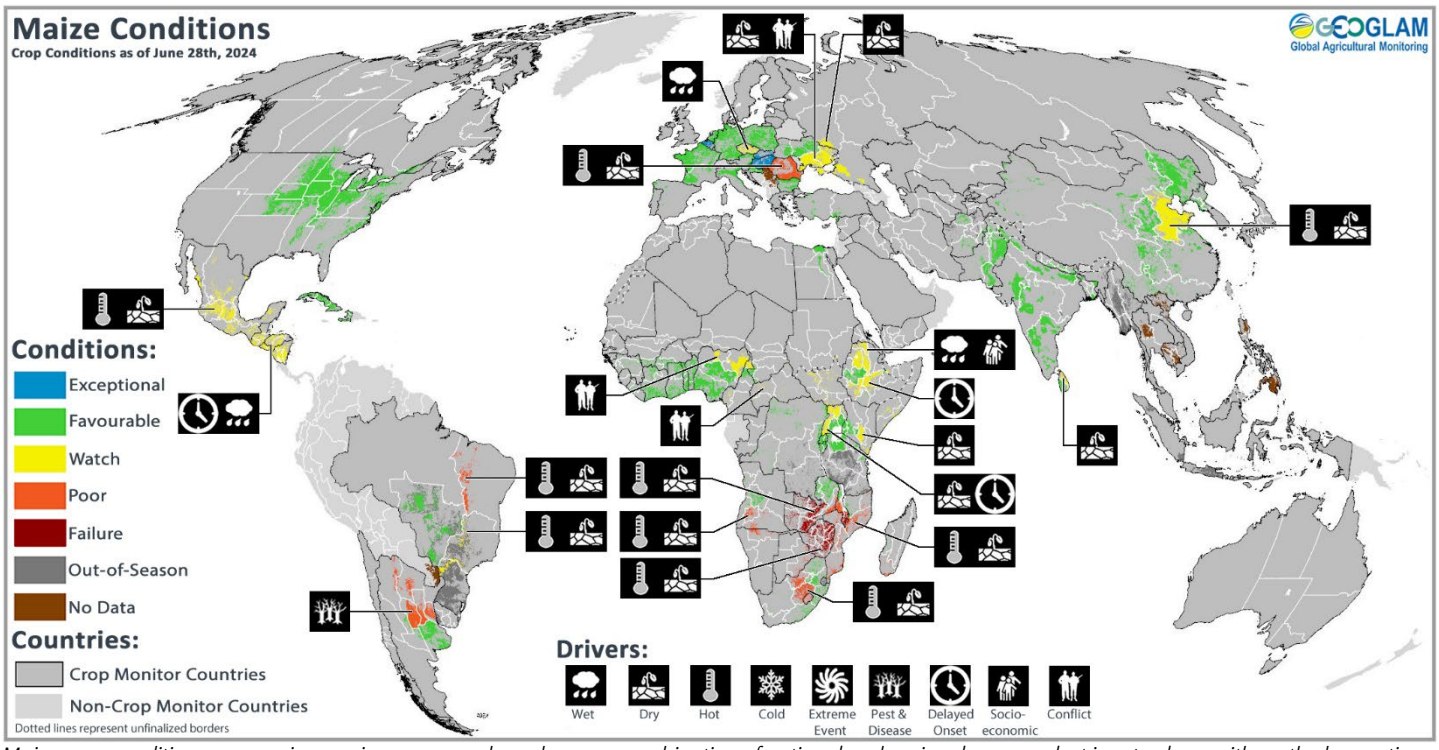
Wheat crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Conditions are based upon information as of June 28th.

In **North America,** conditions are generally favourable in the US as winter wheat harvest is progressing and spring wheat continues to develop. In Canada, conditions have improved for spring wheat owing to ample rainfall In Mexico, conditions remain mixed for winter wheat. In **Europe** excessive water in the EU has negatively affected crop growth and hindered field operations, reducing potential yields in Austria, France, Italy, and the Netherlands. In the UK, recent good weather has enabled winter wheat to partially recover, however, yields will likely be below the 5-year average. In Türkiye, recent wet and warm weather is supporting grain filling. In Ukraine, harvesting is beginning 2-3 weeks earlier than usual due to the warm weather. Despite the recent predominantly dry weather, prospects remain good away from the war zones. In the Russian Federation, prolonged dryness and then sharp freezes in May have negatively impacted winter wheat. Spring wheat development has been affected by dry and cold weather in the west and excess rain in Siberia. In **Central Asia**, winter wheat harvesting is wrapping up in Afghanistan and Pakistan and continues in southern Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan. Additionally, spring wheat is developing in Kazakhstan, Mongolia, and Tajikistan. In Kazakhstan, devastating flooding is impacting the northern and western parts of the country. In **South Asia**, harvesting is wrapping up in Pakistan and Nepal under favourable conditions. In **East Asia**, conditions are favourable in China as the winter wheat harvest progresses. In Mongolia, spring wheat is under favourable conditions. In **MENA**, harvesting is wrapping up under mixed conditions due to a prolonged drought in most of Morocco, Algeria, and central Tunisia. In **Sub-Saharan**, sowing is continuing in Zambia, Zimbabwe, South Africa, and Lesotho under generally favourable conditions for the start of the season. In **South America**, sowing is progressing in Argentina despite a delay due to the late harvesting of the summer crops. In Brazil, sowing is progressing under favourable conditions, albeit slightly delayed compared to the last season. In **Oceania**, close-to-average June rainfall in Australia has benefitted crops across most of the country, however, soil moisture conditions remain below-average in parts of Queensland, South Australia, and Victoria.



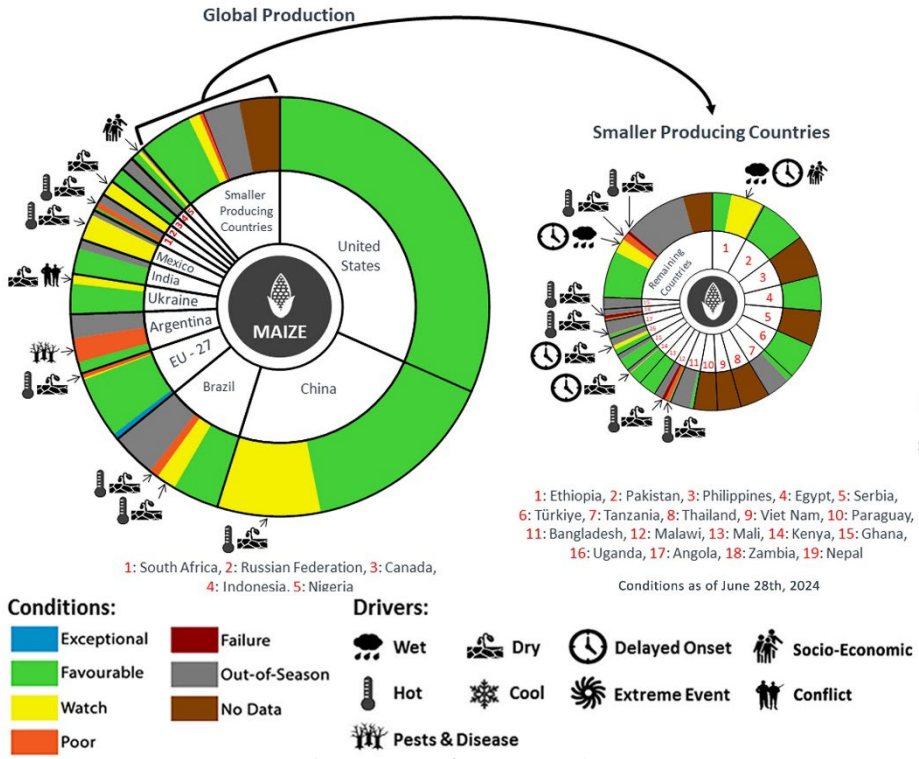
For detailed description of the pie chart, please see box on page 5.

MAIZE



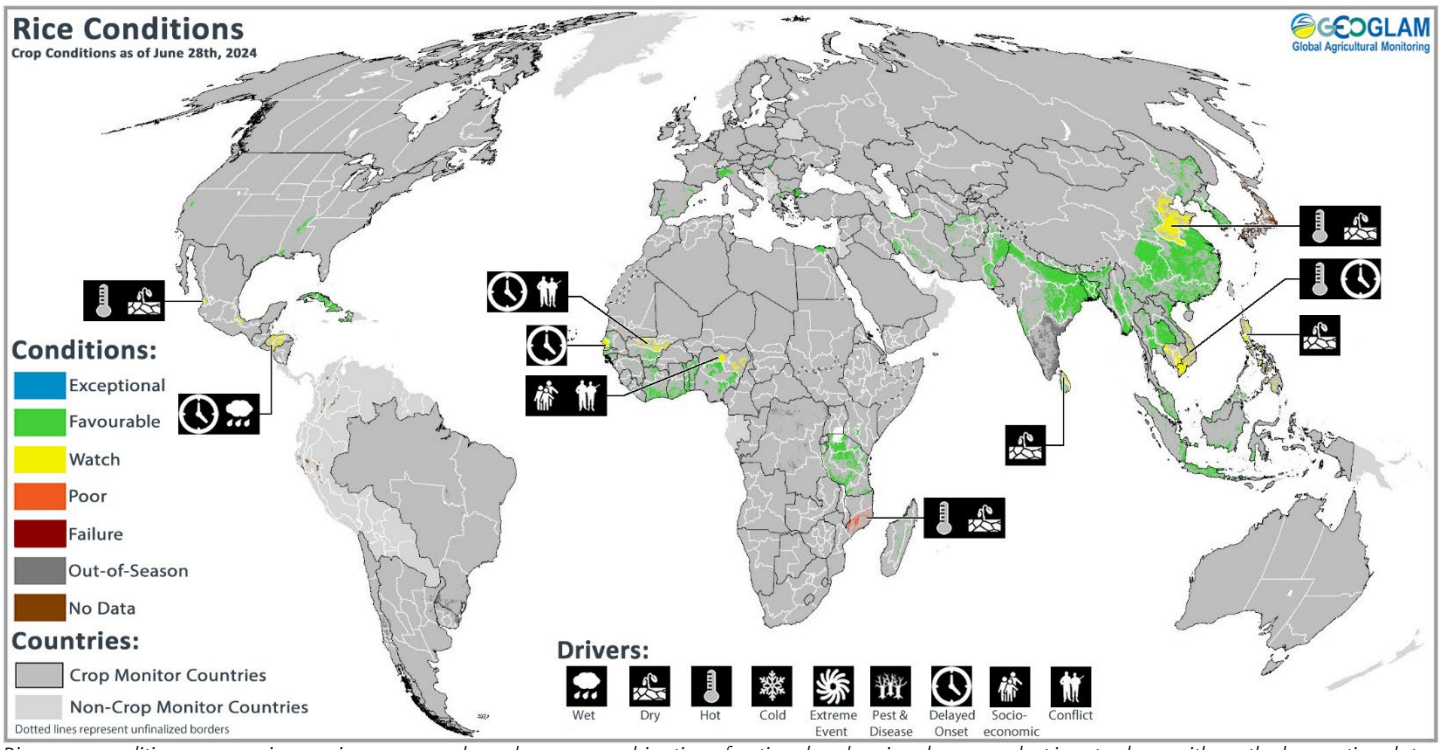
Maize crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Conditions are based upon information as of June 28th.

In **South America**, harvest is wrapping up In Brazil in the Northeast region for the spring-planted crop (smaller season) with poor yields due to a lack of rain and high temperatures. Harvesting of the summer-planted crop (larger season) is progressing with some concern in parts of the South and Southeast regions due to the lack of rain and high temperatures during the reproductive stages. In Argentina, harvesting of the late-planted crop (smaller season) is progressing under mixed conditions due to the impact of corn stunt disease. In **Central America & the Caribbean**, conditions are mixed in Mexico due to prolonged hot and dry weather as harvesting continues for the autumn-winter crop (smaller season) alongside the sowing of the spring-summer crop (larger season). Sowing of *Primera* season crops is continuing in El Salvador, Guatemala, Honduras, and Nicaragua, and there is concern in most areas due to mixed seasonal rainfall outcomes. In Cuba, harvesting of main-season maize is now underway. In Haiti, conditions are favourable as harvesting begins for the *Primtemps* season crops. In **North America,** most of the crops in the US are emerging under favourable conditions, despite excessive heat in the east and excessive rainfall in the northwestern Corn Belt. A reduction in total sown area compared to last season is expected. In Canada, conditions are favourable. In **Europe**, the outlook is favourable in the EU, albeit with dry conditions in southeastern Romania. In Ukraine, conditions are favourable away from the war zone, however, additional rainfall will be needed to support the crop, particularly in the east. In the Russian Federation, dry conditions remain a concern for crops. In **Asia**, conditions are generally favourable in China, however, persistent hot and dry conditions in the North China Plain are of concern. In India, sowing of the Kharif crop (larger season) begins under favourable conditions. In Bangladesh, harvesting of summer/Kharif season maize is underway. In Pakistan, the sowing of the *Kharif* (summer) season is now underway. In the Democratic People's Republic of Korea, conditions are favourable. In Sri Lanka, conditions for the *Yala* season crop remain favourable except in the northeast where there are ongoing dry concerns. In **East Africa,** sowing and development of main season crops continues under mixed conditions due to a combination of early season rainfall deficits followed by El Niño-induced heavy rainfall and flooding across parts of the region as well as an early cessation of the rains in the south. In **West Africa**, sowing and development of main season crops is underway in all countries, and conditions remain generally favourable except in conflict-affected regions and along parts of the Sahel where rains are delayed. In **Southern Africa**, harvesting is finished across the region under mostly poor to-failure conditions.



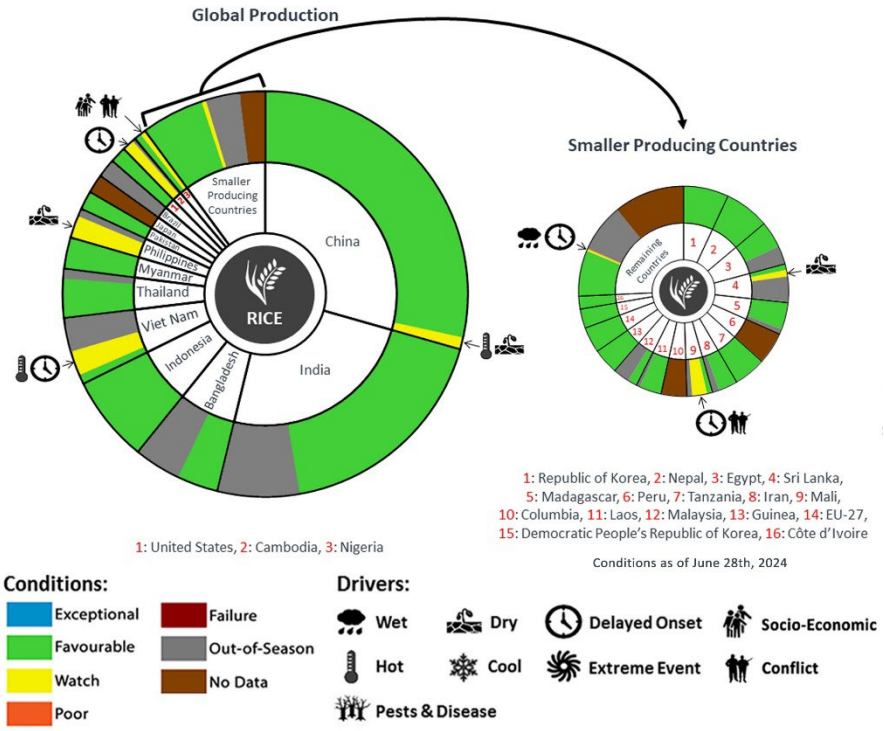
For detailed description of the pie chart, please see box on page 5.

RICE



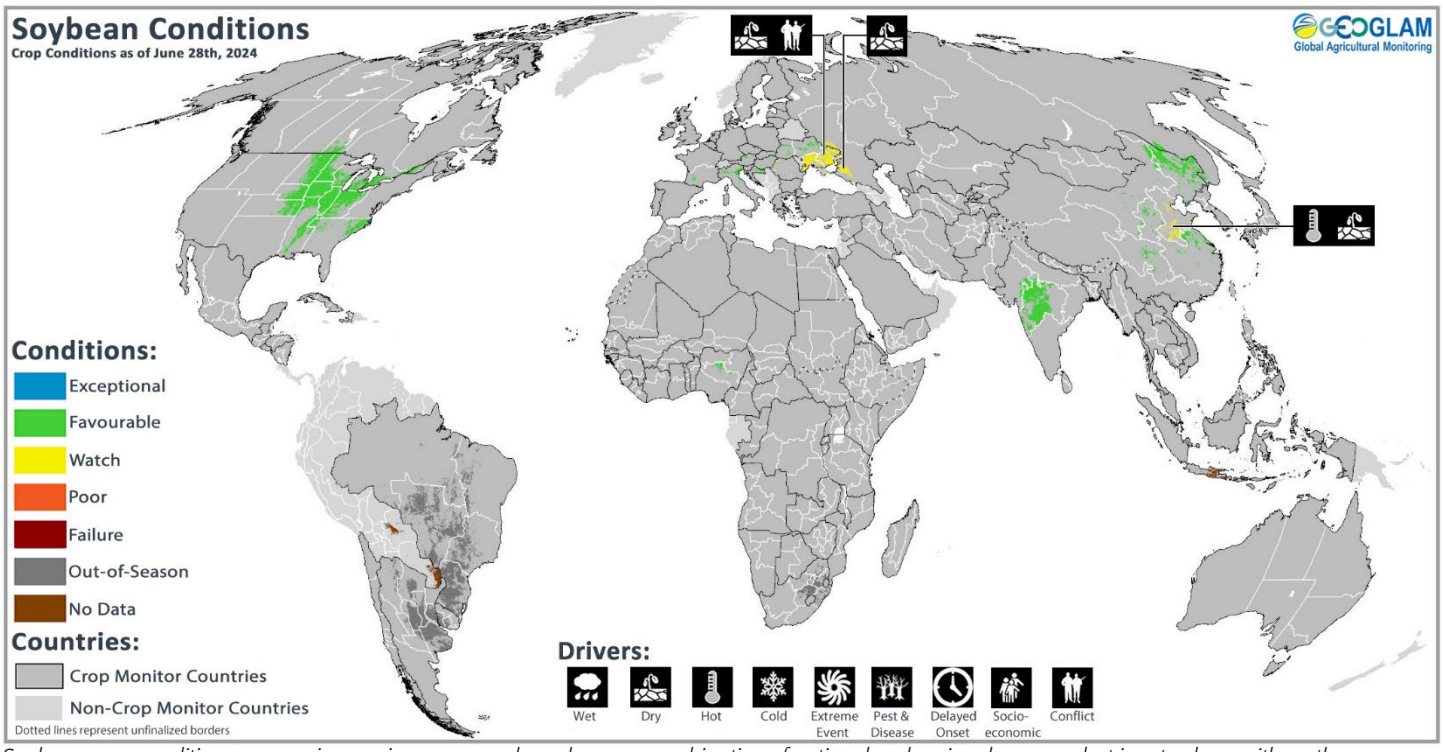
Rice crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Conditions are based upon information as of June 28th.

In **South Asia**, sowing in India of the *Kharif* crop (larger season) begins under favourable conditions. In Bangladesh, harvest is starting for the *Aus* crop (smallest season) as the sowing of the *Aman* crop (mid-sized season) continues. In Sri Lanka, *Yala* season crops are under favourable conditions except in the northeast where there are ongoing dry concerns. In Nepal, harvesting of second-season rice is wrapping up as the sowing of main-season rice begins. In **East Asia**, harvest begins in China for the early double-crop as the sowing of the late double-crop begins. Single-season rice has benefitted from ample rainfall south of the Yangtze River. In the Republic of Korea, conditions have improved with recent rains. In the Democratic People's Republic of Korea, sowing is continuing under favourable conditions. In **Southeast Asia**, harvesting in Indonesia of wet-season rice is wrapping up as the sowing of dry-season rice continues, supported by ample rainfall. In Malaysia, the sowing of dry-season rice is progressing under favourable conditions, and harvesting is just beginning in some areas. In Brunei, the sowing of dry-season rice is wrapping up. In Viet Nam, harvesting has begun for dry-season rice (winter-spring) in the north as the sowing of wet-season rice (summer-autumn) begins. In the south, sowing is delayed for wet-season rice (summer-autumn) due to hot weather and a lack of rainfall. In Thailand, the sowing of wet-season rice is continuing, however, reduced rainfall will likely lead to a reduction in the total sown area compared to the 5-year average. In the Philippines, wet-season rice is under mixed conditions due to below-average rainfall across most of the country, despite the impact of typhoon "Ewiniar", which caused some flooding damage. In Myanmar, conditions are favourable as the harvesting of dry-season rice is progressing and the sowing of wet-season rice is underway. In Cambodia, the sowing of wet-season rice is continuing under emerging concern due to delayed and limited rains as well as high temperatures. In the **Americas**, conditions are favourable in the US. In Cuba, harvesting of the second-season crop is wrapping up as the sowing of the main-season crop continues. In Haiti, the *Printemps* season crop is under favourable conditions. In **MENA**, conditions are favourable in Egypt and Iran.



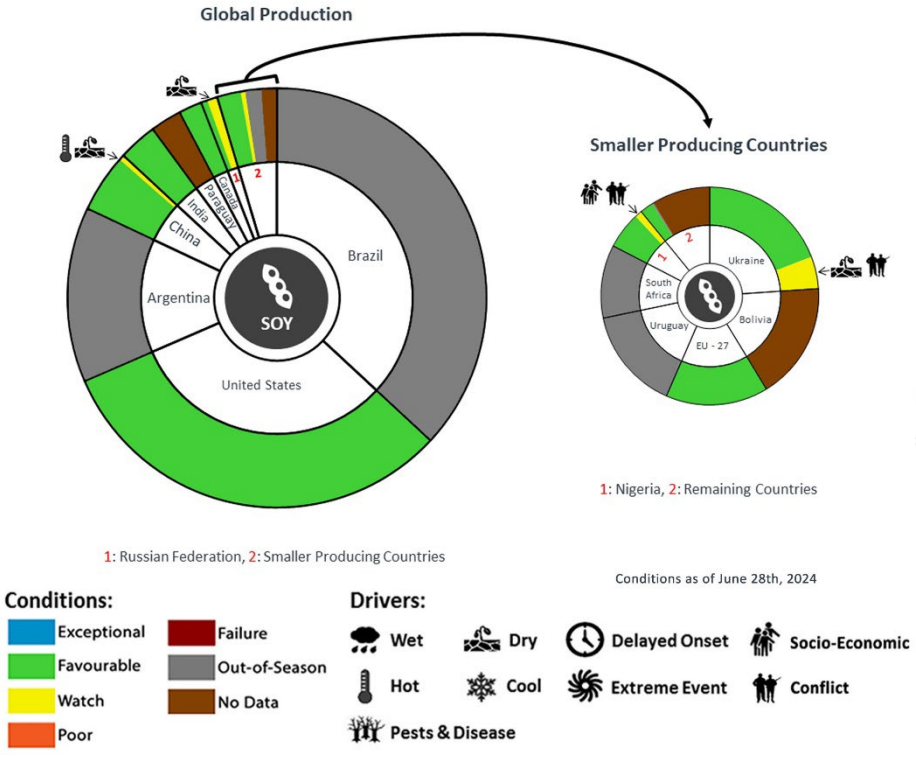
For detailed description of the pie chart, please see box on page 5.

SOYBEAN



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 June 28th.

In **North America**, sowing is wrapping up in the US under favourable conditions with an expected increase in total sown area compared to last year. In Canada, sowing is being completed under favourable conditions despite excess moisture over parts of Manitoba, Ontario, and Saskatchewan. In **Asia**, conditions are favourable in China with good soil moisture supporting crop development in the main producing northeast region. In India, sowing begins under favourable conditions. In **Europe**, conditions are favourable in the EU despite initial delays in sowing, particularly in Italy. In Ukraine, conditions are favourable away from the war zone, however, additional rainfall will be necessary to support development, particularly in the eastern regions. In the Russian Federation, conditions are mixed with early dry conditions, particularly in the southern region, however, prospects remain positive. In **Africa**, conditions are favourable in Nigeria.



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.

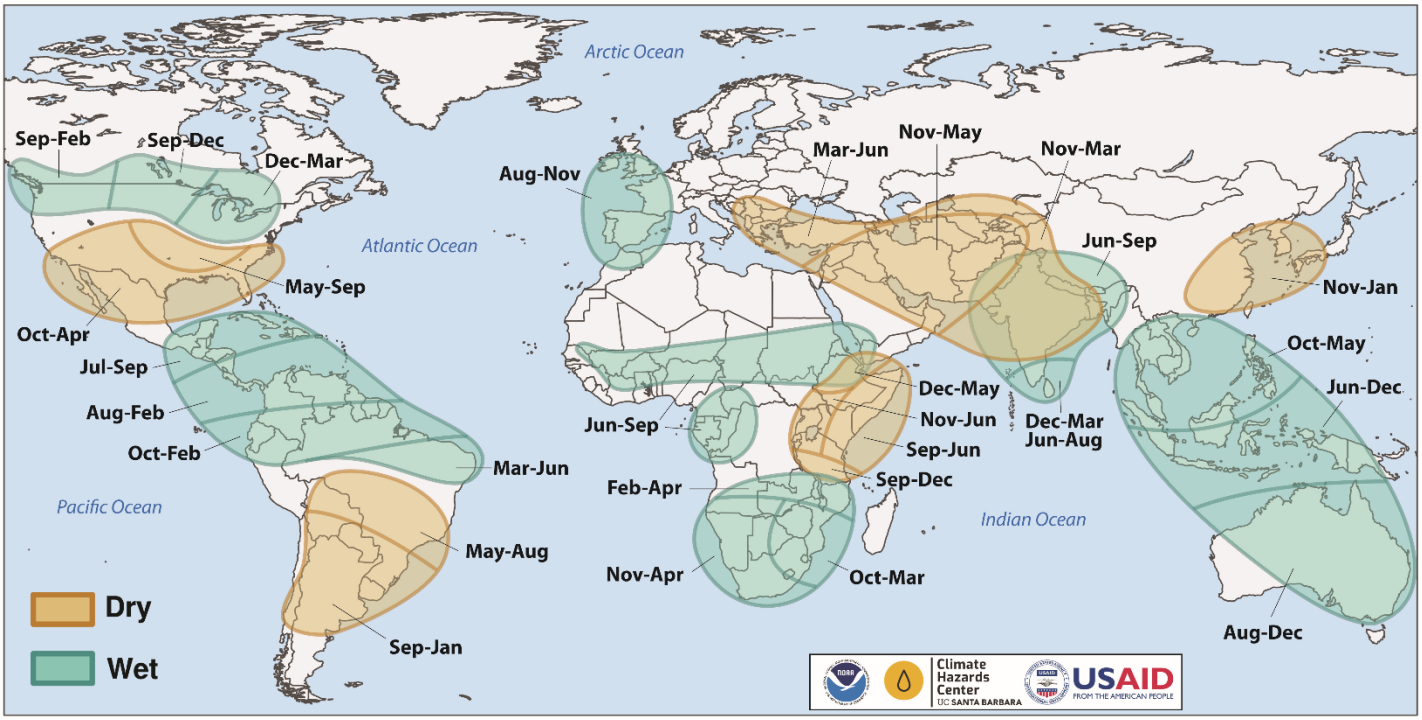
Global Climate Influences

ENSO-neutral conditions have been present since May 2024. The CPC/IRI predicts a 65% chance of La Niña during the summer of 2024, and chances remain high into early 2025.

Reflecting a La Niña influence, the July to September seasonal forecasts indicate above-normal precipitation in India, the Maritime Continent, northern East Africa, the African Sahel region, and Central America. During late 2024 to early 2025, La Niña conditions would raise the chances of below-average precipitation in East Africa, central-southern Asia, southern South America, the southern United States of America, northern Mexico, and eastern East Asia. Above-average precipitation would become more likely in Southeast Asia, Australia, Southern Africa, and northern South America.

May 2024 was the hottest May on record and the 12th consecutive month of record-breaking global temperatures. 2024 will be among the top five warmest years on record. There will likely be agricultural impacts from extreme heat, particularly if heat occurs during periods of moisture stress or the key reproductive stages that determine final yields.

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, Source: FEWS NET & NOAA & CHC

Regional Outlooks

The long-range forecast (3 -months) is influenced by the likely development of a La Niña from July to September. Both the short-term (2 weeks) and the long-range forecasts reflect the warming global temperatures.

In **North America**, the two-week forecast (Figures 1 & 2) indicates potential areas of above-average precipitation over the US southwest, while below-average precipitation over the Prairies and western Canada and the Pacific Northwest and southern Great Plains of the US. During the same time, temperatures are likely to be above-average in the Prairies of Canada along with in the western and southeast of the US. The long-term July-August-September 2024 forecast (Figures 3 & 4) shows a leaning toward below-average precipitation over the western US, while leaning towards above-average along the US Gulf and Atlantic coasts. During the same time, temperatures are likely to be above-average across both Canada and the US, except for the West Coast of both countries. For further details, see the CM4AMIS Regional Outlook for the US.

In **Central America & the Caribbean**, the two-week forecast (Figures 1 & 2) indicates likely below-average precipitation over central and southern Mexico, while above-average over central Cuba and the Dominican Republic. During the same period, temperatures are likely to be above-average over most of Mexico, Guatemala, El Salvador, and southern Honduras, while below-average over southern Nicaragua. The long-term July-August-September 2024 forecast (Figures 3 & 4) suggests below-average precipitation over northwestern Mexico, while above-average precipitation over the rest of the region. During this time, temperatures are highly likely to be above-average across most of the region except for the Baja California peninsula in Mexico. For further details, see the CM4EW regional outlook for Central America and the Caribbean.

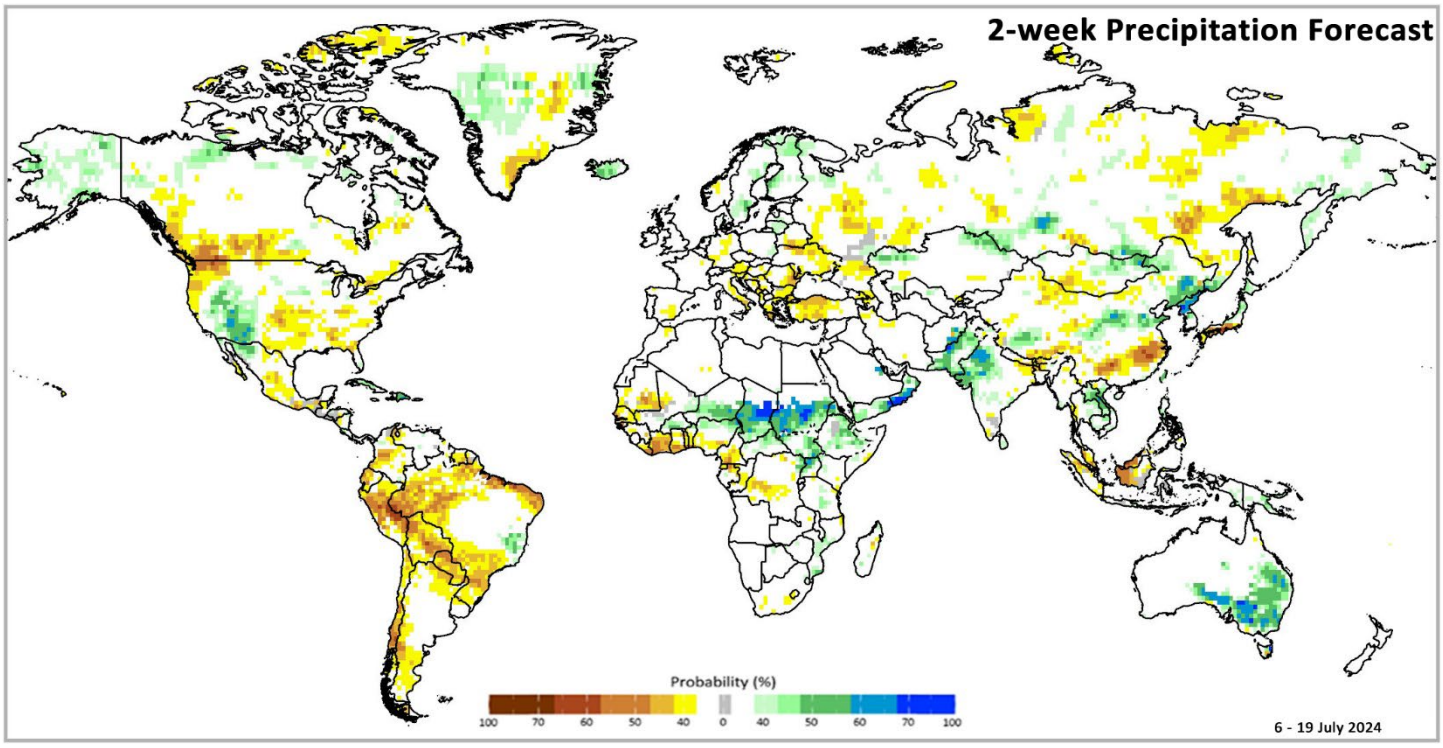


Figure 1: IRI SubX Precipitation Biweekly Probability Forecast for 6 – 19 July 2024, issued on 28 June 2024. The forecast is based on statistically calibrated tercile category forecasts from three SubX models. Source: IRI Subseasonal Forecasts Maproom

In **South America**, the two-week forecast (Figures 1 & 2) indicates likely below-average precipitation over central Columbia, Suriname, northern and western and southern Brazil, Ecuador, Peru, Bolivia, Paraguay, Chile, and northern Argentina, while above-average over southeast Brazil. During this time, temperatures are likely to be above-average across eastern Columbia, northern Venezuela, Guyana, southern Suriname, southern French Guiana, Brazil, northern and coastal Peru, southwest Bolivia, northern Chile, Paraguay, and northwest Argentina, while below-average in southern Venezuela, southern Chile, and southern Argentina. The long-term July-August-September 2024 forecast (Figures 3 & 4) suggests likely above-average precipitation across northwestern Columbia and northern Venezuela, while below-average across the rest of the continent. During that time, temperatures are highly likely to be above-average over most of the continent except for southern Brazil, southern Paraguay, Uruguay, Argentina, Chile, coastal Peru, and coastal Ecuador.

In **Europe**, the two-week forecast (Figures 1 & 2) indicates likely below-average precipitation over northern Ukraine, Moldova, eastern Romania, Bulgaria, Greece, western Türkiye, and the central and southern Russian Federation. During this time, temperatures are leaning to above-average over southeast Poland, Czechia, Austria, Slovakia, Hungary, Serbia, Kosovo, Albania, Greece, North Macedonia, Bulgaria, Romania, Moldova, Ukraine, the Russian Federation, Türkiye, Georgia, Azerbaijan, and Armenia. The long-term July-August-September 2024 forecast (Figures 3 & 4) Indicates a leaning towards below-average precipitation over Spain, France, southern UK, Switzerland, Italy, eastern Poland, Slovakia, Hungary, Serbia, Bulgaria, Romania, Moldova, Ukraine, Belarus, Lithuania, Latvia, Estonia, the Russian Federation, and Azerbaijan. During the same period, temperatures are likely to be above-average across Europe, with the highest likelihood over central and southern Europe.

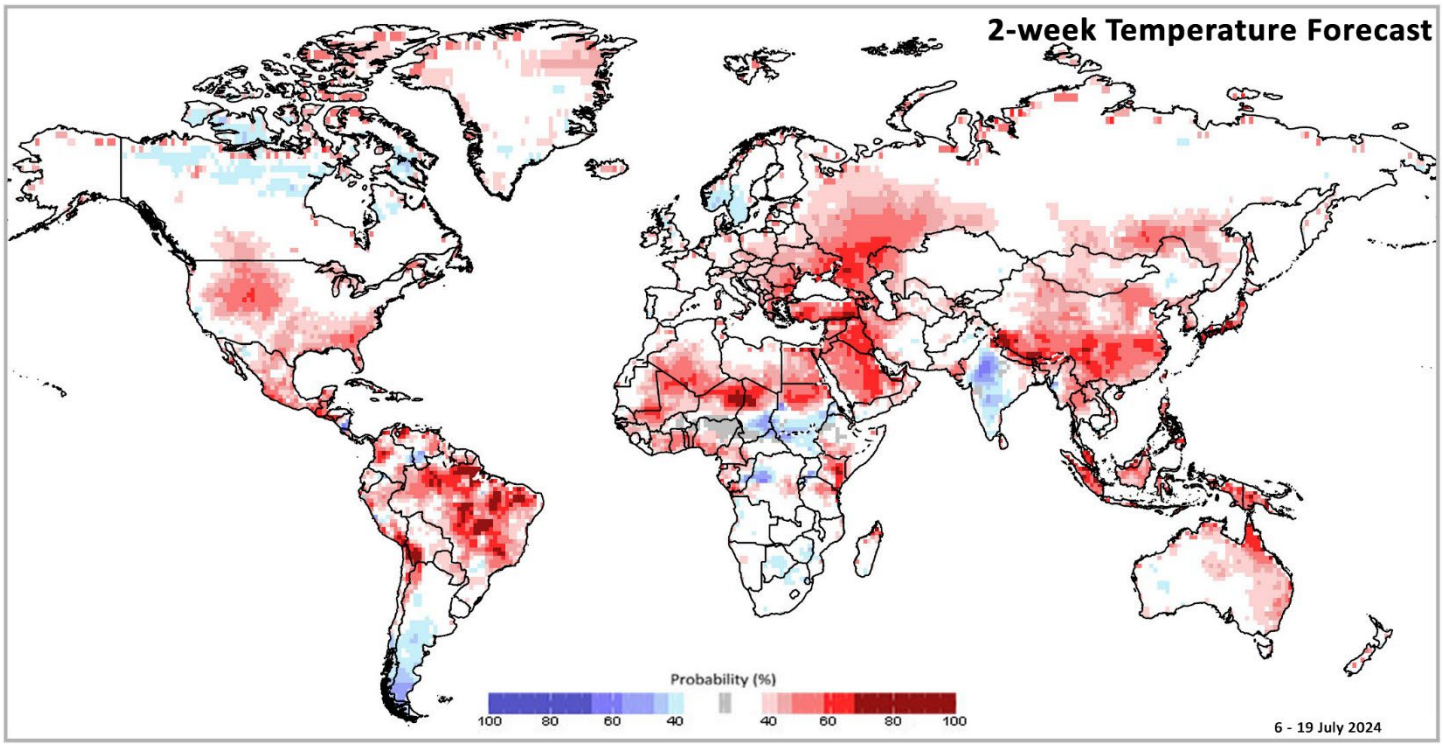


Figure 2: IRI SubX Temperature Biweekly Probability Forecast for 6 – 19 July 2024, issued on 28 June 2024. The forecast is based on statistically calibrated tercile category forecasts from three SubX models. Source: IRI Subseasonal Forecasts Maproom

In **MENA**, the two-week forecast (Figures 1 & 2) does not indicate any major tercile for precipitation. During this time, temperatures are likely to be above-average over central southern Algeria, southern Libya, Egypt, Jordan, Syria, Saudi Arabia, Iraq, and western Iran. The long-term July-August-September 2024 forecast (Figures 3 & 4) indicates precipitation is likely to be near normal across much of the region except for likely above-average precipitation in southern Saudi Arabia, Yemen, and Oman. During this time, temperatures are highly likely to be above-average across the entire region.

In **Sub-Saharan Africa**, the two-week forecast (Figures 1 & 2) indicates likely below-average precipitation over eastern Mauritania, Liberia, Côte d'Ivoire, southern Ghana, southern Togo, southern Benin, southwest Cameroon, northern Gabon, and the western Democratic Republic of the Congo, while above-average precipitation over central Burkina Faso, central Niger, Chad, northern Central African Republic, Sudan, eastern South Sudan, central Ethiopia, and Uganda. At the same time, temperatures are likely to be above-average across eastern Mauritania, Mali, Niger, northern Chad, Côte d'Ivoire, Ghana, Togo, Benin, southern Nigeria, southern Cameroon, western Central African Republic, southern Republic of Congo, southern Ethiopia, Kenya, northern Tanzania, and northern Madagascar, while below-average in southern Chad, southern Sudan, northern South Sudan, western Democratic Republic of Congo, and southern Uganda. For the long-term July-August-September 2024 forecast (Figures 3 & 4), precipitation is likely to be above-average in Niger, Chad, Sudan, South Sudan, Ethiopia, Kenya, Uganda, southern Somalia, and northeast Democratic Republic of the Congo, while below-average over southern Nigeria, southern Namibia, Botswana, South Africa, and Madagascar. During this time, temperatures are highly likely to be above-average across most of Sub-Saharan Africa except for central Niger, central Chad, central Sudan, Eritrea, and coastal Namibia. For further details, see the CM4EW regional outlooks for East Africa and West Africa.

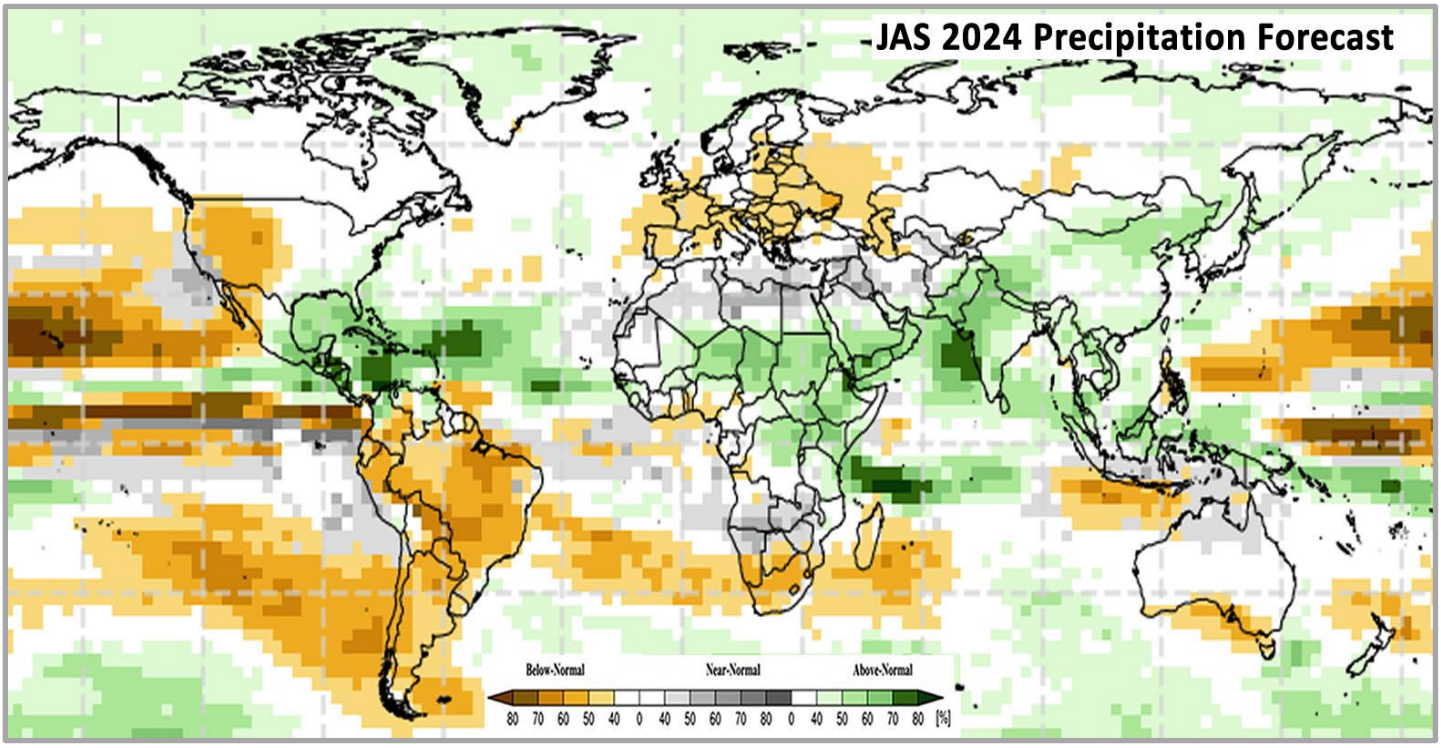


Figure 3: Probabilistic forecast for most likely July-August-September (JAS) 2024 rainfall tercile, based on June conditions. The white colour indicates that there is no dominant category across the model forecasts. Source: WMO Lead Centre for Long-Range Forecast Multi-Model Ensemble

In **Central Asia**, the two-week forecast (Figures 1 & 2) indicates likely above-average precipitation over northeastern and northwestern Kazakhstan and southeastern Afghanistan. During this time, temperatures are likely to be above average in western Kazakhstan and coastal Turkmenistan. The long-term July-August-September 2024 forecast (Figures 3 & 4) indicates a leaning toward below-average precipitation over western Kazakhstan, while above-average precipitation over southeastern Afghanistan. At the same time, temperatures are likely to be above-average across the entire region except for northern Kazakhstan.

In **South Asia**, the two-week forecast (Figures 1 & 2) indicates likely below-average precipitation over parts of northeastern India and northern Bangladesh, while above-average precipitation is likely over Pakistan and western India. During this time, temperatures are likely to be above-average in northwestern and northeastern India, Nepal, northern Bangladesh, and southeastern Pakistan, while below-average over central India. The long-term July-August-September 2024 forecast (Figures 3 & 4) indicates likely above-average precipitation over Pakistan, northern and western India, Nepal, and Sri Lanka. At the same time, temperatures are likely to be above-average across most of the region except for central Pakistan and northern India.

In **East Asia**, the two-week forecast (Figures 1 & 2) indicates likely below-average precipitation over southwestern Mongolia, southwest and southeast China, and southern Japan, while above-average over northeastern Mongolia, parts of central and northeastern China, and the Democratic Republic of Korea. During this time, temperatures are likely to be above-average in southern Mongolia, central and southern China, the Democratic Republic of Korea, the southern Republic of Korea, and Japan. The long-term July-August-September 2024 forecast (Figures 3 & 4) indicates a leaning toward above-average precipitation over southeastern Mongolia, northeastern and southwestern China, the northern Democratic Republic of Korea, and northern Japan. During that time, temperatures are highly likely to be above-average over the entire region.

In **Southeast Asia & Oceania**, the two-week forecast (Figures 1 & 2) indicates potential below-average precipitation over Malaysia, and central Indonesia, while above-average over Laos, northern Viet Nam, and eastern and southeastern Australia. During this time, temperatures are likely to be above-average over eastern Myanmar, northern Laos, northwest Thailand, the Philippines, Malaysia, Indonesia, Papua New Guinea, and eastern Australia. The long-term July-August-September 2024 forecast (Figures 3 & 4) indicates likely above-average precipitation over central Myanmar, northeastern Thailand, Laos, Viet Nam, Malaysia, northern Indonesia, and northern Papua New Guinea, while below-average over the Philippines, southern Indonesia, and southern Australia. During the same time, temperatures are highly likely to be above-average across the entire region. For further details, see the CM4AMIS Regional Outlook for Australia.

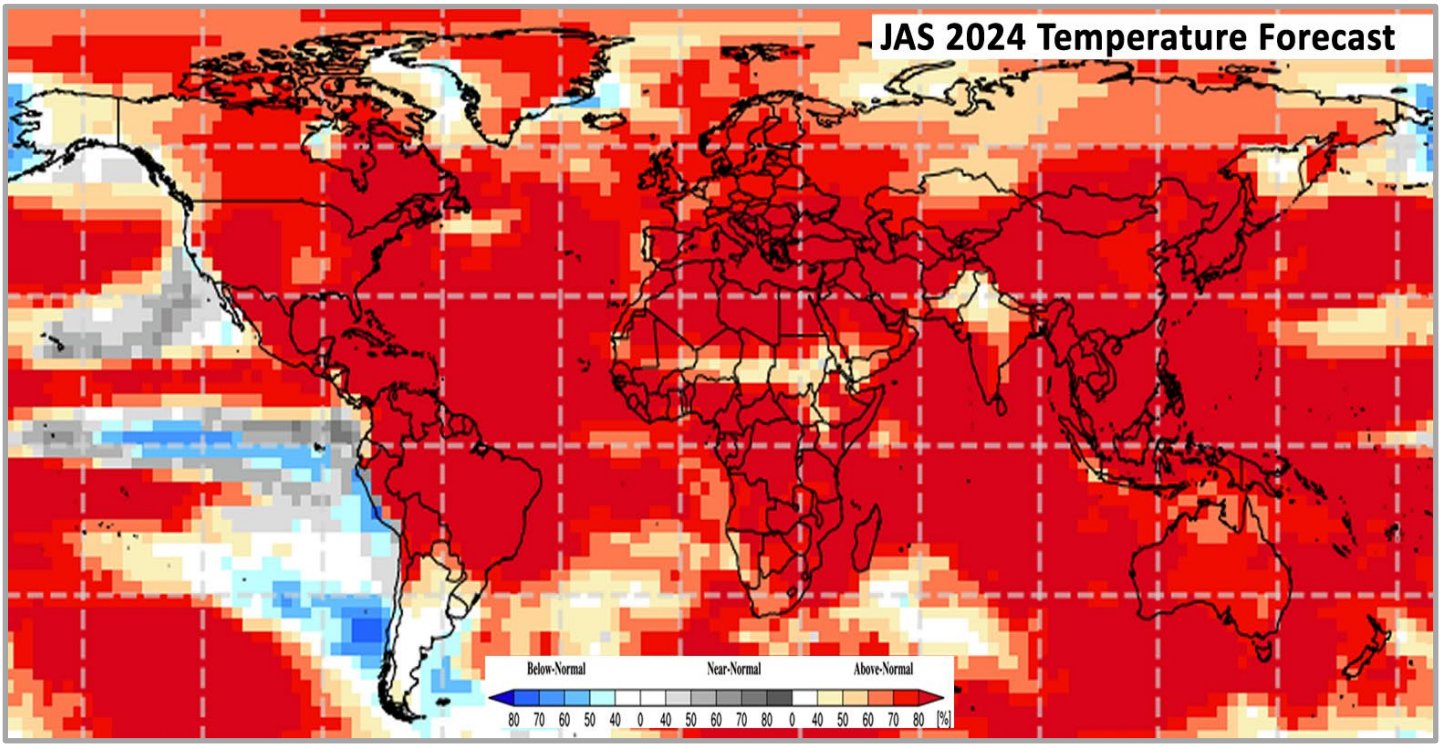


Figure 4: Probabilistic forecast for most likely July–August–September (JAS) 2024 temperature tercile, based on June conditions. The white colour indicates that there is no dominant category across the model forecasts. Source: WMO Lead Centre for Long-Range Forecast Multi-Model Ensemble

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.

2024 Global Crop Monitor release dates:
1 February, 7 March, 4 June, 2 June, 6 June, 4 July, 1 August,
5 September, 3 October, 7 November, 5 December

https://cropmonitor.org/
@GEOCropMonitor

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 5-25% 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 currently.
**" 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 Calendars:

In countries with multiple cropping seasons for the same crop, the larger producing season (based on the most recent 5-years of statistics) has been assigned to the first season (e.g., Maize 1). The full list of the multiple cropping seasons and the national season name associated with each crop season can be found on the crop monitor website under the Classification System section.

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).