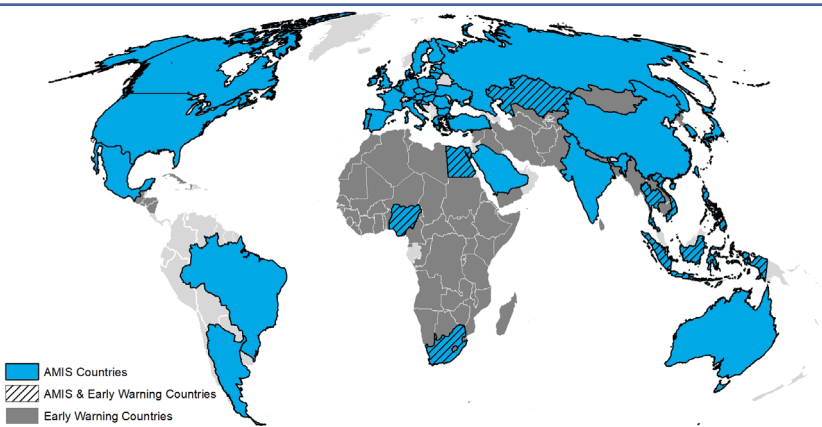




Crop Monitor for AMIS

Overview:

At the end of February, conditions are generally favourable for wheat and rice, while mixed for maize and soybeans. Winter wheat is mostly dormant in the northern hemisphere with only some areas of concern in Europe, Ukraine, and the US. In the southern hemisphere, maize is under mixed conditions in Argentina and southern Brazil. Rice conditions are favourable in most countries except for in Viet Nam and Brazil. Soybeans are under mixed conditions in Argentina and southern Brazil.

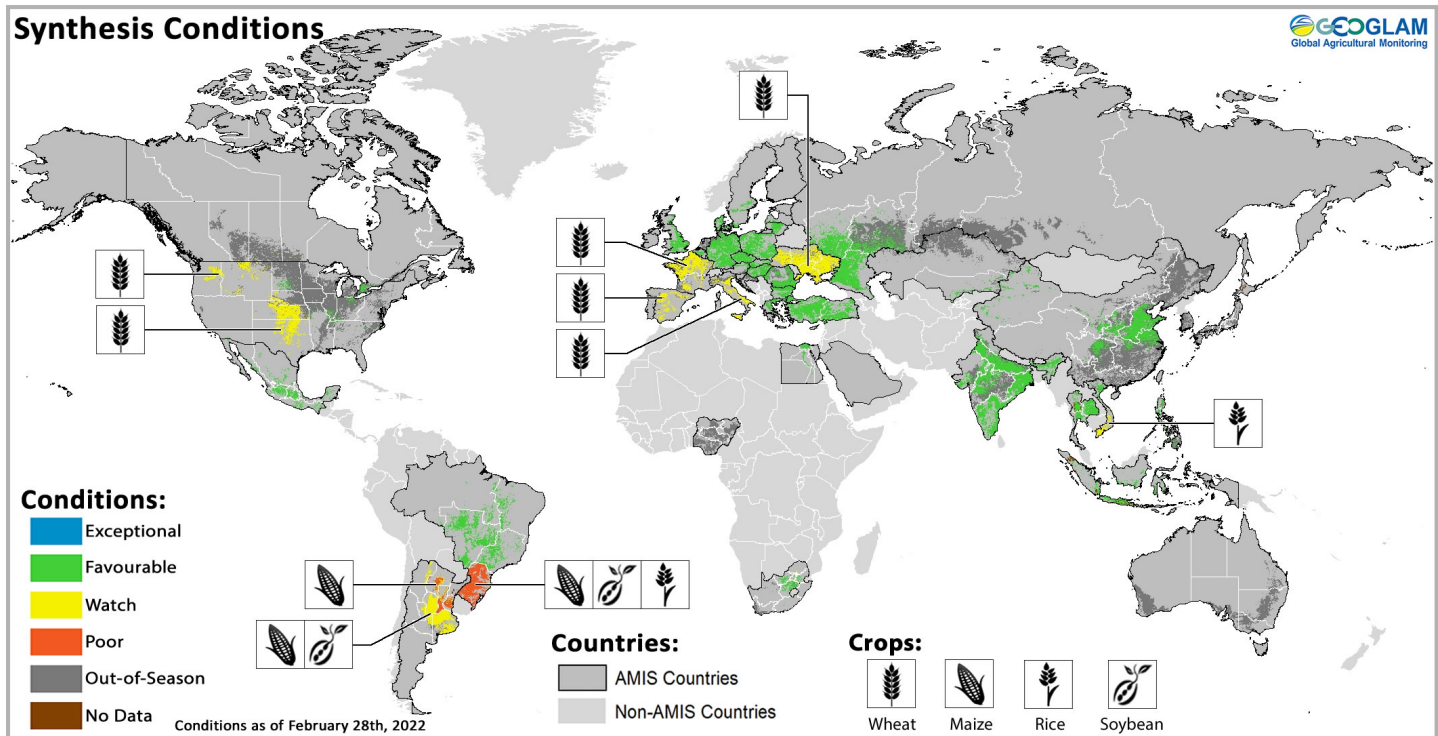


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Assessment based on information as of February 28th

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



Crop condition map synthesizing information for all four AMIS crops as of February 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, dry conditions persist in North America and develop in the western and southern EU. The conflict in Ukraine brings uncertainties.

Maize - In the northern hemisphere, conditions are favourable in India and Mexico. In the southern hemisphere, the prolonged drought remains a concern for southern Brazil and Argentina.

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 for several more months. Forecast chances of La Niña conditions continuing are high through April (93% chance) and are elevated through May (77% chance).

Argentina – In the short-term (2-week), rainfall is forecasted to cover much of the main agricultural areas, particularly concentrated in the northern areas. In extended forecasts below-average rainfall is expected over much of the country, particularly in the eastern areas.

Rice - Rabi rice is favourable in India. Conditions are generally favourable in Southeast Asia except for southern Viet Nam. Dry conditions continue in Brazil.

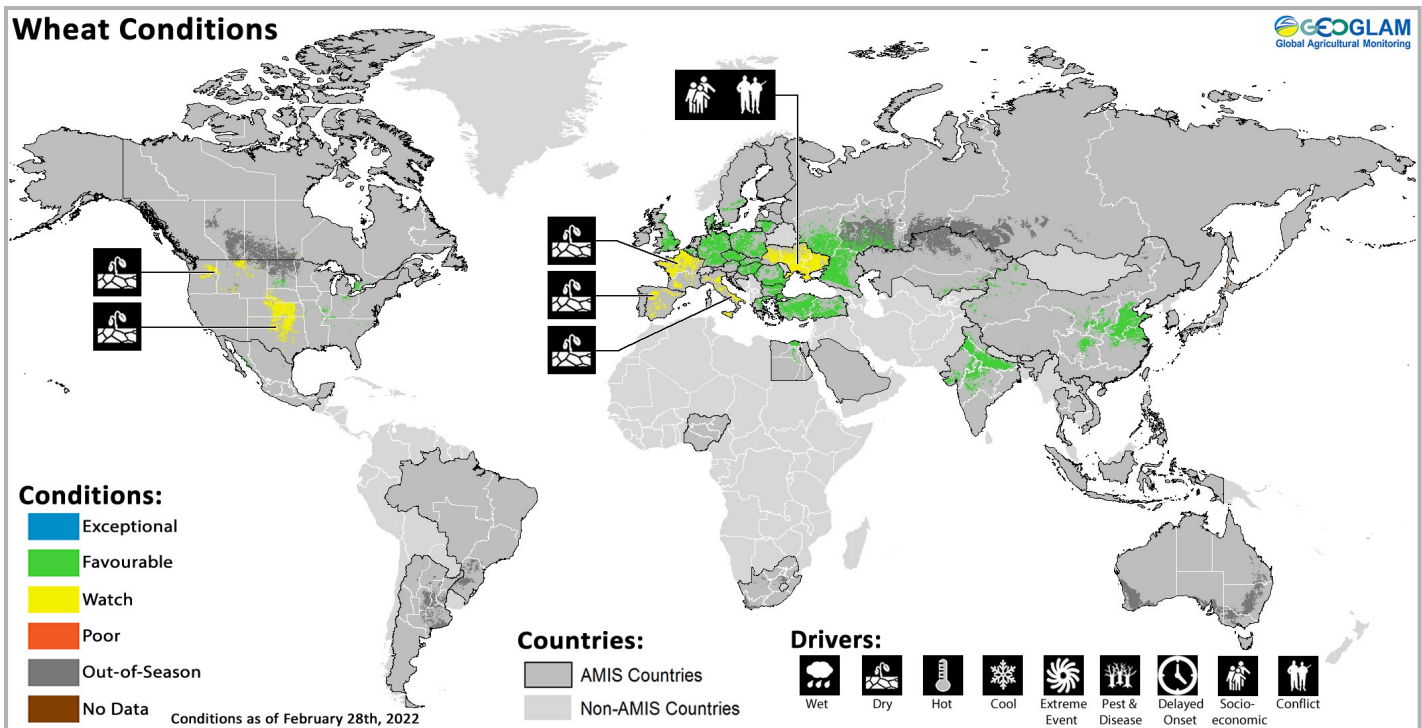
Soybeans - In the southern hemisphere, a prolonged drought has reduced yields in southern Brazil, while recent rains have helped to improve prospects in Argentina.

Brazil – The short-term (2-week), rainfall is likely to be below-average central-west and southeast regions while the extended forecast shows likely below-average rainfall in the south region and likely above-average rainfall in the north and northeast regions.

South Africa – The short-term (2-week) shows likely below-average rainfall in the northeast and northwest, while the extended forecasts show likely above-average rainfall across most of the country.

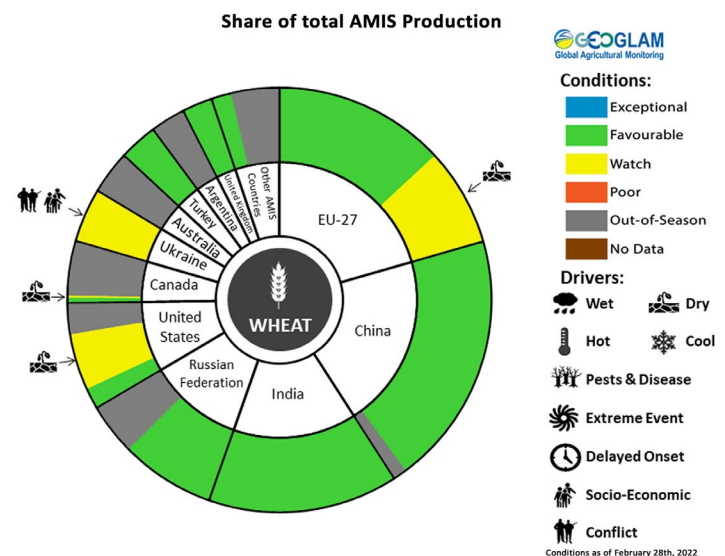
Europe – The short-term (2-week) and the extended forecasts show likely below-average rainfall across most of the southern countries extending east through Ukraine and the Russian Federation.

Wheat Conditions for AMIS Countries



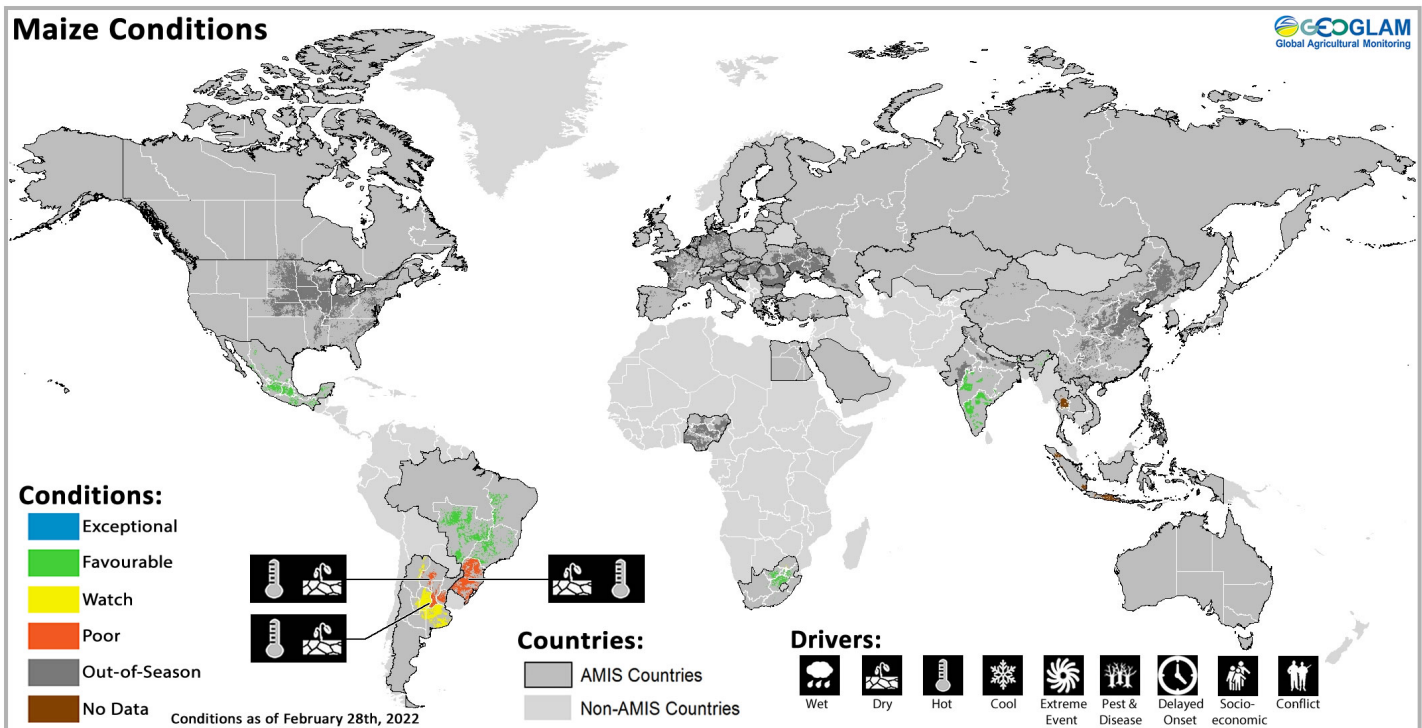
Wheat crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of February 28th. Where crops are in other than favourable conditions the climatic drivers responsible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

Wheat: In the **EU**, most countries are under favourable conditions; however, rainfall deficits in southern and western countries will require the resumption of rains in the spring to avoid negative impacts on yields. In the **United Kingdom**, conditions are favourable. In **Ukraine**, winter wheat has resumed growing earlier than usual in the southern and central regions after a warmer than average February. The outbreak of conflict brings uncertainties for crop yields due to the potential impact on farmers' ability to access agricultural inputs, machinery, fuel, and to perform fieldwork. In the **Russian Federation**, above-average rainfall during early February is likely to benefit winter wheat once growth resumes. In **Turkey**, recent above-average rainfall in the central regions continues to support crop growth. In **China**, conditions remain favourable for winter wheat. In **India**, conditions are favourable with the total sown area at last year's levels and above the 5-year average. In the **US**, conditions remain mixed with long-term dryness in the northwest and the southern plains. In **Canada**, winter wheat conditions remain mixed in the Prairies and favourable in Ontario.



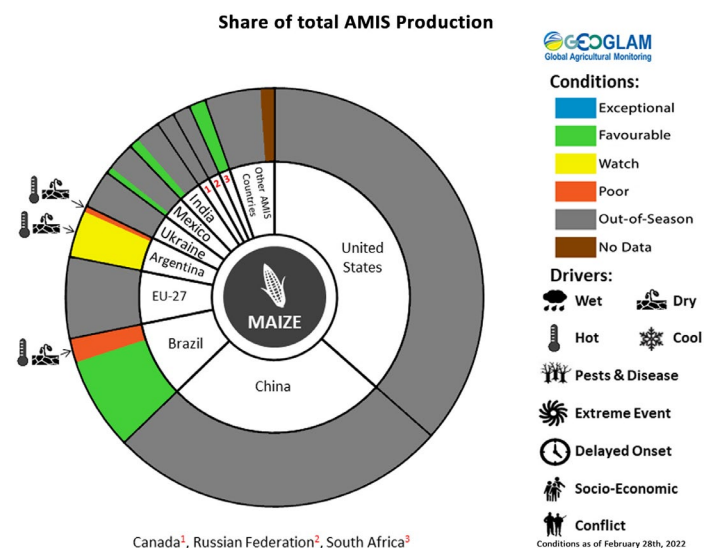
For detailed description of the pie chart please see box on page 6.

Maize Conditions for AMIS Countries



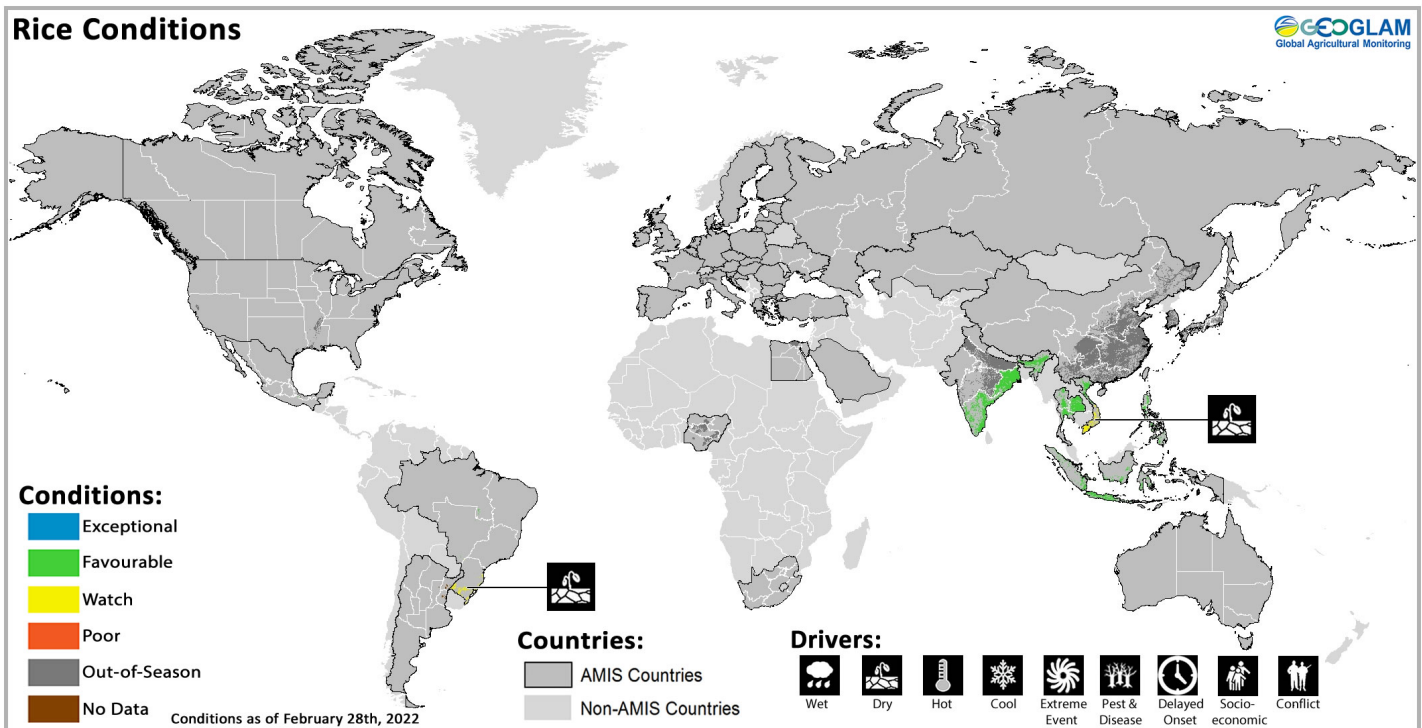
Maize crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of February 28th. Where crops are in other than favourable conditions the climatic drivers responsible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

Maize: In **India**, the Rabi season crop is in the vegetative stage under favourable conditions with an increase in total sown area compared to the 5-year average and last year. In **Mexico**, conditions are favourable as the harvesting of the spring-summer crop (larger season) is wrapping up and the autumn-winter crop (smaller season) is in the early vegetative stage. In **Brazil**, conditions are mixed for the spring-planted crop (smaller season) with a reduction in yields expected in the south region due to hot and dry conditions. In the Center-West, Southeast, and Northeast regions, most crops are in reproductive stages under favourable conditions. Sowing of the summer-planted crop (larger season) is about halfway done with good crop development. In **Argentina**, conditions for the early-planted crop (larger season) remain mixed in the regions of Buenos Aires, Córdoba, and La Pampa, and have turned poor for Santa Fe and Entre Ríos due to prolonged dry conditions during the growing season, along with high temperatures during the critical flowering stage. Conditions have improved for the late-planted crop (smaller crop), benefitting from successive rainfall events starting during the second half of January. In **South Africa**, conditions remain generally favourable.



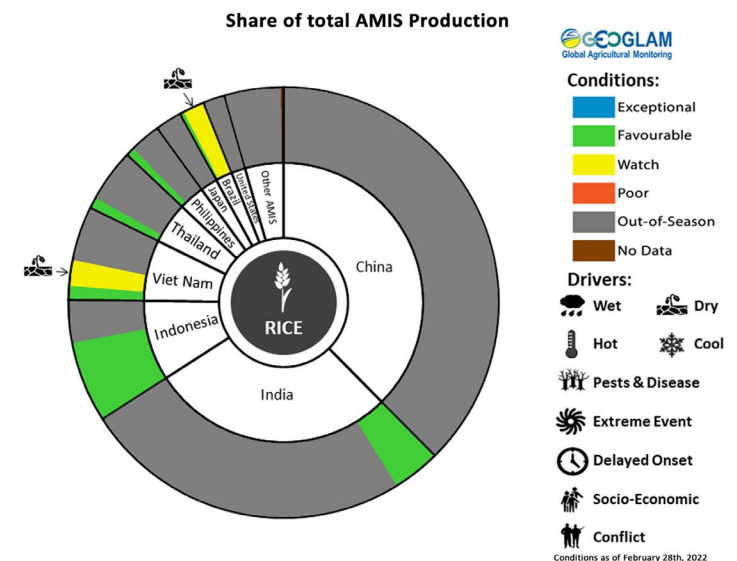
For detailed description of the pie chart please see box on page 6.

Rice Conditions for AMIS Countries



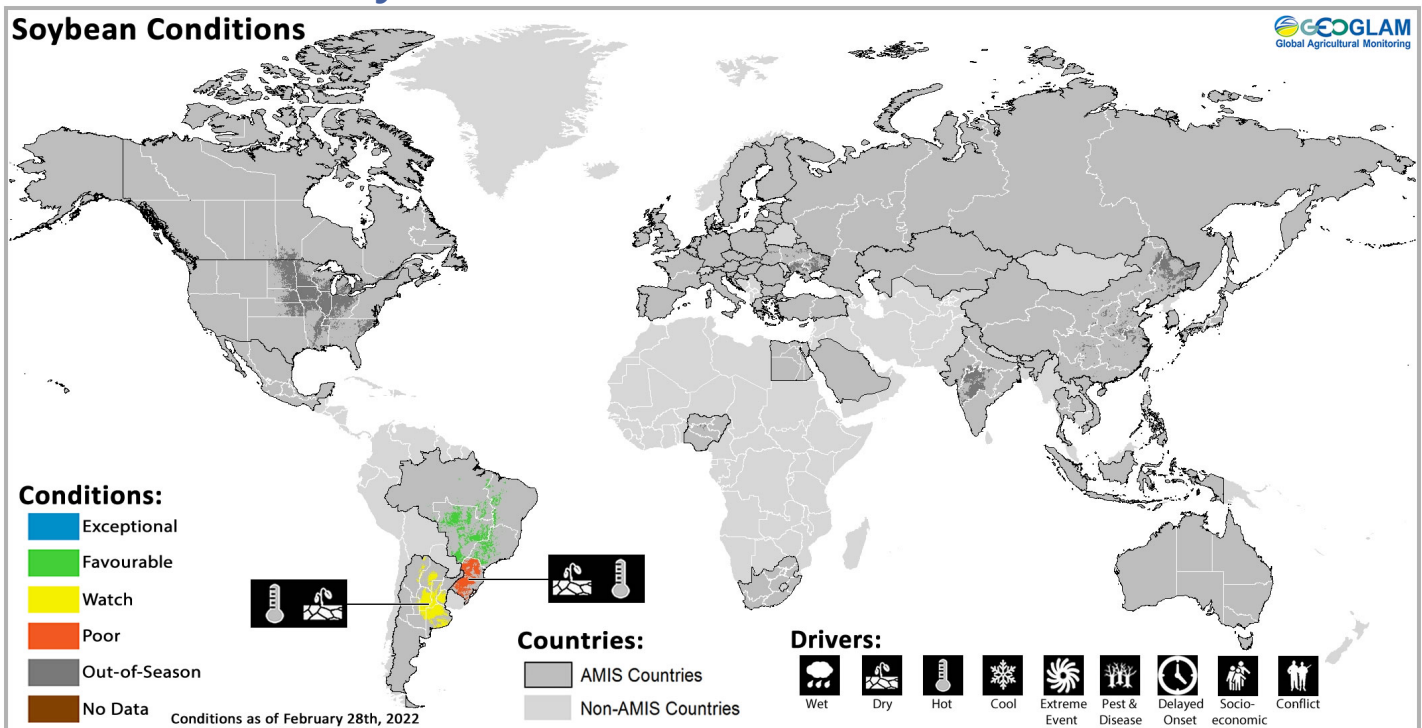
Rice crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of February 28th. Where crops are in other than favourable conditions the climatic drivers responsible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

Rice: In **India**, conditions are favourable as the transplanting of the Rabi crop is almost complete. The total sown area is lower than last year in the southern states. In **Indonesia**, wet-season rice sowing enters the final month with the total sown area well above last year's levels. Earlier sown wet-season rice is being harvested with good yields owing to ample rainfall and sunlight during the growing season. In **Viet Nam**, winter-spring rice (dry-season) is sowing across the country with an increase in sown area to date in the north due to ample rainfall. Earlier sown plots in the south are beginning to harvest under mixed conditions due to saline intrusions in the Mekong River Delta provinces, which impacts are still uncertain. In **Thailand**, dry-season rice is in the young panicle forming stage and grain filling stage under favourable conditions. The total sown area is expected to be above last year's levels. In the **Philippines**, dry-season rice sown between November and December is in the young panicle forming up to the heading stage under favourable conditions. In **Brazil**, conditions remain under watch due to a lack of water availability for irrigation and high temperatures.



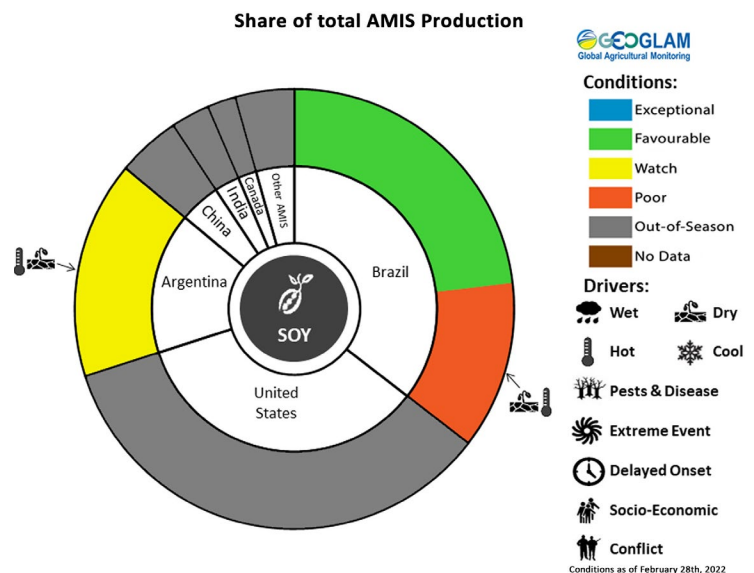
For detailed description of the pie chart please see box on page 6.

Soybean Conditions for AMIS Countries



Soybean crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of February 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**, most crops are in ripening to harvest stages under mixed conditions. In the Center-West, Southeast, North, and Northeast regions, harvesting is ongoing under favourable conditions. In the South region, most crops are in reproductive stages and a reduction in yield is expected compared to the 5-year average due to insufficient rains and high temperatures. In **Argentina**, conditions have improved for both the early-planted crop (larger season) and the late-planted crop (smaller season) with recent successive rains. However, the impact of the prolonged drought is still evident with much of the crop showing uneven development.



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 March 3rd

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 slice 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.

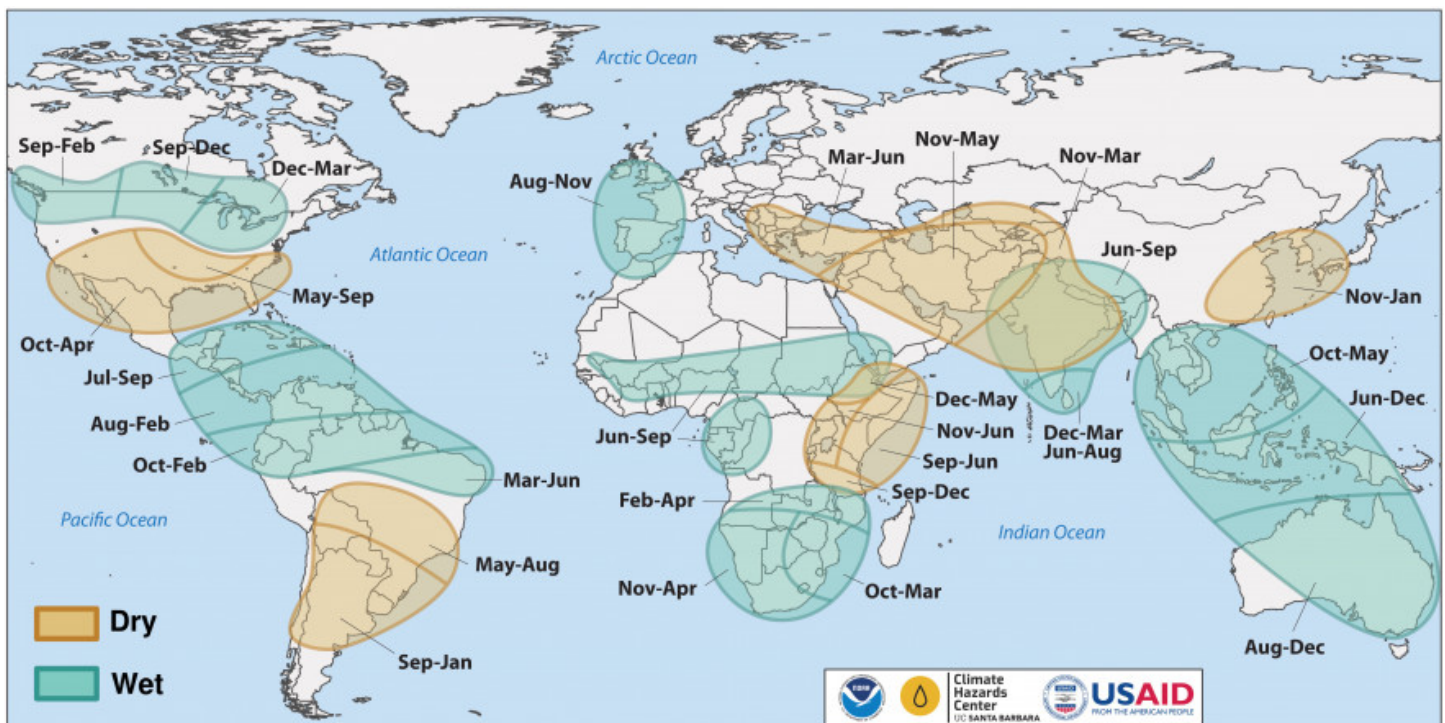
Climate Forecasts

Climate Influences: La Niña Advisory

The El Niño-Southern Oscillation (ENSO) is currently in the La Niña phase and is expected to remain as La Niña for several more months. Forecast chances of La Niña conditions continuing through April are high, according to IRI/CPC (93 percent chance for February-March-April; 77 percent chance for March-April-May). Transition to ENSO-neutral conditions is likely during May-June-July (56 percent chance).

La Niña conditions typically increase the chances of below-average precipitation in East Africa, Central and South Asia, southern South America, the southern United States, northern Mexico, and eastern East Asia. There are elevated risks of a two-year sequence of dry conditions in these regions, associated with La Niña conditions last year and this year. La Niña conditions typically increase the chances of above-average precipitation in parts of Southeast Asia, Australia, Southern Africa, and northern South America.

Source: UCSB Climate Hazards Center

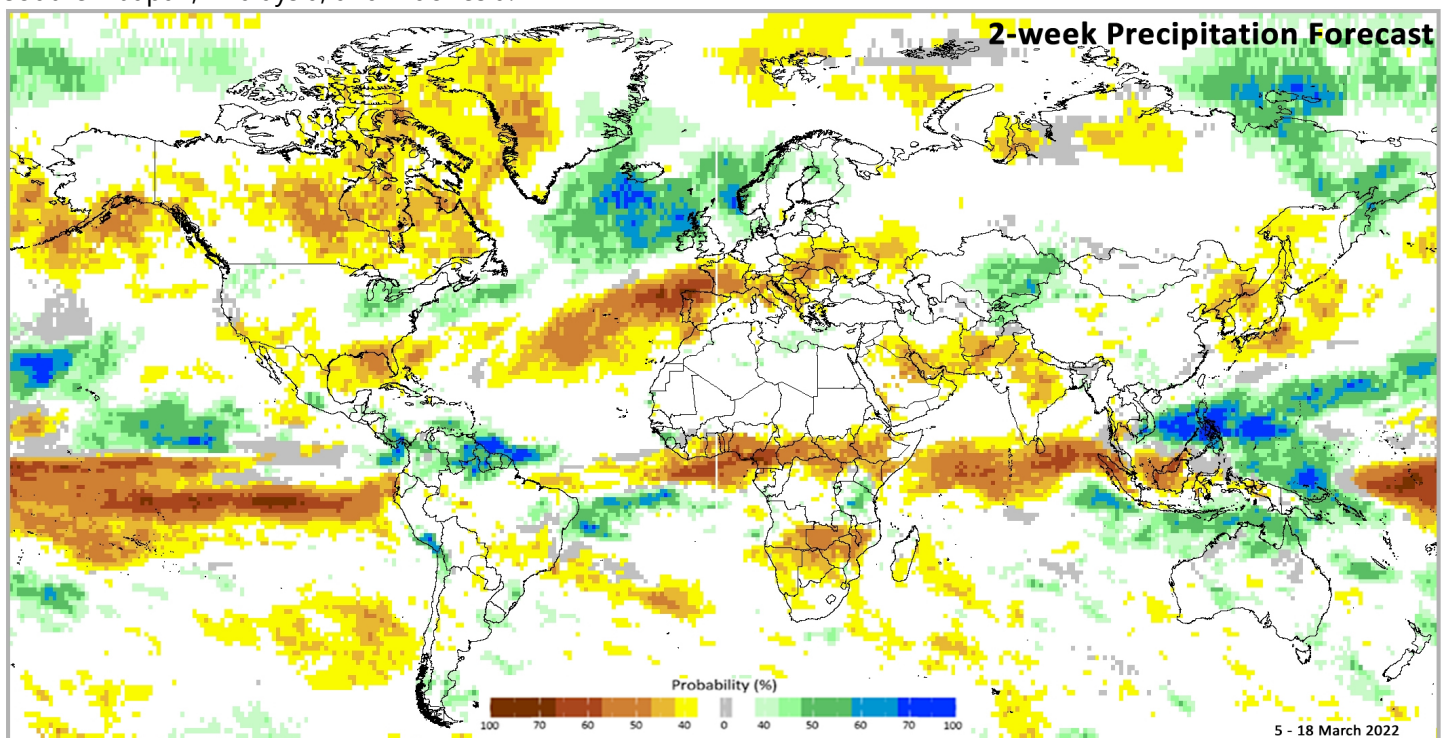


Location and timing of likely above- and below-average precipitation related to La Niña events. Based upon observed precipitation during 21 La Niña events since 1950, wet and dry correspond to a statistically significant increase in the frequency of precipitation in the upper and lower thirds of historical 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://fews.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 Great Lakes region of North America, the pacific northwest of the US, the pacific coast region of Mexico, Costa Rica, Panama, northern Colombia, eastern Venezuela, Guyana, Suriname, French Guiana, southern Peru, southern Brazil, southern Uruguay, Ireland, western Norway, central Finland, central Tanzania, southern and eastern Kazakhstan, Kyrgyzstan, Tajikistan, southern Viet Nam, the Philippines, Tenggara in Indonesia, and northern Australia.

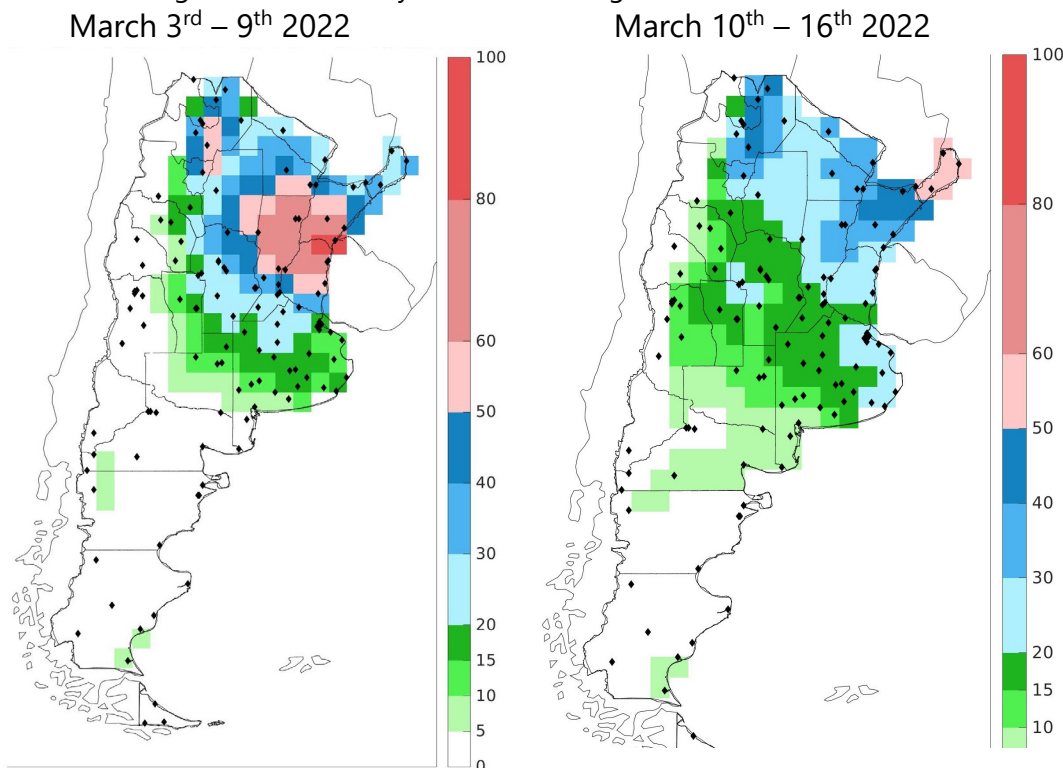
There is also a likelihood of below-average rainfall in central and eastern Canada, southern US, northern Mexico, central Brazil, Portugal, Spain, France, Switzerland, Italy, Slovenia, Croatia, Bosnia and Herzegovina, Hungary, Slovakia, western Romania, Serbia, Kosovo, Albania, North Macedonia, central-west Russia, Cote d'Ivoire, Ghana, Togo, Benin, central and southern Nigeria, Cameroon, Central Africa Republic, northeast Democratic Republic of Congo, South Sudan, Ethiopia, northeast Kenya, southern Somalia, southeast Angola, Zambia, Zimbabwe, Mozambique, Botswana, Namibia, northeast northwest South Africa, southern Iraq, southern and eastern Iran, southern Afghanistan, Pakistan, northern and central India, Sri Lanka, northeast China, Democratic People's Republic of Korea, Republic of Korea, southern Japan, Malaysia, and Indonesia.



IRI SubX Precipitation Biweekly Probability Forecast for 5-18 March 2022, issued on February 25th, 2022. The forecast is based on statistically calibrated tercile category forecasts from three SubX models. Source: [IRI Subseasonal Forecasts Maproom](#)

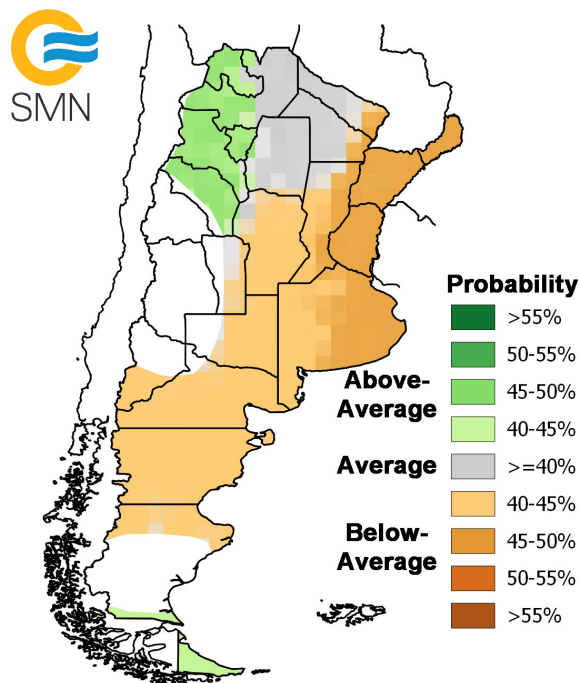
Argentina Outlook

For the week of March 3rd – 9th, rainfall is forecasted to be concentrated over Corrientes, Entre Rios, Santa Fe, Santiago del Estero, Cordoba, and northern Buenos Aires. Values range between 20 mm and 100 mm. Compared to average, rainfall will be above-average across most provinces with deficits only over eastern Buenos Aires, La Pampa, and Misiones. For the week of March 10th – 16th, rainfall is forecasted to continue in the north and central growing provinces. Compared to average, rainfall will only be below-average in western Buenos Aires and northern Cordoba.



Weekly Forecasts from the *SERVICIO METEOROLÓGICO NACIONAL*
<https://www.smn.gov.ar/clima/perspectiva>

Over the extended forecast (March-April-May 2022), rainfall is likely to remain below-average across most growing regions. This is particularly the case for Misiones, Corrientes, Entre-Rios, eastern Santa Fe, and eastern Buenos Aires. Temperatures are also likely to be above-average during the extended forecast period across all growing areas.



Extended rainfall forecast from *SERVICIO METEOROLÓGICO NACIONAL*
<https://www.smn.gov.ar/pronostico-trimestral>

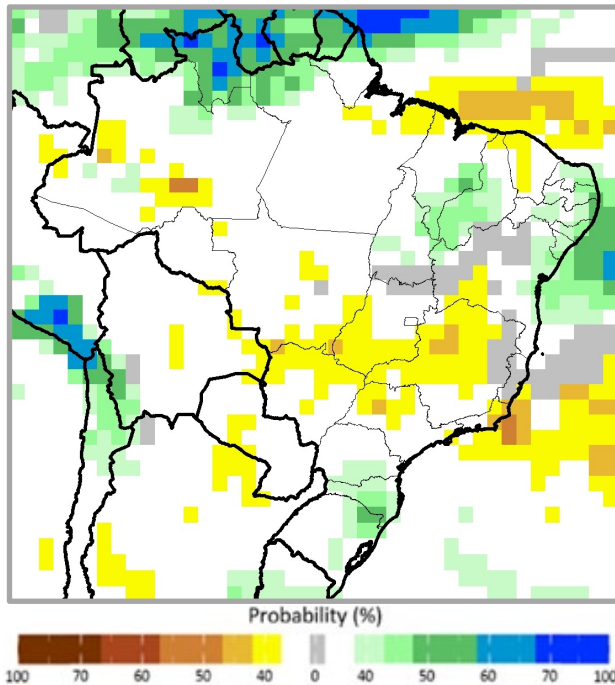
* Assessment based on information as of February 28th

Brazil Outlook

Over the next two weeks (March 5th – 18th), above-average rainfall is likely in Brazil over the far north along within parts of the northeast and south regions. However, below-average rainfall is likely across parts of the central west and southeast regions. Over the extended forecast (March-April-May 2022), above-average precipitation is likely in the north and northeast regions, with below-average precipitation likely in the south region along with parts of the central west and southeast regions.

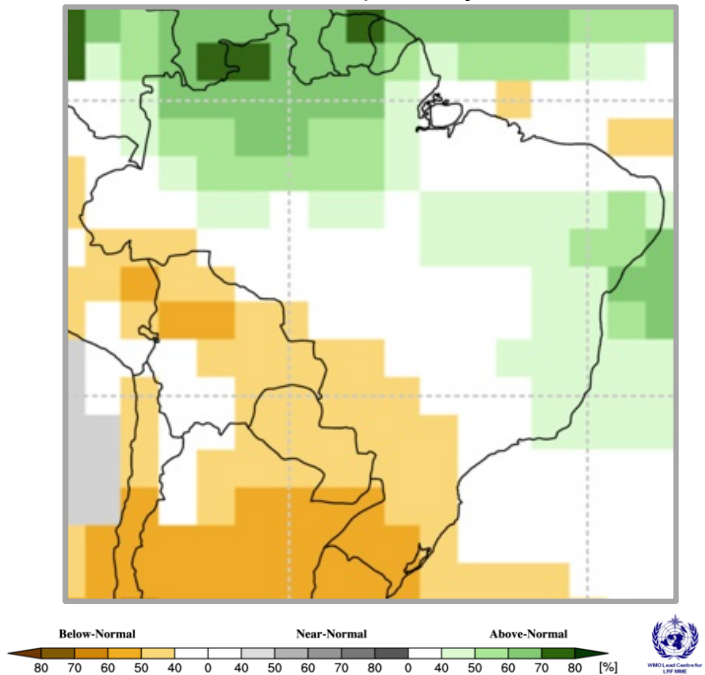
2-Week Rainfall Probability

March 5th – 18th 2022



3-Month Rainfall Anomaly Probability

March-April-May 2022



Left: IRI SubX Precipitation Biweekly Probability Forecast for 5-18 March 2022, issued on February 25th, 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-forecasts-maproom).

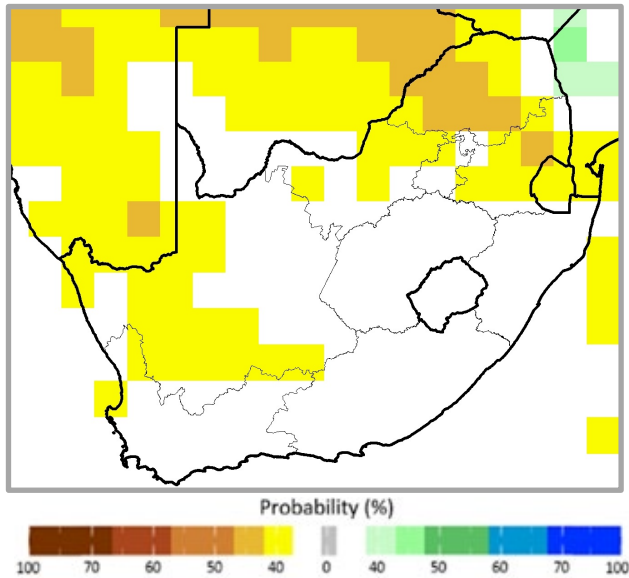
Right: Multi-model ensemble probabilistic forecast for March-April-May (MAM) 2022 precipitation from the WMO Lead Centre for Long-Range Forecast Milt-Model Ensemble at https://www.wmolc.org/seasonPmmeUI/plot_PMME.

South Africa Outlook

Over the next two weeks (March 5th – 18th), below-average rainfall is likely over Limpopo, Mpumalanga, North West, and parts of the Northern Cape. Over the extended forecast (March-April-May 2022), above-average precipitation is probable across most provinces except for the Western Cape.

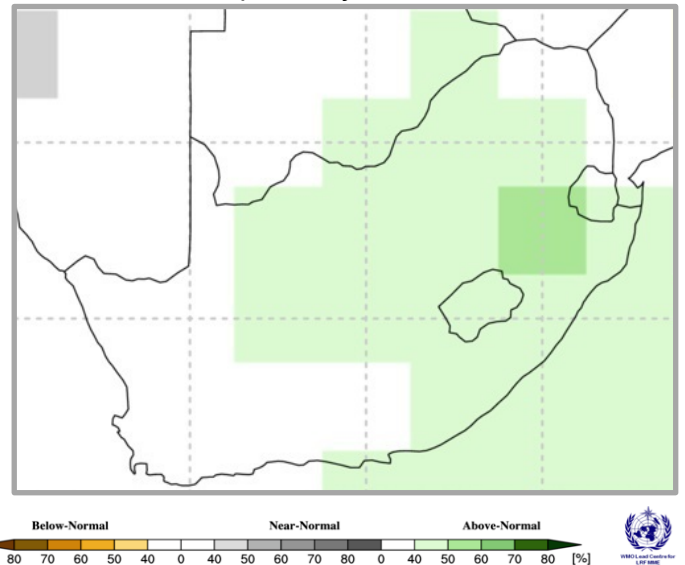
2-Week Rainfall Probability

March 5th – 18th 2022



3-Month Rainfall Anomaly Probability

March-April-May 2022



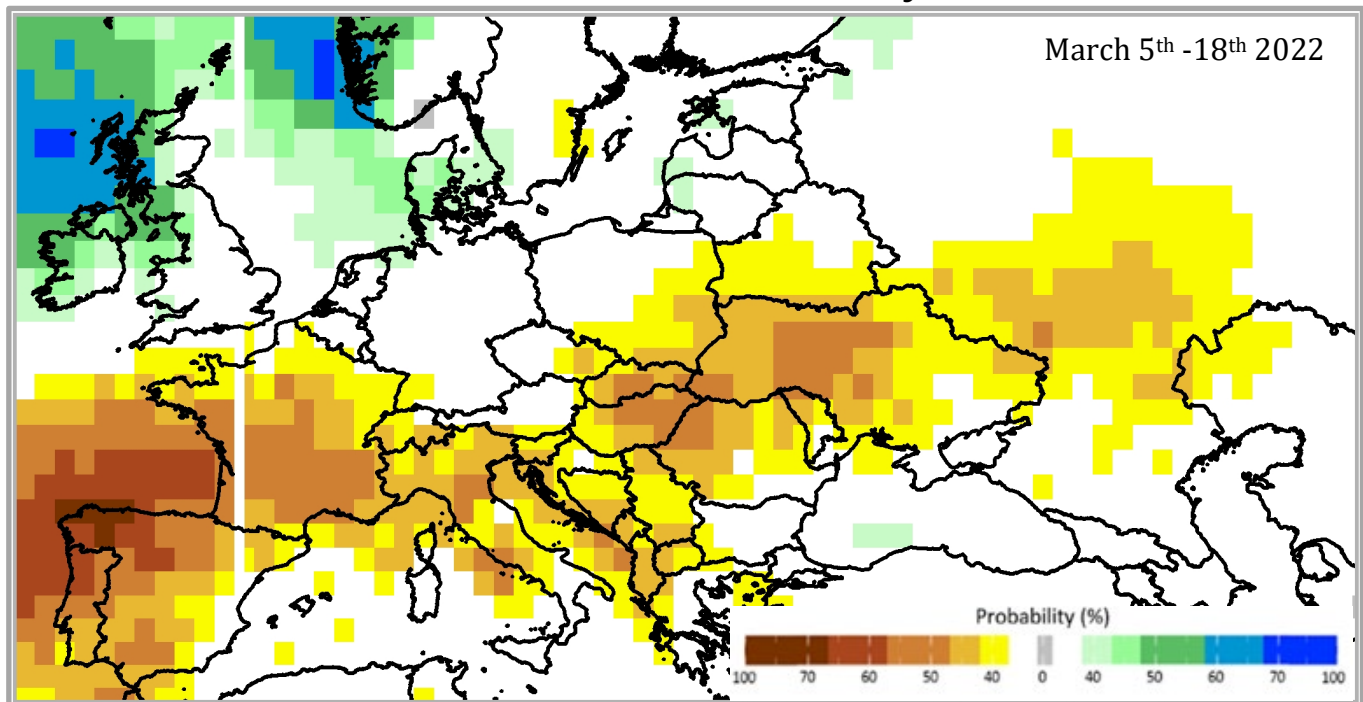
Left: IRI SubX Precipitation Biweekly Probability Forecast for 5-18 March 2022, issued on February 25th, 2022. The forecast is based on statistically-calibrated tercile category forecasts from three SubX models. Image from the [IRI Subseasonal Forecasts Maproom](https://www.iri.columbia.edu/forecasting/subx/).

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

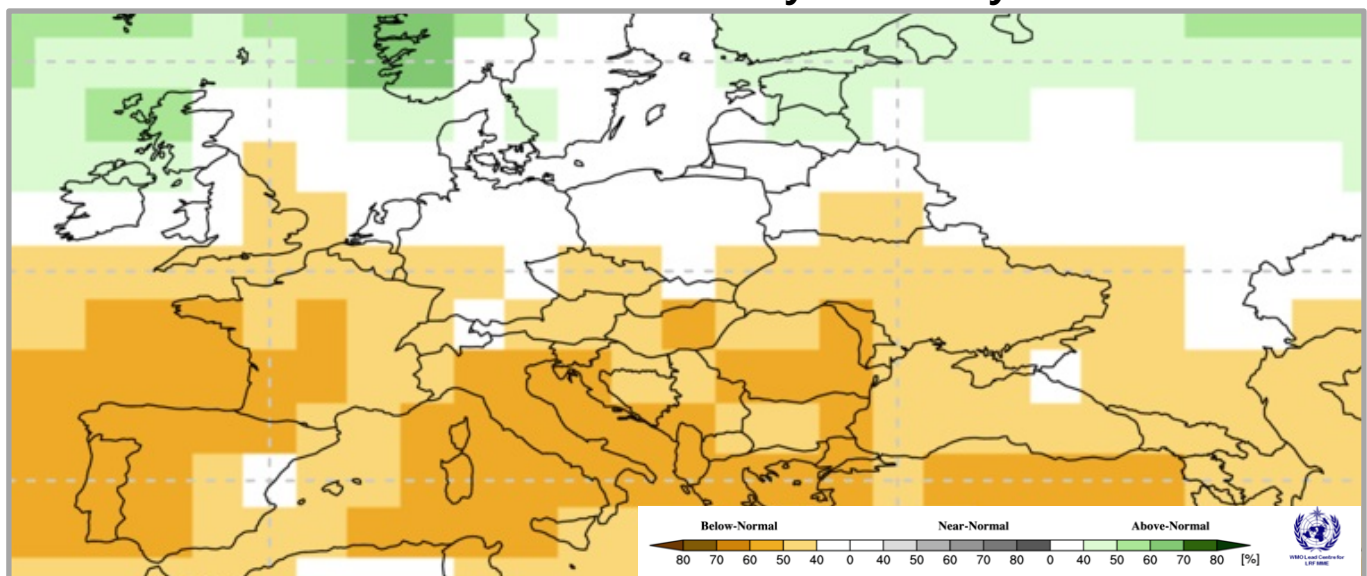
Europe Outlook

Over the next two weeks (March 5th – 18th), below-average rainfall is very likely across Portugal, Spain, France, Switzerland, Italy, Slovenia, Croatia, Bosnia and Herzegovina, Hungary, Slovakia, western Romania, Serbia, Kosovo, Albania, North Macedonia, Ukraine, and the central-west of the Russian Federation. Above-average precipitation is only likely over Ireland, the northern United Kingdom, western Norway, and Denmark. Over the extended forecast (March-April-May 2022), a similar pattern of below-average precipitation is likely to very likely across southern Europe, Ukraine, and the southern Russian Federation.

2-Week Rainfall Probability



3-Month Rainfall Anomaly Probability



Top: IRI SubX Precipitation Biweekly Probability Forecast for 5-18 March 2022, issued on February 25th, 2022. The forecast is based on statistically-calibrated tercile category forecasts from three SubX models. Image from the [IRI Subseasonal Forecasts Maproom](#).

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

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

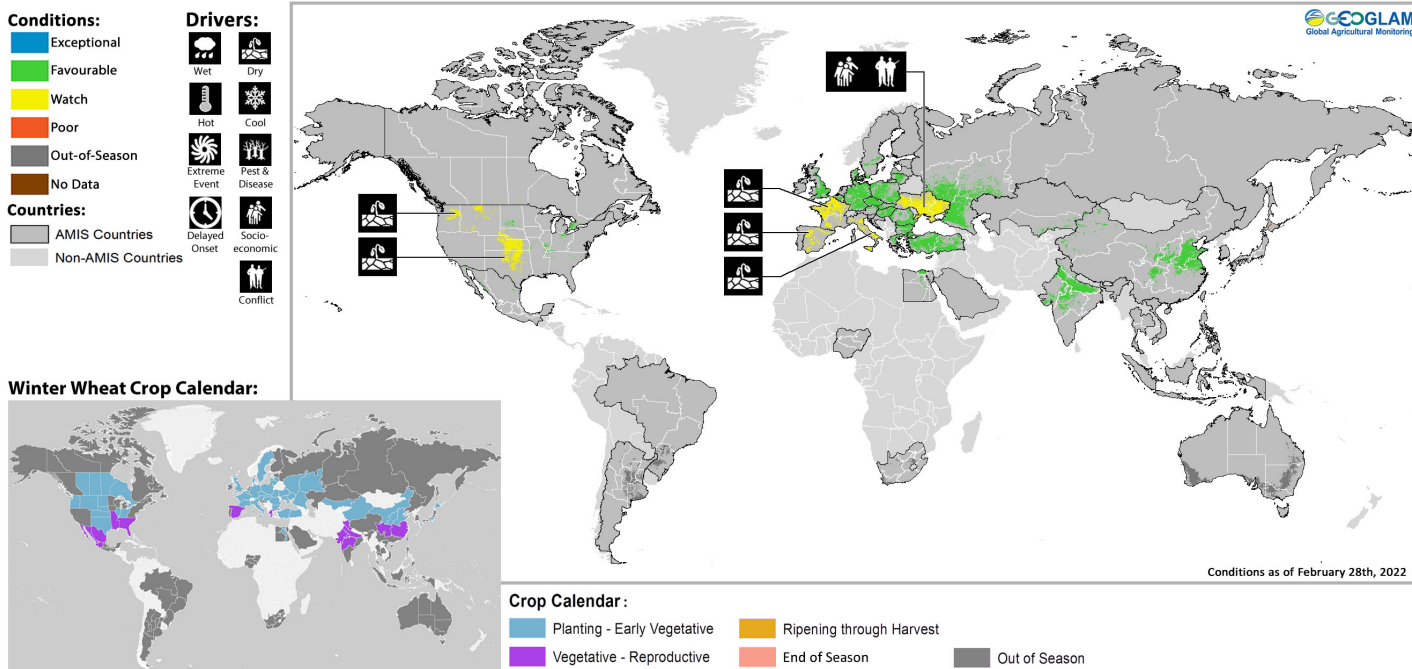
Crop Season Nomenclature:

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	

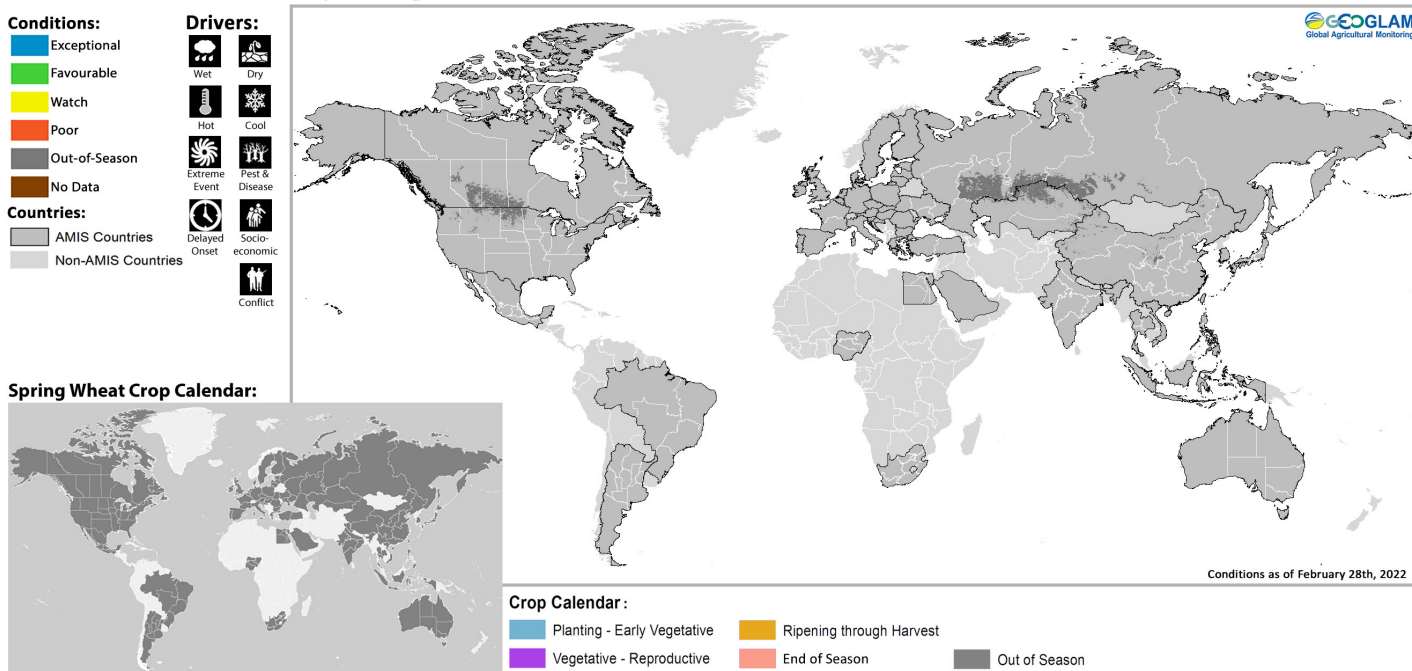
Appendix 2: Crop Season Specific Maps

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 February 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.

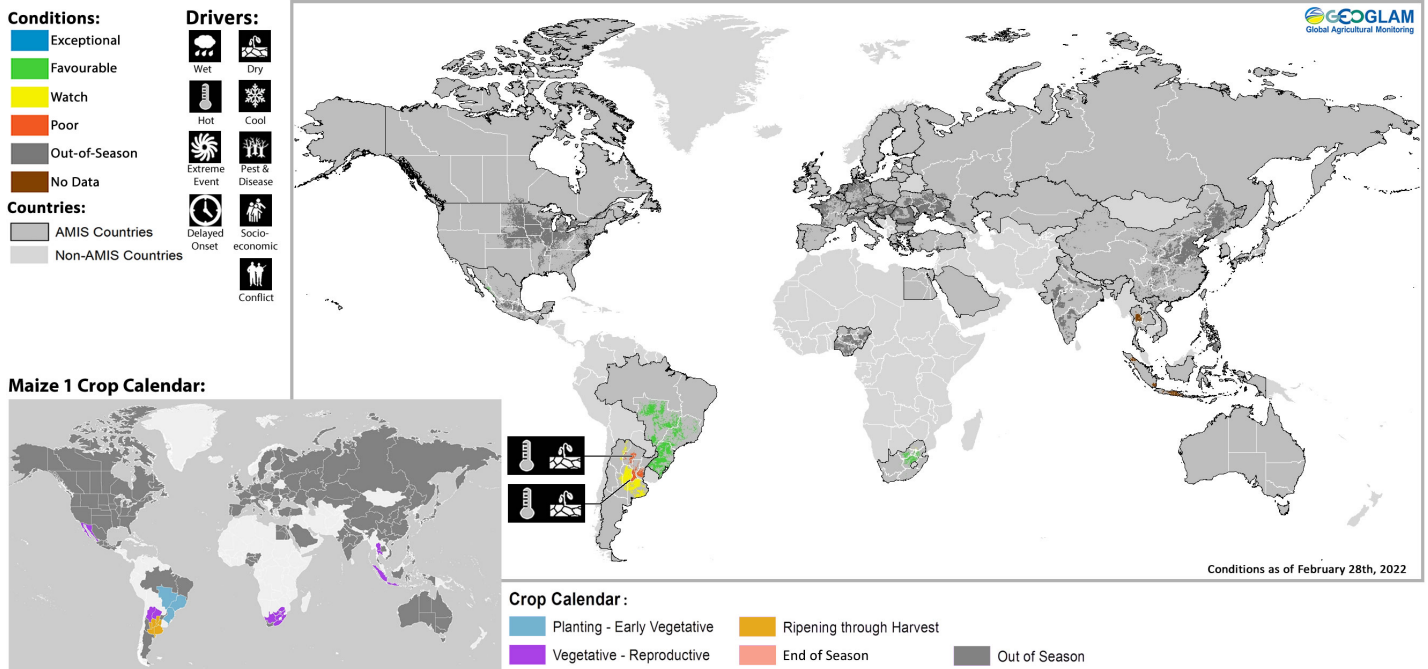
Spring Planted Wheat Conditions for AMIS Countries



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 February 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.

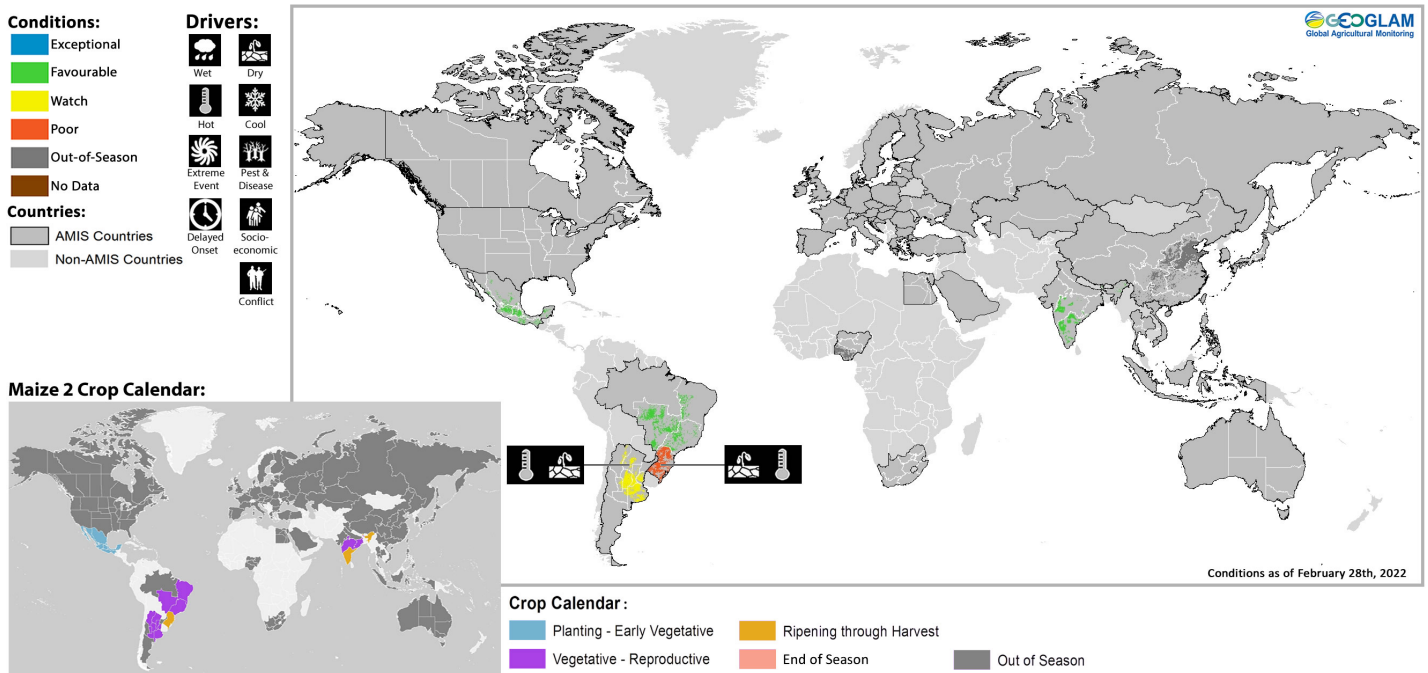
* Assessment based on information as of February 28th

Maize 1 Conditions for AMIS Countries



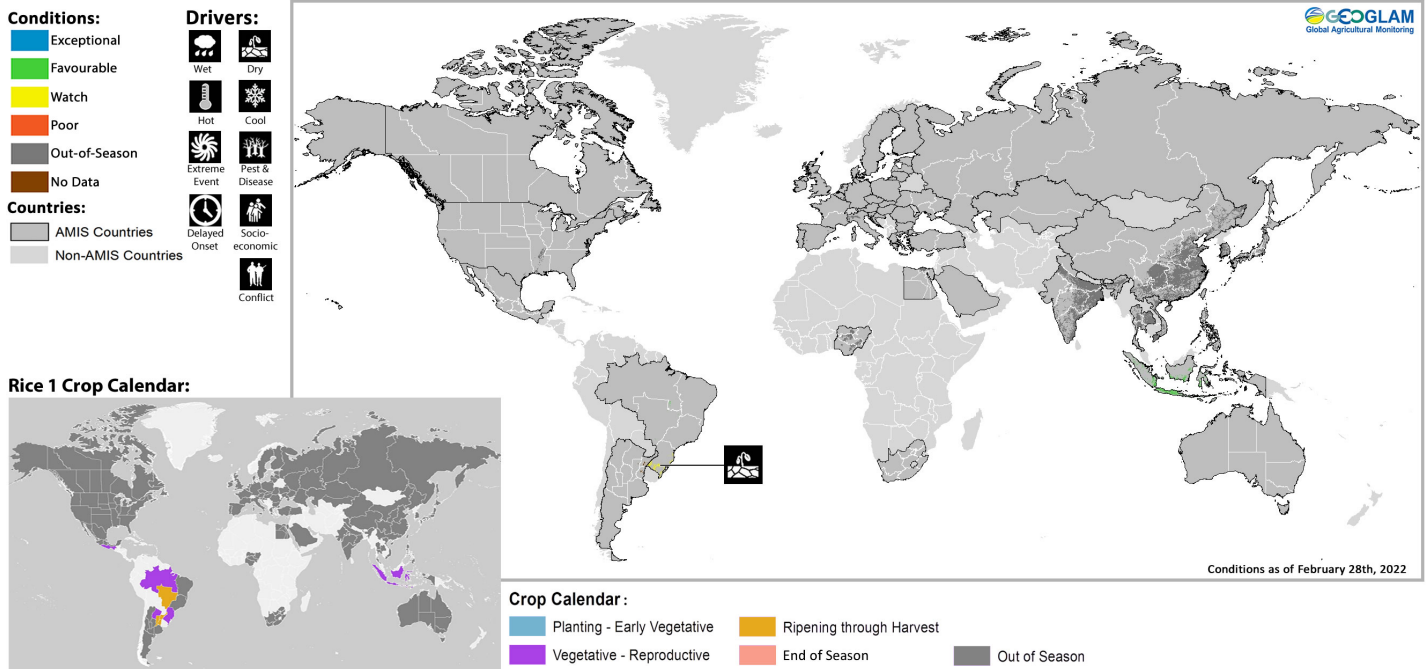
Maize 1 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of February 28th. Where crops are in less than favourable conditions the climatic drivers responsible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



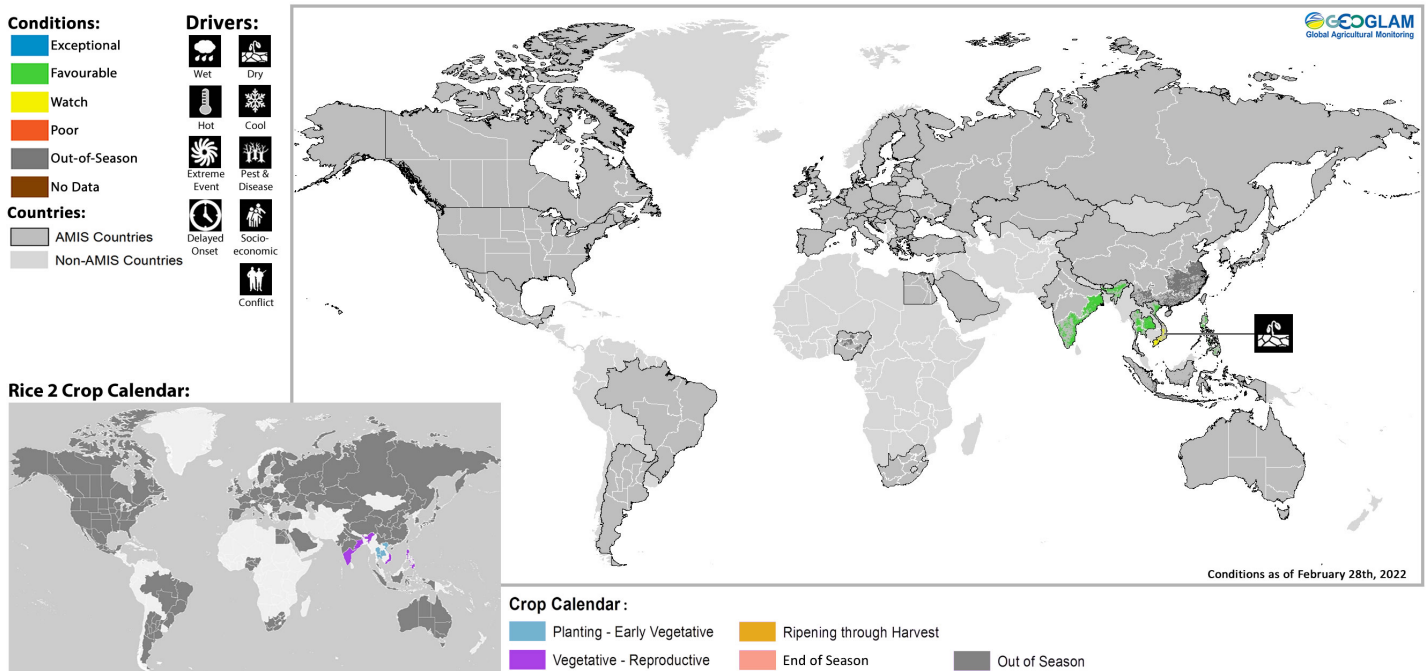
Maize 2 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of February 28th. Where crops are in less than favourable conditions the climatic drivers responsible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



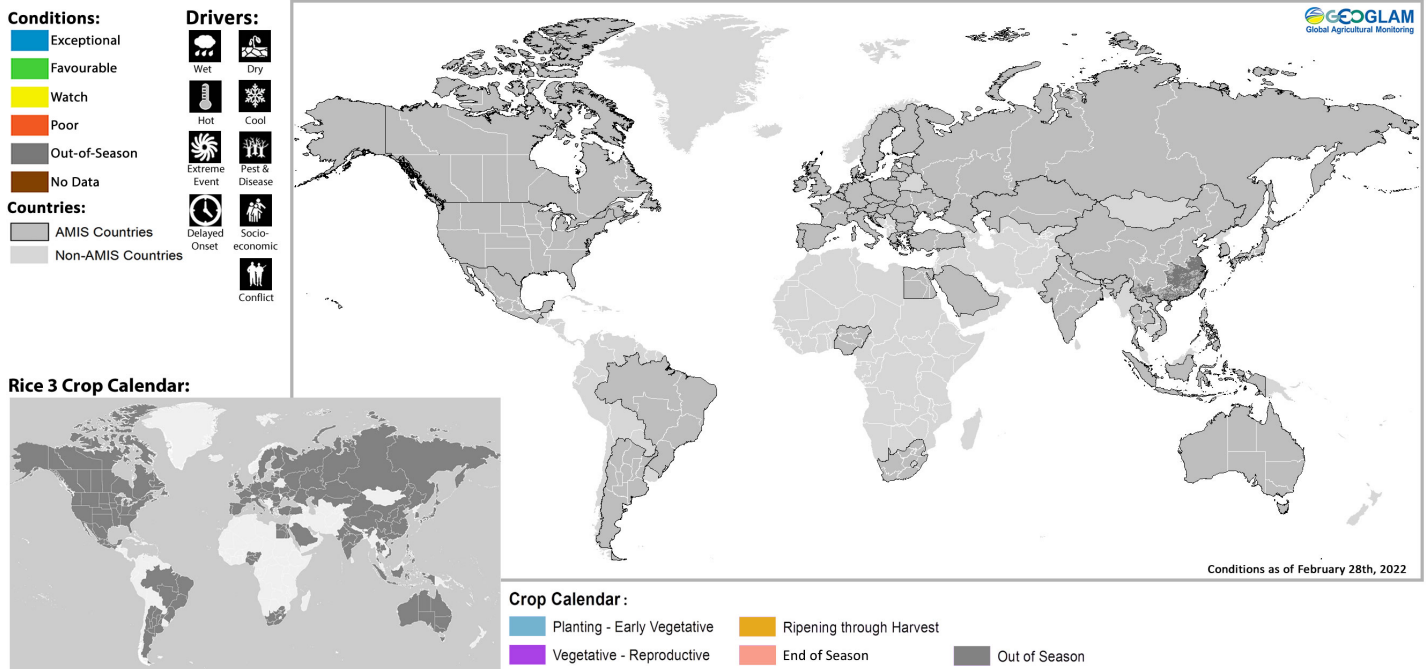
Rice 1 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of February 28th. Where crops are in less than favourable conditions the climatic drivers responsible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



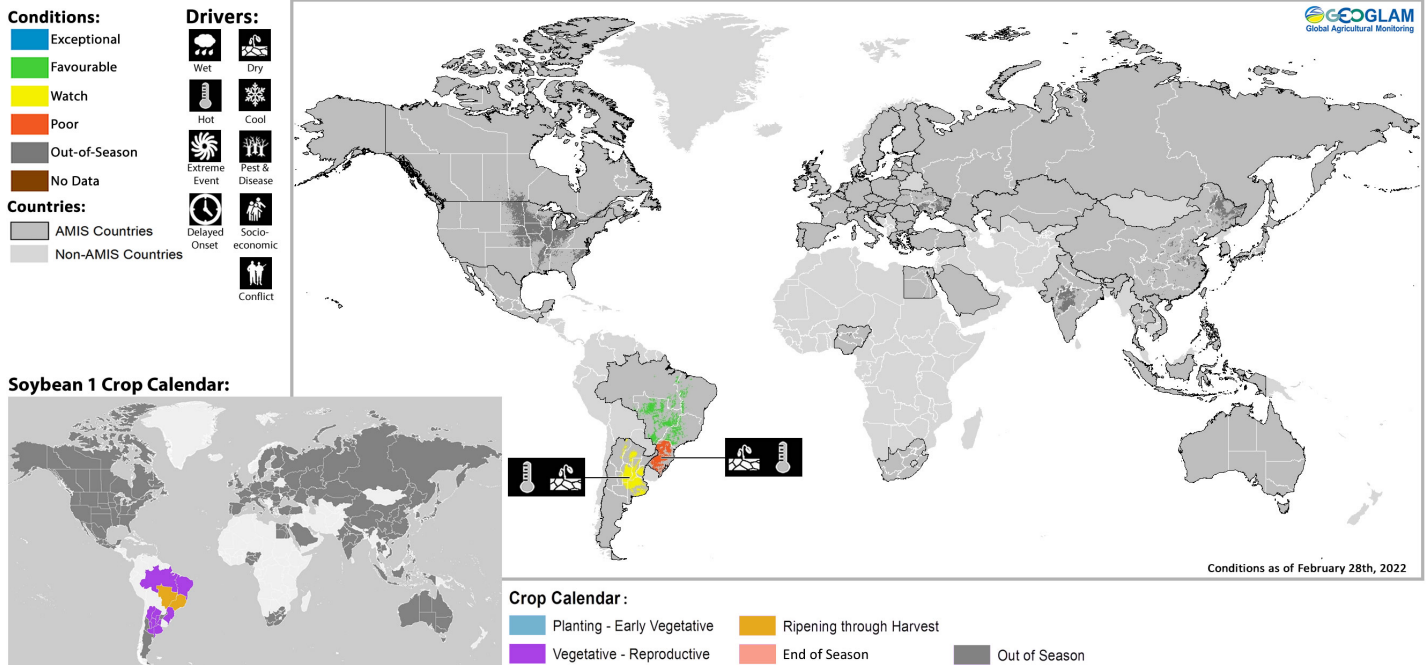
Rice 2 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of February 28th. Where crops are in less than favourable conditions the climatic drivers responsible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



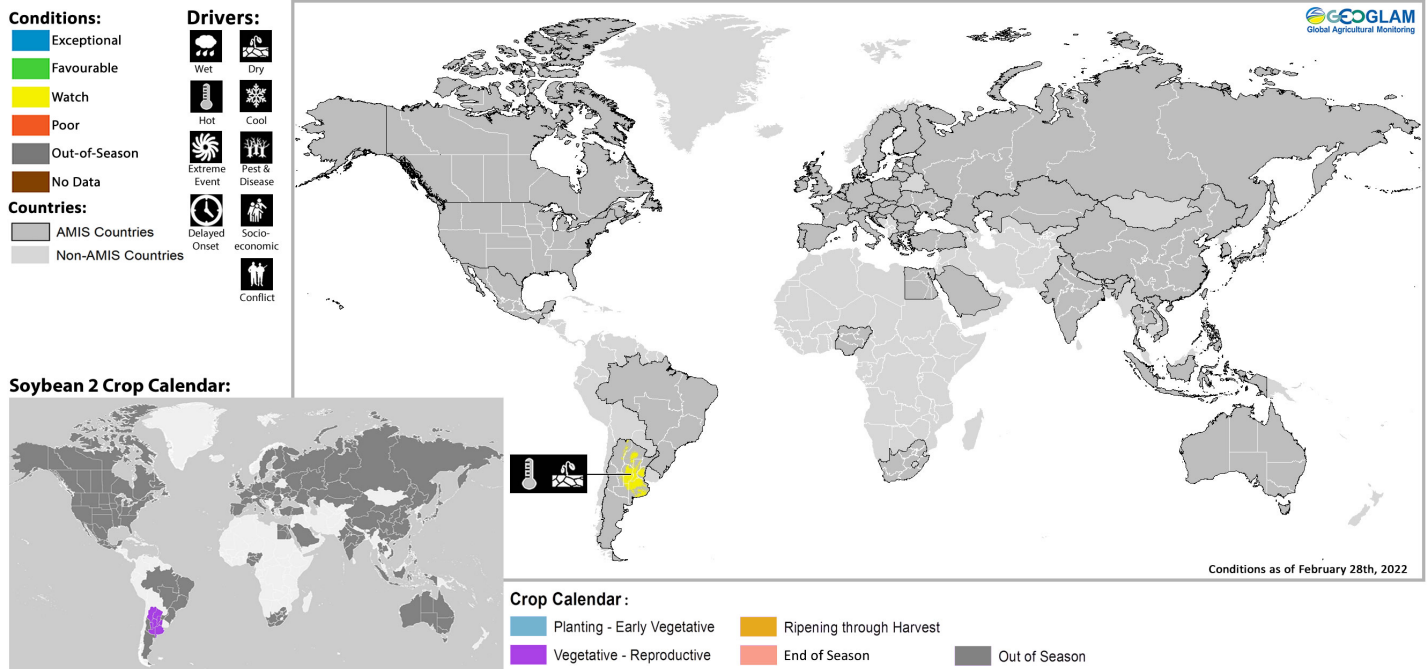
Rice 3 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of February 28th. Where crops are in less than favourable conditions the climatic drivers responsible 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 February 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 February 28th. Where crops are in less than favourable conditions the climatic drivers responsible for those conditions are displayed. The crop calendar is provided as a point of reference to provide information on what part of the life cycle the crops are currently in for each area.



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Photo courtesy of Inbal Becker-Reshef

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