Overview:
As of the end of November, conditions are favourable for maize, rice, and soybeans while mixed for wheat. In the southern hemisphere, winter wheat harvesting is ongoing under mixed conditions, while in the northern hemisphere, winter wheat is going into winter under mixed conditions. For maize, harvest is wrapping up in northern hemisphere under generally favourable condition. In the southern hemisphere, sowing ongoing under favourable conditions. Rice conditions are favourable in all major growing areas except in the northern Philippines. Soybean conditions are generally favourable in as harvest wraps up in the northern hemisphere and sowing continues in the southern hemisphere.

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

Crop Conditions at a Glance

**Wheat** - In the southern hemisphere, harvesting is ongoing in Argentina and Australia under mixed conditions. In the northern hemisphere, winter wheat sowing is completed with a few areas of concern in eastern Europe, Ukraine, the Russian Federation, China, and the US.

**Maize** - In the northern hemisphere, harvest is wrapping up under mixed conditions. In the southern hemisphere, Argentina and Brazil are sowing the early-planted and spring-planted crops respectively under generally favourable conditions.

**Rice** - Harvesting is wrapping up for late rice in China and ongoing for Kharif rice in India. In Southeast Asia, harvest is ongoing for wet-season rice in the northern countries and dry-season rice in Indonesia. The northern Philippines has been negatively impacted by several recent Typhoons.

**Soybeans** - In the northern hemisphere, harvesting is wrapping up while in the southern hemisphere, sowing continues in Brazil and Argentina under generally favourable conditions.

Forecasts at a Glance

**Climate Influences** - El Niño-Southern Oscillation (ENSO) is currently in the La Niña phase. La Niña conditions are expected to continue from January to March (~95% chance) and potentially through March to May (~65% chance).

**The United States** - For the December-January-February (DJF) 2020-2021 period, warmer and drier than average conditions are likely across the southern US, while cooler and wetter conditions are likely across the northern US.

**Argentina** – Large parts of the central growing areas for maize have a high probability of experiencing water stress over the next 30-days despite a forecast of some rainfall over the next week.

**Southeast Asia** - The three-month forecast indicates an increased likelihood of above-average rainfall in the Philippines and parts of southern Thailand, eastern Vietnam, and eastern Indonesia. While below-average rainfall in Indonesia’s central Sumatra and western Kalimantan.
Wheat Conditions for AMIS Countries

**Wheat Conditions**

**Conditions:**
- Exceptional
- Favourable
- Watch
- Poor
- Out-of-Season
- No Data

**Countries:**
- AMIS Countries
- Non-AMIS Countries

**Drivers:**
- Wet
- Dry
- Hot
- Cool
- Extreme Event
- Delayed-Onset

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 November 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 **Argentina**, harvest is beginning under mixed conditions with prolonged dryness in the north and favourable conditions in Buenos Aires and La Pampa provinces. In **Australia**, harvesting is progressing under mixed conditions with above-average yields in New South Wales, Victoria, and South Australia, while persistent dryness during the season has resulted in below-average yields for Western Australia and Queensland. A large increase in sown area is estimated across the country compared to last year. In the **EU**, conditions are generally favourable as winter wheat sowing is complete, however, some countries in eastern Europe are behind in crop development due to excessive rainfall in October. In the **UK**, conditions are favourable for winter wheat. In **Ukraine**, conditions are generally favourable as recent warm weather extended the growth and development of crops going into winter, only persistent dryness in the east remains of some concern. In the **Russian Federation**, winter wheat sowing is complete under mixed conditions due to drought conditions in the south and minimal rainfall in the Volga and Central districts. There is a slight increase in total sown area compared to last year. In **China**, winter wheat is developing under generally favourable conditions albeit with some dry conditions slowing development in the Huanghuai region. In **India**, sowing is progressing ahead of schedule in the north northern and central states under favourable conditions. In the **US**, winter wheat is under mixed conditions due to dryness in the southern Great Plains. In **Canada**, conditions are favourable as the sowing of winter wheat is complete with a slight increase in sown area in Ontario.

* Assessment based on information as of November 28th
Maize Conditions for AMIS Countries

Maize: In the US, harvesting is wrapping up under favourable conditions with above-average yields in Minnesota and Illinois. In Canada, conditions are favourable as harvest wraps up. In Mexico, harvesting of the spring-summer crop (larger season) is ongoing under favourable conditions. In the EU, harvest is wrapping up under generally favourable conditions except for France, Bulgaria, and Romania where summer drought has reduced yields. In Ukraine, harvesting is wrapping up under poor conditions due to the severe summer drought pushing yields below the 5 and 10-year averages. In India, the Rabi crop is beginning sowing under favourable conditions. In Brazil, conditions are generally favourable for the spring-planted crop (smaller season) with some areas of dryness in the southeast and south regions affecting crops. There is an expected slight decrease in the total sown area compared to last year. In Argentina, sowing for the early-planted crop (larger season) is complete under favourable conditions while sowing of the late-planted crop (smaller season) has begun where soil moisture conditions permit. In South Africa, sowing has begun under favourable conditions owing to widespread rains.

* Assessment based on information as of November 28th
Rice Conditions for AMIS Countries

Rice: In **China**, harvesting of late rice is wrapping up under favourable conditions. In **India**, conditions are favourable for Kharif rice as harvest is wrapping up in the northern states and beginning in the southern and eastern states. In **Indonesia**, harvesting of dry-season rice is wrapping up under favourable conditions with a noticeable increase in harvested area compared to last year. Sowing of wet-season rice is continuing under favourable conditions, albeit slowly due to uneven rainfall. In **Viet Nam**, harvesting of wet-season rice in the north is wrapping up under favourable conditions. In the south, conditions are favourable as the harvesting of the summer-autumn (wet-season) crop is wrapping up and the harvesting of the autumn-winter (wet-season) crop continues. Sowing of the winter-spring (dry-season) crop in the south has begun under favourable conditions. In **Thailand**, wet-season rice is in the grain filling stage under favourable conditions with an increase in total sown area compared to last year. In the **Philippines**, wet-season rice is harvesting under mixed conditions due to three tropical cyclones that have brought lodging and flooding damage to parts of Northern and Southern Luzon.

* Assessment based on information as of November 28th
Soybean Conditions for AMIS Countries

Soybeans: In Canada, harvest is wrapping up under favourable conditions with yields slightly above-average. In India, conditions are favourable as the harvest wraps up. In Ukraine, harvest is wrapping up under poor conditions with yields below the five-year average due to prolonged drought during the season. In Brazil, conditions are favourable as recent rainfall in the main producing Central-West region has facilitated crop development. On the contrary, limited and irregular rainfall in the South region has affected crops, however, expected yields remain stable. There is an estimated increase in total sown area compared to last year. In Argentina, conditions are favourable as recent rains are supporting sowing across the main growing areas. However, additional rainfall is still needed in parts of Entre Ríos, La Pampa, and the north to complete sowing.

Pie chart description: Each slice represents a country’s share of total AMIS production (5-year average). Main producing countries (representing 95 percent of production) are shown individually, with the remaining 5 percent grouped into the “Other AMIS Countries” category. The proportion within each national slice is coloured according to the crop conditions within a specific growing area; grey indicates that the respective area is out of season. Sections within each slide are weighted by the sub-national production statistics (5-year average) of the respective country. The section within each national slice also accounts for multiple cropping seasons (i.e. spring and winter wheat). When conditions are other than ‘favourable’, icons are added that provide information on the key climatic drivers affecting conditions.

* Assessment based on information as of November 28th
Climate Forecasts for AMIS Countries

Climate Influences: La Niña Advisory
The El Niño-Southern Oscillation (ENSO) is currently in the La Niña phase, with very cool ocean conditions in the eastern equatorial Pacific. La Niña conditions are expected to continue during January to March (~95% chance) and potentially through March to May (~65% chance).

La Niña conditions typically reduce December to February/May rainfall in East Africa, the southern United States, the northern Middle East, southern Central Asia, Afghanistan, Pakistan, and India. Southern Brazil, northern Argentina, eastern China, the Korean Peninsula, and southern Japan typically see reduced rainfall into January. La Niña conditions typically increase December to February/May rainfall in Southeast Asia, Southern Africa, southern Central America, northern South America, and in southernmost India and Sri Lanka. Australia and Indonesia typically see increased rainfall into December.

Source: UCSB Climate Hazards Center

Global 30-day Subseasonal (SubX) Rainfall Forecast Anomaly

The 30-day SubX forecast indicates a likelihood of above-average rainfall over Costa Rica, Panama, Colombia, southern Venezuela, Ecuador, Northern Peru, northern Brazil, southern Brazil, northern Argentina, southern and eastern Spain, southwest Iran, coastal Morocco, Tanzania, southern DRC, eastern Angola, Zambia, central Mozambique, southern Zimbabwe, southern Botswana, southern India, central Vietnam, Philippines, southern and eastern Indonesia, Papua New Guinea, and northern and eastern Australia. There is also a likelihood of below-average rainfall across the western and southeastern United States, Central Brazil, southern Peru, Bolivia, Gabon, the Central Republic of the Congo, Madagascar, southeastern China, southern Japan, and western Indonesia.

* Assessment based on information as of November 28th
United States Climate Outlook

For the longer December-January-February (DJF) 2020-2021 period, temperatures are likely to be above-average across the majority of the Contiguous United States (CONUS) with the highest likelihood in the southwest and Rio Grande Valley. Below-average temperatures are likely for the Pacific Northwest and the Northern Plains. Below-average precipitation is likely across the southern US, from central and southern California across to the Central Plains and then the Southeast. However, above-average precipitation is likely across northern CONUS from the Pacific Northwest across to the Great Lakes and Ohio Valley regions.

December-January-February Temperature and Precipitation Outlooks

The official DJF forecast as of 19 November 2020 from NOAA/National Weather Service, National Centers for Environmental Predictions, Climate Prediction Center.

Source: NOAA Climate Prediction Center

* Assessment based on information as of November 28th
Argentina Current Water Reserves and Climate Forecast

- In the province of Buenos Aires, rains were generally lower than normal and soil moisture was also reduced. Despite this, water reserves are classified as adequate to optimal.
- In La Pampa, soil moisture reserves are also decreased, being currently regular to adequate for maize.
- In central and south-east Córdoba, after a brief rebound, conditions of scarce or even deficit water storage have returned.
- In Santa Fe and Entre Ríos, reserves have been decreasing, but in the first two days of December, rainfall may change these conditions, mainly in central Santa Fe and north of Entre Ríos.


Short-term Rainfall Forecast

For the second week of December, rainfall over 50 mm is expected in north of Córdoba, central region of Santa Fe, north of Entre Ríos, and south of Corrientes. These rains, if materialized, would substantially improve the availability of water for crops. Most of the maize producing area would receive less than 20 mm. As consequence, water reserves in Buenos Aires, La Pampa, south-east of Córdoba and south of Santa Fe, would not increase.

A week of high temperatures is expected in the center and north of the country, with highs above 35 ° C.

[https://www.smn.gob.ar/clima/perspectiva](https://www.smn.gob.ar/clima/perspectiva)

* Assessment based on information as of November 28th
**30-day Maize Water Stress Probability Scenarios**

The scenarios were developed based on the weather forecast of the SMN [https://www.smn.gob.ar/pronostico-trimestral](https://www.smn.gob.ar/pronostico-trimestral)

**Potential Yield Impacts of ENSO on Soybean**

Considering average soybean yields of the last 20 years for each district and comparing it with yields of El Niño/La Niña years, an estimation of what may happen in the current crop season was obtained. The grey color in the map corresponds to districts where the expected yield deviation is lower than 10% compared to average and with no significant impacts. In the orange-colored districts, a moderate negative impact can be expected, while in red-colored districts, negative impacts can be significant.

* Assessment based on information as of November 28th
Southeast Asia Current Seasonal Conditions plus 3-month Forecast

Cumulative rainfall from October 1st to November 25th in southern mainland Southeast Asia and the Philippines is above-average. In eastern Thailand and Cambodia, totals range from 100 mm to 200 mm above-average. Wetter extremes, from 200 mm to 500 mm above-average, are in areas of southern Laos, Vietnam, and the northern Philippines. The surpluses amount to 150 to 200 percent of the average for this period. Most of the surpluses in mainland areas are due to a very wet October, with the exception of some areas in Laos and Vietnam that received periodic above-average rainfall in November. Rainfall across mainland Southeast Asia was average to below-average in early to mid-November. While in the northern Philippines, intense storm conditions and torrential rain from Typhoon Goni followed by Tropical Storms Atsani and Typhoon Vamco caused widespread flooding and damage over affected areas. In Indonesia, November rainfall was more mixed, with some areas registering drier-than-average conditions and parts of Java and Sumatra reporting flooding and landslides from heavy rains.

Figure 1-left shows a scenario for October 1st to December 10th rainfall, based on preliminary and forecast rainfall for that period. According to the 15-day GEFS forecasts from November 29th, early December may be wetter-than-average in coastal Vietnam, the northern Philippines, and southern Indonesia. Below-average rainfall is forecast for Indonesia’s Sumatra and Kalimantan islands and in southern Malaysia. SubX forecasts agree with the GEFS for this period, and show this regional pattern persisting into late December. The NMME indicates that this pattern may last for several months. For December 2020 to February 2021, the NMME forecasts increased chances of wetter-than-normal conditions in the Philippines, northern Malaysia, and parts of southern Thailand, eastern Vietnam, and eastern Indonesia (Figure 1-right). The NMME forecasts increased chances of a drier-than-normal December to February in Indonesia’s central Sumatra and western Kalimantan.

* Assessment based on information as of November 28th
Appendix 1: Terminology & Definitions

Crop Conditions:

Exceptional: Conditions are much better than average* at the time of reporting. This label is only used during the grain-filling through harvest stages.

Favourable: Conditions range from slightly lower to slightly better than average* at reporting time.

Watch: Conditions are not far from average* but there is a potential risk to final production. The crop can still recover to average or near average conditions if the ground situation improves. This label is only used during the planting-early vegetative and the vegetative-reproductive stages.

Poor: Crop conditions are well below average*. Crop yields are likely to be more than 5% below average. This is only used when conditions are not likely to be able to recover, and impact on production is likely.

Out of Season: Crops are not currently planted or in development during this time.

No Data: No reliable source of data is available at this time.

*“Average” refers to the average conditions over the past 5 years.

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.
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 November 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 November 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 November 28th
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 November 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.

Maize2 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 November 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 November 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 November 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 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 November 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 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 November 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 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 November 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 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 November 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 November 28th
Prepared by members of the GEOGLAM Community of Practice
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Photo courtesy of The Buenos Aires Grains Exchange

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Sources & Disclaimer:
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