Overview:

As of the end of August, conditions are generally favourable for wheat, maize, rice, and soybeans. Winter Wheat harvesting is ongoing in the northern hemisphere while in early vegetative development in the southern hemisphere. Spring wheat conditions are favourable. For maize, conditions are generally favourable albeit for minor areas of concern in Ukraine, US, and China. Rice conditions are generally favourable except for in Indonesia and southern Viet Nam. Soybean conditions are generally favourable with some dryness in Ukraine.
At a glance for AMIS countries (as of July 28th)

Crop Conditions at a Glance

Wheat - In the northern hemisphere, conditions remain mixed particularly in southeastern Europe, Ukraine, and southern Russian Federation, while favourable in the US, Canada, and Kazakhstan. In the southern hemisphere, dryness continues to impact parts of central and northern Argentina, while southern Australia is receiving ample rainfall.

Maize - In the southern hemisphere, harvest is over halfway complete for the summer-planted crop (larger season) in Brazil. In the northern hemisphere, conditions are generally favourable with some areas of dryness in the southern Great Plains in the US, Ukraine, and southern Russia along with some areas of flooding in China.

Rice - In China, conditions are generally favourable for single-season rice and late-rice. In India, transplanting of Kharif rice is continuing. In Southeast Asia, sowing of wet-season rice is ongoing in the northern countries, while in Indonesia, harvesting of wet-season rice is wrapping up and the sowing of dry-season rice remains delayed as a result.

Soybeans - In the northern hemisphere, conditions are generally favourable in the US, Canada, China, and India. In Ukraine, there is some concern over dryness.

Forecasts at a Glance

Climate Influences - El Niño-Southern Oscillation (ENSO) is currently neutral, however a transition to La Niña is likely (50-55% probability) by the end of the year (October – December).

The United States - For August, warmer than average conditions are likely in the western United States and the northeast. Above-average rainfall is likely along the East Coast and the northern Great Plains, while below-average rainfall is likely in the southwest.

Argentina - For the next two weeks (August 4th – August 17th), no significant rainfall is expected in the area with current deficit levels of soil moisture.

Southeast Asia - The 15-day forecast through August 10th indicates heavy, above-average rainfall is expected over much of northeastern and eastern Southeast Asia. Below-average rainfall is expected in Bangladesh, the west coast of Myanmar, and Singapore.

* Assessment based on information as of July 28th
Wheat Conditions for AMIS Countries

Wheat: In the EU, conditions are mixed as harvest continues. Central Europe saw condition improvements, while in the southeast countries, conditions downgraded further due to heavy rainfall during the ripening stage. Overall yields are expected to be slightly below the 5-year average. In the UK, winter wheat remains under mixed conditions due to recent high temperatures and above-average rainfall. In Turkey, winter wheat harvest is wrapping up under favourable conditions. In Ukraine, harvest of winter wheat is ongoing under mixed conditions with heterogeneous yields reported particularly in the south, which experienced early in-season dryness. In the Russian Federation, harvesting continues for winter wheat under mixed conditions with dryness earlier in the season affecting the south while there are favourable to exceptional conditions further north in parts of the Central and Volga districts. Spring wheat is under generally favourable conditions. In Kazakhstan, conditions are favourable for the harvesting of winter wheat and the heading to ripening stages of spring wheat. In China, spring wheat conditions are favourable. In the US, winter wheat harvest is wrapping up under generally favourable conditions with a slight reduction in yields, particularly in the southern Great Plains due to dryness. Spring wheat conditions are favourable throughout the country. In Canada, both winter and spring wheat are under generally favourable conditions across the country with slight increases in expected yields compared to the previous five years. In Argentina, conditions are mixed with favourable conditions in the provinces of Buenos Aires, La Pampa, and Entre Ríos, while dry conditions in Northern provinces, Córdoba, and parts of Santa Fe have caused early completion of sowing and below intended sown area. In Australia, conditions are

* Assessment based on information as of July 28th
generally favourable following close to average rainfall during July across south-eastern Australia. However, due to a lack of soil moisture in several regions, yield prospects will be heavily reliant on sufficient and timely rainfall during August and September.

**Maize Conditions for AMIS Countries**

Maize: In **Brazil**, harvest is over halfway complete for the summer-planted crop (larger season) under good conditions in the Central-West, Southeast, and parts of the South region. Despite the poor conditions in the South, there is an overall increase in the sown area across the country along with above-average yields in the Central-West and Southeast regions. In **Argentina**, harvest is wrapping up for both the spring-planted and summer-planted crops under generally favourable conditions with a slight increase in sown area compared to last year. In the **US**, conditions are generally favourable except for areas of dryness in the southern and central Great Plains. In **Canada**, conditions are favourable across the country with a slight increase in yields expected compared to the previous five years. In **Mexico**, conditions are favourable as harvest of the autumn-winter (smaller season) crop is wrapping up and the sowing of the spring-summer (larger season) crop is over halfway complete. In the **EU**, conditions are favourable with good weather supporting higher yield forecasts, particularly in Eastern Europe. In **Ukraine**, conditions are generally favourable, however a lack of rainfall and low soil moisture in the central and southern regions is of some possible concern. In the **Russian Federation**, conditions are mixed with dryness in the south and favourable conditions in the north. In **China**, conditions are generally favourable for both spring-planted and summer-planted crops with some areas affected by

* Assessment based on information as of July 28th
recent flooding along the Yangtze River and in the Sichuan and Yunnan provinces. In India, sowing of Kharif maize is almost complete under favourable conditions with a total sown area similar to last year.

**Rice Conditions for AMIS Countries**

Rice: In China, harvesting of early-season rice is wrapping up under favourable conditions. Single-season rice and late-rice are under generally favourable conditions, albeit with some recent flooding along the Yangtze River. In India, conditions are favourable for Kharif rice with transplanting still in progress in many states. Sown area is up this season compared to last year. In Indonesia, harvesting of wet-season crops is wrapping up with a reduction in yields and harvested area compared to last year due to the prolonged drought. Sowing of dry-season crops continues to be behind schedule due to the protracted wet-season crop harvest, however the continuing rainfall into the dry season is beneficial. In Viet Nam, harvest of wet-season (summer-autumn) rice in the south is beginning under watch conditions due to drought with slightly lower yields expected compared to last year. Sowing of wet-season (summer-autumn) rice is beginning in the north under favourable conditions. In Thailand, conditions are favourable for wet-season rice with ample rainfall compared to last year, supporting sown area expansion. In the Philippines, wet-season rice is under favourable conditions in the maturing stage with high precipitation, especially in the southern regions. In Japan, conditions are generally favourable with some cool conditions and heavy rainfall affecting areas in the southwest. In the US, conditions are favourable.

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

Soybeans: In the **US**, conditions are favourable throughout the country. In **Canada**, conditions are favourable with timely precipitation improving crops in Ontario and Quebec. There is a reduction in sown area compared to last year, however a slight increase in final yields is expected compared to the previous five years. In **China**, conditions are generally favourable with the crop in the flowering stage in the northeast while in the early vegetative stage in the central provinces. In **India**, sowing is almost complete in the major growing states with an increase in total sown area compared to average and last year. In **Ukraine**, conditions are generally favourable, however a lack of rainfall and low soil moisture in the central and southern regions is of some possible concern.

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

**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.

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

Global Probabilistic Precipitation Forecast for August to October 2020

The 3-month North American Multi-Model Ensemble (NMME) experimental probabilistic forecast for August to October 2020, based on July conditions. The forecast probability is calculated as the percentage of all 118 NMME ensemble members that fall in a given tercile (above/below/near normal). The regions shown in white are masked because they are either climatologically dry over the period of interest (for precipitation plots) or because the forecast probability for those regions is not high enough for any of the categories shown (also known as “Equal Chance” regions in the case of Tercile Category maps).

The 3-month NMME experimental probabilistic forecast for August to October 2020 indicates a probability of above-average rainfall over the eastern Canadian Prairies, US northern Great Plains, southern Mexico, Central America, Haiti, Romania, Sahel West Africa, Ethiopia, Sudan, South Sudan, Uganda, western Kenya, eastern DRC, India, southern and northern China, Japan, Thailand, Laos, Vietnam, Indonesia, southern and eastern Australia. There is a probability of below-average rainfall across southern Chile, southern Argentina, central Brazil, Portugal, Spain, Greece, Turkey, northern Morocco, northern Algeria, northern Tunisia, southern coast of West Africa, central and eastern South Africa, southern Mozambique, and eastern Madagascar.

Climate Influences: Movement towards a La Niña-like climate

The El Niño-Southern Oscillation (ENSO) is currently neutral and is expected to remain so through the northern hemisphere summer. By the end of the year (October – December), however, a transition to La Niña conditions is likely (50-55% probability). La Niña conditions during October-December typically reduce rainfall in East Africa, Central Southwest Asia, southern Brazil, and central Argentina, and increase rainfall in Southern Africa, Australia, and eastern Brazil.

Source: UCSB Climate Hazards Center

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

In August 2020, the temperature outlook is for likely above-average temperatures in the western United States and the northeast, with the highest likelihood centering in the southwest along the Mexico–United States border. There is a chance of below-average temperatures in the central Great Plains and the Mississippi Valley, which will likely become average by the end of the month. The precipitation outlook is heavily influenced by the path of Hurricane Isaias. Above-average precipitation is likely along the East Coast following Isaias’s path and likely above-average precipitation in the northern Great Plains. Below-average precipitation is likely along the Rockies with higher likelihood in the southwest centering on the states of Utah and Arizona.

For the longer August-September-October (ASO) 2020 period, temperatures and precipitation are both influenced by the expected development of a weak La Niña. Temperatures are likely to be above-average across the contiguous United States (CONUS) with the highest likelihood in the southwest, northeast, and southern Florida. Below-average precipitation is likely for much of the south-central Great Plains. However, above-average precipitation is likely for the northern Great Plains and Southeast regions stretching northwards to Maryland and westwards to Louisiana.

Source: NOAA Climate Prediction Center

* Assessment based on information as of July 28th
Argentina Current Water Reserves for Wheat and Short-term Forecasts

At the national level, wheat planting reached 93%. Planting was not completed in La Pampa and southern Buenos Aires, although the 93% advance is normal for the time of year. The greatest delays in planting are observed in Córdoba, where the intended area would no longer be reached due to lack of moisture in the soil, especially in the center and west of the province. The area with low or regular reserves has expanded to the east in recent weeks, currently also affecting eastern Córdoba and western Santa Fe.

For the next two weeks (August 4th – August 17th), no significant rainfall is expected in the area with current deficit levels of soil moisture (province of Córdoba, west of Santa Fe, north of Córdoba, northwest of Buenos Aires). Rains between 15 and 30mm in the first week in eastern Buenos Aires could generate slight and temporary excess water.

Based upon the most recent forecast for the next 30-days, probabilities of water stress have been identified over the main wheat sown areas as follows:

- Cordoba and western Santa Fe wheat growing areas have a 100% probability of developing water stress.
- Northeastern La Pampa and northwestern Buenos Aires wheat growing areas have a 95% probability of developing water stress.
- Eastern Santa Fe and western Entre Rios wheat growing areas have a 50% probability of developing water stress.

* Assessment based on information as of July 28th
Short Term Precipitation Forecast

![Map showing accumulated rainfall forecast for August 4th to August 10th, 2020 and August 11th to August 17th, 2020 with varying colors indicating rainfall amounts.]

Source: Argentina National Meteorological Service. [https://www.smn.gob.ar/clima/perspectiva](https://www.smn.gob.ar/clima/perspectiva)

30-day Wheat Probability Scenarios

![Map showing probability of water stress in 30 days with areas marked for 100%, 95%, and 50%.]

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)

* Assessment based on information as of July 28th
Southeast Asia Current Seasonal Conditions plus 30-day Forecasts

Rainfall from late-June to late-July was well-below-average across much of northern Southeast Asia (Figure 1-left). Deficits exceeded 150 mm (<80% of average) in southern Myanmar, Laos, Cambodia, Vietnam, and the northern Philippines; in Vietnam, this deficit equates to 15-50% of the historical average. These deficits further exacerbated existing below-average rainfall totals since April, which are <80% of average across the aforementioned areas. In contrast, rainfall in the southern half of the region continued to be well-above-average, with July rainfall totals ranging from 120-200% of average in Malaysia and western Singapore, and exceeding 200% of average in Indonesia, providing favourable conditions for dry-season planting. Additionally, monsoon rainfall devastated much of South Asia in mid-July, resulting in flooding in Bangladesh, Bhutan, India, Myanmar, and Nepal that killed scores of people, destroyed homes and structures, inundated entire villages, and affected as many as 4 million individuals.

The 15-day forecast through August 10th indicates heavy, above-average rainfall is expected over much of northeastern and eastern Southeast Asia. Below-average rainfall is expected in Bangladesh, the west coast of Myanmar, and Singapore. Figure 1-middle indicates how this forecasted rainfall would affect the July rainfall anomaly. The post-June 25th rainfall anomaly would be average to above-average across the entire region and exceed 120% of average in Thailand, Cambodia, southern Vietnam, Malaysia, and Indonesia. This rainfall should be particularly beneficial to the northern parts of the region, where seasonal (April-to-date) deficits are largest. Finally, the 3-month rainfall probability forecast indicates an increased likelihood of above-normal rainfall throughout the region, with the greatest probability of above-normal rainfall in the southeastern parts of the region.

Figure 1. Estimated and forecast rainfall since June 26th and a 3-month forecast. The left and middle panels are UCSB Climate Hazards Center Early Estimates. They compare 2020 rainfall amounts to the 1981-2019 CHIRPS average. The left panel shows the estimated rainfall anomaly from June 26th to July 25th. The middle panel indicates what the post-June 26th rainfall anomaly would be if the 15-day unbiased GEFS forecast from July 26th materializes. On the right is the 3-month NMME experimental probabilistic forecast for August to October 2020, based on July conditions. The forecast probability is calculated as the percentage of all 79 NMME ensemble members that fall in a given tercile (above/below/near normal).

Source: UCSB Climate Hazards Center

* Assessment based on information as of July 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.

<table>
<thead>
<tr>
<th>Country</th>
<th>Crop</th>
<th>Season 1 Name</th>
<th>Season 2 Name</th>
<th>Season 3 Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>Soybean</td>
<td>Spring-planted</td>
<td>Summer-planted</td>
<td></td>
</tr>
<tr>
<td>Brazil</td>
<td>Maize</td>
<td>Summer-planted (larger producing season)</td>
<td>Spring-planted (smaller producing season)</td>
<td></td>
</tr>
<tr>
<td>Canada</td>
<td>Wheat</td>
<td>Winter-planted</td>
<td>Spring-planted</td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>Maize</td>
<td>Spring-planted</td>
<td>Summer-planted</td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>Rice</td>
<td>Single-season</td>
<td>Late-season</td>
<td>Early-season</td>
</tr>
<tr>
<td>Egypt</td>
<td>Wheat</td>
<td>Winter-planted</td>
<td>Spring-planted</td>
<td></td>
</tr>
<tr>
<td>Egypt</td>
<td>Rice</td>
<td>Summer-planted</td>
<td>Nili season (Nile Flood)</td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>Maize</td>
<td>Kharif</td>
<td>Rab</td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>Rice</td>
<td>Kharif</td>
<td>Rab</td>
<td></td>
</tr>
<tr>
<td>Indonesia</td>
<td>Rice</td>
<td>Wet-season</td>
<td>Dry-season</td>
<td></td>
</tr>
<tr>
<td>Mexico</td>
<td>Maize</td>
<td>Spring-planted</td>
<td>Autumn-planted</td>
<td></td>
</tr>
<tr>
<td>Nigeria</td>
<td>Maize</td>
<td>Main-season</td>
<td>Short-season</td>
<td></td>
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<tr>
<td>Nigeria</td>
<td>Rice</td>
<td>Main-season</td>
<td>Off-season</td>
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<td>Wet-season</td>
<td>Dry-season</td>
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<td>Russian Federation</td>
<td>Wheat</td>
<td>Winter-planted</td>
<td>Spring-planted</td>
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<tr>
<td>Thailand</td>
<td>Rice</td>
<td>Wet-season</td>
<td>Dry-season</td>
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<td>United States</td>
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<td>Spring-planted</td>
<td></td>
</tr>
<tr>
<td>Viet Nam</td>
<td>Rice</td>
<td>Wet-season</td>
<td>Dry-season</td>
<td></td>
</tr>
</tbody>
</table>

* Assessment based on information as of July 28th
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 July 28th. Where crops are in less than favourable conditions the climatic drivers responsible for those conditions are displayed. The crop calendar is provided as a point of reference to provide information on what part of the life cycle the crops are currently in for each area.

Spring 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 July 28th. Where crops are in less than favourable conditions the climatic drivers responsible for those conditions are displayed. The crop calendar is provided as a point of reference to provide information on what part of the life cycle the crops are currently in for each area.

* Assessment based on information as of July 28th
Maize 1 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of July 28th. Where crops are in less than favourable conditions the climatic drivers responsible for those conditions are displayed. The crop calendar is provided as a point of reference to provide information on what part of the life cycle the crops are currently in for each area.

Maize 2 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of July 28th. Where crops are in less than favourable conditions the climatic drivers responsible for those conditions are displayed. The crop calendar is provided as a point of reference to provide information on what part of the life cycle the crops are currently in for each area.

* Assessment based on information as of July 28th
Rice 1 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of July 28th. Where crops are in less than favourable conditions the climatic drivers responsible for those conditions are displayed. The crop calendar is provided as a point of reference to provide information on what part of the life cycle the crops are currently in for each area.

Rice 2 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of July 28th. Where crops are in less than favourable conditions the climatic drivers responsible for those conditions are displayed. The crop calendar is provided as a point of reference to provide information on what part of the life cycle the crops are currently in for each area.

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

Soybean 1 conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of July 28th. Where crops are in less than favourable conditions the climatic drivers responsible for those conditions are displayed. The crop calendar is provided as a point of reference to provide information on what part of the life cycle the crops are currently in for each area.

* Assessment based on information as of July 28th
Soybean 2 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Condition information is based upon information as of July 28th. Where crops are in less than favourable conditions the climatic drivers responsible for those conditions are displayed. The crop calendar is provided as a point of reference to provide information on what part of the life cycle the crops are currently in for each area.
Prepared by members of the GEOGLAM Community of Practice
Coordinated by the University of Maryland with funding from NASA Harvest
Climatic Influences by Climate Hazards Center of UC Santa Barbara

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

Photo courtesy of Shellie Barker

https://cropmonitor.org/

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Sources & Disclaimer

Sources and Disclaimers: The Crop Monitor assessment is conducted by GEOGLAM with inputs from the following partners (in alphabetical order): Argentina (Buenos Aires Grains Exchange, INTA, Agroindustry ministry), Asia Rice Countries (AFSIS, ASEAN+3 & Asia RiCE), Australia (ABARES & CSIRO), Brazil (CONAB & INPE), Canada (AAFC), China (CAS), EU (ECJRC MARS), Gro Intelligence, India (NCFC), Indonesia (LAPAN & MOA), International (CIMMYT, FAO GIEWS, IFPRI & IRRI), Japan (JAXA, MAFF), Mexico (SIAP), Russian Federation (IKI), South Africa (ARC & CSIR & GeoTerrImage & SANSA), Thailand (GISTDA & OAE), Ukraine (NASU-NSAU & UHMC), USA (NASA, UMD, USGS – FEWS NET, USDA (FAS, NASS)), Viet Nam (VAST & VIMHE-MARD). The findings and conclusions in this joint multiagency report are consensual statements from the GEOGLAM experts, and do not necessarily reflect those of the individual agencies represented by these experts.

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