Overview:
As of the end of March, conditions are mixed for rice and soybeans while generally favourable for wheat and maize. In the Northern Hemisphere, winter wheat is emerging from dormancy under generally favourable conditions with some mixed conditions in Europe, southern Ukraine, and southern Russia. In the Southern Hemisphere, maize is under generally favourable conditions for both the spring and summer planted crops with only dry conditions in southern Brazil. Rice in Southeast Asia is under watch to poor conditions due to prolonged dry conditions during the season. In the Southern Hemisphere, soybean conditions are a mix of conditions ranging from exceptional to poor.

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Assessment based on information as of March 28th
Conditions at a glance for AMIS countries (as of March 28th)

Crop condition map synthesizing information for all four AMIS crops as of March 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.

Conditions at a glance

**Wheat** - In the northern hemisphere, winter wheat is beginning spring growth under generally favourable conditions with spot areas of dryness or excess wetness in Europe while favourable to exceptional conditions in China.

**Maize** - In the southern hemisphere, conditions are generally favourable for Brazil and Argentina. In the northern hemisphere, conditions are favourable in India and Mexico, while sowing just begins in the southern US.

**Rice** - In India and China conditions are favourable. In Southeast Asia, dry conditions continue to be a problem across the northern dry-season rice countries and in Indonesia for wet-season rice.

**Soybeans** - In the southern hemisphere, Brazil has exceptional conditions in the central and northern regions, but dry conditions in the south. In Argentina dry conditions have spread across the central producing provinces.

**ENSO and IOD Neutral Conditions**

El Niño-Southern Oscillation (ENSO) conditions are currently neutral and are most likely to remain neutral through the northern hemisphere spring (65%) and summer (55%). Indian Ocean Dipole (IOD) is currently neutral and is forecast to remain near-neutral for the next few months. However, sea surface temperatures in the western Indian Ocean are above normal at present, supporting enhanced April-June precipitation over eastern Africa.

*Source: UCSB Climate Hazards Center*

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

Wheat: In the EU, winter wheat conditions are generally favourable despite dry conditions in the south and southeast along with excessive wetness in the north and northwest. In the UK, crops are under watch due to overly wet conditions. In Turkey, conditions are favourable. In Ukraine, winter wheat has emerged from dormancy under generally favourable conditions except in the south, where watch conditions remain due to lower than average soil moisture levels and a risk of a spring drought. In the Russian Federation, conditions are generally favourable as winter wheat growth restarts with some areas of concern in the south due to the spring frost and low levels of soil moisture. In Kazakhstan, winter wheat conditions are favourable. In China, conditions are favourable to exceptional for winter wheat with a bumper crop expected. Sowing of spring wheat has begun. In India, harvest has begun for winter wheat under very good conditions with increased expected yields compared to last year. In the US, winter wheat is under generally favourable conditions. In Canada, winter wheat is in dormancy under favourable conditions while a below-average snowpack in the Prairies remains a risk for winterkill.

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

Maize: In Brazil, harvest is ongoing for the spring-planted (smaller season) crop under exceptional conditions in the Central-West and Southeast regions with above-average yields expected. However, a lack of rains during December and February has seriously reduced yields in the main producing south, especially in Rio Grande do Sul. Sowing of the summer-planted (larger season) crop is wrapping up under favourable conditions with an increase in total sown area compared to last season. In Argentina, conditions are generally favourable for both spring-planted and summer-planted crops due to rainfall over the past few weeks. However, there is some concern for soil moisture deficits affecting the summer-planted crop in San Luis and Entre Rios. In the US, sowing is just beginning in the most southerly areas under favourable conditions. In Mexico, conditions are favourable for the autumn-winter crop. In India, conditions are favourable for the Rabi crop with total sown area close to average. In China, sowing of the spring-planted crop has begun in the southern regions under favourable conditions. In South Africa, conditions are generally favourable with above-average yields expected in the central growing states.
Rice Conditions for AMIS Countries

**Rice:** In **China**, sowing of early-season rice is beginning under favourable conditions. In **India**, conditions are favourable as transplanting of Rabi rice is complete in most of the country. There is an increase in total sown area compared to the average. In **Indonesia**, continuing rainfall is supporting the expansion of wet-season rice sowing much later into the season than normal. Harvesting of earlier sown crops continues under watch conditions due to the prolonged drought reducing yields compared to last year. In **Viet Nam**, harvesting of dry-season rice (winter-spring) is beginning under watch conditions in the south due to damaging saltwater intrusion, which has also reduced total sown area. In the north, sowing continues under favourable conditions due to warm weather and ample irrigation preparation. In **Thailand**, harvesting of dry-season rice has begun under poor conditions due to the season-long shortage of available water for irrigation, and some pest damage in the northern region. Total sown area is estimated to be down by about a third compared to last year due to dry conditions. In the **Philippines**, conditions have deteriorated for dry-season rice sown in November to December as insufficient soil moisture during the main development phases has reduced expected yields. In **Brazil**, harvest has begun under favourable conditions. In the **US**, sowing has begun in the south under favourable conditions.

* Assessment based on information as of March 28th
Soybeans: In Brazil, harvest is ongoing under generally exceptional conditions with above-average yields estimated in the Central-West and Southeast regions. In the south, persistent dryness during December and February in Rio Grande do Sul during the critical development stages has caused yield reductions, however the states of Parana and Santa Catarina were less affected by the dryness and might help to maintain overall average yields in the region. In Argentina, recent rainfall has delayed the start of harvesting for spring-planted crops, which are under generally favourable conditions except in Entre Rios, Santa Fe, and San Luis due to earlier dry conditions. Summer-planted crops are under mixed conditions as recent rains stopped a hot and dry period, but might have come too late in some areas to save yields.

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 March 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>Rabi</td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>Rice</td>
<td>Kharif</td>
<td>Rabi</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>
</tr>
<tr>
<td>Nigeria</td>
<td>Rice</td>
<td>Main-season</td>
<td>Off-season</td>
<td></td>
</tr>
<tr>
<td>Philippines</td>
<td>Rice</td>
<td>Wet-season</td>
<td>Dry-season</td>
<td></td>
</tr>
<tr>
<td>Russian Federation</td>
<td>Wheat</td>
<td>Winter-planted</td>
<td>Spring-planted</td>
<td></td>
</tr>
<tr>
<td>Thailand</td>
<td>Rice</td>
<td>Wet-season</td>
<td>Dry-season</td>
<td></td>
</tr>
<tr>
<td>United States</td>
<td>Wheat</td>
<td>Winter-planted</td>
<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 March 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 March 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 March 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 March 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 March 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 March 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 March 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 March 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 March 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 March 28th
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 March 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 March 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 March 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 March 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 March 28th
Prepared by members of the GEOGLAM Community of Practice
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Climatic update by Climate Hazards Center of UC Santa Barbara

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*Photo courtesy of Inbal Becker-Reshef*

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