

# **GEOGLAM Crop Monitor\***

## **April 2014**

No. 7



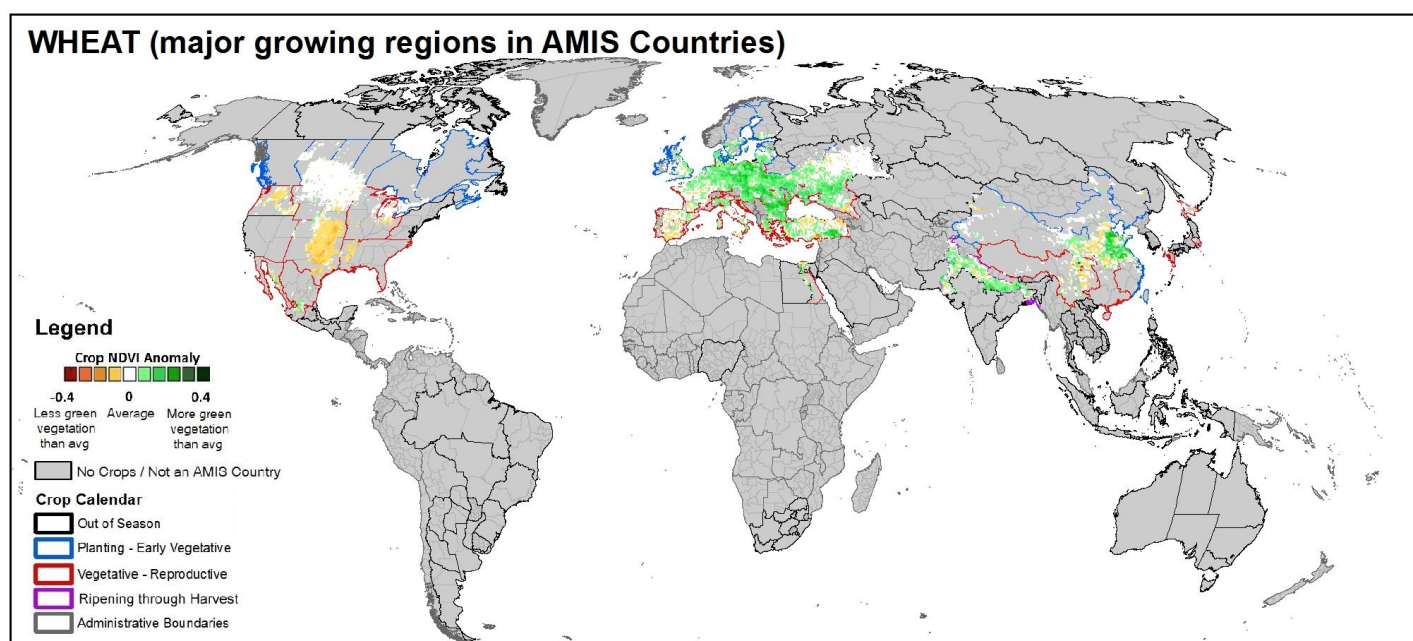
\* Assessment based on Information as of March 28th

**Prepared by members of the GEOGLAM Community of Practice**

# Crop Monitor

(As of March 28th)

## Wheat:

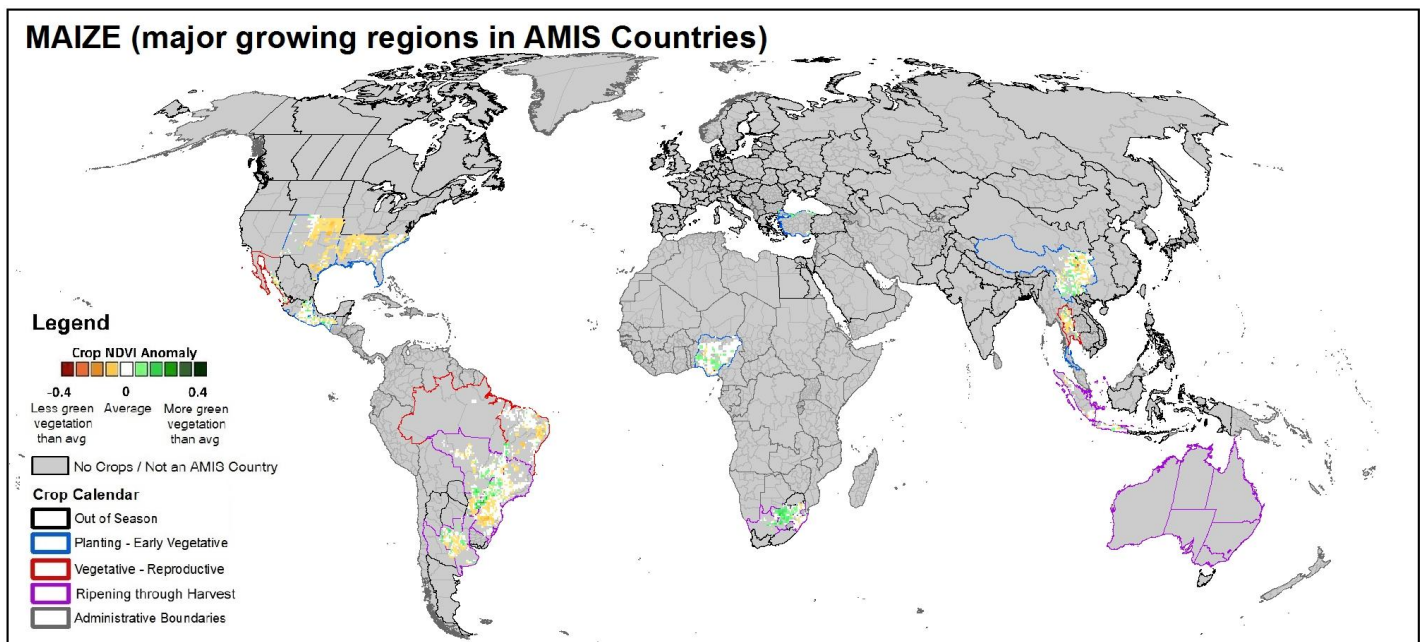


NDVI is a satellite-based indicator of photosynthesis often used for monitoring croplands. These anomaly images compare the NDVI for March 28<sup>th</sup>, 2014 to the average NDVI for the same date from 2000-2013, over the main growing regions of the four AMIS crops. Orange to red indicates less green vegetation than average, green indicates higher than average vegetation. Administrative unit outline colours indicate crop growth stage: **Blue- planting to early vegetative**, **Red- Vegetative to Reproductive** (generally the most sensitive crop growth period), **Purple- Ripening through Harvest**, **Black- areas out of season**. Note: only AMIS countries are highlighted.

In the northern hemisphere winter wheat conditions are favourable. Wheat has mostly broken dormancy by the end of March. In **Russia** conditions are good in most growing regions, however, some fields in the south may have been affected by frost damage due to a sharp cold snap in early March. The crop is mostly in vegetative growth phase, having broken winter dormancy early due to the unseasonably warm weather. In **Ukraine**, conditions remain generally favourable although subsurface moisture is low in many areas due to persistent dryness. Winter crops have resumed vegetative growth in most growing regions. In the **EU** overall prospects are promising. Europe continued to experience warmer than usual weather and therefore winter crops are advanced in western and central Europe. Frost kills were very limited but risk of damage is still possible in north-eastern Europe in case of an early spring frost. A dry period since the beginning of March improved the excessively wet situation that affected several regions and provides favourable conditions for field-work and sowing of spring cereals. By contrast, the Czech Republic, south-eastern Germany, and Bulgaria, experienced one of the driest winters and therefore rain is needed. In **Canada**, conditions are generally still favourable, however the late winter temperatures were well-below normal across the country causing a number of impacts including winter-kill, and a deeper-than-normal frost line which may delay spring seeding and reduce the absorption of spring snowmelt. Also, small areas of low soil moisture exist in parts of the Prairies region, which may negatively impact seed germination. In the **US**, winter wheat conditions are mixed and planted area is slightly down relative to last season. Continued dryness in the south-central US is a growing concern, however other wheat growing regions in the country are experiencing closer to normal moisture conditions supporting the winter wheat crop and the upcoming spring wheat planting. In **Mexico** conditions are overall favourable. There is some concern due to recent strong winds and a hail event that affected the Northwestern growing region. However the effects are expected to remediate with upcoming good weather. In **India** prospects are favourable, and hot dry weather towards the end of the month aided dry-down and harvest. The recent hailstorm and rains could partially affect the production. In **China** conditions are good. In northern and central growing regions wheat is in the vegetative stage and in southern growing regions wheat is entering reproductive stage.

\*Crop Monitor is developed for AMIS by GEOGLAM. It summarizes latest conditions (as of March 28th) for AMIS crops based on regional expertise and analysis of satellite data, ground observations, and meteorological data. More detailed information on the GEOGLAM crop assessments is available on: [www.geoglam-crop-monitor.org](http://www.geoglam-crop-monitor.org)

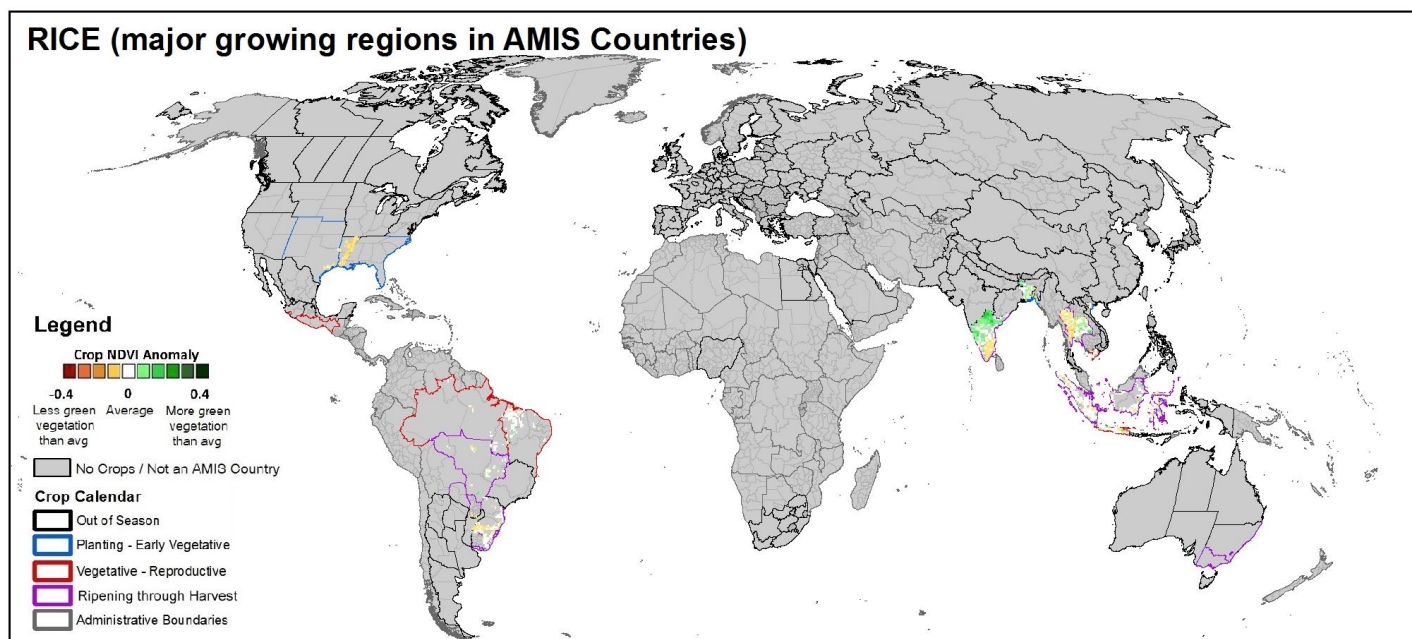
## Maize:



NDVI anomaly image (NASA MODIS) depicting vegetative growth anomalies on March 28th 2014 over the main corn growing areas. (The legend is as for wheat above).

In the southern hemisphere conditions are variable. In **Argentina** overall conditions are good and the majority of the crop is in grain filling to maturity phases. Excessive moisture is reported in some areas and is slowing harvest progress. In **Brazil** the first crop's harvest is underway and production will likely decrease due to persistent dry conditions in most of the southern producing areas and due to excess wetness in center western regions. For the second crop, overall prospects are still unclear due to extreme variations in rainfall affecting soil moisture and in turn influencing planting calendars. In addition, another drop in planted area is likely in favor of cotton and wheat in Mato Grosso and Paraná. In **South Africa** conditions during the austral summer were favourable over most of the maize production area. However, a late start to the season and a dry spell during January had a slight negative impact over the western part of the production area. In **Mexico** favourable conditions prevail for the whole country with the exception of the Northwest region, where strong winds impacted some plantations. Planted area is down relative to last March in favor of more profitable crops. In the **US** planting has yet to begin except in the most southern regions. Some planting delays are expected given the longer than usual winter, which was experienced countrywide.

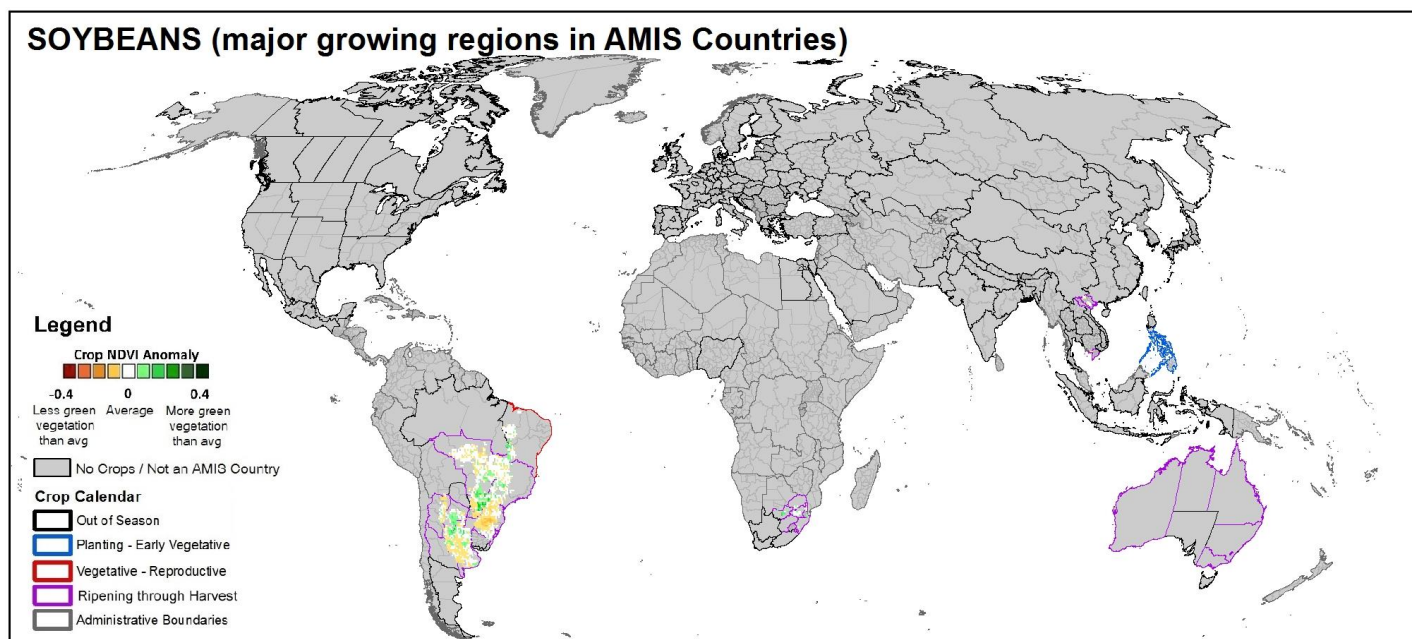
## Rice:



NDVI anomaly image (NASA MODIS) depicting vegetative growth anomalies on March 28th 2014 over the main rice growing areas. (The legend is as for wheat above).

Conditions are generally favourable. In **Indonesia**, conditions are favourable for the fall planted crops that are in the reproductive to harvesting stages depending on planting date. For most growing regions rainfall in March has been slightly below average though is sufficient to support crop development. However, there is some concern in Java over excess moisture and flooding. In **Vietnam** prospects for the fall-winter rice is slightly lower than last year due in part to cold weather in the north. Seeding of the winter-spring rice is nearly complete and conditions so far are favourable although planted area is down due to the cold weather in the north. Rice in the Mekong River Delta, which accounts for a third of planted area, is in the flowering to ripening stages and conditions are good. In **Thailand** overall prospects for the fall-winter planted crop are poor primarily due to cold weather earlier in the season and due to lack of irrigation water. Harvest is complete in the north and central regions, and due to the lack of moisture planted areas for the spring-planted crop are down. In **Brazil** conditions are good as weather has been favourable in all producing areas. Both area and yield are slightly higher relative to the previous year and harvest is half complete. In **Spain** overall conditions are favourable in terms of water availability and temperature for the preparation of the paddy fields and the initiation of rice planting.

## Soybeans:



NDVI anomaly image (NASA MODIS) depicting vegetative growth anomalies on March 28th 2014 over the main soybean growing areas. (The legend is as for wheat above).

In the southern hemisphere conditions are variable. In **Argentina** overall conditions for both the first and second planted crops are good. The first crop is mostly in grain filling to maturity stages, and the first fields have been harvested. End of season diseases are reported but were controlled. The second crop (planted after winter crops) is in flowering to grain filling stages. In **Brazil** conditions are mixed. The increase in planted area was counter balanced by lower yields, which were reduced due to severe drought and high temperatures in the southern areas and excess rain in Mato Grosso that is impacting harvest. Nevertheless a bumper crop is still expected primarily due to the increase in planted area. In **South Africa** conditions during austral summer were favourable across all production areas.

### Sources & Disclaimer

The Crop Monitor assessment has been conducted by GEOGLAM with inputs from the following partners (in alphabetical order): AAFC (Canada), CAS CropWatch (China), ARC (South Africa), ABARES/CSIRO (Australia), CONAB/INPE (Brazil), GISTDA (Thailand), EC JRC-MARS, FAO, ISRO (India), JAXA (Japan), ASIA RiCE, IKI (Russia), INTA (Argentina), IRRI, LAPAN/MOA (Indonesia), Mexico (SIAP), NASA, UMD, and USDA FAS/ USDA NASS (US), Ukraine Hydromet Center/NASU-NSAU (Ukraine), VAST/VIMHE (Vietnam).

The findings and conclusions found in this joint multiple-agency reporting are only consensual statements from the GEOGLAM expert group, and do not necessarily reflect those of the individual Agencies represented by these experts. Map data sources: Main crop type areas based on the IFPRI/IIASA SPAM 2005 beta release (2013). Crop calendars based on FAO and USDA crop calendars. NDVI anomaly data produced by NASA/USDA/UMD based on NASA MODIS data.



## El Niño

El Niño (the anomalous warming of the Pacific Ocean) is a major driver of climatic conditions in many regions of the world, and can significantly impact growing conditions positively or negatively in these places. Its strength and timing determines the degree to which croplands are affected and the crop types impacted. While neutral conditions currently prevail, official reports from around the world (including the World Meteorological Organization (WMO), the International Research Institute for Climate and Society (IRI), the U.S. National Oceanic and Atmospheric Administration (NOAA), and The Australian Bureau of Meteorology), indicate the possibility for development of El Niño conditions in late summer or autumn of the Northern Hemisphere. The official forecast from NOAA puts the probability of El Niño at 52%. The predicted timing of the possible transition from neutral to El Niño conditions suggests minimal influence on northern summer crops in 2014, and the possibility of an influence during the latter part of the Indian Monsoon. El Niño is often, but not always, associated with above normal rainfall in major growing regions of S. America and the US (potentially benefiting maize, soy and wheat) and with below-normal rainfall in parts of Asia, Southern Africa, and Australia (potentially affecting rice, wheat and maize). El Niño conditions generally last six to nine months, but can persist for as long as eighteen months. In the months ahead, GEOGLAM will closely watch regions that have shown sensitivity to El Niño in the past and monitor possible impacts should El Niño conditions develop.

# Global Temperature and Precipitation Anomalies: February 21<sup>st</sup> – March 10<sup>th</sup>

JRC- MARS

