

GEOGLAM Crop Monitor*

February 2014

No. 5



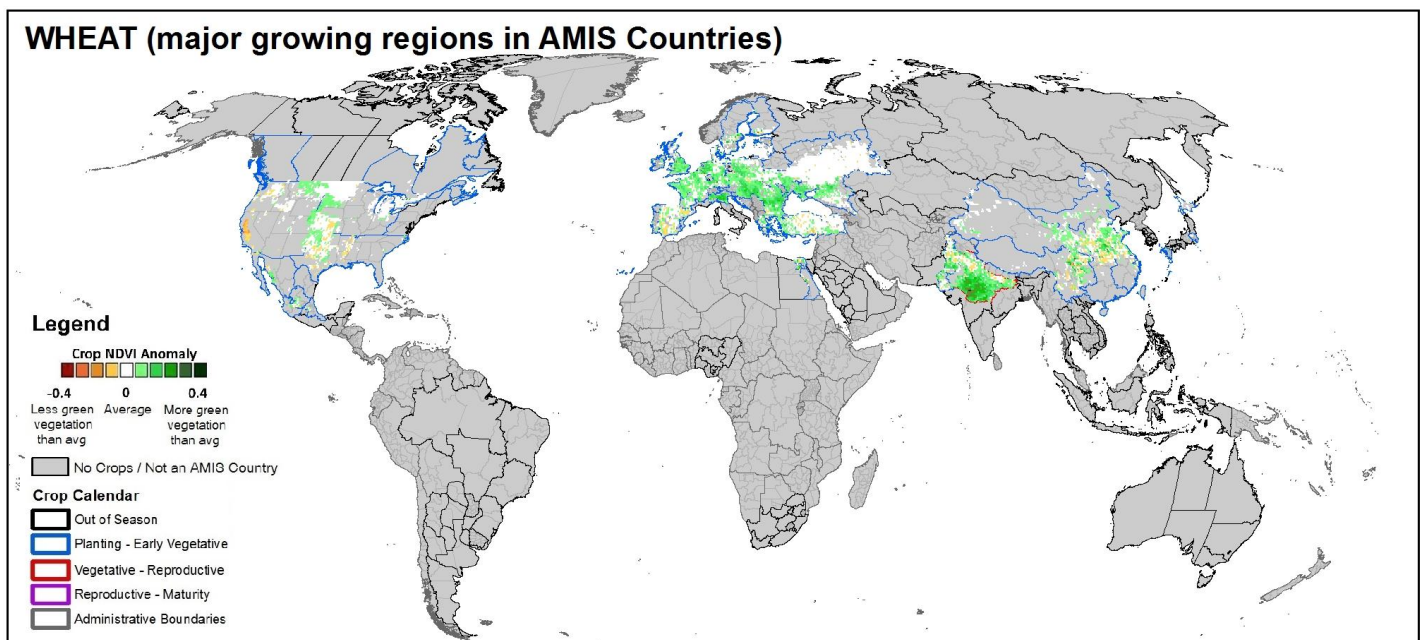
* Assessment based on Information as of January 28th

Prepared by members of the GEOGLAM Community of Practice

Crop Monitor

(As of January 28th)

Wheat:

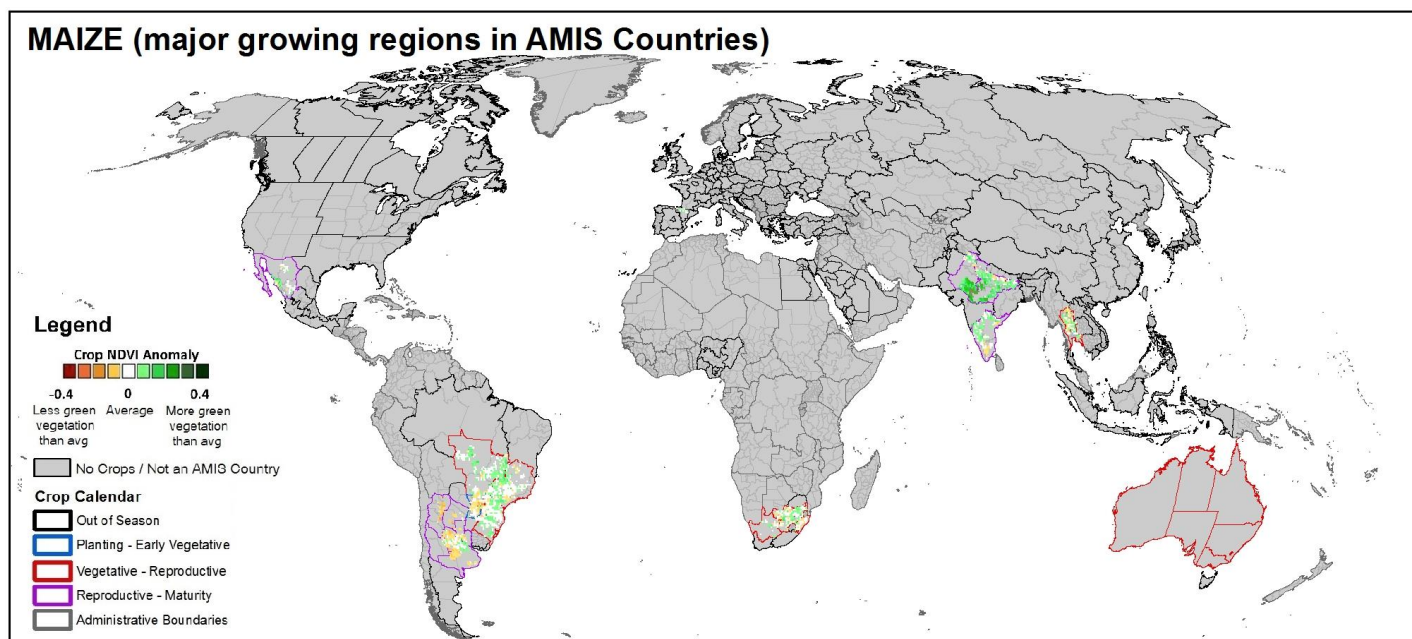


NDVI is a satellite-based indicator of photosynthesis often used for monitoring croplands. These anomaly images compare the NDVI for January 28th, 2014 to the average NDVI for the same date from 2000-2013, over the main growing regions of the four AMIS crops. Orange to red indicates less green vegetation 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- Reproductive to Maturity, Black- areas out of season**. Note: only AMIS countries are highlighted.

In the northern hemisphere winter wheat conditions are favourable. Wheat is in early development stages and has generally entered dormancy. In **Ukraine** and **Russia** overall conditions are favourable at this early stage of the season and the crop is in the dormancy phase. Towards the end of the month, cold weather moved into the region and wide-spread snow covered much of the wheat areas providing a protective layer against frost and winterkill. Limited areas in central, southern and eastern Ukraine as well as in southern Russia, where protective snow cover is low, are more susceptible to frost damage in the event of extreme cold temperatures. However, to date wide-spread frost damage has not been reported. There is also some concern in European Russia and parts of Ukraine that experienced warmer than usual temperatures in the late fall and early winter as this may have affected wheat hardening. In the **EU** overall conditions are favourable. However, since mid-December most areas experienced exceptionally mild temperatures, which have significantly delayed hardening of winter wheat from Ireland to Poland, resulting in a decreased tolerance to future frosts. In **Canada**, conditions are generally good. In the US, winter wheat is overall in good condition and seeded area is slightly down relative to last season. Continued dryness across the Southern Plains is raising concern over the dormant crop, particularly in areas that have experienced colder than normal temperatures and lack protective snow cover. In **Mexico**, overall conditions are positive and water availability is good for the fall/winter crop which constitutes 95% of national wheat production. The recent cold weather benefited the crop in the northeastern areas of the country. In **India**, wheat is in the reproductive phase and conditions are good. A bumper crop is projected due to an increase in planted area. In **Pakistan**, mild weather is supporting favourable wheat conditions. In **China**, conditions are favourable for the dormant wheat crop. In the southern hemisphere harvest is complete.

*Crop Monitor is developed for AMIS by GEOGLAM. It summarizes latest conditions (as of January 28th) for AMIS crops based on regional expertise and analysis of satellite data, ground observations, and meteorological data. GEOGLAM aims at strengthening global agricultural monitoring by improving the use of satellite information for crop production forecasting. It is implemented within the framework of the inter-ministerial Group on Earth Observations (GEO). Both GEOGLAM and AMIS were endorsed by the G20 Heads of States Declaration (Cannes, November 2011) when GEOGLAM was tasked to "coordinate satellite monitoring observation systems in different regions of the world in order to enhance crop production projections and weather forecasting data." Within this framework, GEOGLAM is providing global crop outlook assessments in support of AMIS market monitoring activities. More detailed information on the GEOGLAM crop assessments is available on: www.geoglam-crop-monitor.org

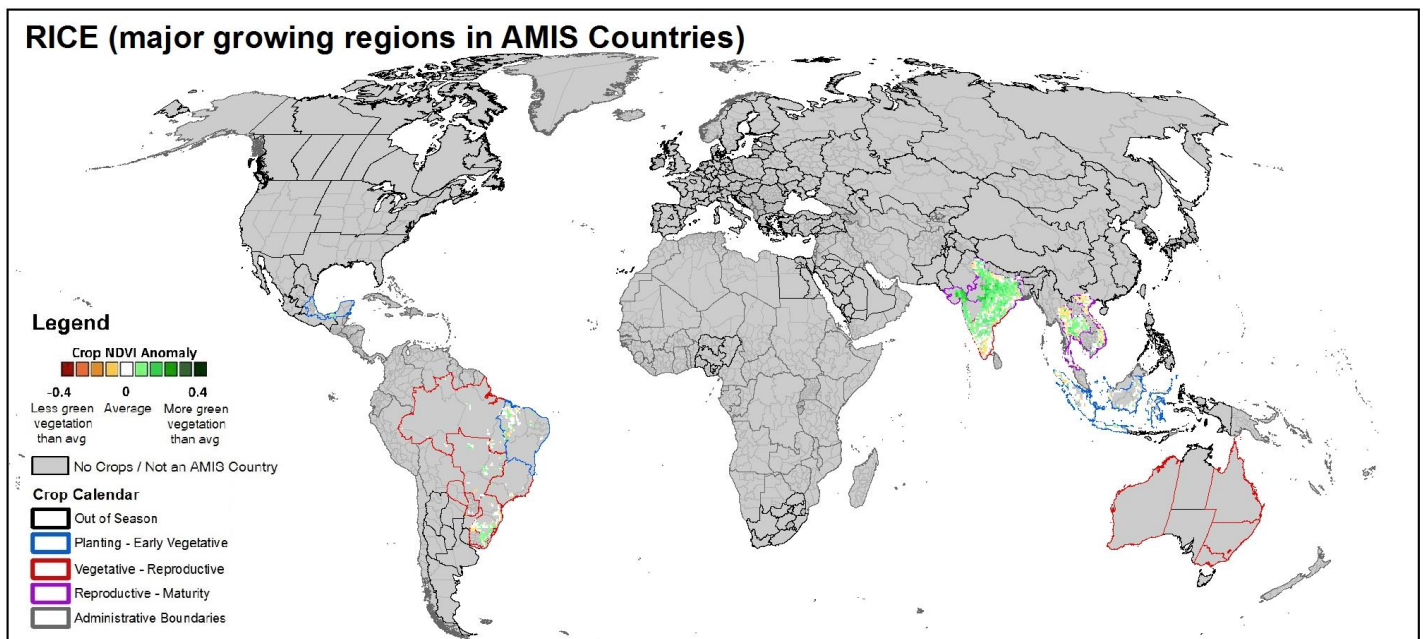
Maize:



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

In the southern hemisphere prospects are overall favourable. In **Argentina**, approximately 70% of the crop is rated in favourable condition. However, there is concern due to water and heat stress over areas where early maize was planted. This crop is in the flowering stage and moisture will be needed in coming weeks particularly in the central growing regions. Late planting continued in areas with sufficient soil moisture. In **Brazil**, overall conditions are favorable. Precipitation earlier in the month supported development in southern growing areas, however dry and hot conditions developed toward the end of the month and more precipitation is needed in coming weeks. Planted area is down due to an increased area planted to soy. In **South Africa**, the crop is in very good condition over the eastern parts of the corn production area. Over the western parts, dry and hot conditions during January together with a late start to the rainy season have led to crop stress, and rain is very urgently needed. In **Mexico**, overall conditions are good and grain quality is better than last year. Harvest of the summer crop will be completed in February. Conditions are also favourable for the fall/winter planted crop, concentrated in the Northeastern part of the country.

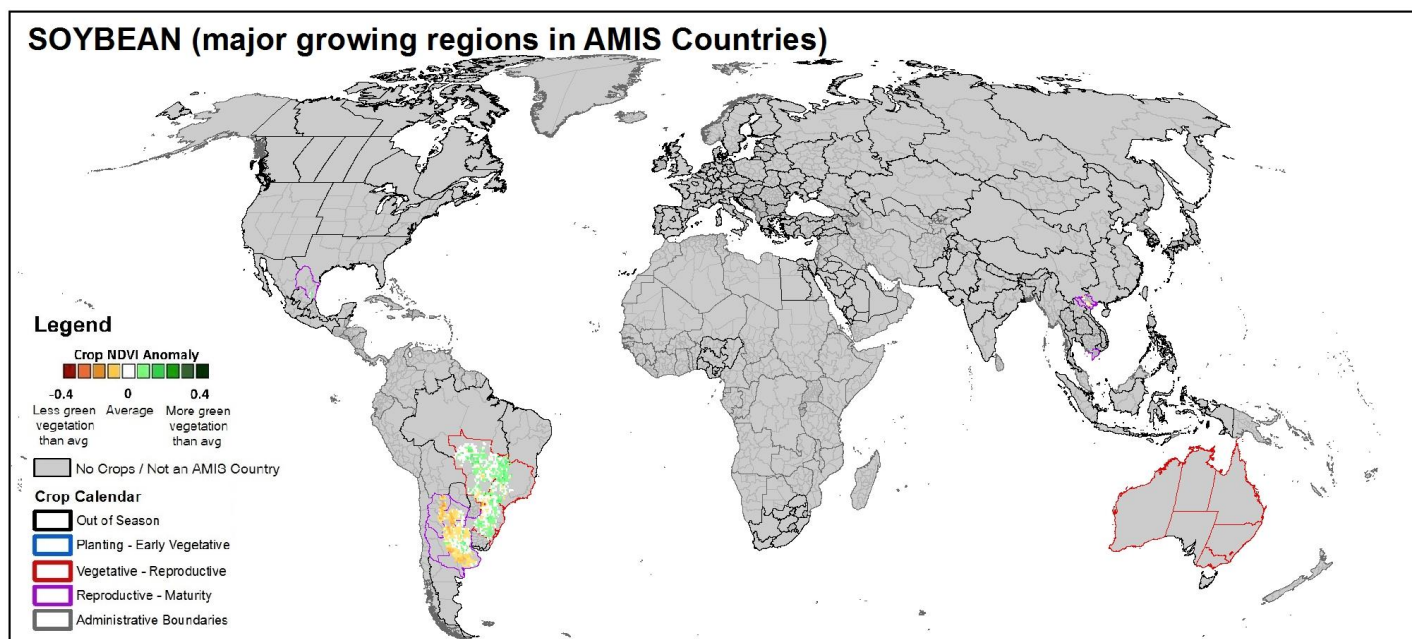
Rice:



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

Overall conditions are good. In **Vietnam** prospects are favourable with about 70% of the winter rice, which is concentrated in the south, harvested. In **Thailand**, conditions for the dry season rice are good except in some areas in the Central Region where crop development is hampered due to colder than usual weather. Over 60% of the crop has been planted though there are some delays due to lack of moisture. In **Indonesia**, conditions are favourable for the fall planted crops that are in the early reproductive to ripening phases. Good moisture conditions have been maintained and are optimal for the crop in the reproductive phase. It is expected that some areas of Java will be prone to moderate flooding due to high rainfall in January.

Soybeans:



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

In the southern hemisphere prospects are favourable. In **Brazil**, overall conditions are favourable although dry and hot conditions developed toward the end of the month in southern growing regions and more precipitation is needed in coming weeks to support crop development. There is also some concern over pockets of dryness in north-eastern growing areas. Planted area is up largely at the expense of maize. In **Argentina**, over 80% of the growing area is generally under favourable conditions, though in central growing regions additional moisture is needed. Recent rainfall in northern growing regions has allowed completion of planting. Planting of the second soybean crop was delayed due to water stress.

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.

Global Temperature and Precipitation Anomalies: December 21st – January 20th

JRC- MARS

