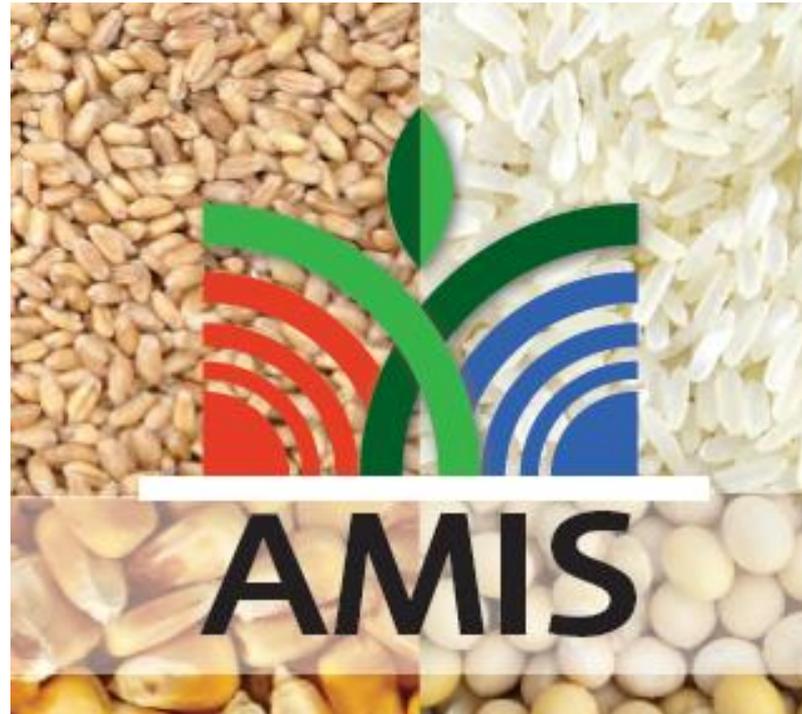




Food and Agriculture Organization
of the United Nations



GEOGLAM: Crop Monitor

Inbal Becker-Reshef





Food and Agriculture Organization
of the United Nations



GEOGLAM: Group on Earth Observations Global Agricultural Monitoring Initiative

*Launched alongside AMIS, by G20 in 2011 under the French Presidency,
within the Action Plan on Food Price Volatility and Agriculture; re-affirmed in 2016*



G20 Final Declaration

44. We commit to improve market information and transparency in order to make international markets for agricultural commodities more effective. To that end, we launched:

- The "Agricultural Market Information System" (AMIS) in Rome on September 15, 2011, to improve information on markets ...;
- The "Global Agricultural Geo-monitoring Initiative" (**GEO-GLAM**) in Geneva on September 22-23, 2011. This initiative will coordinate satellite monitoring observation systems in different regions of the world in order to enhance crop production and yield forecasting data.



to continue to tackle the issue of price volatility. In particular, we commit to pursue the implementation of the concrete initiatives of the 2011 G20 Action Plan on Food Price Volatility and Agriculture in dedicated forums: Agricultural Market Information System (AMIS) and the Rapid Response Forum, GEO Global Agricultural Monitoring Initiative (GEOGLAM) for market and production international monitoring, and risk management tools, such as the Platform for

AMIS Request to GEOGLAM

- Provision of monthly, transparent, timely, crop condition assessments in primary agricultural production areas
- Reflecting an international consensus, building on existing systems
- 4 Crops: Wheat, maize, soybean, rice
- Focus: main production/export countries (AMIS Countries)
- Output: Crop Monitor, published in Market Monitor



www.cropmonitor.org



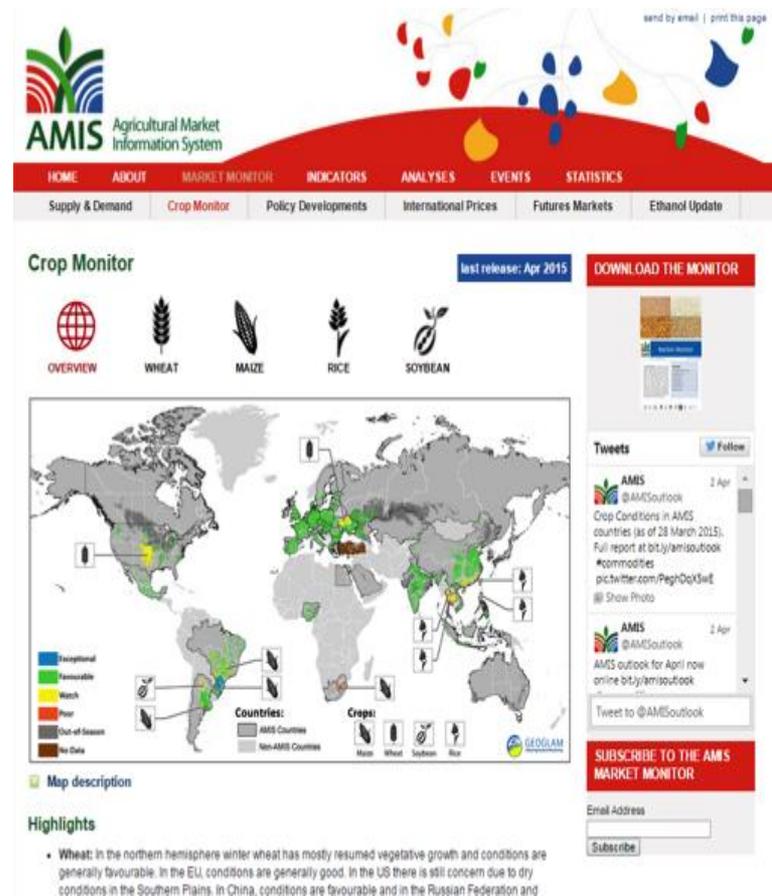


AMIS: Agricultural Market Information System

Improve market information and transparency



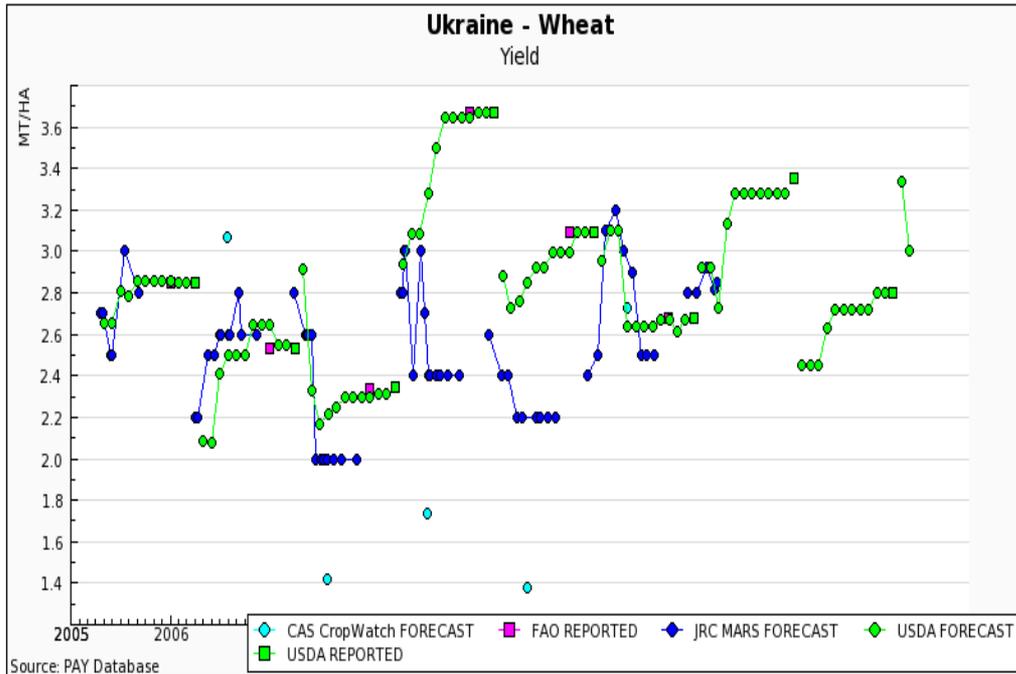
The screenshot shows the AMIS website home page. At the top left is the AMIS logo. Below it is a navigation menu with links: HOME, ABOUT, MARKET MONITOR, INDICATORS, ANALYSES, EVENTS, and STATISTICS. The main content area features a large image of wheat with the heading "Monitoring markets" and a sub-heading "April update. The global cereal supply is proving to be exceptionally high this season in view of the latest upward adjustments to wheat and maize inventories." Below this are four columns of news items: "Market Monitor" (Latest edition), "Market Indicators" (New series available), "Price transmission from global benchmarks" (Read more), "Improving feed estimates" (Read more), "Online Database" (Access the online database to view the latest statistics), "View statistics", and "Expert Meeting" (Stocks measurement 21 November 2014, Read more). At the bottom, there are logos for various partner organizations including IFAD, ITC, IOC, OECD, UNCTAD, and the World Bank Group.



The screenshot shows the AMIS website "Crop Monitor" page. It features a navigation menu with links: HOME, ABOUT, MARKET MONITOR, INDICATORS, ANALYSES, EVENTS, and STATISTICS. Below the menu is a sub-menu with links: Supply & Demand, Crop Monitor, Policy Developments, International Prices, Futures Markets, Ethanol Update, and Ethanol Update. The main content area is titled "Crop Monitor" and includes a "last release: Apr 2015" badge and a "DOWNLOAD THE MONITOR" button. There are five crop icons: OVERVIEW, WHEAT, MAIZE, RICE, and SOYBEAN. Below the icons is a world map showing crop conditions by region, with a legend for Exceptional, Favourable, Watch, Poor, Out-of-Season, and No Data. The map also shows AMIS Countries and Non-AMIS Countries. Below the map is a "Map description" section and a "Highlights" section. The "Highlights" section includes a bullet point: "Wheat: In the northern hemisphere winter wheat has mostly resumed vegetative growth and conditions are generally favourable. In the EU, conditions are generally good. In the US there is still concern due to dry conditions in the Southern Plains. In China, conditions are favourable and in the Russian Federation and". On the right side, there is a "Tweets" section with two tweets from @AMISoutlook and a "SUBSCRIBE TO THE AMIS MARKET MONITOR" section with an email address input field and a "Subscribe" button.

Context: need for improved forecasts & transparency

- Within season forecasts vary between agencies
- Critical particularly in anomalous years

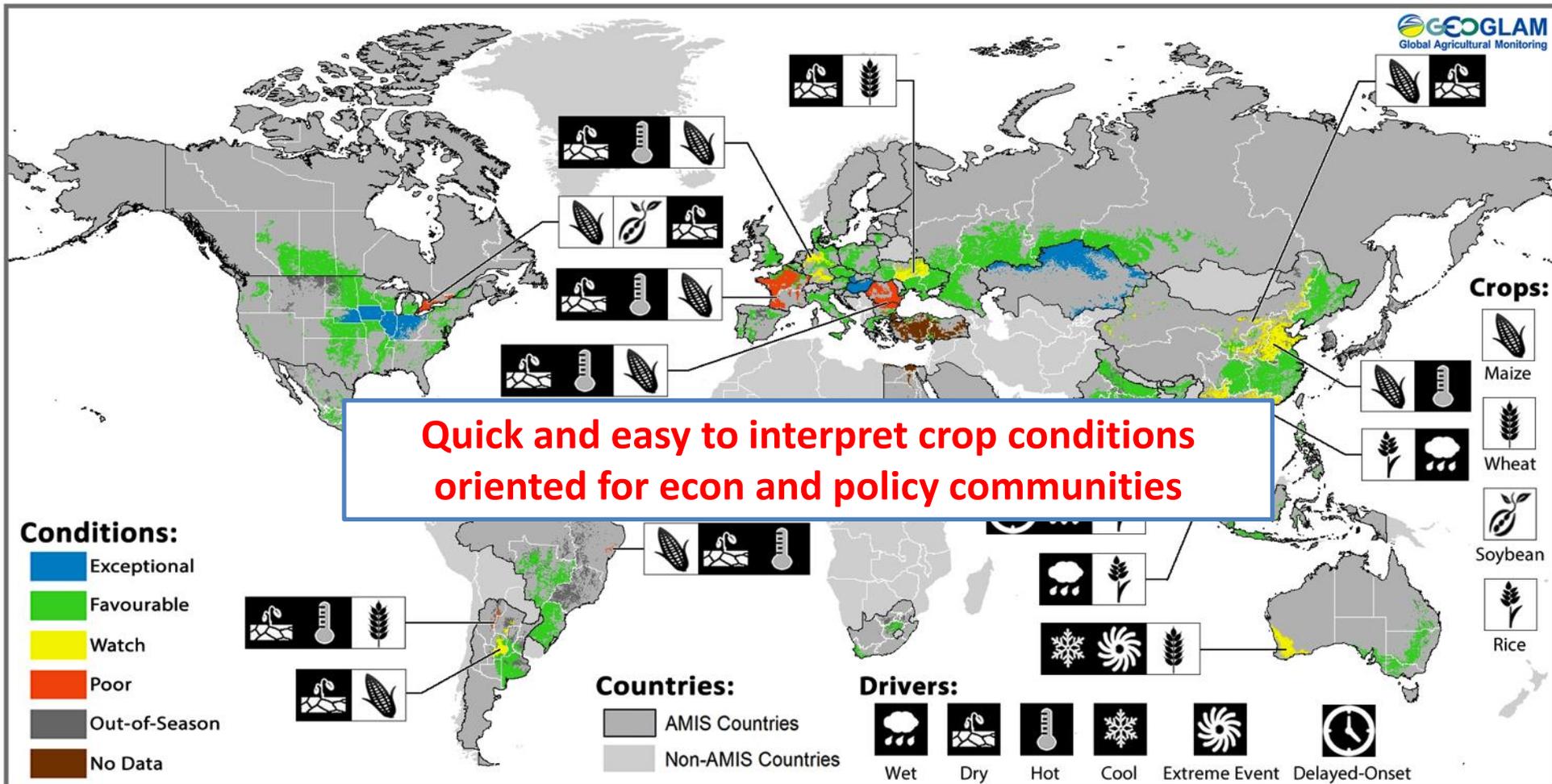


- Colors indicate different agencies
- Squares indicate reported end of season estimates
- Circles indicate in-season forecasts

Important Note - This is a preliminary, unofficial version of the PAY website. All numbers published on this website are unofficial. It is requested that users [read about the data sources](#) before using the data.

Output Crop Condition Maps Covering AMIS Crops

Conditions as of September 28th 2016



Crops that are in other than favorable conditions are displayed on the map with their crop symbol & driver.



Food and Agriculture Organization
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GEOGLAM Crop Monitor Partners

40 Partners and Growing



Crop Monitor is an integral part of AMIS Market Monitor and work

GEOGLAM became the 11th member of the AMIS Secretariat in 2016

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Roundup

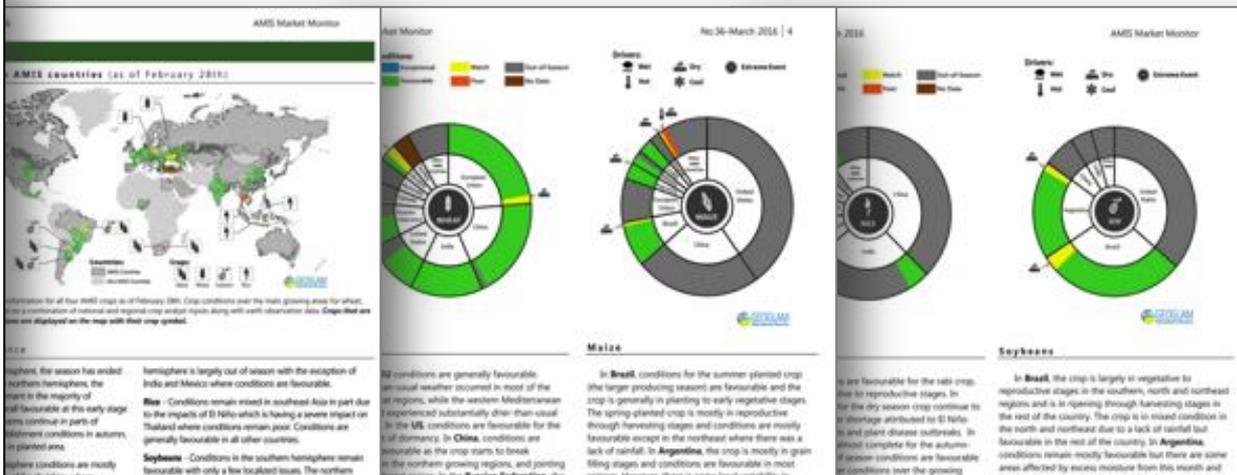
Unsettled weather made markets for AMIS crops volatile even before the start of the turmoil associated with the UK referendum on 23 June. In the meantime, the overall supply and demand outlook for 2016/17 season has changed little since last month. In the coming months, weather is likely to play a critical role for northern hemisphere maize, soybeans and rice crops, which are several months away from harvesting. The UK's vote to leave the EU adds further uncertainty, with first shock waves already observed in financial markets.

Markets at a glance

Commodity	From previous forecast
Wheat	▲
Maize	▲
Rice	▲
Soybeans	▼

▲ Easing ▼ Neutral

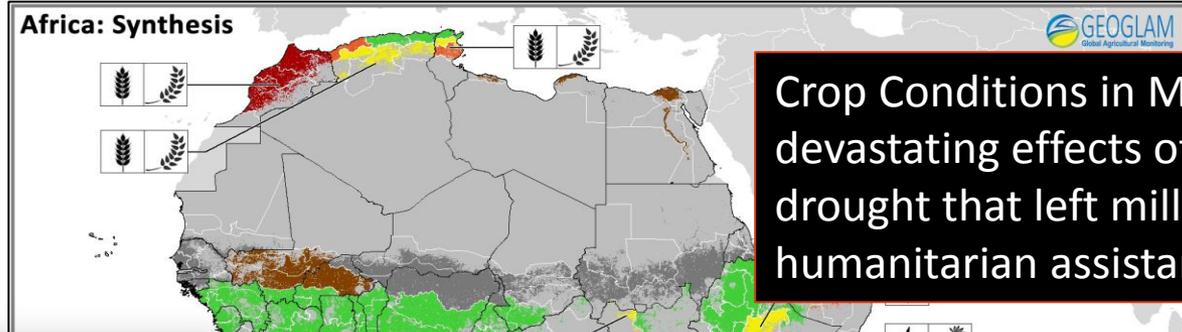
The Market Monitor is a product of the Agricultural Market Information System (AMIS). It covers the international market for soybeans, giving a synopsis of major market developments and the policy and other market drivers behind them. The Monitor also covers the market situation and outlook by the eleven international organizations and entities that form the AMIS Secretariat. Visit us at: www.amis.outlook.org



- First time the international community comes together to produce operational crop assessments with 40 contributing organizations & Ministries of Agriculture
- Strong collaboration between GEOGLAM and AMIS
- Bridging the gap between the EO and Econ communities
- Crop Monitor operational since 2013

Gave Rise to the Early Warning Crop Monitor

Focused on countries most vulnerable to food insecurity

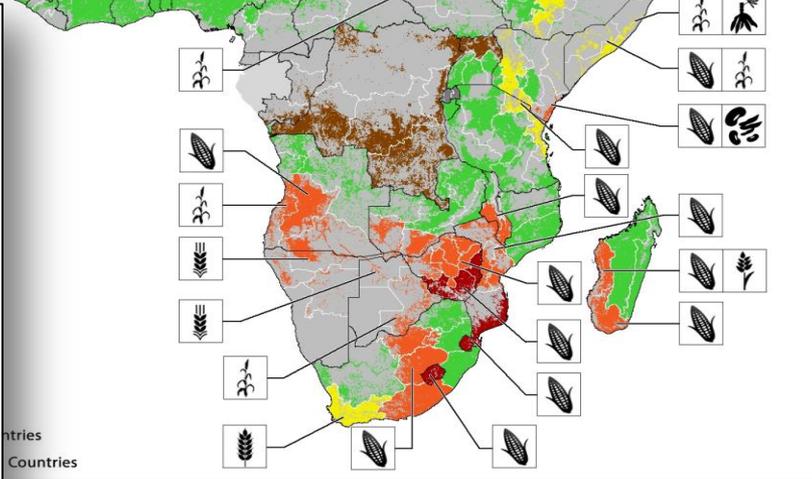


CROP MONITOR FOR
EARLY WARNING

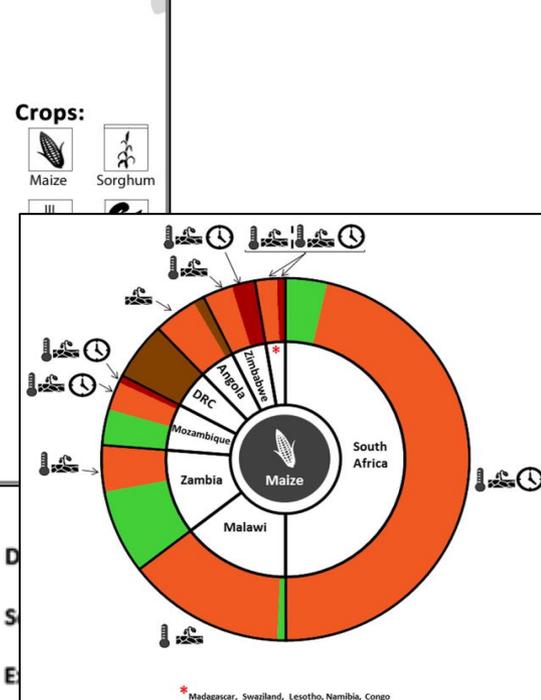
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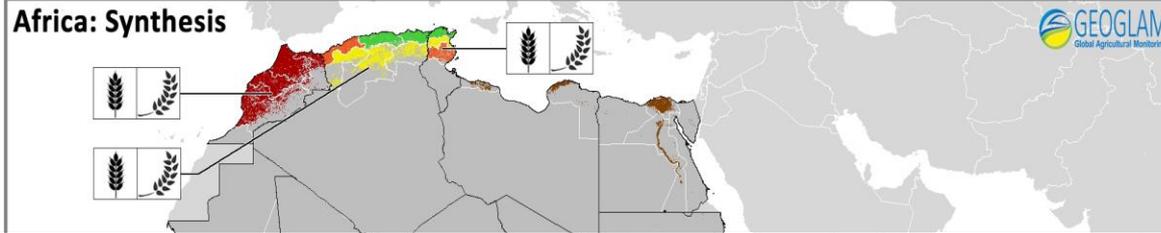
APRIL 2016

Brings together the international, regional, and national organizations monitoring crop conditions within countries at risk of food insecurity. The focus is on developing timely consensus assessments of crop conditions, recognizing that reaching a consensus will help to strengthen confidence in decision making. The EWCM grew out of a successful collaborative relationship, the AMIS Crop Monitor, which monitors the main producing countries (<http://www.amis-outlook.org/>). This is the first bulletin but future EWCM assessments will include all countries shown in blue in the adjacent panel.

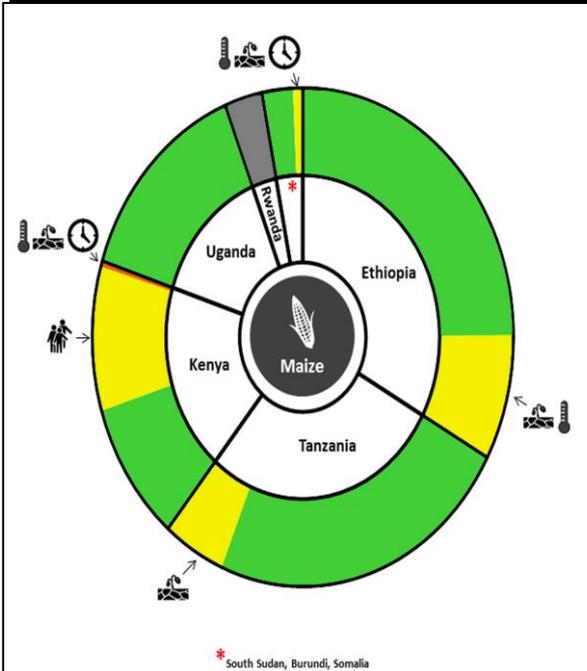


Conditions:		Drivers:	
 Exceptional	 Failure	Wet	Dry
 Favourable	 Out-of-Season	Hot	Cool
 Watch	 No Data	Pests & Disease	
 Poor			

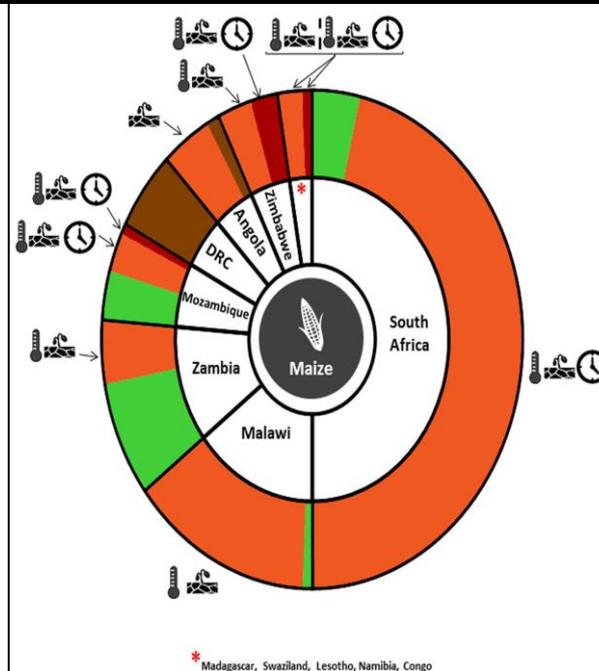




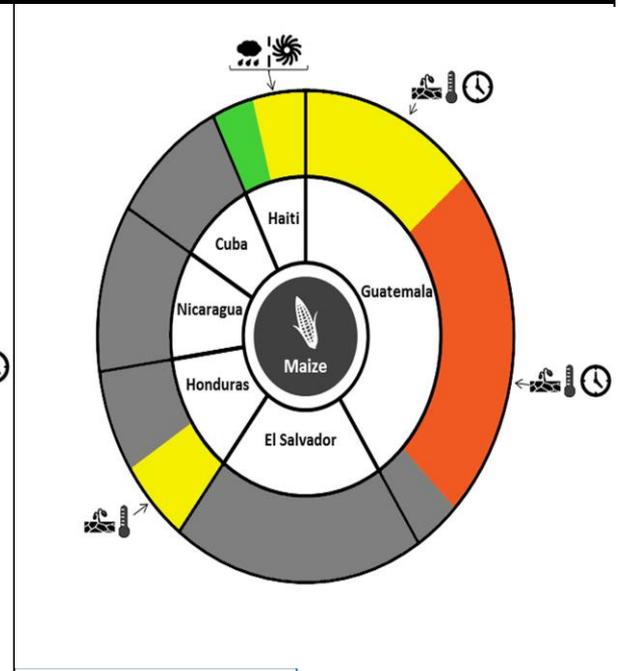
Maize East Africa



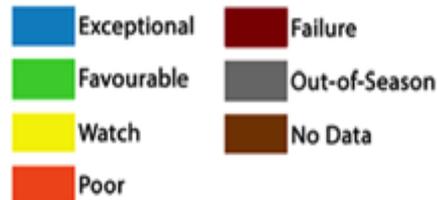
Maize Southern Africa



Maize Central America



Conditions:



Drivers:



Business / Land & Agriculture
Dry and brown Southern Africa will need food aid
BY EMIKO TERAZONO AND ANDREW ENGLAND, FEBRUARY 15 2016, 05:52

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THE HERALD

Zimbabwe: WFP Extends Food Aid to 2017

Tagged: Food and Agriculture • Aid and Assistance • External Relations • International Organisations • Southern Africa • Zimbabwe

Vegetation Status and Crop Production Perspectives

WFP VAM Report

Southern Africa Growing Season 2015-2016:
A Season of Regional Drought

South Africa's main production estimates for this season have been revised downwards slightly in February, to about 7.2 million tons, 27 percent below last year's and 38 percent below the 5 year average. The USDA Foreign Agriculture Service is more pessimistic, estimating production at 6.5 million tons. Similar variations may be expected for Zimbabwe, possibly Mozambique and Malawi, with more moderate losses in Zambia.

FEWS NET

Southern Africa Special Report

Monitoring

Illustrating the extent and

A severe drought, related to El Niño, is ongoing in the current lean season. While April/May harvests are expected to be average, this report presents a worst-case scenario for crop and regional food security in the current and next year.

Already informing agricultural decisions

Southern Africa

Friday 25 March 2016 09:40

ANA

ARC, South Africa

FINANCIAL TIMES

MARKETS OPINION LIFE & ARTS PORTFOLIO

Financial Times

Southern Africa warned of severe food crisis

Thursday 24 March 2016 - 6:04pm

GEO Announces Launch of Early Warning Crop Monitor: A New Tool to Fight Food Insecurity

March 16, 2016

World Food Programme (WFP) reveals its Hidden Gems in Development Software

The Group on Earth Observations announced the launch of the Early Warning Crop Monitor, a new tool to fight food insecurity. The announcement was made during the GEO 3rd Executive Meeting held in Geneva on 8-9 March.

Drought EWCM by Zimbabwe

The Famine (FEWSNET) insecurity a 2016-2017 drought wh

In a new special report, the extent and FEWSNET expected for April/May, the 2016-2017 drought is expected to be severe in Lesotho, Swaziland, Zimbabwe

Crop conditions in western Malawi, northern Mozambique, southern Zimbabwe and eastern Botswana are expected to be poor.

South African corn withers amid worst drought on record

Impact of extreme weather on food prices set to remain serious

Joint Statement

WFP World Food Programme

FEWS NET

European Commission

Food and Agriculture Organization of the United Nations

El Niño Set to Have a Devastating Impact on Southern Africa's Harvests and Food Security

Southern Africa warned of severe food crisis

Thursday 24 March 2016 - 6:04pm

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National Crop Monitor: Tanzania Example

Operational since June 2016

GEOGLAM in discussion with multiple countries including Ukraine

THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF AGRICULTURE LIVESTOCK AND FISHERIES
NATIONAL FOOD SECURITY BULLETIN

Volume 2 2016 www.afis.tz.gov.tz 07P March, 2016

March Crop Conditions

Conditions: High, Moderate, Low, Very Low

Rainfall: Above, Below, Near Normal

This crop condition map provides information for all regions on 28 March 2016. Crop conditions over the main growing areas are based on a combination of national and regional crop status reports along with remote sensing data and rainfall data provided by the Tanzania Meteorological Agency.

NATIONAL HIGHLIGHTS

High to moderate temperature conditions prevailed in most parts of the country. The main crop in unimpaired areas was in average condition at various stages ranging from flowering to full maturity in limited areas. Farmers were engaged in finishing seed preparation and planting of maize (long season crops). The farming activities generally progressed well. Some areas in Rufiji region experienced water conditions for maize due to unknown reason which is under investigation. In some areas of Dodoma region crop failure was due to prolonged the spell.

Peasants, Kilimanjaro and Arusha regions experienced water conditions due to low amount of rains while Morogoro region was under water condition due to floods. Aerial sprays were done to control the malaria invasion. Favorable conditions were observed in most areas of the Southern Highlands except for Lindani Council in Mwanza where flood crop have been negatively impacted by dry and hot conditions. The Central and Lake Zone regions including Dodoma, Singida, Tabora, Morogoro and Morogoro regions were under water due to malaria invasion. Cereals which were at milky to maturity stages were highly vulnerable to bank attack. The major three food crop prices (maize, beans and rice) were 1.1 price of beans

Contents

- General crop conditions
- General highlights
- Specific crop crop/region conditions
- TMA Rainfall Performance Report
- Temperature Performance Report
- Highlights to major food crop
- Maize
- Beans
- Cereals
- Food prices in region
- Regional crop condition status
- Unimpaired
- Impaired
- Regional Highlights
- Notes and References
- Terms and References

Satellite-based crop

TMA Rainfall Performance

Food prices at select

Regional Highlights-Morogoro

Moisture Developmental Stage

National Food Avail

According to data on food availability (FAO) for 2015, the country is currently experiencing a food deficit of 1.5 million metric tons (MT) in 2015.

National Outlook for April 2016

Northwest Coast (Panga, Panga, Bar in Kilimanjaro, Mbezi, Kilimanjaro, Morogoro, Mwanza and Singida) region: Half of the period reported with short periods of rain, expected to be low.

South Eastern Highlands (Kilimanjaro, Arusha and Morogoro) region: Rainfall and water conditions below normal as season impacted by low rain.

South Western Highlands (Dodoma, Singida, Morogoro) region: The rain is expected to be low in the coming months, mainly due to the end of the long rains.

Agrometeorological Impacts: The dry conditions that prevailed during the period to which led to failure especially in Dodoma region. The low flowering south western region to full maturity has impacted and weakened them. In limited areas, farmers report the farming activities generally progressed well, but generally poor across the country whereas water availability generally poor across the country whereas water availability generally poor across the country.

Above: MODIS 16 day NDVI anomaly. Satellite data anomaly is below average 0.1

Agrometeorological Methods and Indicators: The reported rainfall over the operational areas during the long dry spells in Dodoma region, farmers are advised to continue with planting of crop whenever possible. Agricultural Extension Officers in Rural locations.

Source: Agricultural Policy Unit





GEOGLAM Partnership with AMIS

A strong and fruitful relationship that is:

- Providing public good: open, timely, science-driven information on crop condition to inform decisions and actions
- Bridging the gap between the policy/economics and the satellite earth observations communities
 - Ensuring the user community is driving the satellite monitoring agenda
- Increasing communication and knowledge transfer amongst countries and monitoring systems
 - Thereby strengthening national monitoring systems
- Critical to facilitate research to operations- validation of products, intercomparison of methods, models and systems that can be scaled up



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Thank You!

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