

GEOGLAM Crop Assessment Tool

Supporting Evidence for the Crop Monitor

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Esri User Conference, San Diego
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GEOGLAM
Global Agricultural Monitoring



UNIVERSITY OF
MARYLAND

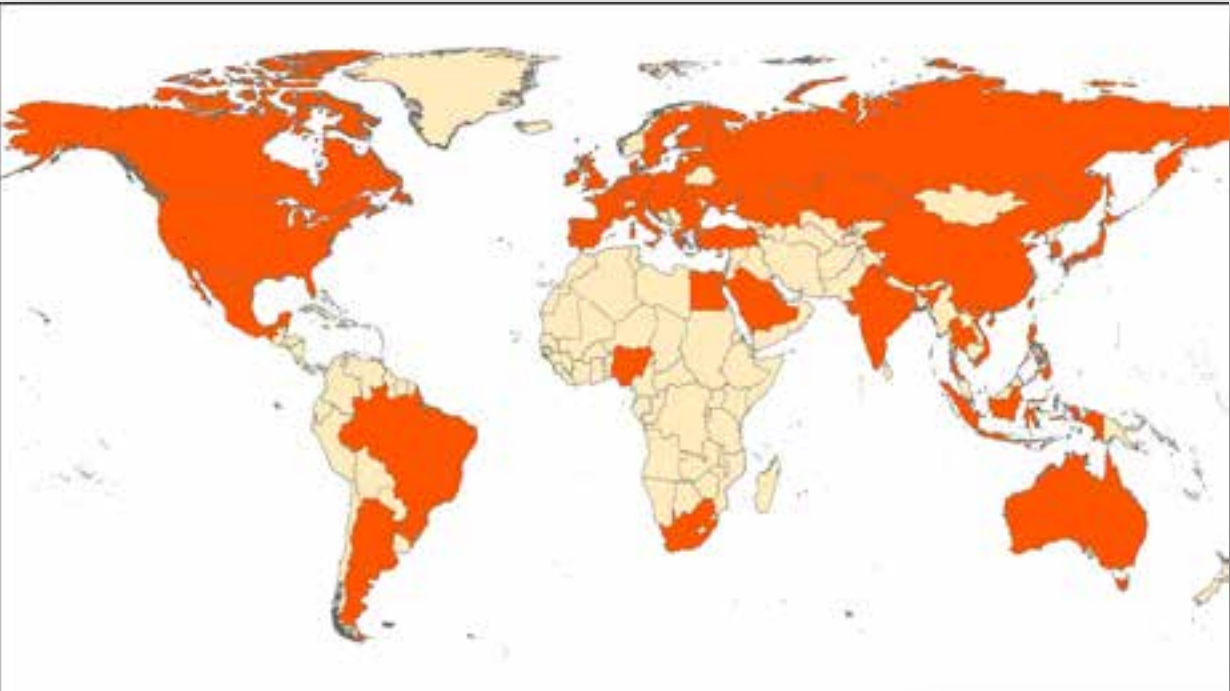
About GEOGLAM

- Group on Earth Observations (GEO) Global Agricultural Monitoring Initiative
- **Objective:** Strengthen the international community's capacity to produce and disseminate relevant information on agricultural production at national, regional and global scales, through earth observations (EO)
- Adopted by the G-20 in 2011 as part of the Action Plan on Food Price Volatility & Agriculture along with the AMIS (Agricultural Market Information System)
- <http://www.earthobservations.org/geoglam.php>

About GEOGLAM Crop Monitor

- **Objective:** develop transparent, timely, crop condition assessments in primary agricultural production areas highlighting potential hotspots of stress/bumper crop
- These assessments reflect an international consensus of crop conditions
- Crop Monitor assessments are published monthly in the AMIS Market Monitor, with supplemental information available on the GEOGLAM Crop Monitor website
- <http://www.geoglam-crop-monitor.org>

Coordinated by Inbal Becker-Reshef and Chris Justice, Center for Global Agricultural Monitoring Research, UMD



The GEOGLAM Crop Monitor and AMIS report on the G20 + 8 additional countries, representing the major producers, exporters, and consumers of wheat, maize, soybeans, and rice

Monthly Crop Monitor assessments published in the AMIS Market Monitor reflect crop conditions as of the 28th day of the month

More detailed reports containing additional maps and charts are available at www.geoglam-crop-monitor.org



GEOGLAM Crop Monitor Partners

>30 partners & growing

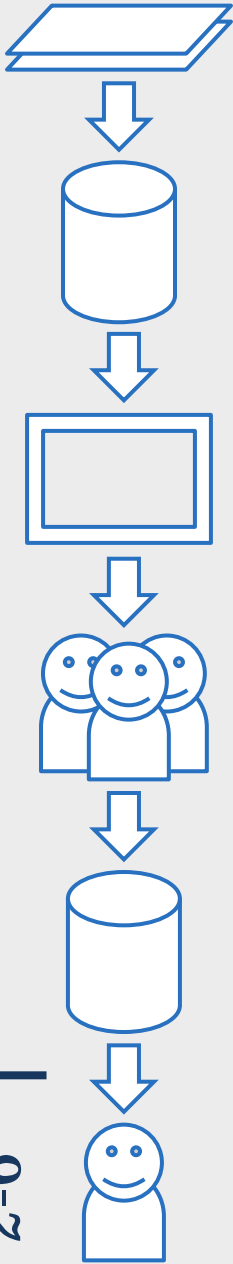
Country	Organization/Agency	Country	Organization/Agency
Argentina	INTA	Japan	JAXA
Asian Rice Countries	AFSIS ASEAN +3	Mexico	SIAP
Asian Rice Countries	Asia RiCE	Russia	IKI
Australia	ABARES	South Africa	ARC
Australia	CSIRO	South Africa	GeoTerraImage
Brazil	CONAB	South Africa	SANSA
Brazil	INPE	Thailand	GISTDA
Canada	AAFC	Thailand	OAE
China	CAS	Ukraine	NASU-NSAU
EU	EC JRC MARS	Ukraine	UHMC
India	ISRO	Uruguay	MGAP
Indonesia	LAPAN	USA	NASA
Indonesia	MOA	USA	UMD
International	CIMMYT	USA	USDA (FAS, NASS)
International	FAO	USA	USGS - FEWS NET
International	IRRI	Vietnam	VAST
International	IFPRI	Vietnam	VIMHE-MARD

Process

1. Agencies submit crop condition information, data and fill out information on the Crop Assessment Tool
2. Compile submitted information into a report and integrate datasets into crop monitor interface
3. Review and discuss report over partner telecon
 - Opportunity to air issues and discrepancies
4. Update assessment and send out for GEOGLAM review
5. Submit draft for AMIS review
6. Update if new information becomes available prior to release

Steps
2-6

Step 1: Crop Assessment Tool



Data submitted to the Crop Monitor group by partners

(Data processed by the Crop Monitor team)

Processed data is stored in a PostgreSQL/ArcSDE database

(Layers made accessible via ArcGIS for Server)

Layers are visualized on the Crop Monitor Map

Partners (users) interpret the data and combine with expert knowledge, field reports, models, official reports

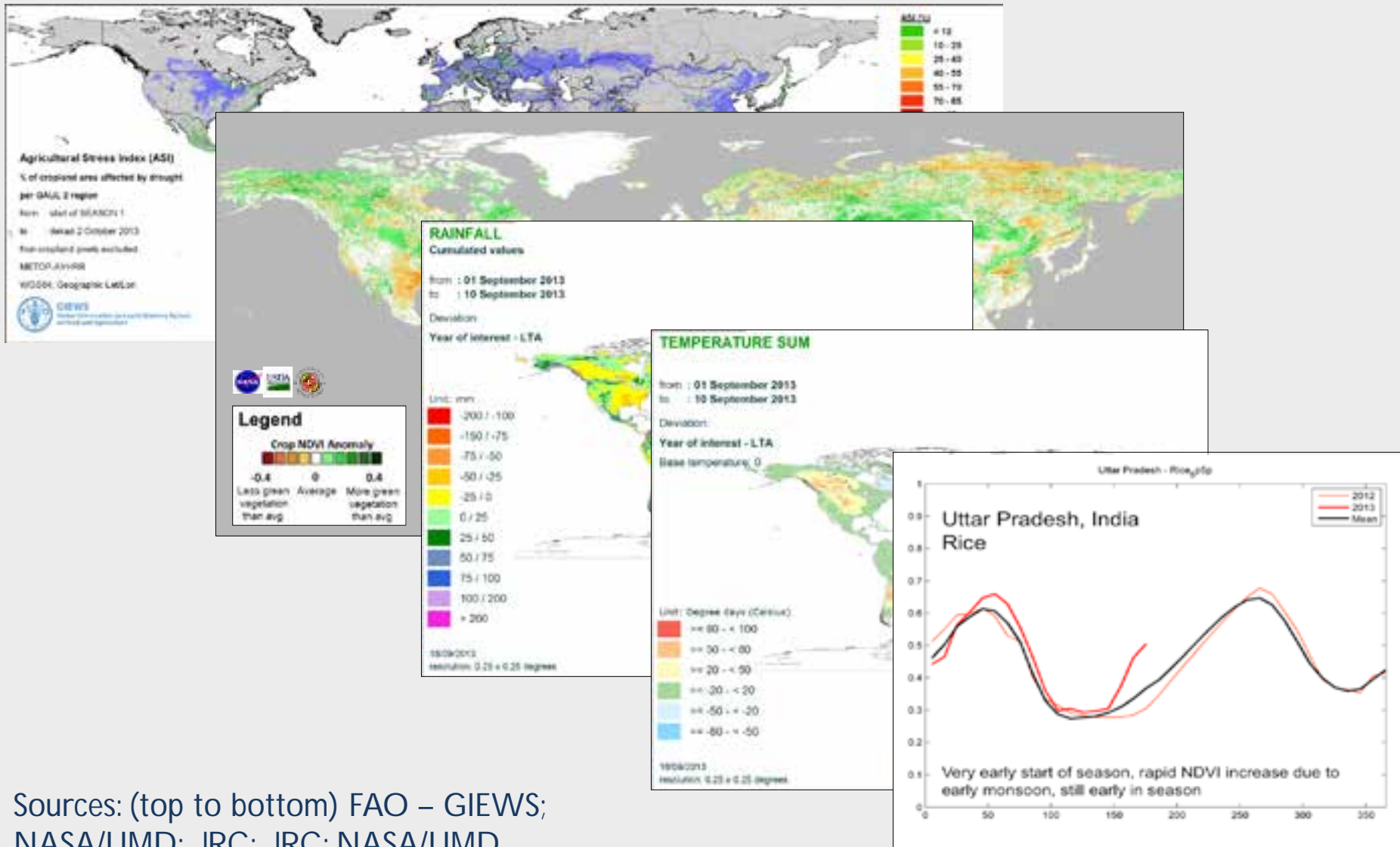
(Information summarized in crop condition entries)

Crop condition entries are stored in the PostgreSQL archive

(Crop condition entries processed and exported)

At the end of the month, crop condition entries are compiled. Synthesis maps, pie charts, and a the monthly report are submitted to AMIS according to the review process (steps 2-6)

EO Data



Sources: (top to bottom) FAO – GIEWS;
 NASA/UMD; JRC; JRC; NASA/UMD

Crop Condition Entries

GEOGLAM
Global Agricultural Monitoring

Products

Overlay #1
Select a Product:
Opacity: 100%

Crop Mask

Wheat	<input checked="" type="checkbox"/>
Maize	<input type="checkbox"/>
Soybean	<input type="checkbox"/>
Rice	<input type="checkbox"/>

Crop Calendar & Monitoring

Month: June
Total # 120
Season: Winter Wheat

Crop Assessment

Pacific Southwest, United States of America

Spring Wheat (Vegetative - Reproductive)

Condition

Condition: Favorable

Trend: Stable

Provenance: Official National Endorsement

Observed Date:

Comments:

Drivers and Impacts

Wet	<input checked="" type="checkbox"/>	Minor Positive
Dry	<input type="checkbox"/>	Select Impact
Hot	<input type="checkbox"/>	Select Impact
Cold	<input type="checkbox"/>	Select Impact
Extreme Event	<input type="checkbox"/>	Select Impact

Crop Stage

- Planting Early Vegetative
- Vegetative Reproductive
- Ripening Through Harvest
- Out of Season or Risk

Assessment

- Exceptional
- Favorable
- Watch
- Poor

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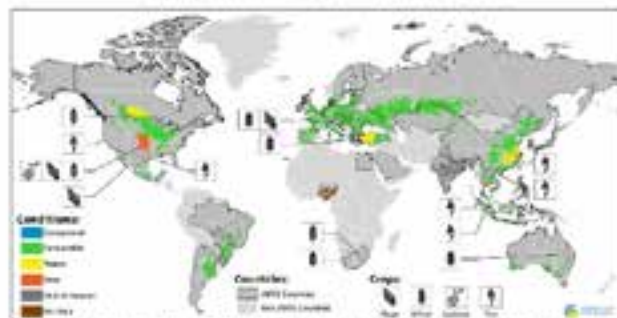
Crop Monitor Bulletin

AMIS

No. 25 - June 2014

Crop Monitor*

Crop Conditions in AMIS countries (as of May 28th)



Crop conditions may be summarized as follows for all four AMIS crops as of May 28th. Crop conditions are the most growing areas for wheat, maize, rice, and soybeans are based on a combination of national and regional crop analysis reports along with earth observation data. Crops that are in less than favorable conditions are displayed on the map with their crop status.

Highlights

Wheat: Overall conditions are generally favorable in the Northern Hemisphere. However, significant concerns continue in the US southern plains due to dry conditions. In Canada, the cool weather continued and is causing some delays for spring wheat. In Turkey, there is concern due to hot dry weather. In the southern hemisphere, planting is progressing and conditions are generally favorable at this early stage of the season, with some concerns over dry conditions in parts of South Africa and Australia.

Maize: Overall conditions are favorable in the southern hemisphere. The season is nearly complete. In Argentina, conditions are favorable though there is some concern over excess moisture, which is delaying harvest. In Brazil, an overall decrease in production is expected owing to reduced planted area and yield. In the northern hemisphere, conditions are generally favorable, but planting is nearly complete. There is major concern over planting delays in the northern US Cornbelt.

Rice: Conditions are mixed. Production prospects are below average in India, Mexico and Thailand. In China, there is some concern over excessive wet conditions affecting the early-planted rice crop. In the EU and US, planting is ongoing and conditions are favorable.

Soybeans: In the southern hemisphere, the season has generally progressed well and overall prospects are good. In Argentina, overall crop conditions are good, although there is some concern regarding moisture stresses in some areas. In Brazil, a bumper crop has been forecast due primarily to improved planted area and mostly favorable conditions. In the northern hemisphere, planting of the 2014/15 crop has started under generally favorable conditions.

El Niño situation update

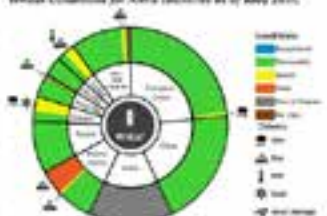
As noted in the previous crop monitor issues, there are still prospects for development of El Niño conditions during the late summer or autumn of the Northern Hemisphere. This is based on the observational research reports for China and India; the U.S. National Oceanic and Atmospheric Administration; and the Australian Bureau of Meteorology continue to indicate the possibility, with the probability of occurrence around 70 percent. Though current conditions continue to prevail, season warming has been observed from March through May, which characteristically precedes El Niño.

*This monitor is prepared for AMIS by OECD/FAO. It summarizes global conditions for AMIS crops based on regional expertise and national crop reports, earth observation, and meteorological data.

No. 25 - June 2014

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Wheat Conditions for AMIS countries as of May 28th



For detailed description of crop status please refer to page 6

In Canada, overall spring wheat are still favorable, however below-normal temperatures across most of the west, and delayed fall operations and planting by up to one week are particularly the eastern provinces. In the US, winter wheat conditions are still mixed. In the southern US wheat region, drought has continued to hamper crop conditions and production is low in that area. Other winter wheat growing areas have closer to normal conditions, production, which is still expected to be down from last year. The spring wheat is normally in Mexico, overall conditions are favorable. However, the lack of cool growing regions may decrease production slightly. In China, conditions are generally good, which is in flowering to harvest stage. In Brazil, planting is progressing and will be in the major producing states. Conditions at this early stage of the season are good. In South Africa, planting is in progress in the winter wheat region in the south. Following a wet summer, dry conditions have prevailed and are negatively impacting is expected in coming days. In Australia, planting is ongoing and overall conditions are good, except over dry conditions in north-eastern growing regions, which has limited opportunities, planting has started, however has been hampered due to excess moisture.

Rice Conditions as of May 28th



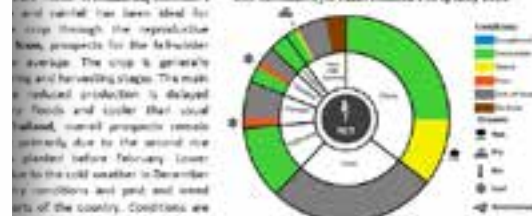
For detailed description of crop status please refer to page 6

Overall, in the southern hemisphere, conditions are favorable. In Argentina, overall conditions are still favorable, however, there is some concern over excess moisture, which is delaying harvest. In Brazil, conditions of the second major crop, which is in the reproductive stage, is similar to that of last year. The first major crop harvest is complete and production is reduced. According to both the first and second crops, a decrease in production is expected owing to reduced planted area and yield. In the northern hemisphere, conditions are favorable in Mexico, conditions are mostly below, while in some countries for both the winter and spring-planted crops. There is still some concern over the winter crop, currently being harvested, due to the impact of the strong El Niño development is progressing normally with no widespread concerns about the El Niño impact on rice planting delays along the most northern coast. In the EU, and stages with overall normal conditions. In China, overall conditions are favorable in spring (northern region) and flowering (southern region) stages. In Russia, planting is conditions are sufficient at this early stage. In Ukraine, crop moisture conditions are good and establishment of the early-planted crop.

No. 25 - June 2014

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Rice Conditions for AMIS countries as of May 28th



For detailed description of crop status please refer to page 6

Overall, in the southern hemisphere, conditions are favorable. In Argentina, overall conditions for both the first and second-planted crops remain favorable, harvest is in progress, though is delayed due to excess moisture conditions in some areas. In Brazil, harvest is complete. Despite the relatively advanced the growing season, the total production increased due to the increase in area planted. In the US, planting is in progress, and conditions are generally favorable at this early stage. In China, planting is ongoing in the northwestern region. In the EU, it is moving to early development stages with some favorable conditions.

Soybeans in AMIS countries as of May 28th



For detailed description of crop status please refer to page 6

Overall, in the southern hemisphere, conditions are favorable. In Argentina, overall conditions for both the first and second-planted crops remain favorable, harvest is in progress, though is delayed due to excess moisture conditions in some areas. In Brazil, harvest is complete. Despite the relatively advanced the growing season, the total production increased due to the increase in area planted. In the US, planting is in progress, and conditions are generally favorable at this early stage. In China, planting is ongoing in the northwestern region. In the EU, it is moving to early development stages with some favorable conditions.

Below each pie chart is a country's share of total AMIS production (3-year average), with producing country's 30 percent of production are shown in italics, with the remaining 70 percent grouped into the "other" category. The data within each pie is divided between crops in season (colored) and out-of-season (grey). The data is based on the latest available data for the 2013/14 season, and is not an estimate of the 2014/15 season. The data is based on the latest available data for the 2013/14 season, and is not an estimate of the 2014/15 season. The data is based on the latest available data for the 2013/14 season, and is not an estimate of the 2014/15 season.

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What is the Crop Assessment Tool?

- Two main roles
 1. Supply users with EO data, crop calendars, and crop masks to provide the Crop Monitor with crop condition entries
 2. Allow users to submit crop condition entries
- Custom, enterprise level database-driven web application
 - Scalable, adaptable, customizable user accounts
 - Pages: Dashboard, Map, Monthly Assessment, Archive, Settings, Administrative Tools
 - For more information about the Crop Assessment Tool system, please see our presentation “Database-driven web mapping using jQuery, PHP, PostgreSQL & SDE”

[Dashboard](#)[Map](#)[Monthly Assessment](#)[Archive](#)[Settings](#)[Admin](#)[Logout](#)[Map](#)[Monthly Assessment](#)[Archive](#)[Settings](#)

Tweets

[Follow](#)**FAO statistics** @FaoStatistics

June | Asia Pacific Food Price and Policy Monitor

1st bySTRAUD

11 Released to @GEOLAM

Ecuador

**FAO statistics** @FaoStatistics

India expects to hit a new record for foodgrain production of 354.2m tonnes, and in prod. est at 105.3m tonnes, wheat at 85.8m tonnes

11 Released to @GEOLAM

Vietnam

**GEOLAM** @GEOLAM

Tweet to @GEOLAM @GEOLAM

Crop Assessment Tool

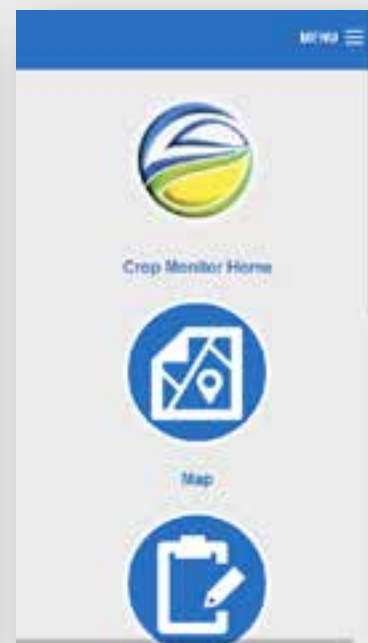
For the users (300+):

- Visualize and compare data products
 - Crop Stages (GEOGLAM Partners)
 - NDVI Anomaly (NASA/UMD)
 - Temperature and Rainfall Sum Anomalies (JRC, NOAA/NASA/UMD)
- Submit and view individual crop condition entries
 - Customize reporting regions and reporting crop types
- View an archive of past crop condition entries
- Responsive Design

Crop Assessment Tool

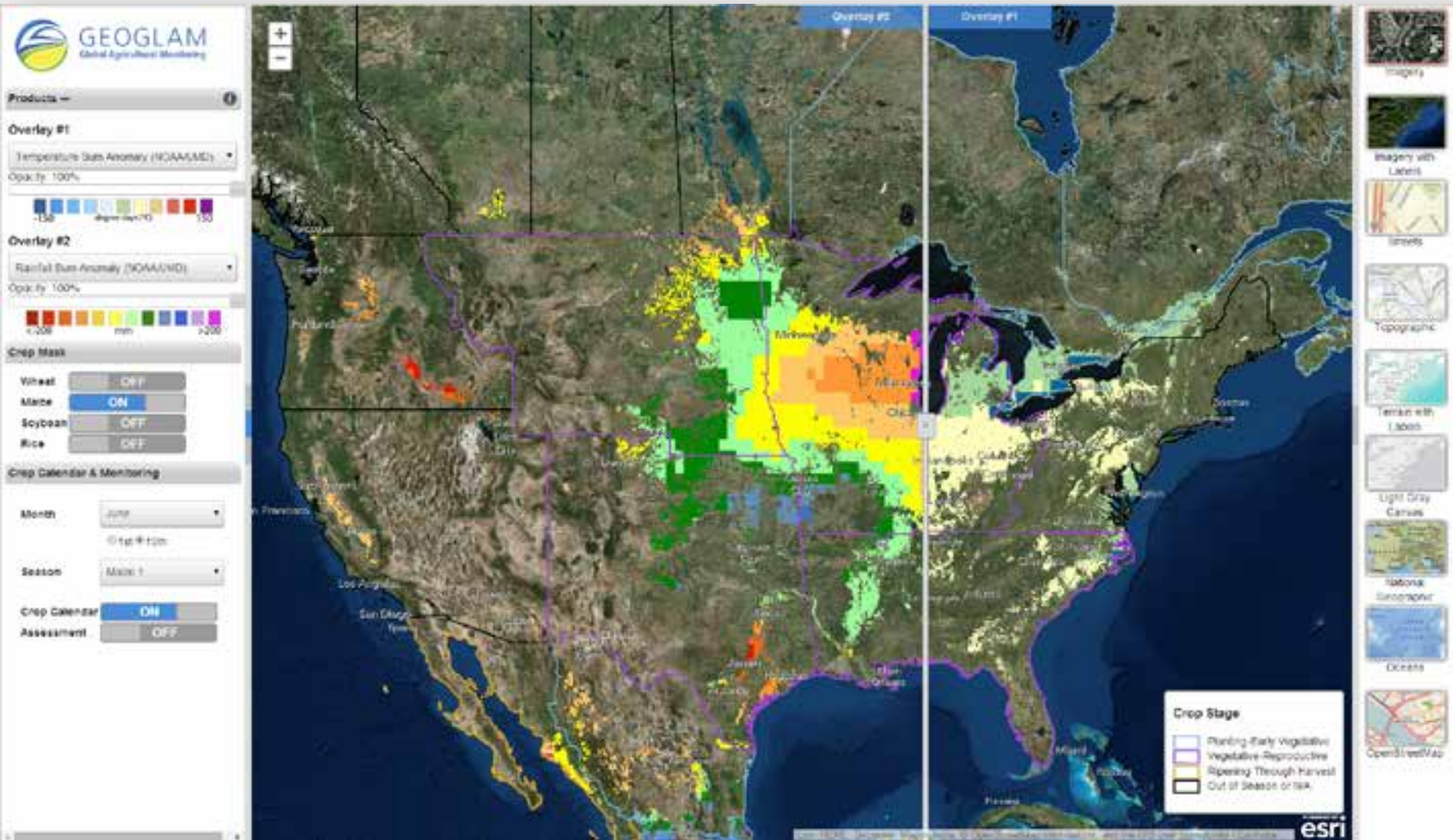
For the administrators:

- Set of web admin tools
 - Update user access levels
 - Assist partners in filling in crop conditions reports when necessary
- Python scripts
 - Publish new data products to ArcGIS Server with one script
 - Export results of the monthly crop assessment to shapefiles for creating the global synthesis maps (available from the web via geoprocessing service)



Crop Assessment Tool Dashboard page on desktop (top-left), Galaxy S4 (top-right), and iPad 4 (bottom-right)

(Below) Crop Monitor Map: Allows users to visualize and compare data products. Main features include the Swipe widget for comparing data products, the Esri Basemap Gallery widget, and the GEOGLAM Crop Monitor Assessment widget for entering crop condition entries.





Mexico Norte

Condition & Trend Condition: Favorable Trend: Stable		Drivers & Impacts Wet <input type="checkbox"/> Select Impact Dry <input type="checkbox"/> Select Impact Hot <input type="checkbox"/> Select Impact Cold <input type="checkbox"/> Select Impact Extreme Event <input type="checkbox"/> Select Impact	Comments Conditions are about normal for this time of year <input type="button" value="Submit"/>
Provenances: Official International Observed Date: 06/18/2014			

(Above) Zoomed-in view of Assessment widget: Displays submitted crop condition entries on the map, symbolized by condition. Clicking on a region will display the country, region, and crop stage of the selected area with the option to enter a new crop condition entry.

Dashboard Map Monthly Assessment Archive Settings Admin Logout


Monthly Assessment

Main Wheat Soybean Rice Maize

Wheat

Spring Wheat
[Assessment | Summary](#)


Winter Wheat
[Assessment | Summary](#)



Soybean

Soybean 1
[Assessment | Summary](#)

Soybean 2
[Assessment | Summary](#)




Rice

Rice 1
[Assessment | Summary](#)


Rice 2
[Assessment | Summary](#)

Rice 4
[Assessment | Summary](#)



Maize

Maize 1
[Assessment | Summary](#)



Country	Region	Crop Name	Stage	Status
Australia	New South Wales	Spring Wheat	Out of Season or N/A	Incomplete
Australia	Northern Territory	Spring Wheat	Out of Season or N/A	Incomplete
Australia	Queensland	Spring Wheat	Out of Season or N/A	Incomplete
Australia	South Australia	Spring Wheat	Out of Season or N/A	Incomplete
Australia	Tasmania	Spring Wheat	Out of Season or N/A	Incomplete
Australia	Victoria	Spring Wheat	Out of Season or N/A	Incomplete
Australia	Western Australia	Spring Wheat	Out of Season or N/A	Incomplete

Wheat - Spring Wheat [4]

Wheat - Winter Wheat [1]

(Left) Monthly Assessment “Main” Page: Shows the completion status of all crop condition entries for crops and regions selected by the user on the Settings page.

Dashboard Map Monthly Assessment Archive Settings Admin Logout

Monthly Assessment

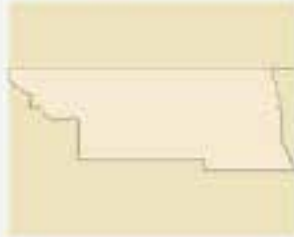
Main Wheat Soybean Rice Maize

Wheat - Spring Wheat

[Submit All](#)

Northern Plains, United States of America

Spring Wheat (Vegetative - Reproductive)



Condition:

Trend:

State:

Provenance:

Observed Date:

Comments:

Drivers and Impacts

Wind ☐ [Minor Positive](#)

Dry ☐ [Severe Impact](#)

Hail ☐ [Severe Impact](#)


Cold ☐ [Severe Impact](#)

Extreme Event ☐ [Severe Impact](#)

[Submit](#)

Pacific Southwest, United States of America

Spring Wheat (Vegetative - Reproductive)



Calendar:

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

Comments:

Drivers and Impacts

Wind ☐ [Severe Impact](#)

Dry ☐ [Severe Impact](#)

Hail ☐ [Severe Impact](#)

Cold ☐ [Severe Impact](#)

Extreme Event ☐ [Severe Impact](#)

[Submit](#)

(Right) Monthly Assessment Crop Condition Entry: Provides assessment forms for all in-season crops.

Data Collected

The following data is collected every month for each crop in season for each region:

- Condition
 - Exceptional: Conditions are much better than average* at time of reporting. This label is used only during the grain-filling through harvest stages
 - Favorable: Conditions range from slightly below to slightly above average at reporting time.
 - Watch: Conditions are not far from average but there is a potential risk to production.
 - Poor: Crop conditions are well below average. Crop yields are likely to be more than 10% below average. This is only used when conditions are not likely to be able to recover, and impact on production is likely
- Drivers: Dry, Wet, Hot, Cool, Extreme Event
- Potential Impact: Unknown, Minor (+/-), Major (+/-)
- Trend: Improving, Stable, Worsening
- Comments
- Provenance
- Observed Date



Archive

[Hide Filter](#)

United States of America ▾

All Regions ▾

All Crops ▾

Favorable ▾

All Trends ▾

All Provenances ▾

05/15/2014

06/14/2014

Update

Country Name ▾	Region Name ▾	Crop Name ▾	Condition ▾	Trend ▾	Comment	Provenance ▾
United States of America	Midwest	Winter Wheat	Favorable			Official IIA
United States of America	Northern Plains	Winter Wheat	Favorable			Official IIA
United States of America	Pacific Northwest	Winter Wheat	Favorable			Official IIA
United States of America	Southeast	Winter Wheat	Favorable			Official IIA
United States of America	Northern Plains	Spring Wheat	Favorable		Somewhat delayed in the Dakotas and Minnesota due to cool, wet spring. Nothing of real concern though.	
United States of America	Midwest	Soybean 1	Favorable		Planting just getting underway.	
United States of America	Northern Plains	Soybean 1	Favorable		Planting just getting underway.	
United States of America	Southeast	Soybean 1	Favorable			
United States of America	Midwest	Rice 1	Favorable			
United States of America	Southeast	Rice 1	Favorable			
United States of America	Midwest	Maize 1	Favorable		After the cool, damp spring planting progress has caught back up to normal.	
United States of America	Northern Plains	Maize 1	Favorable		After the cool, damp spring planting progress has caught back up to normal.	
United States of America	Southeast	Maize 1	Favorable			

(Left) Archive page: Displays submitted crop condition entries. Filters the results by date, region, crop, condition, trend, or provenance. Table can be sorted by one of more columns, ascending or descending.

These results are filtered to show USA entries for all crops with "Favorable" conditions during the June reporting period, then sorted by the name of the crop (descending order).

(Right) Settings page: Displays the logged-in user's contact information and allows the user to opt out of receiving Crop Monitor email, distributed via SendGrid.

Users can also select the countries which they wish to report on as well as select the crop categories which they will contribute crop condition entries to.

The screenshot shows the 'Settings' page of the GEOGLAM Crop Monitor application. The page has a blue header with navigation links: Dashboard, Map, Monthly Assessment, Archive, Settings (active), Admin, and Logout. A 'Submit Changes' button is in the top right corner.

The main content area is divided into several sections:

- Account Information:** Fields for First Name (Mike), Last Name (Number), Email Address (mike@geoglam.edu), Country (USA), and Organization (UNO). There is a checkbox for 'Receive Crop Monitor Email' with a link to 'Receive Crop Monitor Email'.
- Country Selection:** A list of 'Available Countries' categorized by region: Africa & Middle East (Egypt, Algeria, Saudi Arabia, South Africa, Turkey), Asia Pacific (Australia, China, Indonesia, Japan, Korea, Philippines, Republic of Korea), and North America (Canada, Mexico, United States of America). The 'United States of America' is selected.
- Selected Countries:** A list of selected countries, currently showing 'United States of America'.
- Selected Crops:** Four columns for crop selection: Wheat (Spring Wheat, Winter Wheat), Soybean (Soybean 1, Soybean 2), Rice (Rice 1, Rice 2, Rice 3, Rice 4, Rice 5), and Maize (Maize 1, Maize 2).

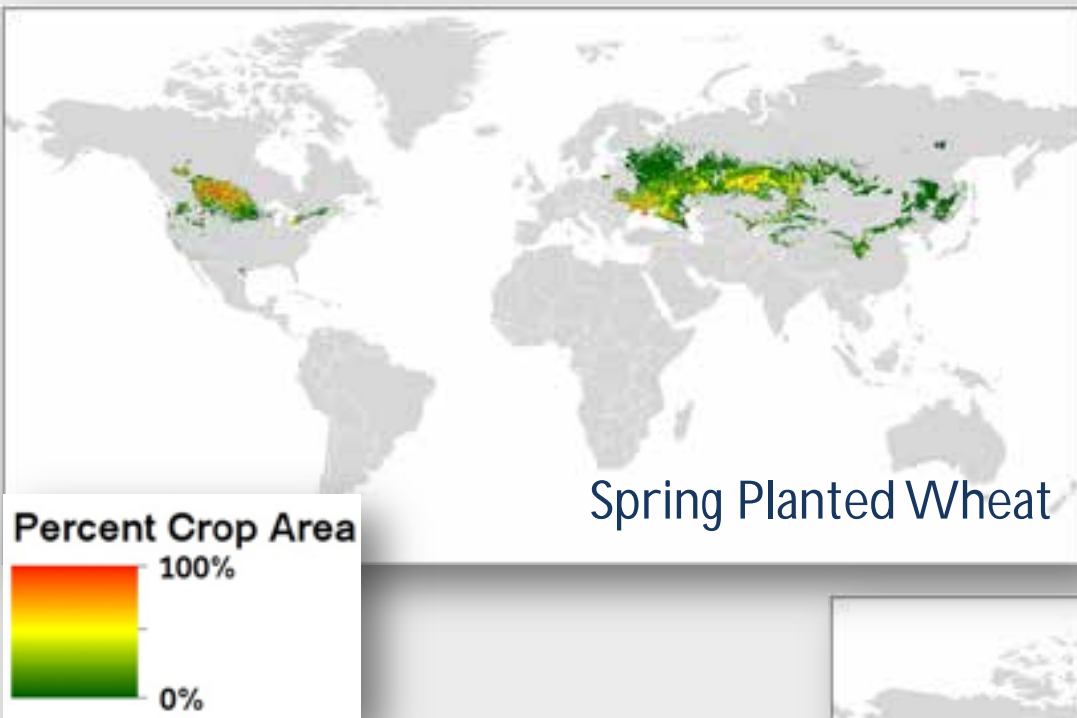
A black notification box in the center states: 'The GEOGLAM Crop Monitor Team will send email to notify you of significant changes, important news, and monthly assessment periods.'

The footer contains copyright information: '© Copyright GEOGLAM Crop Monitor', 'Powered by University of Maryland', and links for 'Home', 'Reports', 'About', and 'Contact'.

GIS Analysis in the Crop Monitor

- Combine crop area masks and crop condition responses from the Crop Assessment Tool to create synthesis maps and crop-specific condition maps
 - Synthesis and crop-specific condition maps show a quick overview of overall global crop conditions along with associated drivers
- Area calculations from the maps are used to create pie chart visualizations of the overall conditions of each crop
- This process will be automated in the near future to allow users to download this information directly from the tool

Crop Monitor Crop Masks and Calendars



New Crop Monitor products
Reflect best available crop type
distribution based on multiple
national & global products



Sources: IFPRI/IIASA SPAM 2005 [beta version; released 2013]), USDA/NASS CDL 2013, AAFC Annual Crop Inventory Map 2013, SIAP (Mexico) Crop Type Maps, GLAM/UMD wheat and soy masks, Australian Land Use and Management Classification (Version 7), ARC South Africa, and EC JRC MARS crop type masks. Asian Rice countries to be added in August.

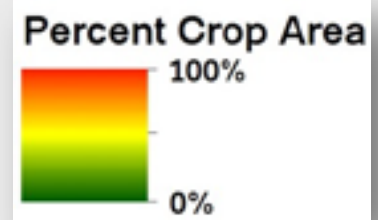
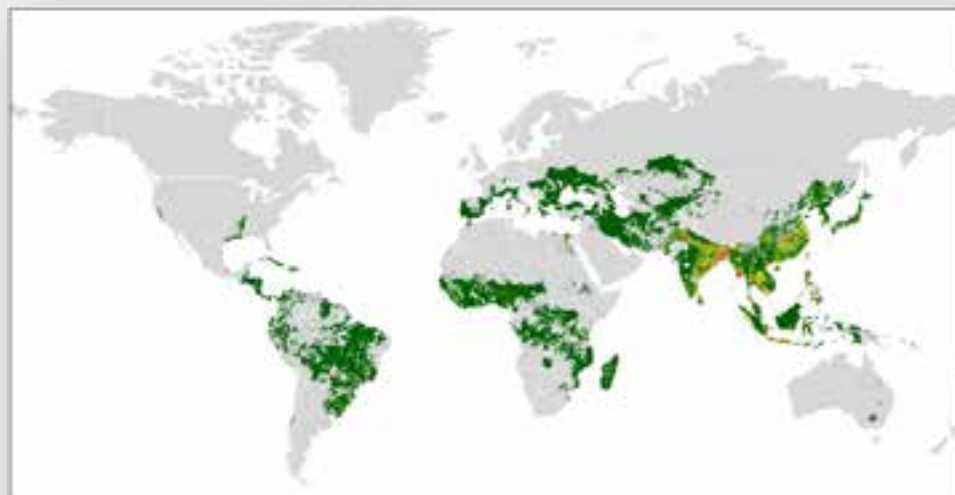
Soybean 1



Maize 1



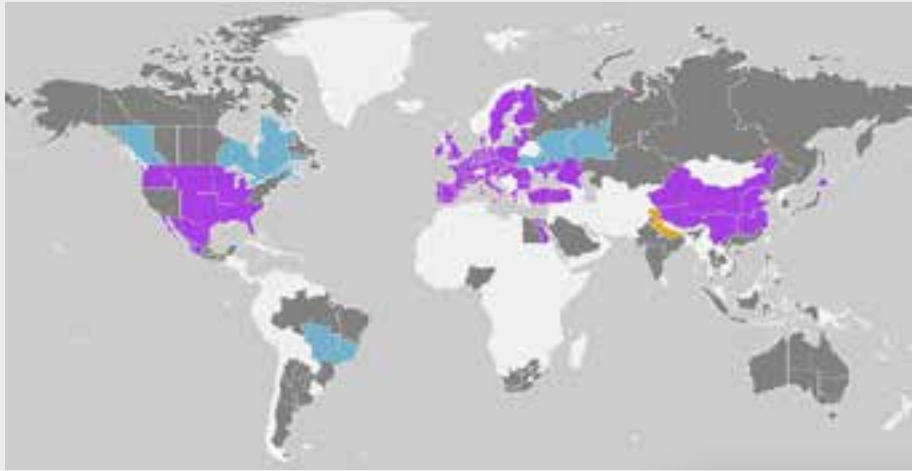
Rice 1



Crop Calendars

Winter Wheat

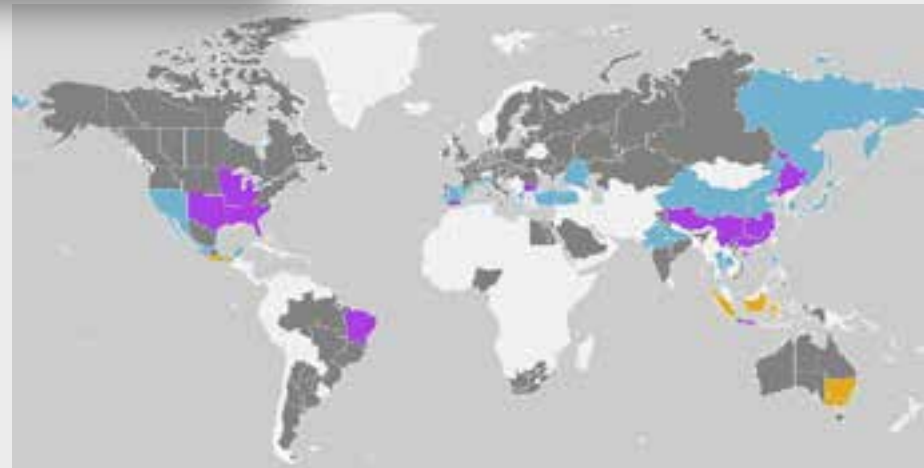
Maize 1



Soybean 1



Rice 1

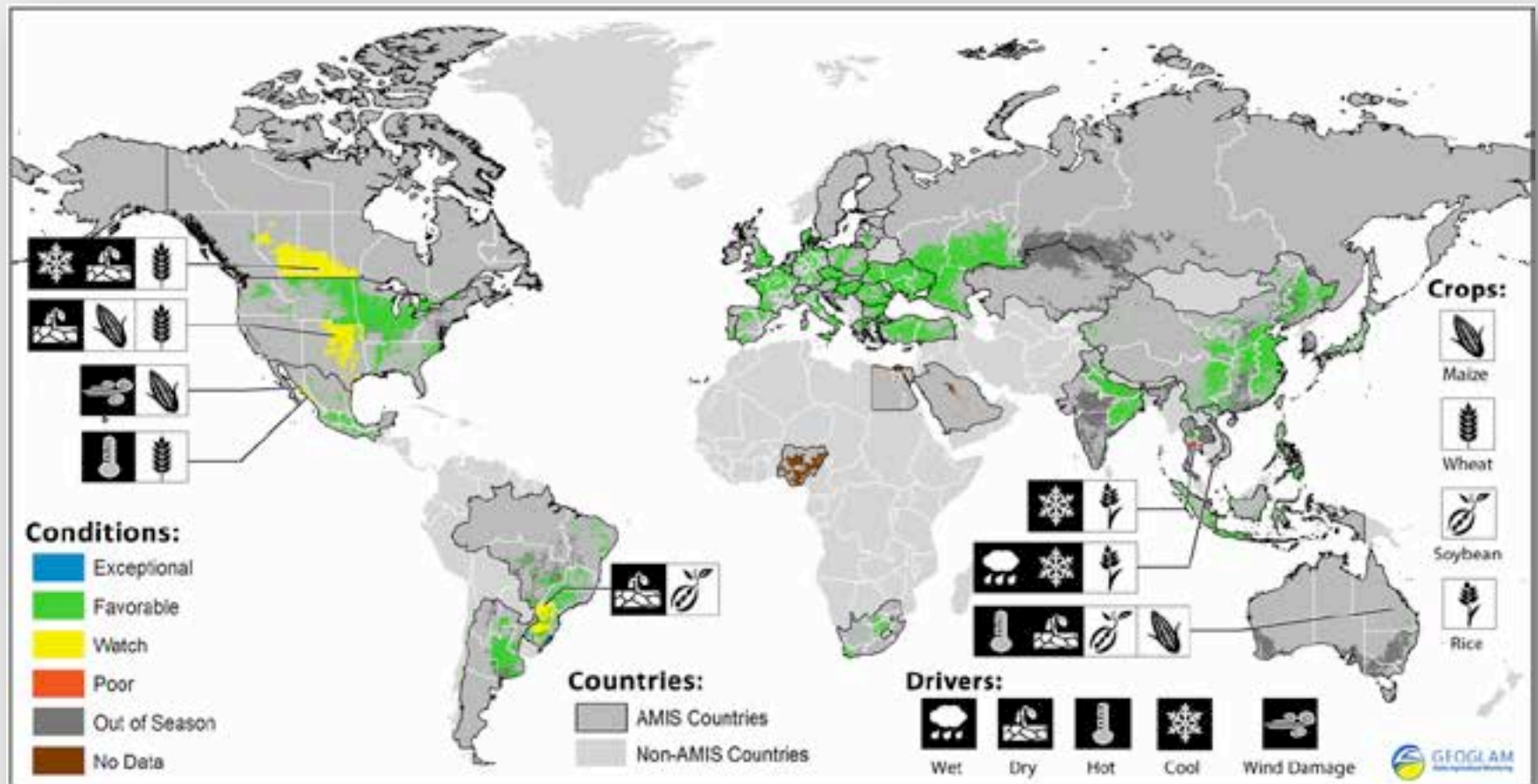


Based on GEOGLAM partner crop calendars and FAO and USDA crop calendars

Synthesis Maps (All Crops)

Crop Conditions as of April 28th, 2014

V2. with Crop Type & Drivers available on interface only

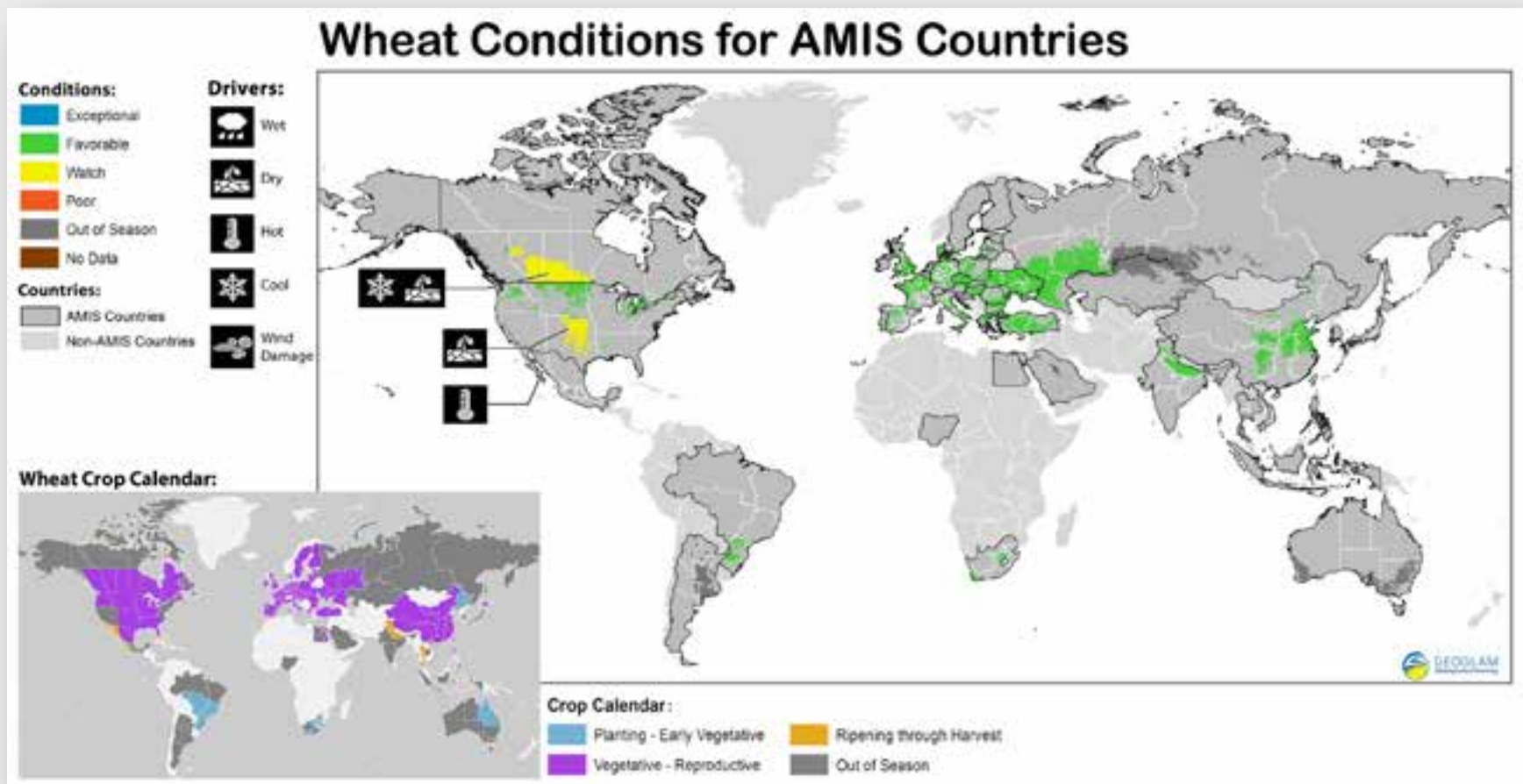


Crop condition map synthesizing information for all four AMIS crops

Crops that are in other than favorable conditions are displayed on the map with their crop symbol and associated climatic drivers affecting conditions

Crop-Specific Condition Maps

Wheat conditions as of April 28
(available from GEOGLAM Crop Monitor Website)

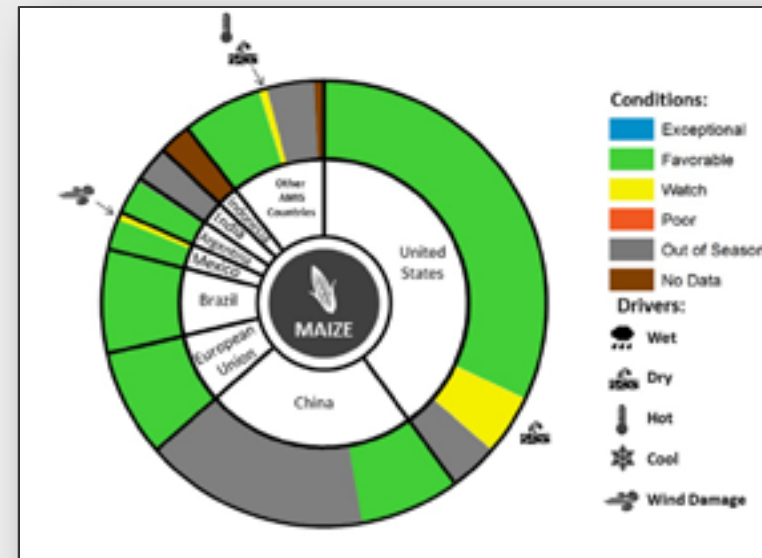


Where crops are in other than favorable conditions the climatic drivers responsible for those conditions are displayed. Inset crop calendar map is provided as context.

Pie Chart Description

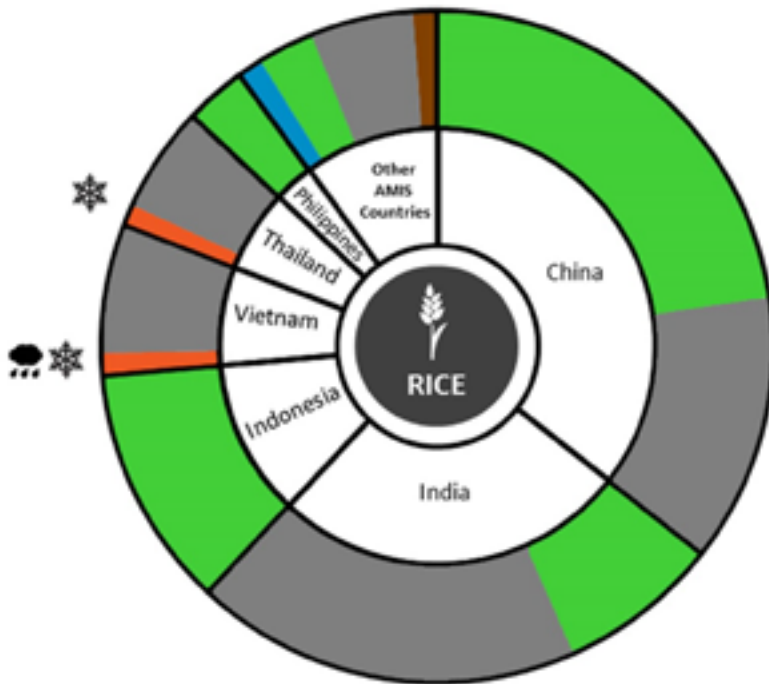
- A country's slice represents portion of the 5 year average of the total AMIS country production
- Countries making up 90% of production are individually shown, remaining 10% - "Other AMIS Countries" category
- Country's pie slice is divided between crops in-season (colour) and out-of-season (gray)
- The in-season portion is coloured according to the various crop conditions within that country
- Driver icons provided when conditions are 'poor' or 'watch'

- The crop calendar, condition and climatic driver information are based on inputs provided by the crop monitor analysts on a sub-national division basis, and therefore reflect conditions by area rather than overall national production.

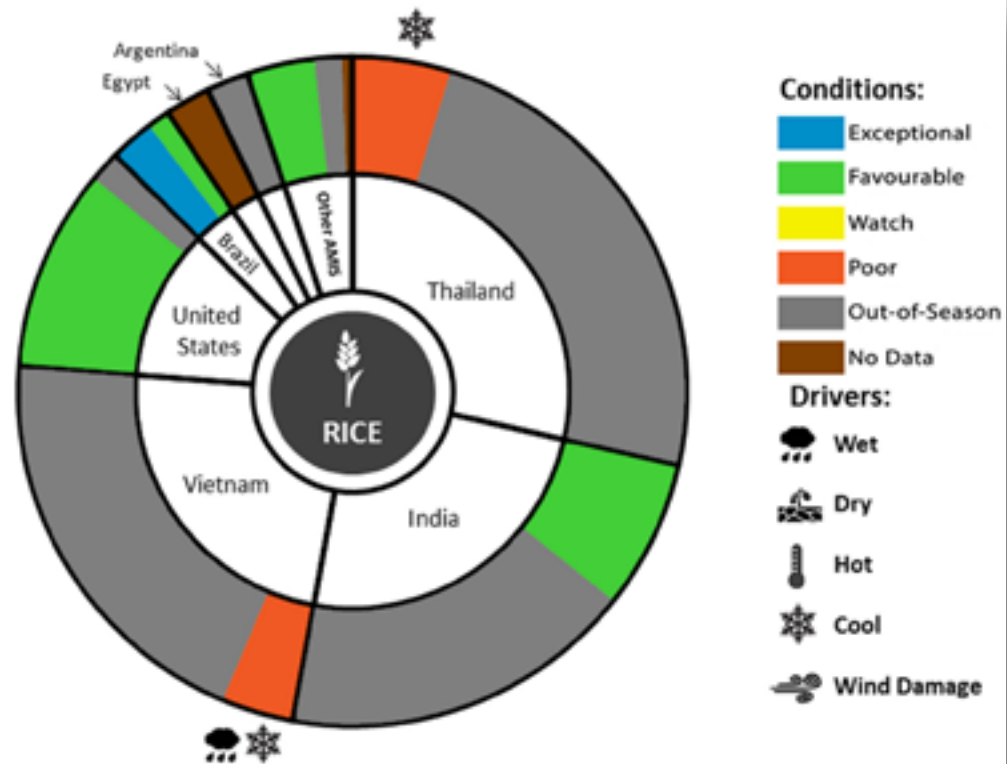


Rice

Production



Exports



AMIS

Nov. 28 - May 2014

Crop Monitor*

Crop Conditions in AMIS countries (as of April 28th)

Conditions:

- Excellent
- Good
- Fair
- Poor
- Crop at Risk
- Not Data

Events:

- AMIS Country
- Non-AMIS Country

Crops:

- Wheat
- Soybean
- Rice

NEW

Highlights

Wheat: Overall growing conditions are mostly favourable in the northern hemisphere, and in many western regions development is ahead of average due to warm temperatures. However, concern continues in the UK, southern plains due to persistent dry conditions. In both US and Canada there are delays due to the cold winter and spring.

Rice: Conditions are mixed. Production prospects are below average in Vietnam and Thailand, and are average in Indonesia. In China, conditions are good for the early-planted rice crop. In Brazil, harvest is complete and prospects are good. In EU planting is ongoing and conditions are favourable.

Maize: Overall conditions are favourable. In the southern hemisphere, the season is coming to a close. In Argentina, conditions are favourable and in Brazil, production is decreased due to reduced planted area. In the northern hemisphere, the season has started, and so far conditions are generally favourable.

Soybeans: Overall prospects are favourable. In Argentina, conditions are still good as the season draws to a close. In Brazil, despite the climatic adversity during the season, prospects are above average due to increased planted area.

El Niño situation update

As noted in the April report, there are prospects for development of El Niño conditions in late summer or autumn of the current hemisphere. April outlooks from the World Meteorological Organisation, the International Research Institute for Climate and Society, the U.S. National Oceanic and Atmospheric Administration, and The Australian Bureau of Meteorology) continue to indicate this possibility, with the probability of occurrence rising above 80%, an increase since last month. Though several conditions continue to prevail, March and April see signs warning that characteristic processes of El Niño.

Figure 1 is a donut chart titled "Wheat Condition for ABIS countries as of April 2005". The chart shows the distribution of wheat conditions across various countries. The legend indicates four main categories: Good (Green), Fair (Yellow), Poor (Orange), and Very Poor (Brown). The central circle of the donut chart is labeled "100,000 km²". The countries listed around the chart include: Kazakhstan, Kyrgyzstan, Uzbekistan, Turkmenistan, Afghanistan, Pakistan, India, China, North Korea, South Korea, Japan, and the Philippines. The chart shows that most countries are in 'Good' condition (green), with some in 'Fair' (yellow) and 'Poor' (orange) conditions. The central circle indicates a total area of 100,000 km².

FORMAT RELEASED STARTING

The southern hemisphere, conditions are in **Argentina**, overall conditions are still **good**. The crop is in grain filling to harvest. In **Brazil**, the second maize crop is mostly in young to grain filling phases. Accounting for first and second crops, a decrease in **US** is expected in large part owing to drier area. In **South Africa**, conditions a drier summer were favourable over the growing areas. A late start to the season as a dry spell during January had a clear impact over the western half of the **US** area. An extended midsummer dry spell had a small negative impact over spring regions. Nevertheless, a normal to near yield is expected. In the northern hemisphere, conditions are favourable. In **Mexico**, conditions are favourable across the country. Harvest from the

NG IN MAY 2014

[illegible]

Feature Article in FAO Food Outlook



Summary of Technology Used

Back-end

- ArcGIS for Server
- PostgreSQL 9.3
- ArcSDE for PostgreSQL
- IIS 8
- PHP 5.5
- Python, arcpy(.mapping)

Front-end

- ArcGIS for JavaScript API
- HTML5/CSS3
- JavaScript/jQuery
- Foundation by Zurb
- Drupal
- D3

The Crop Assessment Tool is now open to the public!

We encourage you to check it out at <http://www.geoglam-crop-monitor.org> under “Assessment Tool”. Registration is free and all features are now available to all users.

Note: Public entries are stored separate from partner entries and will not appear in the Crop Monitor Reports.



Upcoming Features

- Customizable reports (.pdf)
- Improved integration with crop production data
- Per-region anomaly charts for biophysical measures
- Public crowdsourcing version of interface expected to launch soon, entries recorded separate from partner entries
- Upcoming native mobile app
- Exploring implementations of the Crop Assessment Tool for other applications (rangeland and food security monitoring)

Thank You!



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