

# **GEOGLAM**

## **Global Agricultural Monitoring**

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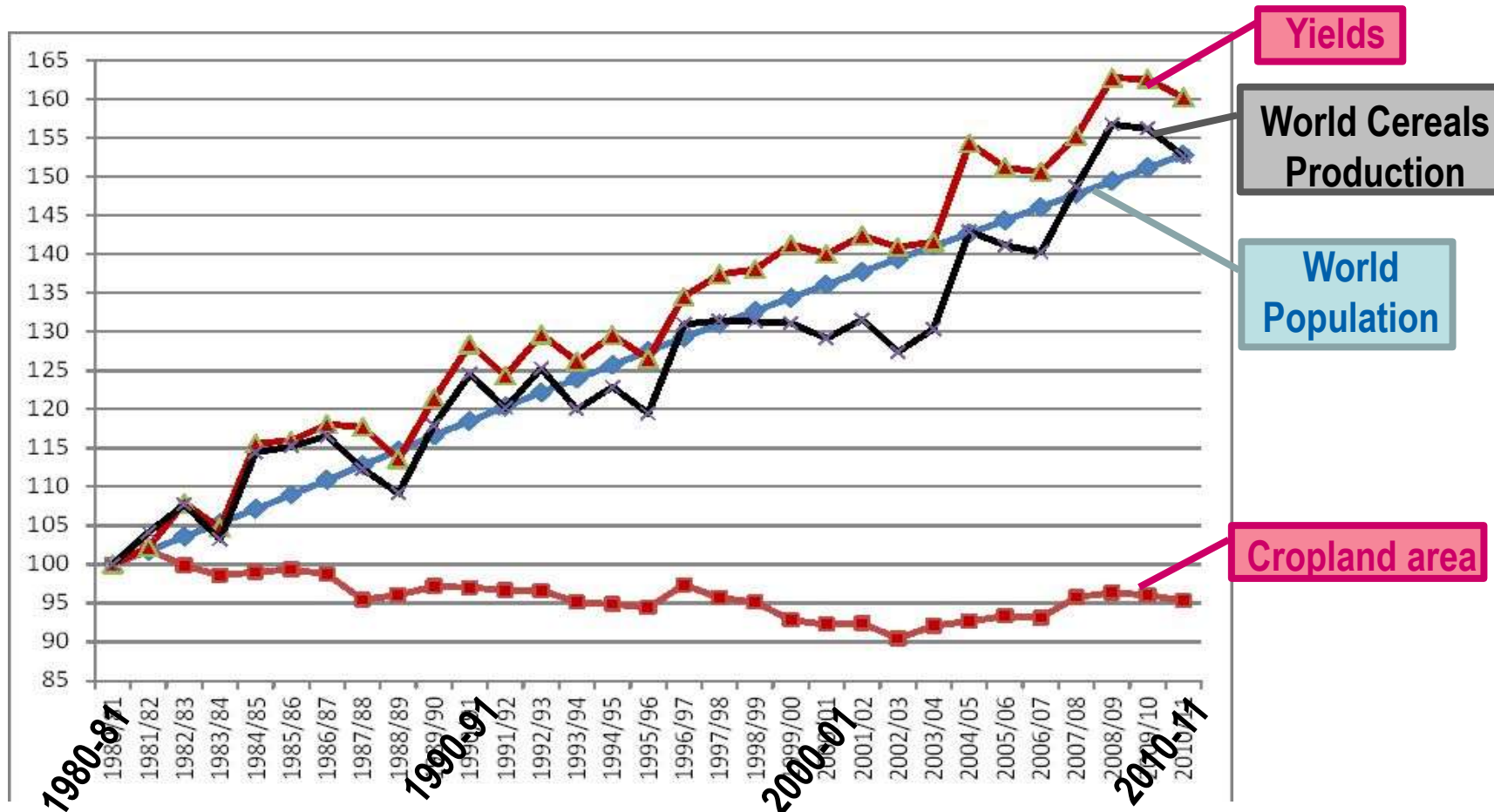
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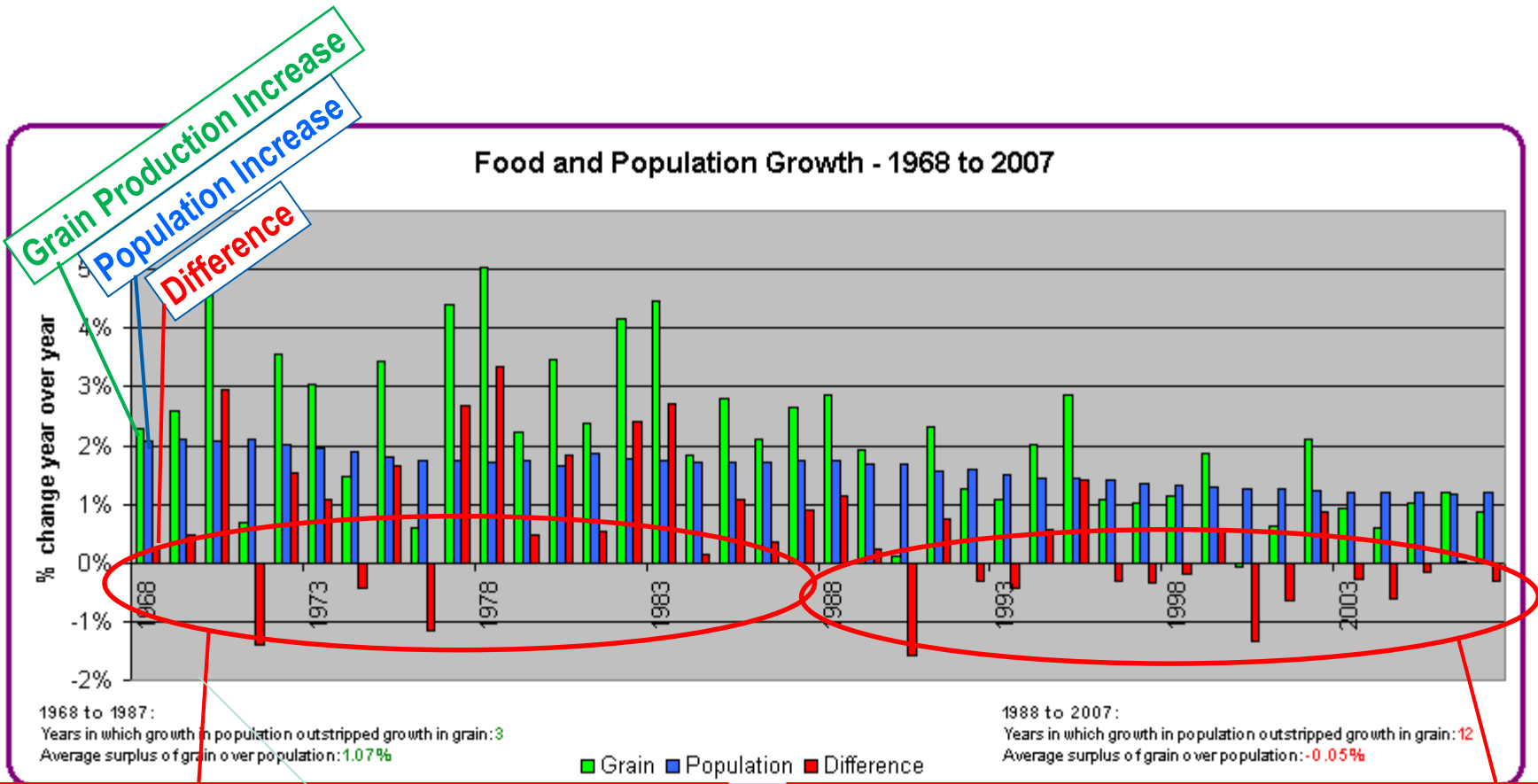
# Challenge : Feeding the planet (1/2)



World population and World area, yields and production in cereals (including rice), 1980/81 to 2010/11, base 100 in 1980/81; Source: INRA from USDA/PSD and FAOSTAT data

# Challenge : Feeding the planet (2/2)

## Food production increase vs Population growth



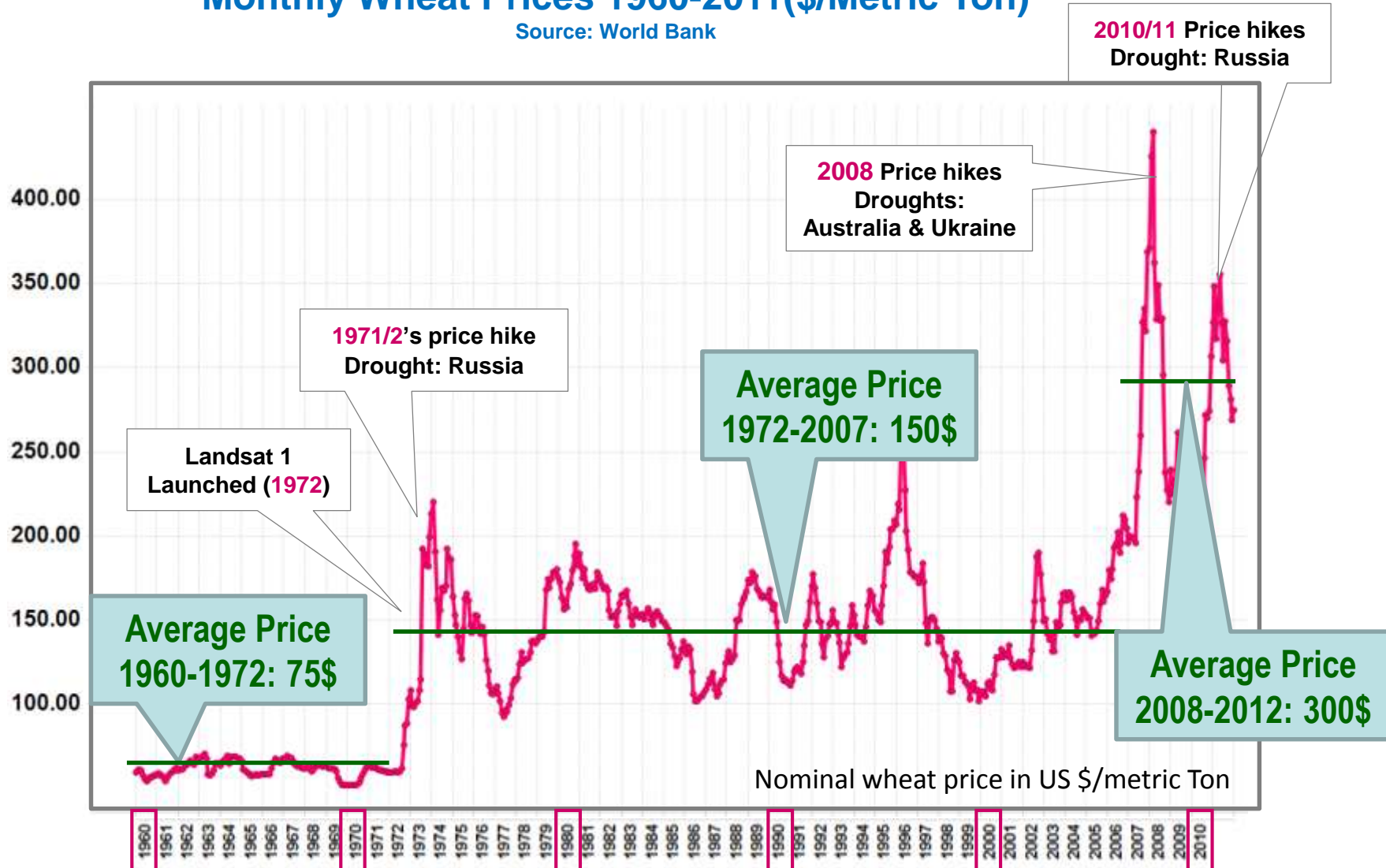
**1968-1987 : 3 “deficit” years**  
**Average surplus grain / population : 1.07%**

**1988-2007 : 12 “deficit” years**  
**Average surplus grain / population : -0.05%**

# Recent volatility of Agricultural Prices

## Monthly Wheat Prices 1960-2011(\$/Metric Ton)

Source: World Bank



## The G20 Agriculture Priority

### G20 Final Declaration – Cannes, November 2011

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**" (GEOGLAM) 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 projections...

**June 2016:**

1. GEOGLAM re-endorsed (G20 meeting, Hangzhou)
2. GEOGLAM, member of the AMIS Secretariat (Rome)

# G20 Agriculture Priority, Nov. 2011

## AMIS & GEOGLAM

- *Two initiatives to increase information availability, quality and transparency :*

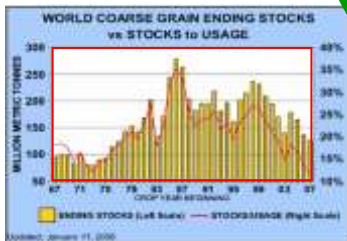
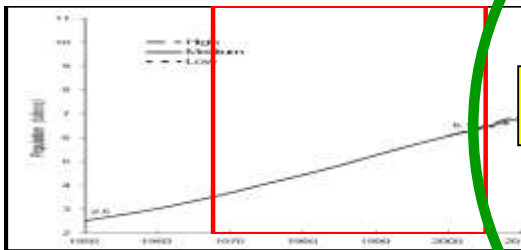
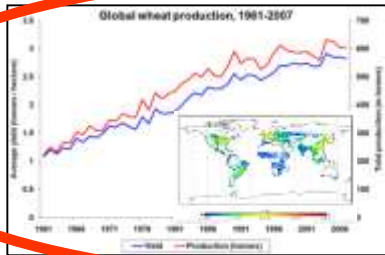
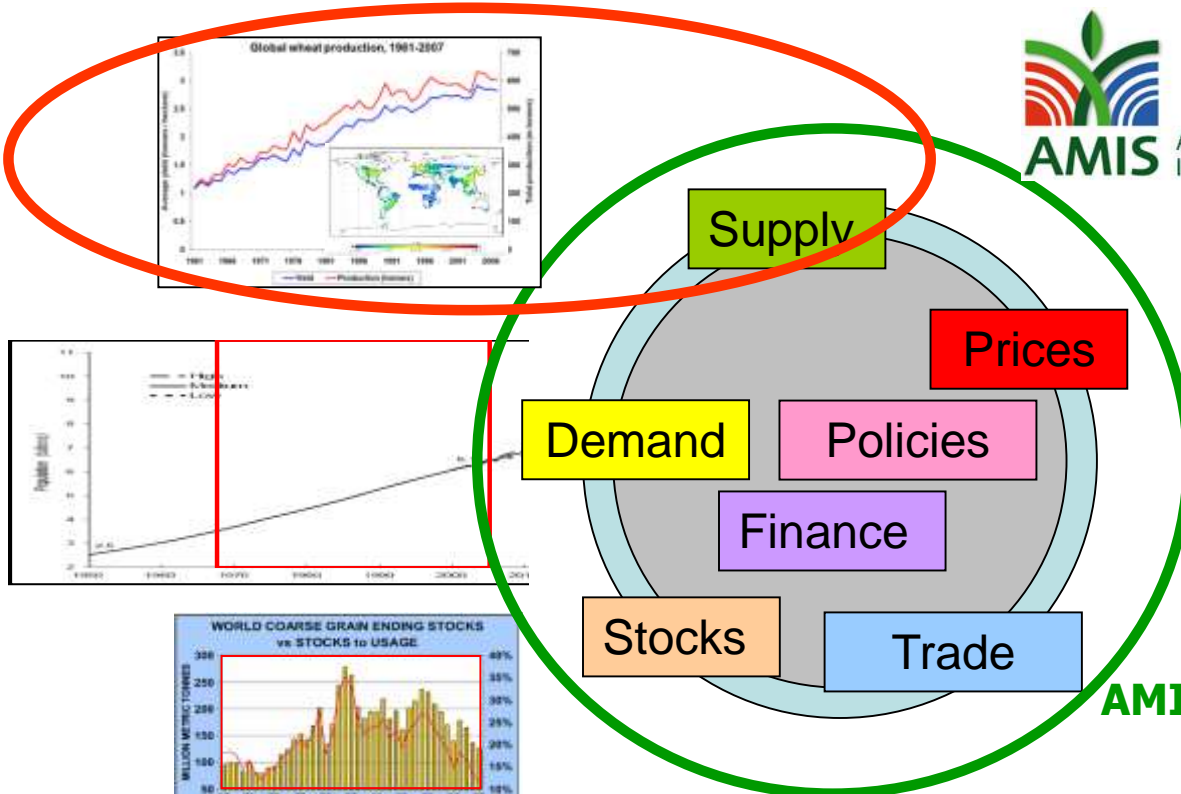


**AMIS : improve information on markets (FAO)**

**GEOGLAM : improve information on supply (GEO)**



Agricultural Market Information System



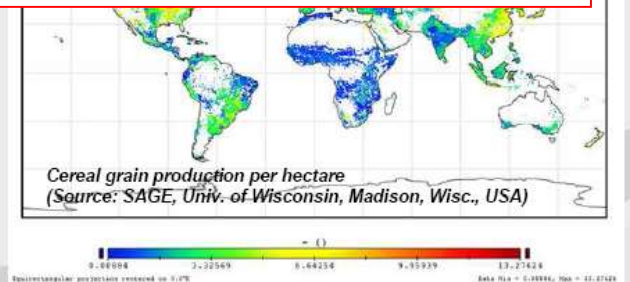
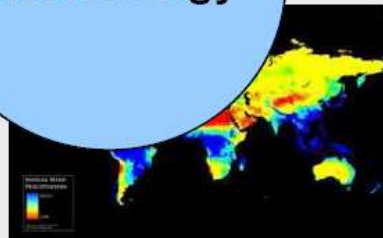
# GEOGLAM Objectives

- To strengthen the international community's capacity to **produce & disseminate relevant, timely and accurate** information & forecasts on agricultural production at national, regional & global scales, through reinforced use of Earth Observations



- GEOGLAM is a « coordination programme », aiming at**
- **supporting, strengthening and articulating existing efforts**
  - **developing capacities and awareness at national & global level**
  - **disseminating information**

**Meteorology**



*Crop yield forecast*

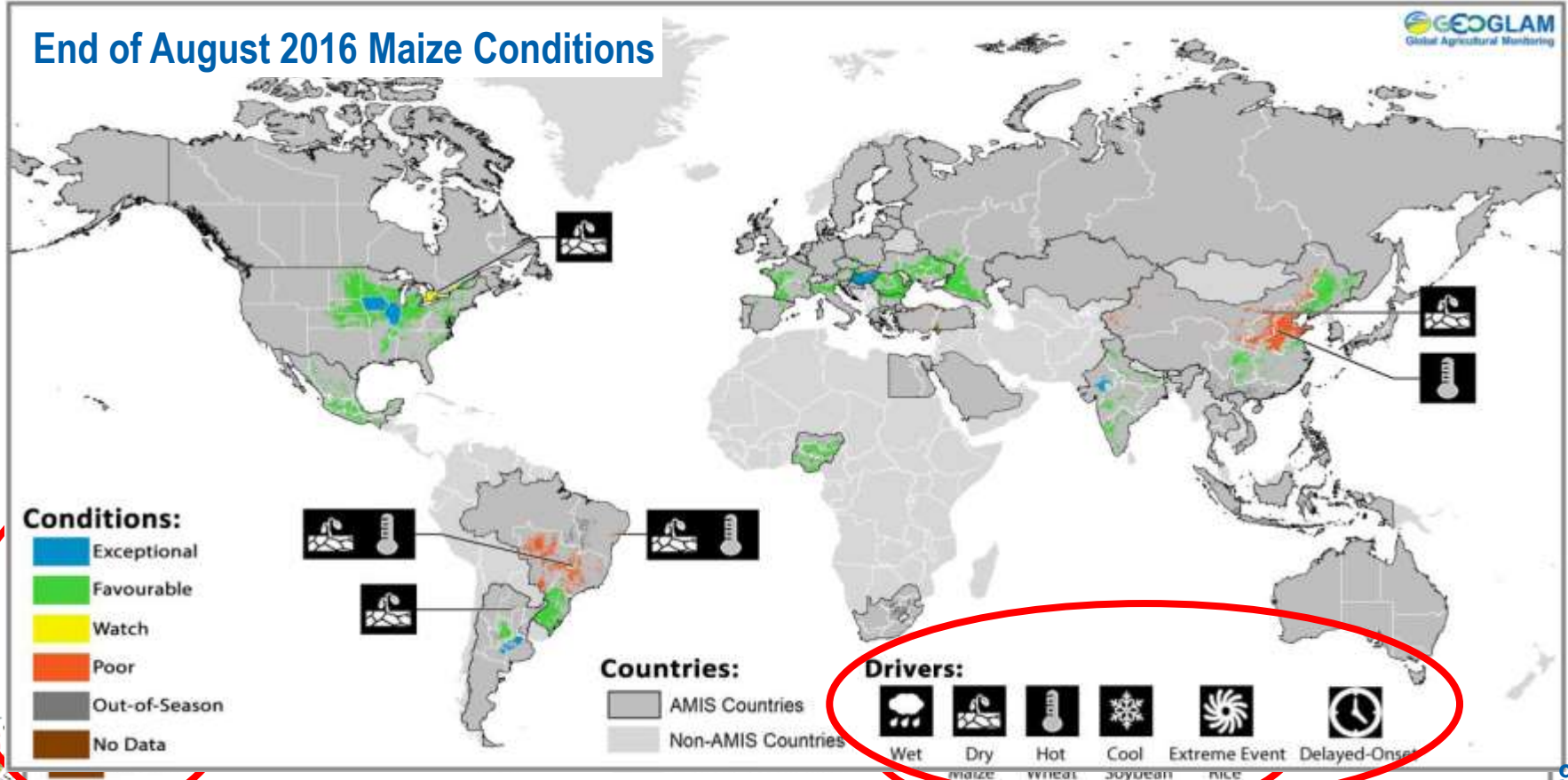
# **GEOGLAM Achievements**

## **1. Crop Monitor for AMIS**



# GEOGLAM Crop Monitor for AMIS (1/2)

- **Crop Monitor for AMIS: operational since Sept. 2013 !**
  - 39 institutions (17 countries + EC + 8 intern. org., leader: Univ. Maryland)
- **A presentation of results with graphics and text (1/3)**
  - a. a global map for the 4 AMIS crops + a global map, with drivers, for each crop



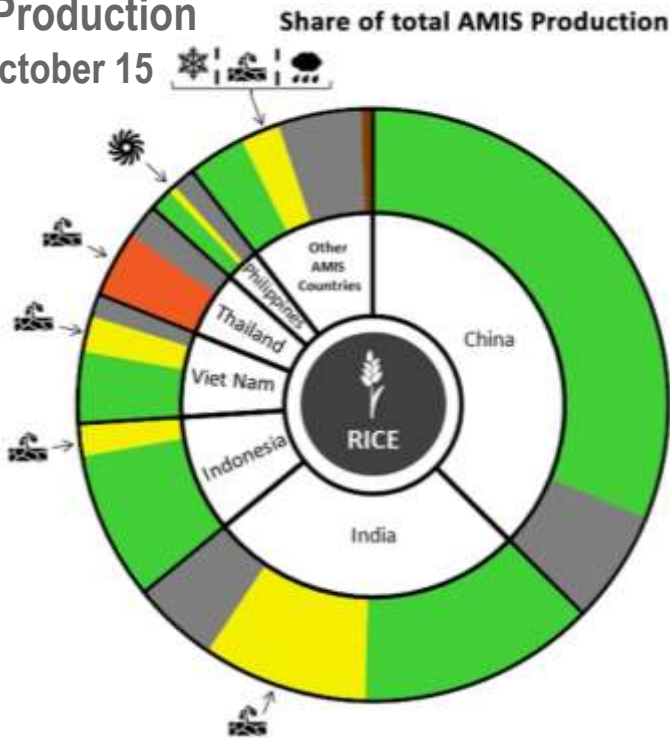
## GEOGLAM Crop Monitor for AMIS (2/2)

- A presentation of results with graphics and text (cont')

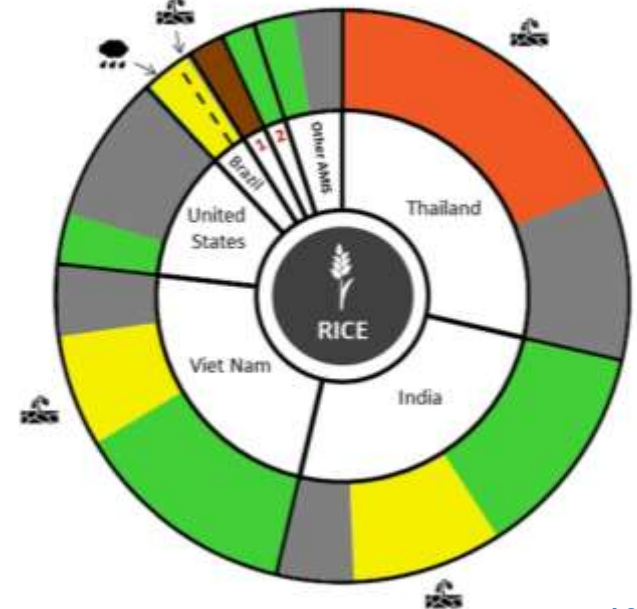
### c. 4 synthetic pie-charts

- sectors proportional to countries average share of world production
- colors according to local crop conditions
- symbols to explain reasons for bad conditions

Rice Production  
End October 15



Rice Export  
End October 15  
(on Crop Monitor Website)



# **GEOGLAM Achievements**

- 1. Crop Monitor for AMIS**
- 2. Crop Monitor for Early Warning**



# Crop Monitor for Early Warning (CM4EW)

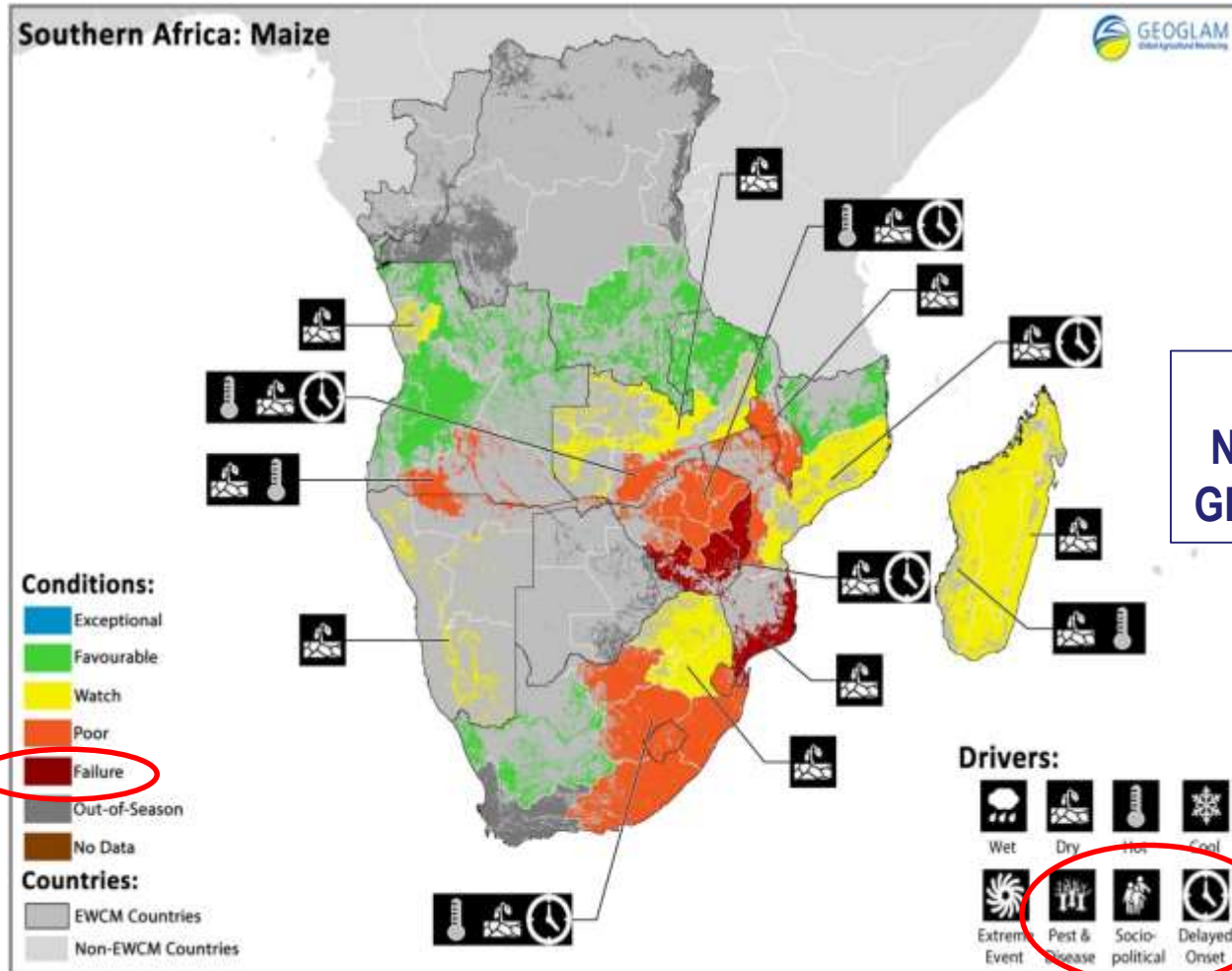
- **From February 2016, a new bulletin**

- with GEOGLAM partners having Monitoring activities on Countries at Risk :  
FAO (GIEWS), WFP (VAM), USA (FEWSNET), EU (JRC-FS), CN (CropWatch-FS)...
- 83 countries covered



# First Crop Monitor for Early Warning, Feb. 2016

Consensus Map highlighting the poor conditions in Southern Africa for Maize



More details in Nakalembe's paper, GEOGLAM-1 Session

1 new condition: Failure

3 more drivers: Pest & Disease, Socio-Political, Delayed Onset

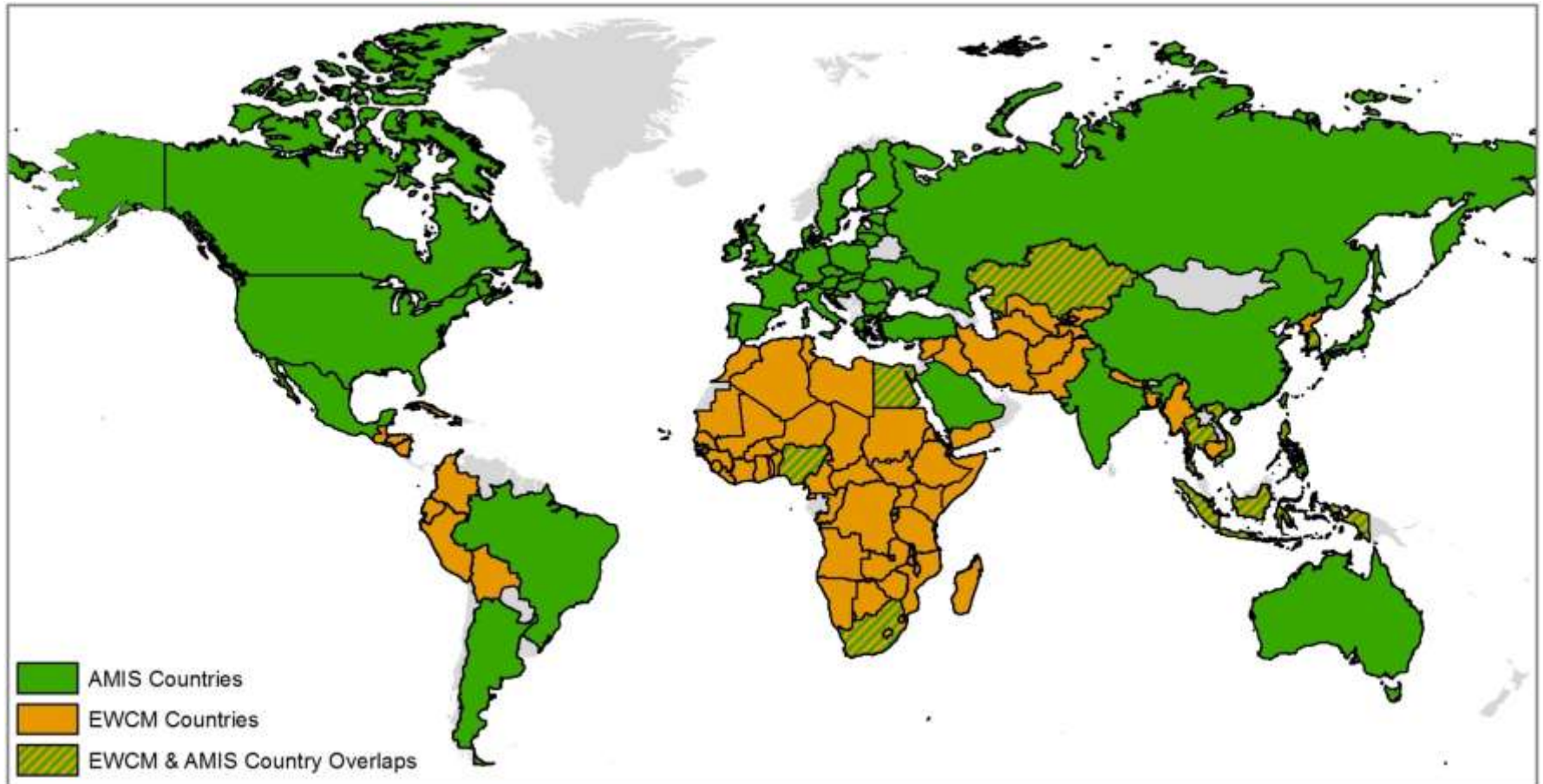
# **GEOGLAM Achievements**

- 1. Crop Monitor for AMIS**
- 2. Crop Monitor for Early Warning**
- 3. Global Crop Monitoring**



# Achievements

## Global Crop Monitoring



about 94% of world agricultural area...

# **GEOGLAM Achievements**

- 1. Crop Monitor for AMIS**
- 2. Crop Monitor for Early Warning**
- 3. Global Crop Monitoring**
- 4. The 2030 Agenda for Sustainable Development  
*SDG#2 “End Hunger”***



# GEOGLAM Crop Monitors & Economics

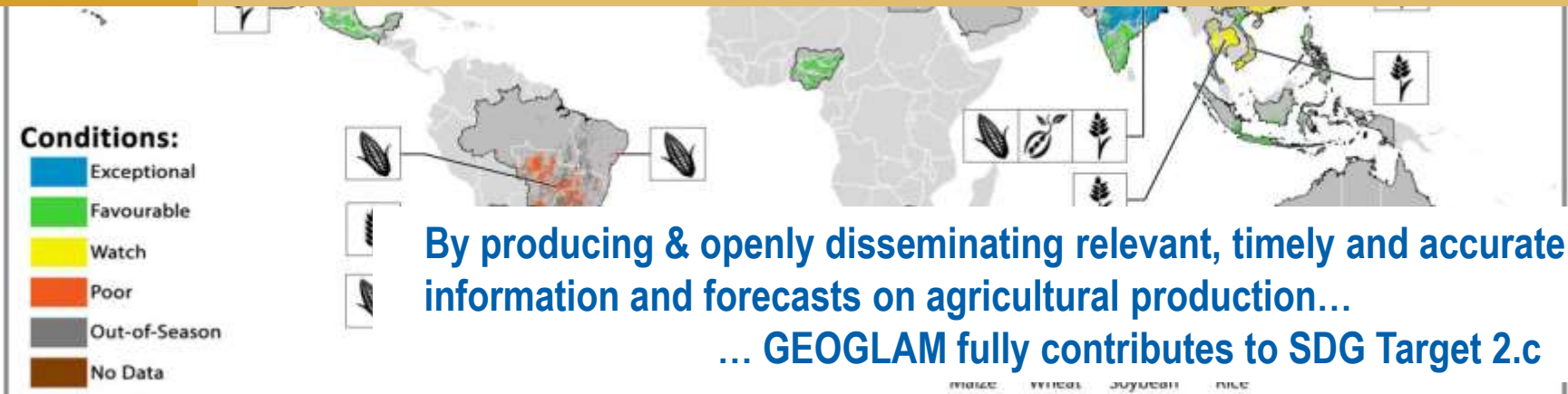
- **Information Asymmetry (IA) theory**
  - IA Theory: study of decisions in transactions where one party has more or better information than the other
  - IA consequences : transactions going sometimes awry, with in worst cases market failure
  - From 1970, series of papers by Akerlof, by Spence and by Stiglitz
  - 2001: Nobel Price in Economics awarded to Akerlof, Spence & Stiglitz
- **GEOGLAM and Information (a)symmetry**
  - By producing & openly disseminating relevant, timely and accurate information and forecasts on agricultural production...
  - ... GEOGLAM contributes to an efficient functioning of markets.

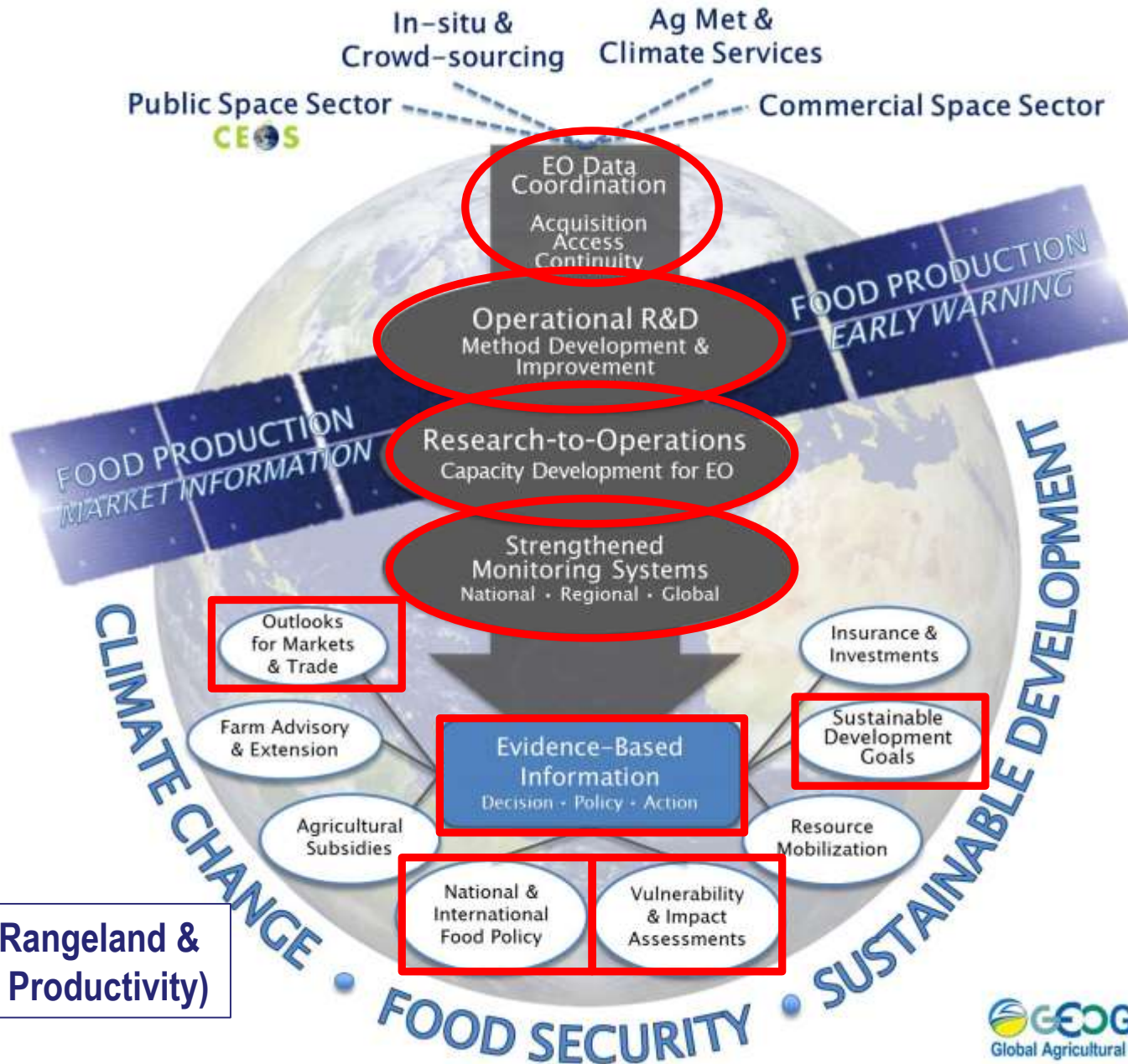
## Target 2.c informed by Crop Monitors

2.c Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to

### Target 2.c

Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility





**RAPP (Rangeland & Pasture Productivity)**



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## Rangeland And Pasture Productivity

- **Vegetation Cover Anomaly (*Rangeland-Pastures*)**  
produced monthly & published on RAPP website & twitter account  
<http://www.geo-rapp.org/rapp-monitor/vegetation-cover-anomaly/>

