GEOGLAM: ADAPTATION AND EARLY WARNING FOR THE AGRICULTURAL SECTOR

GEOGLAM GLOBAL AGRICULTURAL MONITORING

GEO GROUP ON EARTH OBSERVATIONS

WHAT IS GEOGLAM ?

The Group on Earth Observations Global Agricultural Monitoring Initiative (GEOGLAM) is working to fight food insecurity and support markets in a changing climate. GEOGLAM reinforces the international community's capacity to produce and disseminate relevant, timely and accurate projections of agricultural production at national, regional, and global scales.

GEOGLAM contributes to building resilience, adaptive capacity, and risk management in both developed and developing countries through improved information for decision making.

HOW DOES GEOGLAM WORK ?

Two monthly global crop condition reports have been established within GEOGLAM:

1. Crop Monitor for the Agricultural Monitoring Information System (AMIS)

GEOGLAM was created as a direct response to the G20 2011 Action Plan on Food Price Volatility and Agriculture. The GEOGLAM AMIS crop monitor provides monthly status reports on agricultural production in major producing nations. These are consensus reports based on Earth observations and expert on-the-ground assessments. This provision of timely, accurate and authoritative information helps to inform commodity markets and reduce volatility.

Partners: Each month 44 partners come together with their own monitoring and in situ observations to address discrepancies and create a consensus report.

Four major crops analyzed : Wheat, Maize, Soybean, and Rice.

Project focus: Examine the main production/export countries, the stabilizing/calming market factors, and avoid unexpected food price shocks.

Output: Crop Monitor, published in the AMIS Market Monitor. www.amis-outlook.org

2. Crop Monitor for Early Warning (CM4EW)

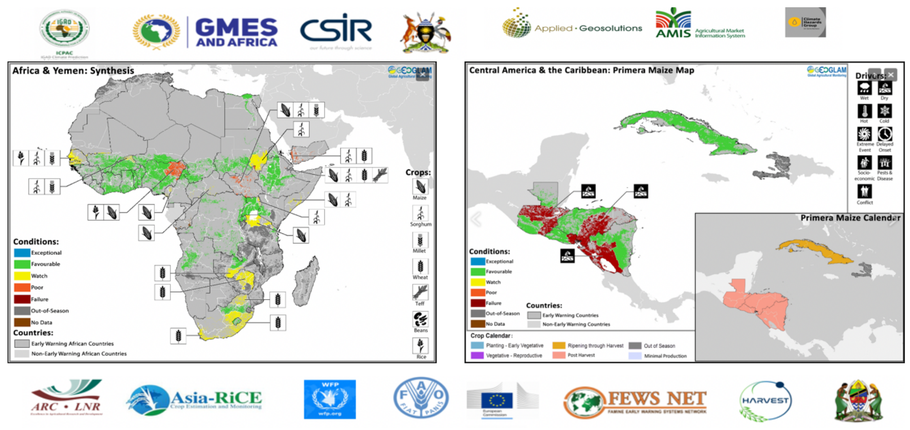
Following the implementation of the AMIS crop monitor it was realized a similar approach could support early warning for food security response. As a result the Crop Monitor for Early Warning (CM4EW) was created. Like the AMIS report, the monthly CM4EW reports represent a consensus assessment of crop production condition in food insecure regions of the world.

Partners: Each month 14 partners from the global food security response community come together with their own monitoring and in situ observations to address discrepancies and create a consensus report.

Major crops analyzed: Main food security crops for each region.

Project focus: Agricultural production and markets in large producer countries located in these regions: East Africa, West Africa, Southern Africa, Southeast Asia, Central and Southern Asia, Central America & the Caribbean.

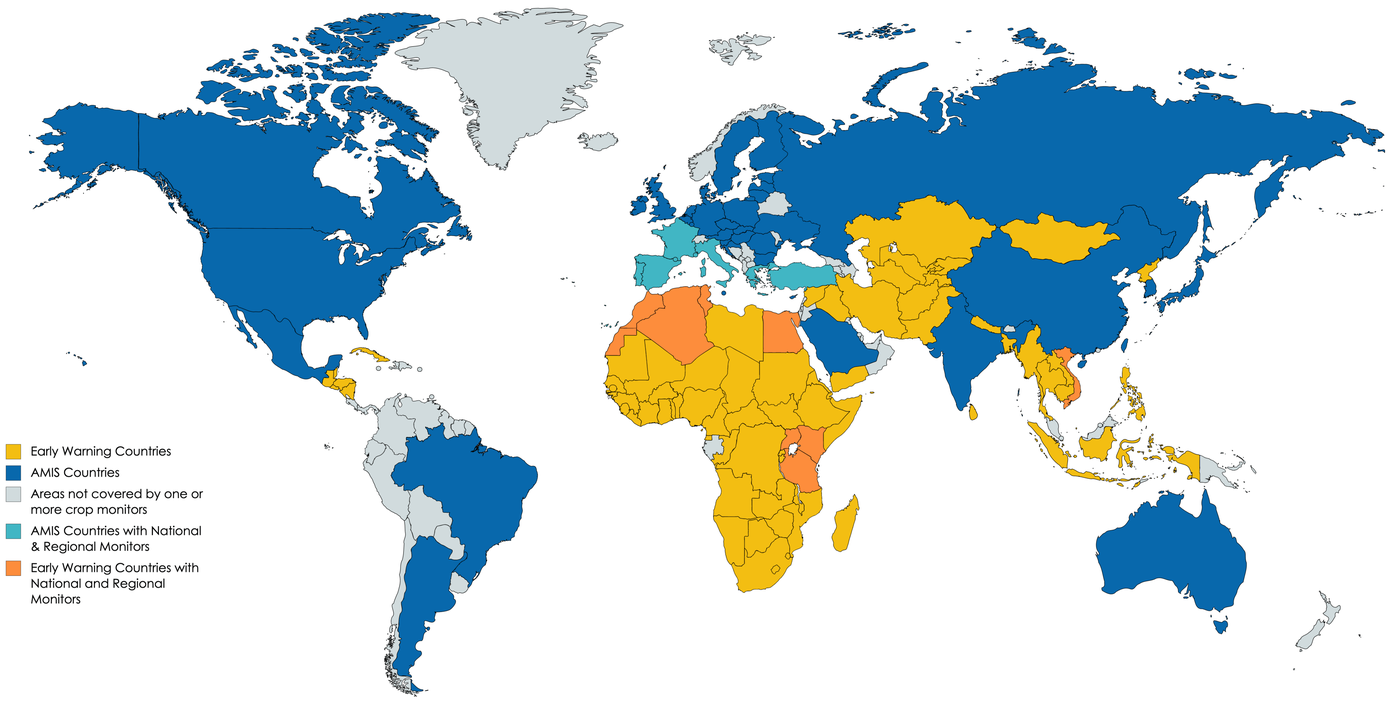
Output: Monthly publication, first bulletin published Feb 2016 - focused on countries not covered in AMIS.



NATIONAL TO REGIONAL MONITORING

Building on the success of the global CM4EW, GEOGLAM began working with mandated national agencies responsible for food security policy and response programs. The result has been several examples of co-developed Crop Monitors at the national and regional level. These monitors are developed and operated by the countries close to the program and policy decision makers. As a result the information produced is trusted and deemed authoritative allowing it to be quickly turned into proactive decisions that impact lives and livelihood, while reducing the cost of emergency response.

GEOGLAM SECRETARIAT
geoglam@geosec.org| http://geoglam.org



GEOGLAM FOR CLIMATE ADAPTATION

Climate change, increased disaster risk, and unsustainable practices have huge implications on food security. Climate change is a significant "hunger-risk multiplier" and a fundamental threat to global and local food security particularly in developing countries and regions. It affects all four dimensions of food security: availability, access, stability, and utilization of food.

GEOGLAM is one of GEO's Flagship Initiatives working on a response to the three main relevant international policy drivers:

- The Paris Agreement
- The Sendai Framework for Disaster Risk Reduction
- The UN 2030 Agenda for Sustainable Development

These three agreements setting the foundation for international development cooperation for the next decades have complementary objectives and actions that all relate to climate change adaptation.

The preamble of the Paris Agreement refers to "safeguarding food security and ending hunger, and the particular vulnerabilities of food production systems to the adverse impacts of climate change" and also refers to human rights, gender, ecosystems and biodiversity, all issues that are central to agriculture.

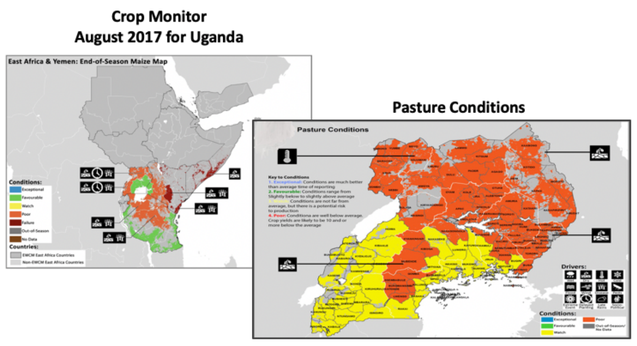
Without adaptation to climate change in the agricultural sector, it will not be possible to achieve food security for all and eradicate hunger, malnutrition and poverty. National Adaptation Plans (NAPs) are key for achieving countries' Nationally Determined Contributions (NDCs) and the full implementation of the Paris Agreement. NAPs also contribute to and are aligned with disaster risk reduction and sustainable development objectives.

GEOGLAM provides tools and information products on the near real time state and changes in agricultural production at the national to global scales. GEOGLAM decision-ready products support the development of early warning systems in agriculture that can be integrated in NAPs.

UNDRR UN Office for Disaster Risk Reduction

UN World Conference on Disaster Risk Reduction 2015 Sendai Japan

IMPACT STORIES



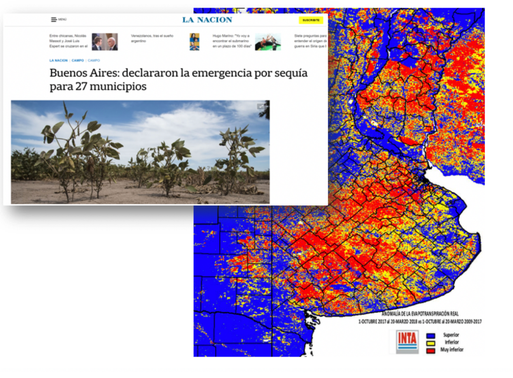
National | Food Security - East Africa, Uganda

GEOGLAM worked with the Ugandan Office of the Prime Minister to develop a crop monitor in 2016.

In 2017 the crop monitor provided 3 months early warning of a likely crop failure due to drought, time to proactively mitigate loss and damage.

Monitoring triggered the Disaster Risk Financing (DRF) fund to scale-up public works projects in Karamoja, off-setting agricultural losses.

End result: USD 2.6 million saved, 150k people helped.

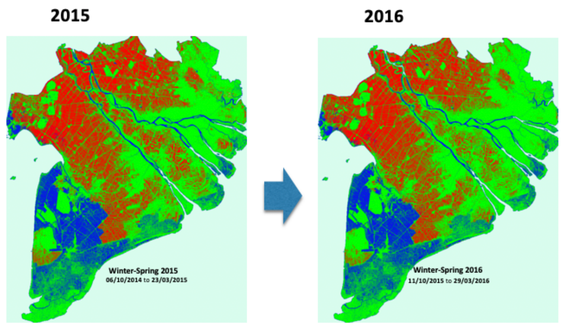


National | Drought Monitoring - South America,

Argentina suffered one of the worst droughts in its history in 2018.

Agriculture Ministry needed objective scientific evidence of drought to enact policy.

Working with INTA (GEOGLAM national partner) the government was able to declare an "agricultural emergency" with great spatial precision, triggering financial safety net programs.



Regional | Rice Monitoring - Southeast Asia, Mekong Basin

2016 was an El Niño and the result was severe drought in the Mekong Basin that resulted in salt water intrusion.

During this period GEOGLAM-GEORICE related research was able to identify a decrease in Winter-Spring rice harvested as compared to the previous years.

Building on the success of GEOGLAM research led by AsiaRice (JAXA) and GEORICE (ESA), Vietnam (VNSC) has launched the Mekong River basin rice monitoring initiative.The initiative will operationalize rice monitoring in the four-nation region of the Mekong River basin (Cambodia, Laos, Thailand and Vietnam).

OCHA Office for the Coordination of Humanitarian Affairs

International | United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA)

UNOCHA references the CM4EW reports in the development of their food security alerts.

In 2018, while reporting on an emerging drought in Southern Africa, UNOCHA suggested the monthly crop reports were not frequent enough in emerging "hot-spots".

In response GEOGLAM developed mid-month special reports in areas of concern. So far in 2019 seven special reports have been published, the latest in November covering concerns around below average rainfall in Southern Africa.

Authors: Senol D., Jarvis I., Ramage S., Venturini S.