GEOLAM: ADAPTATION AND EARLY WARNING FOR THE AGRICULTURAL SECTOR

WHAT IS GEOLAM?

The Crop on Earth Observations Global Agricultural Monitoring Initiative (GEOLAM) is working to fight food insecurity and support markets in a changing climate. GEOLAM enhances the international community’s capacity to produce and disseminate timely, accurate, and actionable information that can support decisions that impact food security, resilience, and livelihood, while reducing the cost of emergency response.

HOW DOES GEOLAM WORK?

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

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

GEOLAM was created as a direct response to the GSD 2011 Action Plan on food Price Volatility and Agriculture. The GEOLAM 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 community 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 factor, and avoid unexpected food price shocks.

Output: Crop Monitor published in the AMIS Market Monitor. www.arm-si.com

2. Crop Monitor for Early Warning (CMEW)

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 (CMEW) was created. Like the AMIS report, the monthly CMEW report is a consensus assessment of crop production condition in food insecure regions.

Partners: Each month 4 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 Asia, Southern Africa, Southeast Asia, Central and South America.

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

GEOLAM: FOR CLIMATE ADAPTATION

Climate change, increased disaster risk, and unsustainable practices have huge implications on food security. Climatic change is a significant threat and food insecurity is a global issue. Food insecurity, particularly in developing countries and regions, affects all four dimensions of food security: availability, access, stability, and utilization of food.

GEOLAM is one of GEO’s flagship initiatives working on a response to the three main relevant international policy/treaty agreements.

- 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 consistency objectives and actions that relate to climate change adaptation. The ensemble of the Paris Agreement refers to “aligning 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 equity, and local community 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.

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

IMPACT STORIES

National: Food Security - South Africa, Agenda

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

In 2017 the crop monitor provided 6 months early warning of a deadly 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 Karamojong, offsetting agricultural losses.

End result: USD 2.6 million saved. 6,820 people helped.

Regional: Rice Monitoring - Southeast Asia, Melong Basin

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

During this period GEOLAM/CERES related research was able to identify a decrease in Winter Spring rice harvested as compared to the previous year.

Building on the success of GEOLAM/CERES related research was available to identify a decrease in Winter Spring rice harvested as compared to the previous year.

In 2016, the crop monitors were not frequent enough in emerging hot spots.

In response GEOLAM developed mid-month special reports in areas of concern. So far in 2017 seven special reports have been published, the latest in November covering areas around below-normal rainfall in Southeast Africa.

OCHA references the CMEW reports in the development of their food security alerts.

In 2019, while reporting on an emerging drought in Southern Africa, UNOCHA suggested the monthly crop reports were not frequent enough in emerging hot spots.

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

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

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