WP23_25: GEO Global Agricultural Monitoring

1266,170

Basic Information

Full title of the Initiative

GEO Global Agricultural Monitoring

Short Title or Acronym

GEOGLAM

Current category in the 2020-2022 GWP

GEO Flagship

Proposed category in the 2023-2025 GWP

GEO Flagship

Points of Contact

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Purpose

Objective

The purpose of Group on Earth Observations Global Agricultural Monitoring Initiative (GEOGLAM) is to increase market transparency and improve food security by producing and disseminating relevant, timely, and actionable information on agricultural conditions and outlooks of production at national, regional, and global scales.

Please provide a short description of the Initiative

The Group on Earth Observations Global Agricultural Monitoring Initiative (GEOGLAM.org) was initially launched by the Group of Twenty (G20) Agriculture Ministers in Paris, June 2011 as part of the Minister's G20 Action Plan on Food Price Volatility. Since 2011 the GEOGLAM focus has expanded along with the G20's to also include a broader focus on global food security. GEOGLAM delivers on its mission by producing and openly disseminating consensus based, relevant, timely, and actionable information on agricultural conditions and outlooks of production at national, regional, and global scales (Cropmonitor.org). GEOGLAM participants include representatives from most G20 nations as well as many other countries, and several international organizations and NGOs. Participation is from more than 120 institutions from over 50 nations, with beneficiaries from least developed nations further expanding the reach of GEOGLAM.

Why is this Initiative needed?

The Group on Earth Observations Global Agricultural Monitoring Initiative (GEOGLAM.org) was initially launched by the As we reflect on the impact of COVID, climate extremes and expanding conflict, food security has become

on of the greatest challenges of our time. With a track record of over a decade of success, GEOGLAM has made it clear that Earth observations have a major role to play in support of efficient markets and early warning for food security. Through the 23 to 25 workplan GEOGLAM will strive to continually improve existing systems and evolve to address emerging food security challenges in to the future.

What evidence is there to support this need?

The Group of Twenty (G20) Agriculture Ministers in Paris, June 2011 as part of the Minister's G20 Action Plan on Food Price Volatility. Since 2011 the GEOGLAM focus has expanded along with the G20's to also include a broader focus on global food security. Now as we look towards the next decade, including the 2023-25 GWP, the community has taken several steps to scale up co-development support for to mee t the needs of less developed nations. GEOGLAM will continue ho help LDCs to develop their own monitoring capacities in support of climate adaptation, mitigation and disaster risk reduction.

Is this Initiative open to participation by representatives of any GEO Member, Participating Organization, and GEO Associate?

Yes

Are you aware of other projects or initiatives at a global or regional scale (both in GEO and externally) that provide similar products or services?

No

Please identify the most important actual and/or intended outputs (products, services, etc.) produced by the Initiative, along with their intended and/or actual users. This list does not need to be comprehensive but should identify the outputs which are most used and are expected to have the greatest potential impact.

Output	Status	Users	Additional info
Crop Monitor for AMIS	Regularly updated	National governments, International organizations, commodity traders	cropmonitor.org
Crop Monitor for Early Warning	Regularly updated	International organizations, national governments, regional organizations	cropmonitor.org
Special Reports	Occasionally updated	International organizations, national governments, regional organizations	cropmonitor.org
Climate Forecasts	Occasionally updated	International organizations, national governments, regional organizations	
Food Security and Conflict Reports	Occasionally updated	International organizations, national governments, regional organizations	cropmonitor.org

If needed, please provide additional comments or explanation to accompany the outputs table

- no answer given -

What kinds of decisions are the outputs of this Initiative primarily intended to support?

Information on agro-ecosystem state and change supports program and policy decision making on climate adaptation (i.e. UNFCCC-National Adaptation Plans); climate mitigation (i.e. UNFCCC-AFOLU, Global Stocktake and Nationally Determined Contributions), and disaster risk reduction (i.e. National and International Early Warning Crop Monitors).

How will these decisions benefit from the outputs of this Initiative?

Timely accurate consensus based information on agricultural production to support food commodity markets and early warning for food security. Beyond within season information, understanding agricultural state and change monitoring supports program and policy response to climate change and disasters.

What kinds of impacts (for example, reduced loss of life, monetary savings, conservation of biodiversity, etc.) are anticipated as a result of the use of the outputs of this Initiative?

Proactive programs and policies that reduced human suffering and loss of life, and funding requirements.

Has this Initiative been asked to provide specific information (for example, reports, data, services) on an ongoing basis to an international convention, organization, or other multilateral body?

Yes

Please identify the requesting organization.

G20, and the Agriculture Markets Information System (AMIS).

Describe the nature of the request.

The 2011 G20 final declaration launching the initiatives on market information and transparency, Annex 3. Since 2011 the GEOGLAM contribution has been acknowledged and endorsed every year by the G20 Ministers.

Please provide supporting documentation of the request.

- no supporting documents provided -

Technical Synopsis

Please provide a brief description of the methods used by the Initiative to produce its (actual or planned) outputs.

https://cropmonitor.org/index.php/about/aboutus/
The Crop Monitors were designed to provide a public good of open, timely, science-driven information on crop conditions in support of market transparency for the G20 Agricultural Market Information System (AMIS). Reflecting an international, multi-source, consensus assessment of crop growing conditions, status, and agro-climatic factors likely to impact global production, focusing on the major producing and trading countries for the four primary crops monitored by AMIS (wheat, maize, rice, and soybeans). The Crop Monitor for AMIS brings together over 40 partners from national, regional (i.e. sub-continental), and global monitoring systems, space agencies, agriculture organizations and universities.
Since its launch in September 2013, the Crop Monitor for AMIS has grown extensively and has become an internationally recognized source of information on global crop prospects, widely quoted by public and private agencies as well as top tier media. It represents the first time that the international community comes together on a monthly basis to produce joint crop assessments.
In line with the goals of the GEOGLAM initiative, the Crop Monitor methods were then adapted and applied to countries at risk of food production shortfalls. The need for an assessment that is prepared horizontally by different international, regional, and national agencies, with overlapping regions, is fundamental in unstable and

fragile countries where food security is extremely vulnerable. The success or the failure of a crop for such countries sometimes mean famines, political unrest and the need to import from other countries. These countries, which principally complement geographically the large market producers, are monitored and reported on in the Crop Monitor for Early Warning (CM4EW) reports.
Operational since February 2016, the CM4EW has become an internationally recognized source of reliable information on early warning and crop conditions, and often used to inform humanitarian organization decisions on food allocation and assistance. Through collaborating with the main international humanitarian agencies, regional bodies, and national agencies, the CM4EW has been able to provide timely and accurate on the ground information before humanitarian crises arise.
Building on the success of the two global Crop Monitors, 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 levels. 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.

Beyond national impact, the national and regional crop monitors play a significant role in improving the quality of the global crop monitors for AMIS and the Crop Monitor for Early Warning by supplementing global top-down data flows with bottom-up national-level data. The result is better resolution and accuracy due to better in-situ information and expertise input into the monitors.

If you would like to provide further details on the technical methods, you may upload one or more documents here.

- no supporting documents provided -

Are there any significant scientific or technical challenges that need to be resolved by the Initiative during the 2023-2025 period?

Yes

Please describe these challenges and the steps being taken to solve them.

GEOGLAM science and tech challenges are described in our Research agenda:
https://earthobservations.org/geoglam.php?t=k_mgt_rd&s1=research_agenda
GEOGLAM will be working to update the research agenda over the next year to reflect progress made in the Essential Agriculture Variables that refine needs and prioritize results.

Does the Initiative expect to complete any key new outputs, improvements to existing outputs, or improvements to the methods of producing outputs, in the 2023-2025 period?

Yes

Please describe these new outputs or improvements.

Wh have continual improvements in the operational crop monitors. We are developing Essential Agricultural Variables (EAVs- AgVariables,org), and have a workplan to deliver enhanced coordination around in situ data management.

Please identify the key tasks that must be implemented to ensure delivery of these changes, with target dates for completion.

Task	Task description	Expected completion (month/year)
Gap Assessment for Implementation of the EAVs	Identifying data, science, operational and institutional gaps assocated with the generation of the EAVs	2025, ongoing, evergreen
In Situ Data Management	Implementation of the GEOGLAM in situ data management lifecycle, v1	2023 Q3, ongoing
Climate Adaptation	Implementation of the NAP supplemental guidance to scale up co-development of national crop monitors in less developed nations	ongoing
Climate Mitigation	Agricultural roadmap to support AFOLU, the Global Stocktake and Nationally Determined Contributions (links to CEOS roadmap activitites)	2025, ongoing
Research Agenda Update	Update the agenda to reflect needs and priorities for EAV implementation. Note: EAV gaps assessment is a prerequisite task	

Resources

Have all resources required to implement the Initiative's planned work in the 2023-2025 period been secured?

- Gap in financial resources
- Gap in human resources

What is the estimated funding gap for the 2023-2025 period?

Director, approx. 300k/yr chf post 2023
Co-Development Coordinator, approx. 200k/yr post 2022

What are the essential skill sets needed by the Initiative but are not currently resourced?

The Director position is currently unfunded post 2023, and will be vacant 05/2023. Need for a staffing and transition strategy going forward

What actions is the Initiative taking to obtain the required resources?

Resource mobilization for GEOGLAM coordination has been difficult. We look to GEO to support this, but limited success to date.

Please list all financial and non-financial contributions to the Initiative (other than in-kind, voluntary participation by individual contributors) having a value of more than USD 50,000.

Contributing Organization	GEO Status	Type of Resource	Value	Currency
Germany BMEL	Germany	Financial	268k/yr to end of 2023	Euro
U.K. DEFRA/ODA	United Kingdom	Financial	120k/yr in 2022	GPB
Canada-AAFC	Canada	Financial	100k/yr 2019-2021	CAD

Lessons from the 2020-2022 Period

Were all planned activities for the 2020-2022 period implemented as expected?

Yes

Were there any key challenges faced by the Initiative in the 2020-2022 period?

Yes

Please describe.

Global food security has significantly declined due to climate extremes, Covid and emerging conflict. As a result there is growing pressure on GEOGLAM to deliver and expand activities

Were there any impacts or changes to operations due to COVID-19?

Yes

Please describe.

See above, plus,
Access to independent EO to provide information on food production has been critical during covid due to the inability to accecc the field. Remotely sensed data was often the best or only source of information in some regions. As well covid and the Ukraine conflict has made it clear we need to better link our major production monitoring (AMIS Crop Monitor) with our early warning monitor (CM4EW). We are currently working to produce an integrated crop monitor at the request of many of our stakeholders

Please describe the key changes proposed for the 2023-2025 period, for example, new projects, new areas of focus, or adjustments to the activity governance.

- Continual improvement in operational crop monitors
- Gap assessment and implementation of the Essential Agricultural Variables to support climate and disaster response
- Ongoing research activities within the GEOGLAM Joint Experiments for Crop Assessment and Monitoring (JECAM). JECAM is a global network of abut 50 research sties. Work is prioritized by the GEOGLAM research agenda

Does the Initiative have outputs (products, services, etc.) available to users now, even if only on a pilot or testing basis?

Yes

Please provide any available information describing this usage (for example, user statistics, results of user testing) and/or feedback from users (for example, user comments, evaluations).

None, but GEOGLAM works directly with the user community, the products/services are co-developed with the user communities, and products/services are adjusted and augmented as user needs evolve.

Please provide supporting documentation if available.

- no supporting documents provided -

Do you have evidence of any impacts that have occurred in part as a result of using the outputs of the Initiative (for example, policy decisions taken, behaviour changes by users, risks mitigated)?

Yes

Please provide examples, with evidence where available.

Many mpact example are included on the GEOGLAM website:
https://earthobservations.org/geoglam.php?t=home&s1=impact_stories
It should be noted that this is only a very partial list. We are producing a Capacity Development Guidance document that will have several impact oriented case studies included (late Q3 2022 delivery)

Please provide supporting documentation if available.

- no supporting documents provided -

Have there been any internal or external reviews or evaluations of the Initiative since 2019?

No

Please indicate any GEO Work Programme activities with which you have ongoing collaboration.

- AFRIGEO - African Group on Earth Observations
- AMERIGEO - Americas Group on Earth Observations
- AOGEO - Asia-Oceania Group on Earth Observations
- DE-AFRICA - Digital Earth Africa
- AFRICULTURES - Enhancing Food Security in African Agricultural Systems with the Support of Remote Sensing
- GEO-EV - GEO Essential Variables
- GEOGLAM - GEO Global Agricultural Monitoring
- GEOGLOWS - GEO Global Water Sustainability
- GEO Work Programme Support - GEO Work Programme Support

Please indicate any additional GEO Work Programme activities with which you would like to establish new collaborations.

Stakeholder Engagement and Capacity Building

Are there specific countries or organizations that your Initiative would like to engage?

No

Does your Initiative engage users in the work of the Initiative (for example, consultation, testing, co-design)?

Yes

Please briefly describe the Initiative’s approach to engaging users.

All GEOGLAM operational products were co-developed with users. Further, our work with less developed countries and regional organizations to implement EO based agricultural monitoring systems are all co-

develop. We are currently drafting a Capacity Development Guidance document that outlines our approach and presents several case studies for successful co-development projects. The document is planned for release late Q3 2022.

Does the Initiative have a user engagement strategy or similar kind of document?

No

Are there categories of users that are not represented at this time, but you would like to engage?

Yes

Please list these user categories or regions.

More funding agencies to help scale up our activities

What are the plans for further engagement of users in the Initiative?

User engagement is continuous and ongoing. Many of our users are also contributors, for example, the World Food Programme feeds information and on the ground expertise into the CM4EW, and in turn they are users of the consensus products that are generated by the monitoring system

Does the Initiative have a documented capacity development strategy?

No

Please describe the approach to capacity development that is being implemented by the Initiative?

As noted above, document in development and will be released Q3 2022

Are there any commercial sector organizations participating in this Initiative?

No

Are there opportunities for commercial sector uptake of the outputs of the Initiative?

Yes

Please describe these opportunities.

Our operational products are all open available to all. Grain industry groups are directly involved in AMIS, and use the AMIS Crop Monitor. For example we are currently developing an MOU with the International Grains Commission (IGC). Crop Monitor products are also used by commodity brokers, and are often cited by media organizations (i.e. BBC, Bloomberg, WSJ).

Is there already commercial uptake occurring?

Yes

Please describe the nature of this uptake and the relevant commercial sector organizations.

Described above

Are there opportunities for further commercial sector participation in the Initiative?

No

Does the Initiative have a plan for commercial sector engagement?

Yes

Please describe this plan or upload the relevant document.

- no answer given -

- no supporting documents provided -

Governance

Please describe the roles of each of the key leadership positions, as well as any team structures involved in day-to-day management.

Note: GEOGLAM works with minimal day to day management.
GEOGLAM Secretariat Director: Day to day tactical and strategic leadership and primary representative of the initiative
GEOGLAM Secretariat Contributor: Support for the secretariat operations. Approximately 0.3 total person year in-kind contribution from two indicviduals
Executive Committee Co-Chairs: Representatives of major in-kind and/or direct support of GEOGLAM. Provide Director oversight and work with the Director to provide strategic leadership
Executive Committee Members: Key implementation partners of GEOGLAM. Contribute to straegic discussion and primary implementation leaders

Is there a steering committee or other governance bodies that advise the Initiative but are not involved in day-to-day management?

Yes

Please describe the roles of each body. If there are multiple governance bodies, please describe the relationships among them (such as through a governance structure diagram).

See above...
Executive Committee Co-Chairs: Representatives of major in-kind and/or direct support of GEOGLAM. Provide Director oversight and work with the Director to provide strategic leadership
Executive Committee Members: Key implementation partners of GEOGLAM. Contribute to straegic discussion and primary implementation leaders

- no supporting documents provided -

What methods does the Initiative use to communicate with its participants?

- Email / e-newsletters
- Regular conference calls
- Website
- Regular events

Please describe the key risks that could delay or obstruct the completion of the planned activities and outputs of the Initiative, along with any actions taken to mitigate these risks.

Description of the hazard	Description of the possible impacts	Scale of impact	Likelihood of occurrence	Mitigation measures
No funding for GEOGLAM Secretariat (Director) post 2023	loss of leadership	Severe	Very likely	Resource Mobilization efforts with potential funders. Seeking support from more organizations to reduce the reliance on any one funder
Loss of in-kind support for crop monitor operations	Resources for crop monitor operations are secured through 2026, but uncertain after this time	Severe	Not very likely	Non required within the timeframe of this work plan (2023-25)

What methods are used by the Initiative to monitor its effectiveness?

- Informal discussions with users / beneficiaries
- Consultations or events

Would the Initiative be interested in assistance from the GEO Secretariat for developing an impact plan?

No

How are the results of the monitoring and evaluation activities shared with participants and the wider GEO community?

N/A

Are any monitoring or evaluation activities required by funders/contributors?

No

Participants

Please list the active individual participants in the Initiative

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Other information

Please provide any other comments or information that was not included in the previous sections, but you would like to appear in the Implementation Plan.

- no answer given -

- no supporting documents provided -

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List of co-editors for this initiative

- no answer given -