CEOS Ad hoc Team for GEOGLAM

**Planning Document**

September 2012

# Background

The Group on Earth Observations’ Global Agricultural Monitoring initiative (GEOGLAM) has been rapidly defined in response to a G20 initiative. CEOS has been provided with a draft work plan, which was developed by the GEO Agriculture Task Leads and the GEO Secretariat. The EO component in the Work Plan envisions improved coordination of satellite observations for agricultural monitoring, as well as implementation of a global data acquisition strategy and dissemination process.

At the 27th CEOS Strategic Implementation Team (SIT-27) meeting in March 2012, CEOS Agencies agreed to support initial development of the GEOGLAM initiative, and define the data and resources required to provide for GEOGLAM’s space-based EO component. GEOGLAM will place significant demands on the capacities of CEOS Members’ land surface imaging systems – requiring long-term coverage of global croplands at sustained repeat frequencies. Nevertheless, this initiative represents a major opportunity for the CEOS and GEO membership to demonstrate their ability to support critical societal needs.

The SIT recognised the importance of GEOGLAM and of the CEOS contribution, but registered the need for far greater definition of the EO component of the GEOGLAM Work Plan. SIT-27 established a number of decisions and actions through which CEOS would take control of the further definition and implementation of that component of the Work Plan. The SIT-27 decisions and actions were:

1. *CEOS agrees to participate in GEOGLAM’s initial program development (SIT-27).*
2. *CEOS offers to GEOGLAM to take on responsibility to further develop the space-based observations component suggested by the draft Work Plan, including development of more specific plans and schedules for the evolution of the observations activities, including data acquisitions, compilation, access and processing. An ad hoc team will take on this responsibility and will include: Yves Crevier, John Faundeen, Brian Killough, Prasad Thenkabail, Stephen Ward, Shinichi Sobue (plus others TBA). (SIT-27)*
3. *CEOS should urge GEOGLAM (and work with GEOGLAM) to arrange a user requirements meeting with the objective of defining detailed information requirements – from which CEOS may infer observational needs.  CEOS will designate appropriate representatives to participate in this meeting (June/July 2012).*
4. *A major component of the CEOS role will be the space data coordination activity to address the significant and sustained coverage needs anticipated of GEOGLAM. The Global Forest Observations Initiative (GFOI) Space Data Coordination Group (SDCG) is relatively new and developing its capacity and identity. SIT Chair will explore with SDCG the possibility of tasking (augmenting?) the group to undertake a preliminary global acquisition strategy in support of GEOGLAM needs. The acquisition strategy would follow and benefit from the process developed for GFOI and would identify the agencies, missions and sensors that can contribute to the observational requirements of GEOGLAM (From CEOS Plenary).*
5. *Building upon the outcomes of the user requirements and space data coordination activities, responsible CEOS team will provide their analysis and recommendations to CEOS leadership on further steps vis-à-vis the GEOGLAM initiative – including a plan for the pre-2015 outcomes (@ CEOS SIT-28, Mar 2013).*

This short planning document has been developed by the resulting CEOS ad hoc Advisory Team for GEOGLAM in order to communicate both within CEOS and externally, as to the process and schedule anticipated to take forward these actions through to the SIT-28 meeting in 2013.

1. CEOS Ad hoc Advisory Team for GEOGLAM

The CEOS ad hoc Advisory Team for GEOGLAM consists of representatives of CEOS Agencies which support the next stage of GEOGLAM’s development. The ad hoc Team welcomes participation from all CEOS Agency staff with expertise in satellite mission planning, satellite mission coordination, data acquisition and management, and the use of space-based EO data to generate actionable information for agricultural decision-makers. Furthermore, it is desirable for at least one co-chair of the SDCG and the CEOS Virtual Constellation for Land Surface Imaging to be regular participants in the Team’s discussions and meetings.

The ad hoc Team consults closely with the GEO Agricultural Community of Practice (CoP) to determine its needs, and define how they may be translated into potential CEOS data/information outputs. The ad hoc Team also consults as necessary with representatives of the GEO Secretariat, national agricultural ministries, international organizations such as the UN Food and Agriculture Organization and World Meteorological Organization, and CEOS working groups. Finally, the ad hoc Team will work closely with the CEOS SDCG and SEO to ensure the successful delivery of its mandate.

It is expected that the ad hoc Team will terminate following its delivery of the required information products and recommendations described in Section 4. At that time, the CEOS Plenary will determine how any of its residual or longer-term duties will be conducted in relation to the SDCG and LSI Constellation.

1. Deliverables

The following deliverables are planned by the ad hoc Team ahead of the SIT-28 meeting (with lead team member responsible identified):

1. **Space Data Requirements Statement:** As anticipated by SIT-27, a User Requirements meeting was hosted by CSA in July 2012, with the aim of producing a definitive statement of information requirements related to GEOGLAM. The CEOS team was represented and aimed to ensure that the user requirements were characterised in a way which would allow the CEOS team to determine related space data requirements, as well as to be able to specify the modelling, calibration/validation and processing support that will be required to satisfy the agricultural information needs from satellite (and other) data. A statement of these assumed requirements is being developed jointly with the GEOGLAM task team, the GEO Agricultural CoP and the CEOS ad hoc Team. This document will include a) a summary table of requirements developed taking into consideration the observation needs, the derived products they will serve, and high-level regional specificities; b) the spatial and timing components to qualify and characterize the table (multi-scale shape files and crop calendars for the various cropping regions identified in the table); c) the operational considerations (data latency, data quality, need for high-level products, interoperability, etc.)

In parallel to the refinement of the GEOGLAM space data requirements, the Intermediate EO Data Planning Product will be developed. This will be a series of tables, one for each region or continent. This series of tables will be produced in draft, then will be discussed at the Intermediate EO Data Planning Product meeting in about early December. The series of tables will be refined based on the meeting discussions.

The Space Data Requirements Statement and the Intermediate EO Data Planning Product will be the basis for the acquisition strategy design. (Lead: Yves Crevier)

1. **Proposed Global Acquisition Strategy:** The SDCG established for GFOI by CEOS is pioneering a new emphasis on focused coordination of acquisition planning among CEOS Members. The same skills and processes that are used for GFOI will be essential in planning a strategy for GEOGLAM observations. The SDCG has offered to undertake a draft strategy definition for GEOGLAM. This GEOGLAM-focused SDCG meeting is expected to be held after the CEOS plenary (Q1 2013). This process will spell out how the CEOS Members’ different public good satellite data streams might be combined to meet the global coverage demands and where commercial data may be needed in addition. The Proposed Global Acquisition Strategy document will be produced during the GEOGLAM-focused SDCG meeting, and will be completed and revised after completion of this meeting. (Lead: John Faundeen).
2. **Assessment of data volumes and costing:** CEOS space data contributions are critical to the success of GEOGLAM. It is important that expectations of the volumes of data and the associated costs are fully understood by the G20. The combination of existing and future satellite data will result in the production of many data products meeting the requirements of GEOGLAM. In order to manage the large number of potential contributions and related data volume, CEOS must consider the detailed product requirements to develop a realistic assessment of data volume and costs for planning purposes. The Assessment of Data Volumes and Costing will be produced following the GEOGLAM-focused SDCG meeting. (Lead: Brian Killough)
3. **Updated EO component for the GEOGLAM Work Plan:** The EO component included both space-based and *in-situ* observations. In updating the EO component of the GEOGLAM Work Plan, the CEOS team will focus on the space-based elements but should take into account the role of *in-situ* observations. The updated texts will include details on the component deliverables and activities and information on roles, responsibilities and resourcing. For example, the efforts of the SDCG in developing acquisition strategies can be explicitly explained. (Lead: TBD)
4. **Summary report and recommendations to SIT-28:** A report summarising the progress over the previous year will be circulated ahead of the SIT-28 meeting, with recommendations for the way forward for the CEOS contribution to GEOGLAM. (Lead: TBD).
5. **Schedule & Milestones**

The schedule of the production of the deliverables and the key meetings is shown in . The dates of the Intermediate EO Data Planning Product meeting and GEOGLAM-focused SDCG are nominal dates only. Note that discussions with GEOGLAM will continue throughout the period of this schedule, as will the agencies’ support of JECAM.

Figure 1: Schedule of Deliverables and Key Meetings

