

The Committee on Earth Observation Satellites (CEOS)
Space Data Coordination Group (SDCG)

**Three-Year Work Plan
2016 - 2018**

April 2016

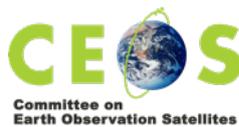


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1 Introduction

1.1 Background and Purpose

This document defines the 2016 - 2018 Work Plan for the CEOS Space Data Coordination Group for GFOI (SDCG). The creation of the SDCG was proposed in the *CEOS Strategy for Space Data Coverage and Continuity in Support of GFOI*, which was endorsed by CEOS Plenary in late 2011. The *Strategy* has served as the guiding document for SDCG activities since its endorsement, and continues to define the overall purpose and aims of the SDCG.

In the period 2011 - 2014, the SDCG prepared, and coordinated the initial implementation of:

A coordinated global baseline data acquisition strategy for EO data (Element 1) involving a number of space-based 'core' data that can be used and shared free-of-charge for GFOI purposes.

A coordinated strategy for national data acquisitions (Element 2) which accommodates countries that have specific technical requirements or heritage and experience on working with a particular EO data source or type.

A data acquisition and supply strategy in support of GFOI R&D activities (Element 3) was submitted prior to SIT-30 (March-April 2015).

This Work Plan was initiated in 2015, and has been prepared to map out the activities of the SDCG covering the finalisation and implementation of the space data supply for GFOI. The updated plan summarizes the purpose of the GFOI Space Data coordination efforts for 2016 - 2018:

- Continued coordination of core data streams and addition of new core data streams and products;
- Continued development of data services tools for data acquisition planning, data storage, and data processing to support country needs;
- Expansion of R&D data supply and improved coordination of efforts; and
- Engagement of priority countries in the implementation of the above via all channels available, and in particular in coordination with the GFOI Lead Team (especially FAO) and the other GFOI components (i.e. R&D, MGD, Capacity Building).

CEOS has acknowledged that there is the need for continued SDCG work, especially as the GFOI structures are being established slower than anticipated, so that a longer term forward planning for SDCG has become necessary. Nevertheless, SDCG continues works towards transitioning its tasks into the GFOI operational structures, as their institutional arrangements and capacity for GFOI and its Project Office develop. This will include GFOI leadership maintaining and further developing the partnership with the UN system (FAO, UNFCCC), The World Bank, and other implementation mechanisms.

1.2 Scope

The three years addressed by this Work Plan (2016 - 2018) are expected to see continued intensive growth in GFOI, and progression of the implementation of schemes such as UN-REDD+. The Work Plan aims to cover both internal and external activities supporting the continuation and growth of GFOI's Space Data component, and the following activities fall under its scope:

- 1) Annual updates of the implementation plans for the Global Baseline Data Acquisition Strategy (Element 1);
- 2) Implementation of the Space Data Services for GFOI (Element 2);
- 3) Incorporation of the end-user perspective, performing needs assessments, defining country-specific strategies and priorities;
- 4) Development of the SDCG set of procedure and response in support to GFOI R&D activities (Element 3);
- 5) Coordination with the other components of GFOI (the GFOI Office, MGD, R&D, and Capacity Building);
- 6) Maintenance and evolution of the dialogue with the data providers;
- 7) Development/implementation of an adequate cooperation scheme with the private sector, namely commercial data and service providers and foundations; and
- 8) Interaction with CEOS, and coordination with overlapping initiatives (e.g. GEOGLAM, Land Surface Imaging).

1.3 Contents

Section 2 summarises the 3-Year vision and outcomes for SDCG and GFOI, covering 2016 – 2018 (CEOS Plenary to Plenary).

Section 3 defines a schedule and milestones for each of the outcomes, grouped under baseline acquisitions, Space Data Services, Research and Development, and country engagement.

Section 4 outlines a work plan for achieving each of the outcomes, including top-level task definitions.

Section 5 summarises the process of maintaining and updating this Work Plan, and also summarises some of the institutional issues that may need to be addressed.

2 3-Year Vision and Outcomes

2.1 Vision

SDCG has started the development of its 3-Year Work Plan by defining a vision which:

- Is consistent with the Strategic Plan for GFOI developed by the GFOI Lead Team;
- Is easily communicated both internally and externally including to CEOS and its agencies, GFOI stakeholders and countries;
- Provides linkages and improves the integration with the other components of GFOI: Space Data with the Capacity Building, Methods and Guidance, and R&D activities;
- Ensures an efficient and effective engagement with countries including by leveraging the in-country efforts of FAO, World Bank, SilvaCarbon and bi-lateral agreements (e.g. SLEEK, Australia-Indonesia, Norway-Guyana);
- Can provide the necessary direction and resources for the definition and execution of the activities and tasks required to realise the outcomes; and
- Informs and supports the discussion required among the GFOI Lead Team regarding the coordination necessary for realisation of the outcomes, in particular regarding the country engagement through FAO, World Bank and SilvaCarbon.

SDCG's 3-Year vision for the Space Data Component of GFOI is for:

- Streamlined and efficient processes for maintaining and adjusting the annual global coverage by the core data streams;
- Leveraging the programs of the core data stream providers to facilitate the necessary supply of data to the GFOI end-users;
- SDCG's Space Data Services, alongside the GFOI Methods and Guidance, will be mainstreamed within the REDD+ activities of the major sponsors and in-country programs of FAO, World Bank, and others;
- Development of scalable tools and sustained capabilities (including cloud-based storage, interactive processing, and delivery) for the Space Data Services, based on the prototypes and pilots that SDCG has been exploring;
- Incorporation of GFOI Space Data Services and Methods and Guidance in one or more operational national MRV programmes;
- Effective and professional engagement of the most relevant countries, based on the priorities of FAO and World Bank, and leveraging the activities of SilvaCarbon – resulting in wide-spread awareness of GFOI products and services among these countries; and
- Implementation of an accountability framework that addresses the contribution of the public, hybrid and commercial data providers for acquisition and provision of satellite data in support of GFOI R&D activities.

Realisation of this vision will benefit greatly from the increased engagement with the FAO following the collocation of the GFOI Office in 2016, as well as with the relevant programs and capacities of the core data stream providers, and recognition of GFOI as an integral part of REDD+ by the major donors and funded accordingly.

2.2 Outcomes

The following outcomes are defined in support of the realisation of the 3-year vision.

Baseline Global Observation Scenario

- 1) **Multiple annual global coverages from 2016 of the world's forested areas** with provision for coverage for the foreseeable future by inclusion of GFOI requirements in the basic observation scenarios of the core data streams.
- 2) **Efficient and effective global flows of data** to accommodate in-country development of GFOI recommended Forest Map products.
- 3) **Commitment of core data stream providers to include GFOI requirements in the definition of consistent information products.**

GFOI Space Data Services

- 4) **GFOI Space Data Services will be defined and delivered** in collaboration with FAO and The World Bank, and closely integrated with the new interactive Methods and Guidance, as well as via the SilvaCarbon capacity building activities.
- 5) **A program of space data capacity building meetings** including national space data needs, and associated assessments provided for the priority countries identified by FAO, World Bank, and SilvaCarbon.
- 6) **Ensured on-going coverage** customised for all of the priority countries, and the development of semi-automated tools for the generation of national core data stream archive characterisation, as required.
- 7) **Interoperable satellite data discovery tools** for all core data streams through a single access point.
- 8) **Assembly & delivery of core data streams** with an emphasis on using the core data stream portals for direct download, with additional delivery services (i.e. media) strictly on a case-by-case basis, through the Capacity Building component.
- 9) **Integration of space data within the GFOI Methods and Guidance**, including agreement on the derivation of GFOI standard products using space data.
- 10) **Conclude pilots investigating fundamental issues around the provision of cloud computing** based storage, processing and presentation of GFOI products as the basis for national MRV consistent with the Methods and Guidance. Priority to be given to improved coordination between FAO's SDMS/OpenForis, ESA's Forestry TEP and SDCG activities, but also considering WRI's GFW2.0, and Data Cube initiatives.
- 11) **Creation of a model national GFOI cloud computing search, storage and processing system** incorporating all lessons learned during the pilot investigations, including the SDMS and ESA's TEP. This system shall be a sustainable solution for countries to discover, access, store and process satellite datasets to support national MRV reporting.

Space Data Support to GFOI Research & Development

- 1) **Implementation of the Element-3 strategy document** endorsed at SIT-30 (April 2015).
- 2) **Providing the satellite data required to progress the GFOI priority R&D topics outlined in the GFOI R&D plan to pre-operational or operational status**, in coordination with the R&D component, and in support of improvements to the Methods and Guidance.

- 3) **Enhanced data provider (public, hybrid, and commercial) engagement**, through a management and accountability framework implemented in conjunction with an SDCG mechanism for brokering space data requests in support of GFOI R&D activities.

GFOI Component Coordination and Country Engagement

- 4) **Delivery of a coherent customer experience for GFOI countries** via efficient coordination among the GFOI Space Data component, the GFOI Methods and Guidance, Capacity Building, and R&D components, and the GFOI Office.
- 5) **Space data support and services provided to all priority countries** including coordination and integration with the Methods and Guidance and the GFOI Office.
- 6) **Effective management of country interfaces** based on interactions by the GFOI Office, at regional workshops in coordination with FAO, SilvaCarbon, and others, and via the implementation and maintenance of a country relationship database, kept current on a regular basis.

3 Schedule

Annual tasks are defined for the realisation of each of the 14 outcomes defined in Section 2.2.

Baseline Global Data Acquisitions

| # | Outcome | 2016 | 2017 | 2018 |
|---|---|---|--|--|
| 1 | Multiple annual global coverages by 2016 of the world's forested areas | Multiple global annual coverages of the world's forested areas from a suite of core mission sensors | Multiple global annual coverages of the world's forested areas by several core mission sensors | Multiple global annual coverages of the world's forested areas by several core mission sensors |
| 2 | Efficient and effective global flows of data | Complete global data flow study in cooperation with USGS, ESA/EC and SDCG Exec | Implement processes and tools for efficient and effective global flows of data | Efficient and effective global flows of data for development of GFOI standard products |
| 3 | Global coverage with consistent information products | Identify Space Agency and expert partner information product initiatives relevant to GFOI and MDG (e.g. ongoing evolution of the Landsat product roadmap towards surface reflectance, development of Sentinel-2 surface reflectance products) | Inclusion of GFOI requirements in agency data-related initiatives | Integrate flows of information products as they become available |

Table 1 Annual tasks 2016 – 2018 for outcomes related to baseline global data acquisitions.

GFOI Space Data Services

| # | Outcome | 2016 | 2017 | 2018 |
|---|---|---|---|---|
| 4 | Space Data Services closely integrated with new MGD and SilvaCarbon activities | Continued definition of approach with FAO, World Bank, and SilvaCarbon on tools and service delivery and mainstreaming Establish integration of Space Data Services with the MGD Portal and MGD 2.0. | Implementation of service delivery in coordination with FAO, World Bank, and SilvaCarbon | Close integration with MGD and SilvaCarbon components, FAO and World Bank |
| 5 | A program of space data capacity building meetings | Further workshops at SDCG and SilvaCarbon events with country prioritisation defined by agreement with SilvaCarbon, FAO, and World Bank and endorsed by the GFOI Lead Team | Continued meetings with priority countries | Space data meetings including national space data needs assessments for all priority countries |
| 6 | Ensured on-going coverage | Archive characterisation support and on-going coverage support provided for countries attending 2016 meetings | Ensured on-going coverage for priority countries with semi-automated tools for archive characterisation | Ensured on-going coverage for priority countries with semi-automated tools for archive characterisation |
| 7 | Interoperable satellite data discovery tools | Work with core data stream providers to define discovery tools required, and study archive interoperability challenges | Implementation of interoperable data discovery tools including Landsat, Sentinel-1 and -2, CBERS | Interoperable satellite data discovery tools for all core data streams |
| 8 | Assembly & delivery of core data streams | Work with priority countries to try and address their data | Assembly & delivery of core data streams emphasizing direct | Assembly & delivery of core data streams emphasizing direct |

| # | Outcome | 2016 | 2017 | 2018 |
|----|---|--|---|--|
| | | assembly and delivery needs | download | download |
| 9 | Integration of space data within the GFOI Methods and Guidance | GFOI Open Forum discussion on interaction between MGD Portal, MGD 2.0 and the SDCG tools and services Operational links to space data in MGD Portal | Finalisation of methodology to derive GFOI standard products using space data and reflection in the MGD. | Integration of space data within the GFOI MGD Portal, including agreement on the derivation of GFOI standard products using space data |
| 10 | Conclude pilots investigating fundamental issues around the provision of cloud computing | Develop pilots investigating fundamental issues around the provision of cloud computing Further work on SDMS Identification of operational pathways Closer collaboration between SDCG and FAO on SDMS and SEPAL | Conclude pilots investigating fundamental issues around the provision of cloud computing Transition of initial pilots to operations | Operational initiation of cloud computing instances and systematic transition and handover to operating partners |
| 11 | Creation of a model national GFOI cloud computing search, storage and processing system | Colombian and Kenyan national Data Cube projects established Initiate within the ESA Forestry TEP a demonstration of a sub-national system for Mexico | Colombian and Kenyan Data Cube transitioned to operational ESA Forestry TEP demonstration of a sub-national system for Mexico underway (Autumn 2017) | Goal of model national systems building on the experience of the pilots with Data Cube, SDMS and ESA TEP |

Table 2 Annual tasks 2016 – 2018 for outcomes related to GFOI Space Data Services.

Space Data Support to GFOI Research & Development (Element 3)

| # | Outcome | 2016 | 2017 | 2018 |
|----|--|--|---|--|
| 12 | Development and updates of the Element-3 strategy document | Update(s) of the Element 3 strategy document to reflect progress of the GFOI R&D Coordination Component, status of engagement of SDCG data stream providers. First update to be completed prior to SIT-31 for endorsement. | Update(s) of document as required | Update(s) of document as required |
| 13 | Providing the satellite data required to progress the GFOI priority R&D topics | Dedicated satellite data acquisitions over R&D Study Sites Distribution of data to the GFOI R&D Study teams | Coordinate contacts and communications between SDCG data stream providers and GFOI research groups Acquisitions and distribution of satellite data | Acquisitions and distribution of satellite data |
| 14 | An SDCG Element 3 strategy that ensures engagement and accountability, from the data providers (public, hybrid and commercial) and the R&D teams, towards the advancement of GFOI Priority R&D Topics | Standard operating procedures for the SDCG Element 3 response and migration of the current GFOI R&D projects into the new framework | Current and new coordinated R&D activities that address GFOI priority R&D topics. SDCG Element 3 coordination to select new projects. Consolidated reporting from the space agencies and the R&D teams and migration of successful R&D outcomes into the MGD. | Current and new coordinated R&D activities that address priority R&D topics. SDCG Element 3 coordination to select new projects. Consolidated reporting from the space agencies and the R&D teams and migration of successful R&D outcomes into the MGD. |

Table 3 Annual tasks 2016 – 2018 for outcomes related to R&D.

GFOI Component Coordination and Country Engagement

| # | Outcome | 2016 | 2017 | 2018 |
|----|---|---|---|---|
| 15 | Delivery of a coherent customer experience for GFOI countries | <p>Coordinated plan for providing the most efficient provision of GFOI deliverables to countries - developed by the Space Data, MGD and Capacity Building Component Leads</p> <p>Develop at least two GFOI 'end-to-end' country engagement pilots involving all GFOI components</p> | Effective coordination among GFOI Components for engaging and supporting follow-up with priority countries | Effective coordination among GFOI Components for engaging and supporting follow-up with priority countries |
| 16 | Space data support and services provided to all priority countries | FAO and SilvaCarbon will help define the priority countries for GFOI support and deliverables | As dictated by the country prioritisation above, in collaboration with FAO, World Bank, SilvaCarbon, and GFOI Lead Team | Capacity to provide space data support and services to all priority countries |
| 17 | Effective management of country interfaces | <p>Development of simple Excel-based database for internal SDCG purposes</p> <p>Establish <i>modus operandi</i> in collaboration with FAO and GFOI Leads for country engagement</p> | Transition to GFOI Office as appropriate | Effective management of country interfaces in coordination with FAO and SilvaCarbon via a country relationship database |

Table 4 Annual tasks 2016 – 2018 for outcomes related to Country Engagement.

4 Work Plan

The Work Plan below defines leads for each of the four main outcome areas, and then tasks under each of the outcomes to contribute towards their achievement. Key points are listed for each task where applicable. Those leads identified are responsible for the detailed definition and execution of the tasks.

This section is intended to define the tasks at the highest level, and it is expected that the leads, as well as individual task members will want to add separate detail in supporting documentation.

The tasks defined in this Work Plan will be used to guide reporting on the regular SDCG management calls and bi-annual meetings.

Baseline Global Observation Scenario

Leads: E Fosnight, FM Seifert

1. Multiple annual global coverages from 2016 of the world's forested areas

Multiple annual global coverages from 2016 of the world's forested areas by core observational data streams with provision for regional and special needs coverage by non-core tasking data streams to meet GFOI requirements. Provide access to multiple data sources to provide complementary data streams and to reduce revisit times.

Tasks:

- a. In 2016, expand global baseline coverage.
 - Build on 2015's coverage of GFOI Participating Countries, UN-REDD National Programme and Partner Countries, WB-FCPF Participating and Partner Countries, CD-REDD Project Countries (BMU).
 - Coverage by Landsat and Sentinel-1A, and commissioning, ramp-up, and start of coverage by Sentinel-2A.
- b. From 2016, multiple full global annual coverage of the world's forested areas.
 - Additional capacity from Sentinel-1B and Sentinel-2A coming online in 2016.
 - Build to global coverage as defined in the Element 1 Strategy.
 - Continue to pursue interoperability between optical and SAR data.
- c. An annual baseline implementation summary report describing the progress toward achieving the goals for the baseline global observation scenario will be produced prior to the CEOS SIT meeting each year.

2. Efficient and effective global flows of data

Develop efficient and effective global flows of data to accommodate in-country development of GFOI recommended Forest Map products. Build partnerships with national agencies and expert partners for data delivery. Evolve flexible and redundant data flows to accommodate the needs and capacity of all national partners.

Tasks:

- a. 2016: complete data flow study and operational proof of concept.
 - National requirements – necessary and sufficient data: dense time series of observation data for data cube analysis; cloud free mosaics of observation data for interpretation; optimally selected observation data for discrete change detection; information products, such as global forest maps.
 - Consideration of data volumes, bandwidth, processing capacity, national infrastructure, costs and technical capacity guides selection and delivery of data products for a global forest observations scenario – with and without analysis-ready data approaches and data cube systems.
 - Work with actors like LSI-VC on the description of Analysis Ready Data (ARD).
- b. By 2017, implement operational processes and tools for efficient and effective global flows of data.
 - Evolve a tiered solution for data discovery and dissemination through data brokers such as FAO, SilvaCarbon and SEO to discover and acquire data and make the data or information products available to users: space agencies => national partners and space agencies => data brokers/expert partners => national partners.
 - Evolve tiered delivery mechanism for observational data, information products and cloud solutions through physical media, direct downloads, data brokerage through expert partners, ensuring GFOI is leveraging the major programmes of the core data providers such as USGS and ESA/EC.

3. Commitment of core data stream providers to include GFOI requirements in the definition of consistent information products

Global coverage with consistent information products to improve efficiency, consistency and accuracy in the production of GFOI recommended Forest Map products. Space agencies recognize the requirement for information products derived from measurement data to increase the productivity of resource managers and scientists and to minimize data delivery issues related to data volume.

Tasks:

- a. In 2016, coordinate with capacity building teams to identify critical information algorithms/processes and products.
 - Derived observation products, such as cloud free mosaics, surface reflectance, band pass corrected products.
 - Coordinate directly with information product developers such as the ESA Forestry Thematic Exploitation Platform, JAXA Global Forest/Non Forest product, USGS LCMAP, NASA Web Enabled Landsat Data/Global Forest Change, and Geoscience Australia Data-Cube.
 - Monitor the development of pixel-based tile systems and the evolving partnerships among USGS/NASA, ESA, Australia and others.
- b. By 2017, integrate space agency information initiatives into GFOI data flows.
 - Encourage space agencies to coordinate the specifications of information products to increase the interoperability of the products and relevance to GFOI data requirements.
 - Encourage space agencies to support mechanisms to deliver algorithms to data.

- Encourage space agencies to optimize data delivery mechanisms and formats.
- Encourage space agencies to ensure interoperability among data products.

GFOI Space Data Services

Leads: B Killough, S Ward, G Dyke

These data services will include a software and data integration framework for discovery, access, processing and analysis of space-based data from Earth-observing satellites. In addition, the group will explore a new Data Cube concept for improved analysis and product generation. The CEOS System's Engineering Office has taken responsibility for the delivery of a number of the Space Data Services tasks, and maintains detailed project management information (Work Plan) separately.

4. GFOI Space Data Services will be continue to be defined, with delivery coordinated FAO and World Bank and integrated with MGD and SilvaCarbon components.

Tasks:

- a. Definition of approach with FAO, World Bank, and SilvaCarbon on service delivery and mainstreaming [2016].
 - There is currently no effective overview or integration of the country support activities carried out among SDCG, SilvaCarbon, FAO and World Bank. For GFOI to become established, we have to aim to mainstream the products and services in the in-country activities of these provider agencies. SDCG with the support of the GFOI Lead Team, will seek to establish agreement on a suitable approach to this mainstreaming.
- b. Establish integration of Space Data Services with the MGD Portal and MGD 2.0 [2016].
 - SDCG will support the Methods and Guidance component as needed on space data aspects of the new interactive MGD. SDCG will seek to ensure space data aspects are appropriately represented.
- c. Deliver services in coordination with FAO, World Bank, and SilvaCarbon [2016].
 - As guided by the GFOI Lead Team.
- d. Close integration with MGD and SilvaCarbon components, FAO and World Bank [2017].

5. A program of space data capacity building meetings

Tasks:

- a. Country prioritisation and scheduling of GFOI scaling defined by agreement with SilvaCarbon, FAO, and World Bank and endorsed by the GFOI Lead Team [2016].
- b. Further workshops at SDCG and SilvaCarbon events [2016-2018]
 - Sentinel-oriented capacity building workshops to help facilitate update of new data streams as the come online.
 - GFOI Open Forum meeting with Capacity Building component and relevant countries.

6. Ensured on-going coverage by core data streams

Tasks:

- a. On-going coverage support provided for countries as engaged by GFOI [2016-2018].
 - Coordination with core data stream providers.
- b. Archive characterisation support provided for countries as engaged by GFOI [2016-2018].
 - Automated tools are made available for the core data streams.

7. Interoperable satellite data discovery tools**Tasks**

- a. Work with core data stream providers to define discovery tools required, and study archive interoperability challenges [2016].
 - Definition of common search tool for core data stream archive data discovery.
- b. Implementation of interoperable data discovery tools [2017-2018].
 - Including core data streams: Landsat, Sentinels, CBERS.
 - Include data discovery and access tools in the common data services approach.

8. Assembly & delivery of core data streams**Tasks:**

- a. Work with priority countries to try and address their data assembly and delivery needs.
 - Default delivery via provider agency data portals.
 - Media data delivery coordinated via workshops (i.e. SilvaCarbon, FAO) where possible
 - Development of training and capacity building to support country needs for data discovery and access (in cooperation with MGD?)

9. Integration of space data within the GFOI Methods and Guidance**Tasks:**

- a. SDCG-9 discussion on interaction between MGD Portal and MGD 2.0 and the SDCG tools and services. [Feb 2016].
- b. Finalisation of derivations of GFOI standard products and reflection in the MGD [2016].

10. Conclude pilots investigating fundamental issues around the provision of cloud computing**11. Creation of a model national GFOI cloud computing processing system****Tasks:**

- a. Closer collaboration between SDCG and FAO on SDMS and SEPAL [2016].
- b. Develop pilots investigating fundamental issues around the provision of cloud computing [2016].
 - Pilot activities, engaging multiple GFOI countries [2016].

- Transition of initial pilots to operations [2017]
- c. Model national system [2017].
 - Explore Colombian and Kenyan Data Cube as model national system [2016].
 - Explore the ESA Mexico TEP for lessons learned for GFOI [2017].
 - Incorporating lessons learned and as promotional tool for GFOI [2017].

Space Data Support to GFOI Research & Development (Element 3)

Leads: S. Yabe, A Rosenqvist, F.M. Seifert, Y. Crevier

12. The Element-3 strategy document

Tasks:

- a. Finalise the Element 3 acquisition strategy in support of the GFOI R&D Plan. Penultimate draft by SDCG-7. Endorsement of final document at SIT-30 [2015]. [Completed]
- b. Update(s) of the Element 3 strategy document to reflect progress of the GFOI R&D Component, status of engagement of SDCG data stream providers. First update to be completed prior to SIT-31 for endorsement.
- c. Annual updates [2016-2018].

13. Providing data support for the priority activities outlined in the GFOI R&D plan

Tasks:

- a. In close collaboration with the GFOI R&D Coordination Component (GOFC-GOLD LC Office), coordinate contacts and communications between SDCG data stream providers and GFOI R&D groups (space data requests, results reporting, etc.)
- b. Support the establishment of relevant user agreements between GFOI R&D groups and SDCG data stream providers (where required).
- c. SDCG data stream providers to commence satellite acquisitions and distribution of archive data to the GFOI R&D groups in accordance with the Element 3 strategy.

14. An SDCG Element 3 strategy that ensures engagement and accountability, from the data providers (public, hybrid and commercial) and the R&D teams, towards the advancement of GFOI Priority R&D Topics

Tasks:

- d. Development of standard operating procedures (SOP) to allow the implementation of an SDCG mechanism for brokering space data requests in support of GFOI R&D activities [2016].
- e. Adoption of the SOP, and migration of the ongoing projects into the new framework
- f. Consolidated reporting on R&D activities from providers and R&D teams, respectively
- g. Coordination activities to address new R&D priorities and better engage data providers (public, hybrid and commercial)''

GFOI Component Coordination and Country Engagement

Leads: GFOI Office, S Ward, G Dyke, S Wilson, with FAO

15. Delivery of a coherent customer experience for GFOI countries

Tasks:

- Develop a coordinated plan for providing the most efficient provision of GFOI deliverables to countries - developed by the Space Data, MGD and Capacity Building Component Leads [2016].
- Continued effort to understand country requirements for space data.
- Development of a GFOI Space Data Access Guide outlining practical steps that countries should take to access space data. The Guide should directly reference the advice provided by the MGD, and provide a concise and explicit data access information including product details, and data access contact information. [Completed 2016]
- Develop at least two GFOI 'end-to-end' country engagement pilots involving all GFOI components. Two countries at the appropriate policy stage and with relevant funding should be identified, one technically advanced and one less so. [2016]

16. Space data support and services provided to all priority countries

Tasks:

- FAO and SilvaCarbon will help define the priority countries for GFOI support and deliverables [2016].
- Provide support and services as dictated by the country prioritisation, in collaboration with FAO, World Bank, SilvaCarbon, and GFOI Lead Team (ideally following an overall strategy defined by the Lead Team).

SDCG's preliminary Priority country table is shown below - based on engagement with the groups and activities noted.

| Country | SDCG | SilvaCarbon | SEPAL | Data Cube | FCPF | MGD Trial | Other |
|--------------------------|----------------------|-------------|------------|-----------|------|-----------|-------|
| Bangladesh | SDCG-6 | Yes | | | | | |
| Cambodia | SDCG-7 | Thailand-WS | | | | | |
| Cameroon | SDCG-9 | Yes | | | | | |
| Central African Republic | | | | | | | |
| Chile | | | | | P1 | | |
| Colombia | SDCG-4/SDCG-5/SDCG-7 | Yes | 3y Project | Yes | P2 | | |
| Congo | | | | | P1 | | |
| Costa Rica | | | | | P1 | | |
| DRC | SDCG-5 | Yes | 3y Project | | P1 | | |
| Ecuador | SDCG-4 | Yes | 1y Project | | | | |
| Gabon | | | | | | | |

| | | | | | |
|-------------|----------------------|-------------|------------|-----|-------|
| Ghana | | | | P1 | Yes |
| Guatemala | | | | P2 | |
| Guyana | SDCG-4 | Yes | 3y Project | | |
| Honduras | SDCG-4 | | | | |
| Indonesia | SDCG-6/SDCG-9 | Thailand-WS | | P2 | INCAS |
| Kenya | SDCG-5/SDCG-7/SDCG-9 | Cameroon-WS | | Yes | SLEEK |
| Laos | | Thailand-WS | | | |
| Mexico | SDCG-4 | Yes | 3y Project | P1 | |
| Mozambique | SDCG-9 | | | P2 | |
| Nepal | SDCG-6 | Thailand-WS | 3y Project | P1 | |
| Nicaragua | | | | | |
| Paraguay | | | 3y Project | | |
| Peru | SDCG-4 | Yes | 3y Project | P2 | |
| Philippines | SDCG-6 | Thailand-WS | | | |
| Tanzania | SDCG-5 | | 1y Project | | |
| Thailand | | Thailand-WS | | | |
| Uganda | SDCG-5 | | 1y Project | | |
| Vietnam | | Thailand-WS | 3y Project | P1 | |
| Zambia | SDCG-5 | | 3y Project | | |

17. Effective management of country interfaces

Tasks:

- a. Development of simple Excel-based database for internal SDCG purposes [2016].
- b. Establish *modus operandi* in collaboration with FAO, SilvaCarbon and GFOI Lead Team for country engagement [2016].

5 Governance

This Work Plan document has been prepared to help manage and communicate the activities of the CEOS Space Data Coordination Group (SDCG) for GFOI. SDCG EXEC will maintain it as a living document so that it remains a current record of SDCG activities and plans. SDCG EXEC foresees an annual update process synchronised with the update of the GFOI Strategic Plan by the GFOI Lead Team and ideally in coordination with Work Plans for the other GFOI Components.

SDCG capacity is limited by the 'best efforts' contributions of its member agencies. Individual members will take responsibility for leadership of tasks most relevant to their agency ambitions and expertise. The Lead Team identified for each of the tasks will oversee the reporting of those tasks to each of the SDCG meetings, and to SDCG EXEC progress telecons. SDCG meetings will be organised around the reporting and direction of the tasks.

The updated 3-Year Work Plan will be presented annually to CEOS Plenary in association with renewal of the SDCG mandate.