

Update to CEOS WGCV on additional GEO Tasks May 2009

**Greg Stensaas (USGS)
CEOS WGCV vice chair**

GEO task DA-09-01a & action items

- 09:00 Task DA-09-01a (Lecomte, Stensaas, Fox)
- 09:10 Action DA-09-01a_5: Benchmark Mission Coordination (Fox)
- 09:20 Action DA-09-01a_6: Ground-based Cal/Val Campaign (Fox)
- 09:30 Action DA-09-01a_7: DOME C Experiment (Cao)
- 09:40 Action DA-09-01a_8: Cal/Val & Post-launch Test Sites (Chander)
- 09:50 Action DA-09-01a_9: Radiometric Standards (Fox)
- 10:00 Action DA-09-01a_11: Reference Test Site Data Collaboration & Comparison (Fox / Chander / Cao)
- **Other GEO task actions being led by the WGCV & its subgroups**
- 10:10 Action DA-09-01b_1: Land Product Harmonisation (Baret)
- 10:20 Action DA-09-01b_2: Data, Metadata & Product Harmonisation; Interactions between WGCV & WGISS (Apaphant)
- **10:40 – 11:00 Coffee**
- **QA4EO**
- 11:00 Action DA-09-01a_10: QA4EO (Lecomte / Stensaas)
- 14:00 Action DA-09-03d_3: Global DEM (Muller)
- 14:10 Action DA-09-03d_4: Global DEM (Muller)

Proposed involvement of WGCV in new GEO task activities (**Stensaas**)

- 14:20 AR-09-01c: GEOSS Best Practices Registry
- 14:25 DA-09-03a: Global Land Cover
- 14:30 DA-06-01: GEOSS Data Sharing Principles
- 14:35 EC-09-01a: Ecosystem Classification and Mapping
- 14:40 EC-09-01c: Regional Networks for Ecosystems
- 14:45 ST-09-02: Promoting Awareness and Benefits of GEO in the Science and Technology Community
- 14:50 US-09-03c: Bio-geophysical, Soil & Land Surface Data
- 14:55 US-09-05d: Global Phenology Data
- **15:00 – 15:30 Coffee**
- 15:30 Round-up discussion on GEO task commitments

CEOS SEC Email (today)

Dear Pascal and Greg,

a few weeks ago , WGCV has proposed 6 new actions in support to some GEO Tasks (see attachment). Those actions still need to be further consolidated like:

- consolidate the action description
- nomination of a POC
- propose a list of deliverables and milestones
- etc

It would be nice if you could take advantage of being altogether at the WGCV Plenary, to consolidate those new proposals of actions.

Thank you very much for your cooperation

Best regards

Ivan

(See attached file: CEOS-GEO Actions Table 27 May 2009 WGCV.zip)

CEOS GEO Actions Table

New 2009-2011 CEOS-GEO Action Number	Former 2007- 2009 CEOS- GEO Action Number	GEO 2009-2011 new Task Id	GEO Task Description	CEOS SBA Team Allocation	Action Status (OPEN / CLOSED)	CEOS Action Category: (1 to 4) TO BE CONSOLIDATE D	Action Description
AG-06-02_2	NEW	AG-06-02	AG-06-02: Data Utilization in Fisheries and Aquaculture	Agriculture	OPEN	4	Publish an IOCCG monograph on "Applications of Remote Sensing in Fisheries and Aquaculture"
AG-06-02_3	NEW	AG-06-02	AG-06-02: Data Utilization in Fisheries and Aquaculture	Agriculture	OPEN	4	Development of EO tools for Ecosystem-based Marine Management
AG-07-03a_4	NEW	AG-07-03a	AG-07-03a: Global Agricultural Monitoring System	Agriculture	OPEN	4	Integrating remote sensing data into selected models to enhance operational decision support for crops, drought and agricultural water management
AG-07-03c_1	AG-06-07_1	AG-07-03c	AG-07-03c: Expanding EO Applications in Agriculture and Promoting Capacity Building in Developing Countries	Transverse	OPEN	4	Preparation and delivery of training resources for GEO CBC activities. This is dependent on development of GEO portal and GEO NETcast services This is a continuous task achieved via an assortment of training actions and courses conducted by several CEOS
AR-09-01a_2	NEW	AR-09-01a	AR-09-01a: Enabling Deployment of a GEOS Architecture	Transverse	CLOSED	1	Complete Version 1 of the LSI Constellation Portal for Mid-Resolution Optical LSI Satellite System Information and Enhanced Data Access.

- CEOS-GEO Actions Table 27 May 2009 .xls
- Covers all CEOS GEO Tasks
- Provides updates and work plan linkage
- Provides linkage to previous tasks and closed tasks



Committee on Earth Observation Satellites Working Group on Calibration and Validation

New 2009-2011 CEOS-GEO Action Number	Former 2007- 2009 CEOS- GEO Action Number	GEO 2009-2011 new Task Id	GEO Task Description	CEOS SBA Team Allocation	Action Status (OPEN / CLOSED)	CEOS Action Category: (1 to 4) TO BE CONSOLIDATE D	Action Description
AR-09-01c _1	NEW PROPOSAL	AR-09-01c	<u>AR-09-01c: GEOSS Best Practices Registry</u>	Transverse	OPEN	1	GEO task is important to WGCV as the QA4EO framework it has recently established defines a common structure and set of requirements for "best practises" in the context of data and data product quality and associated Calibration and validation to enable interoperability. QA4EO has been established to also provide an appropriate document indexing system for such QA best-practises. In the context of this task QA4EO should be seen as the local depository and subsequent catalogue for QA best practises linked through the hierarchy and catalogue established under this task. It is therefore important that infrastructure of this database reflects this structure and that those with QA-related best practises are directed appropriately to ensure a coordinated and harmonised registry of "best practises" with appropriate level of community review.
DA-06-01	NEW PROPOSAL	DA-06-01	<u>DA-06-01: GEOSS Data Sharing Principles</u>	Transverse	OPEN	1	Potential link within this task to the Data Democracy effort. All Cal/Val data must be free and shared openly by all GEOSS members. Overall GEO data sharing principles should be developed as an overall CEOS initiative.
DA-09-03a_1	NEW PROPOSAL	DA-09-03a	<u>DA-09-03a: Global Land Cover</u>	Transverse	OPEN	1	The production of a global land cover map formed by harmonised data sets from multi-sensors as envisaged by the LSI constellation can only occur through the implementation of a QA framework such as QA4EO. This provides a good test bed to ensure that QA4EO fully meets the needs of this task and thus WGCV will provide the means to facilitate data harmonisation and bias evaluation through the establishment of reference standards and best practises and their utilisation in comparisons to ensure future data sets are more easily linked. WGCV will use the lessons learnt in this task to guide the evolution of the QA4EO guidelines.
ST-09-02 _2	NEW PROPOSAL	ST-09-02	<u>ST-09-02: Promoting Awareness and Benefits of GEO</u>	Transverse	OPEN	3	CEOS WGCV notes the critical importance of this task and will provide support on the messages and content related to data product QA.
US-09-03c _1	NEW PROPOSAL	US-09-03c	<u>US-09-03c: Bio-geophysical, Soil & Land Surface Data</u>	Transverse	OPEN	?	The LPV must be involved in this. How does this tie together with on-going work? How does it tie to NEON? The QA4EO principle of traceability is important here. CEOS WGCV will provide advice on how QA4EO principles can be evolved to ensure that the products delivered under this task can be harmonized and fully assessed to ensure that the "customer" can assess the suitability for their application.
US-09-03d _1	NEW PROPOSAL	US-09-03d	<u>US-09-03d: Global Phenology Data</u>	Transverse	OPEN	?	The LPV must be involved in this. How does this tie together with on-going work? How does it tie to NEON? The QA4EO principle of traceability is important here. CEOS WGCV will provide advice on how QA4EO principles can be evolved to ensure that the products delivered under this task can be harmonized and fully assessed to ensure that the "customer" can assess the suitability for their application.

**Proposed COES SIT
involvement of WGCV
where no task actions on
the WGCV have yet been
specified**

AR-09-01_c: GEOSS Best Practices Registry

Support the operation and upgrade of the GEOSS Best Practices Registry. The registry should be capable of including best practices in observation, modeling and analyses, ontologies, capacity building, cost-benefit sharing mechanisms, and other relevant GEO best practices (e.g. data sharing, cooperative data acquisition, joint development, joint flight, collaborative sciences) and other relevant GEO best practices. This sub-task will work in coordination with the four GEO Committees and Members & Participating Organizations, who will provide the content for the registry

Lead: Japan (University of Tokyo) and IEEE

AR-09-01c

- **Sub-task Number:** AR-09-01c
- **Sub-task Title:** GEOSS Best Practices Registry
- **Overarching Task:** GEOSS Common Infrastructure
- **Area:** ARCHITECTURE
- **Relevant Committee:** ADC
- **Related Targets:** (to be included in 2009)
- **Sub-task Definition** (as given in the 2009-2011 Work Plan):
 - Support the operation and upgrade of the GEOSS Best Practices Registry. The registry should be capable of
 - including best practices in observation, modelling and analyses, ontologies, capacity building, cost-benefit
 - sharing mechanisms, and other relevant GEO best practices (e.g. data sharing, cooperative data acquisition,
 - joint development, joint flight, collaborative sciences) and other relevant GEO best practices. This sub-task
 - will work in coordination with the four GEO Committees and Members & Participating Organizations, who
 - will provide the content for the registry.
 - **Leads** (GEO Member or PO, Entity carrying out the work, Contact: e-mail):
 - IEEE, Point of Contact: Ruth Duerr, ruth.duerr@ieee.org
 - Japan (University of Tokyo), Masahiko Nagai, nagaim@iis.u-tokyo.ac.jp

AR-09-01a related to DA-09-01b

- **Sub-task Number:** AR-09-01a
- **Sub-task Title:** Enabling Deployment of a GEOSS Architecture
- **Overarching Task:** GEOSS Common Infrastructure
- **Area:** ARCHITECTURE
- **Relevant Committee:** ADC
- **Related Targets:** (to be included in 2009)
- **Sub-task Definition** (as given in the 2009-2011 Work Plan):
 - Facilitate and support the deployment and operation of the GCI, including the incorporation of contributed components and services consistent with the GEOSS architecture; the GCI consists of GEO web portal(s) providing user access to information and services related to the nine societal benefit areas, clearinghouse(s) for searching data, information and services, and registries containing information about offered GEOSS resources, associated standards, and best practices. Define and solicit support for a contributed-systems (e.g. components, services) facilitator function. Expand the existing GEO process for the registration and processing of interoperability arrangements including the Standards and Interoperability Forum (SIF) and regional teams, and encourage registration of standards-based GEOSS resources from both Earth Observation and Spatial Data Infrastructure (SDI) initiatives. With support from the User Interface Committee, develop user-driven system-of-systems engineering activities to ensure that the GEOSS reference and functional architecture is appropriately designed for technical and non-technical users.
 - Define and deploy core GEOSS registry infrastructure for GEO Members and Participating Organizations to:
 - (i) commit component systems, (ii) register related resources with GEOSS, and (iii) provide consultation to the contributed-systems facilitator. The registries in the GCI include components and services registries, standards and special arrangement registries, best practices registry, requirements registry, and others as needed to support the core operations requirements of GEOSS. Address integration and user issues emerging from the initial operating capability of the GCI. Update and maintain the Strategic and Tactical Guidance Documents to reflect current practices and implementation of the GEOSS Architecture.
- **Leads** (GEO Member or PO, Entity carrying out the work, Contact: e-mail):
 - USA (FGDC) *Point of Contact:* Douglas Nebert, US Geological Survey, ddnebert@usgs.gov
 - EC (EuroGEOSS) Francis Bertrand, BRGM, France, f.bertrand@brgm.fr;
 - EC (EuroGEOSS) Stefano Nativi, IMAA, CNR, Italy, nativi@imaa.cnr.it
 - IEEE, Siri Jodha Singh Khalsa, sjsk@nsidc.org
 - USA (NOAA) Ken McDonald, kenneth.mcdonald@noaa.gov

AR-09-01_c: WGCV reaction to proposed involvement

This task is important to WGCV as the QA4EO framework it has recently established defines a common structure and set of requirements for “best practises” in the context of data and data product quality and associated Calibration and validation to enable interoperability.

QA4EO has been established to also provide an appropriate document indexing system for such QA best-practises.

In the context of this task, QA4EO should be seen as the local depository and subsequent catalogue for QA best practises linked through the hierarchy and catalogue established under this task.

It is therefore important that infrastructure of this database reflects this structure and that those with QA-related best practises are directed appropriately to ensure a coordinated and harmonised registry of “best practises” with appropriate level of community review.

TASK LEAD Response to WGCV Support

- Potential work with WGISS and DA-09-01b

DA-09-03a: Global Land Cover

Provide a suite of global land cover datasets, initially based on improved and validated moderate resolution land cover maps and eventually including land-cover change at high resolution. This activity will benefit directly from the establishment of the Land Surface Imaging virtual constellation (see AR-09-02a).

Lead: USA (USGS) and GTOS (GOFC-GOLD)

DA-09-03a: Reaction to proposed WGCV involvement

The production of a global land cover map formed by harmonised data sets from multi-sensors as envisaged by the LSI constellation can only occur through the implementation of a QA framework such as QA4EO.

This provides a good test bed to ensure that QA4EO fully meets the needs of this task and thus WGCV will provide the means to facilitate data harmonisation and bias evaluation through the establishment of reference standards and best practises and their utilisation in comparisons to ensure future data sets are more easily linked.

WGCV will use the lessons learnt in this task to guide the evolution of the QA4EO guidelines.

TASK LEAD Response to WGCV Support

- Action to discuss with task leads

DA-06-01: GEOSS Data Sharing Principles

Identify steps required to further the practical application of the agreed GEOSS Data Sharing Principles: (1) There will be full and open exchange of data, metadata, and products shared within GEOSS, recognizing relevant international instruments and national policies and legislation; (2) All shared data, metadata, and products will be made available with minimum time delay and at minimum cost; (3) All shared data, metadata, and products being free of charge or no more than cost of reproduction will be encouraged for research and education. Define near-term milestones needed to come to consensus on *Implementation Guidelines for the GEOSS Data Sharing Principles* and move expeditiously towards the development of working data sharing policies and procedures for GEOSS.

This requires an iterative process, whereby initial experience with data sharing policies and procedures provide important lessons. Throughout this process, ensure data access for capacity building and work in close connection with DA-09-02a (GEOSS Quality Assurance Strategy).

Lead: ICSU (CODATA)

DA-06-01

- **Task Number:** DA-06-01
- **Task Title:** GEOSS Data Sharing Principles
- **Area:** DATA MANAGEMENT
- **Relevant Committee:** ADC
- **Related Targets:** (to be included in 2009)
- **Task Definition:**
 - Identify steps required to further the practical application of the agreed GEOSS Data Sharing Principles: (1) There will be full and open exchange of data, metadata, and products shared within GEOSS, recognizing relevant international instruments and national policies and legislation; (2) All shared data, metadata, and products will be made available with minimum time delay and at minimum cost; (3) All shared data, metadata, and products being free of charge or no more than cost of reproduction will be encouraged for research and education.
 - Define near-term milestones needed to come to consensus on *Implementation Guidelines for the GEOSS Data Sharing Principles* and move expeditiously towards the development of working data sharing policies and procedures for GEOSS. This requires an iterative process, whereby initial experience with data sharing policies and procedures provide important lessons. Throughout this process, ensure data access for capacity building and work in close connection with DA-09-02a (GEOSS Quality Assurance Strategy).
- **Leads** (GEO Member or PO, Entity carrying out the work, Contact: e-mail):
 - ICSU (CODATA), *Point of contact:* Kathleen Cass, Executive Director, codata@dial.oleane.com
 - ICSU (CODATA), Robert Chen, bchen@ciesin.columbia.edu

DA-06-01: Reaction to proposed WGCV involvement

- Potential link within this task to the Data Democracy effort.
- Work with other tasks:
 - **A guide on cal/val data sharing principles and data exchange, QA4EO-QAEO-GEN-DPK-001**
 - **A guide for providing cal/val data: content and metadata, QA4EO-QAEO-GEN-DPK-002**
 - Data Sharing Principals
 - GEO Data Policy
- All Cal/Val data must be free and shared openly by all GEOSS members. Overall GEO data sharing principles should be developed as an overall CEOS initiative.

TASK LEAD Response to WGCV Support

- R. Duerr - Setting that aside, my initial thoughts about contributions by the CEOS community to the Best Practices Registry would be for CEOS members to register the various practices that are codified in various CEOS sponsored documents in the registry.
- Dr. Robert S. Chen - I'm not really familiar with the process here. One thing you should now is that a new GEO Data Sharing Task Force has been established and is in fact having its first meeting tomorrow and Thursday in Geneva. The task DA-06-01 still exists but is really subsumed by this new effort. So I'm not sure I can speak for the Task Force in responding. My own opinion is that the group will welcome efforts to provide more specific guidelines and recommendations on sharing of any and all data associated with GEOSS. I expect that Martha Maiden will be at the meeting, representing the US, but given her CEOSS/WGISS role, she may want to weigh in as well.

EC-09-01a: Ecosystem Classification and Mapping

Continue the work of the Ecosystems Classification Task Force, covering terrestrial, freshwater, and ocean ecosystems – to create a globally agreed, robust, and viable global classification scheme for ecosystems. Establish links to existing databases, such as the Ocean Bio-geographic Information System. In parallel with the classification effort, develop, review and initiate a mapping approach to spatially delineate the classified ecosystems.

Lead: Paraguay (Guyra Paraguay) and USA (USGS), and supported by the Forest and Global Agricultural Monitoring Communities of Practice

EC-09-01a

- **Task Number:** EC-09-01a
- **Task Title:** Ecosystem Classification and Mapping
- **Overarching Task:** Ecosystem Observation and Monitoring Network (GEO EcoNet)
- **Area:** ECOSYSTEMS
- **Related Community of Practice:** Forest and Global Agricultural Monitoring
- **Relevant Committee:** TBD
- **Related Targets:** (to be included in 2009)
- **Task Definition** (as given in the 2009-2011 Work Plan):
 - Continue efforts to produce a standardized, robust, and practical classification and map of global ecosystems at management-appropriate scales for terrestrial, freshwater, and marine environments. Integrate the global ecosystems product with existing ecosystem maps and databases, and support ecosystem (GEO Trends Analysis Network) and biodiversity (GEO Biodiversity Observation Network) monitoring approaches.
- **Leads** (GEO Member or PO, Entity carrying out the work, Contact: e-mail):
 - USA (USGS), Point of Contact: Roger Sayre, rsayre@usgs.gov
 - Paraguay (Guyra Paraguay), Alberto Yanosky, ayanosky@guyra.org.py
 - USA (USDA/Forest Service), Bob Bailey, rgbaily@fs.fed.us

EC-09-01a: Reaction to proposed WGCV involvement

- Action to discuss at the end of slides

TASK LEAD Response to WGCV Support

From Shubha: The lead for this task has been Roger Sayre (USGS).

For the marine side, an IOCCG working group, chaired jointly by Mark Dowell (JRC Ispra) and Trevor Platt (PML, UK), has a monograph on this topic, which is almost ready for printing. IOCCG and the co-chairs of this working group would be suitable points of contact for the marine side.

Trevor Platt and Shubha Sathyendranath attended the first workshop of this task called by Roger and held in Paraguay.

EC-09-01c: Regional Networks for Ecosystems

Build upon the successful extension of the regional-scale ANTARES project (South America) to the global-scale ChloroGIN project – under POGO and IOCCG. Further develop existing initiatives (e.g. IOC-sponsored regional networks; GOFC-GOLD regional networks and ILTER for terrestrial domains).

Lead: GTOS and POGO, supported by the Forest and Global Agricultural Monitoring Communities of Practice

EC-09-01c

- **Task Number:** EC-09-01c
- **Task Title:** Regional Networks for Ecosystems
- **Overarching Task:** Ecosystem Observation and Monitoring Network (GEO EcoNet)
- **Area:** ECOSYSTEMS
- **Related Community of Practice:** Forest and Global Agricultural Monitoring
- **Relevant Committee:** TBD
- **Related Targets:** (to be included in 2009)
- **Task Definition** (as given in the 2009-2011 Work Plan):
 - Build upon the successful extension of the regional-scale ANTARES project (South America) to the global-scale ChloroGIN project – under POGO and IOCCG. Further develop existing initiatives (e.g. IOC-sponsored regional networks; GOFC-GOLD regional networks and ILTER for terrestrial domains).
- **Leads** (GEO Member or PO, Entity carrying out the work, Contact: e-mail):
- POGO, Point of Contact: Shubha Sathyendranath, shubha@Dal.Ca
- GTOS

EC-09-01c: Reaction to proposed WGCV involvement

- Action to discuss with task leads

TASK LEAD Response to WGCV Support

Shubha Sathyendranath is point of contact on this task, representing both POGO and IOCCG.

This is a GEO capacity building initiative, and has a strong developing-country involvement. Financial support from CEOS, for example, for development and maintenance of regional websites of the network, or for in situ time series stations to complement satellite data (for regional algorithm development and validation) would be very useful.

ST-09-02: Promoting Awareness and Benefits of GEO in the Science and Technology Community

Engage the research community in GEOSS to achieve breakthroughs in the understanding of the Earth's changing environment and global integrated Earth system. The nine interdependent GEOSS societal benefit areas require an inter-disciplinary scientific approach cutting across observations, research, knowledge and information. The scientific community should collaborate within GEO to address interactions between the components of the global integrated Earth system, and connect natural and socioeconomic sciences.

Lead: EC (DG-RTD), COSPAR and IIASA *(to be confirmed)*

ST-09-02

- **Task Number:** ST-09-02
- **Task Title:** Promoting Awareness and Benefits of GEO in the Science and Technology Community
- **Area:** SCIENCE AND TECHNOLOGY
- **Relevant Committee:** STC
- **Related Targets:**
- **Sub-task Definition** (*modified from the 2009-2011 Work Plan*):
 - Promoting awareness and benefits of GEOSS in the scientific and technological communities in order to
 - engage the research community in GEO and GEOSS with the goal to achieve breakthroughs in the
 - understanding of the Earth's changing environment and global integrated Earth system. The scientific
 - community should collaborate within GEO to address interactions between the components of the global
 - integrated Earth system, and connect natural and socioeconomic sciences.
 - Activities will include: Forming links with major scientific research enterprises in each societal benefit area.
 - Actively encourage relevant scientists and technical experts to contribute to GEOSS in a truly participatory
 - way. Reach out to the world's diverse scientific and technological communities and make GEOSS more
 - visible and attractive to them. Contact universities and laboratories to involve them in GEOSS activities.
 - Organize a GEO presence at major symposia and other meetings, for example through plenary presentations
 - or side events.
- **Leads** (*GEO Member or PO, Entity carrying out the work, Contact: e-mail*):
 - EC (RTD), *Point of Contact:* Gilles Ollier, gilles.ollier@ec.europa.eu
 - COSPAR, Jean-Louis Fellous, jean-louis.fellous@cosparhq.cnes.fr
 - COSPAR, Nadine Gobron, nadine.gobron@jrc.it
 - ICSU
 - IIASA

ST-09-02 : Reaction to proposed WGCV involvement

CEOS WGCV notes the critical importance of this task and will provide support on the messages and content related to data product QA.

TASK LEAD Response to WGCV Support

- Action to discuss with task leads

US-09-03c: Bio-geophysical, Soil & Land Surface Data

Coordinate the collection, processing and distribution of bio-geophysical and land surface parameter data (e.g. Leaf Area Index (LAI), Vegetation Index (VI), Fraction Photosynthetically Available Radiation (FPAR) and Net Primary Productivity (NPP)). Deliver this data as a service to the global modeling communities; there is a heritage of this type of effort (ISLSCP 1 and 2). Support the development a Global Soil Information System (GLOSIS) building upon the work of the International Soil Reference and Information Centre (ISRIC). Incorporate the various existing regional initiatives into a coherent system for soil data – to support implementation of major multilateral environmental agreements (e.g. UNFCCC, UNCCD and CBD) and provide harmonized & policy relevant information to users at the regional and national level. As the European contribution to GLOSIS, e-SOTER will deliver a web-based regional pilot platform with data, methodology, and applications, using remote sensing to validate, augment and extend existing data.

Lead: EC (e-SOTER), USA (NASA) and WCRP

US-09-03c

- **Sub-task Number:** US-09-03c
- **Sub-task Title:** Bio-geophysical, Soil & Land Surface Data
- **Overarching Task:** Cross-Cutting Products and Services
- **Area:** USER ENGAGEMENT
- **Relevant Committee:** UIC (User Interface Committee)
- **Related Targets:** (to be included in 2009)
- **Sub-task Definition** (as given in the 2009-2011 Work Plan):
 - Coordinate the collection, processing and distribution of bio-geophysical and land surface parameter data (e.g. Leaf Area Index (LAI), Vegetation Index (VI), Fraction Photosynthetically Available Radiation (FPAR) and Net Primary Productivity (NPP)). Deliver this data as a service to the global modelling communities; there is a heritage of this type of effort (ISLSCP 1 and 2).
 - Support the development a Global Soil Information System (GLOSIS) building upon the work of the International Soil Reference and Information Centre (ISRIC). Incorporate the various existing regional SOTER initiatives into a coherent system for soil data – to support implementation of major multilateral environmental agreements (e.g. UNFCCC, UNCCD and CBD) and provide harmonized & policy-relevant information to users at the regional and national level. As the European contribution to GLOSIS, e-SOTER will deliver a web-based regional pilot platform with data, methodology, and applications, using remote sensing to validate, augment and extend existing data.
- **Leads** (GEO Member or PO, Entity carrying out the work, Contact: e-mail):
 - EC (e-SOTER), Point of Contact: Vincent Van Engelen, vincent.vanengelen@wur.nl
 - EC (JRC), Luca Montaneralla, luca.montaneralla@jrc.it
 - USA (NASA)
 - WCRP
 - WMO (CLW/HFWR), Wolfgang Grabs, WGrabs@wmo.int

US-09-03c : Reaction to proposed WGCV involvement

The LPV must be involved in this.

- How does this tie together with on-going work? How does it tie to NEON?
- The QA4EO principle of traceability is important here.
- CEOS WGCV will provide advice on how QA4EO principles can be evolved to ensure that the products delivered under this task can be harmonized and fully assessed to ensure that the “customer” can assess the suitability for their application.

TASK LEAD Response to WGCV Support

US-09-03d: Global Phenology Data

Coordinate the collection of in-situ phenology observations and expand existing observing networks. Identify and generate satellite-derived phenological/temporal metrics and test models for describing the phenological characteristics of natural and modified ecosystems. Changes in vegetation phenology impact biodiversity, net primary productivity, species distribution, albedo, biomass and ultimately the global climate.

Lead: USA (NPN, University of Wisconsin)

US-09-03d

- **Sub-task Number:** US-09-03d
- **Sub-task Title:** Global Phenology Data
- **Overarching Task:** Cross-Cutting Products and Services
- **Area:** USER ENGAGEMENT
- **Relevant Committee:** UIC
- **Related Targets:** *(to be included in 2009)*
- **Sub-task Definition** *(as given in the 2009-2011 Work Plan):*
 - Coordinate the collection of in-situ phenology observations and expand existing observing networks. Identify and generate satellite-derived phenological/temporal metrics and test models for describing the phenological characteristics of natural and modified ecosystems. Changes in vegetation phenology impact biodiversity, net primary productivity, species distribution, albedo, biomass and ultimately the global climate.
- **Leads** *(GEO Member or PO, Entity carrying out the work, Contact: e-mail):*
 - Austria, *Point of Contact:* Elisabeth Koch; ZAMG; Elisabeth.koch@zamg.ac.at
 - USA (USDA/Forest Service), Danny Lee, dclee@fs.fed.us
 - USA (USGS), Jake Weltzin, USA National Phenology Network, jweltzin@usgs.gov
 - USA (UWM), Mark Schwartz, University of Wisconsin-Milwaukee, mds@uwm.edu

US-09-03d *Participation*

	Type	Representing	Organisation	Name	EmailAddress
•	Lead(PoC)	Austria	ZAMG	Elisabeth Koch	Elisabeth.koch@zamg.ac.at
•	Lead		USA	University of Wisconsin-Milwaukee	Mark Schwartz mds@uwm.edu
•	Lead		USA	USA National Phenology Network	Jake Weltzin jweltzin@usgs.gov
•	Lead		USA	USDA/Forest Service	Danny Lee dclee@fs.fed.us
•	Contributor		Australia	U of Melbourne	Marie Keatley mrk@unimelb.edu.au
•	Contributor		Brazil	UNESP	Patricia Morellato pmorella@ms.rc.unesp.br
•	Contributor		Canada	Nature Watch	Elisabeth Beaubien Elisabeth.beaubien@ualberta.ca
•	Contributor		China	Peking University	Xiaoqui Chen cxq@pku.edu.cn
•	Contributor		Estonia	U of Tartu	Rein Ahas Rein.ahas@ut.ee
•	Contributor		Finland	Finnish Forest Research Institute	Eero Kubin Eero.kubin@metla.fi
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US-09-03d : Reaction to proposed WGCV involvement

The LPV must be involved in this.

- How does this tie together with on-going work? How does it tie to NEON?
- The QA4EO principle of traceability is important here.
- CEOS WGCV will provide advice on how QA4EO principles can be evolved to ensure that the products delivered under this task can be harmonized and fully assessed to ensure that the “customer” can assess the suitability for their application.

TASK LEAD Response to WGCV Support

- Two other GEO tasks EC-09-01c (ChloroGIN, Network of regional ecosystem networks) and AG-06-02 (SAFARI: Societal Applications to Fisheries and Aquaculture of Remotely-sensed Imagery) have marine ecosystem phenologies as important elements of the tasks. It would be desirable to link those initiatives in the marine side to the Global Phenology Task, which appears to have a mostly-terrestrial focus. (from Shubha)

DISCUSSION

- WGCV Involvement ?
 - Proposed work or task