

## CEOS SEC 219 Report

**Entity:** WGDIsasters

**Prepared By:** Stéphane Chalifoux (Canadian Space Agency) and Simona Zoffoli (Italian Space Agency)

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### **Updates on issues raised during the last CEOS SEC teleconference**

**(Dot points)**

- None

### **Issues requiring discussion/decision during current CEOS SEC teleconference**

**(Dot points)**

- None

### **Other highlights, activities, actions, projects, collaborations**

**(Dot points, e.g. outputs, new products, papers, technical reports, media, pipeline and new projects, interactions, project status changes, new opportunities)**

- Pilots (floods, volcanoes and seismic risks) including the activities related to the Supersites are progressing well with regular provision of satellite data. No issue to report.
- GSNL: San Andreas Fault Natural Laboratory proposal still in evaluation by Data Coordination Team (DCT) and there is a need for clarification-precision.
- Recovery Observatory (RO): Recovery Observatory Oversight Team is working on triggering of the Observatory on Hurricane Mathew. Triggering the RO would potentially achieve many of the objectives and that we should go ahead with the triggering process with the aim of obtaining agreement from the CEOS principals.
- Landslide Pilot: After endorsement of the implementation plan that includes the data plan at last CEOS Plenary 2016, activities will start shortly.
- GEO-DARMA is starting the Concept Phase with a goal of Identification of hazards affecting most of the countries in the region or of transboundary risks that require regional and multi-country involvement.
- The WG is considering the possibility to join the Global Partnership on Space Technology Applications for Disaster Risk Reduction (GP-STAR), coordinated by UNOOSA.
- CEOS Website: The second Story is now on line 'Supporting Emergency Relief in Sri Lanka': Please visit: <http://ceos.org/home-2/ceos-flood-pilot-supports-emergency-relief-in-sri-lanka/>

### **Upcoming meetings or events**

**(Dot points, e.g. meetings, conferences of relevance, visits)**

- United Nations/Germany International Expert Meeting on the Global Partnership on Space Technology Applications for Disaster Risk Reduction (GP-STAR), 1 to 2 December 2016; Bonn, Germany
- WG Disasters meeting # 7, Mars 2016, at ASI in Rome (Italy), hosted by ASI
- Global Platform for Disaster Risk Reduction, May 2017, Mexico, organized by The United Nations Office for Disaster Risk Reduction

### **Attachments**

**(e.g. pictures, figures, graphs, links – for use in overall CEOS reporting and as website resources etc.)**

## GEO-XIII Report

Dear CEOS Colleagues,

It was my pleasure to attend the 13<sup>th</sup> GEO Plenary meeting in St Petersburg as the head of the CEOS delegation. With an attendance of over 400 we all participated in a new format for the meeting. Rather than the traditional format used in years past, with a focus on the reading of prepared statements, this year's Plenary featured three interactive panel sessions. I would like to provide you with a quick update on some key topics outcomes.

First, regarding the panel sessions:

1. **A 'GEOSS development panel'**, discussing how the GEO community can improve its efforts to develop a Global Earth Observation System of Systems. I represented the CEOS agencies on this panel. The discussion was led by Stuart Minchin from Geoscience Australia and included some good topics such as: options for improving coordination of terrestrial in-situ observations; how an approach based on 'essential variables' like that used in climate could benefit the GEO community if managed carefully; and the need for us to keep lowering the technical barriers to use of Earth observations so 'non-traditional' users can exploit the data. A key point was also the need for us to engage our peers in better emphasizing the 'economic benefit' message of Earth observation.
2. **A 'user driven initiatives' panel**, discussing how the GEO participants can better connect its activities to the priorities and needs of end users. Stephen Briggs participated in this panel, which explored some of the challenges associated with understanding 'what users want'. It also discussed an engagement between GEO and users to 'co-create' products and services to increase the likelihood that products are fit for a specific purpose while fostering user ownership.
3. **A 'commercial sector' panel** included representatives from across the different parts of the Earth observation value chain. This was facilitated by GEO's new Senior External Relations Manager, Steven Ramage. The lively discussion exposed the Plenary audience to the issues in this area. There was wide agreement that win-win engagement with the commercial sector was possible, and indeed critical for GEO's success in its second decade. The panel members laid a good foundation encouraging direct engagement with the commercial sector for follow-on activities aimed at finding out what specific engagement models may work best for GEO.

Overall, **the panel approach was very effective**, and I heard nothing but positive feedback from attendees although some thought the panel sessions should have been used more throughout the meeting.

**Another key outcome of the Plenary was the endorsement of an Engagement Strategy for GEO.**

This strategy describes what role the different actors in the GEO community can play in connecting GEO and its stakeholders. Alongside this strategy, a set of **three specific Engagement Priorities were adopted**:

- The Sustainable Development Goals;
- The Sendai Framework for Disaster Risk Reduction;

- Climate Change – and specifically Greenhouse Gas monitoring.

Having these three specific priorities identified does not imply that the GEO community will not engage in other agendas, or with other stakeholders. That is not how GEO, as an open and inclusive forum, works.

What it does do is give the GEO community, and particularly the GEO Secretariat, GEO Executive Committee and GEO Programme Board, a signal that these areas are deserving of specific, dedicated attention and focus at every opportunity. I was pleased that the three priorities adopted by the GEO Plenary are directly consistent with our priorities as stated in the Kyoto Statement. This connectivity did not happen by chance but reflects the keen insight and commitment CEOS agencies have in building the space arm of GEOSS. A detailed Implementation Plan will now be prepared by the GEO Secretariat in consultation with the Executive Committee.

**Another key outcome was the endorsement of the first three-year GEO Work Programme,** developed by the Programme Board, including Stephen Briggs, Jonathon Ross and Ivan Petiteville. I would like to congratulate the CEOS representatives to the GEO Programme Board for this outcome. It was a huge achievement (appropriately acknowledged by the GEO Plenary) for the Programme Board to spin-up from inception only one-year ago and deliver such a comprehensive document.

I intervened on behalf of CEOS to affirm that our existing contributions will continue, but also to highlight: our ongoing engagement with Future Data Architectures; our plans to promote a global open source community of contributors to the CEOS Data Cube; and our work to make satellite data easier to use through, for example, the CEOS Analysis Ready Data for Land framework.

**I am pleased to advise that CEOS has been accepted to serve on the Programme Board** in its next phase. The new Programme Board will meet by teleconference in the coming weeks to plan out the year ahead, and to determine which Participating Organizations will serve as observers to the Executive Committee in 2017. I am hopeful that Stephen's significant contribution to the Executive Committee this year will stand us in good stead for re-nomination, but ultimately it is up to the other Participating Organizations on the Programme Board. The Executive Committee has also, importantly, agreed that one of its four co-chairs will act as 'lead' co-chair each year, providing improved continuity between meetings and providing the GEO Secretariat with streamlined access to strategic guidance and advice.

**The Sustainable Development Goals agenda was, of course, a major topic of discussion.**

The initial 'bottom up' mapping undertaken by the GEO Programme Board definitively showed that almost all of GEO's work programme contributes to the Sustainable Development Goals. In one sense this is not surprising as the SDGs are so comprehensive in nature. However, it is still welcome confirmation about the relevance of GEO's activities. It also highlights that GEO is not engaged with the SDG agenda through a limited set of 'standalone' activities, but across its entire Work Programme. Thank you to those in the CEOS community who supported this work.

**The Programme Board will now continue a more strategic 'top down' activity** to identify where there may be gaps in existing contributions, and where targeted contributions could greatly increase the role Earth observations play in this area. The Programme Board will use this work when discussing future evolutions of the GEO Work Programme. Consequently CEOS agencies may end up

being called on to consider new contributions to GEO activities where key gaps or opportunities are found.

The SDG-specific GEO Initiative (which some may have known as GI-18) was endorsed to continue, noting a more 'targeted' focus. This enhanced emphasis will include clarifying how GEO can engage with the relevant United Nations processes through a series of pilot activities. Understanding the geometries in this area is critical, as GEO must take care to be perceived as supporting, not trying to 'take over' from or drive, the work undertaken by the relevant institutions and processes.

Overall, I was very heartened to see how engaged the audience was in this GEO Plenary.

Indeed, I attended the first Earth Observation Summit in July, 2003 and it is amazing to see how GEO has evolved from a relatively small group of people focussed on technology, to a highly dynamic forum that connects this technology with people to work to solve the big challenges faced by our societies.

Thank you to all in the CEOS agencies who prepared us so well for this meeting.

## CEOS SEC 219 Report

**Entity:** CEOS Programme Board Representatives

**Prepared By:** Jonathon Ross (Geoscience Australia), Stephen Briggs (ESA), Ivan Petiteville (ESA)

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### **Updates on issues raised during the last CEOS SEC teleconference**

#### **(Dot points)**

- CEOS has been re-nominated to the GEO Programme Board.
- First 2017 meeting of the Programme Board will be on 1 and 2 February 2017 in Geneva.
- The CEOS-GEO coordination meeting will be held on the 31<sup>st</sup> January, and will have a ‘strategic’ (vs programmatic/reporting) focus, exploring how CEOS and GEO are aligning efforts to mutual benefit in key thematic areas such as:
  - o SDGs
  - o Water
  - o Climate
  - o Carbon
  - o Disasters
  - o Future Data Architectures
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### **Issues requiring discussion/decision during current CEOS SEC teleconference**

#### **(Dot points)**

- In respect of CEOS’s PB nomination:
  - o At this stage it is unclear whether CEOS will be given a 1, 2 or 3 year term, as this will depend on the ‘lottery’ to be undertaken over the coming few weeks.
  - o CEOS has re-nominated for an ExCom Observer position.
  - o The first telecon of the new GEO Programme Board was held on 28 November and agreed on some procedural matters. Election of co-chairs and excom observers will be managed out of session, electronically, over coming weeks.
- CEOS participated in the 4th 2016 meeting of the GEO Programme Board and the 38<sup>th</sup> Executive Committee meeting held alongside GEO-XIII.
- A key task for the Programme Board moving forward will be a ‘top down’ analysis of SDGs to determine where EO can best contribute, and an analysis of how GEO’s Work Programme could best support them. This may involve identifying gaps and opportunities that the Programme Board can take a proactive role in addressing (e.g. through re-alignment of activity, proposing new initiatives, etc). It is expected CEOS will be called on to provide both input and responses to this process.

### **Other highlights, activities, actions, projects, collaborations**

#### **(Dot points, e.g. outputs, new products, papers, technical reports, media, pipeline and new projects, interactions, project status changes, new opportunities)**

- The GEO Work Programme Symposium looks like it will be held alongside ISRSE-37 in Pretoria, South Africa, 8-13 May 2017.
  - o A Programme Board meeting is expected to occur in parallel.
  - o It is hoped the Work Programme Symposium will be able to bring focus to aligning/creating initiatives that respond to strategic priorities, consistent with the shift to a ‘challenge-centred’ approach in addition to more generic work programme progress discussions.

- Notes from ExCom-38 Meeting:
  - o As GEO seeks to become more ‘policy relevant’, the need for careful management of the relationships with the responsible bodies (such as UN Agencies) is recognised by ExCom, and needs to be monitored by the GEO Programme Board. It is key that GEO is not perceived as ‘driving’ or ‘taking over’, but instead as offering valuable support.
  - o ExCom will continue to explore how the different bodies (GEOSEC, Plenary, Co-Chairs, ExCom and Programme Board) relate to each other, and how these relationships can be made to work in the most complementary way.
  - o ExCom has agreed that one of the Co-Chairs will serve as the ‘lead’ co-chair each year, for a full year. In 2017 this will be the EC, through the DG of DG Research, Robert-Jan Smits. This will give greater support to ExCom and improve continuity.
  - o Executive Committee will review current Strategic Plan (SP) Performance Indicators and provide feedback to the Secretariat prior to the next ExCom meeting. CEOS, through its representative to the ExCom, will provide feedback noting previous concerns with GEO’s approach to monitoring of success. This is pending re-election as an ExCom Observer.
  - o GEO SEC is now working to develop a detailed implementation plan for the new GEO Engagement Strategy, specifically relating to the 3 identified Engagement Priorities. CEOS, through its representatives to the Programme Board/ExCom will seek to provide input to this process.
- Some additional points to note from GEO-XIII:
  - o A private sector representative on the ‘commercial sector’ panel floated the idea of a GEO Working Group to explore how the commercial sector could help improve ‘real time’ access to EO data and products, e.g. by leveraging private ground segment capability and processing centres to improve timeliness of satellite EO derived products. This has not yet gone beyond the ‘floating’ stage.

#### **Upcoming meetings or events**

**(Dot points, e.g. meetings, conferences of relevance, visits)**

- 1<sup>st</sup> and 2<sup>nd</sup> February 2017 - 1<sup>st</sup> 2017 meeting of GEO Programme Board – Geneva, Switzerland. EC Co-Chair Smits expected to attend.
- GEO Work Programme Symposium – Pretoria, South Africa. Approx 8-12 May 2017. Anticipated to include GEO Programme Board meeting.

#### **Attachments**

**(e.g. pictures, figures, graphs, links – for use in overall CEOS reporting and as website resources etc.)**

## CEOS SEC 219 Report

**Entity:** GEO SEC

**Prepared By:** Osamu Ochiai (GEO Secretariat)

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### Updates on issues raised during the last CEOS SEC teleconference

(Dot points)

- None

### Issues requiring discussion/decision during current CEOS SEC teleconference

(Dot points)

- None

### Other highlights, activities, actions, projects, collaborations

(Dot points, e.g. outputs, new products, papers, technical reports, media, pipeline and new projects, interactions, project status changes, new opportunities)

- GEO-XIII Plenary

Successful events, following are summary points of the outcomes:

- *Approved new members (103), participating organizations (106) and observers (12)*
- *Follow up of the Mexico City Ministerial Declaration:*
  - *Broad engagement to leverage GEO's convening power, including commercial sector – set Initial 3 priorities (SDGs, Climate Change – Carbon and GHG, DRR)*
  - *Support for SDGs - role of GEO Principals to engage with national statistical agencies, inform of importance of EO and GEO*
  - *Agreed to pursue implementation of Data Sharing Principles and Data Management Principles*
  - *Strengthened and facilitated regional initiatives – established AfriGEOSS, AmeriGEOSS and AOGEOSS*
- *Renewal GEOSS Portal released – visit [geoportal.org](http://geoportal.org)*
- *Approved the GEO Work Programme 2017-2019*
- *Approved the GEO Executive Committee members*
- *Approved the GEO Programme Board Slate of nominees*

All presentations and materials are online at [www.earthobservations.org/geo13.php](http://www.earthobservations.org/geo13.php)

Just respond the old action of SEC 214-05 "GEO Sec Representative, Osamu Ochiai, to share with CEOS the final reports of the GEO Programme Board meeting and the 37<sup>th</sup> GEO ExCOM meeting once finalised." You can find below link to access the reports.

37th ExCom minutes here:

<http://www.earthobservations.org/meetings.php>

And PB outcomes here:

[http://earthobservations.org/geo\\_pb.php](http://earthobservations.org/geo_pb.php)

### Upcoming meetings or events

(Dot points, e.g. meetings, conferences of relevance, visits)

- Dec. 9-10, Berkeley, CA, USA, 5th GEOSS Science and Tech Stakeholder Workshop: Linking the SDGs to Earth Observations, Models and Capacity Building
- Jan. 11-13, Tokyo, Japan, 9th GEOSS Asia-Pacific Symposium
- May 8-12, Tshwane, South Africa, 37th ISRSE Symposium (ISRSE-37)
  - Following GEO special sessions are being organized:
    - 04-1 GEOGLAM - Beyond crop monitoring, from data to actionable knowledge;
    - 04-4 Towards a new philosophy for generating land cover;
    - 10-2 The GFOI as a R&D promoter toward operational tropical forest monitoring systems;

- 11-2 Innovative infrastructure for delivering Earth Observations solutions;
- 11-4 Implementing GEOSS Data Sharing and Management Principles at the national level in Africa;
- 12-2 GEO *in-situ* observation networks;
- 13-2 GEOSS Common Infrastructure for Africa; and
- 13-5 Implementing the GEO user needs and gaps process: expectations, opportunities and challenges.
- 2017 GEO Work Programme Symposium will be May 12 PM and 13 all day (Dates to be confirmed)
- May 31- June 2, College Park, Maryland, USA, 3rd Blue Planet Symposium

**Attachments**

(e.g. pictures, figures, graphs, links – for use in overall CEOS reporting and as website resources etc.)



## CEOS SEC 219 Report

Entity: CEO

Prepared By: Jonathon Ross (Geoscience Australia)

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### Updates on issues raised during the last CEOS SEC teleconference (Dot points)

<b>218-02</b>	<p><b><i>CEOS Chair Team, SIT Chair, and CEO to work together to determine what the focus of the SDG ad hoc team should be, as agreed-to in principle at CEOS Plenary.</i></b></p> <p><i>Pending further discussion at CEOS SEC-219, they will develop for presentation at SIT-32, terms of reference for the ad hoc team, consistent with the focus agreed by CEOS SEC, for formal adoption.</i></p>	<b>SEC-219</b>
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#### – Ad-Hoc Team for SDGs

CEOS Chair Team, CEO and SIT Chair have been working to clarify the ‘short-term objectives’ for this ad-hoc team, as required by the ‘governance and processes’ document. A draft of this text has been circulated to ceos-sec for comment.

Although not mandatory, it is anticipated that a short Terms of Reference document will be prepared in advance of the Ad-Hoc Team’s first meeting in advance of the January GEO Programme Board meeting.

**New SEC Action:** SEC to provide any feedback on the draft SDG AHT text by 10 December, after which time the document will be used as the ‘baseline’ for the work of the team and drafting of Terms of Reference.

### Issues requiring discussion/decision during current CEOS SEC teleconference (Dot points)

#### – CEO Team Changes

The CEO Team is now reduced to being only the CEOS Executive Officer, with no Deputy with Marie-Josée Bourassa stepping down at CEOS-30.

Please be conscious of this reduction in capacity and, potentially responsiveness as the ‘round the clock’ service offered by a combination of North America/Australian CEO Team members is no longer in place.

Internal discussions are underway within agencies about potential replacements, but this important topic requires ongoing consideration from Principals if a ‘smooth transition’ is to be effected.

#### – CEOS Work Plan

The current focus of the CEO is the development of the CEOS Work Plan 2017-2019. Version 0.1 will be distributed in the coming days to: VCs, WGs, Ad-Hoc Teams, CEOS Experts and GEOSEC.

The aim of Version 0.1 is to address the key ‘headline’ issues that will then assist WGs/VCs/AHTs/etc in framing their more detailed input.

**New SEC Action:** Initial input is required from AHTs/WGs/VCs/Experts/others by 14 January, in accordance with process presented at CEOS Plenary.

**New SEC Action:** SIT Chair Team to coordinate with VCs in relation to initial Work Plan input by 14 January.

### **Other highlights, activities, actions, projects, collaborations**

**(Dot points, e.g. outputs, new products, papers, technical reports, media, pipeline and new projects, interactions, project status changes, new opportunities)**

#### **– Website and Mailing List Changes**

The website (incl. organigram) and mailing lists have now been updated in response to CEOS-30 should not be in effect.

If you notice any errors or additional changes required, please advise the CEO (CC Kim Holloway).

#### **– CEOS Calendar**

The calendar has now been rolled over to cover 2017 (with a forecast for 2018). As always, please do provide information directly to the CEO as soon as you have it for relevant meetings.

Note that a column has been re-added to track CEOS representation. If any edits are suggested, please provide them, the content is currently DRAFT.

Please continue to liaise with the SEO in relation to ensuring the website has up to date details about your CEOS internal meetings.

#### **– CEOS Presentation**

An updated 'Introduction to CEOS' presentation will be prepared as the Work Plan nears completion. Consistent with discussions in 2016, the aim will be to have a more 'external friendly' version focussed on what CEOS has achieved and what it is working on, with information on internal matters available to be included as appropriate to the audience. CEO will work with SIT Chair Team and SEO to develop a concept for February SEC. CEOS SEC and CEOS Entities will be called on to contribute material and suggestions.

#### **– Members**

No news from EU SATCEN (EU) although it is understood they are still interested.

No news from MBRSH (UAE).

No new applications received.

### **Upcoming meetings or events**

**(Dot points, e.g. meetings, conferences of relevance, visits)**

- CEO will be giving a number of presentations relating to the CEOS Data Cube (and related AGDC activity) at ISRSE-37 in South Africa.

### **Attachments**

**(e.g. pictures, figures, graphs, links – for use in overall CEOS reporting and as website resources etc.)**

## CEOS SEC 219 Report

Entity: SIT Chair Team

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### Updates on issues raised during the last CEOS SEC teleconference

(Dot points)

- None

### Issues requiring discussion/decision during current CEOS SEC teleconference

(Dot points)

- None

### Other highlights, activities, actions, projects, collaborations

(Dot points, e.g. outputs, new products, papers, technical reports, media, pipeline and new projects, interactions, project status changes, new opportunities)

- The SIT team is working on the preparation of both the next SIT-32 meeting and the next CEOS-GEO coordination meeting (end of Jan. 2017), taking into account in particular the decisions from the last 30<sup>th</sup> CEOS Plenary (1-2 Nov. 2016, Brisbane) and from the GEO-XIII Plenary (9-10 Nov. 2016, St Petersburg).
- The 12 CEOS WGs and VCs will be surveyed in December 2016 to schedule the first round of SIT teleconferences that will take place between the end of January and end February 2017.
- **4<sup>th</sup> GEO Programme Board (PB) meeting:**  
The SIT Chair Team and the CEO have participated in the 4<sup>th</sup> GEO Programme Board meeting (St Petersburg, Russia, 7 Nov. 2016). The GEO PB members reviewed both the report to Plenary and the report from the Lessons Learned subgroup. For what concerns the GEO 2017-2019 Work Programme mapping to the SDGs, the GEO PB reviewed the report from the SDG subgroup and the slides prepared for the Plenary.

### Upcoming meetings or events

(Dot points, e.g. meetings, conferences of relevance, visits)

- The first round of the 2017 SIT teleconferences with the VCs and WGs will take place from end of January until end of February 2017.
- The next CEOS-GEO Coordination meeting will take place in Geneva, the last week of January 2017
- The 5<sup>th</sup> GEO PB meeting will take place the same week as the CEOS-GEO Coordination meeting. New GEO PB co-Chairs will be elected and the 3 POs to sit as Observers at GEO ExCom will also be chosen.
- The 32<sup>nd</sup> CEOS SIT meeting will take place on 25-27 April 2017 at ESA HQ in Paris (France). The 2017 SIT TWS will be held in Europe on 11-14 September 2017.

### Attachments

(e.g. pictures, figures, graphs, links – for use in overall CEOS reporting and as website resources etc.)

## CEOS SEC 219 Report

**Entity:** WGClimate

**Prepared By:** Pascal Lecomte (ESA) – Jörg Schulz (EUMETSAT)

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### **Updates on issues raised during the last CEOS SEC meeting (Brisbane)**

#### **(Dot points)**

- The Statement prepared by WGClimate and CEOS sec was read by the US delegation at SBSTA as planned.  
[http://unfccc.int/files/adaptation/application/pdf/ceos\\_statement\\_for\\_sbsta45\\_v10\\_final.pdf](http://unfccc.int/files/adaptation/application/pdf/ceos_statement_for_sbsta45_v10_final.pdf)
- The SBSTA report includes recommendations regarding CEOS on the preparation of a Space Agency response to the GCOS IP: <http://unfccc.int/resource/docs/2016/sbsta/eng/l26.pdf>
- WGClimate was invited by SBSTA to present a progress report at the next SBSTA in Bonn (Germany - May 2017) and the Space Agency Response at COP23 also in Bonn (November 2017).
- A poster was presented during the Earthinfo Day on 08/11/2016.  
[http://unfccc.int/files/science/workstreams/systematic\\_observation/application/pdf/1.ceos\\_lecomte\\_eid\\_cop22.pdf](http://unfccc.int/files/science/workstreams/systematic_observation/application/pdf/1.ceos_lecomte_eid_cop22.pdf). It shall be noted that it was proposed to repeat the Earthinfo Day at each COP as it is a possibility to exchange more information in a less formal format than the SBSTA meetings.
- WGClimate chair was also invited to introduce a Head of Space Agency Side Event at COP22 organised by France and Morocco. [https://pbs.twimg.com/media/Cw\\_-DHDWIAA\\_Kbp.jpg](https://pbs.twimg.com/media/Cw_-DHDWIAA_Kbp.jpg)

### **Issues requiring discussion/decision during current CEOS SEC teleconference**

#### **(Dot points)**

- The call to support the population of the Cycle 2 ECV Inventory has been issued on June 2nd as planned, and the deadline for the data collection phase was postponed from the original date of 30th of September to 31st of October, to allow some agencies/responders to complete their input; a further “grace-period” of a few weeks is still running in parallel with the Verification Process.
- Number of people contacted (WGClimate members from all listed CEOS/CGMS agencies + Focal Points + other effective/potential Responders): ~150.
- Explicit feedback received from UKSA, EUMETSAT, ESA, NASA, NOAA, JAXA, KMA, USGS, UK Met Office, DLR, ISRO, EC, INPE, CMA, CNES, CSA, NSC; no feedback (so far) from ASI, JMA, Roshydromet.
- Input received from ESA, EUMETSAT, NASA, NOAA, UKSA, CNES, USGS, JAXA, EC; upcoming contribution from ISRO, CSA, and maybe JMA.
- 133 registered Responders, of which 80 are/were active.
- 416 entries (268 existing data records + 148 planned data records), covering ~3/4 of the listed physical quantities (spanning across 27 of the 29 ECVs in GCOS-154).
- Verification process ongoing (8% finalised, ~25% being iterated with Responders).

### **Other highlights, activities, actions, projects, collaborations (for reference only)**

**(Dot points, e.g. outputs, new products, papers, technical reports, media, pipeline and new projects, interactions, project status changes, new opportunities)**

- None

### **Upcoming meetings or events (for reference only)**

**(Dot points, e.g. meetings, conferences of relevance, visits)**

- Next WGClimate #7 meeting is planned on 7<sup>th</sup> to 9<sup>th</sup> February 2017 in São José dos Campos. The first day will be dedicated to the Space Agency response to GCOS IP as requested by SBSTA.

### **Attachments**

(e.g. pictures, figures, graphs, links – for use in overall CEOS reporting and as website resources etc.)

Links in the text.

## CEOS SEC 219 Report

**Entity:** WGISS (Working Group on Information System and Services)

**Prepared By:** Andrew Mitchell – Chair (NASA) / Mirko Albani Vice Chair (ESA)

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### Updates on issues raised during the last CEOS SEC teleconference

(Dot points)

- None

### Issues requiring discussion/decision during current CEOS SEC teleconference

(Dot points)

- WGISS Vice Chair Nomination - A CEOS agency has expressed interest in putting forward a nominee and, at the moment, it is still considering the four-year commitment which would begin in Nov 2017. Expecting to have a nomination by SEC 220.

### Other highlights, activities, actions, projects, collaborations

(Dot points, e.g. outputs, new products, papers, technical reports, media, pipeline and new projects, interactions, project status changes, new opportunities)

- WGISS (Richard Moreno/CNES) presented methods for accessing CEOS data via WGISS assets during the GEO-XIII Plenary's Data Provider Side Event, on 7 November 2016 in St. Petersburg.
- Reviewing the CEOS Coverage Initiative proposal. As its intent is to leverage "Big Data" applications, we are analysing how WGISS can support their need to access high resolution satellite data via WGISS Connected Data Assets.
- Working with the **GEODAB (GEO Data Access Broker) team to identify and create best practices for GEO to connect to WGISS Connected Data Assets** (CWIC and IDN) as well as to address the problem of duplicate datasets in brokering systems.
- WGISS (Gabor Remetey/Hungarian Association for Geoinformation) is **presenting 'WGISS Interoperable Standards and Information Architectures' this week at GSDI (Global Spatial Data Infrastructure World Conference ) 15 World Conference** (Track 3 - Earth Observation, Sensors, Geo Technology & SDI Innovation Theme 5. Earth Observation and Sensors) 28<sup>th</sup> Nov – 2<sup>nd</sup> Dec 2016.
- The **WGISS System Level Team is actively drafting a unified architectural diagram and use cases** to reflect the enhancements being achieved by consolidating current CWIC/FedEO/IDN overall architectures to quickly address some of the identified open issues.

### Upcoming meetings or events

(Dot points, e.g. meetings, conferences of relevance, visits)

- Technology Exploration Webinar - January 2017
  - CEOS Data Discovery Webinar (IDN, FedEO, CWIC and WGISS Supported Standards)
- CWIC Meeting - February 2017 Greenbelt, Maryland US
- WGISS 43 – April 3-7, 2017 Annapolis, Maryland US
  - Technology Exploration Workshop

### Attachments

(e.g. pictures, figures, graphs, links – for use in overall CEOS reporting and as website resources etc.)

## CEOS SEC 219 Report

**Entity:** WGCV

**Prepared By:** Kurtis Thome (NASA)

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### **Updates on issues raised during the last CEOS SEC teleconference**

**(Dot points)**

- “Bilateral” WMO/GSICS members and CEOS WGCV Chairs are continuing work to develop combined activities related to the CEOS Chair initiative for interoperability including a planned GSICS Reference Solar Spectrum web meeting to be held December 1, 2016

### **Issues requiring discussion/decision during current CEOS SEC teleconference**

**(Dot points)**

- None

### **Other highlights, activities, actions, projects, collaborations**

**(Dot points, e.g. outputs, new products, papers, technical reports, media, pipeline and new projects, interactions, project status changes, new opportunities)**

- Carbon action items are being finalized for distribution to WGCV members
- RadCalNet: Beta-Testing is underway
- Transition of WGCV Secretariat is underway from DLR to NASA

### **Upcoming meetings or events**

**(Dot points, e.g. meetings, conferences of relevance, visits)**

- GSICS Reference Solar Spectrum web meeting on December 1, 2016
- CEOS WGCV / IVOS meeting hosted by University of Arizona, Tucson, March 2017
- CEOS WGCV plenary hosted by USGS, EROS Data Center Sioux Falls, May 2017

### **Attachments**

**(e.g. pictures, figures, graphs, links – for use in overall CEOS reporting and as website resources etc.)**

## CEOS SEC-219 Report

**Entity:** SEO

**Prepared By:** Brian Killough (NASA)

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### Issues requiring discussion/decision during CEOS SEC teleconference

- None

### Updates on issues raised during the last CEOS SEC teleconference

- None

### Upcoming meetings or events

- George Dyke (Symbios) will be representing the SEO at the upcoming AGU Conference in San Francisco, CA on Dec 12-16. He plans to meet with a number of contacts including Amazon, Google, Planet Labs, UK Space Agency (Richard Tipper), GEOGLAM (Alyssa Whitcraft), and WGISS (Andy Mitchell).
- Brian Killough will be attending the Landsat Science Team Meeting on Jan 10-12 in Boston, Mass., USA. The USGS and the SEO continue to work closely on Data Cube efforts and the development of ARD products.
- The SEO Data Cube development team will be traveling to SERVIR (Huntsville, Alabama, USA) on Jan 24-25 to train the SERVIR team to install and operate Data Cubes and to explore SERVIR Data Hub connections for the future.

### Other highlights, activities, actions, projects, collaborations

(e.g. outputs, new products, papers, technical reports, media, pipeline and new projects, interactions, project status changes, new opportunities)

- The SEO continues to make progress on the Data Cube core technology. The new cloud-based (Amazon) user interface now includes Fractional Cover to support GEOGLAM Rangelands. Work also continues on development of a prototype coastal erosion algorithm, a QGIS Data Cube plugin, and change detection (CCDC).
- The SEO continues to make progress on several key prototypes including Colombia (goal to have a v2 cube in place by the end of 2016), Switzerland, and World Bank (Chad, Togo, Tonga, Cortijo). The team is also working with CSIRO to develop plans for an Asia Data Cube, possibly targeted to Vietnam and the Mekong region.

## CEOS SEC 219 Report

**Entity:** SDCG

**Prepared By:** Stephen Ward (for CSIRO/NASA) – reported to SEC by Matt Steventon (for CSIRO/NASA)

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### **Updates on issues raised during the last CEOS SEC meeting (Brisbane)**

#### **(Dot points)**

- The GFOI Review results and Leads feedback was emailed to CEOS SEC after CEOS Plenary
- The Review was enthusiastically welcomed by the major donors (Australia, Norway) and Leads and paves the way for a renewed push of GFOI as a Phase 2. A Task Force is assembled and Stephen Ward (alternate CEOS Lead for GFOI) will serve as point of contact
- CSIRO and NASA volunteered continuation of Symbios capacity to serve as SDCG SEC in 2017 and this was acknowledged with significant gratitude by the SDCG agencies and EXEC as well as the GFOI Leads

### **Issues requiring discussion/decision during current CEOS SEC teleconference**

#### **(Dot points)**

- CEOS Plenary agreed on the following feedback to GFOI for Phase 2 and the CEOS Lead will convey these pending any final inputs from SEC:
  - CEOS welcomes emphasis on country engagement now we have the MGD/REDDCompass and global data coverage
  - Request an uptake strategy and plan be developed to show a credible path
  - SDCG proposal to promote model national GFOI demo (Colombia) endorsed by Leads after GFOI Plenary – we now wish to see action in this direction
  - Confirmation of funding status and outlook from the GFOI Leads - pending reaction to GFOI Review

Some of which are already in train following the GFOI Review.

### **Other highlights, activities, actions, projects, collaborations (for reference only)**

**(Dot points, e.g. outputs, new products, papers, technical reports, media, pipeline and new projects, interactions, project status changes, new opportunities)**

- None

### **Upcoming meetings or events (for reference only)**

**(Dot points, e.g. meetings, conferences of relevance, visits)**

- GFOI Plenary and SDCG will be in Ho Chi Minh, Vietnam in the week of April 10<sup>th</sup> 2017. With VNESC possibly taking on CEOS Chair and the delegation from CSIRO in 2 weeks to discuss a Vietnam Cube pilot this is a very timely opportunity.

### **Attachments**

(e.g. pictures, figures, graphs, links – for use in overall CEOS reporting and as website resources etc.)



## CEOS SEC 219 Report

**Entity:** CEOS Ad Hoc WG for GEOGLAM

**Prepared By:** Alyssa Whitcraft (GEOGLAM Sec) for Brad Doorn (NASA HQ)

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### Updates on issues raised during the last CEOS SEC teleconference

(Dot points)

- None.

### Issues requiring discussion/decision during current CEOS SEC teleconference

(Dot points)

- GEOGLAM Secretariat looking forward to CEOS decision on Advisory Committee representation from CEOS, after change-over in Plenary Chairmanship

### Other highlights, activities, actions, projects, collaborations

(Dot points, e.g. outputs, new products, papers, technical reports, media, pipeline and new projects, interactions, project status changes, new opportunities)

- GEOGLAM EO requirements revamping underway – ESA ESRIN hosting a May 2017 meeting on EO and information requirements as well as R&D outcomes and the creation of a “compendium” of R&D findings (perhaps in the model of GFOI MGD). Key inputs already received from many JECAM sites as well as Asia-RiCE
- GEOGLAM Ad Hoc WG coordinating with WG CapD on possible collaboration in 2016
- Launch of AfriGAM at AARSE in Uganda, October 2016 (AfriGEOSS Agricultural Monitoring – joint contribution to GEOGLAM and AfriGEOSS, to facilitate within region coordination)

### Upcoming meetings or events

(Dot points, e.g. meetings, conferences of relevance, visits)

- AGU 2016 – attached Flyer announcing GEOGLAM Events
- Asia Pacific GEOSS in January 2017 – will be an Asia-RiCE presence
- All else in Q2 and beyond for 2017 (GEOGLAM Events Web Calendar can be found here:
  - o <https://calendar.google.com/calendar/embed?src=anhjc607ljcmu2ce49m43tcplc%40group.calendar.google.com&ctz=Europe/Amsterdam>
  - o <https://calendar.google.com/calendar/ical/anhjc607ljcmu2ce49m43tcplc%40group.calendar.google.com/public/basic.ics>
  - o

### Attachments

(e.g. pictures, figures, graphs, links – for use in overall CEOS reporting and as website resources etc.)

- Flyer of AGU events related to GEOGLAM
- Brief of AfriGAM (concept paper)

## **The Case for AfriGAM**

### **(a Coordination, Data access, Capacity Development, and Evidence-Based decision making support initiative for African agriculture monitoring)**

**T.S.Newby (Agricultural Research Council, South Africa)**

**A. Mlisa (GEO Secretariat, Switzerland)**

**Catherine Lilian Nakalembe (UMD, USA)**

**Alyssa K. Whitcraft (GEOGLAM Secretariat, USA)**

The AfriGEOSS initiative, developed within the GEO framework, strengthens the links between the current GEO activities and existing capabilities and initiatives in Africa and provides the necessary framework for countries and organizations to access and leverage on-going bilateral and multilateral EO-based initiatives across Africa. Specific to food security and sustainable agriculture, the GEO Global Agricultural Monitoring initiative (GEOGLAM) reinforces the international community's capacity to produce and disseminate relevant, timely, and accurate forecasts of agricultural production at national, regional, and global scales by using Earth Observation (EO) data. At the same time, food security and agricultural monitoring in Africa have been identified as priority activities by the African Union Commission. All five sub regions of Africa list food and/or nutrition security as a sustainable development priority. This is manifested in the continents Sustainable Development Goals (UN ECA 2015).

Evidence-based decisions on food security management require current, easily comprehensible, and accessible information – all of which are facilitated by the use of EO in general and GEOGLAM's activities in particular. The AfriGEOSS Agricultural Monitoring initiative (AfriGAM), is a joint initiative of AfriGEOSS and GEOGLAM and will contribute in large measure in facilitating the collection of and access to food security information allowing for evidence based decision-making by African governments, industry decision makers, and other continental and global stakeholders.

The case for AfriGAM rests in its objectives, namely:

- 1. In collaboration with GEOGLAM and in particular it's operational research and development network JECAM (Joint Experiment on Crop Assessment and Monitoring) to identify, develop, and document best practices,, methodologies and systems suitable for sustainable crop monitoring and production estimation specific to local contexts in Africa and African countries.**
- 2. To promote the uptake of best practices, methodologies, and systems for the monitoring of agriculture and agricultural production in African countries for both cultivated crops, fodder, and rangeland, through coordinated training, support, and capacity development at national and regional levels in Africa.**
- 3. To facilitate liaison with, participation in, contribution to, and interaction with GEOGLAM activities.**

## **GEOGLAM Related Sessions & Talks at AGU 2016**

*12-16 December 2016; San Francisco, CA*

### **Monday, 12 December 2016**

- 8:00-12:20 pm (Moscone South Poster Hall): Building Sustained Capacity to Use Earth Observations to Enhance Environmental Management Decisions, Actions, and Policy (Session PA11B)
- 8:15-8:30 am (Moscone West 3002): "Transitioning from MODIS to S-NPP VIIRS data for Agricultural Monitoring" (Chris Justice et al., A11S-02)
- 1:40-6:00 pm (Moscone South Poster Hall): "Early Warning of El Nino Impacts on Food Security" (James Verdin et al., PA13B-1981)
- 4:45-5:00 pm (Moscone West 3016): "Monitoring and Forecasting Reference Evapotranspiration for Food Security Assessments" (Shraddhanand Shukla et al., H14B-04)

### **Tuesday, 13 December 2016**

- 4:15-4:30 pm (NASA Hyperwall Booth, Moscone Exhibition Hall): "Earth observations in Support of Science-driven Policy and Decision-making: GEO Global Agricultural Monitoring" (Brad Doorn, et al., NASA Hyperwall Talk)

### **Thursday, 15 December 2016**

- 8:00-12:20 pm (Moscone South Poster Hall): Climate Variability and the African Environment, Water Resources, and Food Security Posters (Session GC41B)
- 12:30-1:30 pm (Moscone West 2002): The Group on Earth Observations (GEO) Update on Progress and Future Plans (Town Hall)
- 1:40-3:40 pm (Moscone West 3003): Climate Variability and the African Environment, Water Resources, and Food Security Talks (Session GC43F)

### **Friday, 16 December 2016**

- 8:00-10:00 am (Moscone West 3003): Advances in Earth Observation for Agricultural Monitoring (GEOGLAM): Food Security and Early Warning Talks (Session GC51F)
- 1:40-6:00 pm (Moscone South Poster Hall): Advances in Earth Observation for Agricultural Monitoring (GEOGLAM): Food Security and Early Warning Posters (Session GC53A)

## CEOS SEC-219 Report

**Entity:** FDA Ad-hoc Team

**Prepared By:** Steve Labahn (USGS)

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### Issues requiring discussion/decision during CEOS SEC teleconference

- Comments still welcome on the paper circulated on approach and outcomes.
- Final call for agencies offering representatives to the FDA Ad-hoc Team for 2017, including for support to the pilot activities.
- The FDA team and the pilots have a significant dependence on LSI-VC for the stewarding of the CEOS ARD specifications and trial production of ARD for the pilots in 2017. FDA stresses the need for LSI-VC leadership to assure this work and persuade agencies of its importance.

### Updates on issues raised during the last CEOS SEC teleconference

- The Co-Chairs for the team are confirmed. Steve Labahn (USGS), Alex Held (CSIRO), Nick Hanowski (ESA).

### Upcoming meetings or events

- The first team telecon will be held on Tuesday 13<sup>th</sup> December at 4pm US East. Other location times can be found here:  
<http://www.timeanddate.com/worldclock/fixedtime.html?msg=FDA+call&iso=20161213T16&p1=263&ah=2>

### Other highlights, activities, actions, projects, collaborations

(e.g. outputs, new products, papers, technical reports, media, pipeline and new projects, interactions, project status changes, new opportunities)

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