

## Minutes v1.0

### LSI-VC-11 Teleconference #3: LSI-Forests Subgroup and AFOLU, LSI-VC Big Picture 19 May 2022

#### Participants

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<b>CONAE:</b>	Caroline Tauro, Homero Lozza
<b>ESA:</b>	Ferran Gascon, Stephen Ward
<b>EC/JRC:</b>	Peter Strobl
<b>GA:</b>	Medhavy Thankappan, Andreia Siqueira
<b>GISTDA:</b>	Sitthisak, Panu
<b>JAXA:</b>	Takeo Tadono, Ake Rosenqvist, Osamu Ochiai
<b>KARI:</b>	Seok Weon Choi, Dong Han Lee
<b>LSI-VC Sec:</b>	Matt Steventon, Riza Singh
<b>NOAA:</b>	Kevin Gallo
<b>SEO:</b>	Brian Killough
<b>USGS:</b>	Steve Labahn, Tim Stryker, Chris Barnes, Sylvia Wilson

*The presentation slides compiled for this meeting are [here](#).*

#### Introduction

Matt Steventon (LSI-VC Secretariat) welcomed and thanked everyone for joining the third day of LSI-VC-11. He reviewed the agenda for this meeting and the actions recorded on day 2.

#### CEOS AFOLU Roadmap

Osamu Ochiai (JAXA) reported:

- AFOLU forms one of the significant topics of the UNFCCC Paris Agreement.
- CEOS products that can support the Paris Agreement and the Global Stocktakes were compiled and presented for COP-26 on the [CEOS GST Portal](#).
- From the perspective of political users and stakeholders, harmonisation of different datasets from different agencies is necessary. One example of dataset harmonisation is the biomass product, utilising the CCI Biomass, GEDI and NASA JPL biomass maps.
- A comprehensive AFOLU roadmap baseline document will be developed to provide guidance for the long term coordination of the EO community and space agencies in the AFOLU area. Anyone interested to contribute in drafting this document should contact the AFOLU team.
- An AFOLU workshop will be held on 12 September 2022, before the SIT Technical Workshop. The engagement of GCOS TOPC (Terrestrial Observation Panel for Climate) is also being planned for this workshop.



### Discussion

- Osamu noted more contributors to the writing team for the AFOLU Roadmap document are needed. Stephen Ward (ESA SIT Chair Team) anticipates a physical meeting before the SIT TW will help in accelerating this document development task.
- Osamu noted the AFOLU workshop and LSI-VC-12 will be consecutive events. It would be appreciated if the LSI-VC members could remain in Italy until 12 September 2022 to attend the AFOLU workshop as well.
- It was noted that the AFOLU roadmap document will include a section dedicated to 'New Space'.
- Two deliverables for submission to UNFCCC this year, the first is the usual CEOS statement to UNFCCC, the second is the Systematic Observations report, which CEOS, GEO, WMO, and GCOS have worked together to prepare. The document describes the integration of existing capabilities to support the GST. It has been submitted to the UNFCCC.
- Osamu also noted that UNFCCC has three critical high-level stakeholder dialogues in June 2022, November 2022, and May 2023 to identify the kind of information that can be utilised to support the GST.
- Peter Strobl (EC/JRC, LSI-VC Co Lead) asked how Osamu sees the harmonisation of datasets for AFOLU going forward. The above-ground biomass dataset harmonisation is currently in progress, with the GEDI, JPL and CCI Biomass teams discussing each product's specifications, methodology and how to produce realistic harmonisation methodologies and definitions.
- Peter noted the similarities between this process and the ARD process, including with the product specifications. It could be a good point for discussion in the ARD Oversight Group on how we can structure ARD specifications for higher level products such as this. Could be called something like "stakeholder ready data".
- Ake Rosenqvist (JAXA) added that as part of the CEOS Biomass Harmonisation activity, three different teams (GEDI, JPL and CCI) are generating above-ground biomass datasets as part of their project objectives. The goal of the activity was originally to generate one single combined above-ground biomass dataset, however as the maps are all created by different sensors and have diverse properties, that objective has turned out to be a challenge. The group is currently focusing on accuracy inference to ensure consistent accuracy measures across these diverse maps. Ake noted the team explore these topics during their biweekly calls.
- Peter noted the discussions scheduled for the Living Planet Symposium (next week) on these topics, and he would be happy to provide an update to LSI-VC at the next call.

<b>LSI-VC-11-13</b>	LSI-VC members to contact Osamu Ochiai if they are interested in contributing to the drafting of the AFOLU Roadmap.	<b>CLOSED</b>
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### **National Inventory User Engagement**

Sylvia Wilson (USGS) reported:

- SilvaCarbon is an initiative by the U.S. Government that aims to build capacity for developing countries in building National Forest Monitoring Systems (NFMS) for reporting carbon emissions.



- SilvaCarbon used a three-phase process of user engagement to select thirteen globally-diverse countries, of which five were picked for a one-year engagement. Initial consultations with the thirteen identified countries have been conducted.
- SilvaCarbon focuses on global datasets for land cover and biomass maps, with a separate team reporting on each topic.
- Case studies were written on one specific dataset for forest cover based on the five pilot countries. From the 27 countries working with SilvaCarbon, there are 23 case studies of how these countries are using these maps. Details will be posted on the CEOS GST Portal in future.
- Harmonisation will be very useful for countries, allowing them to utilise global datasets. National Forest Inventories are very expensive, they are designed differently for different countries. Having global datasets will improve consistency.
- SilvaCarbon has been working with the GEDI team, the University of Maryland Forest Service and the U.S. Forest Service to develop a model that takes the country's National Forest Inventory, makes comparisons with GEDI charts, and gives estimated biomass calculated for one plot. This helps to monitor and complement the National Forest Inventory.
- The first SilvaCarbon/CEOS Regional Workshop on biomass measurement will be held in Paraguay from 27 June - 2 July, 2022. The goal of the workshop is to bring together the scientists involved in the biomass harmonisation group to illustrate how this may be utilised in different countries, demonstrate adoption potential, and suggest a process for using country-level data to calibrate and validate existing maps.

#### Discussion

- Ake Rosenqvist (JAXA) noted the team involved in the LiDAR CEOS-ARD is the same team involved in the biomass harmonisation. It would be interesting to hear how user-friendly the above-ground biomass derived from LiDAR is for end users. He anticipated that the SilvaCarbon regional workshops will be an opportunity to gather input from the countries.
- In cases where the countries do their own processing, CEOS-ARD could play an important role. However, it depends on the interests of the countries, as some would be interested in processing the satellite data and deriving more information themselves.
- Ake noted that the countries having the capacity to do their own processing might prefer to generate their own maps. The preference of countries on what kind of data they need could also be clarified during the workshop.
- Ake asked Sylvia if the other workshops that are being planned in other parts of the world are any different from the one that is being held in Paraguay. Sylvia noted that we will have to start with one of the countries to pick one of the challenges based on the Biomass Harmonisation Group, and then base the workshop around that engagement. The structure of the workshop will be the same and will coordinate with the Biomass harmonisation group for all of the workshops.
- Tim Stryker (USGS) noted that the efforts being conducted by SilvaCarbon are crucial to CEOS' success with the AFOLU work. USGS will continue to support this initiative. An important philosophy of SilvaCarbon is to help countries learn from one another and share the applications and advancements.

<b>LSI-VC-11-14</b>	Sylvia to share any feedback on CEOS-ARD datasets that might be received during the upcoming First SilvaCarbon/CEOS Regional Workshop.	<b>ASAP</b>
<b>LSI-VC-11-15</b>	Ake to raise the idea of higher level ARD / stakeholder-ready data being a target for the biomass harmonisation team.	<b>Discussion at ESA LPS</b>
<b>LSI-VC-11-16</b>	<p>Peter to raise with the ARD Oversight Group the idea of an expanded CEOS-ARD Framework that accommodates 'higher level' ARD, noting the case of the biomass map harmonisation. Refer to <b>LSI-VC-11-14</b> above.</p> <p><i>Context: There are similarities between the current CEOS-ARD and product specs with the development of this harmonised biomass product specs. Key will be maintaining a link/consistency to the lower level products.</i></p>	<b>Next CEOS-ARD OG Call</b>

### LSI-VC Organisational Topics

Matt Steventon (LSI-VC Secretariat) reported:

- The status of the CEOS Work Plan tasks that have been assigned to LSI-VC.

#### Discussion

<b>LSI-VC-11-17</b>	Matt to follow up next steps for LSI-VC's CEOS Work Plan tasks on: "Mission continuity timelines for land domain CEOS ARD PFS", and "Gap Analysis Tools".	<b>LSI-VC-12</b>
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- On the *open-source library for surface reflectance product generation*, Ferran Gascon (ESA) noted the first phase of this project has been completed and the open-source Sen2Like software has been published on GitHub. Sen2Cor software that corrects the Sentinel-2 and Landsat products will be published sometime during this year. Pilot production of the Sen2Like products is being evaluated by the Copernicus Services and a discussion will be held to find the way forward with this product.

<b>LSI-VC-11-18</b>	Ferran to provide Matt with a written update for the CEOS Deliverables Tracker on the " <i>Open-source library for surface reflectance product generation</i> " task. The initial task has been completed (release of Sen2Like and Sen2Cor) but a subsequent update task is ongoing.	<b>ASAP</b>
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- Matt suggested that the CEOS-ARD Strategy 2021 tasks on CEOS-ARD webinars should be continued as the previous webinars were well received by the community. He suggested some topics such as Aquatic Reflectance PFS, or accessibility and utilisation of CEOS-ARD products using ODC Sandbox notebooks.
- Brian Killough (SEO) noted that he is interested in helping with webinars.

<b>LSI-VC-11-19</b>	Everyone to consider ideas for additional CEOS-ARD webinars. Ideas already discussed include: Aquatic Reflectance PFS, Ocean Radar Backscatter PFS, Nightlights PFS, and accessing and using CEOS-ARD (notebooks, etc.).	<b>LSI-VC-12</b>
<b>LSI-VC-11-20</b>	Chris Barnes to check with Steve Labahn on his thoughts about a webinar focused on the Aquatic Reflectance (AR) PFS and the preliminary USGS AR product. This could perhaps be an ocean focused webinar, part dedicated to the optical and radar (Ocean Radar Backscatter) PFS.	<b>LSI-VC-12</b>

- The second CEOS-ARD newsletter will focus on the ARD related topics presented at the Living Planet Symposium (LPS).

<b>LSI-VC-11-21</b>	ESA LPS participants to keep an eye out for content that would be good for a 'special edition' of the CEOS-ARD Newsletter on "ARD @ LPS" and send resources to Matt.	<b>COMPLETE</b>
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- Regarding the idea of LSI-VC subteams, Peter Strobl (EC/JRC, LSI-VC Co-Lead) suggested a poll to gauge interest in specific topics.
- LSI-VC-12 will be held at ESA ESRIN on 8-9 September 2022, with the AFOLU workshop on 12 September, followed by SIT TW side meetings on 13 September and SIT TW on 14-15 September. All the meetings will be face-to-face meetings, but virtual participation will also be accommodated.
- Peter Strobl (EC/JRC, LSI-VC Co-Lead) clarified that task 3.4: *Increase efficiencies in the distribution of CEOS-ARD across data platforms/the cloud* has to do with different priorities that LSI-VC and WGISS have when it comes to analysis readiness or interoperability. Peter had reached out to WGISS to discuss the harmonisation of the semantic part of interoperability. When it comes to the content of data, WGISS looks more into the structural part of interoperability which LSI-VC does not currently prioritise. If we have to expand the other aspects of interoperability, we will have to take the structural part on board.
- Tim Stryker (USGS) noted that Pecora 22 is happening in Denver, Colorado in the week of October 24. The theme is celebrating Landsat's 50th anniversary, along with all the developments in land imaging since the inception of Landsat, as well as the future of how Landsat data will be used. The event will also have a lot of land remote sensing science presentations and focused sessions on ARD. Tim invited everyone to participate and provide presentations. Tim will send the abstract of Pecora 22 to the LSI-VC mailing list after the Living Planet Symposium (LPS) event.
- Andreia Siqueira (GA, LSI-VC Co-Lead) noted there will be a special session on ARD at Pecora 22. Andreia will share the details of the event via email.
- Ake Rosenqvist (JAXA) noted that the WGCV SAR meeting will potentially be a hybrid meeting on 20-21 October 2022.

### Closing

Matt and the LSI-VC Co-Leads thanked everyone for attending and contributing to the LSI-VC-11 meeting.