20th Meeting of the CEOS Virtual Constellation for Land Surface Imaging (LSI-VC)
14-16 September 2026

Hosted by the United States Geological Survey (USGS)

12201 Sunrise Valley Dr, Reston, VA 20192, United States

Week at a Glance

Day 1: CEOS-ARD Specification Consistency Sprint *Monday, 14 September*	**Day 2: LSI-VC-20** *Tuesday, 15 September*	**Day 3: LSI-VC-20** *Wednesday, 16 September*
• CEOS-ARD PFS Consistency Sprint • CEOS-ARD Oversight Group Meeting	• CEOS-ARD Fitness for Purpose • CEOS-ARD Standards, Adoption and Impact • CEOS-ARD for Land	• Agriculture, Forestry and Other Land Use • Wildfires
Icebreaker Event	**Group Dinner**: Jackson's Mighty Fine Food & Lucky Lounge	

Meeting Topics and Objectives

CEOS-ARD Product Family Specification (PFS) Consistency Sprint

- Achieve consistency in the optical and SAR PFS by aligning and consolidating common/similar building blocks.
- Establish the governance required to maintain consistency between the PFS and building blocks.
- Resolve other open issues related to PFS requirements in the GitHub issue tracker.
- Confirm a proposal to resolve the long-standing issue with the geometric correction requirement (building block id: geocorr-sr) that limits applicability of CEOS-ARD for high-resolution products.

CEOS-ARD Oversight Group Matters

- Discuss the CEOS-ARD Strategy 2026-2031 to go forward to CEOS Plenary, after reflecting on feedback and discussions from SIT Technical Workshop. Further refine and add to the initiatives and tasks under each pillar as required.
- Endorse Version 2.0 of the CEOS-ARD Governance Framework, which includes various updates related to PFS release processes, versioning, product typology/hierarchy, etc.
- Check in on CEOS-ARD GitHub development, including progress on the PFS editor and assessor tools.
- Revisit WGISS efforts to improve discoverability and accessibility of CEOS-ARD, including the implementation of Uniform Resource Identifiers (URI) and connections WGISS Connected Data Assets.

- Reflect on discussions from the SIT Technical Workshop regarding decision ready information, how this aligns with the CEOS-ARD Framework, and the CEOS Data Value Chain.

CEOS-ARD Core Business

- Discuss updates from CEOS Agencies and other data providers regarding their self-assessments, including NASA HLS, NISAR, THEOS, SWOT, PACE, and those from the commercial sector.
- Review latest feedback from the WGCV CEOS-ARD peer review team.
- Endorse Version 6.0.0 of the Surface Temperature PFS.
- Endorse Version 1.0.0 of the Surface Brightness Temperature PFS.
- Endorse a new version of the SAR PFS built on the CEOS-ARD Building Blocks.
- Discuss the final outcomes from the Surface Reflectance Quality and Consistency project under WGCV and consider updates to the PFS and/or supporting guidance/best practices that would further improve the interoperability of CEOS-ARD Surface Reflectance products.

Analysis-Ready Data (ARD) Standards

- Hold a CEOS-internal discussion on the Open Geospatial Consortium (OGC) ARD Domain Working Group (DWG), reflecting upon the early phase of this group and consider forward objectives, membership, upcoming engagements, and necessary areas of discussion.
- Review progress on and advance the Unified Modeling Language (UML) diagram for CEOS-ARD.
- Review the work on mapping CEOS-ARD building blocks/requirements to existing standards and decide upon the addition of a standards reference field in the building blocks.

CEOS-ARD Fitness for Purpose

- Provide inputs and development direction on the latest iteration of the Product Selection Framework. Review thematic/application profiles prepared to date and action development of additional profiles in collaboration with LSI-VC thematic experts representing, e.g., the land degradation, agriculture, biodiversity, and wildfire fields; as well as past experience from the European Commission's Knowledge Centre for Earth Observation (KCEO).
- Confirm the approach and actions required to implement partial Goal assessment and compliance of CEOS-ARD products, and decide upon the addition of a flag for the building blocks that indicates whether an expert panel review as part of the Goal assessment is required.
- Continue the discussion on expanding beyond binary Threshold and Goal requirements in the CEOS-ARD Framework, towards a more gradated approach with intermediate levels, as one way of better indicating fitness for purpose.
- Follow up discussions from the SIT Technical Workshop about CEOS and CEOS-ARD adoption of the ESA-NASA-USGS Joint Quality Assessment Framework.

CEOS-ARD Adoption and Impact

- Work on a case study template that can be used to gather evidence of the impact of CEOS-ARD.
- Discuss the CEOS-ARD business case and strategies for communicating this to different stakeholders.

Wildfire Session

- Discuss the progress and proposed Work Plan for the LSI-VC Wildfire Subgroup and consider opportunities and alignments with the rest of the LSI-VC.
- Strategize appropriate higher-level CEOS-ARD Product Family Specifications, for example, for active wildfire products (built on the Surface Temperature PFS) and burned area mapping (built on the Surface Reflectance PFS).
    - Consider the proposal for a fire product endorsement process and mechanisms for achieving that, through CEOS or otherwise.
- Welcome a report from the Earth Fire Alliance.

Agriculture, Forestry, and Other Land Use

- Present updates from CEOS Agencies and other stakeholders on AFOLU-related initiatives that support the realisation of the CEOS AFOLU Roadmap.
- Review the draft CEOS AFOLU Portal, which will provide a public-facing means for documenting progress towards achieving the AFOLU Roadmap and which takes an output-focused approach that demonstrates what CEOS Agencies are producing and doing. Consider integration of data related to CEOS-ARD and fitness for purpose.
- Present an update on CEOS support for Wetlands, including strategies to address the Essential Wetland Variables including in the context of the CEOS-ARD Strategy Water Annex.
- Report on the GEOGLAM Subgroup's latest plans, including on a joint workshop on evapotranspiration validation with the WGCV Land Product Validation (LPV) subgroup.
- Strategise how to make the most of the Norwegian Space Agency (NOSA) CEOS Chair year priority *True Green,* which aims to to push for the provision of open, trustworthy and harmonised satellite-based data products for tropical forests, focusing on data quality, formats, metadata, platforms, and licensing.
- Action feedback from FAO regarding how CEOS-ARD can better support their System for Earth Observation Data Access, Processing and Analysis for Land Monitoring (SEPAL).
- Welcome a presentation from the World Resources Institute (WRI) about the Global Forest Watch and the Land & Carbon Lab and hold a discussion on if/how CEOS can support those activities, for instance by providing CEOS-ARD.

Other

- Discuss outcomes and findings from the SIT Technical Workshop Earth Observation Data Providers Collaboration Forum
- USGS and Landsat update on Collection 3 and Landsat Next/10
- CEOS Agency and company reports on LSI and ARD topics

Logistical Information

USGS Headquarters

Meeting Room Location: BA102B and BA102C

Agenda

Day 1: CEOS-ARD Product Family Specification Consistency Sprint (Monday, September 14, 2026)

Arrival / Teleconference Open		**08:50**	
Session A1: CEOS-ARD Product Family Specification (PFS) Consistency Sprint			
A1.1	Opening, Welcome *Ferran Gascon (ESA, CEOS-ARD Oversight Group Lead), Matt Steventon (CEOS-ARD Oversight Group Sec)*	09:00	5 min
A1.2	CEOS-ARD GitHub Status Update ● Building Blocks ● PFS Editor and Assessor tools *Matthias Mohr (moreGeo for NASA SEO)*	09:05	15 min
A1.3	CEOS-ARD PFS Geospatial Representation Requirements Refinement Proposal *Ferran Gascon (ESA, CEOS-ARD Oversight Group Lead)*	09:20	30 min
A1.4	Discussion: Achieving consistency in the optical and SAR PFS by aligning and consolidating common/similar building blocks: *Matthias Mohr (moreGeo for NASA SEO)*	09:50	70 min
Coffee break		11:00	20 min
A1.4	Discussion (cont.): Achieving consistency in the optical and SAR PFS by aligning and consolidating common/similar building blocks:	11:20	100 min
Lunch		13:00	60 min
A1.4	Discussion (cont.): Achieving consistency in the optical and SAR PFS by aligning and consolidating common/similar building blocks	14:00	100 min
Coffee Break		15:40	20 min

Session A2: Other CEOS-ARD Oversight Group Topics			
A2.1	CEOS-ARD Discoverability and Accessibility ● Implementation of Uniform Resource Identifiers (URI) ● Integration with WGISS Connected Data Assets *Yves Coene (ESA/Spacebel), remote*	16:00	15 min
A2.2	CEOS-ARD Governance Framework Update ● Endorse Version 2.0 of the CEOS-ARD Governance Framework ● Establish the governance required to maintain consistency between the PFS and building blocks. *Matt Steventon (CEOS-ARD Secretariat)*	16:15	15 min
A2.3	'Decision-ready' information and higher-level CEOS-ARD products ● CEOS Data Value Chain ● Discussion: SIT Technical Workshop outcomes *David Borges (NASA, SEO)*	16:30	15 min
A2.4	CEOS-ARD Strategy 2026-2031 ● Reflect on feedback and discussions from SIT Technical Workshop *Matt Steventon (CEOS-ARD Oversight Group Sec)*	16:45	15 min
A2.5	Closing session ● Confirm the process for CEOS-ARD Oversight Group endorsement of the decisions agreed during this meeting. ● Discussion on future priorities like STAC, etc. *Ferran Gascon (ESA, CEOS-ARD Oversight Group Lead), Matt Steventon (CEOS-ARD Secretariat)*	17:00	15 min
	Buffer	17:15	15 min
Adjourn		17:30	

Day 2: LSI-VC-20 Meeting (Tuesday, September 15, 2026)

Arrival / Teleconference Open		**08:50**	
Session L1: Opening Session			
L1.1	LSI-VC-20 welcome *LSI-VC Co-leads*	09:00	10 min
L1.2	USGS welcome and Landsat updates ● Collection 3 and Landsat-10 *Timothy Newman, Program Coordinator for USGS National Land Imaging*	09:10	20 min
L1.3	LSI-VC-19 action review *Matt Steventon (LSI-VC Secretariat)*	09:30	10 min
Session L2: CEOS-ARD Fitness for Purpose			
L2.1	CEOS-ARD Product Selection Framework update ● Demonstrate the latest tool and discuss ● Brainstorming plans for population of thematic/application profiles ● MIM Database SAR pilot update *Matt Adams (GA, LSI-VC Co-lead)*	09:40	30 min
L2.2	Reinstating partial Goal compliance and working towards a compliance spectrum based on quality and uncertainty ● April 2026 CEOS-ARD Oversight Group meeting confirmed intent to expand beyond binary Threshold and Goal requirements ● CEOS-ARD Strategy Task defined ● Confirm phased approach and actions required to implement ● Decide upon the addition of a flag for the building blocks that indicates whether an expert panel review as part of the Goal assessment is required (see GitHub issue) ● Adoption of the ESA-NASA-USGS Joint Quality Assessment Framework *Matt Adams, Alex Brooks*	10:10	60 min
Coffee Break		11:10	20 min

Session L3: CEOS-ARD Standards			
L3.1	Mapping CEOS-ARD building blocks/requirements to existing standards • Discussion: Addition of a standards reference field in the building blocks *Matt Adams for Ivana Ivánová*	11:30	20 min
L3.2	Open Geospatial Consortium (OGC) ARD Domain Working Group (DWG) • Progress, objectives, membership, upcoming engagements • Discussion: Necessary areas of investigation and discussion *Dave Borges*	11:50	20 min
L3.3	CEOS-ARD Unified Modeling Language (UML) diagram *Sumit Sen, Siri Jodha Khalsa*	12:10	20 min
	Buffer	12:30	30 min
Lunch		13:00	60 min
Session L4: CEOS-ARD for Land			
L4.1	Endorse Version 6.0.0 of the Surface Temperature and Surface Brightness Temperature Product Family Specifications (PFS) • Surface Temperature PFS 6.0.0 (provide feedback here) • Surface Brightness Temperature PFS v1.0.0 (provide feedback here) *Siri Jodha Khalsa (IEEE)*	14:00	20 min
L4.2	Endorse a new version of the SAR PFS built on the CEOS-ARD Building Blocks *Ake Rosenqvist (JAXA)*	14:20	20 min
L4.3	CEOS-ARD self-assessments progress reports: 1. NASA HLS *(Margaret Wooten/Rodrigo Vieira Leite)* 2. NISAR L-band *(Bruce Chapman, remote)* 3. RADARSAT-1 *(Jon Dudley, remote)* 4. PACE *(Sean Bailey, remote)*	14:40	70 min
Coffee Break		15:50	20 min
L4.3	CEOS-ARD self-assessments reports (cont.): 5. Ororatech *(Anastasia Sarelli, remote)*	16:10	40 min

	6. SatVu *(Jamie McMillan, remote)* 7. Constellr *(Andreas Brunn, remote)* 8. Aistech *(Mathias Gergely, remote)* *9.* THEOS *(Prayot Puangjaktha)*		
L4.4	Update on peer review status and process *Medhavy Thankappan (GA, WGCV Vice Chair)*	16:50	15 min
L4.5	Surface Reflectance Quality and Consistency – Project Outcomes *Medhavy Thankappan (GA, WGCV Vice Chair)* ● Discussion: Consider updates to the PFS and/or supporting guidance/best practices that would further improve the interoperability of CEOS-ARD Surface Reflectance products.	17:05	25 min
Adjourn		17:30	
Group Dinner: Jackson's Mighty Fine Food & Lucky Lounge		19:00	

Day 3: LSI-VC-20 Meeting (Wednesday, September 16, 2026)

Arrival / Teleconference Open		**08:50**	
L4.3	CEOS-ARD self-assessments reports (cont.): 10. NISAR S-band *(Manavala Ramanujam/Jayasri PV, remote)* 11. Resourcesat-2/2A LISS-3 *(Radhika, remote)*	09:00	10 min
Session L5: Agriculture, Forestry, and Other Land Use (AFOLU)			
L5.1	CEOS AFOLU Roadmap and Portal Update *Matt Steventon (LSI-VC Secretariat), Takeo Tadono/Ake Rosenqvist (JAXA)*	09:10	20 min
L5.2	Essential Agriculture Variables (EAVs) ● EAV Stocktake progress ● Joint workshop on evapotranspiration validation with the WGCV Land Product Validation (LPV) subgroup *Sven Gilliams (GEOGLAM), Alyssa Whitcraft*	09:30	20 min
L5.3	INPE AFOLU Updates ● Prodes ● Deter ● TerraClass Project *Mariane Reis (INPE), remote*	09:50	25 min
Coffee Break		10:40	20 min
L5.4	NASA AFOLU Updates ● NISAR Biomass products ● GEDI products *Nick Parazoo (NASA/JPL)*	11:00	20 min
L5.5	CSA AFOLU Update ● Radarsat-2 Tropical Forest products *Laurent Giugni (CSA), remote*	11:20	20 min
L5.6	2027 NOSA CEOS Chair Theme Opportunities: *True Green* ● Headline objective: Provision of open, trustworthy and harmonised satellite-based data products for tropical forests, focusing on data quality, formats, metadata, platforms, and licensing.	11:40	20 min

	• Discussion: Specific priorities and potential LSI-VC support of this initiative • Global Forest Observations Initiative (GFOI) opportunities *Ola Nordbeck (NOSA)*		
L5.7	FAO LCCS taxonomies for advancing the characterisation and description, monitoring and planning of land and water environments *Richard Lucas (Aberystwyth Univ.)*	12:00	20 min
L5.8	Improving CEOS-ARD Support for FAO's System for Earth Observation Data Access, Processing and Analysis for Land Monitoring (SEPAL) *Erik Lindquist, Andreas Vollrath (FAO)*	12:20	30 min
L5.9	UMD Global Land Analysis and Discovery (GLAD) Laboratory • Experiences with Landsat ARD and NASA HLS *Matt Hansen (UMD; remote)*	12:50	20 min
Lunch Break		13:10	50 min
L5.10	World Resources Institute (WRI) Global Nature Watch and Land & Carbon Lab *Viviana Zalles (WRI)*	14:00	20 min
L5.11	CEOS Support for Wetlands • GEO-Wetlands • Global Mangrove Watch v4 • CEOS-ARD Strategy Water Annex and Essential Wetland Variables *Ake Rosenqvist (JAXA/soloEO)*	14:20	20 min
Session L6: Wildfires			
L6.1	LSI-VC Wildfire Subgroup Work Plan *Mark De Jong (NRCan; Remote)*	14:40	20 min
L6.2	Earth Fire Alliance Update *Mike Falkowski (EFA)*	15:00	20 min
Coffee Break		15:20	20 min
L6.3	OroraTech Fire Detection Updates	16:00	15 min

	Jayendra Praveen Kumar Chorapalli (remote)		
L6.4	CEOS-ARD Support for Wildfires ● Active wildfire products (built on the Surface Temperature PFS) ● Burned area mapping (built on the Surface Reflectance PFS) ● Potential relation to a mechanism for endorsement of fire products *Mark De Jong (NRCan; remote)*	16:15	30 min
Session L7: Other Business and Closing			
L7.1	Earth Observation Data Providers Collaboration Forum Outcomes ● Strengthening the business case for CEOS-ARD and capturing case studies *David Borges (NASA, SEO)*	16:45	20 min
L7.2	Other LSI program updates ● Landsat STAC implementation (Megan Rush, KBR for USGS)	17:05	20 min
L7.3	Closing remarks *LSI-VC Co-leads*	17:25	5 min
Adjourn		17:30	