

NONREIMBURSABLE UMBRELLA INTERAGENCY AGREEMENT
BETWEEN
THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
AND UNITED STATES DEPARTMENT OF THE INTERIOR
FOR COLLABORATION ON SUSTAINABLE LAND IMAGING PROJECTS (No. 34745)

ARTICLE 1. AUTHORITY AND PARTIES

The National Aeronautics and Space Administration, located at 300 E Street SW, Washington, DC 20546 (hereinafter referred to as "NASA") enters into this Umbrella Interagency Agreement (hereinafter referred to as "Umbrella IAA") in accordance with the National Aeronautics and Space Act Other Transactions Authority, 51 U.S.C. § 20113(e). United States Department of the Interior, located at 1849 C Street NW, Washington, D.C. 20240 (hereinafter referred to as "DOI"), enters into this Umbrella IAA in accordance with the Organic Act of the United States Geological Survey (hereinafter referred to as "USGS"), 43 U.S.C. § 36c. NASA and DOI may be individually referred to as a "Party" and collectively referred to as the "Parties."

ARTICLE 2. PURPOSE AND IMPLEMENTATION

This Umbrella IAA (hereinafter referred to as the "IAA" or "Umbrella IAA") shall be for the purpose of continuing the collaboration between NASA and DOI on the Sustainable Land Imaging (SLI) program. SLI is a multi-decade, space-borne program that provides users worldwide with high-quality, global, land-imaging measurements that are compatible with the existing nearly 50-year record; that addresses near-and longer-term issues of continuity risk; and that leverages government, commercial and international capabilities. SLI advances national policy goals as captured in Chapter 601, Title 51 "Land Remote Sensing Policy" and the 2020 National Space Policy.

This Umbrella IAA sustains the collaboration between NASA and DOI in developing SLI program strategy and architecture, identifying user needs, defining mission requirements, and communicating to the Executive and Legislative branches. Overall, NASA will maintain responsibility for development, launch, on-orbit checkout and commissioning of space systems. DOI will be responsible for developing and maintaining associated ground systems (including satellite operation and mission data systems), operating the on-orbit spacecraft, and collecting, archiving, processing and distributing SLI data to users. Specific tasks that encompass these overarching activities are discussed below in Article 3, "Responsibilities," and are further detailed in subsequent Annex Agreements (hereinafter referred to as "Annexes.")

This Umbrella IAA also enables coordination between the Parties in the execution of their SLI-related technology development programs to support these shared objectives. The introduction of new technologies supporting SLI activities is what ensures the products collected maintain their relevance and utility as science improves and new applications emerge. The technology investments funded by NASA and DOI help ensure that the missions developed and flown under the SLI program have the appropriate technological and manufacturing maturity to achieve functional and performance requirements with acceptable cost, schedule, and risk.

This Umbrella IAA supersedes the Nonreimbursable Umbrella IAA between NASA and DOI for Sustainable Land Imaging Research, Development, and Operations executed on September 27, 2016, and its underlying annex. It encompasses project activities associated with the implementation of SLI, including ongoing and upcoming activities that are jointly approved by the partners, to include development and operation of the Landsat 9 and Landsat Next missions, as well as coordination on technology development investments under the NASA Science Mission Directorate (SMD) Earth Science Division (ESD) SLI-Technology (SLI-T) program and the USGS National Land Imaging (NLI) Program. This Umbrella IAA also describes the general governance framework for joint management of the SLI program.

The Parties shall execute two (2) Annexes concurrently with this Umbrella IAA. The Parties may execute subsequent Annexes under this Umbrella IAA consistent with the purpose and terms of this Umbrella IAA. This Umbrella IAA shall govern all Annexes executed hereunder; no Annex shall amend this Umbrella IAA. Each Annex will detail the specific purpose of the proposed activity, responsibilities, schedule and milestones, and any goods, services, facilities or equipment to be utilized under the task. This Umbrella IAA takes precedence over any Annexes. In the event of a conflict between the Umbrella IAA and any Annex concerning the meaning of its provisions, and the rights, obligations and remedies of the Parties, the Umbrella IAA is controlling.

ARTICLE 3. RESPONSIBILITIES

1. NASA will use reasonable efforts to:
 1. Lead and manage the overall SLI space system architecture design and development, including budget development, as well as all systems engineering and technical management functions;
 2. Consistent with established NASA processes, lead all interaction with potential external (international, interagency, or private sector) partners to develop, sign, and execute agreements pertaining to SLI-related space system architecture and element design or development;
 3. Support, under DOI leadership, ground system development consistent with the overall SLI space system architecture design;
 4. Develop, integrate, and test spaceborne elements (spacecraft and instruments) and procure launch vehicle services for projects in the SLI program;
 5. Launch SLI elements, perform on-orbit checkout and commissioning, and transition the spaceborne elements to DOI for operations;
 6. Lead and manage pre-launch and orbital verification, calibration, validation and characterization of SLI land imaging data through on-orbit commissioning and declaration of operational readiness;
 7. Maintain responsibility for instrument calibration and validation through mission handover to DOI;
 8. Support the calibration, validation and characterization of SLI instruments throughout the remaining mission lifecycle;
 9. Attend DOI Land Imaging System program management and technical reviews and other activities;

10. Work jointly with DOI on the integration of measurements from other sources (i.e., international or commercial datasets), as necessary, for processing SLI data, including possible assimilation of multiple observations into an integrated set of land imaging system data products;
 11. Coordinate with DOI on the development of SLI-related briefings and other materials for interaction with the U.S. Executive and Legislative branches, as well as briefings and other materials for interaction with potential interagency or international partners;
 12. Provide a NASA co-chair for the Landsat Science Team and focus-area (e.g. land use/land cover change science) scientific and technical support;
 13. Provide for a single point of contact for Annex development and execution;
 14. Provide internal coordination of approvals for Annexes; and
 15. Provide support for projects undertaken in any Annex.
2. DOI will use reasonable efforts to:
1. Define the scientific and operational requirements of SLI based on the input provided by SLI national and international users and provide technical, managerial, and scientific support to the SLI requirements-development activities related to those needs throughout the space system development life-cycle;
 2. Support, under NASA leadership, the overall SLI space system architecture design and development;
 3. Lead and manage ground system development, including all pre- and post-launch activities related to development of the ground-based component of SLI, in coordination with DOI data enterprise and geospatial systems program management. Such activities shall include, but not be limited to:
 - a. Support mission operational readiness engineering and development;
 - b. Support spacecraft and instruments/ground system integration and test; and
 - c. Support pre-launch and orbital verification, calibration, validation and characterization of SLI data through on-orbit commissioning and declaration of operational readiness;
 - d. Lead and manage the calibration, validation, and characterization of the instruments following DOI's operational acceptance from NASA throughout the remaining mission lifecycle;
 - e. Following on-orbit check-out and commissioning, provide for operation of the SLI spaceborne assets, as well as the downlink, ground processing, archiving, processing, and distribution of their data.
 4. Consistent with established DOI processes, lead all interaction with potential external (international, interagency or private sector) partners to develop, sign, and execute agreements pertaining to SLI data acquisition, data sharing, product development and distribution;
 5. During the NASA-led space system lifecycle processes, provide unique expertise and guidance on spacecraft and data operations, processing, distribution methodologies, and management approaches;
 6. Work jointly with NASA on the integration of measurements from multiple sources (i.e., international or commercial datasets), as necessary, for processing

- SLI data, including possible assimilation of multiple observations into an integrated set of land imaging system data products;
7. Maintain access to the national archive of land remote sensing data, that includes but is not limited to, SLI data;
 8. Attend NASA SLI project management and technical reviews and other activities; and,
 9. Coordinate with NASA on the development of SLI-related briefings and other materials for interaction with the U.S. Executive and Legislative branches, as well as briefings and other materials for interaction with other potential interagency or international partners, and user communities.
 10. Lead and manage the Landsat Science Team;
 11. Provide for a single point of contact for Annex development and execution;
 12. Provide internal coordination of approvals for Annexes; and
 13. Provide support for projects undertaken in any Annex.

3. Governance

The governance approach defined here ensures that SLI program-wide strategies are generated and coordinated at the appropriate level of the Parties, while enabling existing internal agency management/reporting/oversight processes to be used for execution. The governance approach explicitly calls for the resolution at the lowest possible level of any issues related to planning and design of the component missions and tasks that make up the SLI program. To these ends:

1. The NASA Associate Administrator for SMD will be the senior NASA agency official responsible for NASA program oversight and issue resolution. The NASA portion of the overall program will be administered by the ESD Director within SMD.
2. The DOI Assistant Secretary for Water and Science will be the senior DOI agency official responsible for DOI program oversight and issue resolution. The DOI portion of the overall program will be administered by the Director of USGS.
3. NASA and DOI will establish a Sustainable Land Imaging Joint Steering Group (SLI JSG) as the top-level steering board to integrate the efforts of the agencies involved in the SLI program. The membership of the SLI JSG will be as follows:
 - DOI Assistant Secretary for Water and Science (co-chair);
 - NASA Associate Administrator for SMD (co-chair);
 - NASA ESD Director; and
 - USGS Director.

The JSG will meet at as needed to be apprised of the status of, and plans for, NASA and DOI SLI activities. Either co-chair can call SLI JSG meetings. The SLI JSG will provide a forum to enable overall program strategy generation and approval, as well as coordination of NASA and DOI engagement/advocacy strategies with external stakeholders, including the Executive and Legislative branches, on issues of budget and policy. The SLI JSG will serve as the steering committee for any systems reviews affecting Level 1 requirements for projects implemented under SLI. All decisions of the SLI JSG will require NASA and DOI agreement and consensus, and will be documented in official JSG meeting minutes.

4. Project Managers at the NASA and USGS project offices tasked with executing specific SLI projects will maintain active collaboration to share information and address all relevant project-level issues. Project office implementation plans and reporting requirements will be defined in the respective project Annexes.
5. Project-level issues that cannot be resolved between the Project Managers at NASA and USGS will be raised to the NASA Program Executive for SLI and the USGS Program Coordinator for NLI for consideration. If the issue cannot be resolved at that level, it will be raised to the NASA ESD Associate Director for Flight Projects and the USGS Associate Director for Core Science Systems. Issues that remain open will be raised to the NASA ESD Director and the USGS Director for deliberation and resolution. (See Figure 1)
6. The NASA ESD Associate Director for Flight Projects and the USGS Associate Director for Core Science Systems will conduct regular NASA-USGS Sustainable Land Imaging Roundtable discussions. The Roundtable will serve to exchange information on topics of mutual interest and to share status information on project execution. The NASA ESD Program Executive for SLI and the USGS Program Coordinator for NLI will provide quarterly updates on all SLI project activities covered under this Umbrella and underlying Annexes.

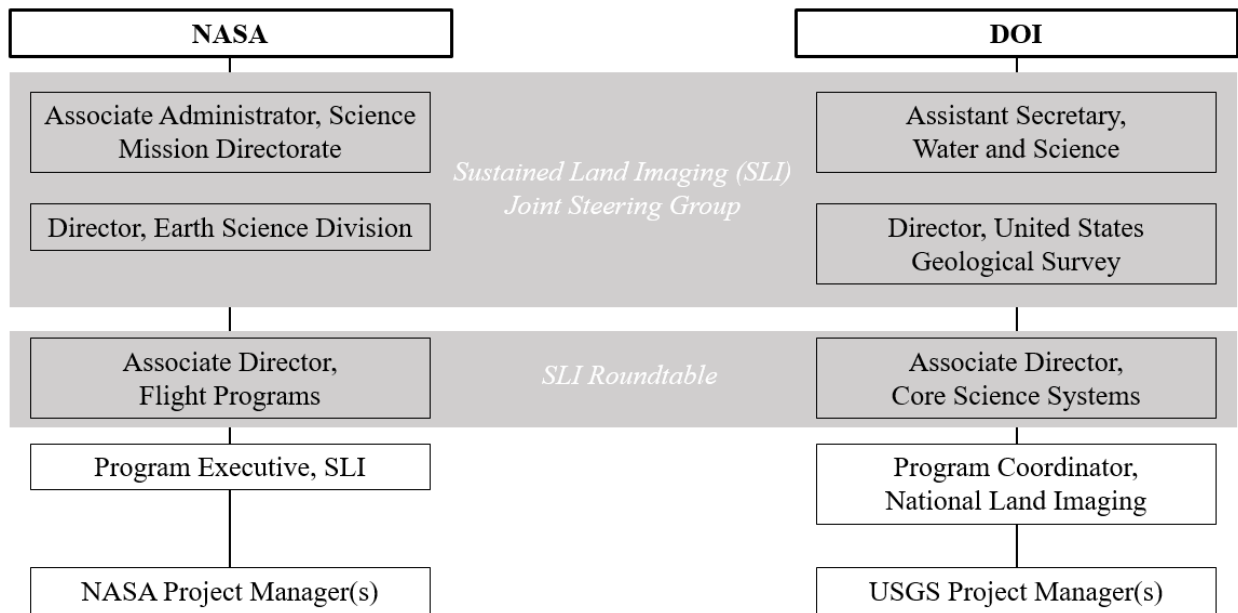


Figure 1. NASA and DOI SLI relationships.

ARTICLE 4. SCHEDULE AND MILESTONES

The Parties will execute two (2) Annexes concurrently with this Umbrella IAA. The initial Annexes and any subsequent Annexes will be performed on the schedule and in accordance with the milestones set forth in each respective Annex.

ARTICLE 5. FINANCIAL OBLIGATIONS

There will be no transfer of funds between the Parties under this Umbrella IAA and each Party will fund its own participation. All activities under or pursuant to this Umbrella IAA are subject to the availability of funds, and no provision of this Agreement shall be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act (31 U.S.C. § 1341).

ARTICLE 6. PRIORITY OF USE

Any schedule or milestone in this Umbrella IAA is estimated based upon the Parties' current understanding of the projected availability of its respective goods, services, facilities, or equipment. In the event that either Party's projected availability changes, NASA or DOI, respectively, shall be given reasonable notice of that change, so that the schedule and milestones may be adjusted accordingly. The Parties agree that NASA's and DOI's use of its own goods, services, facilities, or equipment shall have priority over the use planned in this Umbrella IAA.

ARTICLE 7. LIABILITY AND RISK OF LOSS

Each Party agrees to assume liability for its own risks arising from or related to activities conducted under this Umbrella IAA.

ARTICLE 8. INTELLECTUAL PROPERTY RIGHTS - DATA RIGHTS

NASA and DOI agree that the information and data exchanged in furtherance of the activities under this Umbrella IAA will be exchanged without use and disclosure restrictions unless required by national security regulations (e.g., classified information) or as otherwise provided in this Umbrella IAA or agreed to by NASA and other Federal Agency for specifically identified information or data (e.g., information or data specifically marked with a restrictive notice).

ARTICLE 9. INTELLECTUAL PROPERTY RIGHTS - HANDLING OF DATA

A. In the performance of this Agreement, NASA or DOI (as "Disclosing Party") may provide the other Party (as "Receiving Party") with:

1. data of third parties that the Disclosing Party has agreed to handle under protective arrangements or is required to protect under the Trade Secrets Act (18 U.S.C. § 1905) ("Third Party Proprietary Data"), or
2. Government data, including software, the use and dissemination of which, the Disclosing Party intends to control ("Controlled Government Data").

B. All Third Party Proprietary Data and Controlled Government Data provided by Disclosing Party to Receiving Party shall be marked by Disclosing Party with a restrictive notice and protected by Receiving Party in accordance with this Article.

C. Identification of Data:

1. Third Party Proprietary Data and Controlled Government Data shall be identified in the Annex under which it will be provided.

2. NASA software and related Data shall be identified in the Annex under which it will be used, and provided under a separate Software Usage Agreement (SUA). DOI shall use and protect the related data in accordance with this clause.
3. DOI software and related Data shall be identified in the Annex under which it will be used, and provided under a separate Software Usage Agreement (SUA). NASA shall use and protect the related data in accordance with this clause.

D. For such Data identified with a restrictive notice pursuant to paragraph B of this Article, including Data identified in an accompanying funding document, Receiving Party shall:

1. Use, disclose, or reproduce such Data only as necessary under this Agreement;
2. Safeguard such Data from unauthorized use and disclosure;
3. Allow access to such Data only to its employees and any related entity requiring access under this Agreement;
4. Except as otherwise indicated in D.3., preclude disclosure outside Receiving Party's organization;
5. Notify its employees with access about their obligations under this Article and ensure their compliance, and notify any related entity with access about their obligations under this Article; and
6. Dispose of such Data as Disclosing Party directs.

E. If the Parties exchange Data having a notice deemed ambiguous or unauthorized by the receiving Party, it should tell the providing Party. If the notice indicates a restriction, the receiving Party must protect the Data under this Article unless otherwise directed in writing by the providing Party.

F. Notwithstanding any restrictions provided in this Article, the Parties are not restricted in the use, disclosure, or reproduction of Data provided under this Agreement that is:

1. known or available from other sources without restriction;
2. known, possessed, or developed independently, and without reference to the Proprietary Data;
3. made available by the owners to others without restriction; or
4. required by law or court order to be disclosed.

G. If a Party believes that any exceptions apply, it shall notify the other Party before any unrestricted use, disclosure, or reproduction of the Data.

ARTICLE 10. INTELLECTUAL PROPERTY RIGHTS - INVENTION AND PATENT RIGHTS

Unless otherwise agreed upon by NASA and DOI, custody and administration of inventions made (conceived or first actually reduced to practice) under this Umbrella IAA will remain with the respective inventing Party. In the event an invention is made jointly by employees of the Parties (including by employees of a Party's contractors or subcontractors for which the U.S. Government has ownership), the Parties will consult and agree as to future actions toward establishment of patent protection for the invention.

ARTICLE 11. RELEASE OF GENERAL INFORMATION TO THE PUBLIC AND MEDIA

NASA or DOI may, consistent with Federal law and this Agreement, release general information regarding its own participation in this IAA as desired. Insofar as participation of the other Party

in this IAA is included in a public release, NASA and DOI will seek to consult with each other prior to any such release, consistent with the Parties' respective policies.

Pursuant to Section 841(d) of the NASA Transition Authorization Act of 2017, Public Law 115-10 (the "NTAA"), NASA is obligated to publicly disclose copies of all agreements conducted pursuant to NASA's 51 U.S.C. §20113(e) authority in a searchable format on the NASA website within 60 days after the agreement is signed by the Parties. The Parties acknowledge that, if this IAA is entered into pursuant to NASA's 51 U.S.C. §20113(e) authority, this IAA will be disclosed, without redaction, in accordance with the NTAA.

ARTICLE 12. TERM OF AGREEMENT

This IAA becomes effective upon the date of the last signature below ("Effective Date") and shall remain in effect until the completion of all obligations of both Parties hereto, or ten (10) years from the effective date, whichever comes first.

ARTICLE 13. RIGHT TO TERMINATE

Either Party may unilaterally terminate this Umbrella IAA or any Annex(es) by providing thirty (30) calendar days written notice to the other Party. Termination of an Annex does not terminate this Umbrella Agreement. However, the termination or expiration of this Umbrella IAA also constitutes the termination of all outstanding Annexes.

ARTICLE 14. CONTINUING OBLIGATIONS

The rights and obligations of the Parties that, by their nature, would continue beyond the expiration or termination of this Agreement, e.g., "Liability and Risk of Loss" and "Intellectual Property Rights" and related clauses shall survive such expiration or termination of this Umbrella IAA.

ARTICLE 15. POINTS OF CONTACT

The following personnel are designated as the Points of Contact between the Parties in the performance of this Umbrella IAA. Annexes may designate Points of Contact for purposes of the Annex activities.

Management Points of Contact

NASA

Karen M. St. Germain, Ph.D.
Director, Earth Science Division
Science Mission Directorate
300 E Street SW
Washington, DC 20546
Phone: 202-358-3759
karen.m.stgermain@nasa.gov

United States Department of the Interior

David Applegate, Ph.D.
Associate Director for Natural Hazards
Exercising the Delegated Authority of the
Director, U.S. Geological Survey
12201 Sunrise Valley Drive
Reston, VA 20192-0002

Phone: 703-648-6600
applegate@usgs.gov

Technical Points of Contact
NASA

Michael P. Egan
Program Executive for SLI,
Earth Science Division
Science Mission Directorate
300 E Street SW
Washington, DC 20546
Phone: 202-358-1040
michael.p.egan@nasa.gov

United States Department of the Interior

Timothy R. Newman
Program Coordinator, NLI
U.S. Geological Survey
12201 Sunrise Valley Drive
Reston, VA 20192-0002
Phone: 703-648-4405
tnewman@usgs.gov

ARTICLE 16. DISPUTE RESOLUTION

All disputes concerning questions of fact or law arising under this Umbrella IAA shall be referred by the claimant in writing to the appropriate person identified in this IAA for purposes of the activities undertaken in the IAA, or Annex(es) for purposes of the activities undertaken in the Annex(es), as the “Points of Contact.” The persons identified as the “Points of Contact” for NASA and the DOI will consult and attempt to resolve all issues arising from the implementation of this Agreement. If they are unable to come to agreement on any issue, the dispute will be referred to the signatories to the IAA, or Annex, as appropriate, or their designees, for joint resolution after the Parties have separately documented in writing clear reasons for the dispute.

ARTICLE 17. MODIFICATIONS

Any modification to this IAA shall be executed, in writing, and signed by an authorized representative of NASA and the DOI. Accompanying Annexes may be modified under the same terms. Modification of an Annex does not modify the Umbrella Agreement.

ARTICLE 18. APPLICABLE LAW

U.S. Federal law governs this Umbrella IAA for all purposes, including, but not limited to, determining the validity of the IAA, the meaning of its provisions, and the rights, obligations and remedies of the Parties.

ARTICLE 19. LOAN OF GOVERNMENT PROPERTY

The parties shall enter into a NASA Form 893, Loan of NASA Equipment, for NASA equipment loaned to Partner.

ARTICLE 20. SIGNATORY AUTHORITY

Approved and authorized on behalf of each Party by:

NATIONAL AERONAUTICS AND SPACE
ADMINISTRATION

UNITED STATES DEPARTMENT OF THE
INTERIOR

Thomas H. Zurbuchen, Ph.D.
Associate Administrator, Science Mission
Directorate

Tanya Trujillo
Assistant Secretary, Water and Science

DATE: _____

DATE: _____