

**MEMORANDUM OF UNDERSTANDING
BETWEEN
THE UNITED STATES DEPARTMENT OF AGRICULTURE
AND
THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION**

I. PARTIES

This Memorandum of Understanding (MOU) is between the United States Department of Agriculture (USDA) and the National Aeronautics and Space Administration (NASA), hereinafter referred to together as the “participants.”

II. PURPOSE

In December 2025, President Trump issued new national space priorities, Executive Order 14369, “Ensuring American Space Superiority,” which directs NASA to return Americans to the Moon by 2028 and begin building a permanent lunar outpost by 2030 and continue scientific discovery for the benefit of the American people and the world. To this end, the USDA and NASA intend to explore opportunities to improve crop performance to meet Earth and space-based goals. In addition to providing economic benefits and advancing scientific discovery through its Moon missions, human space exploration cooperation between the USDA and NASA includes plant-related research on the International Space Station and other space or ground platforms that have led to creative new ways to improve American and global agriculture, observe the environment, and contribute to better human health. Additionally, the USDA and NASA work together on education, communication, and outreach activities to inspire youth in America to pursue careers in science, technology, engineering, and mathematics (STEM) and agriculture.

This Memorandum of Understanding (MOU) is intended to guide cooperation on integrating Earth observation, geospatial analytics, and statistical methodologies in support of agricultural statistics and aligned with USDA’s ongoing data and technology modernization efforts. The participants intend for this cooperation to advance USDA’s goals of strengthening data quality, expanding the use of emerging technologies, and expanding trust by ensuring the most advanced technologies are employed to support USDA in its mission to provide services for American farmers and ranchers.

The scope of the proposed program of cooperation pursuant to this MOU may include, but is not limited to, agricultural statistics, remote sensing science, modeling, geospatial data engineering, and super intelligence/machine learning (SI/ML) supported by the participants. As needs evolve, additional areas of cooperation may be identified. Cooperative activities are expected to contribute to USDA’s data modernization priorities by improving interoperability, reproducibility, and responsible use of advanced scientific and computational methods.

III. COOPERATIVE ACTIVITIES

The participants may mutually determine specific scientific areas for cooperation. The types of cooperative activities planned pursuant to this MOU may include:

- **Mission/Data Alignment:** Regular technical exchanges to align USDA statistical requirements with NASA Earth science missions and data products (e.g., satellite observations, model outputs, and derived geophysical variables).
- **Data Access & Infrastructure:** Discussions on scalable access patterns to NASA archives, cloud-native geospatial formats, application programming interfaces (APIs), and workflow orchestration that enable USDA production operations.
- **Methodology & Validation:** Joint technical reviews of algorithms for agricultural assessment, for example, crop condition indicators; yield models; planted/harvested area estimation; and disaster impact assessment, including approaches to bias correction; uncertainty quantification; and validation using statistically sound frames and ground data.

This list is not intended to be exhaustive, and the participants intend to work together to investigate opportunities for collaboration pursuant to this MOU.

IV. COLLABORATION ON SPECIFIC PROJECTS

Separate binding written agreements, independent of this MOU, should be executed for specific work projects or activities that involve the transfer of funds, services, property, or personnel between the participants. Such activities should be independently authorized by appropriate statutory authority and be contingent upon the availability of appropriated funds. This MOU does not provide such authority. Negotiation, execution, and administration of each such should comply with all applicable statutes and regulations.

V. POINTS OF CONTACT

The following offices are designated as the Points of Contact between the participants in the performance of the MOU.

NASA

Mr. Kevin Conole
 Senior Program Specialist
 Export Control and Interagency Liaison Division
 Office of International and Interagency Relations
 NASA Headquarters
 300 E Street, SW
 Washington, DC 20546-0001
 Phone: (202) 288-9784
 E-mail: kevin.c.conole@nasa.gov

USDA

Ms. Marisa Reuber
 Director, Statistical Innovation and Governance
 1400 Independence Ave., SW

Washington, DC 20250
Phone: (202) 720-2707
Email: marisa.reuber@usda.gov

VI. FUNDING AND AUTHORITY

Each participant and their respective agencies and offices should handle their own activities and utilize their own resources, including the expenditure of their own funds, in pursuing cooperative activities carried out pursuant to this MOU unless the participants establish other arrangements in writing, separate from and independent of this MOU. Each participant should carry out its separate activities in a coordinated and mutually beneficial manner.

Cooperative activities pursuant to this MOU are subject to the availability of funds and human and other resources. Nothing in this MOU obligates any participant to obligate or transfer any funds.

VII. INTELLECTUAL PROPERTY

Specifics related to handling of intellectual property for each individual statement of work/project will be incorporated into binding agreements as discussed in section IV.

VIII. PROTECTION OF SENSITIVE TECHNOLOGY

No sensitive or controlled information or equipment should be provided under this MOU. In the event that information or equipment that is known or believed to require such protection is identified in the course of cooperative activities pursuant to this MOU, it should be brought immediately to the attention of the appropriate officials, and the participants should consult to identify appropriate security measures that should be taken with respect to this information and equipment.

X. OTHER AGREEMENTS

Nothing in this MOU should be interpreted to prejudice or modify any existing understandings or agreements between the participants. This MOU does not limit or restrict the Parties from participating in similar activities or arrangements with other entities.

XI. PERIOD OF COOPERATION, REVISION, AND CESSATION OF ACTIVITIES

This MOU becomes effective upon date of last signature of both participants below ("Effective Date") and shall remain in effect until either (a) a participant decides to terminate its participation according to the paragraph below or five (5) calendar years from the Effective Date, whichever comes first.

The MOU may be modified or extended in writing and signed by an authorized representative of each participant.

Either participant may unilaterally terminate this MOU upon three (3) months' written notice to the other participant.

This MOU is strictly for the management and planning purposes of each of the Parties. This MOU does not create any legally binding obligations on any participant and as such does not obligate the participants to agree to collaborative activities or to expend funds on any particular project or purpose, even if funds are available. This MOU is not intended to, and does not create, any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity, by a party against the United States, its agencies, its officers, or any person.

Administration of this MOU and coordination of subsequent binding agreements for activities identified in section III of this MOU will be the responsibility of the offices identified as the "Points of Contact" in section V of this MOU.

Nothing in or relating to this MOU is to be deemed a waiver, express or implied, of any privileges, immunities, or defenses accorded to the participants under U.S., international, or any other applicable law.

Discontinuation of this MOU is not intended to affect the validity or duration of projects pursuant to the MOU that are initiated prior to such discontinuation.

XII. SIGNATURES

IN WITNESS WHEREOF, the participants hereto have executed this MOU as of the last signature date written below.

Brooke L. Rollins
Secretary
U.S. Department of Agriculture

Jared Issacman
Administrator
National Aeronautics and Space Administration

Date

Date