

Interagency Agreement
National Aeronautics and Space Administration
AND
United States Department of Agriculture Forest Service
Remote Sensing Applications Center

I. Authority

The National Aeronautics and Space Administration, as represented by the Ames Research Center (hereinafter referred to as "NASA" or "NASA ARC") and the United States Department of Agriculture Forest Service Remote Sensing Applications Center (hereinafter referred to as "USFS" or "USDA") enter into this Interagency Agreement, under the authority of the National Aeronautics and Space Act of 1958, as amended, 42 USC 2473 (c) (5) (6), and as implemented by NASA Policy Directive (NPD) 1050.1G

II. Background Information

Since 1976, the United States Department of Agriculture (USDA) Forest Service has utilized NASA suborbital aircraft and airborne sensor systems to assess, monitor, and inventory natural resources throughout our national forests and to evaluate simulators of future space borne sensors to support these tasks. The USDA Forest Service enters into this Interagency Agreement in order to continue this beneficial relationship.

III. Purpose

This Interagency Agreement shall be for the purpose of pursuing collaborative research and applications in airborne and spaceborne platform technology, communications, data processing, sensor development, education/training and demonstration and technology transfer in support of disaster management and natural resource studies conducted by the Forest Service and its co-operators.

This agreement will provide an excellent mechanism to evaluate and utilize remote sensing systems for solving real-world problems associated with managing our nation's natural resources. The Forest Service is tasked with managing approximately 199 million acres of federal lands as well as providing assistance to state and private forestry concerns. Remote sensing is one of the primary tools available to the Forest Service for collecting information over such vast areas. As part of this endeavor NASA/ARC can provide an important service with its airborne platforms, numerous sensor systems and technology development. The benefit to NASA is that such remote sensing missions will lead to the further development and enhancement of NASA remote sensing technology.

IV. Responsibilities

- A. Forest Service will use reasonable efforts to:
 - 1. Furnish data, times, flight profile and other ancillary information as required to the Technical Points of Contact identified in section XIII. below;
 - 2. Cooperate with NASA/ARC in system development, testing and evaluation of suborbital systems for a variety of natural resource management applications, and disaster management such as storm damage assessment and wildfire detection and characterization;
 - 3. Participate in the demonstration of remote sensing technology for natural resource applications and disaster management such as storm damage assessment and wildfire management, including providing access to data bases required for cooperative research, applications and education outreach
 - 4. Cooperate in technology transfer activities.

- B. ARC will use reasonable efforts to:
 - 1. Contribute facilities, equipment and personnel necessary to provide digital and analog data acquisition as specified in requests to support Forest Service remote sensing projects;
 - 2. Coordinate with the Forest Service on mission requirements, remote sensing, communication and disaster management
 - 3. Complete flight mission requirements based on ARC Standard Operating Procedures;
 - 4. Co-develop, test evaluate and share remote sensing, communications and processing technologies to meet Forest Service requirements;
 - 5. Participate in the demonstration of remote sensing and platform technology for natural resource applications, and disaster management projects such as storm damage assessments and wildfires;
 - 6. Support technology transfer, education and outreach activities including workshops, meetings and conferences.
 - 7. Provide USFS a copy of remote sensing data accumulated during suborbital missions.

Financial Obligations

All activities under or pursuant to this MOU are subject to the availability of appropriated funds, and no provision in the MOU shall be interpreted to require obligation or payment of funds in violation of Anti-Deficiency Act, 31 USC Section 1341. If either party reimburses the other party for services rendered or supplies furnished under this agreement, this agreement shall be supplemented by a separate funding document or documents which refer to this Interagency Agreement.

VI. Priority of Use

A schedule will be mutually agreed upon and if required approved by NASA Headquarters. Each party's performance of its responsibilities and the use of its facilities and equipment, specified in this agreement or in subsequent documents, are estimates based upon each party's current projected use of its total available resources. If a party's projections change, that party shall give the other reasonable notice of the change, so that performance of this agreement may be adjusted accordingly. If a conflict arises, each party's use of its resources shall have priority over the use planned by this agreement. Each party in its sole discretion shall determine whether and how to exercise that priority.

VII. Dispute Resolution

The key technical personnel for the parties will attempt in good faith to resolve all issues arising out of this Agreement. If they are unable to agree on any issue within a reasonable time (but in no event more than thirty (30) days) after either party delivers to the other party written notice describing such issue in reasonable detail, then the dispute will be referred to the key technical people's respective immediate supervisors for joint resolution. If the parties are still unable to resolve the issue within ten (10) business days after the issue has been referred to such supervisors for resolution, then the Center Director (or his or her designee) and the official with authority to bind the other agency will jointly issue a written decision, which shall be a final Agency decision for all purposes.

VIII. Mishap Investigation

In the case of a mishap or mission failure, the parties agree to provide assistance to each other in the conduct of any investigation. In the case of activities which might result in death or serious injury to persons, or substantial loss or damage to property as a result of activities under this agreement, the parties agree to establish a process for investigating each such mishap as part of their program/project implementation agreements.

IX. Schedule and Milestones

The schedule is driven by program priorities identified in proposals, program plans and flight requests and approval by Headquarters as well as availability of aircraft and personnel during requested time frames. Specific schedules and milestones will be

provided as supplements to this agreement and shall reference this Interagency Agreement.

X. Non-Exclusivity

This Interagency Agreement is not exclusive; accordingly, NASA may enter into similar agreements for the same or similar purpose with other U.S. private or public entities.

XI. Liability and Risk of Loss

Each party agrees to assume liability for its own risks associated with activities undertaken in this agreement.

XII. Intellectual Property

Data exchanged between the parties under this agreement will be exchanged without restriction on its disclosure, use, or duplication except as otherwise marked or as otherwise provided in this agreement. The term "data," as used in this agreement, means recorded information, regardless of form, the media on which it may be recorded, or the method of recording. The term includes, but is not limited to, data of a scientific or technical nature, computer software and documentation, and data comprising commercial and financial information.

Unless otherwise agreed by the parties, custody and administration of inventions made as a consequence of, or in direct relation to, the performance of activities under this agreement will remain with the respective inventing party. In the event an invention is made jointly by the employees of the parties or an employee of a party's contractor, the parties will consult and agree as to future actions toward establishment of patent protection for the invention.

XIII. Key Personnel

The following personnel are designated as technical points of contact for their respective party. These individuals are the principal points of contact between the Parties in the performance of this Interagency Agreement.

Technical Points of Contact

	<u>NASA</u>	<u>USDA Forest Service</u>
Names:	James Brass	Everett Hinkley
Title:	Branch Chief	LSP Program Leader
Address:	Mail Stop: 242-4 NASA Ames Research Center Moffett Field, CA 94035-1000	USDA Forest Service 2222 W. 2300 South Salt Lake City, UT 84119
Phone:	(650) 604-5232	(801) 975-3752

Business Points of Contact

	<u>NASA</u>	<u>USDA Forest Service</u>
Names:	Phil Herlth	Everett Hinkley
Title:	Technology Partnership Manager	LSP Program Leader
Address:	Mail Stop: 202A-3 NASA Ames Research Center Moffett Field, CA 94035-1000	USDA Forest Service 2222 W. 2300 South Salt Lake City, UT 84119
Phone:	(650) 604-0625	(801) 975-3752

XIV. Term and Termination

The term of this Interagency Agreement commences upon the date of the later of the two signatures appearing below and shall expire upon completion of all obligations of both parties, or five (5) years from the date of later of the two signatures appearing below.

Either party may terminate this agreement, at any time before the date provided above, by written notice to the other party thirty (30) days before the desired date of termination. The terminating party will not incur any liability to the other party for terminating this agreement.

XV. Modifications/Amendments

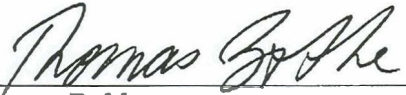
The parties may agree to extend this Interagency Agreement by written modification. Any modification to this agreement shall be executed in writing and is signed by an authorized representative of each party. Any modification which creates an additional commitment of NASA resources must be signed by the original NASA signatory authority or successor, or a higher level NASA official possessing original or delegated authority to make such commitment.

XVI. Applicable Law

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

Executed in duplicate originals by the undersigned who are authorized to bind their respective organizations to the terms hereof.

FOR THE UNITED STATES DEPARTMENT OF AGRICULTURE, FOREST SERVICE



Date: 10/31/05

Thomas Bobbe
Director
Remote Sensing Applications Center
United States Department of Agriculture Forest Service

FOR THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION



Date: 10/12/05

Dr. Michael D. Bicay
Director
Science Directorate

Ames Research Center
National Aeronautics and Space Administration