MEMORANDUM OF AGREEMENT BETWEEN THE NATIONAL PARK SERVICE AND THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

ARTICLE I – AUTHORITY

This Memorandum of Agreement (MOA) is entered into by the U.S. National Aeronautics and Space Administration (NASA) and National Park Service (NPS), U.S. Department of the Interior, jointly referred to hereinafter as "the parties." NASA enters this MOA pursuant to 42 U.S.C. § 2473 (c), Section 203 (c) of the National Aeronautics and Space Act of 1958, as amended. NPS enters this MOA pursuant to the authority of the Organic Act of the National Park Service (16 USC 1-3), 16 USC 5931-5937, Executive Order 12906, Coordinating Geographic Data Acquisition and Access: The National Spatial Data Infrastructure, April 11, 1994.

ARTICLE II - BACKGROUND AND OBJECTIVES

This MOA will foster a collaborative effort between NASA and NPS to use Earth science imagery and NASA exploration and science programs for the preservation, enhancement and interpretation of the natural resources of the United States. The initial goal, established by this MOA, is for the parties to assess how geospatial data and images and NASA exploration and science can assist the NPS in meeting its missions (reviewed below). Once this is determined, the parties intend to enter supplemental agreement(s) establishing specific goals, roles and responsibilities for NPS' effective use of geospatial data and NASA exploration and science.

The mission of the NPS is to preserve and interpret natural and cultural resources on the federal lands it manages for this and future generations. To achieve this mission, requests for geospatial data by NPS decision makers are increasing, and remotely sensed data have become a very important source of information required for effective management of NPS resources and other assets. The NPS Geographic Information Systems (GIS), Natural Resources Inventory and Monitoring (I&M), Water Resources, Cultural Resources, and other programs have mandates to provide geospatial and scientific data to NPS personnel to support policy and management decisions on issues that include maintenance of physical assets, and assessing and monitoring invasive species, fire, natural hazards, and water quality. To meet these needs, the NPS desires a new geospatial information partnership to integrate better the use of remotely sensed data into routine management of NPS resources, and to acquire assistance in developing an information system infrastructure to support the use of remotely sensed data. This partnership may lead to implementation, by the NPS, of a standardized, centrally coordinated and maintained clearinghouse of imagery and related data. Both NPS and NASA provide capabilities that educate and inspire the public through discovery and interpretation of natural environments, NASA exploration and science programs offer substantial benefits to NPS interpretation that, in turn, informs and inspires park visitors about our place in the natural world and the universe. NPS desires to establish working relationships between its interpretive staff and NASA-sponsored investigators to enrich NPS interpretive programs.

NASA seeks to form collaborations that enable the application of NASA Earth and Space science research results, observations, and outputs from predictive models for decision support and for interpretation. The programmatic objectives of both the NPS and NASA are thus addressed by the provision and integration of NASA Earth and Space science capabilities to support NPS decisions on resource management and to utilize NASA exploration and science to support NPS interpretation.

ARTICLE III – RESPONSIBILITES OF NPS AND NASA

- A. Using reasonable efforts, the NPS agrees to:
- 1. Promptly meet and work with representatives of NASA to assess the use of NASA and other geospatial and science data to meet the mission responsibilities of NPS. The assessment will involve remote sensing (RS), interpretation and educational needs, project plans and priorities, resources, and system and data requirements.
- 2. Once the parties have assessed the geospatial and interpretation needs of NPS, and the capabilities of NASA to support those needs, negotiate supplement agreement(s) with NASA for NPS to:
 - a. Meet and work with representatives of NASA at least twice per year in order to assess RS, interpretation and educational needs, project plans and priorities, resources, and system and data requirements.
 - b. Coordinate ground truthing surveys, data and imagery collection, and research and analysis efforts at selected NPS or NASA sites to minimize impacts on management and resources, to enhance NPS interpretation and to improve access to information and mutually agreed upon products.
 - c. Provide spatial data, databases, and related information, or direct NASA to information sources, in order to accomplish agreed upon projects or system development.
 - d. Provide opportunities at NPS research learning centers, conferences and training workshops for NASA experts to present papers, and to conduct hands-on and specialized tutorials.
 - e. Coordinate and promote joint projects at university sites and NPS regional GIS technical support centers.
 - f. Review image maps, scientific, educational and interpretation materials, information services, and related products within 45 days of receipt.
 - g. Link appropriate NPS Internet sites and information services with those of NASA.
 - h. Explicitly acknowledge collaboration with NASA by displaying the NASA insignia and/or other appropriate information on mutually agreed upon maps, publications, Internet sites and

related materials

B. Using reasonable efforts, NASA agrees to:

- 1. Promptly provide relevant Earth and Space science observations, measurements, technologies, models, outputs and related information systems technology to NPS at park, regional and national levels, in order to assess the best means for NPS to use geospatial information and NASA exploration and science to meet its mission responsibilities.
- **2.** Once the parties have assessed the needs of NPS, and the capabilities of NASA to support those needs, negotiate supplement agreement(s) with NPS for NASA to:
 - a. Not disclose, publish, or distribute to the general public or unauthorized users any imagery that specifically identifies (through graphics or text) the location of sensitive archeological sites, cave resources, endangered or threatened species, or other NPS resources protected by law, without prior approval from the NPS consistent with 16 U.S.C. Section 5937, which provides that "Information concerning the nature and specific location of a National Park System resource which is endangered, threatened, rare or commercially valuable, of mineral or paleontological objects of cultural patrimony within units of the National Park System, may be withheld from the public"
 - b. Provide the NPS, for archiving and revision purposes, digital data (including imagery) and information resulting from collaborative activities, including data collected at the field level.
 - c. Include in all publications and products resulting from collaborative activities a phrase and the official arrowhead logo that indicates production in cooperation with the NPS on mutually agreed upon products, publications, Internet sites, and related materials.
 - d. Assist the NPS with the acquisition of NASA remotely sensed data or imagery necessary for planned cooperative products.
 - e. Provide the NPS with data, information, imagery and other products or equipment/systems necessary to carry out Earth science research projects, or for the development of educational and interpretation materials. In kind exchanges may be commensurate with data, services, and/or information furnished by the NPS on a project-by-project basis as outlined in supplemental agreements to this MOA.
- C. It is mutually agreed and understood by and between the parties that for any supplemental agreement(s) to be negotiated each will use reasonable efforts to:
 - a. Provide each other with relevant plans and information on technology and infrastructure developments as they are needed for data transfers, websites, and other Earth and Space science research and RS projects.

b. Consider ways in which the NPS and NASA can cooperate on projects, products and services that are mutually beneficial and beneficial to park visitors.

Article IV – TERM OF AGREEMENT

This MOA will become effective upon approval by both parties and, unless terminated earlier pursuant to Article XII, this MOA will expire five (5) years from the date of the last signature to the MOA.

From time to time this MOA may be revised as necessary by mutual consent of both parties, by issuance of written supplemental agreement(s) signed, and dated, by both parties.

Article V – KEY OFFICIALS

The key contact for the National Park Service is:

John Gross 1201 Oak Ridge Fort Collins, CO 80525 970-267-2111 John Gross@.nps.gov

The key contacts for NASA are:

Woody Turner Science Mission Directorate NASA Headquarters Washington, DC 20546-001 202-358-1662 Woody.Turner@nasa.gov

Ed Sheffner Science Mission Directorate NASA Headquarters Washington, DC 20546-0001 202-358-0239 Edwin.J.Sheffner@nasa.gov

Article VI – ANTI-DEFICIENCY ACT

Pursuant to the Anti-Deficiency Act, 31 U.S.C. § 1341(a)(1)(1994), nothing herein contained shall be construed as binding the United States to expend, in any one fiscal year, any sum in excess of appropriations made by Congress for this purpose, or to involve the United States in any contract or other obligation for the further expenditure of money in excess of such appropriations.

ARTICLE VII – FINANCIAL OBLIGATIONS

There will be no transfer of funds or other financial obligations between NASA and NPS in connection with this MOA. NPS and NASA will fund their own participation under this MOA.

ARTICLE VIII - NONINTERFERENCE WITH GOVERNMENT ACTIVITIES

The responsibilities mentioned in this MOA assume that the property and services specified in this MOA are available on a noninterference basis with NASA and NPS, and other, Government-sponsored activities, and any NASA and NPS support is consistent with applicable U.S. Government policies and regulations in effect at the time such services are to be provided.

ARTICLE IX - LIABILITY

NASA and the NPS agree to assume liability for their own risks associated with activities undertaken in this MOA.

ARTICLE X – INTELLECTUAL PROPERTY

Nothing in this MOA shall be construed as granting or implying any rights to, or interest in, patents or inventions of the Parties or their contractors or subcontractors. The Parties do not intend to exchange any proprietary information pursuant to this MOA.

ARTICLE XI – USE OF THE NASA NAME, INITIALS AND INSIGNIA

Any use of the NASA name, initials and insignia by NPS is subject to prior review and approval by NASA Headquarters, Office of Public Affairs. NPS agrees to submit to NASA for its approval all promotional and marketing material, which use the NASA insignia, name or initials prior to publication, including placement on web sites. Approval by NASA shall be based on applicable law and policy governing the use of the words "National Aeronautics and Space Administration" and the letters "N A S A" and the NASA insignia. NASA's goal is to seek, within ten (10) working days upon receipt of submitted materials, to provide approval or revisions. Lack of a response from NASA within the 10 working days shall not be deemed as NASA's approval.

Any use by NASA of the NPS name and insignia is subject to NPS approval under the same process as stated in the paragraph above.

ARTICLE XII - TERMINATION

NASA or NPS may terminate this MOA prior to its expiration by written notice to the other Party not less than thirty (30) days in advance of termination. Neither party shall be entitled to any compensation for any partial or full termination of this MOA.

ARTICLE XIII - DISPUTES

All differences between the parties concerning this MOA, if not resolved by the key personnel officials listed above, shall be submitted jointly for resolution by the NPS Associate Director, Natural Resource Stewardship and Science and the NASA Associate Administrator for the Science Mission Directorate.

ARTICLE XIV - EXECUTION

The following individuals execute this Agreement on behalf of NPS and NASA, respectively.

Michael A. Soukup, Ph.D. Associate Director

Natural Resource Stewardship and Science National Park Service Alphonso V. Diaz

Associate Administrator Science Mission Directorate National Aeronautics and Space Administration

Date: JAN 1 1 2005

Date: JAN 24 2005