TWG 6-10-98 DG Mark Erzebe M- attach 14

NASA RESEARCH ANNOUNCEMENT: APPLICATIONS OF HYPERSPECTRAL DATA

- Solicitation - Posted on May 08, 1998
- Amendment 01 - Posted on May 11, 1998

General Information

Solicitation Number: NRA-SSC-02-98
NAIS Posted Date: May 08, 1998
CBDNet Posted Date: May 08, 1998
Response Date: Jun 26, 1998
Classification Code: A -- Research & Development

Contracting Office Address

NASA Procurement Office, Code DAOO, Stennis Space Center (SSC), MS 39529-6000

Description

The National Aeronautics and Space Administration (NASA) Commercial Remote Sensing Program (CRSP)Office is soliciting proposals to advance the science and commercial applications of hyperspectral remote sensing data. This solicitation requests proposers to define, within an application project, unique and common requirements for hyperspectral data for both science and commercial users and opportunities for technology improvements. Innovative applications projects designed to demonstrate the benefits and use of hyperspectral data will be funded in two phases: 1) an Application Development phase that through a proposed applications project defines data requirements that are unique or common to science and commercial users and details technology improvements for data access, processing, archiving and distribution; and, 2)an Application Validation phase that validates the requirements and technology improvements by running the application with the data specified for acquisition in the first phase. Proposals must be received at Stennis Space Center on or before June 26, 1998.

Point of Contact

Name: Harold G. Taulbee
Title: Contracting Officer
Phone: (228) 688-1640
Fax: (228) 688-1141
E-mail: harold.taulbee@ssc.nasa.gov

Name: Frank S. Oerting
Title: Contract Specialist
Phone: (228) 688-1638
Fax: (228) 688-1141
E-mail: frank.oerting@ssc.nasa.gov

Government-wide Notes
NASA-Specific Notes

You may return to Business Opportunities at:

- NASA SSC listed by [Posted Date | Classification Code]
- NASA Agencywide listed by [Posted Date | Classification Code]

OMB Approval Number 2700-0087
5/8/1998 **Version**

National Aeronautics and
Space Administration

May 8, 1998

NRA SSC-02-98

NASA Research Announcement

APPLICATIONS OF HYPERSPECTRAL DATA

NASA Research Announcement Soliciting
Proposals to Define Requirements and Technology
Improvements for Science and Commercial Use
Of Hyperspectral Remote Sensing Data

Commercial Remote Sensing Program Office
NASA Code XA00
John C. Stennis Space Center, MS 39529-6000

Applications of Hyperspectral Data

NASA Research Announcement

NASA's Office of Earth Sciences (OES) solicits proposals from all sources to advance the science and commercial applications of hyperspectral remote sensing data. This solicitation requests proposers to define, within an application project, unique and common requirements for hyperspectral data for both science and commercial users and opportunities for technology improvements. Innovative applications projects designed to demonstrate the benefits and use of hyperspectral data will be funded in two phases: 1) an Application Development phase that through a proposed applications project defines data requirements that are unique or common to science and commercial users and details technology improvements for data access, processing, archiving and distribution; and, 2) an Application Validation phase that validates the requirements and technology improvements by running the application with the data specified for acquisition in the first phase.

NASA Headquarters is sponsoring this NASA Research Announcement (NRA) as an integral part of the OES commercial strategy which seeks to fully realize the economic benefits to the nation made possible by OES research and development efforts in remote sensing technology, ground systems and related information systems. The NRA will be implemented and managed by the Commercial Remote Sensing Program (CRSP) at the John C. Stennis Space Center (SSC). CRSP and other NASA Centers will also provide a negotiated level of technical support through CRSPs Technical Support Group.

Success of the FY'98 competition, called Hyperspectral NRA, depends upon a three-way flow of scientific and technological understanding, experience, and incentives among government, academia and industry. Project teams are encouraged, but not required, to include all three elements. All teaming arrangements must, however, have a demonstratable knowledge of all areas as required by the NRA. Awardees are required to participate in rigorous evaluations of performance from project beginning to end.

NASA plans to fund about 10-12 proposals with typical project funding levels up to $300,000 annually for a two-year period. Partners are not required to co-fund at a specific level, but project selection will, in part, depend on the level of co-funding. NASA reserves the right to negotiate the scope of work, duration, and funding for any proposed project. NASA's ability to continue funding the Contracts selected under this NRA is contingent upon appropriated funds.

Investigators must submit proposals to NASA John C. Stennis Space Center by noon (12:00 p.m. CDT) by June 26, 1998. Review and Classification panels will evaluate the proposals. Co-Selecting Officials (Associate Administrator for Earth Sciences, and Manager, CRSP) will make the final selection planned for August-September, 1998.

The Appendices to this NRA include key details relevant to this program. Appendix A defines the scope of this procurement and the requirement to form project teams. It also includes the evaluation criteria and contains more detailed technical and programmatic information on this NRA. Appendix B contains instructions unique to responding to this NRA.

Your interest in participating in the Hyperspectral NASA Research Announcement is appreciated.

Mr. David P. Brannon
Chief, Commercial Remote Sensing Program
Attachments

APPENDIX A TECHNICAL DESCRIPTION

1.0 INTRODUCTION

1.1 Background

This NASA Research Announcement (NRA) solicits proposals for joint government, academia, and industry investigations to advance the science and commercial applications and uses of hyperspectral data, a type of remote sensing data with many contiguous spectral bands (Attachment A-1). This "Hyperspectral NRA" is an integral part of the 1996 Office of Earth Sciences (OES) Commercial Strategy which seeks to fully realize the economic benefits to the nation made possible by OES' research and development efforts in remote sensing technology, ground systems, and related information systems (Attachments A-2 and A-3). It is sponsored by NASA Headquarters and implemented through the Lead Center for Commercial Remote Sensing at the John C. Stennis Space Center (SSC).

The science and commercial remote sensing communities are at an early but varying degree of awareness, interest, and understanding with respect to the uses and benefits of hyperspectral data. As a result, OES is issuing this Hyperspectral NRA as the first step in a three-step Hyperspectral Initiative that will, for the first time, bring government, academia, and industry together to focus on this advanced technology. In step one, common and unique requirements and opportunities for technology improvements will be defined; in step two, technology improvements will be implemented and prototype products will be developed; and, in step three, the options for establishing a sustainable data provider of hyperspectral data will be considered (Exhibit A.1). Step one is the focus of this solicitation. Steps two and three will be implemented later.

This solicitation intends to develop a broad portfolio of applications projects as part of a "discovery" process. Step one is designed to determine the unique and common requirements of hyperspectral data for science and commercial users as well as documenting the opportunities for technology improvements associated with acquiring, processing, archiving, and distributing these data. The discovery process is ideally applied to hyperspectral technology because the data are largely unfamiliar to the commercial remote sensing community. To fully investigate its potential benefits requires an open, searching, and innovative approach by science and commercial investigators working together.

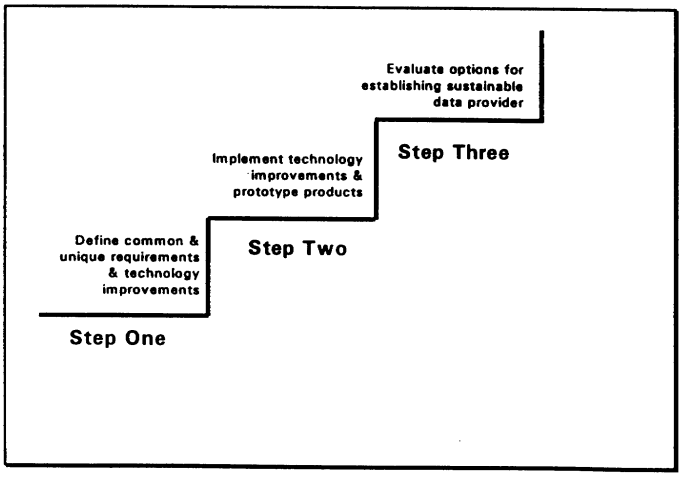

Exhibit A.1 Three-Step Hyperspectral Initiative

Any form of investigative approach is acceptable for this opportunity; however, the research must be conducted within the context of an applications project that addresses a relevant use of the technology. A proposal may outline more than one application study area but each element of the proposal must be addressed for each proposed application. Also, contract payment, which is based on the completion of milestones, will be based on satisfactorily completing each milestone for each and every application proposed.

Proposals dealing with hyperspectral sensor design, development, or modifications are not appropriate for this solicitation. Such proposals should be sent to NASA's Instrument Incubator Program (IIP) for consideration. Contact George G. Komar, Program Manager, Telephone (301) 786-0007, Fax (301) 286-1671, E-mail george.komar@gsfc.nasa.gov for additional information.

A joint government, academia, and industry initiative focusing on hyperspectral remote sensing data was one of the recommendations of the OES/Industry Conference held in Washington, DC in July 1996. The conference recognized that hyperspectral data are largely untapped as an information resource by either public agencies or commercial enterprises. By bringing together government, academia, and industry as investigative partners to focus on hyperspectral data, NASA expects to accelerate the process of extending science results that have come from the use of AVIRIS and other related data sources to identify prototype applications that will serve to validate both unique and common science and commercial requirements.

The investigative partnership model is based on the successful Earth Observations Commercial Applications Program (EOCAP) underway at the Commercial Remote Sensing Program (CRSP) Office at SSC. The Hyperspectral NRA will adapt and extend CRSP's partnership experience gained through the EOCAP and related programs to selected teams investigating hyperspectral technology. Because this NRA is focused on defining requirements and opportunities for technology improvement instead of producing a product, several of the governing programmatic aspects of EOCAP are relaxed. Specifically, there is no requirement for commercial project leadership and management, although industry must play a major role in any proposed effort. Also, there is no requirement for a specified level of verifiable cofunding, although proposers must cofund under an NRA. The amount of co-investment offered will be credited during the evaluation. Most of the successful aspects of past EOCAP's and related programs are retained, however, and include: close and sustained interaction between CRSP and the projects; flexibility in project administration combined with rigorous evaluation; and, measures of progress and success that are tuned to commercial experience.

1.2 Goal and Objectives

Proposers should be guided by the overall goal of the Hyperspectral NRA, that is to develop partnerships among the science and commercial remote sensing communities to extend relevant science results from OES research using hyperspectral data into more near-term prototype applications with direct relevance to public and private end-users. Specific objectives are to:

- Identify an applications project through which common and unique requirements for science and commercial users can be defined;
- Identify technology deficiencies or gaps and describe a method for solution based on applications research;
- Investigate improved data/information handling and delivery approaches and techniques.