

## A.47 SUSTAINABLE LAND IMAGING-TECHNOLOGY (SLI-T)

**NOTICE: This amendment presents a new opportunity in Program Element A.47. Two subelement areas are being solicited: 1) Advanced Technology Demonstrations (ATD) and 2) Technology Investments (TI) activities. Proposers must clearly state if they are proposing to the ATD or TI subelement area. Notices of Intent to propose are requested by January 22, 2016, and proposals are due March 30, 2016. An online question form will be posted and questions and responses will be posted, see Section 2.2. Proposers to this program do not need to submit a data management plan via the NSPIRES cover pages.**

### 1. Scope of Program

#### 1.1 Introduction

Since 1972, Landsat satellites and associated U.S. Government ground processing, distribution, and archiving systems have acquired and made available global, moderate-resolution (15-100m), multispectral measurements of land and coastal regions, providing humankind's longest, consistently processed record of Earth's land areas from space. NASA and the U.S. Geological Survey (USGS) of the Department of the Interior (DOI) fully recognize that this information is a national asset, representing an important and unique capability that benefits many communities, including Federal, state, and local governments; global change researchers; academia; and the private sector. Landsat data provide a consistent and reliable foundation for research on land use change, forest health, carbon inventories, and changes to the Earth's environment, climate, and natural resources – to name but a few. Until recently, however, there has been no enduring, robust, U.S. plan that would assure seamless and continuous acquisition of Landsat-like measurements in future decades.

In 2013, the NRC released a report entitled *Landsat and Beyond: Sustaining and Enhancing the Nation's Land Imaging Program*, which can be accessed on the web at <http://www.nap.edu/catalog/18420.html>. This report included a number of recommendations regarding the need for establishing a Sustained and Enhanced Land Imaging Program (SELIP).

The July 2014 *National Plan for Civil Earth Observations* states that the nation should "maintain a sustained, space-based, land-imaging program, while ensuring the continuity of 42 years of multispectral information and 36 years of thermal-infrared land-surface information from space, which are unique sources of terrestrial data for understanding land cover change."

In the President's FY 2016 budget request submitted to Congress in February 2015, the Administration detailed a multicomponent "Sustainable Land Imaging" (SLI) program to enable continuity in the acquisition of Landsat-like measurements for at least the next two decades. Components of the SLI program included immediate development of Landsat-9 as a near-copy of Landsat-8, to launch no later than 2023 and possibly as early as 2021; design and implementation of Landsat-10 with mission architecture decisions to be made in 2019-2020 and an expected launch in 2028-2030; and a continuing investment in land imaging-focused technology development. Of particular relevance to this program element, the technology

development program will ensure the timely maturation, evaluation, and eventual infusion of new measurement and processing approaches throughout the multidecadal duration of SLI. NASA has thus initiated a Sustainable Land Imaging – Technology (SLI-T) program to support innovative technology development activities leading to new Landsat-like instruments, sensors, components, and measurement concepts.

### 1.2 Goals of the Sustainable Land Imaging – Technology (SLI-T) Program

The goals of the SLI-T program are to research, develop, and demonstrate new measurement technologies that improve upon the Nation’s current land imaging capabilities while at the same time reducing the overall program cost for future SLI measurements. The SLI-T program seeks to:

- Reduce the risk, cost, size, volume, mass, and development time for the next generation SLI instruments, while still meeting or exceeding the current land imaging program capabilities;
- Improve the temporal, spatial, and spectral resolution of SLI measurements; and
- Enable new SLI measurements that can improve the program’s operational efficiency and reduce the overall costs of the Nation’s land imaging capabilities.

As discussed in more detail in Section 1.4 below, this program element requests proposals for technology development activities aimed specifically at: (1) demonstrating improved, innovative, full-instrument concepts for potential infusion into the architecture and design of Landsat-10; and (2) development and technical maturation at the component and/or breadboard-level of technologies that have long-term potential to significantly improve future land imaging instruments and systems through substantial architecture changes.

### 1.3 SLI-T Reference Mission Architecture (RMA)

In this Section, we define a baseline SLI-T Reference Mission Architecture, principally to guide the nearer-term innovative instrument technology developments that represent a major (but not exclusive) part of this program element. The baseline SLI-T reference mission consists of a single spacecraft. The orbit is based upon the current Landsat 8 orbit and assumes a repetitive, circular, Sun-synchronous, and near polar orbit at a nominal altitude of 705 km (438 miles) at the Equator. The system provides a nadir-pointing imaging opportunity for all the 185 km x 180 km scenes identified in the Landsat Worldwide Reference System-2 (WRS-2) grid at least once every 16 days. A description of the Worldwide Reference System-2 (WRS-2) is provided in more detail in the Landsat Data Continuity Mission Landsat Worldwide Reference System-2 (WRS-2) Definition document (# GSFC 427-02-07Revision –Code 427) and is available at <http://esto.nasa.gov/files/SLIT2015/WRS2Definition.pdf>.

Key performance drivers for the SLI-T RMA include continuation of Landsat data heritage in terms of image quality and compatibility, radiometric accuracies of the data, the spectral and spatial stability of the measurements over time, and the reproducibility of data. The reference mission bands are defined below in Table 1.

Key imaging performance parameters for the SLI-T RMA includes the imaging bands, the spectral, spatial, radiometric, geometric precision, geo-location and cartographic registration

performance. RMA key parameters can be found at:  
<http://esto.nasa.gov/files/SLIT2015/RMAKeyParameters.pdf>.

**Table 1: Baseline SLI-T Reference Mission Architecture Bands**

Band Number	Band	Resolution	Wavelengths (nm)
1	Coastal Aerosol	30 m	433 – 453
2	Blue	30 m	450 – 515
3	Green	30 m	525 – 600
4	Red	30 m	630 – 680
5	NIR	30 m	845– 885
6	SWIR 1	30 m	1560 – 1660
7	SWIR2	30 m	2100 – 2300
8	Panchromatic	15 m	500 – 680
9	Cirrus	30 m	1360 – 1390
10	Thermal 1	60 m	10300 -11300
11	Thermal 2	60 m	11500 – 12500

**1.4 Proposal Research Topics**

Proposals are sought that advance the goals and objectives of Sustainable Land Imaging through technology developments in two subelement topic areas:

- 1) Nearer-term Advanced Technology Demonstrations (ATD)
- 2) Longer-term Technology Investments (TI) activities

**Table 2: ATD and TI Technology Readiness Level (TRL) Range**

TRL:	1	2	3	4	5	6	7	8	9
			<b>Advanced Technology Demonstrations</b> Prototype Demonstrations				→ Infusion	Future SLI, EV, Tech Demo	
		<b>Technology Investments</b> Component-level Demonstrations				→ Infusion	Future: SLI, EV, ATD, Tech Demo		

**1.4.1 Advanced Technology Demonstrations (ATD)**

The ATD subelement area seeks prototypes or engineering model demonstrations of innovative instrument concepts that meet the objectives of the SLI-T program.

The proposed ATD activities should have an entry Technology Readiness Level (TRL) of 3-6 and result in the development of a prototype and/or engineering model that adequately addresses all critical scaling issues and should be demonstrated in a relevant environment.

**1.4.2 Technology Investments (TI)**

The TI subelement seeks components and/or breadboard demonstrations of instrument technologies that can be infused into future SLI measurement techniques.

Rapid advances in Earth science instrument technology are enabling considerably smaller instruments that may be able to meet many land imaging needs in the future. Rapid evolution of smaller satellites, when combined with increased launch opportunities, opens the possibility for many new approaches to land imaging mission implementation.

The proposed TI activities should have an entry TRL of 2 or higher and result in the validation of a component and/or breadboard in a relevant environment.

## 2. Preproposal Information

This section provides additional details regarding the activities prior to the proposal due date.

### 2.1 Notice of Intent to Propose

A Notice of Intent (NOI) to propose is encouraged, but not required, for the submission of proposals to this program element. The information contained in the NOI is used to help expedite the proposal review activities. NOIs shall be submitted electronically via NASA Solicitation and Proposal Integrated Review and Evaluation System (NSPIRES) by the due date given in Tables 2 and 3 in the *ROSES Summary of Solicitation*. Late NOIs, as well as indications of intent NOT to propose on an earlier NOI submission, may be submitted by E-mail to the point of contact for this program element, given in Section 7.

### 2.2 Virtual Q&A Session

An online question form is available online at [http://esto.nasa.gov/SLI2015\\_VBC/](http://esto.nasa.gov/SLI2015_VBC/) from December 28, 2015 – January 11, 2016. Proposers may submit their questions regarding this solicitation at any point during that window using the online form. Responses will be posted to that website and on the NSPIRES page for this program element under "other documents" by January 15, 2016. Please continue to check these websites periodically in case there are additional questions and answers posted. If there are additional questions and answers posted, a notice to this effect will appear on the NSPIRES page for this program element.

## 3. Proposal Content

This section provides additional details that govern the proposed activities. The requirements have been tailored to the specific call and supplement the general guidelines announced in the [\*NASA Guidebook for Proposers Responding to a NASA research Announcement \(NRA\) or Cooperative Agreement \(CAN\)\*](#) and are incorporated by reference into the ROSES solicitation. This document is hereafter referred to as the *Guidebook for Proposers*. The most recent editions of the *Guidebook for Proposers* may be accessed on the web at [www.hq.nasa.gov/office/procurement/nraguidebook/](http://www.hq.nasa.gov/office/procurement/nraguidebook/).

The required proposal content follows the format prescribed in the *Guidebook for Proposers*, Section 2.3 except in the case where additional information is needed to supplement this solicitation. Supplemental requirements are noted below (Applicable to both ATD and TI proposals).

### 3.1 Proposal Summary

NSPIRES requires a proposal summary and enforces our 4000-character limit on the length. The proposal summary includes: (a) objectives and benefits; (b) an outline of the proposed work and methodology; (c) the period of performance; and (d) entry and planned exit TRL.

### 3.2 Scientific/Technical/Management Section

This section must include the following content information in subsections that use the same titles. Failure to provide any of this material may be cause for the proposal being judged as noncompliant and returned without further review. The Project Description is limited to 20 nonreduced, single-spaced typewritten pages. Standard proposal style formats shall be in accordance with Table 1 of ROSES and Section 2.2 of the *Guidebook for Proposers*. Proposals that exceed the 20-page limit or in any way add extra text by violating formatting rules may be rejected without review.

The Project Description Section includes:

1. Description of Proposed Technology – Provide a description of the proposed new technology. Describe the technical approach and include an operational concept for the proposed technology that shows how it addresses future SLI needs. Discuss any deviations or exceptions to the SLI-T reference mission architecture and mission performance.
2. Applicability to SLI Measurements – Describe the benefits to future SLI missions that utilize the proposed technology and include a one-page relevancy scenario showing how the proposed technology contributes to one or more SLI measurements.
3. Comparative Technology Assessment – Describe the anticipated advantages of this technology compared to those currently in use - e.g., reduction of size, mass, power, volume or cost, improved performance, or enabling of a new capability not previously possible. Reference the current state of the art and relate it to the proposed work.
4. TRL Assessment – Define the starting point for the instrument technology or measurement technique and the exit or success criteria for the proposed activity. If proposed activity duration is for multiple years, advancement of one TRL per year is desirable. TRL definitions can be found at <http://esto.nasa.gov/files/TRL.doc>. The proposer must substantiate the entry TRL and identify the planned exit TRL in their proposal. Please refer to Table 2 to see the TRL ranges of the ATD and TI sub-elements.
5. Research Management Plan – Proposer must provide a statement of work that concisely describes each task and milestone to be accomplished in the course of the research and development. Define the success criteria associated with each task or milestone. Also include a schedule chart that identifies critical milestones. At least two milestones per twelve-month period must be defined. Subcontracting portions of the research project is acceptable, but overall management and reporting are the responsibility of the proposing organization.
6. Facilities and Equipment – Describe significant facilities and equipment required to complete the work. Before requesting funding to purchase a major item of capital equipment, the proposer should determine if sharing or loan of equipment already available within the proposing organization is a feasible alternative.

7. Special Matters – Proposers should include a brief description of the organization, its facilities, and previous work experience relevant to the proposal.
8. Quad Chart – Provide a Quad Chart as described in section 7.1. This quad chart is not included in 20-page limit for the Project Description Section.

#### 4. Evaluation Criteria

The three basic evaluation criteria are given in the ROSES summary of Solicitation Section VI (a) and Section C.2 of the *NASA Guidebook for Proposers* and they are Relevance, Merit, and Cost. Additional requirements specific and clarifications to SLI-T are listed below.

##### 4.1 Relevance

The basic definition of relevance is the degree to which the proposed investigation specifically supports the objectives of SLI-T program. This includes:

- The potential for the sensor or instrument technology development to reduce cost, size, and development time of future SLI instruments or to enable new SLI measurements. Potential cost reductions should be clearly stated and substantiated to the extent possible, with supporting analysis that indicates scalability;
- The potential of the sensor or instrument technology to be integrated, once matured, into future SLI missions;
- The potential for the sensor or instrument technology development to have commercial benefits.

##### 4.2 Intrinsic Merit

- Feasibility and merit of the proposed technical approach to achieve the technology development objectives;
- Degree of innovation of the proposed technology development concepts and approach;
- Past performance and related experience in the proposed area of technology development;
- Qualifications of key personnel and adequacy of facilities, staff, and equipment to support the proposed activity with a team that has strong technology development and instrument development skills, as well as any leveraging/teaming, such as with recent SBIR awards/awardees;
- Substantiated justification and appropriateness of the entry and exit TRL;
- Feasibility of obtaining the potential reduction in risk, cost, size, and development time, or making the newly enabled measurement, with the proposed sensor or instrument;
- Feasibility of making a demonstrable TRL increase. The TRL must advance at least one level over the duration of the project.

##### 4.3 Cost Realism and Reasonableness

- Adequacy and realism of proposed milestones and associated success criteria;
- Realism and reasonableness of the proposed cost and comparison of costs to available funds;
- Adherence to sound and consistent management practices appropriate to the TRL of the proposed task;

- Commitment of the organization's management to the proposed technology development (evidenced by prior teaming arrangements, etc.). Proposers should identify any previous investment by the organization/program and provide supporting documentation.
- Cost sharing is not part of the cost criteria, but cost sharing may become a factor at the time of selection when deciding between proposals of otherwise equal scientific and technical merit.

## 5. Award Information

### 5.1 Funding

The Government's obligation to make award(s) is contingent upon both the availability of appropriated funds from which payment can be made and the receipt of proposals that NASA determines are acceptable for award under this solicitation. No additional funds beyond the negotiated award value will be available. NASA does not allow for payment of profit to commercial firms under grant awards, and few fees are permitted, see <http://science.nasa.gov/researchers/sara/faqs/#16> for more information.

If a cost sharing arrangement is proposed, appropriate data rights that recognize the proposer's contributions, as well as the Government's rights to access, will be negotiated prior to award.

#### *5.1.1 Advanced Technology Demonstration Funding*

The total funding available for the Advanced Technology Demonstration subelement of the solicitation will limit the number and magnitude of the proposals awarded. It is anticipated that a total of three to four proposals will be selected with the value of each to be approximately \$1.2 - \$1.6 million per year.

#### *5.1.2 Technology Investment Funding*

The total funding available for the Technology Investment subelement of the solicitation will limit the number and magnitude of the proposals awarded. It is expected that a total of three to four proposals will be selected with the value of each to be approximately \$300,000 per year.

### 5.2 Period of Performance

#### *5.2.1 Advanced Technology Demonstration Period of Performance*

The period of performance is one year, with options for a second, third, fourth, and fifth year. Proposals must provide clear, measurable milestones for each year of performance in order to warrant continuation in the second, third, fourth, and fifth years.

#### *5.2.2 Technology Investment Period of Performance*

The minimum period of performance is one year with options for a second and third year. Proposals must provide clear, measurable milestones for each year of performance in order to warrant continuation in the second and third years.

## 6. Technical Reporting Requirements

The Earth Science Technology Office (ESTO) will provide assistance in managing performance of the awards made under this solicitation. Once awarded, all status information, presentation material, and report deliverables applicable to this solicitation will be submitted to the web-based ESTO Reporting System (ERS). A user account on the ESTO ERS will be provided to the PI upon award. Due to NASA IT security requirements, all PIs must register with Identity Management and Account Exchange (IdMAX) system before a user account on ERS will be established. To create an IdMAX account, some personal information will be required.

The following deliverables are required of awarded proposals. In cases where subcontract arrangements exist, consolidated project reports are the responsibility of the PI. The proposed budget should provide for these reporting requirements. In this context, "Annual" refers to a twelve-month task effort that commences at award.

### 6.1 Initial Plans and Reports

Within 15 days of award, provide an updated Project Plan, initial Quad Chart, and initial TRL assessment. Provide a monthly obligation and cost phasing plan for the entire period of performance. These documents shall be uploaded to the appropriate locations in the ESTO ERS for this solicitation.

The project plan shall identify all technical, schedule, and resource activities for the proposed life of the project.

The Quad Chart shall contain the following information:

- Upper Left Quadrant: "Objectives"
- Lower Left Quadrant: "Approach" and "Co-Is (Co-Investigators)/Partners"
- Upper Right Quadrant: A visual, graphic, or other pertinent information
- Lower Right Quadrant: "Milestone Schedule" and "Entry TRL."

Proposers are required to update the Quad Chart at least annually and more often, if appropriate. A template is available in the ESTO ERS under "Information" and "File Templates" or the template and example of the quad chart can be downloaded from [http://esto.nasa.gov/files/EntryQuad\\_instructions\\_template.ppt](http://esto.nasa.gov/files/EntryQuad_instructions_template.ppt).

Proposers will provide an initial TRL assessment, and the basis for that assessment, within the critical technology developments of the activity. Proposers are required to update the TRL assessment at least annually, or more often, if appropriate.

### 6.2 Bimonthly Technical Reports

The bimonthly technical report will focus on the preceding two month's efforts. Each report should address:

1. Technical status: Summarize accomplishments for the preceding two months, including technical accomplishments (trade study results, requirements analysis, design, etc.), technology development results, and results of tests and/or demonstrations.

2. Schedule status: Address the status of major tasks and the variance from planned versus actual schedule, including tasks completed, tasks in process, tasks expected to complete later than planned, and tasks that are delayed in starting, with rationale for each and recovery plans as appropriate.

Proposers should upload their Bimonthly Technical Reports to the appropriate location in the ESTO ERS at two-month intervals, starting on the second-month anniversary date of the start date specified in the award vehicle. In months for which the PI is providing interim or annual review, the requirement for a bimonthly report is superseded by the interim or annual review requirements discussed in the next two sections.

Reports may be submitted in PDF, Microsoft Word, or Microsoft PowerPoint compatible file formats by the required due date, or by close of business of the first workday following the due date if the due date falls on a weekend or a holiday. A teleconference or brief meeting may be conducted between the ESTO and the PI to review and discuss each report.

### 6.3 Interim Reviews

An Interim Review occurs at the end of the first six-month calendar period commencing from the date of award and at twelve-month intervals thereafter. The PI must provide a presentation summarizing the work accomplished and results leading up to this Interim Review and must:

1. Describe the primary findings, technology development results, and technical status, e.g., status of design, construction of breadboards or prototype implementations, results of tests and/or proof-of-concept demonstrations, and other relevant progress.
2. Describe the work planned for the remainder of the project and critical issues that need to be resolved to successfully complete the remaining planned work;
3. Summarize the cost and schedule status of the project, including any schedule slippage/acceleration. A schedule milestone chart of all major task activities shall be created and maintained and shown at all reviews. A cost data sheet shall be created and maintained, showing total project costs obligated and costed, along with a graphical representation of the project cost profile to completion;
4. Provide a summary of anticipated results at the end of the task; and
5. At the second review and subsequent reviews, address the comments and recommendations prepared by the reviewers participating in the most recent review.

The Interim Review will be conducted via teleconference and uploaded to the appropriate location in the ESTO ERS at least three (3) working days prior to the review. Following the review, the presentation, updated in accordance with comments and discussion resulting from the review, will constitute the Interim Report and be uploaded to the appropriate location in the ESTO ERS within ten days after the review.

### 6.4 Annual Review

An Annual Review occurs at the end of each twelve-month calendar period commencing from the date of award. The Annual Reviews are similar to the Interim Reviews and include all of the products required at an Interim Review with the following exceptions:

1. The review is held at the PI's facility or a mutually agreed to location.
2. An independent technical reviewer from an organization separately funded by ESTO may participate in the review.
3. The PI may provide a laboratory demonstration, if appropriate, to show technical results and status.
4. Report any educational and outreach components of the project, e.g., graduate degrees, educational activities; technology infusion or patents applied for or granted; journal or conference publications; presentations at professional conferences, seminars and symposia; demonstrations; media exposure; and, other activities that contributed to the overall success of the research project.
5. The Annual Review should be comprehensive, and should cover the progress over the previous twelve months.

The review package will be uploaded to the appropriate location in the ESTO ERS at least three (3) working days prior to the review. The presentation, updated in accordance with comments and discussion resulting from the review will constitute the Annual Report deliverable and be uploaded to the appropriate location in the ESTO ERS within ten days after the review.

#### 6.5 Final Review and Final Report

The Final Review occurs at the completion of the activity. The Final Review is similar to the Annual Reviews and includes all of the products required at an Annual Review. In addition, the Final Review must provide conclusions of the work performed and make recommendations for follow-on activities that should be pursued, with estimates of the cost and schedule to advance the TRL to the next level.

The written Final Report will include the following:

1. Background of the project, including the SLI-related rationale for conducting this technology development;
2. Results of all analyses, element, subsystem, or system designs, breadboards and/or prototyping implementations and designs;
3. Performance analysis results of tests and/or demonstrations; estimation of reduction(s) in size, mass, power, volume and/or cost; improved performance; description of newly enabled capability; and documentation of technology dependencies;
4. Tables, graphs, diagrams, curves, sketches, photographs, and drawings in sufficient detail to comprehensively explain the results achieved;
5. An updated TRL assessment, including a rough order of magnitude cost and a description and estimate of the duration of the follow-on activities necessary to advance the TRL to next level;
6. Updated Quad Chart; and
7. At the end of the period of performance, the PI will provide an Accomplishments Chart which contains the following information (a template is available in the ERS):
  - Upper Left: "Objectives."
  - Upper Right: A visual, graphic, or other pertinent information.
  - Middle: "Accomplishments."
  - Bottom: "Co-Is" (name and affiliation), "Entry TRL" and "Exit TRL."

Please note that the Accomplishments Chart differs somewhat from the Quad Chart required within the proposal content.

The Final Report, updated Quad Chart or Accomplishments Chart, and updated TRL assessment will all be uploaded with the updated Final Review presentation to the appropriate locations in the ESTO ERS within thirty days of the final review.

#### 6.6 Earth Science Technology Forum and Workshops

The awardee is encouraged to participate in the Earth Science Technology Forum (ESTF) if held. The ESTF is an opportunity for NASA planners, managers, technologists and scientists to review the research funded by ESTO. It is also an opportunity for researchers from NASA, academia and industry to meet with their peers and to better understand NASA Earth science requirements.

#### 7. Summary of Key Information

Expected program budget for first year of new awards	ATD: Up to ~\$4.8M TI: Up to ~\$1.2M
Number of new awards pending adequate proposals of merit	ATD: 3-4 awards TI: 3-4 awards
Duration of awards	ATD: Minimum 1-year / Maximum 5-year awards TI: Minimum 1-year / Maximum 3-year awards
Due Date for Notice of Intent to Propose (NOI)	January 22, 2016. See Tables 2 and 3 in the <i>ROSES Summary of Solicitation</i> .
Due date for delivery of proposals	March 30, 2016. See Tables 2 and 3 in the <i>ROSES Summary of Solicitation</i> .
Page length for the central Science-Technical-Management section of proposal	20 pp; see also Chapter 2 of the <i>NASA Guidebook for Proposers</i> and Section 3.2 of this solicitation.
Relevance	This program is relevant to the Earth Science questions and goals in the NASA Science Plan; see Table 1 of ROSES and the reference therein. Proposals that are relevant to this program are, by definition, relevant to NASA.
General information and overview of this solicitation	See the <i>ROSES Summary of Solicitation</i> .
Detailed instructions for the preparation and submission of proposals	See the <i>NASA Guidebook for Proposers</i> at <a href="http://www.hq.nasa.gov/office/procurement/nraguidebook/">http://www.hq.nasa.gov/office/procurement/nraguidebook/</a> .
Submission medium	Electronic proposal submission is required; no hard copy is required or permitted. See also Section IV of the <i>ROSES Summary of Solicitation</i> and Chapter 3 of the <i>NASA Guideline for Proposers</i> .
Web site for submission of proposal via NSPIRES	<a href="http://nspires.nasaprs.com/">http://nspires.nasaprs.com/</a> (help desk available at <a href="mailto:nspires-help@nasaprs.com">nspires-help@nasaprs.com</a> or (202) 479-9376)

Web site for submission of proposal via Grants.gov	<a href="http://grants.gov/">http://grants.gov/</a> (help desk available at <a href="mailto:support@grants.gov">support@grants.gov</a> or (800) 518-4726)
Funding opportunity number for downloading an application package from Grants.gov	NNH15ZDA001N-SLIT
NASA point of contact concerning this program	Robert Connerton Science Mission Directorate Earth Science Technology Office Telephone: (301) 286-3404 E-mail: <a href="mailto:Robert.m.connerton@nasa.gov">Robert.m.connerton@nasa.gov</a>

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