



**National Aeronautics and Space Administration**

**Office of Education**

**Education Programs Integration Division**

**FY 2008 NASA Research Announcement (NRA)**

**Global Climate Change Education  
(GCCE)**

Announcement No. NNH08ZNE005N  
Catalog of Federal Domestic Assistance (CFDA) Number: 00.000

|                              |                         |
|------------------------------|-------------------------|
| <b>Release Date:</b>         | <b>July 18, 2008</b>    |
| <b>Notice of Intent Due:</b> | <b>August 29, 2008</b>  |
| <b>Proposals Due:</b>        | <b>October 24, 2008</b> |

NASA Headquarters  
Office of Education  
Washington, DC 20546-0001

## **Summary of Key Information**

### **Announcement No. NNH08ZNE005C**

#### **Global Climate Change Education (GCCE)**

The National Aeronautics and Space Administration (NASA) Office of Education, in cooperation with NASA's Science Mission Directorate, solicits proposals for the NASA Global Climate Change Education (GCCE) project. The GCCE project is designed to improve the quality of global climate change and Earth system science education at the elementary, secondary, and undergraduate levels. Each funded proposal is expected to take advantage of NASA's unique contributions in climate science to enhance students' academic experiences and/or to improve educators' abilities to engage and stimulate their students.

#### **Funding Categories**

The GCCE project considers proposals in three funding categories. Proposals are invited which:

- Improve K-12 teacher competency for global climate change education;
- Strengthen the teaching and learning about global climate change within formal education systems; and/or
- Provide opportunities for undergraduate students, pre-service teachers, and/or in-service teachers to actively engage in global climate change science research.

#### **Inquiries**

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### **Solicitation Availability**

This announcement is accessible through the NASA Solicitation and Proposal Integrated Review and Evaluation System (NSPIRES) and through Grants.gov.

To access through NSPIRES, go to <http://nspires.nasaprs.com> and click on Solicitations.

To access through Grants.gov, go to <http://www.grants.gov/search/agency.do> and select the link for NASA.

### **Useful Websites**

URLs for websites, documents, programs, projects and resources referenced in this announcement are provided in Appendix D. They are not provided in the main body.

### **Selecting Official**

The selecting official for this NRA is the Assistant Administrator for Education at NASA Headquarters.

### **Number and Size of Award**

It is anticipated that approximately 20 small awards and 4 larger awards will be made under this announcement pursuant to the authority of the *NASA Grant and Cooperative Agreement Handbook* (<http://ec.msfc.nasa.gov/hq/grcover.htm>), Section 1260.12(c)(2). Small awards may be up to \$150,000, in total, dispersed over a period of up to 2 years. Larger awards may be up to \$500,000, in total, dispersed over a period of up to 3 years.

### **NASA Safety Policy**

Safety is the freedom from those conditions that can cause death, injury, occupational illness, damage to or loss of equipment or property, or damage to the environment. NASA's safety priority is to protect: (1) the public, (2) astronauts and pilots, (3) the NASA workforce (including employees working under NASA award instruments), and (4) high-value equipment and property.

### **Proposal Submission**

All information needed to respond to this solicitation is contained in this NRA and in the companion document entitled *Guidebook for Proposers Responding to a NASA Research Announcement January 2008 Edition* (hereafter referred to as the *NASA Guidebook for Proposers*). This document is located at <http://www.hq.nasa.gov/office/procurement/nraguidebook>. Note: When the information contained in this NRA differs from the *NASA Guidebook for Proposers*, this NRA takes precedence.

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## **I. Introduction**

The National Aeronautics and Space Administration (NASA) Office of Education, in cooperation with NASA's Science Mission Directorate, solicits proposals for the NASA Global Climate Change Education (GCCE) project. The GCCE project is designed to improve the quality of global climate change and Earth system science education at the elementary, secondary, and undergraduate levels. Each funded proposal is expected to take advantage of NASA's unique contributions in climate science to enhance students' academic experiences and/or to improve educators' abilities to engage and stimulate their students.

The goals of the GCCE project are to use NASA's unique contributions to climate and Earth system science to:

- improve the teaching and learning about global climate change in elementary and secondary schools and on college campuses;
- increase the number of students, particularly high school and undergraduate students, using NASA Earth observation data/NASA Earth system models to investigate and analyze global climate change issues;
- increase the number of undergraduate students prepared for employment and/or to enter graduate school in technical fields relevant to global climate change; and
- increase access to high quality global climate change education among students from groups historically underrepresented in science.

Awards made as a result of this NRA will be in the form of education grants following guidance described in Title 31 United States Code Section 6304. Funding authorization for this NRA is provided through Public Law 110-161.

## **II. Background**

NASA's GCCE project is motivated by recommendations made in the National Research Council report *Earth Science and Applications from Space: National Imperatives for the Next Decade and Beyond*. This Earth decadal study identifies responding to our changing planet as one of the greatest and most important intellectual challenges facing humanity. It specifies that both the acquisition of new knowledge about the Earth system and the utilization of Earth observation data are equally important in meeting the complex challenges of global change.

The Earth decadal study acknowledges the influence that K-12 and university science educators have on the scientific literacy of future scientists, teachers, and the public as a whole. It recommends helping K-12 and university educators learn about new Earth observing systems so that they may integrate this information into their curricula. Student training and mentoring programs, including opportunities for hands-on experience, are also specified as necessary components to building a strong, diverse, and qualified technical workforce. Experiences beyond the traditional classroom setting connect students with the professional world, broaden the scope of student understanding, and help students establish relationships with future employers and colleagues.

The GCCE project also considers the recommendations put forth in the National Academies

report, *Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future*. *Rising Above the Gathering Storm* proposes broad recommendations for enhancing our Nation's science and technology capabilities, including recommendations for improving K-12 science and mathematics education. The GCCE project is designed to strengthen the skills of teachers and provide innovative science research and learning opportunities for students, two of the actions recommended in the report.

### **III. Global Climate Change**

Measurements of sea and air surface temperature over the past century demonstrate that Earth's climate is changing. Observational evidence shows that the changing climate is affecting natural systems across the globe. The Intergovernmental Panel on Climate Change *Fourth Assessment Report: Climate Change 2007* shows, for example, that observed widespread melting of snow and ice, earlier timing of spring events, rising global average sea level, and changing precipitation patterns are consistent with the warming of the climate system. Such changes can have far-reaching consequences for society by affecting water resources, food supplies, human health, biodiversity, land-use, insurance and many other social and economic factors. Allocations of resources and economic consequences of climate change have significant implications for society. NASA's role in climate change is to contribute to the scientific basis for sound decision making and to facilitate the development of educational activities so that society can appropriately use this information.

### **IV. Strategic Framework for NASA**

#### **A. National and Agency Priorities for Earth Observations and Climate**

NASA's Mission to *pioneer the future in space exploration, scientific discovery, and aeronautics research*, draws support from the Science Mission Directorate (SMD) Earth Science Program. The SMD is responsible for achieving NASA Strategic Goal 3A, "Study Earth from space to advance scientific understanding and meet societal needs" as identified in the *2006 NASA Strategic Plan*. This goal is driven by the fundamental question: "How is the Earth changing and what are the consequences for life on Earth?" To address this question, the Earth Science Program sponsors research to develop a scientific understanding of the Earth system and its response to natural or human-induced changes, and to improve prediction of climate, weather, and natural hazards. NASA's Earth science research activities are organized into six interconnected science focus areas: atmospheric composition; weather; carbon cycle and ecosystems; water and energy cycle; climate variability and change; and Earth surface and interior. These six focus areas guide the development of Earth observing capabilities and Earth system models.

Earth observation and data collection are fundamental to climate science. Long-term data records are required to increase understanding of climate and Earth system processes, to detect climate change and variability, and to predict future climate change. NASA operates a comprehensive Earth observing system that combines observations from satellites; suborbital platforms, such as aircraft and balloons; surface instruments, such as carbon-flux towers and ocean buoys; and major experiments and field campaigns.

NASA currently has 14 operating Earth observing satellites that provide global observations of the ocean, atmosphere, land surface, biosphere, and solid Earth. Within this suite of satellites,

NASA has deployed new types of sensors that greatly enhance our ability to understand and predict climate. CloudSat, for example, uses advanced radar to “slice” through clouds to see their vertical structure, providing a completely new observational capability from space. The CALIPSO satellite flies a 3-channel lidar with a suite of passive instruments in formation with the Aqua satellite to obtain coincident observations of radiative fluxes and atmospheric conditions. This enables new observationally based assessments of the radiative effects of aerosol and clouds.

CloudSat, CALIPSO, and Aqua are flown in formation with Aura and Parasol to form the A-Train satellite constellation. The A-Train satellites observe the same portion of the Earth over a short period of time to provide coherent time series and facilitate the use of extensive data sets in the development of climate models. The launch of the Orbiting Carbon Observatory, scheduled for December 2008, will complete the A-Train constellation.

NASA has seven additional Earth observation missions in formulation and development. These missions will include first-time measurements of parameters driving important climate processes including global carbon dioxide from the Orbiting Carbon Observatory, sea surface salinity from Aquarius, and aerosol properties from Glory.

Suborbital and ground-based programs are integral to NASA’s Earth observation system. They provide measurements for the calibration and validation of satellite missions and serve as field laboratories for the development of space borne missions. They also provide higher-resolution measurements for local and regional scale investigations. Together, observations from space, suborbital and ground-based platforms contribute to a unique, integrated perspective of the Earth system. More detailed information on NASA Earth science missions and data resources can be accessed through the NASA Earth Science web site.

NASA’s investments in Earth observation have directly contributed to improved scientific understanding of the Earth system and have resulted in unintended practical benefits for society. The National Research Council report, *Earth Observations from Space: The First 50 Years of Scientific Achievements*, describes how the availability of synoptic views of the Earth, uniquely provided by satellite observations, has revolutionized Earth studies. NASA’s Earth science research results have been applied in ways beyond their intended purpose of answering pressing Earth system science questions. NASA’s Applied Sciences Program systematically evaluates the potential of these research results to serve society by conducting projects with Federal agencies and other entities that have operational decision-making responsibilities. National applications include agricultural efficiency, air quality, aviation, carbon management, coastal management, disaster management, ecological forecasting, energy management, homeland security, invasive species, public health, and water management.

NASA’s Earth Science Program is described in detail in Chapter 4 of the *Science Plan for NASA’s Science Mission Directorate 2007-2016*. The GCCE project extends the results of the Earth Science Program to the education community by sponsoring unique and stimulating opportunities for global climate and Earth system science education.

## **B. NASA Education Strategy and Framework**

High achievement in science, technology, engineering and mathematics (STEM) education is essential to the accomplishment of NASA's mission. NASA contributes to national efforts for achieving excellence in STEM education through a comprehensive education portfolio implemented by the Office of Education, the Mission Directorates, and the NASA Centers.

The *NASA Education Strategic Coordination Framework* aligns NASA's education portfolio with the *2006 NASA Strategic Plan* and creates an agency-wide strategic planning, implementation and evaluation framework for NASA's investments in education. The plan encompasses all education efforts undertaken by NASA and guides the Agency's relationships with external education partners. Proposers are strongly encouraged to become familiar with this document.

NASA is pursuing three major education goals:

- **Strengthen NASA and the Nation's future workforce**—NASA will identify and develop the critical skills and capabilities needed to ensure achievement of its mission priorities. To help meet this demand, NASA will continue contributing to the development of the Nation's STEM workforce of the future through a diverse portfolio of education initiatives that target America's students at all levels, especially those in traditionally underserved and underrepresented communities.
- **Attract and retain students in STEM disciplines**—To compete effectively for the minds, imaginations, and career ambitions of America's young people, NASA will focus on engaging and retaining students in STEM education programs to encourage their pursuit of educational disciplines critical to NASA's future engineering, scientific, and technical missions.
- **Engage Americans in NASA's mission**—NASA will build strategic partnerships and linkages between STEM formal and informal education providers. Through hands-on, interactive educational activities, NASA will engage students, educators, families, the general public, and all Agency stakeholders to increase Americans' science and technology literacy.

Three associated outcomes align all education activities:

- **Outcome 1 (Higher Education):** Contribute to the development of the STEM workforce in disciplines needed to achieve NASA's strategic goal through a portfolio of investments.
- **Outcome 2 (Elementary and Secondary Education):** Attract and retain students in STEM disciplines through a progression of educational opportunities for students, teachers, and faculty.
- **Outcome 3 (Informal Education):** Build strategic partnerships and linkages between STEM formal and informal education providers that promote STEM literacy and awareness of NASA's mission.

The GCCE project directly supports Outcomes 1 and 2 of the NASA Education portfolio by contributing to the accomplishment of the following associated objectives:

- **Higher Education Objective: Student Support**—Provide NASA competency-building



education and research opportunities to individuals to develop qualified undergraduate students who are prepared for employment in STEM disciplines at NASA, industry and higher education.

- **Higher Education Objective: Student Involvement Higher Education**—Provide opportunities for groups of post-secondary students to engage in authentic NASA-related, mission based research and development activities.
- **Higher Education Objective: Course Development**—Develop NASA-related post-secondary course resources for integration into STEM disciplines.
- **Elementary and Secondary Education Objective: Educator Professional Development Long Duration**—Provide long duration and/or sustained professional development training opportunities to educators that result in deeper content understanding and/or confidence in teaching STEM disciplines.
- **Elementary and Secondary Education Objective: Student Involvement K-12**—Provide K-12 students with authentic first-hand opportunities to participate in NASA mission activities, thus inspiring interest in STEM disciplines and careers.

The NASA education portfolio is based on the overarching philosophy of cultivating diversity. NASA recognizes that the knowledge, expertise, and unique background and life experiences of each individual strengthen the Agency. The GCCE project seeks proposals that give sincere consideration to this philosophy.

Within the overarching philosophy of cultivating diversity, there are six operating principles that form the basis by which every NASA education program, project or activity is developed, implemented, and evaluated. The operating principles are: relevance, content, diversity, evaluation, continuity, and partnerships/sustainability. These principals are defined in the *NASA Education Strategic Coordination Framework*.

## **V. Project Overview and Guidelines**

### **A. Funding Overview**

The GCCE project considers proposals in three funding categories. Proposals are invited which:

- Improve K-12 teacher competency for global climate change education;
- Strengthen the teaching and learning about global climate change within formal education systems; and/or
- Provide opportunities for undergraduate students, pre-service teachers, and/or in-service teachers to actively engage in global climate change science research.

There are two levels of award possible under this announcement. Small awards may be up to \$150,000, in total, dispersed over a period of up to 2 years. Larger awards may be up to \$500,000, in total, dispersed over a period of up to 3 years. It is anticipated that approximately 20 small awards and 4 larger awards will be made.

Proposals submitted for small awards are to initiate highly innovative activities, extend past projects for wide replication, and/or test proof-of-concept projects, among others. Proposals for

larger awards are to be based on innovative applications of successful models for improving STEM education. They are expected to have a broader impact, involve appropriate partners, and result in large-scale institutionalization.

All proposals are to include a plan for sustainability and/or continuation beyond the funding period. It is expected that projects will demonstrate self-sustainability or will be developed to the level of maturity needed to compete for other sources of funding. Proof-of-concept and other proposals requiring additional funding for continuation most include a funding plan. At this time, NASA has no plans to extend funding beyond initial award.

Proposals submitted in response to this announcement are to be informed by current evidence-based research on teaching and learning. They should be grounded in an Earth system science approach and should integrate current global climate change research into proposed education activities. All proposals are expected to make use of NASA's unique contributions to climate and Earth system science, including the use of NASA Earth observation data/NASA Earth system models.

NASA recognizes the potential that technology offers for enriching STEM education. The GCCE project seeks proposals that use innovative applications of technology and e-education. This solicitation also encourages proposals that increase usage of and/or add value to existing resources as well as those that leverage productive, ongoing education and research efforts. Exemplary projects include, but are not limited to, GLOBE, Earth System Science Education for the 21<sup>st</sup> Century (ESSE 21), Earth System Science Education Alliance (ESSEA), Minorities Striving and Pursuing Higher Degrees of Success in Earth System Science (MS PHDs), Digital Learning Network (DLN), NASA Explorer Schools (NES), and the NASA Undergraduate Student Research Project, among others. Proposers are referred to the "For Educators" link on the NASA home page for a complete list of education projects and resources administered through the Office of Education and to the *2007-2008 Earth Science Education Brochure* for a guide to existing NASA Science Mission Directorate Earth system science educational projects and resources. Proposals for the development of stand-alone modules, CDs, web sites, etc. are discouraged.

The federal government uses the Program Assessment Rating Tool (PART) to assess performance of federally funded programs. Proposals funded under this announcement will be expected to contribute to NASA's PART measurements for education. Details on NASA's PART requirements will be made available at the time of award. Contributions of individual projects will also be determined at this time. NASA's PART measures and plans can be found at [Expectmore.gov](http://Expectmore.gov).

Proposers should not request funds for activities that would be perceived by reviewers as part of their normal duties nor should they request funds for activities generally supported by basic research grants. Additional information on proposal content is provided in Section VI. Proposal Preparation.

## **B. Descriptions of Funding Categories**

Proposals may be submitted under one of three funding categories. While it is recognized some proposals may include elements appropriate to more than one category, proposers are asked to identify the category the proposed effort is most aligned with. Proposers will be asked to identify the funding category through the proposal submission process.

### **Funding Category 1: Improve Teacher Competency for Global Climate Change Education**

NASA recognizes that teacher content knowledge has positive consequences on student achievement. This funding category supports K-12 pre-service and in-service teacher education. Proposals should emphasize both enhancing teacher content knowledge in global climate change and Earth system science, and strengthening teacher understanding of how to teach about global climate change. Proposals should articulate, in reasonable detail, how teachers will apply knowledge gained through participation in the proposed activity to the classroom. Proposers should also identify where NASA-unique content and global climate change education will be integrated into the curriculum.

Pre-service teacher education proposals should include active participation from schools of education, teacher certification programs and/or other appropriate academic departments. Proposals for in-service professional development should involve schools, school districts, state departments of education, or other administrative institutions, where appropriate. Proposals that facilitate interaction and coordination of curricular activities among teachers from more than one discipline are welcome.

### **Funding Category 2: Strengthen the Teaching and Learning About Global Climate Change Within Formal Education Systems**

Proposals submitted under this heading should offer innovative proposals for strengthening the teaching and learning about global climate change. Proposed activities are to be executed within the framework of a formal education system. They may be targeted towards the elementary, secondary and/or undergraduate levels and may emphasize activities that take place inside or outside the classroom.

Proposals that offer unique, hands-on opportunities for students, particularly high school and undergraduate students, to use NASA Earth observing data/NASA Earth system models to investigate and analyze global climate change issues are encouraged. Similarly, those which use Earth observation data to empower students to become more engaged with global climate change issues by helping them better understand the scope and science behind specific issues are also encouraged. The GCCE project also seeks proposals that initiate academic programs in global climate change as well as those that develop or enhance courses and curricula, particularly at high schools, two-year colleges, community colleges, technical colleges, and minority serving institutions.

### **Funding Category 3: Provide Opportunities for Undergraduate Students, Pre-Service Teachers, and/or In-Service Teachers to Actively Engage in Global Climate Change Science Research**

This funding category is intended to actively engage a number of undergraduate students in global climate change science research. Proposals that extend research opportunities to pre-

service and/or in-service teachers are welcome and encouraged as are those which target students in settings with limited opportunities to engage in research, for example, community colleges. Opportunities for undergraduates may target those students who have already committed to STEM degrees or may target students earlier in their academic program as a means of attracting them to STEM and global climate change science. Opportunities for pre-service teachers should target those who are pursuing STEM certification at the elementary or secondary level. Similarly, opportunities for in-service teachers should be targeted at STEM teachers. Proposed efforts are to support groups of participants as opposed to individuals so that participants have opportunities to learn from and interact with each other.

The purpose of this funding category is to help students and teachers gain a sound understanding of what it means to engage in scientific research through active participation in the process. Proposed research opportunities can be associated with larger, ongoing research efforts or can be specifically designed for the proposed activity. The critical component is that students are engaged in unique, well-defined research activities that can be fully executed over the project's duration. Proposals should include examples of research opportunities along with a discussion of the recruitment and selection process. Of particular importance to this funding category is that participants have regular interaction with research mentors and peers. It is not intended for research investigators to supplement their research activities by supporting technical assistants. It is expected that over the course of the project duration, participants will become increasingly independent and better able to direct their own research activities.

Opportunities for pre-service teachers should include a discussion of how teachers could apply knowledge gained from the research experience to the classroom. Similarly, opportunities for in-service teachers should include a discussion of how knowledge gained from the research experience will be incorporated into the classroom.

### **C. Eligibility Information**

Proposals will only be accepted from educational institutions or other nonprofit organizations pursuant to the authority of the *NASA Grant and Cooperative Agreement Handbook* Section 1260.12(c)(2). NASA Centers, Federal Agencies, Federally Funded Research and Development Centers, education-related companies and other institutions may apply through partnership with the lead organization.

Individuals from organizations other than educational institutions or other nonprofit organizations may be identified in a proposal as a Co-Investigator or other type of team member/collaborator except Principal Investigator. Proposals that include the participation of an individual from a NASA Center or JPL must include a letter of support acknowledging his/her participation signed by the Center Education Director and other cognizant officials, where appropriate.

Requests for funds to NASA Centers, including JPL, other Federal Agencies, including Federally Funded Research and Development Centers, are to be in the form of subawards. Subawards should include a budget narrative and detail for any proposed work or travel that is to be performed by Civil Service/contractor workforce.

Any collaborative proposal involving a Tribal College or University (TCU) in which a non-TCU is the lead institution must include, among supporting documents, letters of support from the TCU signed by an authorized representative of the institution (e.g. president, chief academic officer, or director of sponsored programs).

An individual may be a Principal Investigator or Co-Investigator on only one proposal submitted under this competition. No limits are placed on the number of proposals submitted by an institution.

#### **D. Notice of Intent**

Individuals planning to submit a proposal in response to this announcement are **required** to submit a Notice of Intent (NOI). The information provided in the notice will be used to determine the expertise required of merit reviewers. NOIs are to be submitted by the Principal Investigator through NSPIRES not later than 11:59 p.m. Eastern Time, August 29, 2008.

The non-binding NOI must include the title and summary (approximately 200-300 words) of the proposed activity.

#### **E. Announcement of Solicitation Updates**

Additional programmatic information for this NRA may develop before the proposal due date. If so, such information will be added as a formal amendment to this NRA as posted to its homepage on <http://nspires.nasaprs.com>. Similarly, any clarifications or Frequently Asked Questions that arise will be posted the homepage. **It is the responsibility of the proposer to regularly check this NRA's homepage for updates.**

#### **F. Cancellation of Announcement**

NASA Office of Education reserves the right to make no awards under this NRA and to cancel this NRA. NASA assumes no liability (including bid and proposal costs in case of cancellation) for canceling the NRA or for anyone's failure to receive an actual notice of cancellation.

#### **G. Inquiries**

Technical and scientific questions about this NRA may be directed in writing to:

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## VI. Proposal Preparation

Required elements of the proposal are described below and must be submitted as one or more PDF documents that are uploaded for proposal submission. Please refer to Appendix A for more information on proposal submission procedures. Section 2.2 of the *NASA Guidebook for Proposers* provides guidelines for style formats.

| Proposal Content   | Page Guideline   |
|--|------------------|
| <p><b>Proposal Cover Pages:</b> Cover Pages contain the following:</p> <p><b>Proposal Information:</b> PI information, proposal title, proposed start and end dates, submitting institution information, certification and authorization</p> <p><b>Team Members:</b> Names and contact information</p> <p><b>Project Summary (200-300 words):</b> Provide a brief description of the project, objectives, method of approach, and outcomes.</p> <p><b>Budget Figures:</b> Include figures for all years of the proposed project in the spaces provided.</p> <p>Note the length of the proposal cover page will vary from proposal to proposal.<br/>Sample first page of Cover Pages located in Appendix B of this NRA.</p>   | varies           |
| <p><b>Table of Contents</b></p>  | 1-2 pages        |
| <p><b>Project Description:</b> A detailed description of the proposed effort. It should address the following items:</p> <p><b>Project Purpose:</b> Define the educational need the proposed effort will address and clearly describe how NASA resources will be used to meet that need. Describe how proposed effort will contribute to NASA’s education priorities and identify the specific NASA education outcome/s and objective/s it supports. Identify collaborators and discuss how the proposed effort aligns with the goals of the participating entities. Clearly define target audience.</p> <p><b>Goals and Objectives:</b> Clearly state goals and objectives for the proposed effort and provide a rationale for the approach that will be used to achieve them. Include discussion of any best practices and/or lessons learned used to inform approach.</p> <p><b>Project Content:</b> Clearly describe the proposed effort and how the goals and objectives will be achieved. Describe the research base on which the project is grounded.</p> <p><b>Anticipated Results:</b> Describe the anticipated results of the proposed effort.</p> <p><b>Timeline:</b> Include a timeline for achieving stated goals and objectives, including significant milestones.</p> | maximum 15 pages |

| Proposal Content  | Page Guideline   |
|---|------------------|
| <p><b>Sustainability:</b> Include discussion of how project will be sustained beyond funding period.</p> <p><b>Dissemination:</b> Outline plan for disseminating results to broader community.</p> <p><b>Evaluation:</b> Describe evaluation plan for measuring project success. Evaluation plan should be appropriate for scope of proposed activity and should include a discussion of data collection and analysis procedures. Include evidence demonstrating evaluation plan is informed by evaluation expert. Note the evaluation plan may need to be modified at the time of the award to ensure it includes achievement of PART objectives.</p> <p><b>Management:</b> Identify roles and responsibilities of team members involved in the development and execution of proposed activity.</p> <p><b>Prior Support:</b> Demonstrate effectiveness of prior support in global climate change and Earth system science education, if applicable. It is expected that the proposed effort will be informed by past experiences of the proposing team, particularly among seasoned Principal Investigators.</p> <p>Note the page limit includes all illustrations, tables, and figures, where each “n-page” fold-out counts as n-pages and each side of a sheet containing text or an illustration counts as a page.</p> <p>See Section VII. Proposal Evaluation Criteria and Selection Process for a detailed description of proposal evaluation criteria.</p> |                  |
| <p><b>References and Citations</b></p>  | <p>as needed</p> |
| <p><b>Budget: Narrative and Details:</b> Include a budget breakdown for each year of proposed work, along with total budget figures for the entire period of performance. Budget should include proposing organization budget, summary of work effort for proposal personnel, itemized lists detailing expenses within major budget categories, and detailed subcontract/subaward budgets. The budget may need to be modified at the time of award to ensure it includes achievement of PART objectives.</p> <p>Notes on budget:</p> <ul style="list-style-type: none"> <li>Funds may be allocated as subawards to NASA Centers, including JPL, or to other Federal Agencies, including Federally Funded Research and Development Centers. These subawards may include funds for Civil Service/contractor salary and travel. It is expected, however, that requests for funds for these subawards will be modest.</li> <li>Dollar amounts with no explanation (e.g. Equipment: \$12,000) may reduce proposal acceptability, or cause delays in funding should the proposal be selected.</li> </ul>  | <p>as needed</p> |

| Proposal Content  | Page Guideline |
|---|----------------|
| <ul style="list-style-type: none"> <li>• Cost sharing is not required. NASA may accept cost share when voluntary offered.</li> <li>• Requested travel should include purpose, the number of trips, location, duration of each trip, airfare, per diem and any registration costs. There is no limit placed on domestic travel. Foreign travel is capped at \$1,500 per year. All travel should be appropriate and reasonable for conducting the proposed activity.</li> </ul> |                |
| <p><b>Biographical Sketches:</b> Submit sketches for key personnel using the following guidelines:</p> <p><b>PI:</b> maximum 2 pages<br/> <b>Co-I:</b> 1 page<br/> <b>Other Key Personnel:</b> 1 page</p>   | as needed      |
| <p><b>Current and Pending Support</b></p>   | as needed      |
| <p><b>Statements of Commitment and Letters of Support</b></p>   | as needed      |

## VII. Proposal Evaluation Criteria and Selection Process

### A. Evaluation Criteria

Successful proposals will provide a clear plan for advancing the contributions of NASA’s Earth Science Program. They will also demonstrate potential for making sound contributions to furthering global climate change and Earth system science education. Proposals will be evaluated based on the following factors: **Intrinsic Merit, Relevance to NASA, Evaluation Plan, and Budget**. NASA’s Educating Operating Principles are integrated into these evaluation criteria.

#### **Intrinsic Merit (35%)**

Evaluation of **Intrinsic Merit** addresses **educational merit** and **management**. The following criteria are considered:

##### **Educational merit:**

- Degree to which proposed effort advances the teaching and learning of global climate change and Earth system science;
- Degree to which proposed effort offers innovative methods, approaches, and concepts;
- Degree to which proposed effort is informed by educational and science research;
- Reasonableness and clarity of project goals and objectives; and
- Degree to which proposed effort builds on lessons learned and/or best practices of past education and/or research activities undertaken by the senior personnel.



**Management:**

- Qualifications, capabilities, and experiences of the principal investigator and members of the senior management team;
- Likelihood proposed activities will result in an efficient and productive effort;
- Realistic schedule / timeline or other description of how project goals, objectives and major milestones will be met; and
- Level of collaboration with other projects, institutions, professional societies, and/or other appropriate partners.

**Relevance to NASA (35%)**

Evaluation of **Relevance to NASA** includes consideration of the following criteria:

- Degree to which proposed effort is aligned with one or more of the NASA Office of Education outcomes and associated objectives specified for this announcement;
- Degree to which proposed effort cultivates diversity and extends access to global climate change education;
- Degree to which proposed effort utilizes NASA's unique contributions to climate science and Earth system science, including Earth observation data and Earth system models; and
- Likelihood proposed effort will be sustained beyond funding period.

**Evaluation Plan (15%)**

Review of the **Evaluation Plan** includes consideration of following criteria:

- Evaluation plan appropriate for the scope of the proposed effort;
- Evaluation plan describes appropriate methods for determining the extent to which the project has achieved its goals and objectives; and
- Evidence that an evaluation expert informed the development of the evaluation plan.

**Budget (15%)**

The following criteria will be considered in the evaluation of the **Budget**:

- Clarity of the funding request;
- Degree of alignment between proposal narrative and budget;
- Degree to which proposed effort demonstrates effective use of funds; and
- Degree to which proposed outcomes justify total costs.

**B. Review and Selection Process**

Review of proposals submitted to this announcement will be consistent with the general policies and provisions given in the *NASA Guidebook for Proposers*, Appendix C, Sections C.1 through C.4. Evaluation criteria described in Section C.2 of that document is superseded by the evaluation criteria described in this solicitation under Section VII. Proposal Evaluation Criteria and Selection Process. Selection procedures will be consistent with the provisions of the *NASA Guidebook for Proposers*, Section C.45. The selecting official for this NRA is the Assistant Administrator for Education at NASA Headquarters.

Proposals will be evaluated through a combined online and panel review process. Awards will be made based on the availability of funds and the needs of the GCCE project. NASA reserves

the right to make judgments during final project selection based on programmatic factors, including the overall balance of viable proposals.

### **C. Selection Announcement**

NASA's stated goal is to announce selections between 150 days and 220 days after the proposal due date. Those proposers not selected will be notified by postal or electronic mail and may request a debriefing consistent with the policy in the *NASA Guidebook for Proposers*, Section C.6.

## **VIII. Submission Information**

### **A. Responding to this Announcement**

All information needed to apply to this solicitation is contained in this NRA and in the *NASA Guidebook for Proposers*. Note: When the information contained in this NRA differs from the *NASA Guidebook for Proposers*, this NRA takes precedence.

### **B. Electronic Submission of Proposal Information**

On-time electronic submission via NSPIRES or Grants.gov is required for every proposal. While every effort is made to ensure the reliability and accessibility of the web sites and to maintain a help center via e-mail and telephone, difficulty may arise at any point on the internet, including the user's own equipment. Prospective proposers are urged to familiarize themselves with the NSPIRES site and to submit the required proposal materials well in advance of the proposal submission deadline. Difficulty in registering with or using a proposal submission system (either NSPIRES or Grants.gov) is not, in and of itself, a sufficient reason for NASA to consider a proposal that is submitted after the proposal due date (see Appendix A).

### **C. Proposal Submission Dates**

A proposal submitted in response to this NRA must be submitted its entirety not later than 11:59 p.m. eastern time on October 24, 2008.

Proposals that are late will be handled in accordance with NASA's policy as given in the *NASA Guidebook for Proposers*, Appendix B, Section (g) (also see Sections 3.2 and F.23). It is not possible to submit a late proposal electronically via NSPIRES unless the electronic Cover Page was initially created prior to the proposal due date. Late proposals may not be submitted via Grants.gov. Proposals received after the due date may be returned without review. If a late proposal is returned, it is entirely at the discretion of the proposer whether or not to resubmit it in response to a subsequent appropriate solicitation.

## **IX. Award Information**

Awards made as a result of this NRA will be in the form of education grants. Information concerning grants and cooperative agreements can be found in the *NASA Grant and Cooperative Agreement Handbook*, 14 Code of Federal Regulations (CFR) part 1260 et seq.

Efforts will be made so that there is an approximate funding balance across funding categories, but selection will be driven by merit and alignment with NASA priorities. NASA reserves the right to make judgments during final project selection based on programmatic factors, including the overall balance of viable proposals and alignment to the NASA Education portfolio.

It is anticipated that approximately 20 small and 4 larger awards will be made. Small awards may be up to \$150,000, in total, dispersed over a period of up to 2 years. Larger awards may be up to \$500,000, in total, dispersed over a period of up to 3 years.

## **X. Award Administration Information**

### **A. Notice of Award**

Notification of both the selected, as well as the non-selected proposals, will be consistent with the policy given in the *NASA Guidebook for Proposers*, Section C.5.3. For selected proposals, the offeror's business office will be contacted by a NASA Awards Officer, who is the only official authorized to obligate the Government. For a grant or cooperative agreement, any costs incurred by the proposer in anticipation of an award will be subject to the policies and regulations of the *Grant and Cooperative Agreement Handbook*, Section B, Part 1260.125(e).

### **B. Administrative and National Policy Requirements**

This NRA does not invoke any special administrative or national policy requirements, nor do the awards that will be made involve any special terms and conditions that differ from NASA's general terms and conditions as given in the *Grant and Cooperative Agreement Handbook* and *the NASA Guidebook for Proposers*.

### **C. Special Note on U.S. Citizenship Requirements**

Individuals receiving "direct support" under a NASA education or training grant must be U.S. citizens (14 C.F.R. Sections 1260.12(c)(2) and 1260.12(c)(3)).

Direct support includes but is not limited to:

- Direct Labor (salaries, wages, and fringe benefits)
- Other Direct Costs, such as:
  - Subcontracts
  - Consultants
  - Equipment
  - Supplies
  - Travel
  - Other (e.g. scholarships, fellowships, or stipends)

If a proposer plans to use NASA grant funds to provide direct support to an individual (such as, but not limited to a PI, Co-I, student, or guest speaker) who is not a U.S. citizen, and believes they may require a deviation from this requirement, the proposer may submit a letter addressed to NASA's Office of Education as an appendix to the proposal. Proposals will not be advantaged or disadvantaged in the merit review process because of inclusion of proposed direct support to non-U.S. citizens.

See Appendix C for a sample notification of potential deviation letter.

### **D. Post Award Reporting**

The reporting requirements for awards made through this NRA will be consistent with F. 27 on

pages F8-F10 of the *NASA Guidebook for Proposers*. Project Reports are a comprehensive summary of significant accomplishments during the reporting period or the duration of the grant. Progress Reports, Final Reports and interim Educational Activity Reports ideally include specific information that is detailed within F. 27 and which is intended to facilitate cross project analysis and reporting.

An annual progress report is required each year no later than 60 days prior to the anniversary date of the project start date. The report should, at a minimum, document:

1. Project activities over the period of performance of the grant;
2. Project accomplishments measured against the proposed goals and objectives;
3. Evidence of how project activities have furthered stakeholder priorities; and
4. Extent to which collaborations and/or partnerships have evolved.

Requirements for the annual progress will be finalized after the award has been made.

### **E. Process for Appeals**

This NRA is limited to awarding education grants and will not award contracts. The appeals and reconsideration processes do not include protest rights either at the Government Accountability Office (GAO) or with the Agency, as defined in FAR 33.101. The provisions at FAR 52.233-2 ("Service of Protest") and NFS 1852.233-70 ("Protests to NASA") are not appropriate to this NRA.

PIs should understand that appeals or reconsiderations will be limited to the original proposal submitted by the established deadline for full proposals. Appeals or requests for reconsideration based on results or information obtained after the proposal was submitted or peer reviewed, for example, are not appropriate. Furthermore, because of factors such as program budget and other priorities factor into the selection process, reconsideration will not necessarily result in an award even if it is established that there was an error in the peer review evaluation or other evaluation processes.

A PI who is not satisfied with the explanation of the basis for the declination of proposal may contact the Global Climate Change Education Program Manager, Office of Education, NASA Headquarters in writing (delivered via e-mail, fax, or regular mail) stating the reasons for requesting reconsideration of the declination before initiating a formal Request for Reconsideration. The Global Climate Change Education Program Manager must 1) provide a written acknowledgement within ten business days of the request and 2) offer dates for an oral debriefing. Send an appeal request for an oral debrief to:

Diane Clayton, PhD

Global Climate Change Education Program Manager

Office of Education

NASA Headquarters

Washington, DC 20546

[diane.clayton-1@nasa.gov](mailto:diane.clayton-1@nasa.gov)

Fax: 202-358-7097

**Formal Requests for Reconsideration**

Following an oral debriefing with the Global Climate Change Education Program Manager, if still not satisfied that the proposal's evaluation process was fair and reasonable, substantively and/or procedurally, a PI whose proposal has been declined may request a formal reconsideration. Electronic or faxed requests for formal reconsiderations will not be accepted. Formal requests must 1) detail the reasons for the reconsideration request; 2) be printed on institutional letterhead; 2) be co-signed by the PI and the AOR and 3) be addressed to the selecting official:

Assistant Administrator for Education  
NASA Headquarters  
Washington, DC 20546  
Telephone: 202-358-0103

Finally, the NASA Procurement Ombudsman Program is available under this NRA as a procedure for addressing concerns and disagreements. The clause at NASA FAR Supplement (NFS) 1852.215-84 ("Ombudsman") is incorporated into this NRA. The cognizant ombudsman is:

Director, Contract Management Division  
Office of Procurement  
NASA Headquarters  
Washington, DC 20546  
Telephone: 202-358-0445

## **Appendix A: Additional Proposal and Submission Information**

### **A. Proposal Instructions and Requirements**

All information needed to respond to this solicitation is contained in this NRA and in the companion *NASA Guidebook for Proposers January 2008 Edition* located at <http://www.hq.nasa.gov/office/procurement/nraguidebook>. Proposers are responsible for understanding and complying with its procedures for the successful, timely preparation and submission of their proposals. Proposals that do not conform to its standards may be declared noncompliant and rejected without review. When the information contained in this NRA differs from the *NASA Guidebook for Proposers*, this NRA takes precedence.

The introductory material, as well as the appendices, of the *NASA Guidebook for Proposers* provide additional information about the entire NRA process, including NASA policies for the solicitation of proposals, guidelines for writing complete and effective proposals, and NASA's general policies and procedures for the review and selection of proposals and for issuing and managing the awards to the institutions that submitted selected proposals.

### **B. Content and Form of the Proposal Submission**

#### **(i) Electronic Proposal Submission**

All proposals submitted in response to this NRA must be submitted in a fully electronic form. No hard copy of the proposal will be accepted. Electronic proposals must be submitted by the authorized organization representative (AOR) at the proposal Principal Investigator's institution. Electronic submission by the AOR serves as the required original signature by an authorized official of the proposing institution.

Proposers may opt to submit proposals in response to this NRA via either of two different electronic proposal submission systems: NSPIRES, located at <http://nspires.nasaprs.com> (see Section B(iv) below), or Grants.gov located at <http://www.grants.gov> (see Section B(v) below). Proposers should not submit the same proposal to both electronic submission systems. NASA plans to use the NSPIRES system to facilitate the review process so all proposals received through Grants.Gov will be transferred into NSPIRES.

Note carefully the following requirements for submission of an electronic proposal regardless of the intent to submit via NSPIRES or Grants.gov:

- Every institution that intends to submit a proposal to NASA in response to this NRA must be registered in NSPIRES. This applies whether proposals are submitted via NSPIRES or Grants.gov. Every institution that intends to submit a proposal through Grants.gov must register under that system as well as NSPIRES. Registration for either proposal data system must be performed by an institution's electronic business point-of-contact (EBPOC) in the Central Contractor Registry (CCR).
- Any institution requesting NASA funds through the proposed investigation must be listed on the Proposal Cover Page. NASA will not fund institutions that do not appear on the Proposal Cover Page.
- Each individual team member named on the proposal's electronic cover page must be individually registered in NSPIRES. This applies whether proposals are submitted via NSPIRES or Grants.gov.

- Each individual team member named on the proposal's electronic cover page must specify an institutional affiliation. The institutional affiliation specified must be the institution through which the team member is participating in the proposed investigation. If the individual has multiple affiliations, then this institution may be different from the individual's primary employer or preferred mailing address.

Generically, an electronic proposal consists of one or more electronic forms, including an electronic cover page and one or more attachments. The attachments contain all sections of the proposal, including the project description as well as all required and allowed appendices; see Section B(ii) below for further requirements.

Submission of electronic proposals via either NSPIRES or Grants.gov requires several coordinated actions from the proposing institution. In particular, when the PI has completed entry of the data requested in the required electronic forms and attachment of the allowed PDF attachments, including the project description section, an official at the PI's institution who is authorized to make such a submission, referred to as the authorized organization representative (AOR), must submit the electronic proposal (forms plus attachments). Coordination between the PI and his/her AOR on the final editing and submission of the proposal materials is facilitated through their respective accounts in NSPIRES and/or Grants.gov. Note that if one individual is acting in both the PI and AOR roles, he/she must ensure that all steps in the process are taken, including submitting the proposal from the institution.

#### (ii) Proposal Format and Contents

All proposals submitted in response to this NRA must include the appropriate required electronic forms available through either of two proposal submission systems, NSPIRES or Grants.gov. The project description and other required sections of the proposal must be submitted as searchable, unlocked PDF files that are attached to the electronic submission using one of the proposal submission systems. Proposers must comply with any format requirements specified in this NRA and in the *NASA Guidebook for Proposers*, Section 2.3. Only appendices/attachments that are specifically requested in either this NRA or in the *NASA Guidebook for Proposers* will be permitted; proposals containing additional appendices/attachments may be declared noncompliant. The *NASA Guidebook for Proposers*, Section 2, provides detailed discussions of the content of proposals applicable to this NRA. Section VI. Proposal Preparation of this NRA provides a listing of required content elements.

In the event the information in this NRA is different from or contradicts the information in the *NASA Guidebook for Proposers*, the information in this NRA takes precedence.

Important note on creating PDF files for upload: It is essential that all PDF files generated and submitted meet the NASA requirements below. This will ensure that the submitted files can be transferred into NSPIRES regardless of whether the proposal is submitted via NSPIRES or Grants.gov. At a minimum, it is the responsibility of the proposer to: (1) ensure that all PDF files are unlocked and that edit permission is enabled – this is necessary to allow NSPIRES to concatenate submitted files into a single PDF document; and (2) ensure that all fonts are embedded in the PDF file and that only Type 1 or TrueType fonts are used. In addition, any proposer who creates files using TeX or LaTeX is required to first create a DVI file and then convert the DVI file to Postscript and then to PDF. See

[http://nspires.nasaprs.com/tutorials/PDF\\_Guidelines.pdf](http://nspires.nasaprs.com/tutorials/PDF_Guidelines.pdf) for more information on creating PDF documents that are compliant with NSPIRES. PDF files that do not meet the NASA requirements cannot be transferred into the NSPIRES system; such files may be declared noncompliant and not submitted to peer review for evaluation.

(iii) Additional Requirement for Budget Format

In addition to the budget summary information provided in the NSPIRES or Grants.gov Cover Page forms, all proposers are required to include more detailed budgets and budget justifications, including detailed subcontract/subaward budgets, in a format of their own choosing in the *Budget Justification*. For this NRA, this additional budget must be divided into two parts, the “*Budget Justification: Narrative*” and the “*Budget Justification: Details*,” both as described in the *NASA Guidebook for Proposers*, Section 2.3.10.

The *Budget Justification: Narrative* includes the *Table of Proposed Work Effort* and the description of facilities and equipment, as well as the rationale and basis of estimate for all components of cost including procurements, travel (destination, purpose and number of travelers), publication costs, and all subawards/subcontracts. The *Table of Proposed Work Effort* must include the names and/or titles of all personnel (including postdoctoral fellows and graduate students (where known)) necessary to perform the proposed investigation regardless of whether these individuals require funding from the current proposal. The number of person-months each person is expected to devote to the project must be given for each year. The *Budget Justification: Details* must include the detailed proposed budget including all of the Other Direct Costs and Other Applicable Costs specified in the *NASA Guidebook for Proposers*.

Note that failure to provide sufficient budget justification and data in the *Budget Justification: Narrative* (including the *Table of Proposed Work Effort*) and the *Budget Justification: Details* will prevent the peer review from appropriately evaluating the cost realism of the proposed effort. A finding by the peer review of “insufficient information to properly evaluate cost realism” will be considered a weakness of the proposal. Inconsistent information between these budget descriptions and the proposal text will also be considered a weakness of the proposal.

(iv) Submission of Proposals via NSPIRES, the NASA Proposal Data System

In order to submit a proposal via NSPIRES, this NRA requires that the proposer register key data concerning the intended submission with NSPIRES; NSPIRES can be accessed at <http://nspires.nasaprs.com>. Potential applicants are urged to access this site well in advance of the proposal due date(s) of interest to familiarize themselves with its structure and enter the requested identifier information.

It is especially important to note that every individual named on the proposal’s electronic *Cover Page* form (see below) as a proposing team member in any role, including Co-Investigators and collaborators, must be registered in NSPIRES and that such individuals must perform this registration themselves; no one may register a second party, even the Principal Investigator of a proposal in which that person is committed to participate. This data site is secure and all information entered is strictly for NASA’s use only.

All proposals submitted via NSPIRES in response to this NRA must include a required electronic *Cover Page* form that is accessed at <http://nspires.nasaprs.com>. This form is comprised of several



distinct sections: a *Cover Page* that contains the identifier information for the proposing institution and personnel; a *Proposal Summary* that provides an overview of the proposed investigation that is suitable for release through a publicly accessible archive should the proposal be selected; and a *Budget Summary* of the proposed research effort. Unless specified in the program description itself, no other forms are required for proposal submission via NSPIRES. See the *NASA Guidebook for Proposers*, Sections 2 and 3, for further details.

The required elements of the proposal, including the project description, must be submitted as one or more PDF documents that are attached to the *Cover Page* using the tools in NSPIRES. It is possible that the complete proposal is submitted as a single, searchable, unlocked PDF document, that contains the complete proposal, including the project description section and budget justification, assembled in the order provided in the *NASA Guidebook for Proposers*, Section 2.3, and uploaded using the tools in NSPIRES. One advantage of submitting the proposal as one PDF document as described above is that it is easier for the proposer to create a table of contents that will be correct. If separate files are uploaded, there may be slight differences in page numbering due to the concatenation process. Any mismatch with the table of contents caused by this process does not impact the evaluation of the proposal.

NSPIRES will provide a list of all elements that make up an electronic proposal, and the system will conduct an element check to identify any item(s) that is (are) apparently missing or incomplete. The element check may produce warnings and/or identify errors. Uploading the proposal in one PDF file is likely to create warnings as part of the element check. These warnings should be ignored as warnings do not preclude proposal submission. Note, however, an error in the element check will preclude submission.

Proposers are encouraged to begin their submission process early. Tutorials and other NSPIRES help topics may be accessed through the NSPIRES online help site at <http://nspires.nasaprs.com/external/help.do>. For any questions that cannot be resolved with the available on-line help menus, requests for assistance may be directed by e-mail to [nspires-help@nasaprs.com](mailto:nspires-help@nasaprs.com) or by telephone to (202) 479-9376, Monday through Friday, 8:00 a.m. – 6:00 p.m. Eastern Time.

#### (v) Submission of Proposals via Grants.gov

In furtherance of the President's Management Agenda, NASA offers proposers the option to utilize Grants.gov to prepare and submit proposals in response to this NRA. Grants.gov allows institutions to electronically find and apply for competitive grant opportunities from all Federal grant-making agencies; it provides a single access point for over 1000 grant programs offered by the 26 Federal grant-making agencies. The U.S. Department of Health and Human Services is the managing partner for Grants.gov.

In order to submit a proposal via Grants.gov, Grants.gov requires that the Principal Investigator download an application package from Grants.gov. Identifying the appropriate application package requires the funding opportunity number for that program; the funding opportunity number may be found in the *Summary of Key Information* subsection that concludes each program description. Proposals submitted via Grants.gov must be submitted by the AOR.

Submitting a proposal via Grants.gov requires the following steps:

- Follow Grants.gov instructions provided at the website to download any software tools or applications required to submit to Grants.gov.
- Download the application package from Grants.gov at <http://www.grants.gov>. Download the application package from Grants.gov by selecting “Download grant application packages” under “Apply for Grants” at <http://www.grants.gov>.
- Complete the required Grants.gov forms including the SF424 (R&R) Application for Federal Assistance, R&R Other Project Information, R&R Senior/Key Person Profile, and R&R Budget. Every named individual must be identified with the institution through which they are participating in the proposal, regardless of their place of permanent employment or preferred mailing address.
- Complete the required NASA specific forms: NASA Other Project Information, NASA Principal Investigator and Authorized Representative Supplemental Data Sheet, NASA Senior/Key Person Supplemental Data Sheet (this form is only required if there are Senior/Key Persons other than the Principal Investigator).
- Complete any NASA program-specific forms that may be required. Program-specific forms may be found by clicking on the hyperlink in the NASA Other Project Information form or by directly accessing <http://nspires.nasaprs.com/Grants.gov>. Directions for accessing and submitting program-specific forms, if there are any, are provided in the NASA Other Project Information form.
- Create a proposal in PDF including the project description and all other required proposal sections (see the *NASA Guidebook for Proposers*, Section 2). Upload sections as separate PDFs as prompted by Grants.gov.
- Submit the proposal via the authorized organization representative (AOR); the proposal Principal Investigator may not submit the application to Grants.gov unless he/she is an AOR.
- Grant researchers do NOT need to register with Grants.gov. However, every individual named in the proposal as a proposing team member in any role, including PI, Co-Investigators and collaborators, must be registered in NSPIRES (<http://nspires.nasaprs.com>) and that such individuals must perform this registration themselves; no one may register a second party, even the PI of a proposal in which that person is committed to participate. This data site is secure and all information entered is strictly for NASA’s use only.

Potential applicants are urged to access Grants.gov site well in advance of the proposal due date(s) of interest to familiarize themselves with its structure and download the appropriate application packages and tools.

Additional instructions for formatting and submitting proposals via Grants.gov may be found in the *NASA Guidebook for Proposers*, Sections 2 and 3. Instructions for the use of Grants.gov may be found in the *Grants.gov User Guide* at <http://www.grants.gov/Customersupport>. Instructions for NASA-specific forms and NASA program-specific forms may be found in the application package and at <http://nspires.nasaprs.com/Grants.gov>. For any questions that cannot be resolved with the available on-line help menus and documentation, requests for assistance may be directed by e-mail to [support@grants.gov](mailto:support@grants.gov) or by telephone to (800) 518-4726.

### **C. Notice of Intent**

A Notice of Intent (NOI) to propose is **required** for the submission of proposals to this solicitation. The information contained in an NOI is used to help expedite the proposal review activities and, therefore, is of considerable value to both NASA and the proposer. NOIs must be submitted through NSPIRES. Note that NOIs may be submitted within NSPIRES directly by the proposal Principal Investigator. No action by an organization's AOR is required to submit an NOI.

Grants.gov does not provide NOI capability; therefore, NOIs must be submitted via NSPIRES regardless of whether the proposal will be submitted via NSPIRES or Grants.gov. Interested proposers must register with NSPIRES before it can be accessed for use; see Section B(i) above. Since NOIs submitted after the deadline may still be useful to NASA, late NOIs may be submitted by e-mail as directed in the *NASA Guidebook for Proposers*, Section 3.1.

### **D. Proposal Funding Restrictions**

In addition to the funding restrictions and requirements given in the *NASA Guidebook for Proposers* and the *Grant and Cooperative Agreement Handbook*, the following restrictions are applicable to this NRA:


- The estimated funding and number of proposals anticipated to be funded, as shown in this NRA under the section entitled Summary of Key Information, are subject to the availability of appropriated funds, as well as the submission of a sufficient number of proposals of adequate merit.
- The construction of facilities is not an allowed activity for any of the programs solicited in this NRA. For further information on permissible costs, refer to the cost principles cited in the *Grant and Cooperative Agreement Handbook*, Section 1260.127.
- Travel, including foreign travel, is allowed as may be necessary for the meaningful completion of the proposed investigation, as well as for publicizing its results at appropriate professional meetings. Foreign travel has an upper limit of \$1,500 per proposal per year. Domestic travel does not have a cap.

### **E. Conflict of Interest Check Information**

NASA expects all peer reviewers to disclose all conflicts of interest, as well as situations which may be actual conflicts of interest or which may give the appearance of a conflict of interest. Peer reviewers are also expected to disclose situations that may give the appearance of bias, or may cause a reasonable observer to question the ability of the reviewer to provide an unbiased evaluation of a proposal (see the *NASA Guidebook for Proposers*, Appendix E.3).

## Appendix B: Sample Proposal Cover Page

This is the first page of the multi-page cover produced by NSPIRES.

|   |                                     |  |   |   |               |   |               |
|---|-------------------------------------|--|---|---|---------------|---|---------------|
|    |                                     | Cover Page for Proposal Submitted to the National Aeronautics and Space Administration |   | <b>NASA Proposal Number</b><br><b>TBD on Submit</b> |               |   |               |
| <b>NASA PROCEDURE FOR HANDLING PROPOSALS</b>  |                                     |  |   |   |               |   |               |
| This proposal shall be used and disclosed for evaluation purposes only, and a copy of this Government notice shall be applied to any reproduction or abstract thereof. Any authorized restrictive notices that the submitter places on this proposal shall also be strictly complied with. Disclosure of this proposal for any reason outside the Government evaluation purposes shall be made only to the extent authorized by the Government.   |                                     |  |   |   |               |   |               |
| <b>SECTION I - Proposal Information</b>   |                                     |  |   |   |               |   |               |
| Principal Investigator<br><b>Svetlana Payne</b>   |                                     |  | E-mail Address<br><b>spayne@nasaprs.com</b>                 |   |               | Phone Number<br><b>202-479-9030 x 246</b> |               |
| Street Address (1)<br><b>500 E St SW</b>  |                                     |  |   | Street Address (2)<br><b>Suite 200</b>              |               |   |               |
| City<br><b>Washington</b>   |                                     | State / Province<br><b>DC</b>  |   | Postal Code<br><b>20024-2760</b>                    |               | Country Code<br><b>US</b>                 |               |
| Proposal Title : <b>Test for NSPIRES Alpha Test Environment.</b>  |                                     |  |   |   |               |   |               |
| Proposed Start Date   | Proposed End Date                   | Total Budget<br><b>0.00</b>  | Year 1 Budget   | Year 2 Budget                                       | Year 3 Budget | Year 4 Budget                             | Year 5 Budget |
| <b>SECTION II - Application Information</b>   |                                     |  |   |   |               |   |               |
| NASA Program Announcement Number<br><b>NNH05ZDA001N-LCLUC</b>   |                                     | NASA Program Announcement Title<br><b>Land Cover/Land Use Change</b>                   |   |   |               |   |               |
| For Consideration By NASA Organization ( <i>the soliciting organization, or the organization to which an unsolicited proposal is submitted</i> )<br><b>NASA , Headquarters , Science Mission Directorate , Earth Sun System</b>   |                                     |  |   |   |               |   |               |
| Date Submitted  |                                     | Submission Method<br><b>Electronic Submission Only</b>                                 |   | Grants.gov Application Identifier                   |               | Applicant Proposal Identifier             |               |
| Type of Application<br><b>New</b>   | Predecessor Award Number            |  | Other Federal Agencies to Which Proposal Has Been Submitted |   |               |   |               |
| International Participation<br><b>No</b>  | Type of International Participation |  |   |   |               |   |               |
| <b>SECTION III - Submitting Organization Information</b>  |                                     |  |   |   |               |   |               |
| DUNS Number   | CAGE Code                           | Employer Identification Number (EIN or TIN)  |   | Organization Type                                   |               |   |               |
| Organization Name (Legal Name)  |                                     |  |   |   |               | Company Division                          |               |
| Organization DBA Name   |                                     |  |   |   |               | Division Number                           |               |
| Street Address (1)  |                                     |  |   | Street Address (2)                                  |               |   |               |
| City  |                                     | State / Province   |   | Postal Code   |               | Country Code                              |               |
| <b>SECTION IV - Proposal Point of Contact Information</b>   |                                     |  |   |   |               |   |               |
| Name<br><b>Svetlana Payne</b>   |                                     |  | Email Address<br><b>spayne@nasaprs.com</b>                  |   |               | Phone Number<br><b>202-479-9030 x 246</b> |               |
| <b>SECTION V - Certification and Authorization</b>  |                                     |  |   |   |               |   |               |
| <b>Certification of Compliance with Applicable Executive Orders and U.S. Code</b>   |                                     |  |   |   |               |   |               |
| By submitting the proposal identified in the Cover Sheet/Proposal Summary in response to this Research Announcement, the Authorizing Official of the proposing organization (or the individual proposer if there is no proposing organization) as identified below:   |                                     |  |   |   |               |   |               |
| <ul style="list-style-type: none"> <li>certifies that the statements made in this proposal are true and complete to the best of his/her knowledge;</li> <li>agrees to accept the obligations to comply with NASA award terms and conditions if an award is made as a result of this proposal; and</li> <li>confirms compliance with all provisions, rules, and stipulations set forth in the two Certifications and one Assurance contained in this NRA (namely, (i) the Assurance of Compliance with the NASA Regulations Pursuant to Nondiscrimination in Federally Assisted Programs, and (ii) Certifications, Disclosures, and Assurances Regarding Lobbying and Debarment and Suspension.</li> </ul> |                                     |  |   |   |               |   |               |
| Willful provision of false information in this proposal and/or its supporting documents, or in reports required under an ensuing award, is a criminal offense (U.S. Code, Title 18, Section 1001).  |                                     |  |   |   |               |   |               |
| Authorized Organizational Representative (AOR) Name   |                                     |  | AOR E-mail Address  |   |               | Phone Number                              |               |
| AOR Signature ( <i>Must have AOR's original signature. Do not sign "for" AOR.</i> )   |                                     |  |   |   |               | Date                                      |               |

**Appendix C: Sample “Notification of Potential Deviation” Letter**

Date

NASA  
Office of Education  
300 E Street SW  
Suite 9N70  
Washington, DC 20546

RE: NOTIFICATION OF POTENTIAL DEVIATION FROM 14 C.F.R. SECTIONS 1260.12 (c)(2) and 1260.12 (c)(3)

Dear NASA Office of Education:

(NAME OF INSTITUTION) submits this notification to NASA that a deviation from 14 C.F.R. Sections 1260.12 (c)(2) and 1260.12 (c)(3) may be required in response to solicitation Announcement Number NNH08ZNE005N.

To support this request, we provide the following information:

Name of Institution/Contact Name:

Announcement Number:

Proposal Title:

Date of Submission:

Proposal Summary:

Specific description of need for deviation:

Point of Contact who can answer questions about this request:

## **Appendix D: Useful Web Sites**

### **NASA Web Sites**

- NASA  
<http://www.nasa.gov>
- NASA Office of Education  
<http://education.nasa.gov/home/index.html>
- NASA Earth Science  
<http://nasascience.nasa.gov/earth-science>
- 2006 NASA Strategic Plan  
[http://www.nasa.gov/pdf/142302main\\_2006\\_NASA\\_Strategic\\_Plan.pdf](http://www.nasa.gov/pdf/142302main_2006_NASA_Strategic_Plan.pdf)
- NASA Education Strategic Coordination Framework  
[http://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/Strategic\\_Coordination\\_Framework.html](http://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/Strategic_Coordination_Framework.html)
- Science Plan for NASA's Science Mission Directorate 2007-2016  
[http://science.hq.nasa.gov/strategy/Science\\_Plan\\_07.pdf](http://science.hq.nasa.gov/strategy/Science_Plan_07.pdf)
- 2007-2008 Earth Science Education Brochure  
<http://science.hq.nasa.gov/education/catalog/ESE07brochure.pdf>
- NASA Grant and Cooperative Agreement Handbook  
<http://ec.msfc.nasa.gov/hq/grcover.htm>
- Guidebook for Proposers Responding to a NASA Research Announcement  
<http://www.hq.nasa.gov/office/procurement/nraguidebook>
- Grant Budget Outline  
<http://code210.gsfc.nasa.gov/Grants/Grants.htm>

### **External Web Sites**

- Earth Science and Applications from Space: National Imperatives for the Next Decade and Beyond  
[http://www.nap.edu/catalog.php?record\\_id=11820](http://www.nap.edu/catalog.php?record_id=11820)
- Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future  
<http://www.nap.edu/catalog/11463.html>
- Intergovernmental Panel on Climate Change Fourth Assessment Report: Climate Change 2007  
<http://www.ipcc.ch/ipccreports/index.htm>
- Earth Observations from Space: The First 50 Years of Scientific Achievements  
[http://www.nap.edu/catalog.php?record\\_id=11991](http://www.nap.edu/catalog.php?record_id=11991)
- NASA Solicitation and Proposal Integrated Review and Evaluation System (NSPIRES)  
<http://nspires.nasaprs.com>

- Grants.gov  
[www.grants.gov](http://www.grants.gov)
- 31 United States Code Chapter 63 – Using Procurement Contracts and Grant and Cooperative Agreements  
<http://uscode.house.gov/download/pls/31C63.txt>
- ExpectMore.gov  
<http://www.whitehouse.gov/omb/expectmore/>