

NASA EARTH AND SPACE SCIENCE FELLOWSHIP (NESSF) PROGRAM 2014/2015 ACADEMIC YEAR

Call for proposals.....	November 1, 2013
Proposals due (new applications).....	February 3, 2014 at
.....	11:59 p.m. ET
Proposals due (renewal applications).....	March 17, 2014 at
.....	11:59 p.m. ET
Announcement of new fellowships.....	May 15, 2014 (target)
Announcement of renewal fellowships.....	June 16, 2014 (target)
Start date of fellowships.....	September 1, 2014

1. Introduction

The National Aeronautics and Space Administration's (NASA's) Mission,

To pioneer the future in space exploration, scientific discovery, and aeronautics research,

and the U.S. Space Exploration Policy, whose fundamental goal is

To advance U.S. scientific, security, and economic interests through a robust space exploration program,

allow the science objectives of the NASA Science Mission Directorate (SMD) to be clearly defined as the orderly pursuit of the agency's strategic goals. Specifically, SMD endeavors to:

- *Study planet Earth from space to advance scientific understanding and meet societal needs;*
- *Understand the Sun and its effects on Earth and the solar system;*
- *Advance scientific knowledge of the origin and evolution of the solar system, the potential for life elsewhere, and the hazards and resources present as humans explore space; and*
- *Discover the origin, structure, evolution, and destiny of the universe and search for Earth-like planets.*

This call for graduate fellowship proposals, entitled *NASA Earth and Space Science Fellowship (NESSF) Program – 2014/2015 Academic Year*, solicits applications from accredited U.S. Universities on behalf of individuals pursuing Masters or Doctoral (Ph.D.) degrees in Earth and space sciences, or related disciplines, at respective institutions. The purpose of NESSF is to ensure continued training of a highly qualified workforce in disciplines needed to achieve NASA's scientific goals outlined above. Awards resulting from the competitive selection will be made in the form of training grants to the respective universities with the advisor serving as the principal investigator.

The financial support for the NESSF Program comes from SMD's four science divisions: Earth Science, Heliophysics, Planetary Science, and Astrophysics. For the 2014/2015 academic year, NASA expects to award approximately 50 new graduate fellowships in Earth Science, 3-5 in Heliophysics, 10 in Planetary Science, and 6-10 in Astrophysics.

2. SMD Overview

The NASA Science Mission Directorate (SMD) supports basic and applied research in Earth and space science. The SMD research program includes the development of major space flight missions; analysis of data from prior missions; conduct of major field campaigns; and the Supporting Research and Technology (SR&T) program which includes development of instruments for suborbital flights and potential missions, detector development, complementary laboratory research, data assimilation, computational modeling, and theoretical studies. The SMD also supports the use of scientific knowledge, data, and modeling to support science-based policy and management decisions.

The fundamental questions and goals for NASA's Earth and space science research activities are given in a series of Strategic Plans and Science Roadmaps; these documents can be accessed at <http://science.hq.nasa.gov/strategy> and <http://science.hq.nasa.gov/strategy/roadmaps/>.

Interested proposers are advised that a key criterion for proposal evaluation and selection is the relevance of the proposed investigation to the NASA mission as described in the Strategic Plans and Science Roadmaps. Students should consider applying to this program only if they can present valid lines of reasoning that their intended research is clearly relevant to NASA SMD science research programs and/or missions and/or strategic objectives. Programmatic factors may also affect selection (for example, see specific priorities in the Divisions listed below). The proposal should present a well-defined problem and justification of its scientific significance, as well as a detailed approach for its solution.

Research that exploits analysis of data collected by spacecraft-borne instruments, relevant surface-based data (including aircraft- and balloon-based data) and laboratory experiments, data assimilation, and computational and/or theoretical modeling is solicited. Emphasis is placed on the development and implementation of a multifaceted program of space-based and suborbital (surface-based, airborne, sounding rocket, and balloon) missions, and the development and use of computational models that utilize these observations for initialization, verification, process representation, and/or assimilation. Investigations that support instrumentation development relevant to future missions in the above areas, the analysis of data from ongoing and past missions, and laboratory and theoretical investigations that support the interpretation of relevant space-based observations are invited. Individuals are strongly encouraged to make their proposals directly relevant to the mission of the SMD science divisions and to clearly indicate to which division they are proposing.

3. Scientific Areas of Support

All applications to NESSF must address the goals and objectives of one or more of the four SMD research programs as outlined below. The student shall have the primary initiative in defining the proposed research to NESSF, with input or supervision from his or her advisor, as appropriate. In cases when the advisor already has an ongoing research award from NASA, it is not a problem for the research proposed under NESSF to address a similar scientific problem, but the proposal should make clear how the proposed research goes beyond that which NASA has already agreed to support.

I. Earth Science Research Program

The Earth Science Research Program, managed by the Earth Science Division, fulfills NASA's mission *to advance U.S. scientific, security, and economic interests through a robust space exploration program* and, in particular, strategic goal 3A, *to study Earth from space to advance scientific understanding and meet societal needs*. This strategic goal is motivated by the fundamental question: “*How is the Earth system changing, and what are the consequences for life on Earth?*” Within this goal, the Earth Science Division has two primary strategic objectives: (1) Earth System Science – understand how the Earth is changing to better predict change and understand the consequences of change for life on Earth; and (2) Earth Science Applications – expand and accelerate the realization of economic and societal benefits from Earth observations and Earth science models.

The frontier of the interdisciplinary field of Earth system science seeks to:

- (1) explore interactions among the major components of the Earth system – continents, oceans, atmosphere, ice, and life;
- (2) distinguish natural from human-induced causes of change;
- (3) understand and predict the consequences of change

The continuum from *science* to *applications* is traversed through a logical progression of observation, research and data analysis, modeling, and scientific assessment. NASA supports both basic and applied research, leveraging its scientific capabilities into valuable decision support tools that benefit society.

The complexity of the Earth system, in which spatial and temporal variability exists on a range of scales, requires an organized approach for addressing the interdisciplinary problems. The scientific research part of the Earth Science Division is organized by six interdisciplinary Science Focus Areas:

- 1) Climate Variability and Change – Understand the role of the ocean, atmosphere, land, and ice in the climate system and in improving predictive capability for its future evolution.
- 2) Atmospheric Composition – Understand and improve predictive capability for changes in the ozone layer, climate forcing, and air quality associated with changes in

atmospheric composition.

- 3) Carbon Cycle and Ecosystems – Quantify global land cover and land use change and terrestrial and marine productivity, and improve carbon cycle and ecosystem models and our understanding of biodiversity.
- 4) Water and Energy Cycle – Quantify the key reservoirs and fluxes in the global water cycle and improve models of water cycle change and fresh water availability.
- 5) Weather – Enable improved predictive capability for weather and extreme weather events.
- 6) Earth Surface and Interior – Characterize and understand Earth surface changes and variability of the Earth’s gravitational and magnetic fields, including space geodesy, geopotential fields, solid Earth geophysics and geodynamics, natural hazards, etc.

The outcomes that NASA anticipates from its research and development in these six Science Focus Areas are summarized in detail in Chapter 4 of the 2010 SMD Science Plan available at <http://science.hq.nasa.gov/strategy>.

The Earth System Science component of NESSF encourages proposals that place particular emphasis on the utilization of NASA unique capabilities in study of the Earth. Foremost among NASA’s unique capabilities is its fleet of Earth observing satellites and the comprehensive suite of measurements of all the components of the Earth system. See descriptions of the flight missions at <http://science.nasa.gov/about-us/smd-programs/earth-systematic-missions/> and <http://science.nasa.gov/about-us/smd-programs/earth-system-science-pathfinder/>, as well as information about data access and discovery at <http://earthdata.nasa.gov/>. Additional examples of emphasis include:

- Integration of satellite-, aircraft-, and surface-based measurements, in conjunction with models and simulations, such as Observations for Model Intercomparison Projects (obs4MIPs; <http://obs4mips.llnl.gov:8080/wiki/FrontPage>), NASA Earth Exchange (NEX; <http://nex.nasa.gov>), and other core modeling and data assimilation capabilities and resources (<http://gmao.gsfc.nasa.gov/>; <http://www.giss.nasa.gov/tools/>)
- Research focused on NASA airborne or ship-borne research campaigns, such as ICESCAPE (Impact of Climate change on the Eco-Systems and Chemistry of the Arctic Pacific Environment), Operation IceBridge, HS3 (Hurricane Sentinel), the Mid-latitude Airborne Cirrus Properties Experiment (MACPEX), Earth Venture-1 investigations (AirMOss, ATTREX, CARVE, DISCOVER-AQ, HS3), SEAC⁴RS (Studies of Emissions, Atmospheric Composition, Clouds and Climate Coupling by Regional Surveys), SMAPVEX (Soil Moisture Active-Passive – Validation Experiments), MIZOPEX (Marginal Ice Zone Observation and Process Experiment), HypsIRI (Hyperspectral Infrared Imager) airborne research, etc.
- Innovative scientific and engineering research in the areas of remote sensing technologies, including those which are relevant to the suite of Earth-viewing missions recommended by the National Academy of Sciences in its 2007 Decadal Survey for Earth Science, “*Earth Science and Applications from Space: National Imperatives for the Next Decade and Beyond*”, the 2011 Decadal Survey for Geodetic Science, “*Precise Geodetic Infrastructure: National Requirements for a*

Shared Resource”, and the additional missions described by NASA in its June, 2010 report “*Responding to the Challenge of Climate and Environmental Change: NASA’s Plan for a Climate-Centric Architecture for Earth Observations and Applications from Space.*”

- Research contributing significantly to national and international assessments, including approaches enhancing the usefulness of NASA data and/or models to such assessments (through either direct participation in them or in the use of data and models so that they are documented in the peer reviewed literature and thus available for use in future assessments). These assessments include, but are not limited to, the National Climate Assessment being carried out under the auspices of the US Global Change Research Program (see <http://www.globalchange.gov/what-we-do/assessment/nca-overview>), the Climate Change Assessments of the Intergovernmental Panel on Climate Change, and the quadrennial ozone assessments of the World Meteorological Organization and United Nations Environment Programme.

The Earth Science Applications component of the NESSF encourages submissions from individuals pursuing interdisciplinary degrees linking Earth science research with policy, business and management studies, including examination of the application of the research results to specific fields (e.g., natural resource management, environmental policy, public health, disaster management, land or marine ecosystem planning, international development, etc.), analysis of climate-related influences and impacts, and examination of relevant issues in public and private sector decision-making (e.g., uncertainty, risk, alternatives, valuation, implications, costs, benefits, etc.). The current focus areas include:

- 1) Disasters;
- 2) Ecosystems and Ecological Forecasting;
- 3) Health and Air Quality; and
- 4) Water Resources.

More information is available at <http://appliedsciences.nasa.gov>.

In addition, the Earth Science Division encourages technology research relating to advanced components, advanced information systems, and instrument development complementing the investments of NASA’s Earth Science Technology Office (<http://esto.nasa.gov>). Proposals that bring the techniques of other scientific disciplines to bear on remote-sensing relevant Earth science problems are also encouraged (e.g., proposals bringing techniques from computing and computational sciences to bear on the large modeling and data systems used to prepare Earth science data sets.)

The Earth Science components of NESSF discourage submission of paleo-climate, paleo-ecology, and paleo-hydrology related proposals. Submissions that address the molecular biology, biochemistry, development, physiology, or evolution of living organisms, without a direct utilization of remote sensing approaches or global/regional modeling which makes use of remote sensing data, are encouraged to seek other applicable components in NESSF (e.g., astrobiology in the Planetary Science Research Program) or other Federal graduate research opportunities.

II. Heliophysics Research Program

NASA's Heliophysics Research Program supports research activities that address understanding of the Sun and planetary space environments, including the origin, evolution, and interactions of space plasmas and electromagnetic fields throughout the heliosphere and in connection with the galaxy. The program seeks to characterize these phenomena on a broad range of spatial and temporal scales, to understand the fundamental processes that drive them, to understand how these processes combine to create space weather events, and to enable a capability for predicting future space weather events. The program supports investigations of the Sun, including processes taking place throughout the solar interior and atmosphere and the evolution and cyclic activity of the Sun. It supports investigations of the origin and behavior of the solar wind, energetic particles, and magnetic fields in the heliosphere and their interaction with the Earth and other planets, as well as with the interstellar medium. The program also supports investigations of the physics of magnetospheres, including their formation and fundamental interactions with plasmas, fields, and particles and the physics of the terrestrial mesosphere, thermosphere, ionosphere, and auroras, including the coupling of these phenomena to the lower atmosphere and magnetosphere.

Heliophysics utilizes remote sensing and in-situ measurements from a fleet of missions, the Heliophysics System Observatory. Frequent suborbital rockets, balloons, and ground-based instruments add to the observational base. Data analysis, theory, and modeling are used to acquire insight into the complex interactions of the interconnected heliophysical system.

The Heliophysics research program and missions are described in Chapter 4.2 of the SMD Science Plan 2010 available at <http://science.hq.nasa.gov/strategy>.

III. Planetary Science Research Program

The Planetary Science Research Program, managed by the Planetary Science Division, sponsors research to explore the solar system to study its origins and evolution, including the origins of life within it. The recent NRC study, *Vision and Voyages for Planetary Science in the Decade 2013-2022* identifies three themes of particular interest for the next decade:

- Building New Worlds—understanding solar system beginnings
 - What were the initial stages, conditions and processes of solar system formation and the nature of the interstellar matter that was incorporated?
 - How did the giant planets and their satellite systems accrete, and is there evidence that they migrated to new orbital positions?
 - What governed the accretion, supply of water, chemistry, and internal differentiation of the inner planets and the evolution of their atmospheres, and what roles did bombardment by large projectiles play?
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Planetary Habitats—searching for the requirements for life

- What were the primordial sources of organic matter, and where does organic synthesis continue today?
 - Did Mars or Venus host ancient aqueous environments conducive to early life, and is there evidence that life emerged?
 - Beyond Earth, are there today, elsewhere in the solar system habitats with necessary conditions, organic matter, water, energy, and nutrients to sustain life, and do organisms live there now?
- Workings of Solar Systems—revealing planetary processes through time
 - How do the giant planets serve as laboratories to understand Earth, the solar system, and extrasolar planetary systems?
 - What solar system bodies endanger and what mechanisms shield Earth's biosphere?
 - Can understanding the roles of physics, chemistry, geology, and dynamics in driving planetary atmospheres lead to a better understanding of climate change on Earth?
 - How have the myriad chemical and physical processes that shaped the solar system operated, interacted, and evolved over time?

The Planetary research program invites investigations of the nature and origin of the celestial bodies in our Solar System and whether life exists beyond Earth. Topics may include:

- Investigations of a variety of extraterrestrial materials (meteorites, cosmic dust, and lunar samples) that are aimed at understanding the geochemistry of the Solar System bodies;
- Investigations which enhance the scientific return of Planetary Science Division missions through the analysis of data and/or samples collected by those missions;
- Investigations of planetary surfaces and interiors, satellites (including the Moon), satellite and ring systems, and smaller Solar System bodies such as asteroids and comets;
- Investigations that contribute to the understanding of the origins and evolution of the atmospheres of planets and their satellites and of comets;
- Both ground-based astronomical observations and suborbital investigations that contribute to the understanding of the general properties and evolution of the Solar System, its planets, their satellites, and of asteroids and comets;
- Investigations to understand the origin and early evolution of life, the potential of life to adapt to different environments, and the implications for life elsewhere;
- Investigations related to understanding the formation and early evolution of planetary systems and to provide the fundamental research and analysis necessary to characterize other planetary systems;
- Investigations whose primary objectives are to inventory and characterize the population of Near Earth Objects (NEOs) which may represent a hazard for impacting the Earth;
- Investigations that improve NASA's understanding of the potential for both forward and backward contamination, how to minimize it, and to set standards in these areas for spacecraft preparation and operating procedures;

- Advancement of laboratory or spacecraft-based instrument technology that shows promise for use in scientific investigations on future planetary missions; and
- Analog studies, laboratory experiments, or fieldwork aimed at increasing our understanding of Solar System bodies or processes and/or to prepare for future missions.

IV. Astrophysics Research Program

The Astrophysics Research Program, managed by the Astrophysics Division, explores the universe beyond our solar system: from the search for planets and life in other stellar systems to the origin, evolution, structure, and destiny of the universe itself. The broad themes of the Astrophysics Research Program are:

(i) Physics of the Cosmos:

to discover how the universe works at the most fundamental level; to explore the behavior and interactions of the particles and fundamental forces of nature, especially their behavior under the extreme conditions found in astrophysical situations; and to explore the processes that shape the structure and composition of the universe as a whole, including the forces which drove the Big Bang and continue to drive the accelerated expansion of the universe.

(ii) Cosmic Origins:

to discover how the universe expanded and evolved from an extremely hot and dense state into the galaxies of stars, gas, and dust that we observe around us today; to discover how dark matter clumped under gravity into the tapestry of large-scale filaments and structures which formed the cosmic web for the formation of galaxies and clusters of galaxies; to discover how stars and planetary systems form within the galaxies; and to discover how these complex systems create and shape the structure and composition of the universe on all scales.

(iii) Exoplanet Exploration:

to search for planets and planetary systems about nearby stars in our Galaxy; to determine the properties of those stars that harbor planetary systems; to determine the percentage of planets that are in or near the habitable zone of a wide variety of stars and to measure their orbits.

(iv) Research Analysis and Technology Development:

a vital component of the astrophysics program is the development of new techniques that can be applied to future major missions: the test-beds for these new techniques are the balloons and rockets that are developed and launched from NASA's launch range facilities.

This program also supports technology development that includes detectors covering all wavelengths and fundamental particles, as well as studies in laboratory astrophysics. Examples of these studies could include atomic and molecular data and properties of plasmas explored under conditions approximating those of astrophysical environments.

Investigations submitted to the Astrophysics research program should explicitly support past, present, or future NASA astrophysics missions. These investigations can include theory, simulation, data analysis, and technology development. The Astrophysics research program and missions are described in Chapter 4.4 of the SMD 2010 Science Plan available at <http://science.hq.nasa.gov/strategy>.

4. Terms and Conditions

NESSF awards are made initially for one year and may be renewed for no more than two additional years, contingent upon satisfactory progress (as reflected in academic performance, research progress, and recommendation by the faculty advisor) and the availability of funds. The three-year period is the maximum length a student may receive support from the NESSF Program in pursuing a Masters or Ph.D. For example, a student supported by a NESSF award for three years prior to obtaining her/his Masters degree cannot apply to the NESSF Program for an additional three years of Ph.D. support. However, a student in the second or third year of a Masters program may use the three years of support to complete the Masters and initiate Ph.D. research.

The maximum amount of a NESSF award is \$30,000 per year. Not all awards require \$30,000 per year. The NESSF stipend for the student is \$24K, however, the stipend should be comparable with the prevailing stipend rate on the student's campus. Student and university allowances are nominally \$3,000 each, but can be combined as long as the allowance does not exceed \$6,000 total. Students are encouraged to work with their advisor and university Office of Sponsored Research to determine the appropriate allocation in each budget category.

The fellowship may be used to defray a student's stipend; tuition; fees; travel in support of the research investigation to conferences, symposia, or collaborative meetings; books; expendable laboratory supplies; page charges for journal articles; printing of a thesis; health insurance policy; and similar charges. Equipment, including computers, may NOT be purchased with NESSF funds. Government furnished equipment will not be provided. A NESSF budget should include itemization of the anticipated use of the grant funding. See items 14 through 17 in the 2011 NESSF Program Specific Questions.

The NESSF supports graduate education and does not provide University overhead.

5. Eligibility

This call for graduate fellowship proposals, entitled *NASA Earth and Space Science Fellowship (NESSF) Program – 2014/2015 Academic Year*, solicits applications from accredited U.S. universities on behalf of individuals pursuing Masters or Ph.D. degrees in Earth and space sciences, or related disciplines, at respective institutions. Students admitted to, or already enrolled in, a full-time Masters and/or Ph.D. program at accredited U.S. universities are eligible to apply. Students may enter the fellowship program at any time during their graduate work. Students may also apply in their senior

year prior to receiving their baccalaureate degree, but must be admitted and enrolled in a Masters and/or Ph.D. program at a U.S. university at the time of the award.

An individual accepting this award may not concurrently receive any other Federal fellowship or traineeship. If the annual cost on campus is more than the amount of the NASA fellowship, the NESSF may be partially supplemented by other forms of employment other than by another Federal fellowship or traineeship. However, NASA may allow an applicant to receive supplements from other U.S. Federal agencies to cover expenses not covered by NASA's graduate fellowships; for example, the purchase of equipment, which is not permitted through a NASA fellowship.

The NESSF Program is open to all students enrolled full-time at accredited U.S. institutions; however, U.S. citizens and permanent residents will be given preference when two or more proposals are of equal scientific merit. Students with disabilities and/or from underrepresented minority groups are urged to apply. No applicant shall be denied consideration or appointment as a NASA Earth and Space Science Fellow on the grounds of race, creed, color, national origin, age, or sex.

In accordance with Public Law 112-55, Section 539(a), proposals must not include bilateral participation, collaboration, or coordination with China or any Chinese-owned organization. Prospective NESSF fellows should not be affiliated with Chinese institutions. For more information about how NASA SMD is implementing Public Law 112-55 see <http://science.nasa.gov/researchers/sara/faqs/#1>.

6. Obligation to the Government

A student receiving support under the NESSF Program does not thereby incur any formal obligation to the Government of the United States. However, the objectives of this program will clearly be best served if the student actively pursues research or teaching in the field of Earth or space science after completion of graduate studies.

7. Change of Faculty Advisor

In the event that the faculty advisor ceases to participate in the program for any reason, the university, in consultation with the student, may nominate another faculty member to serve as the Principal Investigator of the fellowship award and the advisor of the proposed research described in the student's original application. If there is substantial deviation from the originally proposed research, the university must provide a detailed description of the deviation, which will be reviewed by NASA for scientific merit and continued relevance to NASA before an approval is made.

8. Disposition of Unused Funds

In the event that a student completes his or her graduate research program prior to the renewal or expiration date of the fellowship award, or ceases to participate in the program

for any reason, NASA will terminate the fellowship award accordingly, and deobligate the unused funds remaining in the award.

To minimize the amount of administrative work in the deobligation of funds, the student, the advisor, and the university must prorate the stipend and allowances required in the renewal application, if the projected schedule is less than 12 months. If the fellow completes the graduate program earlier than projected and there is only a small amount of funds (less than the equivalent of three months of support) remaining in the award, NASA may consider, on a case by case basis, leaving the unused funds on campus for use by the graduating fellow or a substitute recipient until the funds are fully expended.

9. Proposal Evaluation and Selection

The Directors of the science divisions of SMD at NASA Headquarters will make respective selection of applications for award on a competitive basis. Criteria for evaluation include: (a) the scientific merit of the proposed research; (b) the relevance of the proposed research to NASA's objectives in Earth or space science as outlined above; and (c) academic excellence based upon an applicant's transcripts, the signed letter of recommendation by the student's academic advisor, the degree to which it supports the proposed research, and curriculum vitae. Evaluation will be conducted by community-based reviewers via either mail or panel review, or both, or by the relevant NASA-based program managers in the science divisions of SMD.

10. Application Procedures for New and Renewal Applicants

The student is expected to be the principal author of the application, with minimal assistance from the faculty advisor. By submitting the application for consideration, the student and faculty advisor certify that the student was the principal author of the application. Likewise, a progress report authored by the student must be submitted for fellowship renewal.

All proposals must be submitted in electronic format only. Instructions for submitting electronic proposals are located at <http://nspires.nasaprs.com> - click on "Solicitations," then click on "Open Solicitations," and then select the NESSF 12 announcement. Also refer to "Proposal Submission Instructions" listed under "Other Documents."

New Applications must include:

1. NSPIRES generated proposal cover page to be completed on line, which includes a proposal summary/abstract and responses to the NESSF Program Specific Data questions, **which includes the proposal budget;**
2. A description of the proposed research project, including references or bibliography, and figures and tables, as appropriate, totaling no more than 6 single-spaced uploaded pages (using an easily read font of no more than ~15 characters per inch [typically 12-point font] with at least 1-inch margins on all

- sides). The research plan should be presented with a clear scientific hypothesis or question(s) to be addressed by the proposed work;
3. A schedule stating the proposed start and completion dates and anticipated milestones of the applicant's degree program (there is no standard format);
 4. Curriculum Vitae of the faculty advisor and student, limited to one page each;
 5. A signed letter of recommendation from the student's academic advisor on institutional letterhead which must include the name of the student, the name of the proposing institution, and the NESSF proposal title; and
 6. Unofficial, legible, and clearly unaltered undergraduate and graduate transcripts (provide an explanation if the transcripts are not current or recent). If all or part of the student's Social Security Number or Date of Birth appears on the transcript, this **MUST** be blocked out prior to submission. This is the only alteration permitted to a transcript.

Please Note: All required proposal elements, which are not part of the NSPIRES cover page form must be combined into as a single .pdf document and uploaded on the NSPIRES site for submission.

NO MAIL-IN MATERIALS WILL BE ACCEPTED

Renewal Applications must include:

1. NSPIRES generated proposal cover page to be completed on line, which includes a proposal summary/abstract and responses to the NESSF Program Specific Data questions, **which includes the proposal budget**;
2. A progress report, of approximately 3 to 6 uploaded pages (using an easily read font of no more than ~15 characters per inch [typically 12-point font] with at least 1-inch margins on all sides), which summarizes the work accomplished during the previous year, relating the actual accomplishments with the plan originally outlined in the proposal and/or including any unanticipated opportunities, surprises, or unusual developments; and a description of plans for the coming year, including explanations of any substantial deviation from the plan originally outlined in the proposal. Preprints or reprints may be uploaded, as appropriate;
3. An updated schedule for completing the degree program (there is no standard format);
4. A signed letter of recommendation from the student's academic advisor on institutional letterhead which must include the name of the student, the name of the proposing institution, and the NESSF proposal title; and
5. Unofficial, legible, and clearly unaltered transcripts for any classes taken during the previous year. If all or part of the student's Social Security Number or Date of Birth appears on the transcript, this **MUST** be blocked out prior to submission. This is the only alteration permitted to a transcript.

Please Note: All required proposal elements, which are not part of the NSPIRES cover page form must be combined into a single .pdf document and uploaded on the NSPIRES site as a single .pdf document for submission.

The general conditions described in the NASA Federal Acquisition Regulation Supplement Part 1852.235-72 (See Appendix B at <http://www.hq.nasa.gov/office/procurement/nraguidebook/>: Guidebook for Proposers Responding to NASA Research Announcements, January 2013) are applicable, except the special instructions provided herein pertaining to NESSF (e.g., NESSF evaluation criterion (c), page limit for description of the proposed research, maximum award amount, NESSF application form, supporting documents, etc.).

Submission Deadlines:

Deadline for receipt of NEW applications: 11:59 p.m. EST, February 3, 2014

Deadline for receipt of RENEWAL applications: 11:59 p.m. EST, March 17, 2014

Announcement of Selections:

The target date to announce selection of new applications for award is May 15, 2014, with **the start date of the all new fellowship awards of September 1, 2014**. The target date to notify renewal students concerning the continuation of the fellowship award applicants is June 16, 2014.

At the conclusion of the review process, notification letters will be sent to the student and faculty advisor at the university address entered on NSPIRES. New selections will be posted at <http://nspires.nasaprs.com>,

Inquiries:

For further information contact:

Program Administrator for NESSF Earth Science Research – Claire Macaulay at 202/358-0151 or by E-mail at claire.i.macaulay@nasa.gov.

Program Administrator for NESSF Heliophysics Research, Planetary Science Research, and Astrophysics Research – Dolores Holland at (202) 358-0734 or by E-mail at hq-nessf-space@nasa.gov.

Privacy Act Statement

General

Pursuant to Public Law 93-579, Privacy Act of 1974, as amended (5 U.S.C. 552a), the following information is being provided to persons who are asked to provide information to obtain a NASA graduate student fellowship.

Authority

This information is collected under the authority of the National Aeronautics and Space Act. Publication 85-568, as amended, 42 U.S.C. 2451, et. seq.

Purpose and Uses

The information requested on the application form will be used to determine your eligibility for participation in the NASA graduate student fellowship program. The information requested regarding your disability status will be used to determine the degree to which members of each ethnic/racial/disability group are being reached by NASA's announcement of this program, and will not affect your application. Additionally, NASA may disclose this information to other organizations or individuals having relationships with NASA, including but not limited to academic organizations, nonprofit organizations, and other governmental agencies, as well as Congressional offices in response to an inquiry made on your behalf. Disclosure may also be made to concerned parties in the course of litigation, to law enforcement agencies, and to other Federal agencies in exchanging information pertinent to an agency decision.

Effects of Nondisclosure

Furnishing the information on the application form is voluntary, but failure to do so may result in NASA's inability to determine eligibility for participation and selection for award in the Graduate Student Fellowship Program. However, your application will not be affected if you choose not to provide information on your ethnic, racial, or disability status.

Definitions for Applicant Background - Section VI

- American Native or Alaskan American: A Person having origins in any of the original peoples of North America and who maintains cultural identification through tribal affiliation or community recognition.
- Hispanic or Latino: A person of Mexican, Puerto Rican, Cuban, or South American or other Spanish culture or origin, regardless of race.
- Asian: A person having origins in any of the original peoples of East Asia, Southeast Asia or the Indian subcontinent. This area includes, for example, China, India, Indonesian, Japan, Korea and Vietnam.
- Pacific Islander/Native Hawaiian: A person having origins in any of the original peoples of Hawaii; the U.S. Pacific territories of Guam, American Samoa, and the

Northern Marianas; the U.S. Trust Territory of Palau; the islands of Micronesia and Melanesia; or the Philippines.

- African American, not of Hispanic origin: A person having origins in any of the black racial groups of Africa.
- White, not of Hispanic Origin: A person having origins in any of the original peoples of Europe, North Africa, or the Middle East.
- Individuals with Disabilities: An individual having a physical or mental impairment that substantially limits one or more major life activities; who has a record of such impairment; or who is regarded as having such impairment.