

EDUCATION

Budget Authority (in \$ millions)	Actual	Enacted	Request	Notional			
	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Aerospace Research and Career Development Program	54.0	58.0	33.0	33.0	33.0	33.0	33.0
STEM Education and Accountability Program	62.3	58.6	55.9	56.8	57.7	58.6	59.6
Total Budget	116.3	116.6	88.9	89.8	90.7	91.6	92.6

Education EDUC-2

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 - Experimental Project To Stimulate Competitive Research (EPSCoR)..... EDUC-16
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FY 2015 Budget

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	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Aerospace Research and Career Development Program	54.0	58.0	33.0	33.0	33.0	33.0	33.0
STEM Education and Accountability Program	62.3	58.6	55.9	56.8	57.7	58.6	59.6
Total Budget	116.3	116.6	88.9	89.8	90.7	91.6	92.6
Change from FY 2014			-27.7				
Percentage change from FY 2014			-23.8%				

Note: As reflected in the August 2013 Operating Plan, FY 2013 includes rescissions per P.L.113-6 Division G, Section 3001(b)(1)(B) and Division G, Section 3004(c)(1) and reductions due to sequestration per BBEDCA Section 215A.

FY 2014 reflects funding amounts specified in P.L. 113-76, Consolidated Appropriations Act, 2014, including amounts noted in the Explanatory Statement. Where amounts were not specified, no amount is shown in the budget table.



NASA Education ignites interest in Science, Technology, Engineering and Mathematics (STEM) and provides unique opportunities for learners of all ages to explore and develop their full learning potential. This NASA education downlink enabled students and educators around the world to connect virtually with astronauts Kevin Ford and Sunita Williams onboard the International Space Station. The event took place in the Moving Beyond Earth Gallery at the Smithsonian National Air and Space Museum in Washington, D.C. in honor of International Education Week, a joint initiative between the Department of State and the Department of Education that celebrates the benefits of international education and exchange.

In 2014, the President's Budget proposed a government-wide STEM reorganization to create a coherent framework for delivering STEM education to more students and more teachers more effectively while reducing fragmentation, and the Administration published a Five-Year Federal Strategic Plan on STEM Education to help align the reorganization with key goals and strategies. This plan reflects a more cohesive delivery of STEM education and coordination of all participating Federal agencies' resources. In FY 2015, NASA Office of Education (OE) will continue to support learners and institutions while reducing fragmentation consistent with the goals, objectives, and strategies of the Administration's Five-Year Strategic Plan.

The Agency proposes to restructure its education investments into a coordinated education program funded primarily through OE. OE will work closely with the other Federal agencies and focus funding on the Administration's five STEM education priorities. This approach will use NASA's expertise and resources to diversify the Nation's STEM education portfolio. The FY 2015

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request for OE is \$88.9 million. Additionally, the Budget provides \$15 million to NASA's Science Mission Directorate to fund the best application of NASA Science assets to meet the Nation's STEM education goals through a competitive process.

OE's vision to advance high quality STEM education using NASA's unique capabilities aligns to the Agency's strategic plan. OE will continue to be deliberate in developing and executing strategic partnerships with intergovernmental, academic, industrial, entrepreneurial, and international communities to achieve NASA's values, mission, and vision. OE's activities will define specific benefits and outcomes from each partnership, develop methods to more systematically manage partnerships, and leverage each organization's resources.

In addition to the National Space Grant College and Fellowship Program (Space Grant), Experimental Program to Stimulate Competitive Research (EPSCoR), and Minority University Research and Education Project (MUREP), NASA will consolidate the education functions, assets, and efforts of the mission directorates, offices, and Centers into the coordinated STEM Education and Accountability Projects. These assets are critical and unique components that NASA can integrate into STEM coordination efforts with other agencies.

NASA STEM education will remain in alignment with the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science (COMPETES) Reauthorization Act of 2010. NASA's investments will also provide unique support for minority serving institutions and community colleges, which generally serve a high proportion of minority students and prepare them for study at four-year institutions.

The Science Mission Directorate (SMD) will continue to fund the Global Learning and Observations to Benefit the Environment (GLOBE), a worldwide hands-on, primary, and secondary school-based activity. GLOBE's vision promotes and supports students, teachers, and scientists to collaborate on inquiry-based investigations of the environment and the Earth system working in close partnership with NASA, National Oceanic and Atmospheric Administration, and National Science Foundation Earth System Science Projects in study and research about the dynamics of Earth's environment. SMD will also fund the most meritorious education activities through a competitive process.

EXPLANATION OF MAJOR CHANGES IN FY 2015

The Agency will fundamentally restructure its STEM education investments into a coordinated education effort reporting to the NASA OE. NASA will continue to work closely with other Federal agencies in executing the Administration's STEM education objectives. The Agency aims to increase both the use of NASA resources and the availability of opportunities to a diverse audience of educators and students, including women, minorities, and persons with disabilities.

NASA will continue to support and collaborate with other agencies in the key areas identified by the Federal STEM Education Five-Year Strategic Plan: 1) improve STEM instruction and learning, 2) increase and sustain youth and public engagement in STEM, 3) enhance the STEM experience of undergraduate students, 4) provide STEM learning opportunities to groups historically underrepresented in STEM fields and 5) design graduate education for tomorrow's STEM workforce.

OE will continue its internal assets inventory and evidence-based assessment of Agency-conducted STEM education activities. OE will utilize a competitive process for allocating resources, to ensure that

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the most effective internal STEM education activities are supported. NASA will allocate funds to allow the Agency to support a data management system for performance measurement, analysis, evaluation, and reporting of NASA's STEM Education activities.

Offices such as the International Space Station (ISS) Program Office will continue to provide access to launch facilities related to STEM engagement efforts. Those resources will support NASA's ability to make its people, facilities, and flight platforms available for educational purposes. In FY 2015, NASA's STEM education expertise and assets will continue to play a unique role in the Nation's STEM education portfolio.

ACHIEVEMENTS IN FY 2013

In FY 2013, NASA OE and the mission directorates and Centers reclassified their activities' portfolio, into four streamlined lines of business: STEM Engagement; Educator Professional Development; Institutional Engagement; and NASA Internships, Fellowships, and Scholarships (NIFS).

In 2013, OE awarded a cooperative agreement to the Universities Space Research Association (USRA) as a mechanism to improve integration of internships at NASA Centers.

MUREP funded 148 internships, including 52 interns from Minority Serving Institutions (MSI). Ten undergraduate students received NASA MUREP scholarships for the 2013-2014 academic year, and thirty graduate students received NASA Harriett G. Jenkins Graduate Fellowships, which provide doctoral funding to underserved, underrepresented, or to persons with disabilities.

The OE Summer of Innovation (SoI) pilot project reached over 39,000 students and 4,000 educators using NASA's unique STEM education activities during the summer and through other out-of-school learning opportunities. Through the Science, Engineering, Math, and Aerospace Academy (SEMAA), 15 project sites in 14 states inspired, engaged, and educated 55,573 students, families, caregivers, and instructors using NASA's STEM educational activities.

The Museum Alliance hosted at Jet Propulsion Laboratory (JPL) has grown to include more than 580 U.S. museums, science centers, planetariums, NASA Visitor Centers, and Challenger Learning Centers. NASA's FY 2013 Competitive Program for Science Museums, Planetariums, and NASA Visitor Centers Plus Other Opportunities received nearly 70 proposals from informal education institutions and NASA visitor centers. Six museums and four NASA visitor centers received new grants or cooperative agreements. These grants and cooperative agreements will create interactive exhibits, virtual worlds, professional development activities, and community-based programs to engage students, teachers and the public in STEM. Additional selections will depend on finalization of the FY 2014 budget. Thirty-six institutions continue work with funds from prior fiscal years.

OE signed a Space Act Agreement (SAA) with the Boys and Girls Clubs of America supporting space exploration and innovation to raise students' expectations for success and to pursue STEM careers. NASA OE also signed an SAA with Lockheed Martin to formulate and conduct the Exploration Design Challenge for students in grades 5-12. Over 150,000 students participated in activities tied to Exploration Flight Test (EFT-1) of the Orion spacecraft. NASA and the Department of Education (ED) entered into a reimbursable SAA to develop multiple STEM challenges in support of the ED's 21st Century Community Learning Center (21 CCLC) program for Colorado, Michigan, and Virginia.

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WORK IN PROGRESS IN FY 2014

NASA will continue to align its STEM education activities with the priorities identified in the Federal STEM Education Five-Year Strategic Plan. For example, NASA and the U.S. Department of Education (ED) entered into a pilot reimbursable Space Act Agreement that ran from the Fall 2013 through Winter 2014. The pilot aligned to the near term actions under the CoSTEM priority to increase and sustain youth and public engagement in STEM. The partnership supported STEM objectives within ED's 21st Century Community Learning Center (CCLC) program. NASA customized online STEM challenges and associated curriculum materials aligned to 21CCLC objectives. NASA worked with three 21CCLC states Colorado, Michigan, and Virginia. NASA and ED are using the results from the pilot to draft a framework for other federal collaborations with the 21CCLC.

The Museum Alliance will extend an existing, free-of-charge NASA STEM content facilitation membership service to long-time partners in NASA education such as the Science Engineering Mathematics and Aerospace Academy (SEMAA). SEMAA sites at community colleges; minority-serving higher education institutions; and high schools, middle schools and elementary schools provide science centers and museums in urban and rural cities throughout the United States the opportunity to receive improved access to the most recent NASA content available across all NASA mission directorates. Representatives from Smithsonian-Affiliate Museums, for example the Museum of Flight in Seattle, Washington and the US Space and Rocket Center in Alabama, are already alliance members and take the NASA STEM content and adapt for locally conducted STEM engagement activities.

KEY ACHIEVEMENTS PLANNED FOR FY 2015

The Federal STEM Education 5-year Strategic Plan highlights two STEM education coordination approaches and five priority STEM education investment areas where a coordinated Federal strategy will lead to major improvements in key areas. This increased coordination will maximize impact and produce strategies for closer and more effective collaboration among the agencies with STEM education investments. The Agency aims to increase both the effectiveness and utilization of NASA resources to reach the Administration's STEM education goals through interagency efforts.

STEM education resources within NASA will continue to use competitive processes to identify NASA's internal STEM education activities and assets across the Agency. NASA will make available its unique assets, such as the International Space Station, to STEM education programs Government-wide on a reimbursable basis in order to enhance their effective reach to students and educators., OE will continue evidence-collection activities for performance measurement, analysis, evaluation, and reporting of NASA's activities.

In FY 2014 NASA hosted for each of the lead agencies NSF, SI and ED interagency working groups (IWGs) sessions by the five priority STEM education investments. In FY 2015 NASA OE will continue its dedication to the IWG-created infrastructure, policies and practice led by the three convening agencies.

NASA will contribute toward the Administration's goals for STEM education through an education portfolio focused on the following:

- STEM Engagement: Provide opportunities for participatory and experiential learning activities that connect learners to NASA-unique resources;

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- NASA Internships, Fellowships, and Scholarships: Utilize NASA facilities and assets to provide work experiences and research and educational opportunities to improve retention in STEM and prepare students for employment in STEM jobs;
- Educator Professional Development: Prepare STEM educators and leaders to deliver quality STEM instruction utilizing unique NASA assets; and
- Institutional Engagement: Improve the capacity of U.S. institutions to deliver effective STEM education.

An overarching operating principle consistent throughout the portfolio remains the continued focus on making opportunities available to a diverse audience of educators and learners, including women, minorities, and persons with disabilities.

The Education program would use \$10.0 million from the Opportunity, Growth, and Security Initiative to support a diverse set of activities that complement the Agency's FY 2015 coordinated Education portfolio. The Opportunity, Growth and Security Initiative would enhance the reach and impact of NASA education activities. Specifically, it would provide an additional \$10 million for competitive funding within the OE's STEM Education and Accountability Projects to support the most effective NASA STEM activities. It is possible that some prior-year STEM projects that are not explicitly funded in the FY 2015 Budget could compete for this funding. The focus of the initiative will be on competitively selected activities 1) with a required NASA mission component and/or 2) that advance learning and engagement in STEM via partnerships or forms of direct financial assistance for youth, including undergraduates, and for youth-serving informal education institutions and other eligible institutions.

While the base Budget request for Education is \$88.9 million, enactment of the Opportunity, Growth, and Security Initiative would bring that level to \$98.9 million.

Further details on Education program activities are provided in the Opportunity, Growth, and Security Initiative section of this document.

Programs

AEROSPACE RESEARCH & CAREER DEVELOPMENT (ARCD)

The ARCD program strengthens the research capabilities of the Nation's colleges and universities and provides opportunities that attract and prepare an increasing number of students for NASA-related careers. These institutions conduct research that contributes to NASA mission directorates' research needs and furthers the Nation's scientific and technology innovation agendas. The student programs serve as a major link in the pipeline for addressing NASA's human capital strategies. The programs build, sustain, and effectively deploy the skilled, knowledgeable, diverse, and high-performing workforce needed to meet the current and emerging needs of NASA and the Nation.

The projects in the Aerospace Research and Career Development program are Space Grant and EPSCoR.

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STEM EDUCATION AND ACCOUNTABILITY (SEA)

The STEM Education and Accountability (SEA) program provides unique NASA assets, including its people, resources and facilities available in support of the Nation's STEM education priorities. The projects within the SEA program are MUREP and the STEM Education and Accountability Projects (SEAP).

Following on progress toward NASA's internal consolidation of STEM programs, projects and activities that began in FY 2012, the SEA program currently funds competitive grants, cooperative agreements, and professional development at NASA Centers for high school and college students, K-12 educators, and higher education faculty. The program enhances education and research, academic, and technology capabilities of Historically Black Colleges and Universities, Hispanic Serving Institutions, Tribal Colleges and Universities, other Minority Serving Institutions (MSIs), and the Nation's non-profit informal education institutions. It also provides opportunities for underrepresented and underserved learners to participate in research and education opportunities through internships, scholarships, and fellowships including opportunities for minority institutions to improve the quality of their faculty preparation programs, thereby improving the quality and diversity of future STEM leaders.

NASA invests in a shared program evaluation and accountability effort across both the ARCD and SEA programs. Managed from NASA Headquarters, it ensures project alignment and helps identify and eliminate potential duplication of effort across NASA's education portfolio. NASA also actively participates in the National Science and Technology Council Committee on STEM and co-chairs the Federal Committee on STEM (FC-STEM). These two efforts ensure NASA's investments are non-duplicative of other Federal agencies, and are internally coordinated among OE, mission directorates, and Centers. CoSTEM coordinates Federal programs and activities in support of STEM education, pursuant to the requirements of Section 101 of the America COMPETES Reauthorization Act of 2010.

For more information on CoSTEM reports, go to:

<http://www.whitehouse.gov/administration/eop/ostp/nstc/committees/costem>.

AEROSPACE RESEARCH AND CAREER DEVELOPMENT PROGRAM

FY 2015 Budget

Budget Authority (in \$ millions)	Actual	Enacted	Request	Notional			
	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
National Space Grant College and Fellowship Project	37.2	40.0	24.0	24.0	24.0	24.0	24.0
Experimental Project To Stimulate Competitive Research (EPSCoR)	16.7	18.0	9.0	9.0	9.0	9.0	9.0
Total Budget	54.0	58.0	33.0	33.0	33.0	33.0	33.0
Change from FY 2014			-25.0				
Percentage change from FY 2014			-43.1%				

Note: As reflected in the August 2013 Operating Plan, FY 2013 includes rescissions per P.L.113-6 Division G, Section 3001(b)(1)(B) and Division G, Section 3004(c)(1) and reductions due to sequestration per BBEDCA Section 215A.

FY 2014 reflects funding amounts specified in P.L. 113-76, Consolidated Appropriations Act, 2014, including amounts noted in the Explanatory Statement. Where amounts were not specified, no amount is shown in the budget table.



Students in the NASA EPSCoR project at Utah State University tested the Ionic liquid (IL) thruster. Project participants investigated the IL propellants as environmentally sustainable alternatives to hydrazine, a commonly used but environmentally unsustainable space propellant. Existing catalytic ignition methods require significant energy input to initiate combustion and are disadvantageous for small spacecraft with limited power budgets. The thermoelectric USU ignition system offers greatly reduced power consumption.

Aerospace Research and Career Development (ARCD) supports national STEM efforts through the National Space Grant College and Fellowship Program (Space Grant) and the Experimental Program to Stimulate Competitive Research (EPSCoR).

The NASA Authorization Act of 1988 (P.L. 100-147) established Space Grant with a goal of enhancing the Nation's science enterprise by funding education, research, and public service projects through a national network of university-based Space Grant consortia. The NASA Authorization Act, FY 1992 (P.L. 102-588) established EPSCoR to strengthen the research capability of jurisdictions that have not in the past participated equitably in competitive aerospace research activities. The goal of the NASA EPSCoR is to provide seed funding that will enable jurisdictions to develop an academic research enterprise directed toward long-term, self-sustaining, nationally competitive capabilities in aerospace and aerospace-related research. This capability will, in turn, contribute to the jurisdiction's economic viability and

expand the Nation's base for aerospace research and development.

Education: Education

AEROSPACE RESEARCH AND CAREER DEVELOPMENT PROGRAM

These national projects enable NASA to advance more strategically STEM literacy by enhancing science and engineering education and research efforts in higher education, K-12, and informal education. In addition to education, ARCD promotes research and technology development opportunities for faculty and research teams that advance the Agency's scientific and technical priorities.

EXPLANATION OF MAJOR CHANGES IN FY 2015

See Explanation of Major Changes section of Education Account Overview. Funding will focus on the most effective and highest priority activities.

NATIONAL SPACE GRANT COLLEGE AND FELLOWSHIP PROJECT

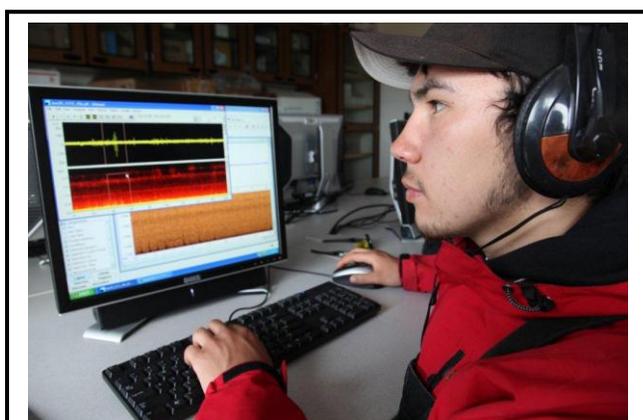
Formulation	Development	Operations
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FY 2015 Budget

Budget Authority (in \$ millions)	Actual FY 2013	Enacted FY 2014	Request FY 2015	FY 2016	Notional		
					FY 2017	FY 2018	FY 2019
Total Budget	37.2	40.0	24.0	24.0	24.0	24.0	24.0
Change from FY 2014			-16.0				
Percentage change from FY 2014			-40.0%				

Note: As reflected in the August 2013 Operating Plan, FY 2013 includes rescissions per P.L. 113-6 Division G, Section 3001(b)(1)(B) and Division G, Section 3004(c)(1) and reductions due to sequestration per BBEDCA Section 215A.

FY 2014 reflects funding amounts specified in P.L. 113-76, Consolidated Appropriations Act, 2014, including amounts noted in the Explanatory Statement. Where amounts were not specified, no amount is shown in the budget table.



Alaska Space Grant student Carlton Hautala scans underwater recordings from the central Aleutian Islands. As part of an introductory bioacoustics class at the University of Alaska, Fairbanks, Hautala learned to use search algorithms to detect and classify acoustic signals of whales.

The Space Grant is a competitive grant opportunity project, enabling the active involvement of the entire country in NASA activities through its national network of 52 consortia in 50 states, the District of Columbia, and the Commonwealth of Puerto Rico. Space Grant supports and enhances science and engineering education and research efforts for educators and learners by leveraging the resource capabilities and technologies of over 1,000 affiliates from universities, colleges, industry, museums, science centers, and state and local agencies. Training grants with each consortium align their work with the Nation’s STEM education priorities and the annual performance goals of the Agency.

Space Grant enables NASA to provide opportunities for students to gain research and hands-on engineering experiences on a variety of

authentic flight platforms, including high-altitude balloons, sounding rockets, aircraft, and space satellites. Space Grant leverages Agency investments in STEM education through collaborations with other national NASA education projects, including those conducted by NASA Mission Directorates and Centers. Space Grant also supports student participants in internship experiences at NASA Centers.

NATIONAL SPACE GRANT COLLEGE AND FELLOWSHIP PROJECT

Formulation	Development	Operations
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EXPLANATION OF MAJOR CHANGES IN FY 2015

See Explanation of Major Changes section of Education Account Overview. Funding will focus on the most effective and highest priority activities.

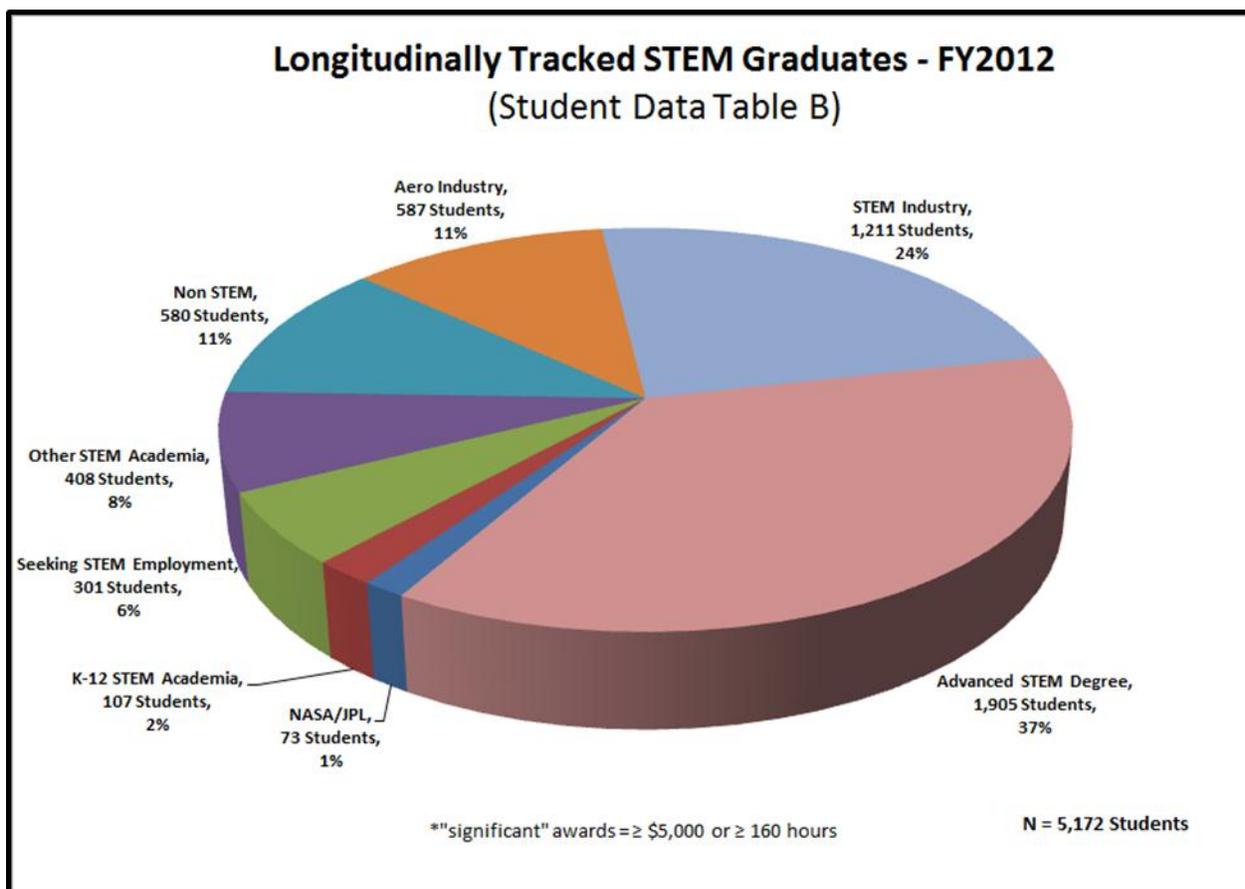
ACHIEVEMENTS IN FY 2013

Space Grant provided direct support for 11,722 undergraduate and graduate students in scholarships, fellowships, internships and authentic hands-on research and engineering challenges. Diversity is a key component within the Space Grant project, achieving a 26 percent participation of underrepresented students, and 40 percent participation of female students in Space Grant activities. Educators are an important target audience of Space Grant. This year over 32,883 educators participated in NASA education activities. Space Grant also targets elementary and secondary students through NASA informal education activities, web-based activities, and other instructional and enrichment activities, reaching over 321,000 precollege students. The Agency conducts longitudinal tracking of Higher Education students receiving significant investments.

The figure below shows the status of 5,172 students who were longitudinally tracked in 2012 after taking their next step from Space Grant. As noted below, of the 5,172 STEM graduates, 1,905 or 37 percent of the graduates who participated in NASA Higher education programs are currently pursuing advanced STEM degrees.”

NATIONAL SPACE GRANT COLLEGE AND FELLOWSHIP PROJECT

Formulation	Development	Operations
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Note: FY 2012 data is the most current data. FY 2013 Data is not available until June 2014.

Space Grant consortia received another year of base funding to continue efforts outlined in their five-year strategic plan. All activities conducted by the 52 consortia are in alignment with Agency goals, the OE lines of business, as well as the National Science Technology Council (NSTC) CoSTEM priority areas. Space Grant base awards have components in scholarships/fellowship/internships, Higher Education, Research Infrastructure, Precollege, and Informal Education. Nine consortia received funding in the highly competitive Space Grant Innovative Pilot in STEM Education opportunity. These awarded consortia are conducting activities centered on undergraduate STEM retention rates or increasing the number of qualified K-12 STEM educators, per the President’s Council of Advisors on Science and Technology (PCAST) goals to strive for one million STEM graduates and 100,000 new STEM middle and high school teachers over the course of the next ten years. Space Grant consortia also supported flight project activities led by student teams. Some of those flight activities include, but are not limited to:

NATIONAL SPACE GRANT COLLEGE AND FELLOWSHIP PROJECT

Formulation	Development	Operations
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- CubeSat Launch Initiative
- Rock-on Workshop
- Rock-Sat-C
- Rock-Sat-X
- DemoSat
- High Altitude Student Platform (HASP).

WORK IN PROGRESS IN FY 2014

Space Grant consortia are currently carrying out fourth year activities outlined in their five-year strategic plans. In addition to those activities, the Space Grant Program Office at NASA Headquarters is planning to release a one-year competitive supplementary-targeted opportunity focused on key CoSTEM priorities and enhancing community college STEM endeavors. NASA will implement activities identified in the Innovative Pilot proposals in FY 2014 as well. These student retention and STEM education activities under the pilot projects are in the first year of a two-year grant cycle. Lastly, the Space Grant Program Office at NASA Headquarters is preparing for an independent external evaluation of the national program. OE will incorporate results of the external evaluation into strategic planning for the Space Grant Program and for future solicitations.

KEY ACHIEVEMENTS PLANNED FOR FY 2015

In 2015, the program budget will support base awards for the 52 consortia, which includes the following elements that:

- Provide hands-on experiences for U.S. graduate and undergraduate students to prepare them for the future workforce and/or academic careers;
- Conduct programs and projects that align with the NASA Education priorities, CoSTEM, missions and state-specific needs to build upon the education pipeline in higher education, research infrastructure, precollege and informal education;
- Promote a strong STEM education base from elementary through secondary levels while preparing teachers in these grade levels to become more effective at improving student academic outcomes;
- Continue to build upon and maintain the existing national network of universities with interests and capabilities in aeronautics, space and related fields; and
- Leverage the opportunities emerging from the NASA Education strategy to develop high-impact, nationwide partnerships.

NATIONAL SPACE GRANT COLLEGE AND FELLOWSHIP PROJECT

Formulation	Development	Operations
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Project Schedule

Date	Significant Event
Quarter 1 of FY 2015	Release of Solicitations for Space Grant
Quarter 2 of FY 2015	Proposal Due and Review Process (Space Grant)
Quarter 3 of FY 2015	Selection and Awards (Space Grant)
Quarter 4 of FY 2015	Evaluation and Performance Data Due

Project Management & Commitments

The Space Grant Project Manager at NASA Headquarters provides management responsibility for day-to-day Space Grant operations. Award selections by the 52 lead institutions are based on peer reviews by external panels that evaluate performance, and internal/external panels that assess performance, merit, and alignment to Agency education, research, and technology goals. Each consortium program or project must demonstrate alignment with NASA education objectives that align with NASA strategic goals. Civil servants at NASA centers actively engage with regional space grant consortia, providing direction, oversight, and integration with center and mission directorate activities.

Acquisition Strategy

NASA solicits Space Grants through full and open competition for proposals accepted from Space Grant consortia in each state, Washington D.C., and the Commonwealth of Puerto Rico. Each consortium program or project must demonstrate alignment with NASA education objectives that align with NASA strategic goals. Awards are based on peer reviews by external panels that evaluate performance, and internal/external panels that assess performance, merit, and alignment to Agency education, research, and technology goals. Awards are typically for five years.

Consortia must submit annual performance data, student profile and award information (for students who meet the longitudinal tracking threshold), project information, and other performance data. The Space Grant Program Office also performs comprehensive program reviews every five years).

MAJOR CONTRACTS/AWARDS

None.

NATIONAL SPACE GRANT COLLEGE AND FELLOWSHIP PROJECT

Formulation	Development	Operations
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INDEPENDENT REVIEWS

The Space Grant Program evaluation, which concluded in 2009, covered the five-year period from 2003 to 2007. It focused on a merit review of the performance by each consortia in three primary areas: overall performance and results (Program Performance and Results), effectiveness in terms of key elements of grant management practices (Network Participation and Responsiveness), and feedback from the consortium members (Affiliate Opinion Survey). Individual consortium results fell into four categories: Pass, Pass with Weaknesses, Pass with Deficiencies, and Serious Deficiencies. Depending on the category, consortia with results other than "Pass" were required to address the areas cited.

Review Type	Performer	Date of Review	Purpose	Outcome	Next Review
Independent/ External	TBD	N/A	An independent review by an external organization to assess the accomplishments and strategy of the Space Grant program	TBD	2014

EXPERIMENTAL PROJECT TO STIMULATE COMPETITIVE RESEARCH (EPSCoR)

Formulation	Development	Operations
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FY 2015 Budget

Budget Authority (in \$ millions)	Actual FY 2013	Enacted FY 2014	Request FY 2015	FY 2016	Notional		
					FY 2017	FY 2018	FY 2019
Total Budget	16.7	18.0	9.0	9.0	9.0	9.0	9.0
Change from FY 2014			-9.0				
Percentage change from FY 2014			-50.0%				

Note: As reflected in the August 2013 Operating Plan, FY 2013 includes rescissions per P.L.113-6 Division G, Section 3001(b)(1)(B) and Division G, Section 3004(c)(1) and reductions due to sequestration per BBEDCA Section 215A.

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Researchers and students from University of Montana prepare to hot-water drill to the bottom of the Greenland ice sheet. They use measurements made in the boreholes to constrain numerical simulations of the ice motion. Airborne radar measurements provide critical additional constraints of ice sheet geometry and internal layering from the NASA IceBridge mission.

The Experimental Program to Stimulate Competitive Research (EPSCoR) is a competitive grant opportunity project that establishes partnerships between government, higher education, and industry and promotes lasting improvements in the research and development (R&D) capacity of that state or region. By improving research infrastructure, a region will improve its national R&D competitiveness and economy. EPSCoR develops academic research projects to establish long-term, self-sustaining, and nationally competitive activities in jurisdictions with modest research infrastructure so that they become more competitive in attracting non-EPSCoR funding.

EPSCoR funds states and regions that have not historically participated equitably in Federal competitive aerospace and aerospace-related research activities. EPSCoR supports

competitively funded awards in eligible states (as identified by the National Science Foundation) and provides research and technology development opportunities for faculty and research teams. NASA actively seeks to integrate the research conducted by EPSCoR jurisdictions with the scientific and technical priorities pursued by the Agency.

EXPERIMENTAL PROJECT TO STIMULATE COMPETITIVE RESEARCH (EPSCoR)

Formulation	Development	Operations
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EXPLANATION OF MAJOR CHANGES IN FY 2015

See Explanation of Major Changes section of Education Account Overview. Funding is focused on the most effective and highest priority activities.

ACHIEVEMENTS IN FY 2013

NASA funded Year 2 (of 3) of the multi-year Research Infrastructure Development (RID) awards, representing all 29 eligible jurisdictions, with a net value of \$3.6 million. These RID awards will continue through FY 2015 with a total funding value of \$10.9 million

NASA also received 30 proposals in response to its annual competitive call for research. NASA funded 14 proposals from 14 jurisdictions with a net value of \$10.4 million over the 3-year term of the grants. The selected proposals represent research or technology development in NASA's mission directorates. These awards expire at the end of FY 2016 with annual reports that identify scientific and technical achievements.

In addition, three states (Utah, Iowa, and Tennessee) graduated from the NASA EPSCoR program because they demonstrated the ability to secure non- EPSCOR funding for sustainability. In 2013, EPSCoR added Guam as a new eligible jurisdiction.

WORK IN PROGRESS IN FY 2014

EPSCoR will make new research awards in FY 2014 based on availability of funding. Each funded proposal will establish research activities that will make significant contributions to NASA's strategic research and technology development priorities and contribute to the overall research infrastructure, science and technology capabilities, higher education, and economic development within the jurisdiction.

EPSCoR, in cooperation with the International Space Station (ISS) Program Office, is providing an opportunity titled "EPSCoR International Space Station (ISS) Flight Opportunity." EPSCoR will collaborate with the Space Technology Mission Directorate (STMD) to initiate a series of workshops aimed at increasing the states knowledge of NASA's unique and innovate capabilities, resources and facilities.

In support of the Federal EPSCoR Interagency Coordinating Committee (EICC), NASA EPSCoR is working to identify and provide subject matter experts to evaluate other agency EPSCoR proposals. To date, NASA EPSCoR has identified and provided three scientists to support the Department of Energy (DOE) review panels.

KEY ACHIEVEMENTS PLANNED FOR FY 2015

In FY 2015, NASA EPSCoR will issue a competitive call for extramural research proposals, RID proposals, ISS Flight Opportunity proposals, and support STMD/EPSCoR workshops. NASA EPSCoR

EXPERIMENTAL PROJECT TO STIMULATE COMPETITIVE RESEARCH (EPSCoR)

Formulation	Development	Operations
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will continue to be a very active member of the EPSCoR Interagency Coordinating Committee (EICC) and attempt to increase collaboration. The new research solicitation will focus on priority research and the technology development needs of NASA’s mission directorates. The RID solicitation will focus on building the jurisdictions’ research infrastructure. The ISS Flight Opportunity solicitation will focus on increasing the awarded states’ awareness of the NASA spaceflight processes. The STMD/EPSCoR workshops will communicate new research and enhance collaboration between NASA and jurisdictions. EPSCoR will work with the EICC members to participate in NASA spaceflight research efforts to improve the leveraging of Federal EPSCoR investments per H.R. 5116 America Competes Reauthorization Act of 2010.

Project Schedule

Date	Significant Event
Quarter 1 of FY 2015	Release of Solicitations for Research, RID and ISS Opportunity
Quarter 2 of FY 2015	Proposal due and Review Process (Research, RID and ISS Opportunity)
Quarters 3 &4 of FY 2015	Selection and Awards (Research, RID and ISS Opportunity)

Project Management & Commitments

The program manager for NASA EPSCoR is located at NASA Headquarters, and is responsible for overall administrative duties of this national project. The project manager is located at Kennedy Space Center (KSC) and provides management responsibility for day-to-day operations. Representatives from each NASA mission directorate work closely with EPSCoR project management to ensure that current and future research requirements are in EPSCoR solicitations. The mission directorate representatives serve as the proposal selection committee, further ensuring that the selected work contributes to NASA priorities. Technical monitors at the NASA Centers and Headquarters monitor and assess the progress of each award. They provide scientific guidance and technical advice throughout the year as required regarding the overall progress of the proposed effort, and review all progress reports. Additional involvement may occur, depending upon the nature of the collaboration already established or desired. This includes integrating the EPSCoR research into ongoing activities or research efforts, and increasing the principal investigator and his or her team’s awareness of other related or relevant research in NASA.

NASA is a member of the Federal EPSCoR Interagency Coordinating Committee (EICC), chaired by the National Science Foundation (NSF). The committee works to improve the leveraging of Federal EPSCoR investments. NASA EPSCoR will continue to develop strategies to adhere to the guidance within the America COMPETES Act.

EXPERIMENTAL PROJECT TO STIMULATE COMPETITIVE RESEARCH (EPSCoR)

Formulation	Development	Operations
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Acquisition Strategy

NASA solicits and awards EPSCoR grants through a competition among institutions from designated EPSCoR states. Each jurisdiction's proposal must demonstrate alignment with the Administration and NASA Strategic Plan for education. All research selections undergo rigorous peer reviews by external panels that evaluate technical merit and internal and external panels that assess content, merit, feasibility, and alignment to Agency education, research, and technology goals.

MAJOR CONTRACTS/AWARDS

None.

INDEPENDENT REVIEWS

The America COMPETES Reauthorization Act of 2010 required that: "The [NSF] Director shall contract with the National Academy of Sciences to conduct a study on all Federal agencies that administer an Experimental Program to Stimulate Competitive Research or a program similar to the Experimental Program to Stimulate Competitive Research." Completion of this report occurred in FY 2013 with a final report released on November 14, 2013.

Review Type	Performer	Date of Review	Purpose	Outcome	Next Review
Independent	National Academies	Nov-2013	Cross-agency evaluation of EPSCoR and other Federal EPSCoR-like programs and accomplishments per H.R. 5116 America Competes Reauthorization of 2010	NASA shall consider and incorporate the findings of the November, 2013 report of the National Academy of Sciences on the EPSCoR program into its fiscal year 2015 budget request.	N/A

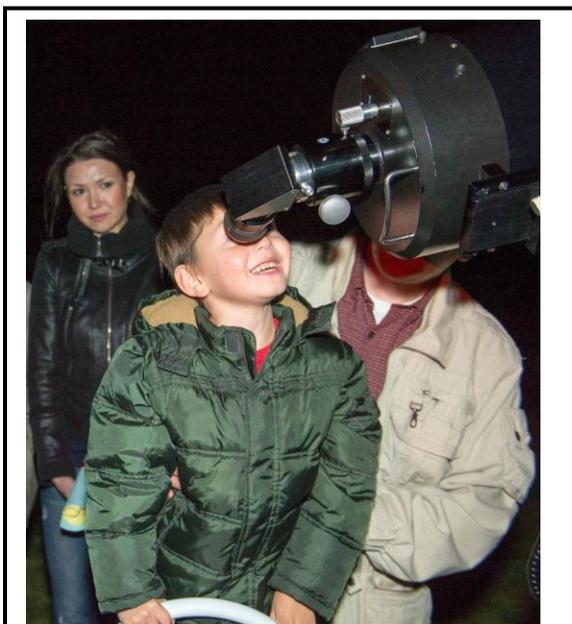
STEM EDUCATION AND ACCOUNTABILITY PROGRAM

FY 2015 Budget

Budget Authority (in \$ millions)	Actual	Enacted	Request	Notional			
	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Minority University Research Education Project	27.9	30.0	30.0	30.0	30.0	30.0	30.0
STEM Education and Accountability Projects	34.4	28.6	25.9	26.8	27.7	28.6	29.6
Total Budget	62.3	58.6	55.9	56.8	57.7	58.6	59.6
Change from FY 2014			-2.7				
Percentage change from FY 2014			-4.6%				

Note: As reflected in the August 2013 Operating Plan, FY 2013 includes rescissions per P.L.113-6 Division G, Section 3001(b)(1)(B) and Division G, Section 3004(c)(1) and reductions due to sequestration per BBEDCA Section 215A.

FY 2014 reflects funding amounts specified in P.L. 113-76, Consolidated Appropriations Act, 2014, including amounts noted in the Explanatory Statement. Where amounts were not specified, no amount is shown in the budget table.



Students participated in a stargazing event at Hoffman-Boston Elementary School in Arlington, Va. NASA Administrator Charles Bolden (not pictured) spoke with students and participated in hands-on activities, including examining moon rocks and using a variety of telescopes.

The SEA program makes unique NASA assets, including people, resources, and facilities available in support of the Nation’s STEM education priorities, including programs designed by the Department of Education, National Science Foundation, and the Smithsonian Institution. Through the competitive award of federal domestic assistance funds and collaboration with other federal agencies, the program provides interns, fellows, and educators access to NASA assets and content. It connects NASA’s partners, including higher education institutions, minority-serving institutions, community colleges, NASA visitor centers, museums, and planetariums to the broad scientific discoveries, aeronautics research, and exploration missions of the Agency.

NASA provides multi-year grants and cooperative agreements to the Nation’s Historically Black Colleges and Universities, Hispanic Serving Institutions, Tribal Colleges, and other Minority Serving Institutions through the Minority University Research and Education Project (MUREP). MUREP awardees provide internships, scholarships, fellowships, mentoring, and tutoring for underserved and underrepresented learners in K-12, informal, and higher education settings, (including community colleges), particularly those serving a high proportion

of minority and underserved students, persons with disabilities, and women.

STEM EDUCATION AND ACCOUNTABILITY PROGRAM

EXPLANATION OF MAJOR CHANGES IN FY 2015

See Explanation of Major Changes section of Education Account Overview. Funding is focused on the most effective and highest priority activities.

MINORITY UNIVERSITY RESEARCH EDUCATION PROJECT

Formulation	Development	Operations
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FY 2015 Budget

Budget Authority (in \$ millions)	Actual FY 2013	Enacted FY 2014	Request FY 2015	FY 2016	Notional		
					FY 2017	FY 2018	FY 2019
Total Budget	27.9	30.0	30.0	30.0	30.0	30.0	30.0
Change from FY 2014			0.0				
Percentage change from FY 2014			0.0%				

Note: As reflected in the August 2013 Operating Plan, FY 2013 includes rescissions per P.L.113-6 Division G, Section 3001(b)(1)(B) and Division G, Section 3004(c)(1) and reductions due to sequestration per BBEDCA Section 215A.

FY 2014 reflects funding amounts specified in P.L. 113-76, Consolidated Appropriations Act, 2014, including amounts noted in the Explanatory Statement. Where amounts were not specified, no amount is shown in the budget table.



The NASA University Research Centers (URCs) project achieves a broad-based, competitive aerospace research capability among the nation's minority institutions. URCs are multidisciplinary research units established at minority institutions to focus on a specific area of NASA interest.

NASA provides financial assistance (grants and cooperative agreements) to the Nation's Historically Black Colleges and Universities (HBCUs), Hispanic Serving Institutions (HSIs), Asian American and Native American Pacific Islander-Serving Institutions (AANAPISIs), Tribal Colleges and Universities (TCUs) and eligible community colleges as required by the four Minority Serving Institutions (MSIs) Executive Orders through MUREP. These types of institutions target recruitment and retention of underrepresented and underserved students, including women and girls, and persons with disabilities into the STEM fields. Participation in NASA projects and research has the potential to stimulate increasing numbers of learners to continue and complete their studies at all education levels and encourages students to earn advanced degrees in STEM fields critical to NASA and the Nation.

NASA's MUREP investments help to ensure that NASA can meet future workforce needs in STEM fields. MUREP enhances the research, academic, and technology capabilities of HBCUs, HSIs, TCUs, AANAPISIs, and other Minority Serving Institutions (MSIs). Multi-year grants awarded to all types of MSIs assist faculty and students in research and authentic STEM engagement pertinent to NASA missions. These competitive awards provide general STEM knowledge, skills, and abilities to underrepresented and underserved learners through research, internships, scholarships, and fellowships at NASA Centers; and to provide opportunities for minority institutions to improve the quality of their faculty preparation programs and thereby improve the quality and diversity of future STEM leaders.

MINORITY UNIVERSITY RESEARCH EDUCATION PROJECT

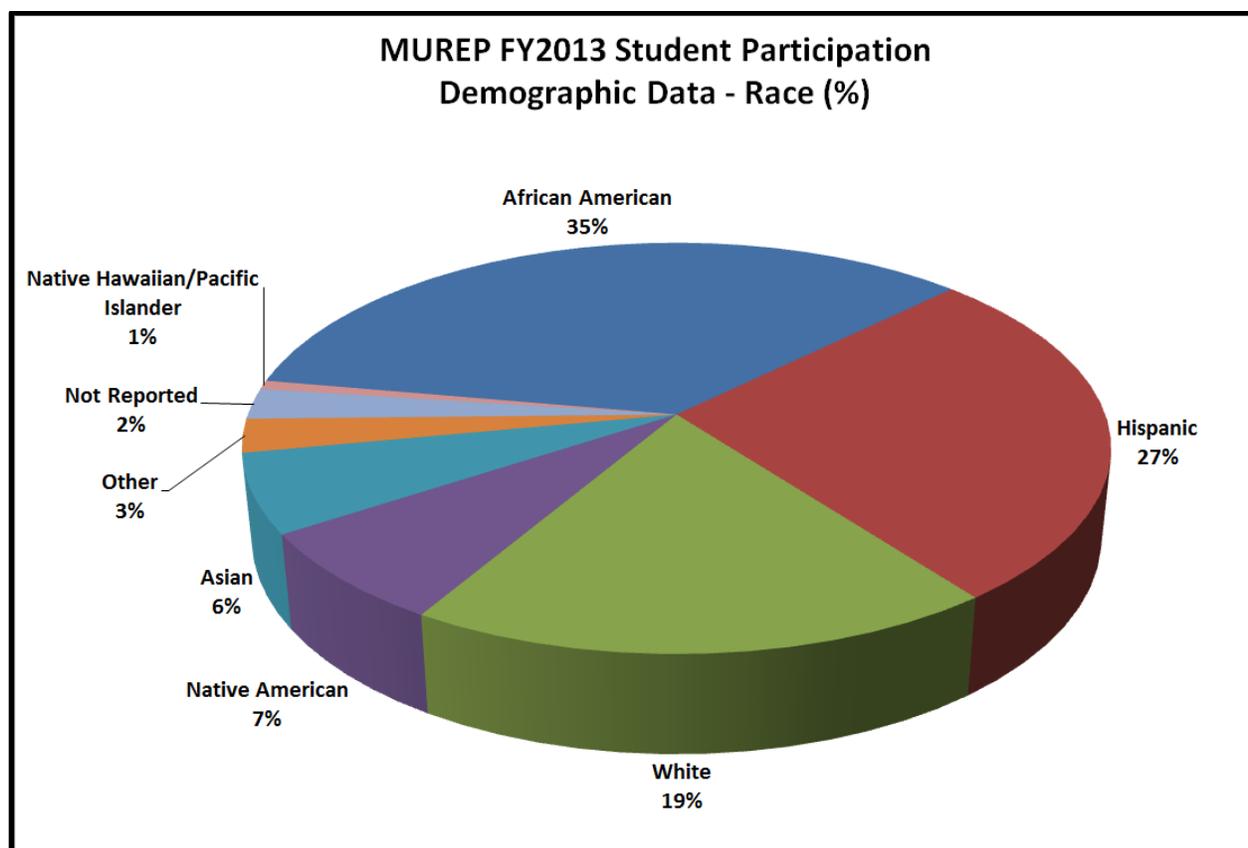
Formulation	Development	Operations
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EXPLANATION OF MAJOR CHANGES IN FY 2015

None.

ACHIEVEMENTS IN FY 2013

Financial support for minority students affects retention and completion rates of STEM degrees. The National Academy of Sciences, National Academy of Engineering, and Institute of Medicine (2011) highlighted that “compelling factors affecting the supply of minority STEM graduates has involved financial incentives.” Research experiences also contribute to increasing retention rates among all students. In FY 2013, MUREP directly supported over 800 postsecondary students with a significant investment of 160 or more contact hours or \$3,000 or more student stipend of which 37 percent were females, three percent were persons with disability, and over 90 percent were students from underrepresented and underserved groups.



MUREP funded graduate fellowships and undergraduate scholarships to increase the number of minority, disadvantaged, or underrepresented groups in the future STEM workforce. Graduate fellowships focus on increasing the number of Master’s and Doctoral degrees awarded to underrepresented and underserved persons (women, ethnic minorities, and persons with disabilities) in the STEM disciplines. Likewise, the

MINORITY UNIVERSITY RESEARCH EDUCATION PROJECT

Formulation	Development	Operations
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Undergraduate Scholarship focuses on underserved and underrepresented students in the STEM disciplines, thereby addressing the critical shortage of qualified STEM professionals across the nation. The goal of these competitive fellowships and scholarships is to address the Agency's mission-specific workforce needs and target areas of national need in minority STEM representation. In FY 2013, MUREP supported 63 graduate fellows where 62 percent were female, three percent were persons with disabilities, and three percent had former military service. In FY 2013, MUREP supported 81 undergraduate scholars. Forty-nine percent of those scholars were females.

MUREP's Innovations in Climate Education (NICE) is a competitive activity to promote climate and Earth System Science literacy. Approximately 7,700 higher education students participated in 70 new or revised NICE courses offered at four-year institutions and community colleges. In addition, 3,800 elementary and secondary educators and 11,275 elementary and secondary students participated in NASA climate-related educational activities. Over 3,100 administrators, parents, civic groups, and other professionals participated in NICE activities as well. The NICE activity reach extended to 32 different states, as well as the District of Columbia.

University Research Centers (URCs) provide a broad-based competitive NASA-related research capability among Minority Serving Institutions (MSIs) that foster new aerospace science and technology concepts. In 2013, the awardees authored 655 NASA-related research papers, publications, and presentations under the URCs activity. Research projects included Control Systems, Uninhabited Air Vehicles, Advanced Computation and Communications, Biofuel Combustion, Jet Propulsion, and many other fields. There have also been three patents granted and 45 students successfully earned advanced degrees in NASA-related fields.

Achieving Competence in Computing, Engineering, and Space Science (ACCESS) provides summer internships to highly qualified students with disabilities. Since its inception, 297 students have participated in ACCESS internships with 17 students hired at NASA. In FY 2013, ACCESS hosted 34 students with disabilities. Twenty-three percent of the students were females, 29 students were undergraduate students, and five were graduate students.

NASA recognizes that achievements in the minority community are the result of consistent investments. Initial investments may occur several years in advance of having a significant impact. The University Research (UR) 1- Investigation of Countermeasures to Modulate and Augment the Immune System on the ISS research project is comprised of the first selected team of HBCUs to send research to the ISS. Jarvis Christian College, Prairie View A&M University, Savannah State College, Texas Southern University, and Tougaloo College are all recipients of MUREP competitive multiyear grants. The research experience gained through MUREP grants allowed the institutions to participate in the UR-1 activity sponsored by the ISS University Research Activity, which provided undergraduates, graduate students, and faculty researchers from Tier 2 and Tier 3 universities experience in planning and implementing ground-based and ISS-based experiments and professional development through established collaborations, partnerships, and experiences with NASA researchers. In FY 2013, UR-1 supported three graduate and seven undergraduate students. Fifty percent of the students were females.

MINORITY UNIVERSITY RESEARCH EDUCATION PROJECT

Formulation	Development	Operations
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WORK IN PROGRESS IN FY 2014

MUREP funds pre-K-12 educator professional development, internships, fellowships, and scholarships for underrepresented and underserved students and supports the development of STEM curricula at minority institutions and community colleges to help prepare underrepresented and underserved students in STEM disciplines and careers. A small amount of funds will support the multi-year cross-center internship cooperative agreement to the Universities Space Research Association (USRA) to ensure participation by students from eligible MSI. The majority of MUREP funding will be used to maintain active agreements with 17 HBCUs, 16 HSIs, four TCUs, four AANAPISIs, two Other Minority Serving Universities, and eight non-profit organizations that contribute to MUREP's goals. Some institutions and organizations received multiple awards.

For NASA's full report of accomplishments in MUREP, go to:
<http://www.nasa.gov/offices/education/performance/index.html>.

KEY ACHIEVEMENTS PLANNED FOR FY 2015

MUREP will continue to provide competitive funding opportunities to MSIs through an omnibus solicitation called Educational Opportunities in NASA STEM (EONS).

Project Schedule

TBD

MINORITY UNIVERSITY RESEARCH EDUCATION PROJECT

Formulation	Development	Operations
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Project Management & Commitments

The MUREP project manager is located at NASA Headquarters and provides management and oversight for overall activity operations. NASA Centers manage significant investments in project activity elements. In FY 2013, the current MUREP elements are as follows:

Element	Description	Provider Details	Change from Formulation Agreement
University Research Centers (URCs)	URCs are multi-disciplinary research centers at Minority Serving Institutions (MSI) that are supported to expand the Nation's base for aerospace research and development, and increase the production of underrepresented/underserved students who obtain degrees undergraduate and graduate degrees in NASA-related fields.	Provider: All NASA Centers Lead Center: AFRC Performing Center(s): All NASA Centers Cost Share Partner(s): N/A	
Curriculum Improvements Partnership Award for the Integration of Research (CIPAIR)	CIPAIR was designed to strengthen the curricula of MSIs and community colleges in order to attract more students into STEM-based academic programs, retain them, and prepare them for success when they take the next steps in their education or in their careers	Provider: All NASA Centers Lead Center: HQ Performing Center(s): All NASA Centers Cost Share Partner(s): N/A	
Motivating Undergraduates in Science and Technology (MUST)	MUST increases the number of underrepresented/underserved students in STEM disciplines. Each MUST participant receives three-years of support in the form of a scholarship, internships at a NASA Center, mentoring, and professional development.	Provider: All NASA Centers Lead Center: GRC Performing Center(s): All NASA Centers Cost Share Partner(s): N/A	

MINORITY UNIVERSITY RESEARCH EDUCATION PROJECT

Formulation		Development	Operations
Element	Description	Provider Details	Change from Formulation Agreement
Tribal Colleges and Universities Project (TCUP)	TCU activity supports the Nation’s Tribal Colleges through grants that provide funding for academic and research infrastructure development and support of STEM students at tribal colleges and universities.	Provider: All NASA Centers Lead Center: GSFC Performing Center(s): All NASA Centers Cost Share Partner(s): N/A	
MUREP Small Projects (MSP)	MSA advances MUREP priorities by identifying gaps or areas where new projects will enhance NASA higher education portfolio and better meet Agency objectives. Achieving Competence in Computing, Engineering, and Space Service is an example of an MSA activity that now fills an identified programming gap (i.e., internships for students with disabilities).	Provider: All NASA Centers Lead Center: KSC Performing Center(s): All NASA Centers Cost Share Partner(s): N/A	
Jenkins Pre-Doctoral Fellowship Project (JFPF)	JPF increases the number of underrepresented/ underserved STEM students at the graduate level. JPF provides three-years of support for each participant with a stipend, tuition off-set, a NASA internship, mentoring, and professional development.	Provider: All NASA Centers Lead Center: ARC Performing Center(s): All NASA Centers Cost Share Partner(s): N/A	
NASA Science and Technology Institute for Minority Institutions (NSTI-MI)	NSTI-MSI increases the research capacity of MSIs, increases the number of undergraduate STEM students, and supports Agency research objectives.	Provider: All NASA Centers Lead Center: ARC Performing Center(s): All NASA Centers Cost Share Partner(s): N/A	

MINORITY UNIVERSITY RESEARCH EDUCATION PROJECT

Formulation		Development	Operations
Element	Description	Provider Details	Change from Formulation Agreement
NASA Innovations in Climate Education (NICE) (Note: renamed from Innovations in Global Climate Change Education)	NICE provides grants to MSIs to: enhance climate change education; improve the teaching and learning about climate change and Earth system science; increase the number of underrepresented and underserved K-12 teachers of math and science; and increase the number of students prepared for graduate study in climate- related subjects.	Provider: All NASA Centers Lead Center: LaRC Performing Center(s): All NASA Centers Cost Share Partner(s): N/A	

Acquisition Strategy

MUREP solicits new and innovative education products, tools, and services from qualified MSIs and nonprofit organizations. This occurs in response to changes in STEM education trends, identified gaps or opportunities in the education portfolio of investments, a response to demonstrated customer need or demand, or when the Administration or Congress identifies new priorities. NASA awards education cooperative agreements, grants and contracts through full and open competition. Selections are based on peer reviews by external panels that evaluate educational merit and internal/external panels for content, merit, feasibility, and alignment to education goals.

MAJOR CONTRACTS/AWARDS

None

INDEPENDENT REVIEWS

All MUREP activities document performance through either external evaluations or internal reviews conducted by NASA staff. For example, a Technical Review Committee, made up of NASA and industry engineers and scientists, reviews each University Research Centers grantee annually during the five-year performance period. All review reports are used as a part of the renewal package for individual grantees.

STEM EDUCATION AND ACCOUNTABILITY PROJECTS

Formulation	Development	Operations
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FY 2015 Budget

Budget Authority (in \$ millions)	Actual FY 2013	Enacted FY 2014	Request FY 2015	FY 2016	Notional		
					FY 2017	FY 2018	FY 2019
Total Budget	34.4	28.6	25.9	26.8	27.7	28.6	29.6
Change from FY 2014			-2.7				
Percentage change from FY 2014			-9.4%				

Note: As reflected in the August 2013 Operating Plan, FY 2013 includes rescissions per P.L.113-6 Division G, Section 3001(b)(1)(B) and Division G, Section 3004(c)(1) and reductions due to sequestration per BBEDCA Section 215A.

FY 2014 reflects funding amounts specified in P.L. 113-76, Consolidated Appropriations Act, 2014, including amounts noted in the Explanatory Statement. Where amounts were not specified, no amount is shown in the budget table.



NASA Explorer Schools (NES) connects schools, educators, and learners with NASA resources and personnel in a refreshing new way, giving teachers and students access to unique NASA missions. The project gives teachers help and guidance in using NASA education resources in their classroom. In 2013, NES celebrated its 10-year anniversary of educating hundreds of schools and teachers, along with hundreds of thousands of students.

NASA will continue to integrate and consolidate its STEM Education projects and activities into a more focused portfolio, consistent with Congressional direction to streamline and consolidate STEM education programs within NASA. Specifically, NASA will continue internal consolidation of education functions, assets, and efforts of the mission directorates into the coordinated STEM Education and Accountability Projects (SEAP). SEAP assets are critical and unique components that NASA can make available to the National Science Foundation, Smithsonian Institution, and Department of Education, on a reimbursable basis, as they facilitate federal STEM education activities through the Administration's Committee on STEM process for agency coordination.

Additionally, the expiration of some prior-year cooperative agreements enables NASA to reinvent its formal and informal education portfolio to better address the Administration's STEM goals. Working in collaboration with

other federal agencies, NASA will continue to support STEM activities across four lines of business: 1) educator professional development, 2) STEM engagement, 3) institutional engagement, and 4) internships, fellowships and scholarships.

NASA will continue to provide opportunities to a diverse audience of students, educators and learners, including women, minorities, and persons with disabilities. NASA will continue to review and consider

STEM EDUCATION AND ACCOUNTABILITY PROJECTS

Formulation	Development	Operations
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appropriate ways to incorporate the most meritorious education functions, assets, and efforts of the Aeronautics Research Mission Directorate (ARMD) and Human Exploration and Operations Mission Directorate (HEOMD) into the SEAP. SEAP will continue to enhance coordination with other agencies and focus on those areas of STEM education where the Federal government can have maximum impact, including innovations in performance monitoring, evaluation and formal and informal education. Through grants, cooperative agreements and other mechanisms NASA will make its people, resources, facilities, and discoveries available to key stakeholders and strategic partners, such as educational organizations and science museums.

EXPLANATION OF MAJOR CHANGES IN FY 2015

See Explanation of Major Changes section of Education Account Overview. In FY 2015 NASA will conduct a competition across the mission directorates and NASA Centers to identify the most meritorious education activities that should be funded with SEAP funds. Potential applicants and recipients for this funding could include the following.

- Projects and activities (e.g., scholarship, fellowship and institutional grants programs) previously funded by ARMD, HEOMD, or NASA Centers;
- Projects and activities not previously funded and would be new in FY 2015; and
- Projects and activities that awarded multi-year grants, cooperative agreements, or contracts in a prior year seeking to continue another year of funding for previously competitively selected grantees or contract awardees.

The goal of this competition would be to ensure that SEAP funding is made available to the most effective and highest priority education activities across the agency. Additionally, NASA will continue to implement a STEM intra- and inter-agency coordination effort that will serve as the focal point for NASA to ensure that the Agency's assets support STEM activities directed by the National Science Foundation (NSF), Smithsonian Institution (SI), and Department of Education (ED) and are consistent with the Five-Year Federal Strategic Plan on STEM Education and the Administration's STEM reorganization

ACHIEVEMENTS IN FY 2013

The number of elementary and secondary students participating in NASA instructional and enrichment activities was approximately over 2 million. The percentage of elementary and secondary students expressing interest in STEM careers following their involvement in NASA education programs was 86 percent, a positive indicator for NASA's success in STEM engagement. In addition, the Summer of Innovation (SOI) pilot project, launched in 2010 in support of the President's Educate to Innovate campaign, engaged approximately 58,289 students in grades four to eight. The majority of the students served by SOI were from underserved/underrepresented populations, including:

- 58 percent minority;
- 50 percent female; and
- 79 percent received free/reduced lunch.

STEM EDUCATION AND ACCOUNTABILITY PROJECTS

Formulation	Development	Operations
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NASA's FY 2013 Competitive Program for Science Museums, Planetariums, and NASA Visitor Plus Other Opportunities (NASA Research Announcement NNH13ZHA001N) received nearly 70 proposals from informal education institutions and NASA visitor centers requesting support for teacher professional development, exhibits, planetariums shows, and STEM engagement programming. The final selection process is nearing completion, with final selections depending on finalization of the FY 2014 budget. Thirty-six institutions from prior awards had active projects during FY 2013. At the same time, the Museum Alliance grew to include more than 580 U.S. museums, science centers, planetariums, NASA visitor centers, and Challenger Learning Centers.

Through the One-Stop Shopping Initiative, more than 15,000 undergraduate, graduate and high school students applied for NASA-unique formal education opportunities including internships, fellowship, and scholarships. NASA selected nearly 1,200 students.

WORK IN PROGRESS IN FY 2014

SEAP will fund a mix of new and old grants, contracts, and cooperative agreements highlighted in Project Management and Commitments below. In FY 2013, NASA issued a consolidated NASA Research Announcement (NRA): Competitive Program for Science Museums, Planetariums, and NASA Visitor Centers Plus Other Opportunities that will operate through FY 2014. This competitive NRA investment combined three, distinct prior year's NASA OE activities. Prior to the FY 2013 NRA, there had been an internal-only competition for NASA visitor centers, and external-only competition for museums and planetariums (including the Smithsonian museums and their affiliates), and no public calls for unsolicited proposals from other types of institutions, such as youth serving organizations. The Summer of Innovation (SoI) pilot project will complete implementation, and lessons learned will be available for implementation by federal and non-federal STEM education stakeholders.

KEY ACHIEVEMENTS PLANNED FOR FY 2015

As noted in the Explanation of Major Changes section, SEAP will support the most effective and highest priority STEM projects and activities across the agency. SEAP will establish the structure to provide efficient coordination of education efforts throughout NASA, and with external partners. In particular, the Education Coordinating Council (ECC), established in FY 2012 to ensure that the most effective NASA assets are made available to support the Nation's STEM education priorities, will conduct a self-assessment of Council operations. Additionally, potentially in collaboration with federal partners, the ECC will review NASA activities that support data collection, rigorous evaluation, and dissemination of evidence of NASA's contributions toward the achievement of the Nation's wider STEM goals.

Project Schedule

Consistent with the National Science and Technology Council five-year Federal STEM education Strategic Plan, the STEM Education and Accountability projects will align its portfolio of activities over the next five years. In the first year, NASA will work with the CoSTEM to finalize criteria for success,

STEM EDUCATION AND ACCOUNTABILITY PROJECTS

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develop common evidence standards, evaluation and research toolkits, and identify efficiencies and collaborative opportunities.

In years two through five, the Agency will establish baselines and increase alignment with the adopted criteria. NASA will align its future evaluation strategy with the status report on the National Science and Technology Council five-year Federal STEM Education Strategic Plan. Successful STEM education practices and strategies identified through STEM education research studies and evaluations will guide NASA investments in STEM education.

Date	Significant Event
On-going throughout FY 2015	NSTC Committee on STEM Meetings

Project Management & Commitments

The STEM Education and Accountability project and lines of business managers for educator professional development, internships, fellowships and scholarships, STEM engagement and institutional engagement are located at NASA Headquarters and provide oversight for strategic activities and operations. In 2015, NASA will make new commitments based on the competitive acquisition strategy described below. NASA Centers, including JPL, or other previously selected awardees may be eligible to compete for SEAP funding (see Explanation of Major Changes section for more detail). The table below illustrates some cooperative agreements or contracts awarded in prior years.

Element	Description	Provider Details	Change from Formulation Agreement
Cooperative Agreement Number: NNX13AJ37A	Cooperative Agreement Selection Under the Cooperative Agreement Notice issued by OE NASA Internships Solicitation number: NNJ13ZBR001C	Provider: USRA Lead Center: Headquarters Performing Center(s): All Cost Share Partner(s): Not Applicable	No change Cooperative Agreement expires May 2018 Performance start date May 2013
Contract Number: C13-012	The NASA Glenn Education Support Services contract will help advance high-quality science, technology, engineering, and mathematics (STEM) education in Cleveland, NASA Headquarters in Washington, and other NASA centers, as necessary.	Provider: Paragon Tec Inc. of Cleveland Lead Center: Glenn Performing Center(s): All Cost Share Partner(s): Not Applicable	No Change Contract expires March 2018 Performance start date April 2013

STEM EDUCATION AND ACCOUNTABILITY PROJECTS

Formulation		Development	Operations
Element	Description	Provider Details	Change from Formulation Agreement
Cooperative Agreement Number: NNX10AJ63A	The NASA DIGITAL LEARNING NETWORK provides NASA STEM education content, missions, and research to those who register free, interactive events listed in our catalog, or watch the DLiNfo Webcast Channel.	Provider: OSU CENTER FOR INNOVATION AND ECONOMIC DEVELOPMENT, INC. Lead Center: Headquarters Performing Center(s): All Cost Share Partner(s): Not Applicable	No Change Cooperative Agreement expires July 2015. Performance Start Date August 2010.

Acquisition Strategy

As noted in the Explanation of Major Changes section, NASA will conduct a competition across mission directorates and NASA centers to identify the highest priority STEM projects and activities. Potential applicants and recipients include projects and activities previously funded by ARMD, HEOMD, and NASA Centers. Once projects and activities have been selected, consistent with existing NASA practices, NASA will award any education cooperative agreements, grants, and contracts through full and open competitions. External and internal experts base selections in part on peer reviews. The Education Coordinating Council (ECC) also makes recommendations to the Associate Administrator for Education on any funding allocated to activities implemented directly by NASA Centers, including JPL.

MAJOR CONTRACTS/AWARDS

None.

INDEPENDENT REVIEWS

Independent review is responsive to both a Government Accountability Office report (GAO-12-342SP) and reports from the National Science and Technology Council Committee on STEM. NASA embeds evaluation and accountability requirements within SEA activities as appropriate for performance monitoring.

STEM EDUCATION AND ACCOUNTABILITY PROJECTS

Formulation	Development	Operations
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External experts reviewed the Summer of Innovation Pilot as explained in the table below.

Review Type	Performer	Date of Review	Purpose	Outcome	Next Review
Program design review	External experts	May-Jun 2012	Identify preferred program models; Identify new project requirements based on research evidence	New project requirements identified and implemented in 2013 and 2014.	Nov-Dec 2014
Evaluation design review	External experts	Aug 2012	Identify new evaluation design and develop high-level evaluation plan to assess preferred program model	New evaluation plan developed and implemented by Abt Associates in 2013 and 2014	Jan 2013 Mar-Apr 2014