EDUCATION

Budget Authority (in $ millions)	Actual FY 2014	Enacted FY 2015	Request FY 2016	Notional FY 2017	Notional FY 2018	Notional FY 2019	Notional FY 2020
Aerospace Research and Career Development	58.0	58.0	**33.0**	33.0	33.0	33.0	33.0
STEM Education and Accountability	58.6	--	**55.9**	57.2	58.6	60.0	61.4
Total Budget	**116.6**	**119.0**	**88.9**	**90.2**	**91.6**	**93.0**	**94.4**

FY 2014 reflects funding amounts specified in the June 2014 Operating Plan per P.L. 113-76.

FY 2015 reflects only funding amounts specified in P.L. 113-235, the Consolidated and Further Continuing Appropriations Act, 2015.

EDUCATION

FY 2016 Budget

Budget Authority (in $ millions)	Actual FY 2014	Enacted FY 2015	Request FY 2016	Notional FY 2017	Notional FY 2018	Notional FY 2019	Notional FY 2020
Aerospace Research and Career Development	58.0	58.0	**33.0**	33.0	33.0	33.0	33.0
STEM Education and Accountability	58.6	--	**55.9**	57.2	58.6	60.0	61.4
Total Budget	**116.6**	**119.0**	**88.9**	**90.2**	**91.6**	**93.0**	**94.4**
Change from FY 2015			**-30.1**				
Percentage change from FY 2015			**-25.3%**				

FY 2014 reflects funding amounts specified in the June 2014 Operating Plan per P.L. 113-76.

FY 2015 reflects only funding amounts specified in P.L. 113-235, the Consolidated and Further Continuing Appropriations Act, 2015.

The Native American Heritage Program held at Marshall's official visitor center, the US Space and Rocket Center, a Smithsonian affiliate, supported nearly 800 local underrepresented and underserved fifth grade students through groups such as Girl Scouts, Native Americans, 4-H Clubs, Head Start students, and the visually-and hearing-impaired.

Bolstering American science and innovation is central to the Administration's strategy for strengthening the economy and increasing opportunities for Americans to secure high-paying jobs. As a result, the Administration has placed a high priority on Science, Technology, Engineering, and Mathematics (STEM) education, making significant commitments to improve the quality of STEM education at all levels, including by preparing 100,000 new and effective STEM teachers and producing an additional one million STEM undergraduates over the next decade.

NASA Education's vision advances high quality STEM education using NASA's unique capabilities, assets and expertise. This vision aligns to ***Objective 2.4: Advance the Nation's STEM education and workforce pipeline by working collaboratively with other agencies to engage students, teachers, and faculty in NASA's missions and unique assets*** in the Agency's 2014 Strategic Plan. NASA Education programs will continue to develop and execute strategic collaborations and partnerships with intergovernmental, academic, industrial, entrepreneurial, and international communities to achieve NASA's values, mission, and vision.

NASA Education programs provide opportunities for educators, learners and institutions that are consistent with the goals, objectives, and strategies of the Five-Year Federal Strategic Plan on STEM Education, Committee on STEM (CoSTEM). NASA Education collaborates with other federal agencies in the key areas identified by CoSTEM to: 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 experiences for tomorrow's STEM workforce. The FY 2014 CoSTEM

EDUCATION

Progress Report can be viewed here:
http://www.whitehouse.gov/sites/default/files/microsites/ostp/STEM-ED_FY15_Final.pdf.

In FY 2016, NASA Education will build on the Administration's efforts to establish a stronger and more cohesive federal infrastructure for delivering STEM education and leveraging existing resources to improve the reach of the Agency's assets. The Office of Education (OE) supports a coherent framework for engaging STEM education learners, educators, and institutions; while reducing program fragmentation and ensuring that the OE, Centers and Mission Directorates implement a strategically integrated education portfolio. NASA Education gives priority to two kinds of activities: activities that use evidence to guide program design and implementation and activities that build evidence about what works in STEM education, using appropriate metrics and improving the measurement of outcomes. NASA Education also continues to use competitive processes for allocating resources and ensuring that the most effective STEM education activities are supported.

NASA's STEM education expertise, as well as the Agency's unique missions and assets, makes profound contributions to the Nation's STEM education portfolio. The FY 2016 request for NASA Education is $88.9 million. Additionally, the Budget provides $20 million to NASA's Science Mission Directorate to compete and fund meritorious science educational activities that meet the Nation's STEM education goals. NASA continues to consolidate the education functions, assets, and efforts of the Mission Directorates, Offices, and Centers into the coordinated STEM Education and Accountability Projects (SEAP) under the auspices of NASA Education. A SEAP competition conducted in FY 2015 identified and prioritized NASA-unique assets and content for implementation in FY 2016 by NASA Education and in support of other Federal agencies STEM efforts. FY 2016 activities will continue to capitalize on the excitement of NASA's missions of scientific inquiry and exploration through innovative solutions, approaches, and tools that inspire educator and learner interest and proficiency in STEM.

EXPLANATION OF MAJOR CHANGES IN FY 2016

None.

ACHIEVEMENTS IN FY 2014

NASA Education made significant strides in developing and executing strategic collaborations and partnerships with other Federal entities and non-profit organizations to accomplish the Administration's vision for STEM. The OE signed a Space Act Agreement with Destination Imagination, Inc., a nonprofit organization providing project-based educational programs in the United States and abroad, to foster creativity and innovation among K-12 students that enables adding NASA space exploration and innovation content to Destination Imagination's programs and activities. Additionally, NASA Education formalized a long-standing collaboration on 4-H, the nation's largest youth development organization, with the Department of Agriculture's National Institute for Food and Agriculture. In collaboration with the nonprofit 4-H Council, the first activity in this five-year agreement helped prepare and launch the 2014 National Youth Science Day on October 8, 2014. Hundreds of thousands of youths in the United States and abroad participated in this youth-led science experiment as part of 4-H National Youth Science Day. The University of Arizona Cooperative Extension designed the Rockets to the Rescue experiment that challenged youth to build an aerodynamic craft designed to deliver a payload of food to natural disaster victims.

EDUCATION

In a novel collaboration between Federal agencies, NASA and the Department of Education entered into a reimbursable Space Act Agreement that ran from fall 2013 through winter 2014. The agreement aligned with near-term CoSTEM priorities to increase and sustain youth and public engagement in STEM. The partnership supported STEM objectives and activities within Department of Education's 21st Century Community Learning Center (21CCLC) program. NASA customized online STEM challenges and associated curriculum materials aligned to 21CCLC objectives and implemented them in Colorado, Michigan, and Virginia. NASA and the Department of Education are using the results from this pilot activity to draft a framework for other federal collaborations with 21CCLC.

WORK IN PROGRESS IN FY 2015

NASA continues to align its STEM education activities with the priorities identified by CoSTEM. NASA and the Department of Education entered into a second reimbursable Space Act Agreement that follows up on the earlier 21CCLC pilot. The second agreement also aligns to the near-term CoSTEM priority of increasing and sustaining youth and public engagement in STEM. The partnership continues to support STEM objectives within ED's 21CCLC program and is conducting a comprehensive evaluation study to collect evidence of the pilot's effectiveness. NASA will continue to customize its online STEM challenges and associated curriculum materials aligned to 21CCLC objectives.

NASA Education is continuing to cultivate strategic partnerships with non-governmental entities to accomplish its vision. NASA Education is revising its NASA Announcement for High-Impact and National Strategic STEM Education Partnerships [EDUCATION01SP13] to reflect the CoSTEM Plan and the NASA Strategic Plan. OE has already signed a Space Act Agreement with US Satellite Laboratory to provide NASA STEM-based educator professional development through a series of online, university-level STEM education courses for pre- and in-service teachers. Through this strategic effort, NASA and US Satellite Laboratory advance the CoSTEM priority investment area to improve STEM instruction.

KEY ACHIEVEMENTS PLANNED FOR FY 2016

NASA Education will continue to actively contribute to Federal-wide efforts to advance collaboration among government agencies to deliver compelling STEM content through CoSTEM. In FY 2015 NASA was named co-chair with Smithsonian Institution for the STEM Engagement interagency working group and was active in sessions for the other four priority STEM education investments. In FY 2016 NASA OE will continue its dedication to the interagency working group-created infrastructure, policies and practices.

NASA Education will continue to use competitive processes to identify the most effective, 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.

EDUCATION

Programs

AEROSPACE RESEARCH AND CAREER DEVELOPMENT

The Aerospace Research and Career Development (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's Mission Directorate research needs and further 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. These programs are intended to 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 ARCD program are the National Space Grant College and Fellowship Program (Space Grant) and the Experimental Program to Stimulate Competitive Research (EPSCoR).

STEM EDUCATION AND ACCOUNTABILITY

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

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 the education and research, academic, and technology capabilities of Historically Black Colleges and Universities (HBCU), Hispanic-Serving Institutions (HSI), Tribal Colleges and Universities (TCU), 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 to identify and eliminate potential duplication of effort across NASA's education portfolio. NASA also actively participates in the National Science and Technology Council (NSTC)'s CoSTEM and co-chairs the Federal Coordination in STEM Education Subcommittee. 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

FY 2016 Budget

Budget Authority (in $ millions)	Actual FY 2014	Enacted FY 2015	Request FY 2016	Notional FY 2017	Notional FY 2018	Notional FY 2019	Notional FY 2020
National Space Grant College and Fellowship Project	40.0	40.0	**24.0**	24.0	24.0	24.0	24.0
Experimental Project To Stimulate Competitive Research (EPSCoR)	18.0	18.0	**9.0**	9.0	9.0	9.0	9.0
Total Budget	**58.0**	**58.0**	**33.0**	**33.0**	**33.0**	**33.0**	**33.0**
Change from FY 2015			**-25.0**				
Percentage change from FY 2015			**-43.1%**				

FY 2014 reflects funding amounts specified in the June 2014 Operating Plan per P.L. 113-76.

FY 2015 reflects only funding amounts specified in P.L. 113-235, the Consolidated and Further Continuing Appropriations Act, 2015.

Benjamin Martins, supported by the California Space Grant Consortium, worked with several NASA mentors and developed flexible wing concept technologies at the Aeronautics Academy at NASA's Armstrong Flight Research Center.

ARCD will continue national STEM efforts through Space Grant and 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 had not previously 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.

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 2016

None.

NATIONAL SPACE GRANT COLLEGE AND FELLOWSHIP PROJECT

Formulation	Development	Operations

FY 2016 Budget

Budget Authority (in $ millions)	Actual FY 2014	Enacted FY 2015	Request FY 2016	Notional FY 2017	FY 2018	FY 2019	FY 2020
Total Budget	**40.0**	**40.0**	**24.0**	**24.0**	**24.0**	**24.0**	**24.0**
Change from FY 2015			**-16.0**				
Percentage change from FY 2015			**-40.0%**				

FY 2014 reflects funding amounts specified in the June 2014 Operating Plan per P.L. 113-76.

FY 2015 reflects only funding amounts specified in P.L. 113-235, the Consolidated and Further Continuing Appropriations Act, 2015.

Community college students attended a one-week research academy where they were introduced to laboratory research supported by the California Space Grant Consortium. This was the first time these students had conducted university lab research.

Space Grant is a competitive grant opportunity that enables the active involvement 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 900 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 experience 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 NASA projects, including those conducted by NASA Mission Directorates and Centers. Space Grant also supports student participants in internship experiences at NASA Centers.

EXPLANATION OF MAJOR CHANGES IN FY 2016

None.

NATIONAL SPACE GRANT COLLEGE AND FELLOWSHIP PROJECT

Formulation	Development	Operations

ACHIEVEMENTS IN FY 2014

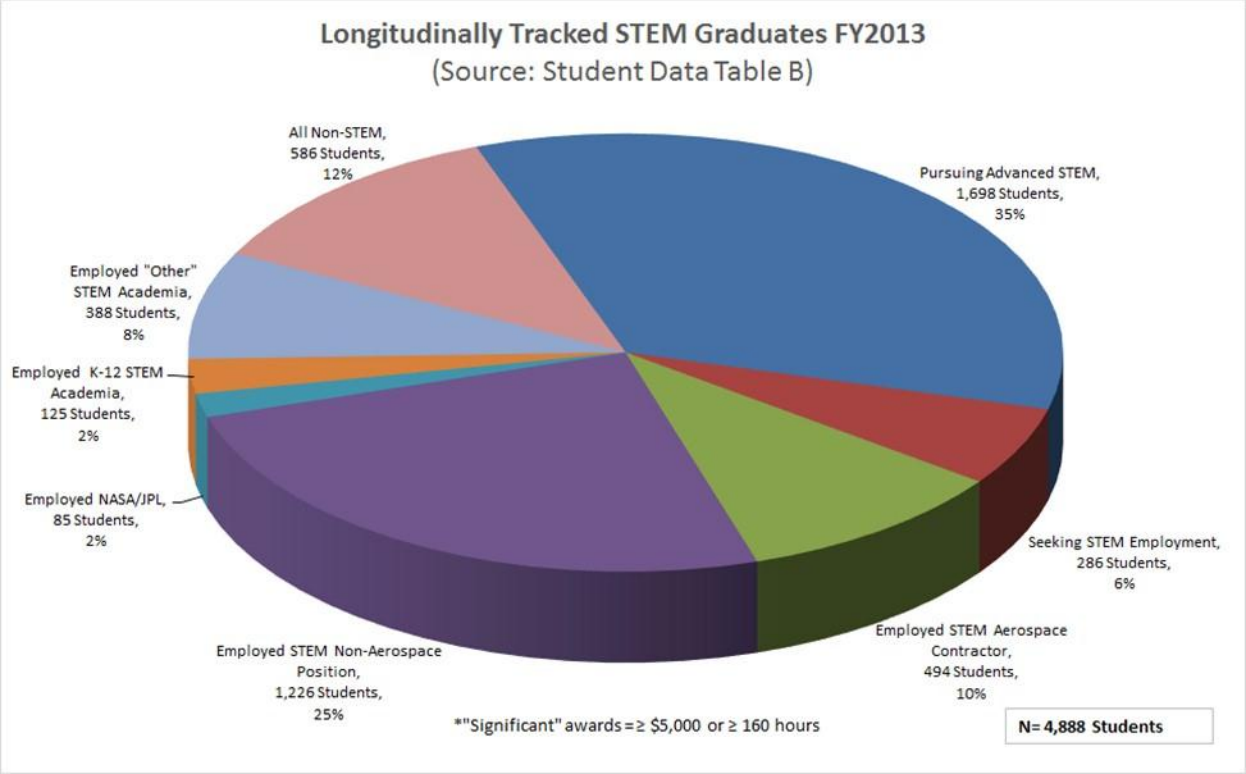
Thirty-five Space Grant consortia received more than $17 million in competitively awarded funds to increase student and faculty engagement in STEM at community colleges and technical schools across the US. Each award has a two-year performance period and a maximum value of $500,000. The winning proposals outlined ways to attract and retain more STEM students from community and technical colleges through competitive STEM scholarships, development of distance learning STEM courses for students and faculty, and internship opportunities at NASA Centers. For instance, the California Space Grant Consortium proposed to enhance STEM preparation at 12 State community colleges and improve opportunities for approximately 300 students to transfer to either the University of California or the California State University system. This multi-faceted program includes development of a distance learning STEM course for faculty and students that fosters education and training in topics such as: programmable microcomputers, near-space ballooning, small satellites, and autonomous ground robots. For more information on the 35 community colleges and technical schools awards, visit: http://go.nasa.gov/1svsrWD.

Space Grant provided student awards for more than 4,100 undergraduate and graduate students through scholarships, fellowships, internships and authentic hands-on research and engineering challenges. Diversity is a key component within the Space Grant project, achieving 28 percent participation among underrepresented students and 41 percent participation among female students in Space Grant activities. This year more than 16,000 educators participated in NASA Space Grant activities. Space Grant also targets elementary and secondary students through NASA informal education activities, web-based activities, and other instructional and enrichment activities; reaching more than 113,000 precollege students. The Agency conducts longitudinal tracking of higher education students receiving significant investments.

The figure below shows the status of Space Grant's 4,888 students who were tracked in 2013 and received awards in excess of $5,000 or had 160 or more contact hours. As noted below, of those students, 1,698 or 35 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



FY 2013 data is the most current data. FY 2014 Data is not available until June 2015.

Space Grant consortia received funding to continue efforts outlined in their five-year strategic plans. All activities conducted by the 52 consortia are in alignment with Agency goals, the OE lines of business, and the NSTC CoSTEM priority areas. Space Grant awards consist of scholarships, fellowships, or internships in support of higher education, Research Infrastructure, Precollege, and Informal Education. Space Grant consortia also supported flight project activities led by student teams. Some of those flight activities included, but are not limited to:

- Rock-on Workshop
- Rock-Sat-C
- Rock-Sat-X
- DemoSat
- High Altitude Student Platform (HASP)

WORK IN PROGRESS IN FY 2015

Space Grant consortia are currently implementing 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

NATIONAL SPACE GRANT COLLEGE AND FELLOWSHIP PROJECT

Formulation	Development	Operations

the next multi-year training grant solicitation, a three-year NASA STEM competitive opportunity focusing on key CoSTEM priorities and enhancing STEM endeavors. NASA is also implementing activities identified in the Community College and Technical Schools proposals awarded in FY 2014.

The Space Grant program office at NASA Headquarters continues to prepare for an independent external evaluation of the national program. OE will incorporate results from the external evaluation into strategic planning for the Space Grant program.

KEY ACHIEVEMENTS PLANNED FOR FY 2016

The program budget will continue to support base awards for the 52 consortia to do the following:

- Provide hands-on experiences for US 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.

Project Schedule

Date	Significant Event
Q1 FY 2016	Release of Solicitations for Space Grant
Q2 FY 2016	Proposal Due and Review Process (Space Grant)
Q3 FY 2016	Selection and Awards (Space Grant)
Q4 FY 2016	Prior Fiscal Years' 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

NATIONAL SPACE GRANT COLLEGE AND FELLOWSHIP PROJECT

Formulation	Development	Operations

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 multi-year.

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.

INDEPENDENT REVIEWS

The OE Evaluation Manager and the Space Grant Program office are engaged in community consultation and planning to support the next evaluation.

Review Type	Performer	Date of Review	Purpose	Outcome	Next Review
Indepen-dent/ External	TBD	TBD	To provide an independent review by an external organization to assess the accomplishments and strategy of the Space Grant program	TBD	2015

EXPERIMENTAL PROJECT TO STIMULATE COMPETITIVE RESEARCH (EPSCOR)

Formulation	Development	Operations

FY 2016 Budget

Budget Authority (in $ millions)	Actual FY 2014	Enacted FY 2015	Request FY 2016	Notional FY 2017	FY 2018	FY 2019	FY 2020
Total Budget	**18.0**	**18.0**	**9.0**	**9.0**	**9.0**	**9.0**	**9.0**
Change from FY 2015			**-9.0**				
Percentage change from FY 2015			**-50.0%**				

FY 2014 reflects funding amounts specified in the June 2014 Operating Plan per P.L. 113-76.

FY 2015 reflects only funding amounts specified in P.L. 113-235, the Consolidated and Further Continuing Appropriations Act, 2015.

Researchers from the University of Montana gather data in the field that is paired with NASA Goddard's IceBridge mission airborne radar measurements to create simulations of ice sheet motion. These simulations help researchers project the future response of ice sheets to climate change.

The 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 capacity of that State or region. The program strives to improve a region's research infrastructure, which in turn has the potential to contribute to its research and development 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 (NSF)) 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.

EXPLANATION OF MAJOR CHANGES IN FY 2016

None.

EXPERIMENTAL PROJECT TO STIMULATE COMPETITIVE RESEARCH (EPSCOR)

Formulation	Development	Operations

ACHIEVEMENTS IN FY 2014

There are indications that NASA-funded academic research in the EPSCoR has provided benefits in the following three areas: a) increased competitive research capacity within targeted jurisdictions, b) the generation of advanced technology as evidenced by the awarding of patents, and c) research productivity demonstrated through distribution of research accomplishments (e.g., scientific publications and professional presentations).

- EPSCoR was originally conceived in response to the observation that certain jurisdictions were not as successful in competing for Federal research and development funding as some other jurisdictions. EPSCoR programs were developed to, as the program title suggests, stimulate competitive research. A clear indication of the success of NASA EPSCoR is reflected in the fact that three States (Utah, Iowa, and Tennessee) graduated from the NASA EPSCoR program because they demonstrated the ability to secure sufficient non-ESPCOR funding for sustainability.
- Two patents were awarded to the following EPSCoR jurisdictions in FY 2014:
    - Researchers from the University of Puerto Rico patented a cost effective nanotechnology approach to forming diamonds for commercial use. (Patent #: US 8608850 B1–Issue Date – Dec. 17, 2013).

Abstract: Diamond thin films were deposited on copper substrate by the Vapor Solid (VS) deposition method using a mixture of fullerene C60 and graphite as the source material. The deposition took place only when the substrate was kept in a narrow temperature range of approximately 550-650° C. Temperatures below and above this range results in the deposition of fullerenes and other carbon compounds, respectively.

Researchers from Utah State University Research Foundation patented devices, systems, and methods for dispersive energy imaging. (Patent#: US 8809771– Issue Date – August 19, 2014).

Abstract: Devices, systems, and methods for dispersive energy imaging are disclosed. The full three-dimensional velocity distribution function of a flowing particle stream may be measured and properties of the particle stream characterized. In some devices, an aperture system controls the entry of a stream of particles into the sensor where an electrostatic deflector separates the stream of particles into different species, and a detector system senses the separated species.

A total of 796 faculty and postdoc researchers funded by EPSCoR demonstrated research productivity through the following metrics:

- 406 peer reviewed publications accepted or published;
- 212 other publications accepted or published; and
- 685 talks/presentations at professional meetings.

EXPERIMENTAL PROJECT TO STIMULATE COMPETITIVE RESEARCH (EPSCOR)

Formulation	Development	Operations

WORK IN PROGRESS IN FY 2015

EPSCoR will make new research awards based on availability of funding. Each funded proposal will establish research activities with the potential to 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 EPSCoR jurisdiction.

EPSCoR, in cooperation with the ISS Program Office, will continue to provide ISS Flight Opportunities for the EPSCoR jurisdictions. Additionally, EPSCoR will continue its collaboration with the Space Technology Mission Directorate (STMD) to provide workshops aimed at increasing the States' knowledge of NASA's unique and innovative capabilities, resources and facilities.

In support of the Federal EPSCoR Interagency Coordinating Committee (EICC), NASA EPSCoR is identifying and providing 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 review panels.

KEY ACHIEVEMENTS PLANNED FOR FY 2016

NASA EPSCoR will issue a competitive call for extramural Research Infrastructure Development (RID) and ISS Flight Opportunity proposals, and support STMD/EPSCoR workshops. NASA EPSCoR will continue to be an 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 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
Q1 of FY 2016	Release of Solicitations for Research and RID Opportunities
Q2 of FY 2016	Proposal Due and Review Process (Research and RID Opportunities)
Q3 & Q4 of FY 2016	Selection and Awards (Research and RID Opportunities)

EXPERIMENTAL PROJECT TO STIMULATE COMPETITIVE RESEARCH (EPSCOR)

Formulation	Development	Operations

Project Management & Commitments

The program manager for NASA EPSCoR resides at NASA Headquarters and is responsible for overall administrative duties of this national project. The project manager is located at Kennedy Space Center and provides management responsibility for day-to-day operations. Contractor staff and 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 as required throughout the year 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's 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 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.

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's and NASA's Strategic Plans 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.

EXPERIMENTAL PROJECT TO STIMULATE COMPETITIVE RESEARCH (EPSCOR)

Formulation	Development	Operations

INDEPENDENT REVIEWS

Review Type	Performer	Date of Review	Purpose	Outcome	Next Review
Indepen-dent	National Academy of Sciences	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 incorporated the findings of the November, 2013 report of the National Academy of Sciences on the EPSCoR program into its FY 2016 budget request. NASA will continue to participate in the Federal EICC, meetings in FY 2016.	N/A

STEM EDUCATION AND ACCOUNTABILITY

FY 2016 Budget

Budget Authority (in $ millions)	Actual FY 2014	Enacted FY 2015	Request FY 2016	Notional FY 2017	Notional FY 2018	Notional FY 2019	Notional FY 2020
Minority University Research Education Project	30.0	--	**30.0**	30.0	30.0	30.9	30.0
STEM Education and Accountability Projects	28.6	--	**25.9**	27.2	28.6	29.1	31.4
Total Budget	**58.6**	**--**	**55.9**	**57.2**	**58.6**	**60.0**	**61.4**

FY 2014 reflects funding amounts specified in the June 2014 Operating Plan per P.L. 113-76.

FY 2015 reflects only funding amounts specified in P.L. 113-235, the Consolidated and Further Continuing Appropriations Act, 2015.

NASA supports the nation's STEM education priorities through its collaborations with internal and external partners and using NASA-unique assets, people, resources and facilities. Dr. James Garvin, Chief Scientist, NASA Goddard Space Flight Center, speaks to 4-H National Youth Science Day participants.

The SEA program provides unique NASA assets, including people, resources, and facilities to support the Nation's STEM education priorities; leveraging programs from the ED, NSF, and the Smithsonian Institution. Through the competitive award of federal domestic assistance funds and collaboration with other Federal agencies, the program provides students and educators with 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 exciting and compelling content emanating from NASA's scientific discoveries, aeronautics research, and exploration endeavors.

NASA provides multi-year grants and cooperative agreements to the Nation's Historically Black Colleges and Universities (HBCU), Hispanic Serving Institutions (HIS), Tribal Colleges and Universities (TCU), and other Minority-Serving Institutions (MSI) through the 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.

EXPLANATION OF MAJOR CHANGES IN FY 2016

None.

MINORITY UNIVERSITY RESEARCH EDUCATION PROJECT

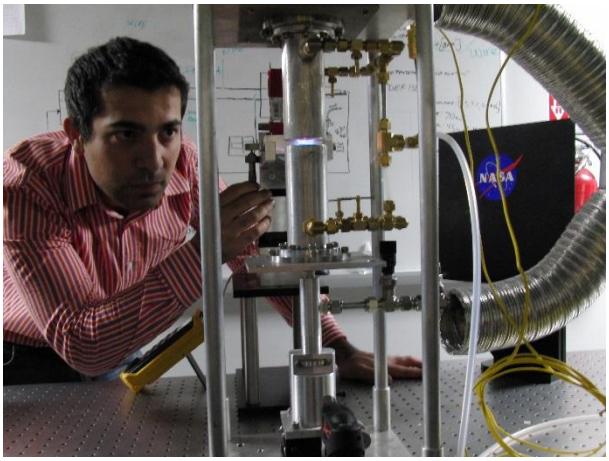
Formulation	Development	Operations

FY 2016 Budget

Budget Authority (in $ millions)	Actual FY 2014	Enacted FY 2015	Request FY 2016	Notional FY 2017	Notional FY 2018	Notional FY 2019	Notional FY 2020
Total Budget	30.0	--	30.0	30.0	30.0	30.9	30.0

FY 2014 reflects funding amounts specified in the June 2014 Operating Plan per P.L. 113-76.

FY 2015 reflects only funding amounts specified in P.L. 113-235, the Consolidated and Further Continuing Appropriations Act, 2015.



The NASA MUREP Institutional Research Opportunity (MIRO), project is designed to achieve a broad-based, competitive aerospace research capability among the nation's minority institutions. Here, Mazdak Kebria, a student at California State University, Los Angeles, conducts an experiment related to bio-fuel combustion temperature profile data extraction of counter-flow flame. The MIRO awards 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 (HBCU), Hispanic Serving Institutions (HSI), Asian American and Native American Pacific Islander-Serving Institutions (AANAPISI), Tribal Colleges and Universities (TCU) and eligible community colleges. The Administration recognizes the valuable role that these institutions play in educating our citizens, as reflected in the four Minority-Serving Institutions (MSI) Executive Orders signed by the President. These institutions recruit and retain underrepresented and underserved students, including women and girls, and persons with disabilities into 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 that are 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 MSIs. Multi-year grants awarded to MSIs assist faculty and students in research and authentic STEM engagement pertinent to NASA missions. These competitive awards provide NASA specific STEM knowledge, skills, and abilities to underrepresented and underserved learners through research, internships, scholarships, and fellowships at NASA Centers. Awards also provide opportunities for minority institutions to improve the quality of their faculty preparation programs and thereby better serve groups historically underrepresented in STEM.

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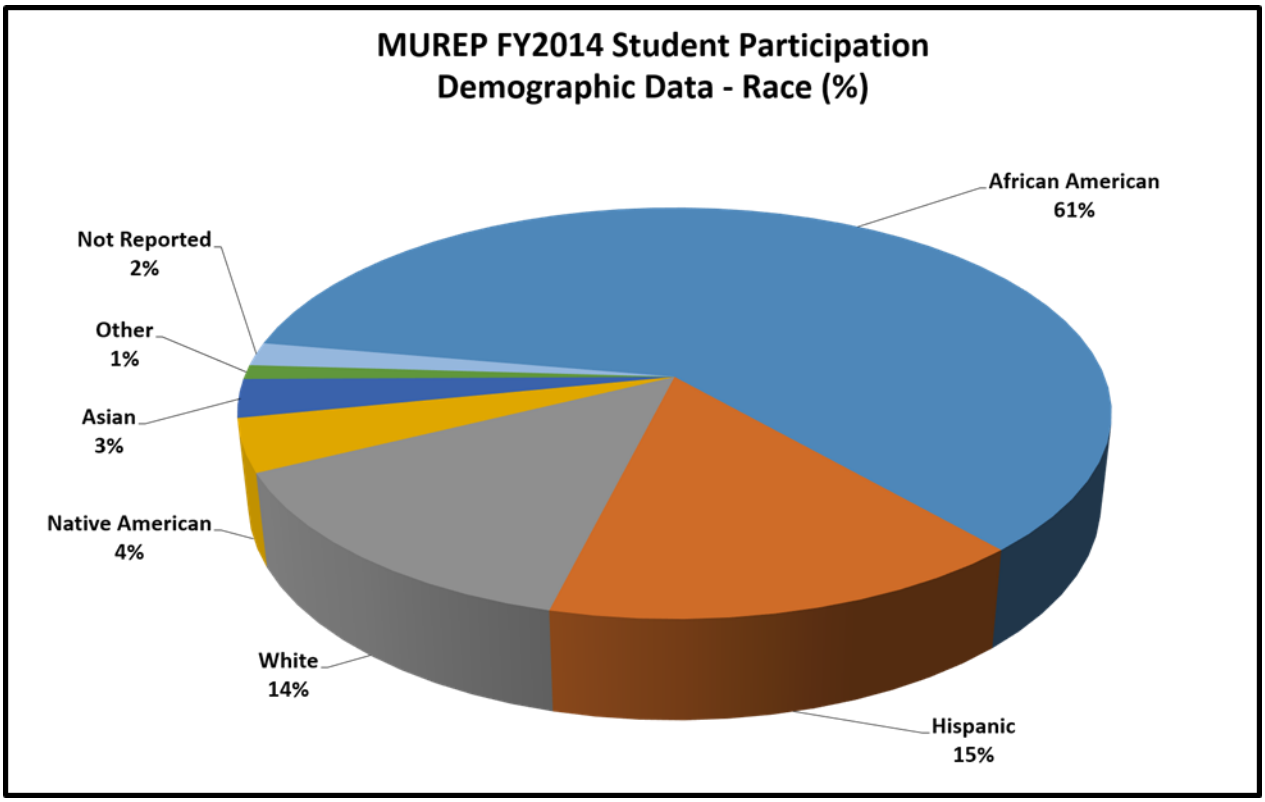
EXPLANATION OF MAJOR CHANGES IN FY 2016

None.

ACHIEVEMENTS IN FY 2014

Financial support and research experiences have been shown to increase the retention and completion rates of students pursuing STEM degrees in an effort to improve tracking of student outcomes without overburdening institutions, NASA has set a reporting threshold based on "significant investment" by the agency. For MUREP, NASA defines significant investment as a student receiving 160 or more contact hours or $3,000 or more student stipend. MUREP's FY 2014 reporting reflects support of over 1200 postsecondary students with a significant investment. Forty percent of those students were females and 93 percent were students from historically underrepresented and underserved groups, which includes women and persons with disabilities.



MUREP funded graduate fellowships and undergraduate scholarships to increase the number of minority, disadvantaged, or underrepresented groups in NASA specific STEM fields and to increase diversity in NASA's workforce. Only 43 percent of students entering as a STEM major in a four-year public college or university graduate with a STEM degree. Approximately 14 percent of community college students who declare a STEM major on entry are still in a STEM field at the time of their last enrollment (CoSTEM 5-Year Strategic plan, pg. 10). In FY 2014, MUREP supported 25 undergraduate scholars

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Formulation	Development	Operations

where 52 percent of those scholars were females, 8 percent were persons with disabilities, 4 percent had former military service and 16 percent attended community colleges. The MUREP funded undergraduate scholarship focuses on underserved and underrepresented students in the STEM disciplines, thereby addressing the critical shortage of qualified STEM professionals across the nation.

MUREP 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. The goal of these competitive fellowships and scholarships is to address the Agency's mission-specific workforce needs of increased diversity and targeted areas of national need in minority STEM representation. In FY 2014, MUREP supported 26 graduate fellows where 69 percent were female, 4 percent were persons with disabilities, and 8 percent had former military service.

MUREP Institutional Research Opportunity (MIRO) provides a broad-based competitive NASA-related research capability among MSIs that fosters new aerospace science and technology concepts. In FY 2014, MIRO grantees authored 568 NASA-related research papers, publications, and presentations with three patents granted. There were also 43 students who received their Bachelors, 47 who received their Masters, and nine who received their Ph.D. In addition, grantees had a total of 47 proposals funded by federal, State, and community organizations to leverage and sustain their research work implemented via MIRO funding. Three students were also reported as being hired by NASA in FY 2014. Please take note of the highlighted accomplishments listed below.

MIRO contributions to notable NASA projects:

- NASA Beltsville Center for Climate System Observation at Howard University was selected for the NASA Discover AQ project team in 2010 and continues to provide significant support during the current reporting period.
- NASA Center for Radiation Engineering and Science for Space Exploration at Prairie View A&M University participated with Johnson Space Center in the University Research (UR-1) mission launch to the International Space Station aboard the third SpaceX Dragon capsule flight.
- Student and faculty at the NASA Optical Sciences Center for Applied Research received the NASA Group Achievement award for their contribution to the ChemCam Team's work on the Mars Curiosity Rover mission.
- The NASA center for Aerospace Devices Research and Education at North Carolina Central University acquired nanotechnology project funding from the NSF ($75,000), Department of Defense ($630,000), and Department of Energy ($540,000).
- The Science, Engineering, Mathematics and Aerospace Academy at Morgan State University enabled three students to complete STEM degrees and begin three STEM companies entitled, I Turn Research into Empowerment and Knowledge (I-trek), Liquid Off, and DLR Technologies.

WORK IN PROGRESS IN FY 2015

MUREP will continue to fund efforts in the OE aligned with the LOB which focus on MSIs and minority-serving community colleges to help prepare historically underrepresented and underserved students in NASA specific STEM disciplines and careers. In addition, MUREP will compete and award an agreement for a MUREP Educator Institute (MEI). The work of this agreement will advance high quality STEM

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education using NASA's unique capabilities by conducting summer institutes for pre-service teachers at the 10 field Centers. The majority of MUREP funding will be used to continue to maintain active agreements and awards for HBCUs, HSIs, TCUs, AANAPISIs, other MSIs, and non-profit organizations that contribute to the Agency's workforce diversity and MUREP's goals. Some institutions and organizations could potentially receive 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 2016

MUREP will continue to provide competitive funding opportunities to MSIs through an omnibus solicitation called Educational Opportunities in NASA STEM (EONS). EONS can be located at the NASA Solicitation and Proposal Integrated Review and Evaluation System website. For more information go to: http://nspires.nasaprs.com.

Project Schedule

MUREP implements a consolidated investment through the NASA Research Announcement Education Opportunities in NASA STEM (EONS). A new EONS opportunity will be offered no later than the last quarter of FY 2016 with a rolling schedule of opportunities through FY 2018.

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 2014, the current MUREP elements are as follows:

Element	Description	Provider Details	Change from Formulation Agreement
MIRO	MIRO is designed to establish significant, multi-disciplinary, scientific, engineering, and/or commercial research centers at the host Minority-Serving Institution, that contribute substantially to the programs of one or more of the NASA Mission Directorates as described in the 2014 NASA Strategic Plan.	Provider: All NASA Centers Lead Center: Armstrong Flight Research Center Performing Center(s): All NASA Centers Cost Share Partner(s): N/A	

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Element	Description	Provider Details	Change from Formulation Agreement
MUREP Community College Curriculum Improvement (MCI)	MCI is designed to strengthen STEM curricula and curricular pathways at two-year minority institutions (MIs); Strengthen and diversify the STEM pipeline through high school partnerships.	Provider: All NASA Centers Lead Center: Headquarters Performing Center(s) All NASA Centers: Cost Share Partner(s): N/A	
MUREP NASA Internship, Fellowship, and Scholarship (NIFS)	Intentional and consistent efforts are needed along the STEM trajectory in order to increase the number of individuals from groups traditionally underrepresented in STEM that graduate and are well-prepared with STEM degrees, because members of these groups leave STEM majors at higher rates than others. MUREP NIFS provides historically underrepresented groups in STEM fields and students at MSIs the opportunity to use NASA facilities and assets to provide work experiences and research and educational opportunities to improve retention in STEM and prepare students for employment in NASA STEM jobs.	Provider: All NASA Centers Lead Center: Johnson Space Center, Ames Research Center Performing Center(s): All NASA Centers Cost Share Partner(s): N/A	
MUREP for American Indian and Alaskan Native STEM Engagement (MAIANSE)	MAIANSE provides opportunities for TCU students, faculty and staff; and high school students who are likely to matriculate to TCUs, to engage in NASA-related STEM scientific research and engineering activities.	Provider: All NASA Centers Lead Center: Goddard Space Flight Center Performing Center(s): All NASA Centers Cost Share Partner(s): N/A	

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Formulation	Development	Operations

Element	Description	Provider Details	Change from Formulation Agreement
MUREP Educator Institutes	MEI is designed to develop, promote, or utilize new, innovative, and replicable approaches to improving STEM learning and instruction; Provide experiences and activities that are grounded in education research or use evidence-supported approaches, techniques, and tools; and build linkages and connections to and from secondary education, elementary education, middle school education, and higher education.	Provider: All NASA Centers Lead Center: Stennis Space Center Performing Center(s): All NASA Centers Cost Share Partner(s): N/A	
MUREP STEM Engagement (MSE)	MSE gives MSIs the opportunity to design, develop, and implement a NASA-related STEM challenge targeted for MSI and community college STEM-enrolled student. All challenges align with the NASA mission and a specific NASA program or project. MSIs develop and implement processes to capture the impact of activities and strategies implemented through this challenge participation.	Provider: All NASA Centers Lead Center: Kennedy Space Center Performing Center(s): All NASA Centers Cost Share Partner(s): N/A	
Earth Systems, Technology and Energy Education for MUREP (ESTEEM)	ESTEEM is designed to increase the level of climate literacy and engagement of the United States public; advance the understanding of how to effectively teach global climate change concepts; and Create a diverse, highly skilled, and motivated future workforce in climate-related sciences.	Provider: All NASA Centers Lead Center: Langley Research Center 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
MUREP Aerospace Academy (MAA)	MAA is designed to Educate students using a STEM curriculum that meets national math, science and technology standards aligned to NASA's Mission Directorates.	Provider: All NASA Centers Lead Center: Glenn Research Center 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, 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

FY 2016 Budget

Budget Authority (in $ millions)	Actual FY 2014	Enacted FY 2015	Request FY 2016	Notional FY 2017	FY 2018	FY 2019	FY 2020
Total Budget	28.6	--	25.9	27.2	28.6	29.1	31.4

FY 2014 reflects funding amounts specified in the June 2014 Operating Plan per P.L. 113-76.

FY 2015 reflects only funding amounts specified in P.L. 113-235, the Consolidated and Further Continuing Appropriations Act, 2015.

A competing team, Team Lore, listens in the audience as NASA Administrator Charles Bolden speaks at the event to announce the winner of the Exploration Design Challenge. Team Lore was one of the semi-finalists in the challenge. The goal of the Exploration Design Challenge is for students to research and design ways to protect astronauts from space radiation. The winner, Team ARES from Hampton VA, of the challenge was announced on April 25, 2014 at the USA Science and Engineering Festival at the Washington Convention Center in Washington, DC.

NASA continues to integrate and consolidate its STEM Education projects and activities into a more focused portfolio, consistent with Congressional and Administration direction to streamline and consolidate STEM education programs within NASA. Specifically, NASA continues internal consolidation of education functions, assets, and efforts of the Mission Directorates into the coordinated SEAP. SEAP-funded assets are critical and unique components that NASA can make available to the NSF, Smithsonian Institution, and ED, on a reimbursable basis, as they facilitate federal STEM education activities through the Administration's Committee on STEM process for agency coordination.

Working in collaboration with other Federal agencies, NASA continues 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 provides opportunities to educators and learners, including women, minorities, and persons with disabilities. NASA continues to review and consider appropriate ways to incorporate the most meritorious education functions, assets, and efforts of the Aeronautics Research Mission Directorate and Human Exploration and Operations Mission Directorate into SEAP. SEAP will enhances 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 makes its people, resources, facilities, and discoveries available to key stakeholders and strategic partners, such as educational organizations and science museums.

STEM EDUCATION AND ACCOUNTABILITY PROJECTS

Formulation	Development	Operations

EXPLANATION OF MAJOR CHANGES IN FY 2016

None.

ACHIEVEMENTS IN FY 2014

Approximately 1 million elementary and secondary students participated in NASA instructional and enrichment activities. Of those students, NASA engaged more than 62,000 through the Summer of Innovation pilot project, launched in 2010 to support the President's Educate to Innovate campaign.

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. There were a total of 12 final selections, using FY 2014 funds, for awards at children's museums, NASA Visitor centers, and a planetarium and science center based in a public school system, and science museums. Thirty-six institutions that had active projects from prior awards during FY 2013 attended a reverse site visit cohosted at Marshall Space Flight Center's visitor center the US Space and Rocket Center in Alabama, the NASA Shared Services Center, and Jet Propulsion Laboratory.

Through the One-Stop Shopping Initiative, more than 7,000 undergraduate, graduate, and high school students applied for NASA-unique internship, fellowship, and scholarship opportunities. From this pool of exceptional talent, NASA Education was able to award 3,317 students with NASA-unique fellowship, internship, and scholarship opportunities.

WORK IN PROGRESS IN FY 2015

SEAP continues to fund a mix of new and old grants, contracts, and cooperative agreements highlighted in Project Management and Commitments below. The Educator Professional Development, STEM Engagement and Institutional Engagement lines of business have started to plan a joint STEM Facilitation & STEM Interagency Coordination Pilot Projects Competition to further advance NASA Education restructuring. The Summer of Innovation pilot project will complete implementation, and lessons learned activities, including from its collaboration with 4-H that are already available for implementation by Federal and non-federal STEM education stakeholders.

NASA has begun an internal criteria-based competition across the Mission Directorates and NASA Centers to identify the most meritorious education activities eligible for SEAP funds. Potential applicants and recipients for this funding include:

- Informal STEM Education and roughly 40 other NASA activities reported as part of the March *2014 Progress Report on Coordinating Federal Science, Technology, Engineering, and Mathematics (CoSTEM) Education*;
- Projects and activities not previously funded in prior years and would be new in FY 2015; and

STEM EDUCATION AND ACCOUNTABILITY PROJECTS

Formulation	Development	Operations

- 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.

Internal competition ensures that SEAP funding is made available to the most effective and highest priority education activities across the agency. Demonstrated results and a plan for performance measurement, including assessment of progress toward pre-established goals, are among the criteria being used to judge merit. Additionally, SEAP investments are structured (or, if new, will be structured) to use or build on evidence of effectiveness or need. For example, research suggests that many pre-service teachers take required STEM courses in their first two years of college, either at a community college or at a four-year college or university, and these classes are often the last STEM classes that these future K-12 teachers take. SEAP supports a community of practice via the Museum Alliance comprising of educators, science centers, and museums to facilitate educators' access to the latest science knowledge being generated by NASA missions and programs. As of December 2014, professors, lecturers and planetarium directors at more than 150 higher education institutions in 43 States had signed up for this free-of-charge NASA STEM content facilitation service.

KEY ACHIEVEMENTS PLANNED FOR FY 2016

SEAP will continue to support the most effective and highest priority STEM projects and activities identified in the FY 2015 competition and will begin planning for a FY 2017 competition. Since the internal competition results won't be known before the end of the third quarter of FY 2015, specific details about planned achievements are not currently available. Based on the process and criteria established for the internal competition, the Administration fully expects that the winners of the competition will reflect the best that NASA has to offer to the Nation's STEM enterprise.

Project Schedule

Consistent with the NSTC 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 worked with the CoSTEM to finalize criteria for success, develop common evidence standards, evaluation and research toolkits, and identify efficiencies and collaborative opportunities.

In years three 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 NSTC 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 2016	NSTC Committee on STEM Meetings

STEM EDUCATION AND ACCOUNTABILITY PROJECTS

Formulation	Development	Operations

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 2016, NASA will make new commitments based on the competitive acquisition strategy described below. NASA Centers, including Jet Propulsion Laboratory, or other previously selected awardees may be eligible to compete for SEAP funding. 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: Universities Space Research Association 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 STEM education in Cleveland, NASA Headquarters in Washington, and other NASA Centers, as necessary.	Provider: Paragon-TEC, Inc. of Cleveland Lead Center: Glenn Research Center Performing Center(s): All Cost Share Partner(s): Not Applicable	No Change Contract expires March 2018 Performance start date: April 2013

Acquisition Strategy

In FY 2015 NASA conducted an internal, criteria-based competition across Mission Directorates and NASA Centers to identify the highest priority STEM projects and activities. 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 when necessary. External and internal experts base selections in part on peer reviews. The Education Coordinating Council also makes recommendations to the Associate Administrator for Education on any funding allocated to activities implemented directly by NASA Centers, including Jet Propulsion Laboratory.

MAJOR CONTRACTS/AWARDS

None.

STEM EDUCATION AND ACCOUNTABILITY PROJECTS

Formulation	Development	Operations

INDEPENDENT REVIEWS

NASA's approach to independent reviews is informed by the Government Accountability Office report (GAO-14-374) STEM Education: Assessing the Relationship between Education and the Workforce (Published: May 8, 2014. Publicly Released: Jun 9, 2014) and reports from the NSTC CoSTEM (Progress Report on Coordinating Federal Science, Technology, Engineering, and Mathematics (STEM) Education, March 2014). (For more information, go to: http://www.whitehouse.gov/sites/default/files/microsites/ostp/STEM-ED_FY15_Final.pdf). NASA embeds evaluation and accountability requirements within SEA activities as appropriate for performance monitoring. Although the final schedule for completion of these reviews is not yet established, in October 2014 the NASA Office of Inspector General launched two studies related to measuring the performance of NASA Education. Audit of NASA's Education Program and Activities (Assignment No. A-14-015-00) has a dual objective to assess NASA's implementation of 1) its strategic education objective and 2) Federal STEM education priorities. The Office of Inspector General initiated a Review of NASA-funded Institutes (A-15-001-00) focused on NASA's institutional investments with the overall objective of identifying and examining the various institutes that receive funding from NASA for the advancement of the Agency's mission and goals.

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.	No further action due to pilot conclusion
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 for the stand-alone program model developed and implemented by Abt Associates in 2013 and 2014; reports available online at: http://www.nasa.gov/offices/education/performance/#.VGvlYvnF-Ag	No further action due to pilot conclusion

The contractor, Paragon TEC, conducted a pilot study of the collaboration between NASA and the ED in FY 2014 as explained below. This study's publication (forthcoming) is accessible at: http://www.nasa.gov/offices/education/performance/index.html#.VJCehCvF-Ah.

STEM EDUCATION AND ACCOUNTABILITY PROJECTS

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Review Type	Performer	Date of Review	Purpose	Outcome	Next Review
Implemen-tation evaluation study	Paragon TEC	Jan – May 2014	Conduct study to assess the implementation of NASA STEM Challenges within ED's 21CCLC program	Department of Education used the implementation study report to expand a second pilot beyond NASA to include other Federal agencies, e.g., the Institute for Museums and Library Services and the National Park Service.	Follow-on Implementation and outcome study of NASA's participation in the the multi-agency pilot begun in FY 2015.