FY 2013 PERFORMANCE PLAN UPDATE

April 10, 2013

NASA published updates to its FY 2013 Performance Plan as part of the Management and Performance section in the FY 2014 Congressional Justification. Because the updates were combined with the FY 2014 Performance Plan and FY 2012 Performance Report, this document is an extract of just the FY 2013 performance measures. See the complete Management and Performance section for supporting information on NASA's Budget website.

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Measure Number	Measure Description	Theme	Program
Strategic Goal: 1			
1	Extend and sustain human activities across the solar system.		
1.1	Sustain the operation and full use of the International Space Station (ISS) and expand efforts to utilize the ISS as a National Laboratory for scientific, technological, diplomatic, and educational purposes and for supporting future objectives in human space exploration.		
1.1.1	Maintain resources (on orbit and on the ground) to operate and utilize the ISS.		
1.1.1.1	Maintain capability for six on-orbit crew members.	International Space Station	International Space Station
1.1.1.1: ISS-13-1	In concert with International Partners, maintain a continuous six-crew capability on ISS by coordinating and managing resources, logistics, systems, and operational procedures.	International Space Station	International Space Station
1.1.1.3	Provide cargo and crew transportation to support on-orbit crew members and utilization.	International Space Station	International Space Station
1.1.1.3: ISS-13-2	Complete at least three flights, delivering research and logistics hardware to ISS, by U.S.-developed cargo delivery systems.	International Space Station	International Space Station
1.1.2	Advance engineering, technology, and research capabilities on the ISS.		
1.1.2.1	Maintain a safe and functional ISS national laboratory and utilize it to advance engineering, technology, and science research.	International Space Station	International Space Station
1.1.2.1: ISS-13-3	Accomplish a minimum of 90 percent of the on-orbit research and technology development objectives. Objectives are baselined by NASA and the ISS Non-profit organization one month prior to each increment, which is the time period between crew rotations.	International Space Station	International Space Station
1.1.2.1: ISS-13-4	Fully utilize ISS by ensuring that at least 75 percent of the research sites available are used.	International Space Station	International Space Station
1.1.2.1: ISS-13-5	Provide 100 percent of planned on-orbit resources (including power, data, crew time, logistics, and accommodations) needed to support research.	International Space Station	International Space Station
1.1.2.2	Conduct basic and applied biological and physical research to advance and sustain U.S. scientific expertise.	International Space Station	International Space Station
1.1.2.2: ISS-13-6	Conduct flight definition reviews for at least five flight experiments in fundamental space biology that were selected through a NASA Research	International Space Station	International Space Station
1.1.2.2: ISS-13-7	Deliver at least four physical sciences payloads for launch to ISS.	International Space Station	International Space Station
1.1.2.2: ISS-13-8	Conduct at least six experiments in combustion, fluids, or materials sciences on ISS.	International Space Station	International Space Station
1.2	Develop competitive opportunities for the commercial community to provide best value products and services to low Earth orbit and beyond.		
1.2.1	Enable the commercial sector to provide cargo and crew services to the International Space Station (ISS).		
1.2.1.1	Invest financial and technical resources to stimulate efforts within the private sector to develop and demonstrate safe, reliable, and cost-effective space transportation capabilities.	Commercial Spaceflight	Commercial Crew
1.2.1.1: CS-13-1	Execute Space Act Agreements (SAAs) for development of a commercial Crew Transportation System (CTS).	Commercial Spaceflight	Commercial Crew
1.2.1.1: CS-13-2	Conduct a minimum of one commercial cargo demonstration flight of new cargo transportation systems, including proximity operations with ISS.	Commercial Spaceflight	Commercial Cargo
1.3	Develop an integrated architecture and capabilities for safe crewed and cargo missions beyond low Earth orbit.		
1.3.1	Execute development of an integrated architecture to conduct human space exploration missions beyond low Earth orbit.		
1.3.1.1	Complete design reviews for the Space Launch System (SLS) and make progress on system development toward a first uncrewed flight in 2017 and first crewed flight in 2021.	Exploration Systems and Development	Space Launch System
1.3.1.1: ESD-13-1	Complete the SLS Preliminary Design Review (PDR) and establish the technical design, cost, and schedule baseline for the SLS first flight.	Exploration Systems and Development	Space Launch System
1.3.1.2	Complete design reviews for Orion Multi-Purpose Crew Vehicle (MPCV) and make progress on system development toward a first uncrewed flight in 2017 and first crewed flight in 2021.	Exploration Systems and Development	Orion Multi-Purpose Crew Vehicle
1.3.1.2: ESD-13-2	Manufacture Orion Multi-Purpose Crew Vehicle (MPCV) flight test hardware required for initial integration testing for the Exploration Flight Test 1 (EFT-1).	Exploration Systems and Development	Orion Multi-Purpose Crew Vehicle
1.3.2	Develop a robust biomedical research portfolio to mitigate space human health risks.		
1.3.2.1	Develop technologies that will enable biomedical research and mitigate health risks associated with human space exploration missions.	Exploration Research and Development	Human Research
1.3.2.1: ERD-13-1	Complete two ISS physiological flight experiments that define requirements for maintaining astronaut health for long-duration missions.	Exploration Research and Development	Human Research
1.3.3	Identify hazards, opportunities, and potential destinations, to support future safe and successful human space exploration missions.		
1.3.3.1	Prioritize the knowledge of hazards, opportunities, and potential destinations for human space exploration that will be of use to future operations of an integrated architecture for human space exploration.	Exploration Research and Development	Advanced Exploration Systems
1.3.3.1: ERD-13-2	Develop a set of strategic knowledge gaps on potential destinations for human spaceflight, facilitate external advisory group review of the gaps and document the results in the Global Exploration Roadmap.	Exploration Research and Development	Advanced Exploration Systems
Strategic Goal: 2			
2	Expand scientific understanding of the Earth and the universe in which we live.		
2.1	Advance Earth system science to meet the challenges of climate and environmental change.		
2.1.1	Improve understanding of and improve the predictive capability for changes in the ozone layer, climate forcing, and air quality associated with changes in atmospheric composition.		
2.1.1.1	Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base. (In support of objective 2.1.1: "Improve understanding of and improve the predictive capability for changes in the ozone layer, climate forcing, and air quality associated with changes in atmospheric composition.")	Earth Science	Multiple Programs
2.1.1.1: ES-13-1	Demonstrate planned progress in understanding and improving predictive capability for changes in the ozone layer, climate forcing, and air quality associated with changes in atmospheric composition. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert	Earth Science	Multiple Programs
2.1.1.2	By 2015, launch at least two missions in support of objective 2.1.1.	Earth Science	Earth System Science Pathfinder
2.1.2	Enable improved predictive capability for weather and extreme weather events.		
2.1.2.1	Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base. (In support of objective 2.1.2: "Enable improved predictive capability for weather and extreme weather events.")	Earth Science	Multiple Programs
2.1.2.1: ES-13-3	Demonstrate planned progress in enabling improved predictive capability for weather and extreme weather events. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Earth Science	Multiple Programs
2.1.2.2	By 2015, launch at least two missions in support of objective 2.1.2.	Earth Science	Multiple Programs
2.1.2.2: ES-13-2	Complete the Earth Venture-2 (EV-2) Mission Definition Review (MDR).	Earth Science	Earth System Science Pathfinder

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2.1.2.2: ES-13-4	Complete the Global Precipitation Measurement (GPM) mission observatory environmental testing.	Earth Science	Earth Systematic Missions
2.1.3	Quantify, understand, and predict changes in Earth's ecosystems and biogeochemical cycles, including the global carbon cycle, land cover, and biodiversity.		
2.1.3.1	Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base. (In support of objective 2.1.3: "Quantify, understand, and predict changes in Earth's ecosystems and biogeochemical cycles, including the global carbon cycle, land cover, and biodiversity.")	Earth Science	Multiple Programs
2.1.3.1: ES-13-5	Demonstrate planned progress in quantifying, understanding and predicting changes in Earth's ecosystems and biogeochemical cycles, including the global carbon cycle, land cover, and biodiversity. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Earth Science	Multiple Programs
2.1.3.2	By 2015, launch at least two missions in support of objective 2.1.3.	Earth Science	Multiple Programs
2.1.3.2: ES-13-6	Launch the Landsat Data Continuity Mission (LDCM).	Earth Science	Earth Systematic Missions
2.1.4	Quantify the key reservoirs and fluxes in the global water cycle and assess water cycle change and water quality.		
2.1.4.1	Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base. (In support of objective 2.1.4: "Quantify the key reservoirs and fluxes in the global water cycle and assess water cycle change and water quality.")	Earth Science	Multiple Programs
2.1.4.1: ES-13-7	Demonstrate planned progress in quantifying the key reservoirs and fluxes in the global water cycle and assessing water cycle change and water quality. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Earth Science	Multiple Programs
2.1.4.2	By 2015, launch at least two missions in support of objective 2.1.4.	Earth Science	Earth Systematic Missions
2.1.4.2: ES-13-4	Complete the Global Precipitation Measurement (GPM) mission observatory environmental testing.	Earth Science	Earth Systematic Missions
2.1.4.2: ES-13-8	Complete the Soil Moisture Active Passive (SMAP) Systems Integration Review (SIR).	Earth Science	Earth Systematic Missions
2.1.5	Improve understanding of the roles of the ocean, atmosphere, land and ice in the climate system and improve predictive capability for its future evolution.		
2.1.5.1	Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base. (In support of objective 2.1.5: "Improve understanding of the roles of the ocean, atmosphere, land and ice in the climate system and improve predictive capability for its future evolution.")	Earth Science	Multiple Programs
2.1.5.1: ES-13-9	Demonstrate planned progress in understanding the roles of ocean, atmosphere, land, and ice in the climate system and improving predictive capability for future evolution. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Earth Science	Multiple Programs
2.1.5.3	By 2015, launch at least three missions in support of objective 2.1.5.	Earth Science	Earth Systematic Missions
2.1.5.3: ES-13-10	Complete the Ice, Cloud, and Land Elevation Satellite-2 (ICESat-2) Critical Design Review.	Earth Science	Earth Systematic Missions
2.1.6	Characterize the dynamics of the Earth's surface and interior and form the scientific basis for the assessment and mitigation of natural hazards and response to rare and extreme events.		
2.1.6.1	Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base. (In support of objective 2.1.6: "Characterize the dynamics of Earth's surface and interior and form the scientific basis for the assessment and mitigation of natural hazards and response to rare and extreme events.")	Earth Science	Multiple Programs
2.1.6.1: ES-13-11	Demonstrate planned progress in characterizing the dynamics of Earth's surface and interior and forming the scientific basis for the assessment and mitigation of natural hazards and response to rare and extreme events. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Earth Science	Multiple Programs
2.1.6.2	By 2015, launch at least one mission in support of objective 2.1.6.	Earth Science	Earth Systematic Missions
2.1.6.2: ES-13-6	Launch the Landsat Data Continuity Mission (LDCM).	Earth Science	Earth Systematic Missions
2.1.7	Enable the broad use of Earth system science observations and results in decision-making activities for societal benefits.		
2.1.7.1	Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base. (In support of objective 2.1.7: "Enable the broad use of Earth system science observations and results in decision-making activities for societal benefits.")	Earth Science	Multiple Programs
2.1.7.1: ES-13-12	Advance at least 25 percent of decision-support projects one Applications Readiness Level. The Applications Readiness Level is a nine-stage index for tracking the advancement of an Earth science applications project along a continuum from initial concept through development and transition to operational	Earth Science	Applied Sciences
2.1.7.1: ES-13-13	Increase the number of science data products delivered to Earth Observing System Data and Information System (EOSDIS) users.	Earth Science	Earth Science Multi-Mission Operations
2.1.7.1: ES-13-14	Maintain a high level of customer satisfaction, as measured by exceeding the most recently available federal government average rating of the Customer Satisfaction Index.	Earth Science	Earth Science Multi-Mission Operations
2.2	Understand the Sun and its interactions with the Earth and the solar system.		
2.2.1	Improve understanding of the fundamental physical processes of the space environment from the Sun to Earth, to other planets, and beyond to the interstellar medium.		
2.2.1.1	Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base. (In support of objective 2.2.1: "Improve understanding of the fundamental physical processes of the space environment from the Sun to Earth, to other planets, and beyond to the interstellar medium.")	Heliophysics	Multiple Programs
2.2.1.1: HE-13-1	Demonstrate planned progress in understanding the fundamental physical processes of the space environment from the Sun to Earth, to other planets, and beyond to the interstellar medium. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Heliophysics	Multiple Programs
2.2.1.1: HE-13-2	Achieve mission success criteria for the Solar Dynamics Observatory (SDO).	Heliophysics	Living with a Star
2.2.1.2	By 2015, launch two missions in support of objective 2.2.1.	Heliophysics	Solar Terrestrial Probes
2.2.1.2: HE-13-3	Complete integration of the payload to the Magnetospheric Multiscale (MMS) satellite #1 (of four).	Heliophysics	Solar Terrestrial Probes
2.2.2	Improve understanding of how human society, technological systems, and the habitability of planets are affected by solar variability interacting with planetary magnetic fields and atmospheres.		
2.2.2.1	Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base. (In support of objective 2.2.2: "Improve understanding of how human society, technological systems, and the habitability of planets are affected by solar variability interacting with planetary magnetic fields and atmospheres.")	Heliophysics	Multiple Programs
2.2.2.1: HE-13-2	Achieve mission success criteria for the Solar Dynamics Observatory (SDO).	Heliophysics	Living with a Star
2.2.2.1: HE-13-4	Demonstrate planned progress in understanding how human society, technological systems, and the habitability of planets are affected by solar variability interacting with planetary magnetic fields and atmospheres. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Heliophysics	Multiple Programs

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2.2.2.2	By 2015, launch two missions in support of objective 2.2.2.	Heliophysics	Solar Terrestrial Probes
2.2.2.2: HE-13-3	Complete integration of the payload to the Magnetospheric Multiscale (MMS) satellite #1 (of four).	Heliophysics	Solar Terrestrial Probes
2.2.2.2: HE-13-6	Complete the Solar Orbiter Collaboration Mission Confirmation Review.	Heliophysics	Living with a Star
2.2.3	Maximize the safety and productivity of human and robotic explorers by developing the capability to predict extreme and dynamic conditions in space.		
2.2.3.1	Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base. (In support of objective 2.2.3: "Maximize the safety and productivity of human and robotic explorers by developing the capability to predict extreme and dynamic conditions in space.")	Heliophysics	Multiple Programs
2.2.3.1: HE-13-5	Demonstrate planned progress in maximizing the safety and productivity of human and robotic explorers by developing the capability to predict the extreme and dynamic conditions in space. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Heliophysics	Multiple Programs
2.2.3.2	By 2017, launch at least two missions in support of objective 2.2.3.	Heliophysics	Living with a Star
2.2.3.2: HE-13-6	Complete the Solar Orbiter Collaboration Mission Confirmation Review.	Heliophysics	Living with a Star
2.3	Ascertain the content, origin, and evolution of the solar system and the potential for life elsewhere.		
2.3.1	Inventory solar system objects and identify the processes active in and among them.		
2.3.1.1	Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base. (In support of objective 2.3.1: "Inventory solar system objects and identify the processes active in and among them.")	Planetary Science	Multiple Programs
2.3.1.1: PS-13-1	Demonstrate planned progress in inventorying solar system objects and identifying the processes active in and among them. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Planetary Science	Multiple Programs
2.3.1.2	By 2017, launch at least two missions in support of objective 2.3.1.	Planetary Science	Multiple Programs
2.3.1.2: PS-13-2	Initiate the preliminary design for the Discovery 12 mission.	Planetary Science	Discovery
2.3.1.2: PS-13-5	Complete the OSIRIS-REx Preliminary Design Review (PDR).	Planetary Science	New Frontiers
2.3.2	Improve understanding of how the Sun's family of planets, satellites, and minor bodies originated and evolved.		
2.3.2.1	Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base. (In support of objective 2.3.2: "Improve understanding of how the Sun's family of planets, satellites, and minor bodies originated and evolved.")	Planetary Science	Multiple Programs
2.3.2.1: PS-13-3	Demonstrate planned progress in understanding how the Sun's family of planets, satellites, and minor bodies originated and evolved. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Planetary Science	Multiple Programs
2.3.2.2	By 2015, launch at least three missions in support of objective 2.3.2.	Planetary Science	Multiple Programs
2.3.2.2: PS-13-2	Initiate the preliminary design for the Discovery 12 mission.	Planetary Science	Discovery
2.3.2.2: PS-13-4	Launch the Lunar Atmosphere and Dust Environment Explorer (LADEE).	Planetary Science	Lunar Quest
2.3.2.2: PS-13-5	Complete the OSIRIS-REx Preliminary Design Review (PDR).	Planetary Science	New Frontiers
2.3.3	Improve understanding of the processes that determine the history and future of habitability of environments on Mars and other solar system bodies.		
2.3.3.1	Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base. (In support of objective 2.3.3: "Improve understanding of the processes that determine the history and future of habitability of environments on Mars and other solar system bodies.")	Planetary Science	Multiple Programs
2.3.3.1: PS-13-6	Demonstrate planned progress in understanding the processes that determine the history and future of habitability of environments on Mars and other solar system bodies. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Planetary Science	Multiple Programs
2.3.3.2	By 2015, launch at least two missions in support of objective 2.3.3.	Planetary Science	Mars Exploration
2.3.3.2: PS-13-7	Complete the Mars Atmosphere and Volatile EvolutioN Mission (MAVEN) Pre-Ship Review (PSR).	Planetary Science	Mars Exploration
2.3.4	Improve understanding of the origin and evolution of Earth's life and biosphere to determine if there is or ever has been life elsewhere in the universe.		
2.3.4.1	Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base. (In support of objective 2.3.4: "Improve understanding of the origin and evolution of Earth's life and biosphere to determine if there is or ever has been life elsewhere in the universe.")	Planetary Science	Multiple Programs
2.3.4.1: PS-13-8	Demonstrate planned progress in understanding the origin and evolution of life on Earth and throughout the biosphere to determine if there is or ever has been life elsewhere in the universe. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Planetary Science	Multiple Programs
2.3.5	Identify and characterize small bodies and the properties of planetary environments that pose a threat to terrestrial life or exploration or provide potentially exploitable resources.		
2.3.5.1	Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base. (In support of objective 2.3.5: "Identify and characterize small bodies and the properties of planetary environments that pose a threat to terrestrial life or exploration or provide potentially exploitable resources.")	Planetary Science	Multiple Programs
2.3.5.1: PS-13-9	Demonstrate planned progress in identifying and characterizing small bodies and the properties of planetary environments that pose a threat to terrestrial life or exploration or provide potentially exploitable resources. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Planetary Science	Multiple Programs
2.3.5.2	Return data for selection of destinations in order to lower risk for human space exploration beyond low Earth orbit.	Planetary Science	Multiple Programs
2.3.5.2: PS-13-10	Demonstrate planned progress in characterizing potentially hazardous objects that are possible destinations for future human space exploration.	Planetary Science	Multiple Programs
2.4	Discover how the universe works, explore how it began and evolved, and search for Earth-like planets.		
2.4.1	Improve understanding of the origin and destiny of the universe, and the nature of black holes, dark energy, dark matter, and gravity.		
2.4.1.1	Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base. (In support of objective 2.4.1: "Improve understanding of the origin and destiny of the universe, and the nature of black holes, dark energy, dark matter, and gravity.")	Astrophysics	Multiple Programs
2.4.1.1: AS-13-1	Demonstrate planned progress in understanding the origin and destiny of the universe and the nature of black holes, dark energy, dark matter, and gravity. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Astrophysics	Multiple Programs
2.4.1.1: AS-13-2	Achieve mission success criteria for the Fermi Gamma-ray Space Telescope.	Astrophysics	Physics of the Cosmos
2.4.2	Improve understanding of the many phenomena and processes associated with galaxy, stellar, and planetary system formation and evolution from the earliest epochs to today.		

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2.4.2.1	Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base. (In support of objective 2.4.2: "Improve understanding of the many phenomena and processes associated with galaxy, stellar, and planetary system formation and evolution from the earliest epochs to today.")	Astrophysics	Multiple Programs
2.4.2.1: AS-13-3	Demonstrate planned progress in understanding the many phenomena and processes associated with galaxy, stellar, and planetary system formation and evolution from the earliest epochs to today. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Astrophysics	Multiple Programs
2.4.2.2	Design and assemble the James Webb Space Telescope (JWST).	James Webb Space Telescope	James Webb Space Telescope
2.4.2.2: JWST-13-1	Deliver James Webb Space Telescope Near Infrared Camera to Integrated Science Instrument Module (ISIM) Integration and Test.	James Webb Space Telescope	James Webb Space Telescope
2.4.2.3	Develop and operate an airborne infrared astrophysics observatory.	Astrophysics	Cosmic Origins
2.4.2.3: AS-13-4	Complete the Systems Requirement Review (SRR) for the initial second generation Stratospheric Observatory for Infrared Astronomy (SOFIA) instrument.	Astrophysics	Cosmic Origins
2.4.3	Generate a census of extra-solar planets and measure their properties.		
2.4.3.1	Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base. (In support of objective 2.4.3: "Generate a census of extra-solar planets and measure their properties.")	Astrophysics	Multiple Programs
2.4.3.1: AS-13-5	Demonstrate planned progress in generating a census of extra-solar planets and measuring their properties. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Astrophysics	Multiple Programs
2.4.3.1: AS-13-6	Achieve mission success criteria for the Kepler mission.	Astrophysics	Exoplanet Exploration
Strategic Goal: 3			
3	Create the innovative new space technologies for our exploration, science, and economic future.		
3.1	Sponsor early stage innovation in space technologies in order to improve the future capabilities of NASA, other government agencies, and the aerospace industry.		
3.1.1	Create a pipeline of new low Technology Readiness Levels (TRL) innovative concepts and technologies for future NASA missions and national needs.		
3.1.1.1	Develop and advance early stage space technologies that support NASA's science, exploration and discovery missions.	Space Technology	Crosscutting Space Technology Development
3.1.1.1: ST-13-1	Research, study, or develop concepts for 120 technologies as documented in technology reports or plans.	Space Technology	Crosscutting Space Technology Development
3.2	Infuse game changing and crosscutting technologies throughout the Nation's space enterprise, to transform the Nation's space mission capabilities.		
3.2.1	Prove the technical feasibility of potentially disruptive new space technologies for future missions.		
3.2.1.1	Develop and advance game-changing and cross-cutting space technologies that support NASA's science, exploration, and discovery missions.	Space Technology	Crosscutting Space Technology Development
3.2.1.1: ST-13-2	Complete three feasibility studies, ground demonstrations, or laboratory experiments proving the technical feasibility of new space technologies.	Space Technology	Crosscutting Space Technology Development
3.2.1.1: ST-13-3	Implement at least one new small spacecraft mission that was selected in the previous fiscal year to demonstrate game changing or crosscutting technologies in space.	Space Technology	Crosscutting Space Technology Development
3.2.1.1: ST-13-4	Implement at least two Technology Demonstration Missions (TDM) technology development projects that were initiated in the previous two years.	Space Technology	Crosscutting Space Technology Development
3.2.1.1: ST-13-5	Select and fly technology payloads from NASA, other government agencies, industry, and academia using flight services procured from at least three different commercial reusable suborbital or parabolic platform providers.	Space Technology	Crosscutting Space Technology Development
3.2.2	Spur the development of routine, low-cost access to space through small payloads and satellites.		
3.2.3	Demonstrate new space technologies and infuse them into future science and exploration small satellite missions and/or commercial use.		
3.2.4	Demonstrate new space technologies and infuse them into missions.		
3.2.5	Provide flight opportunities and relevant environments to demonstrate new space technologies.		
3.3	Develop and demonstrate the critical technologies that will make NASA's exploration, science, and discovery missions more affordable and more capable.		
3.3.1	Demonstrate in-space operations of robotic assistants working with crew.		
3.3.1.1	Develop technologies to enable autonomous mission operations in space to increase affordability.	Exploration Research and Development	Advanced Exploration Systems
3.3.1.1: ERD-13-3	Test docking and anchoring techniques for asteroid missions using a prototype crew excursion vehicle, the Multi-Mission Space Exploration Vehicle (MMSEV), moving on an air bearing floor.	Exploration Research and Development	Advanced Exploration Systems
3.3.1.1: ERD-13-4	Assess the feasibility of a Multi-Purpose Logistics Module (MPLM) based habitation module to support human deep-space missions.	Exploration Research and Development	Advanced Exploration Systems
3.3.2	Develop and demonstrate critical technologies for safe and affordable cargo and human space exploration missions beyond low Earth orbit.		
3.3.2.1	Develop advanced spacesuits to improve the ability of astronauts to conduct Extra Vehicular Activities (EVA) for in-space operations and surface	Exploration Research and Development	Advanced Exploration Systems
3.3.2.1: ERD-13-5	Test a packaged Portable Life Support System (PLSS) for an advanced spacesuit in a vacuum chamber.	Exploration Research and Development	Advanced Exploration Systems
3.3.2.2	Develop technologies and mission concepts for demonstrating in-space cryogenic propellant storage and transfer making exploration and science missions more affordable and capable.	Exploration Research and Development	
3.4	Facilitate the transfer of NASA technology and engage in partnerships with other government Agencies, industry, and international entities to generate U.S. commercial activity and other public benefits.		
3.4.1	Promote and develop innovative technology partnerships among NASA, U.S. industry, and other sectors for the benefit of Agency programs and national interests.		
3.4.1.1	Accelerate the development and adoption of NASA-funded technology through the establishment of cost-sharing partnerships.	Space Technology	Partnership Development and Strategic Integration
3.4.1.1: ST-13-6	Establish a total of twelve partnerships with U.S. industry, other U.S. agencies, or other entities to develop technology that supports NASA's missions or national interests.	Space Technology	Partnership Development and Strategic Integration
Strategic Goal: 4			
4	Advance aeronautics research for societal benefit.		
4.1	Develop innovative solutions and advanced technologies through a balanced research portfolio to improve current and future air transportation.		
4.1.1	Develop advanced technologies to improve the overall safety of the future air transportation system.		
4.1.1.1	Transfer knowledge to the aviation community to better manage safety in aviation.	Aeronautics	Aviation Safety
4.1.1.1: AR-13-2	Develop onboard capabilities that aid in-flight decision-making through instantaneous health assessment of aircraft systems.	Aeronautics	Aviation Safety
4.1.2	Develop innovative solutions and technologies to meet future capacity and mobility requirements of the Next Generation Air Transportation System		

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4.1.2.1	Demonstrate advanced technologies and solutions to achieve fuel efficient increases in operational performance of the Next Generation Air Transportation System (NextGen) while reducing noise and emissions.	Aeronautics	Airspace Systems
4.1.2.1: AR-13-3	Conduct human-in-the-loop simulations for taxi operations conformance, which will reduce fuel consumption during movement on the airport surface.	Aeronautics	Airspace Systems
4.1.3	Develop tools, technologies, and knowledge that enable significantly improved performance and new capabilities for future air vehicles.		
4.1.3.1	Deliver tools, technologies, and knowledge that can be used to more efficiently and effectively design future air vehicles and their components to overcome national performance and capability challenges.	Aeronautics	Fundamental Aeronautics
4.1.3.1: AR-13-4	Develop, improve, and validate a multi-fidelity toolset to assess the noise characteristics of future subsonic aircraft.	Aeronautics	Fundamental Aeronautics
4.1.3.1: AR-13-5	Validate high fidelity tools for sonic boom and drag prediction to enable the design of future supersonic air vehicles.	Aeronautics	Fundamental Aeronautics
4.2	Conduct systems-level research on innovative and promising aeronautics concepts and technologies to demonstrate integrated capabilities and benefits in a relevant flight and/or ground environment.		
4.2.1	Develop advanced tools and technologies that reduce the technical risk associated with system-level integration of promising aeronautical concepts.		
4.2.1.1	Reduce technical risk by conducting research at an integrated system-level on promising aeronautical concepts and technologies in a relevant environment.	Aeronautics	Integrated Systems Research
4.2.1.1: AR-13-6	Conduct tests to validate low-noise characteristics of a hybrid wing body aircraft concept.	Aeronautics	Integrated Systems Research
4.2.1.1: AR-13-7	Complete flight evaluations to assess the capabilities of the Live, Virtual, Constructive (LVC) distributed simulation environment.	Aeronautics	Integrated Systems Research
Strategic Goal: 5			
5	Enable program and institutional capabilities to conduct NASA's aeronautics and space activities.		
5.1	Identify, cultivate, and sustain a diverse workforce and inclusive work environment that is needed to conduct NASA missions.		
5.1.1	Establish and maintain a workforce that possesses state-of-the-art technical and business management competencies.		
5.1.1.1	Define and build diverse workforce skills and competencies needed for the Agency's technology development and deep space exploration.	Agency Management and Operations	Agency Management
5.1.1.1: AMO-13-1	Sustain NASA's Innovation Score, as measured by the innovation-related questions in the Employee Viewpoint Survey (EVS), by taking actions like refining and updating human capital policies, programs, and systems to support and encourage innovation to meet NASA's missions.	Agency Management and Operations	Agency Management
5.1.1.5	Advance a workplace environment that affords Equal Employment Opportunities (EEO) to all employees and takes proactive diversity and inclusion efforts.	Agency Management and Operations	Agency Management
5.1.1.5: AMO-13-2	Sustain five programs and processes designed to proactively prevent discrimination, as outlined in the Model EEO Agency Plan.	Agency Management and Operations	Agency Management
5.1.1.5: AMO-13-3	Implement an Agency Diversity and Inclusion (D&I) Strategic Plan aligned with the Government-wide D&I Strategic Plan.	Agency Management and Operations	Agency Management
5.1.2	Provide opportunities and support systems that recruit, retain, and develop undergraduate and graduate students in STEM-related disciplines.		
5.1.2.1	Assure that students participating in NASA higher education projects are representative of the diversity of the Nation, based on student enrollment data maintained by the U.S. Department of Education's National Center for Education Statistics.	Education	STEM Education and Accountability
5.1.2.1: ED-13-1	Provide significant, direct student awards in higher education to (1) racially or ethnically underrepresented students, (2) women, and (3) persons with disabilities at percentages that meet or exceed the national STEM enrollment percentages for these populations, as determined by the most recent publicly available data from the U.S. Department of Education's National Center for Education Statistics for a minimum of two of the three categories.	Education	STEM Education and Accountability
5.2	Ensure vital assets are ready, available, and appropriately sized to conduct NASA's missions.		
5.2.1	Achieve mission success by factoring safety, quality, risk, reliability and maintainability as integral features of programs, projects, technologies, operations, and facilities.		
5.2.1.1	Through 2015, assure the safety and health of NASA's activities and reduce damage to assets through the development, implementation, and oversight of Agency-wide safety, reliability, maintainability, quality assurance and health and medical policies and procedures.	Agency Management and Operations	Safety and Mission Success
5.2.1.1: AMO-13-4	Assure zero fatalities or permanent disabling injuries to the public resulting from NASA activities during FY 2013.	Agency Management and Operations	Safety and Mission Success
5.2.1.1: AMO-13-5	Maintain a Total Case Rate and Lost Time Case Rate that meets the goals of the President's Protecting Our Workers and Ensuring Reemployment (POWER) initiative.	Agency Management and Operations	Safety and Mission Success
5.2.1.1: AMO-13-6	Reduce damage to NASA assets (excluding launched flight hardware) by two percent during FY 2013, based on a five-year running average (that also excludes launched flight hardware).	Agency Management and Operations	Safety and Mission Success
5.2.2	Provide information technology that advances NASA space and research program results and promotes open dissemination through efficient, innovative, reliable, and responsive services that are appropriately secure and valued by stakeholders and the public.		
5.2.2.1	By 2014, consolidate and centralize the management of information technology (IT) enterprise services for end user services, communications, and enterprise applications.	Agency Management and Operations	Agency IT Services (AITS)
5.2.2.1: AMO-13-7	Achieve full operational capability (FOC) on the remaining service office that is part of the NASA Information Technology Infrastructure Integration Program (I3P).	Agency Management and Operations	Agency IT Services (AITS)
5.2.2.4	By 2015, reduce data center energy consumption by 30 percent.	Agency Management and Operations	Agency IT Services (AITS)
5.2.2.4: AMO-13-8	Implement power metering in 100 percent of NASA data centers.	Agency Management and Operations	Agency IT Services (AITS)
5.2.3	Develop and implement long-range infrastructure plans that address institutional capabilities and critical assets, directly link to mission needs, ensure the leveraging of external capabilities, and provide a framework for Agency infrastructure decision-making.		
5.2.3.1	Between 2012 and 2016, eliminate obsolete and unneeded facilities and support the elimination of facilities that will not be needed after Space Shuttle retirement.	Construction of Facilities	Institutional CoF
5.2.3.1: COF-13-1	Initiate the demolition or disposal of five facilities or structures during 2013 to reduce the Agency's footprint.	Construction of Facilities	Institutional CoF
5.2.4.1	Achieve savings for the Agency through acquisition reforms.	Agency Management and Operations	Agency Management
5.2.4.1: AMO-13-9	Achieve savings in contract costs of $10 million in FY 2013, using FY 2012 as the baseline from which to measure savings.	Agency Management and Operations	Agency Management
5.3	Ensure the availability to the Nation of NASA-owned strategically important test capabilities.		
5.3.1	Work with the National Rocket Propulsion Test Alliance to identify NASA, Department of Defense and commercial capabilities and requirements.		
5.3.1.1	Review the current state of the NASA test capabilities, known test requirements and test requests, and revise the Master Plan as needed.	Space and Flight Support	Rocket Propulsion Test
5.3.1.1: SFS-13-1	Incorporate test capability modifications and known test requirements in the yearly Rocket Propulsion Test (RPT) Master Plan update.	Space and Flight Support	Rocket Propulsion Test
5.3.2	Ensure that Aeronautics Test Program (ATP) facilities are available and capable of supporting research, development, test and evaluation goals and objectives for NASA and national aerospace programs.		

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Measure Number	Measure Description	Theme	Program
5.3.2.1	Ensure that testing capabilities are available in order to support the research, development, test and engineering milestones of NASA and Department of Defense (DoD) programs.	Aeronautics	Aeronautics Test
5.3.2.1: AR-13-8	Provide a new engine icing test capability to address the high-altitude engine icing problem encountered by commercial aircraft.	Aeronautics	Aeronautics Test
5.3.2.1: AR-13-9	Perform a condition assessment of the ground support facilities, systems, and equipment within the Flight Test Project portfolio.	Aeronautics	Aeronautics Test
5.4	Implement and provide space communications and launch capabilities responsive to existing and future science and space exploration missions.		
5.4.1	Ensure reliable and cost-effective access to space for missions critical to achieving the National Space Policy of the United States of America.		
5.4.1.1	Complete Launch Services Program (LSP) objectives for all NASA-managed expendable launches.	Space and Flight Support	Launch Services
5.4.1.1: SFS-13-2	Sustain a 100 percent success rate with the successful launch of NASA managed expendable launches as identified on the Launch Services Flight Planning Board manifest.	Space and Flight Support	Launch Services
5.4.2	Transform the Florida launch and range complex to provide a robust launch and range infrastructure for future users.		
5.4.2.1	Prioritize and complete launch and range complex modernization studies and projects to sustain government and commercial capabilities at the Kennedy Space Center (KSC) and Cape Canaveral Air Force Station (CCAFS).	Space and Flight Support	21st Century Space Launch Complex
5.4.2.1: ESD-13-3	Complete the transfer of required Space Shuttle Program (SSP) and Constellation Program (CxP) assets to the Exploration Ground Systems (EGS) Program for use by SLS/MPCV at the Kennedy Space Center.	Exploration Systems and Development	Exploration Ground Systems
5.4.2.1: SFS-13-3	Continue to establish and develop the 21st Century Space Launch Complex (21stCSLC) and implement the modifications identified during the FY 2011 initiated studies.	Space and Flight Support	21st Century Space Launch Complex
5.4.3	Build and maintain a scalable, integrated, mission support infrastructure that can readily evolve to accommodate new and changing technologies, while providing integrated, comprehensive, robust, and cost-effective space communications services at order-of-magnitude higher data rates to enable NASA's science and exploration missions.		
5.4.3.1	By 2014, launch two functionally identical Tracking and Data Relay Satellite (TDRS) spacecraft in geosynchronous orbits to replenish the Tracking and Data Relay Satellite System (TDRSS) constellation.	Space and Flight Support	Space Communications and Navigation
5.4.3.1: SFS-13-4	Complete TDRS L Pre-Ship Review.	Space and Flight Support	Space Communications and Navigation
5.4.3.2	By FY 2016, replace or upgrade obsolete and unsustainable systems of the TDRSS Ground Segment at the White Sands Complex (WSC).	Space and Flight Support	Space Communications and Navigation
5.4.3.2: SFS-13-5	Complete Space Network Ground Segment Sustainment (SGSS) Critical Design Review (CDR).	Space and Flight Support	Space Communications and Navigation
5.4.3.3	By FY 2018, replace aging and obsolete Deep Space Network (DSN) 70-meter antenna at Canberra Deep Space Communications Complex (CDSCC).	Space and Flight Support	Space Communications and Navigation
5.4.3.3: SFS-13-6	Complete antenna structure for DSS-35 at the CDSCC.	Space and Flight Support	Space Communications and Navigation
5.5	Establish partnerships, including innovative arrangements, with commercial, international, and other government entities to maximize mission success.		
5.5.1	Facilitate the use of the ISS as a national lab for cooperative research, technology development, and education.		
5.5.1.1	Working with the ISS National Laboratory management entity, expand utilization of ISS by non-NASA organizations.	International Space Station	International Space Station
5.5.1.1: ISS-13-9	Facilitate the non-profit organization's (NPO) establishment of the ISS National Laboratory Marketplace to allow researchers and prospective investors to interact and to demonstrate its effectiveness by producing at least one externally funded research agreement.	International Space Station	International Space Station
5.5.2	Enhance international and interagency partnerships through increased use of international and interagency coordination mechanisms.		
5.5.2.1	Continue and improve coordination of NASA's international and interagency agreement activities.	Agency Management and Operations	Agency Management
5.5.2.1: AMO-13-10	Implement improved management of existing agreements by incorporating Office of International and Interagency Relations (OIIR)-led interagency agreements into the Agency agreements database (i.e., the Space Act Agreement Maker).	Agency Management and Operations	Agency Management
Strategic Goal: 6			
6	Share NASA with the public, educators, and students to provide opportunities to participate in our Mission, foster innovation, and contribute to a strong national economy.		
6.1	Improve retention of students in STEM disciplines by providing opportunities and activities along the education pipeline.		
6.1.1	Provide quality STEM curricular support resources and materials.		
6.1.1.1	Assure the availability and accessibility of NASA's online curricular support and resources to improve educators' STEM content knowledge and enhance student interest and proficiency in STEM disciplines.	Education	STEM Education and Accountability
6.1.1.1: ED-13-2	Maintain no fewer than 1,000 online STEM-based teaching tools for K-12 and informal educators and higher education faculty.	Education	STEM Education and Accountability
6.1.2	Provide NASA experiences that inspire student interest and achievement in STEM disciplines.		
6.1.2.2	Focus resources, including content, facilities, and personnel, to improve the impact of NASA's STEM education efforts on areas of greatest national need, as identified in the 2011 NASA Education Design Team report, ensuring that NASA-unique assets are leveraged when conducting direct-service student	Education	STEM Education and Accountability
6.1.2.2: ED-13-3	Conduct no fewer than 200 interactive K-12 student activities that leverage the unique assets of NASA's missions.	Education	STEM Education and Accountability
6.1.3	Assess grant recipient institutions throughout the education pipeline to ensure that grant recipients demonstrate a consistent commitment to civil rights compliance.		
6.1.3.1	Promote equal opportunity compliance and encourage best practices among NASA grant recipient institutions.	Agency Management and Operations	Agency Management
6.1.3.1: AMO-13-11	Provide equal opportunity (EO) assessment and technical assistance, or on-site compliance assessment on-location, at a minimum of two STEM or STEM-related programs that receive NASA funding.	Agency Management and Operations	Agency Management
6.2	Promote STEM literacy through strategic partnerships with formal and informal organizations.		
6.2.1	Develop NASA's leadership role in national STEM improvement efforts, as demonstrated by provision of meaningful educator professional development and student experiences, adoption of education technologies, and contributions to STEM education policies and strategies.		
6.2.1.3	Increase NASA's engagement in national STEM education policy discussions to improve curricula, inform national standards in STEM subjects, and ensure coordination and sharing of best practices across federal STEM agencies to avoid duplication, overlap, or fragmentation.	Education	STEM Education and Accountability
6.2.1.3: ED-13-4	Participate in no fewer than 20 STEM education advisory boards, STEM-related committees, or other events or activities related to national STEM education policy.	Education	STEM Education and Accountability
6.3	Engage the public in NASA's missions by providing new pathways for participation.		
6.3.1	Extend the reach of participatory engagement across NASA.		

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Measure Number	Measure Description	Theme	Program
6.3.1.1	By 2015, establish an Agency-wide portfolio of participatory engagement opportunities.	Agency Management and Operations	Agency Management
6.3.1.1: AMO-13-12	Evaluate portfolio of participatory engagement activities and establish best practices.	Agency Management and Operations	Agency Management
6.4	Inform, engage and inspire the public by sharing NASA's missions, challenges, and results.		
6.4.1	Use strategic partnerships with formal and informal educational organizations to provide NASA content to promote interest in STEM.		
6.4.1.1	Continue to provide opportunities for learners to engage in STEM education through NASA content provided to informal education institutions.	Education	STEM Education and Accountability
6.4.1.1: ED-13-5	Maintain the NASA Museum Alliance and/or other STEM Education strategic partnerships in no fewer than 30 states, U.S. Territories and/or the District of Columbia.	Education	STEM Education and Accountability
6.4.2	Provide clear, accurate, timely, and consistent information that is readily available and suitable for a diverse audience.		
6.4.2.1	Use current and emerging communications technologies to reach increasingly broad audiences.	Agency Management and Operations	Agency Management
6.4.2.1: AMO-13-13	Evaluate for effectiveness social media tools the Agency uses to expand public outreach.	Agency Management and Operations	Agency Management
6.4.3	Provide the communications infrastructure to enable NASA's commitment to make government more open, transparent, and participatory.		
6.4.3.1	Make available Agency records through the Freedom of Information Act (FOIA), Privacy Act, and Open Government Initiative in accordance with federal laws and regulations.	Agency Management and Operations	Agency Management
6.4.3.1: AMO-13-14	Decrease the Freedom of Information (FOIA) backlog of requests by 10 percent.	Agency Management and Operations	Agency Management