NATIONAL AERONAUTICS AND SPACE ADMINISTRATION



FY 2009 Budget Request Summary

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Message from the Administrator

NASA's Mission is to pioneer the future in space exploration, scientific discovery, and aeronautics research. NASA's FY 2009 budget request, a 1.8% increase over FY 2008, addresses a balanced set of priorities among these goals for our Nation's civil space and aeronautics programs as set forth by the NASA Authorization Act of 2005 (P.L. 109-155), the FY 2008 Omnibus Appropriations Act (P.L. 110-161), the Vision for Space Exploration, the National Aeronautics Research and Development Policy, and NASA's Strategic Plan.

NASA is making steady progress in the assembly of the International Space Station in accordance with our commitments to our fifteen international partners. Completing the Space Station, retiring the Space Shuttle in 2010 and managing the transition from the Space Shuttle to the Orion Crew Exploration Vehicle and Ares launch vehicles are, collectively, the greatest management challenges facing NASA since Apollo.

Within the Science portfolio in FY 2009, we are accelerating Earth science missions pursuant to the recent National Academies decadal survey, initiating development of an outer planets flagship mission, and increasing the funding for lunar science missions, among many other exciting initiatives.

In aeronautics, we address the fundamental research challenges facing the Next Generation Air Transportation System while also developing world-class aeronautics expertise and capabilities. NASA is also pursuing innovative partnerships with commercial companies that will better leverage private investment toward NASA's strategic goals.

We have a lot of hard work ahead of us, and are deploying our workforce to meet the challenges of that work. Last fall, we assigned new leadership roles and responsibilities for exploration and science missions to NASA's ten field Centers to carry out this work, and are reinforcing the core technical capabilities within our Centers.

In order to implement the direction in the FY 2008 Omnibus Appropriation to establish seven NASA appropriations accounts in the FY 2009 budget request, we must end the practice of requesting the budget for each program and project to be provided in "full cost". It simply requires too much effort in comparison for the marginal benefit which it provides. Thus, the budgets for NASA's programs and projects are requested only in terms of direct cost, and not the additional indirect costs associated with operating NASA's centers, safety and mission success, and Agency management and operations. The direct budgets will continue to reflect labor and travel costs associated with each program and project. The indirect costs are now budgeted solely within the Cross Agency Support account, and not in the NASA programs and projects. We will strive to ensure that these changes, the result of Congressional direction, are transparent to our stakeholders, and we will continue to track the full cost of our programs.

Finally, February 1st, we recognized the five year anniversary of the Space Shuttle Columbia tragedy, as a touchstone to measure our progress since those dark days. Our journey into space continues because we are dedicated to the missions before us and are resolute in conducting them in a credible, effective, and affordable manner. We must invest our time, resources, and energy wisely. The President's FY 2009 budget request for NASA represents such an investment.

Michael D. Griffin Administrator

FY 2007 Highlights

Below are FY 2007 performance highlights for each NASA Strategic Goal and Sub-goal. Details appear in the Annual Performance Report in the Management and Performance section.

Strategic Goal (SG) 1: "Fly the Shuttle as safely as possible until its retirement, not later than 2010." In December 2006, STS-116 delivered to the International Space Station (ISS) the P5 truss, supplies, and Sunita Williams to relieve German astronaut Thomas Reiter. The crew reconfigured the ISS power system and retracted the P6 solar array. After repairing damage caused by a hailstorm, NASA launched STS-117, which delivered the S3/S4 truss, supplies, and Clayton Anderson, who relieved Williams. The crew deployed solar arrays and radiators on the new truss, configured the ISS for activation of the Oxygen Generation System (OGS), and repaired a loose thermal blanket on the Shuttle's right Orbital Maneuvering System pod. In August, STS-118 delivered supplies and the S5 truss, which the crew installed. The crew activated the Station-Shuttle Power Transfer System (SSPTS), which enables mission flexibility at ISS through extended orbiter stays. STS-118 also was the first flight of Educator Astronaut Barbara Morgan.

SG 2: "Complete the International Space Station in a manner consistent with NASA's International partner commitments and the needs of human exploration." In May and June 2007, ISS crew completed three extravehicular activities (EVAs) for maintenance, science, and assembly tasks. The new S3/S4 truss increased the Station's power capability. The OGS rack will allow the ISS to accommodate a six-member crew and enable NASA to further develop and validate life-support technology for long-duration human space missions. The S5 truss, when paired with the next truss (S6), will enable installation of additional solar arrays. In August, crew conducted three more EVAs for maintenance, science, and assembly tasks, including repair of the Carbon Dioxide Removal Assembly and activation of the SSPTS.

SG3: "Develop a balanced overall program of science, exploration, and aeronautics consistent with the redirection of the human spaceflight program to focus on exploration."

Strategic Sub-Goal (SSG) 3A: "Study Earth from space to advance scientific understanding and meet societal needs." Scientists at NASA's Goddard Space Flight Center and the University of Colorado developed an innovative technique to estimate, with unprecedented spatial detail, the growth and shrinkage of major drainage systems of the Greenland and Antarctic ice sheets. For Greenland, these results show significant ice loss in the southeastern section of the ice sheet, as well as modest losses elsewhere, while the interior has been growing. The estimated net change in mass (101 gigatonnes per year) is equivalent of 0.3 millimeters per year of sea level rise.

SSG 3B: "Understand the Sun and its effects on Earth and the solar system." NASA launched four satellites to explore and understand the dynamics of the Sun and its interactions with Earth. The missions revealed that: the occurrence of polar mesospheric clouds is increasing; the Sun's magnetic field is much more turbulent and dynamic than previously thought; and the processes that power the auroras progress at a rate faster than expected. The missions are a major step toward refreshing the aging Heliospheric Great Observatory constellation of satellites, noted as a potential risk to this Subgoal in the FY 2006 Performance and Accountability Report.

SSG 3C: "Advance scientific knowledge of the origin and history of the solar system, the potential for life elsewhere, and the hazards and resources present as humans explore space." Cassini used its powerful radar to see through the dense, hazy atmosphere of Saturn's moon, Titan, and obtain a clear image of lakes in the north polar region. The atmosphere is approximately two percent methane, similar to the percentage of water in Earth's atmosphere. At Titan's temperature, methane can exist as solid, liquid, or gas, just as water does on Earth, and the moon has methane clouds, rain, lakes, rivers, and erosion features. Titan also has a methanological cycle that acts like Earth's hydrological cycle.

Management and Performance: FY 2007 PAR Annual Performance Report

SSG 3D: "Discover the origin, structure, evolution, and destiny of the universe, and search for Earthlike planets." Scientists used the Hubble Space Telescope (HST) to create a 3-D map showing the distribution of dark matter in the universe, providing the best evidence that normal matter, largely in the form of galaxies, accumulates along the densest concentrations of dark matter. The map reveals a loose network of filaments that grew over time and intersect in massive structures at the locations of clusters of galaxies. The map stretches halfway back to the beginning of the universe and shows how dark matter has grown increasingly "clumpy" as it collapses under gravity. Mapping dark matter's distribution in space and time is fundamental to understanding how galaxies grew and clustered over billions of years.

SSG 3E: "Advance knowledge in the fundamental disciplines of aeronautics, and develop technologies for safer aircraft and higher capacity airspace systems." NASA, in partnership with the Air Force Research Lab and Boeing Phantom Works, completed flight experiments of the X-48B Blended Wing Body (BWB) advanced aircraft. The BWB is a hybrid configuration combining the best attributes of a conventional tube-and-wing aircraft with a flying wing. It has the potential to meet expected future Next Generation Air Transportation System requirements for low noise, low emissions, and high efficiency, with the added ability to land and take-off on shorter runways than current aircraft.

SSG 3F: "Understand the effects of the space environment on human performance, and test new technologies and countermeasures for long-duration human space exploration." NASA completed the final on-orbit part of the Renal Stone study, which began in 2001. NASA is examining astronaut diet logs and urine collections from 20 subjects to test whether potassium citrate is an effective countermeasure against the formation of kidney stones while crews are in orbit. The risk of kidney stones is elevated in space due to the mobilization of calcium from bone loss and the effects of microgravity on fluid distribution in the body.

SG 4: "Bring a new Crew Exploration Vehicle into service as soon as possible after Shuttle retirement." The design, development, and acquisition phases for the Constellation Systems Program and its associated projects (Orion, Ares I, Ground Operations, Mission Operations, and EVA) are on schedule. Cost, schedule, and performance trades will continue throughout the design cycle as the system design matures and gains fidelity. The Preliminary Design Review in fall 2008 will establish a formal baseline for the Program.

SG 5: "Encourage the pursuit of appropriate partnerships with the emerging commercial space sector." The Commercial Crew and Cargo Program broadened its encouragement of the emerging commercial launch industry by signing unfunded Space Act Agreements (SAA) with five new participants: Constellation Services International, PlanetSpace, SpaceDev, SpaceHab, and t/Space. Pursuant to the SAA with the funded participants, NASA provided funds as participants successfully met agreedupon milestones (obtaining commercial funding, holding design reviews, fabricating hardware, etc.) and terminated the SAA when a participant missed agreed-upon milestones.

SG 6: "Establish a lunar return program having the maximum possible utility for later missions to Mars and other destinations." NASA's Lunar Crater Observation and Sensing Satellite (LCROSS) and Lunar Reconnaissance Orbiter (LRO) will launch in late 2008. LCROSS's use of it's Atlas Centaur booster as impactor will detect water ice in the impact plume. LRO will create a comprehensive atlas of the Moon's topography for safe landing sites and lunar resources and study the radiation environment. NASA also demonstrated a prototype technology to form water from lunar regolith for potentially reducing the amount of consumables transported to a lunar or Martian outpost.

NASA's Budget Structure Adjustments

NASA implemented a full cost management system, to include budgeting and execution, in FY 2004 to improve the Agency's understanding of the true costs of projects and increase the efficient use of resources. After three years of full cost implementation, NASA conducted a review to determine the effects on Agency operations. The review revealed that indirect allocations were more complex than necessary, and that the indirect allocation approach created disadvantages for NASA's smaller research Centers.

The Agency addressed those Center impact issues last year in NASA's FY 2008 President's Budget Request by applying a single Agency-wide rate for Center Management and Operations for all nine Centers based on project direct budget. (The indirect costs for NASA's Jet Propulsion Laboratory are included in its contract rates as a Federally Funded Research and Development Center.)

The FY 2008 Omnibus Appropriations Act (P.L. 110-161) directed NASA to modify the Agency's FY 2009 appropriations account structure from three accounts (Science, Aeronautics, and Exploration; Exploration Capabilities; and Inspector General) to seven accounts (Space Operations, Exploration Systems, Science, Aeronautics, Education, Cross Agency Support, and Inspector General). The FY 2009 President's Budget Request is presented in the new seven-account structure.

To execute this new appropriations account structure across NASA's 10 Centers, the Agency must fund its indirect activities separately, instead of receiving allocations from each of the different appropriation accounts. Direct project funding continues to include the full cost of resources to execute projects including procurement, labor, travel, and test and fabrication services. Center Management and Operations, Corporate G&A, and Institutional Investments funding are budgeted in the Cross Agency Support (CAS) appropriations account. The FY 2009 CAS and Inspector General sections are presented in direct dollars for FY 2007 onward, and provide comparisons to the FY 2008 President's Budget Request in direct dollars. The other appropriation accounts based on Mission Directorates, Themes, programs and projects compare the FY 2009 President's Budget Request in direct dollars to the FY 2008 President's Budget Request in full cost. The Major Program Annual Report (MPAR) baseline cost estimates in the Management and Performance section were adjusted to reflect the use of direct cost budgeting for FY 2007 onward.

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President's FY 2009 Budget Request

By Appropriation Account By Theme	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Science	4,609.9	4,706.2	4,441.5	4,482.0	4,534.9	4,643.4	4,761.6
Earth Science	1,198.5	1,280.3	1,367.5	1,350.7	1,250.9	1,264.4	1,290.3
Planetary Science	1,215.6	1,247.5	1,334.2	1,410.1	1,537.5	1,570.0	1,608.7
Astrophysics	1,365.0	1,337.5	1,162.5	1,122.4	1,057.1	1,067.7	1,116.0
Heliophysics	830.8	840.9	577.3*	598.9	689.4	741.2	746.6
Aeronautics	593.8	511.7	446.5	447.5	452.4	456.7	467.7
Exploration	2,869.8	3,143.1	3,500.5	3,737.7	7,048.2	7,116.8	7,666.8
Constellation Systems	2,114.7	2,471.9	3,048.2	3,252.8	6,479.5	6,521.4	7,080.5
Advanced Capabilities	755.1	671.1	452.3	484.9	568.7	595.5	586.3
Space Operations	5,113.5	5,526.2	5,774.7	5,872.8	2,900.1	3,089.9	2,788.5
Space Shuttle	3,315.3	3,266.7	2,981.7	2,983.7	95.7	-	-
International Space Station	1,469.0	1,813.2	2,060.2	2,277.0	2,176.4	2,448.2	2,143.1
Space and Flight Support	329.2	446.3	732.8*	612.1	628.0	641.7	645.4
Education	115.9	146.8	115.6	126.1	123.8	123.8	123.8
Cross-Agency Support	2,949.9	3,242.9	3,299.9	3,323.9	3,363.7	3,436.1	3,511.3
Center Management and Operations	1,754.9	2,013.0	2,045.6	2,046.7	2,088.0	2,155.3	2,211.6
Agency Management and Operations	971.2	830.2	945.6	945.5	939.8	950.5	961.3
Institutional Investments	223.8	319.7	308.7	331.7	335.9	330.4	338.3
Congressionally Directed Items	-	80.0	-	-	-	-	
Inspector General	32.2	32.6	35.5	36.4	37.3	38.3	39.2
FY 2008 Rescission**		(192.5)					
NASA FY 2009	16,285.0	17,309.4	17,614.2	18,026.3	18,460.4	18,905.0	19,358.8

Budgets include all direct costs required to execute the programs. Indirect costs are now budgeted within Cross-Agency Support.

FY 2008 Budgets are the enacted levels per the Agency's FY 2009 Budget Estimates. Totals may not add due to rounding.

^{*} Deep Space and Near Earth Networks transfers \$256 million to Space and Flight Support in FY 2009.

^{**} FY 2008 Appropriation rescinded \$192.475M in prior-year unobligated balances, effectively reducing FY 2008 authority. Not included in totals.

Science

The Science Mission Directorate (SMD) conducts scientific exploration, enabled by access to space or near-space, to help NASA achieve Strategic Goal 3. SMD's four science Sub-goals under Strategic Goal 3 are focused through a "Theme" as follows:

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

	FY 2007	FY 2008		,	,	,	
Budget Authority (\$ millions)	Actual	Enacted	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
FY 2009 President's Budget Request	4,609.9	4,706.2	4,441.5	4,482.0	4,534.9	4,643.4	4,761.6
Earth Science	1,198.5	1,280.3	1,367.5	1,350.7	1,250.9	1,264.4	1,290.3
Planetary Science	1,215.6	1,247.5	1,334.2	1,410.1	1,537.5	1,570.0	1,608.7
Astrophysics	1,365.0	1,337.5	1,162.5	1,122.4	1,057.1	1,067.7	1,116.0
Heliophysics	830.8	840.9	577.3	598.9	689.4	741.2	746.6
FY 2008 President's Budget Request	5,466.8	5,516.1	5,555.3	5,600.6	5,656.9	5,802.7	
Earth Science	1,464.5	1,497.3	1,545.8	1,520.1	1,411.2	1,353.2	
Planetary Science	1,411.2	1,395.8	1,676.9	1,720.3	1,738.3	1,748.2	
Astrophysics	1,563.0	1,565.8	1,304.2	1,268.9	1,266.2	1,393.8	
Heliophysics	1,028.1	1,057.2	1,028.4	1,091.3	1,241.2	1,307.5	
Total Change from FY 2008 President's Budget Request	-856.9	-809.9	-1,113.8	-1,118.6	-1,122.0	-1,159.3	4,761.6

Note: FY 2009 President's Budget Request is in Direct Dollars and represents the July 2007 Operating Plan for the 2007 actual, the 2008 Omnibus Appropriations Act (P.L. 110-161) for the 2008 enacted, and the 5-year Proposed Budget Estimates for 2009 through 2013. FY 2008 President's Budget Request is in Full Cost and represents the as-delivered February 5, 2007 Budget Estimate Book. Due to the change from reporting full-cost to direct, NASA's program budgets will appear to have declined.

Aeronautics

NASA's Aeronautics Research Mission Directorate (ARMD) conducts high-quality, cutting-edge research that generates innovative concepts, tools, and technologies to enable revolutionary advances in our Nation's future aircraft as well as in the airspace in which they will fly. ARMD programs will facilitate a safer, more environmentally friendly, and more efficient national air transportation system. In addition, NASA's aeronautics research will continue to play a vital role in supporting NASA's human and robotic space exploration activities.

Budget Authority (\$ millions)	FY 2007 Actual	FY 2008 Enacted	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
FY 2009 President's Budget Request	593.8	511.7	446.5	447.5	452.4	456.7	467.7
Aeronautics	593.8	511.7	446.5	447.5	452.4	456.7	467.7
FY 2008 President's Budget Request	529.3	554.0	546.7	545.3	549.8	554.7	
Aeronautics	529.3	554.0	546.7	545.3	549.8	554.7	
Total Change from FY 2008 President's Budget Request	64.5	-42.3	-100.2	-97.8	-97.4	-98.0	467.7

Note: FY 2009 President's Budget Request is in direct dollars and represents the July 2007 Operating Plan for the 2007 actual, the 2008 Omnibus Appropriations Act (P.L. 110-161) for the 2008 enacted, and the 5-year Proposed Budget Estimates for 2009 through 2013. FY 2008 President's Budget Request is in Full Cost and represents the as-delivered February 5, 2007 Budget Estimate Book. Due to the change from reporting full-cost to direct, NASA's program budgets will appear to have declined.

Exploration

The Exploration Systems Mission Directorate (ESMD) develops capabilities and supporting research and technology that enable sustained and affordable human and robotic exploration. ESMD is also developing a robotic precursor mission, human transportation elements, and life support systems for the near-term goal of lunar exploration.

	FY 2007	FY 2008	'				
Budget Authority (\$ millions)	Actual	Enacted	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
FY 2009 President's Budget Request	2,869.8	3,143.1	3,500.5	3,737.7	7,048.2	7,116.8	7,666.8
Constellation Systems	2,114.7	2,471.9	3,048.2	3,252.8	6,479.5	6,521.4	7,080.5
Advanced Capabilities	755.1	671.1	452.3	484.9	568.7	595.5	586.3
FY 2008 President's Budget Request	4,152.5	3,923.8	4,312.8	4,757.8	8,725.2	9,076.8	
Constellation Systems	3,232.5	3,117.6	3,664.2	4,131.5	8,038.4	8,368.4	
Advanced Capabilities	920.0	806.2	648.6	626.3	686.8	708.4	
Total Change from FY 2008 President's Budget Request	-1,282.7	-780.7	-812.3	-1,020.1	-1,677.0	-1,960.0	7,666.8

Note: FY 2009 President's Budget Request is in Direct Dollars and represents the July 2007 Operating Plan for the 2007 Actual Column, the 2008 Omnibus Appropriations Act (P.L. 110-161) and the 5-year Proposed Budget estimates for 2009 through 2013. FY 2008 Adjusted President's Budget Request is in Full Cost and represents the as-delivered February 5, 2007 Budget Estimate Book. Due to the change from reporting full-cost to direct, NASA's program budgets will appear to have declined.

Space Operations

The Space Operations Mission Directorate (SOMD) is responsible for providing mission critical space exploration services to both NASA customers and to other partners within the United States and throughout the world: flying the Space Shuttle to assemble the International Space Station; ensuring safe and reliable access to space; maintaining secure and dependable communications between platforms across the solar system; and ensuring the health and safety of our Nation's astronauts.

At the heart of SOMD is nearly half a century of experience at safely and reliably building, flying, and maintaining some of the world's most advanced and complex aerospace systems. The Vision for Space Exploration and the NASA Strategic Plan recognize the role of the International Space Station as a unique orbital outpost for carrying out the scientific and engineering research needed for prolonged stays on the Moon and Mars. The lessons being learned during the construction and operation of the International Space Station are directly applicable to the challenges that may be faced by explorers on the lunar and Martian surfaces.

Budget Authority (\$ millions)	FY 2007 Actual	FY 2008 Enacted	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
FY 2009 President's Budget Request	5,113.5	5,526.2	5,774.7	5,872.8	2,900.1	3,089.9	2,788.5
Space Shuttle	3,315.3	3,266.7	2,981.7	2,983.7	95.7		
International Space Station	1,469.0	1,813.2	2,060.2	2,277.0	2,176.4	2,448.2	2,143.1
Space and Flight Support (SFS)	329.2	446.3	732.8	612.1	628.0	641.7	645.4
FY 2008 President's Budget Request	6,108.3	6,791.7	6,710.3	6,625.7	3,036.6	2,978.0	
Space Shuttle	4,017.6	4,007.5	3,650.9	3,634.4	116.2		
International Space Station	1,762.6	2,238.6	2,515.1	2,609.2	2,547.5	2,600.8	
Space and Flight Support (SFS)	328.1	545.7	544.3	382.0	372.9	377.2	
Total Change from FY 2008 President's Budget Request	-994.7	-1,265.6	-935.6	-752.9	-136.5	111.8	2,788.5

Note: FY 2009 President's Budget Request is in Direct Dollars and represents the July 2007 Operating Plan for the 2007 actual, the 2008 Omnibus Appropriations Act (P.L. 110-161) for the 2008 enacted, and the 5-year Proposed Budget Estimates for 2009 through 2013. FY 2008 President's Budget Request is in Full Cost and represents the as-delivered February 5, 2007 Budget Estimate Book. Due to the change from reporting full-cost to direct, NASA's program budgets will appear to have declined.

Education

The Office of Education (referred to as Education) partners with academia, professional associations, industry, and other agencies to provide teachers and faculty with experiences that capitalize on the excitement of NASA's missions and provides meaningful, content-rich educational programs to inspire students at all levels to pursue careers in fields related to Science, Technology, Engineering, and Mathematics (STEM). Education's programs strive to reach and connect with youth, and to excite and inspire them into becoming the next generation of scientists, inventors, technicians, and explorers.

Budget Authority (\$ millions)	FY 2007 Actual	FY 2008 Enacted	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
FY 2009 President's Budget Request	115.9	146.8	115.6	126.1	123.8	123.8	123.8
Education	115.9	146.8	115.6	126.1	123.8	123.8	123.8
FY 2008 President's Budget Request	167.4	153.7	152.8	152.7	149.8	149.6	
Education	167.4	153.7	152.8	152.7	149.8	149.6	
Total Change from FY 2008 President's Budget Request	-51.5	-7.0	-37.2	-26.6	-26.0	-25.8	123.8

Note: FY 2009 President's Budget Request is in Direct Dollars and represents the July 2007 Operating Plan for the 2007 Actual column, the 2008 Omnibus Appropriations Act (P.L. 110-161) for the 2008, and the 5-year Proposed Budget Estimates for 2009 through 2013. FY 2008 President's Budget Request is in Full Cost and represents the as-delivered February 5, 2007 Budget Estimate Book. Due to the change from reporting full-cost to direct, NASA's program budgets will appear to have declined.

Cross Agency Support

Cross-Agency Support provides a focus for managing technical capability and agency mission support functions. This budget area consists of three themes: Center Management and Operations (CM&O), Agency Management and Operations, and Institutional Investments (II). Cross-Agency Support is not directly identified or aligned to a specific program or project requirement but is necessary to ensure the efficient and effective operation and administration of NASA.

Dudwat Authority (ft millions)	FY 2007 Actual	FY 2008 Enacted	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Budget Authority (\$ millions) FY 2009 President's Budget Request	2,949.9	3,242.9	3,299.9	3,323.9	3,363.7	3,436.1	3,511.3
Center Management and Operations	1,754.9	2,013.0	2,045.6	2,046.7	2,088.0	2,155.3	2,211.6
Agency Management and Operations	971.2	830.2	945.6	945.5	939.8	950.5	961.3
Institutional Investments	223.8	319.7	308.7	331.7	335.9	330.4	338.3
Congressionally Directed Items		80.0					
FY 2008 President's Budget Request	2,962.8	3,285.5	3,263.6	3,290.5	3,345.8	3,419.2	
Center Management and Operations	1,733.0	2,013.0	2,014.7	2,031.5	2,078.2	2,141.4	
Corporate General and Administrative	741.1	678.7	679.1	673.9	680.1	695.7	
Advanced Business Systems (IEMP)	80.8	84.1	56.8	58.9	55.7	55.7	
Innovative Partnerships Program	178.6	162.0	161.8	164.7	165.2	165.3	
Strategic Capabilities Assets Program	18.3	28.0	28.0	29.8	30.7	30.7	
Institutional Investments	211.0	319.7	323.2	331.7	335.9	330.4	
Total Change from FY 2008 President's Budget Request	-12.9	-42.6	36.3	33.4	17.9	16.9	3,511.3

Note: FY 2009 President's Budget Request is in direct dollars and represents the July 2007 Operating Plan for the 2007 actual, the 2008 Omnibus Appropriations Act (P.L. 110-161) for the 2008 enacted, and the 5-year Proposed Budget Estimates for 2009 through 2013. The FY 2008 President's Budget Request is shown in direct dollars.

Inspector General

The NASA Office of Inspector General (OIG) budget request for FY 2009 is \$35.5 million. The NASA OIG consists of 203 auditors, analysts, specialists, investigators, and support staff at NASA Headquarters in Washington, DC, and NASA Centers throughout the United States. The FY 2009 request supports the OIG mission to prevent and detect crime, fraud, waste, abuse, and mismanagement while promoting economy, effectiveness, and efficiency within the Agency.

Budget Authority (\$ millions)	FY 2007 Actual	FY 2008 Enacted	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
FY 2009 President's Budget Request	32.2	32.6	35.5	36.4	37.3	38.3	39.2
Inspector General	32.2	32.6	35.5	36.4	37.3	38.3	39.2
FY 2008 President's Budget Request	33.5	34.6	35.5	36.4	37.3	38.3	-
Inspector General	33.5	34.6	35.5	36.4	37.3	38.3	
Total Change from FY 2008 President's Budget Request	-1.3	-2.0	0.0	0.0	0.0	0.0	39.2

Management and Performance Overview

The Management and Performance section provides a comprehensive record of the past and planned performance for NASA's programs and projects. This section includes the key NASA FY 2009 Performance Plan; an update to the FY 2008 Performance Plan based on Congressional budget action; a summary of the cost and schedule performance of NASA's projects with estimated life cycle cost above \$250 million; progress on the implementation of the initiatives for the President's Management Agenda (PMA); and the FY 2007 Annual Performance Report.

NASA's planning and performance management processes are an essential part of the Agency's governance and strategic management system. The Agency has an integrated system to plan strategy and implementation; monitor, assess, and evaluate performance toward commitments; identify issues; gauge programmatic and organizational health; and provide appropriate data and information to NASA decision-makers.

Through its strategic management system, NASA: identifies the Agency's long-term Strategic Goals, multi-year Outcomes, and other key performance measures; develops and implements plans to achieve these Goals; and continuously measures the Agency's progress toward these Goals. NASA managers use performance results as a basis for key investment decisions, and NASA performance data provides a foundation for both programmatic and institutional decision-making processes.

NASA's planning and performance management processes provide data to Agency management via: ongoing monthly and quarterly analysis and reviews; annual assessments in support of budget formulation (for budget guidance and issue identification, analysis, and disposition); annual reporting of performance, management issues, and financial position; periodic, in-depth program or special purpose assessments; and recurring or special assessment reports to internal and external organizations.

NASA's performance system is designed to align with the Agency's internally and externally imposed performance measurement and reporting requirements, tools, and practices, including the Government Performance and Results Act, the President's Management Agenda, and the Office of Management and Budget's Program Assessment Rating Tool (PART) evaluations.