

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Federal Funds

General and special funds:

SCIENCE, AERONAUTICS AND EXPLORATION

(INCLUDING TRANSFER OF FUNDS)

For necessary expenses, not otherwise provided for, in the conduct and support of science, aeronautics and exploration research and development activities, including research, development, operations, support and services; maintenance; construction of facilities including repair, rehabilitation, revitalization, and modification of facilities, construction of new facilities and additions to existing facilities, facility planning and design, and restoration, and acquisition or condemnation of real property, as authorized by law; environmental compliance and restoration; space flight, spacecraft control and communications activities including operations, production, and services; program management; personnel and related costs, including uniforms or allowances therefor, as authorized by 5 U.S.C. 5901–5902; travel expenses; purchase and hire of passenger motor vehicles; not to exceed \$35,000 for official reception and representation expenses; and purchase, lease, charter, maintenance and operation of mission and administrative aircraft, **[\$9,761,400,000]** *\$10,523,805,000*, to remain available until September 30, **[2007]** *2008*, of which amounts as determined by the Administrator for salaries and benefits; training, travel and awards; facility and related costs; information technology services; science, engineering, fabricating and testing services; and other administrative services may be transferred to “Exploration Capabilities” in accordance with section **[312(b)]** *313* of the National Aeronautics and Space Act of 1958, as amended **[by Public Law 106–377]**. (*Science Appropriations Act, 2006.*)

Program and Financing (in millions of dollars)

Identification code 80–0114–0–1–999	2005 actual	2006 est.	2007 est.
Obligations by program activity:			
00.01 Space science	4,292	672	.....
00.02 Earth science	1,536	240	.....
00.03 Biological & physical research	925	145	.....
00.04 Aeronautics	963	1,034	734
00.05 Education	179	28	.....
00.06 Science .....	.....	4,756	5,315
00.07 Exploration systems .....	.....	2,532	3,921
00.08 Cross-agency supt .....	.....	319	475
09.01 Reimbursable program	476	638	615
10.00 Total new obligations	8,371	10,364	11,060
Budgetary resources available for obligation:			
21.40 Unobligated balance carried forward, start of year	1,211	1,235	1,173
22.00 New budget authority (gross)	8,418	10,302	11,139
22.21 Unobligated balance transferred to other accounts	-14	.....	.....
23.90 Total budgetary resources available for obligation	9,615	11,537	12,312
23.95 Total new obligations	-8,371	-10,364	-11,060
23.98 Unobligated balance expiring or withdrawn	-9	.....	.....
24.40 Unobligated balance carried forward, end of year	1,235	1,173	1,252
New budget authority (gross), detail:			
Discretionary:			
40.00 Appropriation	7,743	9,761	10,524
40.33 Appropriation permanently reduced (P.L. 109–148) .....	.....	-97	.....
40.35 Appropriation permanently reduced	-62	-27	.....
41.00 Transferred to other accounts	-60	.....	.....
42.00 Transferred from other accounts	270	27	.....
43.00 Appropriation (total discretionary)	7,891	9,664	10,524
Spending authority from offsetting collections:			
Discretionary:			
68.00 Offsetting collections (cash)	476	638	615
68.10 Change in uncollected customer payments from Federal sources (unexpired)	51	.....	.....
68.90 Spending authority from offsetting collections (total discretionary)	527	638	615

70.00	Total new budget authority (gross)	8,418	10,302	11,139
Change in obligated balances:				
72.40	Obligated balance, start of year	2,558	3,445	4,894
73.10	Total new obligations	8,371	10,364	11,060
73.20	Total outlays (gross)	-7,433	-8,915	-10,580
74.00	Change in uncollected customer payments from Federal sources (unexpired)	-51	.....	.....
74.40	Obligated balance, end of year	3,445	4,894	5,374
Outlays (gross), detail:				
86.90	Outlays from new discretionary authority	7,433	5,373	5,772
86.93	Outlays from discretionary balances .....	.....	3,542	4,808
87.00	Total outlays (gross)	7,433	8,915	10,580
Offsets:				
Against gross budget authority and outlays:				
Offsetting collections (cash) from:				
88.00	Federal sources	-594	-540	-540
88.40	Non-Federal sources	118	-98	-75
88.90	Total, offsetting collections (cash)	-476	-638	-615
Against gross budget authority only:				
88.95	Change in uncollected customer payments from Federal sources (unexpired)	-51	.....	.....
Net budget authority and outlays:				
89.00	Budget authority	7,891	9,664	10,524
90.00	Outlays	6,957	8,277	9,965

This appropriation provides for the full costs associated with the science, aeronautics and exploration (SAE) activities of the agency, which consist of the programs, or “themes,” within the Science, Exploration Systems, and Aeronautics Research Mission Directorates and Cross-Agency Support Programs. (Education Programs is now an element of Cross-Agency Support Programs.) The full costs include both direct and indirect costs supporting these programs, which provide for all of the research; development; operations; salaries and related expenses; design, repair, rehabilitation, modification of facilities, and construction of new facilities; and other general and administrative activities supporting the themes within SAE.

Detailed performance goals associated with the SAE activities are addressed in NASA’s detailed budget request, and summaries of these activities are in the NASA chapter of the 2007 Budget volume. The SAE activities are described below.

Science.—NASA’s Science Mission Directorate encompasses three themes: Earth-Sun System, Solar System Exploration, and Universe. The Directorate seeks to answer fundamental questions concerning the galaxy and the universe; the connections among the Sun, Earth and heliosphere; the ways in which Earth’s climate is changing; the comparison of Earth with other planets in our solar system and around other stars; the origin and evolution of planetary systems; and the origin and distribution of life in the universe. The Directorate achieves its objectives through flight missions (e.g. robotic spacecraft), ground-based scientific research and data analysis, and the development of new technologies for future missions.

Life on Earth prospers in a biosphere and climate powered by energy from the Sun and moderated by water and carbon cycles. Working with the domestic and international partners, NASA provides accurate, objective, scientific data and analysis to advance understanding of Earth-Sun system processes and phenomena. This enables improved prediction and re-

General and special funds—Continued

SCIENCE, AERONAUTICS AND EXPLORATION—Continued

(INCLUDING TRANSFER OF FUNDS)—Continued

sponse capabilities for climate, weather, natural hazards, and even human-induced disasters. Employing a constellation of about 30 Earth or Sun observing satellites routinely making measurements with about 100 remote sensing instruments, NASA's goal is to continue using the view from space to study the Earth system and improve prediction of Earth system changes, solar variability, and the connection between the two.

In seeking to understand the Sun, heliosphere, and planetary environments as a single, connected system, NASA will pursue two sets of missions: Solar Terrestrial Probe missions address fundamental science questions about the physics of plasma and the flow of mass and energy in the solar system; and Living With a Star missions develop specific knowledge and understanding of those aspects of the Sun-Earth system that directly affect life and society. The Solar Terrestrial Relations Observatory (STEREO) will advance our understanding of the Sun's corona (its outer "atmosphere") and the origin of huge eruptions of solar material known as coronal mass ejections. Under Living With a Star, the Solar Dynamics Observatory will observe the solar interior and atmosphere continuously from geosynchronous orbit to determine the causes of solar variability. Its images will provide global views of the sun with four times the resolution of those currently available.

In the next few decades, NASA will deepen our understanding of the solar system, with spacecraft fanning out to destinations from the innermost planet to the very edge of our Sun's influence. Some will stay in Earth's orbit, others will follow looping one-way trajectories through the gravitational forces of the planets, and a few will come back carrying mystery-unlocking souvenirs from other worlds. Our intensive investigation of Mars will continue, from orbit and on the surface, with a new generation of missions, including the Phoenix lander (August 2007 launch) and the 2009 Mars Science Laboratory rover.

The Cassini Saturn orbiter will continue to return stunning images and revise our understanding of the ringed planet and its moons. Meanwhile, the Messenger mission to Mercury and the New Horizons mission to Pluto will complete NASA's initial reconnaissance of our solar system. We will also study the Kuiper Belt, and the comets that come from it, to investigate the primordial substances which evolved into the solar system.

Perplexing and important questions guide our quest to understand the secrets of the universe:

How did the Universe begin?
Does time have a beginning and an end?
Where did we come from?
Are we alone?

To answer these questions, NASA will continue to operate its prolific Hubble, Chandra, and Spitzer space telescopes, while planning a series of future missions linked by powerful new technologies and complementary approaches to shared science goals. These missions will enhance our ability to find planets around other stars and peer deep into the history of the universe and improve our understanding of its structure. The Kepler mission will enable the discovery of Earth-size and smaller planets around other stars. The Gamma-ray Large-Area Space Telescope (GLAST) will investigate the high-energy world of black holes and neutron stars. The Space Interferometry Mission (SIM) will allow indirect detection of planets through observation of thousands of stars, and will investigate the structure of planetary disks. SIM will also demonstrate unprecedented astronomical accuracy and high

spatial resolution. The James Webb Space Telescope will study the earliest galaxies and some of the first stars formed after the Big Bang.

Exploration systems.—The Exploration Systems Mission Directorate (ESMD) includes three themes that work together to enable sustainable exploration and scientific discovery in our solar system. The themes are Constellation Systems, Exploration Systems Research and Technology, and Human Systems Research and Technology.

Through the Constellation Systems theme NASA will develop, demonstrate, and deploy the transportation, life support and surface systems that will enable sustained human and robotic exploration of the Moon, Mars, and beyond. These include the Crew Exploration Vehicle (CEV) for the transport and support of human crews traveling to destinations beyond Low Earth Orbit (LEO), as well as launch vehicles for transport of the CEV and cargo to LEO, and any ground support infrastructure for communications and operations.

The Constellation Systems theme is responsible for developing capabilities essential to making the nation's Vision for Space Exploration a reality. Constellation Systems supports NASA's mission to explore the universe and search for life by developing the transportation and supporting systems to extend human presence to the Moon, Mars, and beyond. A human presence will enable scientific activities and discoveries not obtainable with robotic explorers.

The program is established to achieve the goals laid out by the President in his January 2004 speech, and will do so by developing the architecture and vehicle systems outlined in the 2005 Exploration Systems Architecture Study (ESAS). Further analysis and refinement of the ESAS results will continue under the direction of the ESMD. Initial Constellation Systems capabilities include the CEV, Crew Launch Vehicle (CLV), Extravehicular Activity suits and tools required by the flight crews, and associated ground and mission operations infrastructure. These systems are intended to support exploration, but in their initial test phases will support Low Earth Orbit (LEO) missions including crew transportation to the International Space Station (ISS). The CEV will also be capable of delivering some cargo to the ISS, although this will be a backup to commercial systems.

An important element of Constellation Systems is the commercial crew/cargo project. The Vision for Space Exploration called for NASA to pursue commercial opportunities for providing transportation to the International Space Station. The crew/cargo program is intended to spur private industry to provide cost-effective access to low-Earth orbit, allowing NASA to focus its internal resources on exploration.

Following the initial capabilities, Constellation Systems will develop crew capabilities for a lunar surface mission by 2020. These capabilities include: a Heavy Lift Launch Vehicle (HLLV), leveraging engineering design and capabilities from the Shuttle Program; an Earth Departure Stage (EDS) to provide the momentum required to propel the CEV from LEO to Lunar Orbit; a Lunar Surface Access Module (LSAM) to safely transport astronauts to and from the lunar surface; and systems, capabilities, and support for extended human stays on the lunar surface.

Future development will provide crew, cargo transportation and destination support capabilities required for human exploration of Mars and beyond.

The Exploration Systems Research and Technology (ESRT) theme is NASA's investment in the technologies and capabilities that will make the national vision for space exploration possible. The goals of solar system exploration will be the primary focus of exploration systems research and technology, and will demand a robust, ongoing commitment to focused innovation that will benefit activities across the Agency. Through a focused research and development effort NASA will develop technologies planned to mature at intervals al-

lowing pre-planned integration in support of evolving missions.

Within ESRT there are five programs: Advanced Space Technology, Technology Maturation, Centennial Challenges, Robotic Lunar Exploration and Prometheus (previously a separate theme). The Advanced Space Technology Program develops new high leverage technologies and concepts. The Technical Maturation Program develops near term technologies for human robotic exploration and assures their timely transition into exploration systems mission development programs. The Centennial Challenges Program establishes awards to stimulate innovative technical accomplishments that could advance the state of civil space exploration and aeronautics. The Robotic Lunar Exploration Program develops precursor missions to characterize the lunar environment. The Prometheus program develops nuclear technologies for power and propulsion. NASA is working closely with other government agencies, industry, academia and other partners to leverage common requirements and identify innovative ideas.

The Human Systems Research and Technology (HSRT) theme focuses on ensuring the health, safety, and productivity of humans as we embark on missions of exploration in our solar system. Programs within this theme advance knowledge and technology critical for supporting long-term human survival and performance during operations beyond Low Earth Orbit (LEO), with a focus on improving medical care and human health maintenance. Within HSRT there are three programs: Human Health and Performance (HHP); Life Support and Habitation (LSH); and Human Systems Integration (HSI). The HHP program delivers research on questions about human biology and physiology relevant to the human exploration of the solar system, and delivers technology to help maintain or improve human health in the space environment. The LSH program conducts research and develops technology for life support and other critical systems for spacecraft operations. The HSI program focuses on optimizing human-machine interaction in the operation of spacecraft systems.

Aeronautics research.—NASA aeronautics was built on the tradition of building expertise in the core disciplines of aeronautics and has been at the forefront of many major advances in the science of flight.

NASA scientists and engineers have built a substantial base of knowledge and the analytic tools and capabilities to perform more exacting work to close the gap between experimental and theoretical knowledge. NASA has become the nation's leading government organization for aeronautical research, with a charter to develop an integrated strategy that addresses the challenges in aviation by developing technological solutions that will enable a bold new era in aviation.

Although NASA is refocusing the Aeronautics Program to place greater emphasis on long-term investments in foundational research, we are maintaining our long-standing commitment to benefit the American public by developing technologies that accomplish the following goals:

1. Make the nation's current and future air transportation system even safer;
2. Protect local air quality and our global climate;
3. Reduce aircraft noise to benefit airport neighbors, the aviation industry, and travelers;
4. Enable the movement of more air passengers with fewer delays; and
5. Enable people to travel faster and farther, anywhere, anytime.

NASA's Aeronautics theme consists of three integrated research programs as well as an Aeronautics Test Program that preserves critical NASA wind tunnel infrastructure.

- The Fundamental Aeronautics Program will conduct research and develop technology to enable revolutionary capabilities for the future of aviation. We will develop advanced tools and capabilities that will enable whole new classes of

aircraft that not only meet the noise and emissions requirements of the future but that also provide fast, efficient, and economical flight.

- The vectored Aviation Safety Program will focus NASA research on improving the inherent safety attributes of aircraft in order to eliminate fatal accidents and enhancing the safety of the nation's current and future national air transportation system.

- The Airspace Systems Program is being realigned to directly address the needs of the Next Generation Air Transportation System (NGATS) initiative as defined by the Federal Aviation Administration and NASA within the Joint Planning and Development Office (JPDO). NGATS research will enable major increases in the capacity and mobility of the U.S. air transportation system through development of technologies, capabilities, and future concepts.

The Aeronautics Test Program is a new Aeronautics program that will ensure the strategic availability of a critical suite of wind tunnels which are deemed necessary to meet Aeronautics, Agency, and National needs.

Cross-agency support programs.—Cross-Agency Support Programs includes four single-program themes that encompass several ongoing activities and an improved model for managing NASA's unique facilities. The themes are Education, Advanced Business Systems, Integrated Enterprise Management Program, Innovative Partnerships Program, and Shared Capability Assets Program.

Education at NASA works to inspire and motivate students at all levels to pursue careers in the fields of science, technology, engineering, and mathematics (STEM), while also engaging the education community to reach this goal. NASA's objectives include: providing elementary and secondary students and teachers with NASA-related education opportunities; supporting higher education research capability and opportunities that attract and prepare students and faculty for NASA-related careers; providing students, teachers, faculty, and researchers from underrepresented and underserved communities with opportunities in NASA-related STEM fields; and increasing student, teacher, and public access to NASA education resources by developing and deploying innovative technology applications platforms. NASA engages the public in shaping and sharing the experience of exploration and discovery by improving public understanding of science and technology, including NASA aerospace technology, research, and exploration missions.

The Integrated Enterprise Management Program (IEMP) was placed in the new Advanced Business Systems theme beginning in FY 2006 as a direct funded program versus being funded within Corporate and Center General and Administrative (G&A) expenses.

IEMP is a large and complex initiative changing the way financial and business management is performed throughout NASA. Center and/or Directorate unique approaches are being replaced with a single set of standard integrated business processes. Each and every NASA employee will be impacted by these changes. New IEMP systems are improving business processes by minimizing data redundancy, standardizing information and electronic data exchanges, processing and recording financial events effectively and efficiently, and ensuring consistent information throughout the Agency. IEMP consists of functional projects that effect business process changes and that acquire and implement appropriate information technology tools to substantially improve the Agency's performance. The program, reformulated in March 2000, will complete implementation in FY 2008. IEMP is composed of multiple projects. The following projects are completed and implemented: Resume Management, Position Description Management, Travel Management, Core Financials, Program Management Information Improvement, and Labor Distribution System. The following projects are in planning or devel-

General and special funds—Continued

SCIENCE, AERONAUTICS AND EXPLORATION—Continued

(INCLUDING TRANSFER OF FUNDS)—Continued

opment: SAP Upgrade, Contract Management, and Integrated Asset Management.

NASA's Innovative Partnerships Program (IPP) is undergoing transition to improve value provided to NASA. The mission of the new IPP is to provide leveraged technology alternatives for NASA's mission directorates, programs, and projects through joint partnerships with industry, academia, government agencies, and national laboratories. Products of the IPP include: leveraged technology investments, dual-use technology-related partnerships, and secured Intellectual Property assets. IPP partnerships serve to increase the range of technology solutions for NASA, enable cost avoidance, and accelerate technology maturation. IPP consists of the following program elements: Technology Transfer (T2), Space Products Development (SPD), Small Business Innovative Research (SBIR)/ Small Business Technology Transfer Program (STTR), and four of NASA's University Research Engineering & Technology Institutes (URETI). Together these increase NASA's connection to emerging technologies in the external communities, enable targeted positioning of NASA's technology portfolio in selected areas, and secure NASA's Intellectual Property to provide fair access and to support NASA's strategic goals. Dual-use partnerships and licensing also create socio-economic benefits within the broader community.

NASA established a new Shared Capability Assets Program, a corporately managed program, to ensure that its key capabilities and assets will continue to be available to support the missions that require them. Additionally, NASA will use this new program to identify and prioritize its critical assets and make strategic investment decisions to replace, modify, or disposition them based on NASA and/or national needs. NASA's Real Property Management Plan, which is approved by the Office of Management and Budget, supports NASA's goal of preserving key capabilities and assets that are critical to NASA's current and future missions.

NASA has identified four specific key capability/asset classes that should be addressed initially to ensure that NASA retains the needed specialized assets and skills required to implement NASA's missions. These are wind tunnels, rocket propulsion testing, thermal vacuum chambers, and high performance computing capabilities. NASA has assessed the requirements in three of the initial four asset classes: wind tunnels, rocket propulsion testing, and high performance computing capabilities. While funding for these asset classes is in the mission directorates (wind tunnel in Aeronautics, rocket propulsion testing in Space Operations, and high performance computing capabilities in Science) all asset classes are managed in an integrated manner by the program. The requirements assessment for thermal vacuum chambers and decision as to location of funding are still in progress. After nomination, review, and selection by the Agency, assets and/or asset classes will be added to or withdrawn from the Shared Capability Assets Program account based on an overall prioritization and balance among the assets being considered, and within the overall constraints of Agency priorities and resources.

Object Classification (in millions of dollars)

Identification code 80-0114-0-1-999	2005 actual	2006 est.	2007 est.
Direct obligations:			
Personnel compensation:			
11.1 Full-time permanent	837	1,179	1,051
11.3 Other than full-time permanent	39	53	49
11.5 Other personnel compensation	17	24	27
11.9 Total personnel compensation	893	1,256	1,127

12.1 Civilian personnel benefits	221	316	282
13.0 Benefits for former personnel	4	13	4
21.0 Travel and transportation of persons	42	56	50
22.0 Transportation of things	3	4	4
23.1 Rental payments to GSA	35	42	48
23.2 Rental payments to others	3	4	4
23.3 Communications, utilities, and miscellaneous charges	48	58	66
24.0 Printing and reproduction	6	7	8
25.1 Advisory and assistance services	263	318	361
25.2 Other services	743	898	922
25.3 Other purchases of goods and services from Government accounts	237	287	325
25.4 Operation and maintenance of facilities	144	173	197
25.5 Research and development contracts	4,052	4,846	5,403
25.6 Medical care	2	2	3
25.7 Operation and maintenance of equipment	28	34	38
26.0 Supplies and materials	55	66	75
31.0 Equipment	124	149	169
32.0 Land and structures	103	124	141
41.0 Grants, subsidies, and contributions	889	1,073	1,218
99.0 Direct obligations	7,895	9,726	10,445
99.0 Reimbursable obligations	476	638	615
99.9 Total new obligations	8,371	10,364	11,060

Personnel Summary

Identification code 80-0114-0-1-999	2005 actual	2006 est.	2007 est.
Direct:			
1001 Civilian full-time equivalent employment	9,376	12,012	11,211
Reimbursable:			
2001 Civilian full-time equivalent employment	172	167	141

EXPLORATION CAPABILITIES

(INCLUDING TRANSFER OF FUNDS)

For necessary expenses, not otherwise provided for, in the conduct and support of exploration capabilities research and development activities, including research, development, operations, support and services; maintenance; construction of facilities including repair, rehabilitation, revitalization and modification of facilities, construction of new facilities and additions to existing facilities, facility planning and design, and acquisition or condemnation of real property, as authorized by law; environmental compliance and restoration; space flight, spacecraft control and communications activities including operations, production, and services; program management; personnel and related costs, including uniforms or allowances therefor, as authorized by 5 U.S.C. 5901-5902; travel expenses; purchase and hire of passenger motor vehicles; not to exceed \$35,000 for official reception and representation expenses; and purchase, lease, charter, maintenance and operation of mission and administrative aircraft, [\$6,663,000,000] \$6,234,922,000, to remain available until September 30, [2007] 2008, of which amounts as determined by the Administrator for salaries and benefits; training, travel and awards; facility and related costs; information technology services; science, engineering, fabricating and testing services; and other administrative services may be transferred to "Science, Aeronautics and Exploration" in accordance with section [312(b)] 313 of the National Aeronautics and Space Act of 1958, as amended [by Public Law 106-377]. (Science Appropriations Act, 2006.)

[For an additional amount for "Exploration Capabilities", \$349,800,000, to remain available until expended, for necessary expenses related to the consequences of hurricanes in the Gulf of Mexico in calendar year 2005: *Provided*, That the amount provided under this heading is designated as an emergency requirement pursuant to section 402 of H. Con. Res. 95 (109th Congress), the concurrent resolution on the budget for fiscal year 2006.] (Emergency Supplemental Appropriations Act to Address Hurricanes in the Gulf of Mexico and Pandemic Influenza, 2006.)

Program and Financing (in millions of dollars)

Identification code 80-0115-0-1-252	2005 actual	2006 est.	2007 est.
Obligations by program activity:			
00.01 Space operations	1,140	7,013	6,205
00.02 Exploration systems	6,986	117	.....

09.01	Reimbursable program	352	613	436
10.00	Total new obligations	8,478	7,743	6,641
Budgetary resources available for obligation:				
21.40	Unobligated balance carried forward, start of year	562	836	634
22.00	New budget authority (gross)	8,742	7,541	6,671
22.22	Unobligated balance transferred from other accounts	14		
23.90	Total budgetary resources available for obligation	9,318	8,377	7,305
23.95	Total new obligations	-8,478	-7,743	-6,641
23.98	Unobligated balance expiring or withdrawn	-4		
24.40	Unobligated balance carried forward, end of year	836	634	664
New budget authority (gross), detail:				
Discretionary:				
40.00	Appropriation	8,552	7,013	6,234
40.33	Appropriation permanently reduced (P.L. 109-148)		-66	
40.35	Appropriation permanently reduced	-67	-19	
41.00	Transferred to other accounts	-270		
42.00	Transferred from other accounts	60		
43.00	Appropriation (total discretionary)	8,275	6,928	6,234
Mandatory:				
62.00	Transferred from other accounts			1
Spending authority from offsetting collections:				
Discretionary:				
68.00	Offsetting collections (cash)	352	613	436
68.10	Change in uncollected customer payments from Federal sources (unexpired)	115		
68.90	Spending authority from offsetting collections (total discretionary)	467	613	436
70.00	Total new budget authority (gross)	8,742	7,541	6,671
Change in obligated balances:				
72.40	Obligated balance, start of year	1,686	1,953	1,837
73.10	Total new obligations	8,478	7,743	6,641
73.20	Total outlays (gross)	-8,096	-7,859	-6,805
74.00	Change in uncollected customer payments from Federal sources (unexpired)	-115		
74.40	Obligated balance, end of year	1,953	1,837	1,673
Outlays (gross), detail:				
86.90	Outlays from new discretionary authority	8,096	5,324	4,676
86.93	Outlays from discretionary balances		2,535	2,128
86.97	Outlays from new mandatory authority			1
87.00	Total outlays (gross)	8,096	7,859	6,805
Offsets:				
Against gross budget authority and outlays:				
Offsetting collections (cash) from:				
88.00	Federal sources	-410	-517	-336
88.40	Non-Federal sources	58	-96	-100
88.90	Total, offsetting collections (cash)	-352	-613	-436
Against gross budget authority only:				
88.95	Change in uncollected customer payments from Federal sources (unexpired)	-115		
Net budget authority and outlays:				
89.00	Budget authority	8,275	6,928	6,235
90.00	Outlays	7,743	7,246	6,369

This appropriation provides for the full costs associated with the Exploration Capabilities activities of the Agency, which include the International Space Station, Space Shuttle, and Space and Flight Support themes within the Space Operations Mission Directorate. The full costs include both direct and indirect costs supporting these programs, and provide for all of the research; development; operations; salaries and related expenses; design, repair, rehabilitation, modification of facilities, and construction of new facilities; and other general and administrative activities supporting the themes within Exploration Capabilities.

Detailed performance goals associated with the Exploration Capabilities activities are addressed in NASA's detailed budget request, and summaries of these activities are in the NASA chapter of the 2007 President's Budget. The Exploration Ca-

pabilities activities include Space Operations, and are described below.

Space operations.—Space Operations encompasses three themes: International Space Station, Space Shuttle Program, and Space and Flight Support. The International Space Station (ISS) is a complex of research laboratories in low Earth orbit (LEO) in which American, Russian, Canadian, European, and Japanese astronauts conduct unique scientific and technological investigations in a micro-gravity environment. The objective of the ISS is to support scientific research for human space exploration and maintain a permanent human presence in Earth orbit. The FY 2007 budget request provides funding for ISS launch processing activities, the continuation of ISS on-orbit assembly with a crew of three, and continuation of research payload and experiment deliveries to orbit. It also includes funding for development of habitability modifications and completion of the regenerative environmental control and life support system needed to increase the crew capacity, consistent with human space exploration research requirements.

The Space Shuttle program's mission is to support space exploration by continuing to construct the ISS. The 2007 Budget request also supports one servicing mission to the Hubble Space Telescope contingent upon safety and technical feasibility assessments, which will be conducted after the next Shuttle flight. The 2007 Budget request will allow NASA to provide appropriate contingency resources to combat flight hardware obsolescence, maintain ground systems and facilities, and to initiate actions for an orderly phase-out of the program by 2010. In addition, the Shuttle program will work closely with the Exploration Systems Mission Directorate to integrate the application of Shuttle flight hardware and selected ground systems to advance the development of the Crew Exploration Vehicle/Crew Launch Vehicle and Heavy Lift Launch Vehicle.

Space and Flight Support is comprised of four critical and distinct programs that provide on-going customer support for a wide range of services including Space Communications, Launch Services, Rocket Propulsion Testing, and Crew Health and Safety. These services are critical for the conduct of space exploration, aeronautical research, and physiological research. They are provided to a wide range of customers including NASA, other U.S. federal agencies, foreign governments, and commercial interests.

Object Classification (in millions of dollars)

Identification code 80-0115-0-1-252	2005 actual	2006 est.	2007 est.	
Direct obligations:				
Personnel compensation:				
11.1	Full-time permanent	782	523	615
11.3	Other than full-time permanent	46	37	28
11.5	Other personnel compensation	24	18	16
11.9	Total personnel compensation	852	578	659
12.1	Civilian personnel benefits	212	146	165
13.0	Benefits for former personnel	7	2	2
21.0	Travel and transportation of persons	32	27	29
22.0	Transportation of things	5	5	4
23.1	Rental payments to GSA	1	1	1
23.2	Rental payments to others	4	4	3
23.3	Communications, utilities, and miscellaneous charges	55	50	42
24.0	Printing and reproduction	9	8	7
25.1	Advisory and assistance services	163	148	122
25.2	Other services	516	468	380
25.3	Other purchases of goods and services from Government accounts	226	205	175
25.4	Operation and maintenance of facilities	2,478	2,250	1,918
25.5	Research and development contracts	2,926	2,657	2,203
25.6	Medical care	3	3	2
25.7	Operation and maintenance of equipment	66	60	51
26.0	Supplies and materials	87	79	67
31.0	Equipment	231	210	179
32.0	Land and structures	141	128	109

General and special funds—Continued

EXPLORATION CAPABILITIES—Continued
(INCLUDING TRANSFER OF FUNDS)—Continued

Object Classification (in millions of dollars)—Continued

Identification code 80-0115-0-1-252	2005 actual	2006 est.	2007 est.
41.0 Grants, subsidies, and contributions	112	101	87
99.0 Direct obligations	8,126	7,130	6,205
99.0 Reimbursable obligations	352	613	436
99.9 Total new obligations	8,478	7,743	6,641

Personnel Summary

Identification code 80-0115-0-1-252	2005 actual	2006 est.	2007 est.
Direct:			
1001 Civilian full-time equivalent employment	9,002	6,210	6,609
Reimbursable:			
2001 Civilian full-time equivalent employment	74	21	18

HUMAN SPACE FLIGHT

Program and Financing (in millions of dollars)

Identification code 80-0111-0-1-252	2005 actual	2006 est.	2007 est.
Direct program:			
Direct program:			
00.03 Investments and support	11		
10.00 Total new obligations (object class 25.5)	11		
Budgetary resources available for obligation:			
21.40 Unobligated balance carried forward, start of year	16	5	5
23.95 Total new obligations	-11		
24.40 Unobligated balance carried forward, end of year	5	5	5
Change in obligated balances:			
72.40 Obligated balance, start of year	369	121	121
73.10 Total new obligations	11		
73.20 Total outlays (gross)	-198		
73.40 Adjustments in expired accounts (net)	-63		
74.10 Change in uncollected customer payments from Federal sources (expired)	2		
74.40 Obligated balance, end of year	121	121	121
Outlays (gross), detail:			
86.93 Outlays from discretionary balances	198		
Offsets:			
Against gross budget authority and outlays:			
Offsetting collections (cash) from:			
88.00 Federal sources	-755		
88.40 Non-Federal sources	753		
88.90 Total, offsetting collections (cash)	-2		
Against gross budget authority only:			
88.96 Portion of offsetting collections (cash) credited to expired accounts	2		
Net budget authority and outlays:			
89.00 Budget authority			
90.00 Outlays	198		

NASA's "Human Space Flight" account included the International Space Station; Space Shuttle Payload and Expendable Launch Vehicle Support; Human Exploration and Development of Space Investments and Support; Space Communications and Data Systems; and Safety, Mission Assurance and Engineering. In FY 2004, these activities—except for Safety, Mission Assurance and Engineering, which was allocated as an indirect charge to all programs—along with the Crosscutting Technologies portion of the Aerospace Tech-

nology Enterprise, were included under the "Space Flight Capabilities" account. In FY 2005, the "Space Flight Capabilities" account was renamed the "Exploration Capabilities" account. This account shows spending from balances prior to the account restructuring.

SCIENCE, AERONAUTICS AND TECHNOLOGY

Program and Financing (in millions of dollars)

Identification code 80-0110-0-1-999	2005 actual	2006 est.	2007 est.
Direct program:			
Direct program:			
00.01 Space science	15	8	
00.02 Biological and physical research	4	3	
00.03 Earth science	8	3	
10.00 Total new obligations (object class 25.5)	27	14	
Budgetary resources available for obligation:			
21.40 Unobligated balance carried forward, start of year	41	14	
23.95 Total new obligations	-27	-14	
24.40 Unobligated balance carried forward, end of year	14		
Change in obligated balances:			
72.40 Obligated balance, start of year	-127	391	405
73.10 Total new obligations	27	14	
73.20 Total outlays (gross)	-694		
73.40 Adjustments in expired accounts (net)	1,162		
74.10 Change in uncollected customer payments from Federal sources (expired)	23		
74.40 Obligated balance, end of year	391	405	405
Outlays (gross), detail:			
86.93 Outlays from discretionary balances	694		
Offsets:			
Against gross budget authority and outlays:			
Offsetting collections (cash) from:			
88.00 Federal sources	-2,098		
88.40 Non-Federal sources	2,071		
88.90 Total, offsetting collections (cash)	-27		
Against gross budget authority only:			
88.96 Portion of offsetting collections (cash) credited to expired accounts	27		
Net budget authority and outlays:			
89.00 Budget authority			
90.00 Outlays	667		

NASA's Science, aeronautics and technology account included Space Science, Biological and Physical Research, Earth Science, Aerospace Technology, and Academic Enterprises. Beginning in 2004, Space Science, Biological and Physical Research, Earth Science, the Aeronautics portion of Aerospace Technology, and Academic Programs (which was renamed Education Programs in FY 2004), were included under the Science, aeronautics and exploration account. This account shows spending from balances prior to the account restructuring.

MISSION SUPPORT

Program and Financing (in millions of dollars)

Identification code 80-0112-0-1-999	2005 actual	2006 est.	2007 est.
Obligations by program activity:			
00.03 Construction of facilities	5	11	
10.00 Total new obligations (object class 32.0)	5	11	
Budgetary resources available for obligation:			
21.40 Unobligated balance carried forward, start of year	16	11	

23.95	Total new obligations	-5	-11	
24.40	Unobligated balance carried forward, end of year	11		
Change in obligated balances:				
72.40	Obligated balance, start of year	25	20	20
73.10	Total new obligations	5	11	
73.20	Total outlays (gross)	-19	-11	
73.40	Adjustments in expired accounts (net)	9		
74.40	Obligated balance, end of year	20	20	20
Outlays (gross), detail:				
86.93	Outlays from discretionary balances	19	11	
Offsets:				
Against gross budget authority and outlays:				
Offsetting collections (cash) from:				
88.00	Federal sources	-158		
88.40	Non-Federal sources	159		
88.90	Total, offsetting collections (cash)	1		
Against gross budget authority only:				
88.96	Portion of offsetting collections (cash) credited to expired accounts	-1		
Net budget authority and outlays:				
89.00	Budget authority			
90.00	Outlays	19	11	

NASA's Mission support account included Research and Program Management and Construction of Facilities (CoF), which have not been included in a separate appropriation since 2001. Those Mission support activities are now budgeted as part of the full costs associated with projects in the Science, aeronautics, and exploration account or the Exploration capabilities account. This account shows spending from balances prior to the account restructuring.

OFFICE OF INSPECTOR GENERAL

For necessary expenses of the Office of Inspector General in carrying out the Inspector General Act of 1978, as amended, **[\$32,400,000] \$33,500,000**, to remain available until September 30, **[2007] 2008**. (*Science Appropriations Act, 2006*.)

Program and Financing (in millions of dollars)

Identification code 80-0109-0-1-252	2005 actual	2006 est.	2007 est.	
Obligations by program activity:				
00.01	Direct program activity	30	32	34
10.00	Total new obligations	30	32	34
Budgetary resources available for obligation:				
22.00	New budget authority (gross)	31	32	34
23.95	Total new obligations	-30	-32	-34
23.98	Unobligated balance expiring or withdrawn	-2		
New budget authority (gross), detail:				
Discretionary:				
40.00	Appropriation	32	32	34
40.35	Appropriation permanently reduced	-1		
43.00	Appropriation (total discretionary)	31	32	34
Change in obligated balances:				
72.40	Obligated balance, start of year	4	4	4
73.10	Total new obligations	30	32	34
73.20	Total outlays (gross)	-30	-32	-34
74.40	Obligated balance, end of year	4	4	4
Outlays (gross), detail:				
86.90	Outlays from new discretionary authority	27	28	30
86.93	Outlays from discretionary balances	3	4	4
87.00	Total outlays (gross)	30	32	34
Net budget authority and outlays:				
89.00	Budget authority	31	32	34

90.00	Outlays	28	32	34
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The mission of the Office of Inspector General is to conduct audits and investigations of agency activities. The Inspector General keeps the Administrator and the Congress informed of problems and deficiencies in agency programs and operations.

Object Classification (in millions of dollars)

Identification code 80-0109-0-1-252	2005 actual	2006 est.	2007 est.	
11.1	Personnel compensation: Full-time permanent	17	19	20
12.1	Civilian personnel benefits	7	8	8
21.0	Travel and transportation of persons	1	1	1
26.0	Supplies and materials	5	4	5
99.9	Total new obligations	30	32	34

Personnel Summary

Identification code 80-0109-0-1-252	2005 actual	2006 est.	2007 est.	
Direct:				
1001	Civilian full-time equivalent employment	183	201	213

WORKING CAPITAL FUND

Program and Financing (in millions of dollars)

Identification code 80-4546-0-4-252	2005 actual	2006 est.	2007 est.	
Obligations by program activity:				
09.00	Reimbursable program	2	26	48
10.00	Total new obligations (object class 25.2)	2	26	48
Budgetary resources available for obligation:				
21.40	Unobligated balance carried forward, start of year		2	
22.00	New budget authority (gross)	4	24	48
23.90	Total budgetary resources available for obligation	4	26	48
23.95	Total new obligations	-2	-26	-48
24.40	Unobligated balance carried forward, end of year	2		
New budget authority (gross), detail:				
Discretionary:				
68.00	Spending authority from offsetting collections (gross): Offsetting collections (cash)	4	24	48
Change in obligated balances:				
72.40	Obligated balance, start of year			14
73.10	Total new obligations	2	26	48
73.20	Total outlays (gross)	-2	-12	-35
74.40	Obligated balance, end of year		14	27
Outlays (gross), detail:				
86.90	Outlays from new discretionary authority	2	12	24
86.93	Outlays from discretionary balances			11
87.00	Total outlays (gross)	2	12	35
Offsets:				
Against gross budget authority and outlays:				
88.40	Offsetting collections (cash) from: Non-Federal sources	-4	-24	-48
Net budget authority and outlays:				
89.00	Budget authority			
90.00	Outlays	-2	-12	-13

The Working Capital Fund (WCF) provides goods and services on a reimbursable basis. The WCF finances Scientific & Engineering Workstation Procurement (SEWP) and NASA Shared Services Center (NSSC). NSSC commences operation in 2006, and will perform selected financial management, human resources, information technology, and procurement services to the NASA Headquarters and Centers.

Trust Funds

SCIENCE, SPACE, AND TECHNOLOGY EDUCATION TRUST FUND

Special and Trust Fund Receipts (in millions of dollars)

Identification code 80-8978-0-7-503	2005 actual	2006 est.	2007 est.
01.00 Balance, start of year total		14	15
Adjustments:			
01.90 Adjustments	14		
01.99 Balance, start of year total	14	14	15
Receipts:			
02.00 Earnings on investments, Science, space and technology education trust fund	1	1	1
04.00 Total: Balances and collections	15	15	16
Appropriations:			
05.00 Science, space, and technology education trust fund	-1		-1
07.99 Balance, end of year	14	15	15

Program and Financing (in millions of dollars)

Identification code 80-8978-0-7-503	2005 actual	2006 est.	2007 est.
Obligations by program activity:			
00.01 Direct program activity	1		1
10.00 Total new obligations (object class 41.0)	1		1
Budgetary resources available for obligation:			
22.00 New budget authority (gross)	1		1
23.95 Total new obligations	-1		-1
New budget authority (gross), detail:			
Mandatory:			
60.26 Appropriation (trust fund)	1		1
Change in obligated balances:			
73.10 Total new obligations	1		1
73.20 Total outlays (gross)	-1		-1
Outlays (gross), detail:			
86.97 Outlays from new mandatory authority	1		1
Net budget authority and outlays:			
89.00 Budget authority	1		1
90.00 Outlays	1		1
Memorandum (non-add) entries:			
92.01 Total investments, start of year: Federal securities: Par value	14	14	15
92.02 Total investments, end of year: Federal securities: Par value	14	15	15

NATIONAL SPACE GRANT PROGRAM

Program and Financing (in millions of dollars)

Identification code 80-8977-0-7-252	2005 actual	2006 est.	2007 est.
Obligations by program activity:			
00.01 Direct program activity		3	
10.00 Total new obligations (object class 41.0)		3	
Budgetary resources available for obligation:			
21.40 Unobligated balance carried forward, start of year	3	3	
23.95 Total new obligations		-3	
24.40 Unobligated balance carried forward, end of year	3		
Change in obligated balances:			
72.40 Obligated balance, start of year			3
73.10 Total new obligations		3	
74.40 Obligated balance, end of year		3	3
Net budget authority and outlays:			
89.00 Budget authority			
90.00 Outlays			

ADMINISTRATIVE PROVISIONS

Notwithstanding the limitation on the availability of funds appropriated for "Science, Aeronautics and Exploration", or "Exploration Capabilities" by this appropriations Act, when any activity has been initiated by the incurrence of obligations for construction of facilities or environmental compliance and restoration activities as authorized by law, such amount available for such activity shall remain available until expended. This provision does not apply to the amounts appropriated for institutional minor revitalization and construction of facilities, and institutional facility planning and design.

Notwithstanding the limitation on the availability of funds appropriated for "Science, Aeronautics and Exploration", or "Exploration Capabilities" by this appropriations Act, the amounts appropriated for construction of facilities shall remain available until September 30, [2008] 2009.

Funds for announced prizes otherwise authorized shall remain available, without fiscal year limitation, until the prize is claimed or the offer is withdrawn. Funding shall not be made available for Centennial Challenges unless authorized.

[Funding made available under the headings "Exploration Capabilities" and "Science, Aeronautics and Exploration" in this Act shall be governed by the terms and conditions specified in the statement of managers accompanying the conference report for this Act.]

[The unexpired balances of prior appropriations to National Aeronautics and Space Administration for activities for which funds are provided under this Act may be transferred to the new account established for the appropriation that provides such activity under this Act. Balances so transferred may be merged with funds in the newly established account and thereafter may be accounted for as one fund under the same terms and conditions.] *Amounts made available in this Act under the headings, "Science, Exploration, and Aeronautics" and "Exploration Capabilities" may be transferred between such accounts, subject to the reprogramming procedures in section 605 of this Act. (Science Appropriations Act, 2006.)*