

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Federal 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, \$10,483,100,000, to remain available until September 30, 2009, 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 313 of the National Aeronautics and Space Act of 1958, as amended.

Note.—A regular 2007 appropriation for this account had not been enacted at the time the budget was prepared; therefore, this account is operating under a continuing resolution (P.L. 109-289, Division B, as amended). The amounts included for 2007 in this budget reflect the levels provided by the continuing resolution.

Program and Financing (in millions of dollars)

Identification code 80-0114-0-1-999	2006 actual	2007 est.	2008 est.
Obligations by program activity:			
00.01 Space science	683		
00.02 Earth science	245		
00.03 Biological & physical research	148		
00.04 Aeronautics	922	600	558
00.05 Education	29		
00.06 Science	4,509	5,398	5,507
00.07 Exploration systems	2,622	3,740	3,800
00.08 Cross-agency supt	459	458	491
09.01 Reimbursable program	578	718	700
10.00 Total new obligations	10,195	10,914	11,056
Budgetary resources available for obligation:			
21.40 Unobligated balance carried forward, start of year	1,236	1,385	1,055
22.00 New budget authority (gross)	10,213	10,584	11,098
22.10 Resources available from recoveries of prior year obligations	163		
22.21 Unobligated balance transferred to other accounts	-30		
23.90 Total budgetary resources available for obligation	11,582	11,969	12,153
23.95 Total new obligations	-10,195	-10,914	-11,056
23.98 Unobligated balance expiring or withdrawn	-2		
24.40 Unobligated balance carried forward, end of year	1,385	1,055	1,097
New budget authority (gross), detail:			
Discretionary:			
40.00 Appropriation	9,761	9,969	10,483
40.35 Appropriation permanently reduced	-125		
42.00 Transferred from other accounts	85		
43.00 Appropriation (total discretionary)	9,721	9,969	10,483
Spending authority from offsetting collections:			
58.00 Offsetting collections (cash)	577	615	615
58.10 Change in uncollected customer payments from Federal sources (unexpired)	-85		
58.90 Spending authority from offsetting collections (total discretionary)	492	615	615

70.00	Total new budget authority (gross)	10,213	10,584	11,098
Change in obligated balances:				
72.40	Obligated balance, start of year	3,445	5,104	5,711
73.10	Total new obligations	10,195	10,914	11,056
73.20	Total outlays (gross)	-8,486	-10,307	-11,050
73.40	Adjustments in expired accounts (net)	-5		
73.45	Recoveries of prior year obligations	-163		
74.00	Change in uncollected customer payments from Federal sources (unexpired)	85		
74.10	Change in uncollected customer payments from Federal sources (expired)	33		
74.40	Obligated balance, end of year	5,104	5,711	5,717
Outlays (gross), detail:				
86.90	Outlays from new discretionary authority	4,400	5,499	6,041
86.93	Outlays from discretionary balances	4,086	4,808	5,009
87.00	Total outlays (gross)	8,486	10,307	11,050
Offsets:				
Against gross budget authority and outlays:				
Offsetting collections (cash) from:				
88.00	Federal sources	-1,124	-540	-540
88.40	Non-Federal sources	491	-75	-75
88.90	Total, offsetting collections (cash)	-633	-615	-615
Against gross budget authority only:				
88.95	Change in uncollected customer payments from Federal sources (unexpired)	85		
88.96	Portion of offsetting collections (cash) credited to expired accounts	56		
Net budget authority and outlays:				
89.00	Budget authority	9,721	9,969	10,483
90.00	Outlays	7,853	9,692	10,435

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, Aeronautics Research, and Exploration Systems 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 2008 President's Budget.

Science.—NASA's Science Mission Directorate encompasses four themes: Earth Science; Planetary Science; Heliophysics; and Astrophysics. The Directorate seeks to answer fundamental questions concerning: the ways in which Earth's climate is changing; the comparison of Earth with other planets in the solar system and around other stars; the connections among the Sun, Earth, and heliosphere; and the origin and evolution of planetary systems, the galaxy, and the universe, including the origin and distribution of life in the universe. The Directorate achieves its objectives through robotic flight missions, 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,

SCIENCE, AERONAUTICS AND EXPLORATION—Continued

(INCLUDING TRANSFER OF FUNDS)—Continued

NASA provides accurate, objective, scientific data and analysis to advance understanding of Earth system processes and phenomena, thus improving prediction and response capabilities for climate, weather, natural hazards, and even human-induced disasters. Employing a constellation of 15 Earth-observing satellites routinely making measurements, NASA continues using the view from space to study the Earth system and improve prediction of Earth system changes and the connection between Earth and its star, the Sun.

In the next few decades, NASA will increase 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 2009 Mars Science Laboratory rover (September 2009 launch, June 2010 arrival).

The Dawn mission is planned for launch in 2007 on a nine-year mission to investigate in detail 1 Ceres and 4 Vesta, two main-belt asteroids that are among the largest protoplanets remaining intact since the formation of the solar system. 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 the solar system. NASA will also study the Kuiper Belt and the comets that come from it to investigate the primordial substances that evolved into the solar system.

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, launched in October 2006, will advance understanding of the Sun's corona, or 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, to be launched in August 2008, 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.

Within the Astrophysics theme, 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 NASA's ability to find planets around other stars and peer deep into the history of the universe and improve 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 will investigate the high-energy world of black holes and neutron stars. 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 two themes that work together to enable sustainable exploration and scientific discovery in our solar system: Constellation Systems and Advanced Capabilities.

The Constellation Systems theme is responsible for developing capabilities essential to making the Nation's Vision for Space Exploration a reality. Through Constellation Systems, 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 systems include the Orion Crew Exploration Vehicle that will transport and support crews traveling beyond low Earth orbit, launch vehicles for transporting Orion and cargo into space, and ground support infrastructure for communications and operations. Constellation Systems activity supports NASA's mission to explore the universe, search for life, and extend human presence to the Moon, Mars, and beyond. A human presence will enable scientific activities and discoveries not obtainable with robotic explorers.

ESMD was established to achieve the goals laid out by the President in his January 2004 speech, and will do so based on the architecture and vehicle systems outlined in the 2005 Exploration Systems Architecture Study. Further analysis and refinement of the study's results has continued under the direction of ESMD. Initial Constellation Systems capabilities include Orion, the crew exploration vehicle; Ares, the crew launch vehicle; 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 missions including crew transportation to the International Space Station. The Orion also will be capable of delivering some cargo to the Space Station, although current plans are to provide servicing via commercial systems.

An important element of Constellation Systems is the International Space Station commercial crew/cargo services project, also known as Commercial Orbital Transportation Services (COTS). The Vision for Space Exploration called for NASA to pursue commercial opportunities for providing transportation to the International Space Station. The Commercial Orbital Transportation Services project is intended to spur private industry to provide cost-effective cargo delivery to the International Space Station, 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 the Ares V heavy-lift launch vehicle, leveraging engineering design and capabilities from the Shuttle Program; an Earth Departure Stage to propel Orion from low Earth to lunar orbit; a Lunar Surface Access Module 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 Advanced Capabilities theme consists of three programs: the Lunar Precursor Robotic Program, the Exploration Technology Development Program, and the Human Research Program. Activities within these programs help prepare for human lunar exploration, test new technologies that enable exploration, and further understanding of the effects of space on human performance.

The Lunar Precursor Robotic Program develops precursor missions to characterize the lunar environment. The first of these will be the Lunar Reconnaissance Orbiter, which is scheduled to launch in October 2008. The Exploration Tech-

nology Development Program makes focused investments in innovations to reduce the cost and expand the capabilities of future space exploration missions. The Human Research Program focuses on ensuring the health, safety, and productivity of humans embarking on missions of exploration in our solar system. Projects advance knowledge critical for supporting long-term human survival and performance during operations beyond low Earth orbit, with a focus on improving medical care and human health maintenance.

Aeronautics research.—The Aeronautics Research Mission Directorate conducts high-quality, innovative research to expand the boundaries of aeronautical knowledge for the benefit of the broad aeronautics community, which includes NASA's partners in academia, industry, and other Government agencies.

NASA has significantly restructured its aeronautics program to ensure meaningful and relevant research that is aligned with national priorities. The program conducts high-quality, cutting-edge research that will lead to revolutionary concepts, technologies, and capabilities that enable radical change to both the airspace system and the aircraft that fly within it, facilitating a safer, more environmentally friendly, and more efficient air transportation system. At the same time, NASA is ensuring that aeronautics research and critical core competencies continue to play a vital role in support of the Vision for Space Exploration. NASA will continue to advance knowledge and capabilities in aeronautical disciplines such as aerothermodynamics, flight dynamics and control, materials and structures (including advanced thermal protection systems), and integrated vehicle health management.

NASA's Aeronautics theme consists of three integrated research programs as well as the Aeronautics Test Program that preserves a critical suite of aeronautics test facilities.

The Fundamental Aeronautics Program will conduct cutting-edge research that will enable the design of vehicles that fly through any atmosphere at any speed. Because aircraft of the future will need to address multiple and often conflicting design challenges such as noise, emissions, and performance, a key focus will be the development of physics-based, multidisciplinary design, analysis, and optimization tools. Such tools will make it possible to evaluate radically new vehicle designs and to assess, with known uncertainties, the potential impact of innovative concepts and technologies on a vehicle's overall performance.

The Aviation Safety Program builds upon the unique safety-related research capabilities of NASA to develop tools, methods, and technologies that will improve the intrinsic safety attributes of current and future aircraft, and to overcome aircraft safety technological barriers that would otherwise constrain the full realization of the Next Generation Air Transportation System.

The Airspace Systems Program conducts cutting-edge air traffic management research that will enable the Next Generation Air Transportation System. In partnership with the Joint Planning and Development Office, the program will help develop the concepts, capabilities, and technologies that will lead to significant enhancements in capacity, efficiency, and flexibility needed to meet the Nation's airspace and airportal requirements (gates, taxiways, runways, and final approach airspace) for decades to come.

The Aeronautics Test Program ensures the strategic availability and accessibility of a critical suite of aeronautics test facilities that are deemed necessary to meet aeronautics, Agency, and national needs. Strategic utilization, operations, maintenance, and investment decisions are made for major wind tunnel/ground test facilities at NASA's Ames Research Center, Glenn Research Center, and Langley Research Center, and for the Western Aeronautical Test Range, support aircraft, and test bed aircraft at Dryden Flight Research Center.

Cross-Agency Support Programs.—Cross-Agency Support Programs includes four single-program themes that encompass several ongoing activities and improve NASA's approach to managing unique facilities. The themes are Education, Advanced Business Systems, Innovative Partnerships Program, and Shared Capability Assets Program.

NASA's Education Program works to inspire and motivate students at all levels to pursue careers in the fields of science, technology, engineering, and mathematics, 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 science and technology 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 became part of the new Advanced Business Systems theme in 2006. The program also became a direct-funded program rather than being funded through Corporate and Center General and Administrative accounts. The program was established in 2000 with an objective to modernize and integrate NASA's business systems and processes and is replacing Center-unique and/or Directorate-unique approaches with a single set of standard integrated business processes. New systems are improving NASA business practices by minimizing data redundancy, standardizing information and electronic data exchanges, processing and recording financial events effectively and efficiently, and ensuring consistent information is available for decision makers.

The program consists of functional projects that are formulated following the approval of a business case. Each project is charged with implementing appropriate information technology tools to meet specific sets of business requirements. To date, the following projects have been implemented by the program: Resume Management; Position Description Management; Travel Management; Core Financials; Program Management Information Improvement; Agency Labor Distribution System; Recruitment One Stop; e-Payroll; SAP Version Update; and Contract Management Module. The following projects are currently in formulation or development: Aircraft Management; Integrated Asset Management; Human Capital Information Environment; and e-Travel.

NASA's Innovative Partnerships Program is focused on adding value to NASA through partnerships. The mission of the program 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 include leveraged technology investments, dual-use technology-related partnerships, and secured intellectual property assets. Partnerships serve to increase the range of technology solutions for NASA, enable cost avoidance, and accelerate technology maturation. The program consists of the following elements: Technology Infusion, which includes the Small Business Innovative Research/Small Business Technology Transfer Program and the Innovative Partnerships Program Seed Fund; Innovation Incubator, which includes Centennial Challenges and new efforts to facilitate purchase of services from the emerging commercial space sector; and Partnership Development, which includes Intellectual Property Management, Technology Transfer, and new innovative partnerships. Together these

SCIENCE, AERONAUTICS AND EXPLORATION—Continued

(INCLUDING TRANSFER OF FUNDS)—Continued

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 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 seven specific key capability/assets to implement NASA's missions. These capability/assets are wind tunnels, flight operations and test infrastructure, rocket propulsion testing, High End Computing Columbia, thermal vacuum chambers, simulators, and arc jets. While funding for four of these capability/assets is in the mission directorates (Aeronautics: wind tunnels and flight operations and test infrastructure, Space Operations: rocket propulsion testing, and Science: High End Computing Columbia), all these capability/assets are managed and integrated by the Shared Capability Assets Program. Additional capability/assets may be added to the Shared Capability Assets Program in future years through a nomination, review, and selection process by the Agency.

Object Classification (in millions of dollars)

Identification code 80-0114-0-1-999	2006 actual	2007 est.	2008 est.
Direct obligations:			
Personnel compensation:			
11.1 Full-time permanent	1,056	1,085	1,114
11.3 Other than full-time permanent	55	57	58
11.5 Other personnel compensation	18	19	19
11.8 Special personal services payments		1	1
11.9 Total personnel compensation	1,129	1,162	1,192
12.1 Civilian personnel benefits	287	300	302
13.0 Benefits for former personnel	8	9	9
21.0 Travel and transportation of persons	54	55	57
22.0 Transportation of things	4	4	4
23.1 Rental payments to GSA	33	33	34
23.2 Rental payments to others	2	2	2
23.3 Communications, utilities, and miscellaneous charges	71	72	73
24.0 Printing and reproduction	7	7	7
25.1 Advisory and assistance services	274	277	280
25.2 Other services	917	926	935
25.3 Other purchases of goods and services from Government accounts	221	223	226
25.4 Operation and maintenance of facilities	238	241	242
25.5 Research and development contracts	4,950	5,452	5,544
25.6 Medical care	2	2	2
25.7 Operation and maintenance of equipment	32	32	33
26.0 Supplies and materials	75	76	77
31.0 Equipment	180	181	183
32.0 Land and structures	172	173	174
41.0 Grants, subsidies, and contributions	961	970	980
99.0 Direct obligations	9,617	10,197	10,356
99.0 Reimbursable obligations	578	717	700
99.9 Total new obligations	10,195	10,914	11,056

Employment Summary

Identification code 80-0114-0-1-999	2006 actual	2007 est.	2008 est.
Direct:			
1001 Civilian full-time equivalent employment	11,518	12,015	10,898
Reimbursable:			
2001 Civilian full-time equivalent employment	144	122	81

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, \$6,791,700,000, to remain available until September 30, 2009, 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 313 of the National Aeronautics and Space Act of 1958, as amended.

Note.—A regular 2007 appropriation for this account had not been enacted at the time the budget was prepared; therefore, this account is operating under a continuing resolution (P.L. 109-289, Division B, as amended). The amounts included for 2007 in this budget reflect the levels provided by the continuing resolution.

Program and Financing (in millions of dollars)

Identification code 80-0115-0-1-252	2006 actual	2007 est.	2008 est.
Obligations by program activity:			
00.01 Space operations	6,960	6,309	6,755
00.02 Exploration systems	115		
09.01 Reimbursable program	384	557	600
10.00 Total new obligations	7,459	6,866	7,355
Budgetary resources available for obligation:			
21.40 Unobligated balance carried forward, start of year	836	701	466
22.00 New budget authority (gross)	7,228	6,631	7,228
22.10 Resources available from recoveries of prior year obligations	89		
22.22 Unobligated balance transferred from other accounts	30		
23.90 Total budgetary resources available for obligation	8,183	7,332	7,694
23.95 Total new obligations	-7,459	-6,866	-7,355
23.98 Unobligated balance expiring or withdrawn	-23		
24.40 Unobligated balance carried forward, end of year	701	466	339
New budget authority (gross), detail:			
Discretionary:			
40.00 Appropriation	7,048	6,194	6,792
40.35 Appropriation permanently reduced	-85		
41.00 Transferred to other accounts	-58		
43.00 Appropriation (total discretionary)	6,905	6,194	6,792
Spending authority from offsetting collections:			
58.00 Offsetting collections (cash)	362	436	436
58.10 Change in uncollected customer payments from Federal sources (unexpired)	-39		
58.90 Spending authority from offsetting collections (total discretionary)	323	436	436
Mandatory:			
62.00 Transferred from other accounts		1	
70.00 Total new budget authority (gross)	7,228	6,631	7,228

Change in obligated balances:				
72.40	Obligated balance, start of year	1,953	1,840	1,876
73.10	Total new obligations	7,459	6,866	7,355
73.20	Total outlays (gross)	-7,485	-6,830	-7,194
73.40	Adjustments in expired accounts (net)	-43		
73.45	Recoveries of prior year obligations	-89		
74.00	Change in uncollected customer payments from Federal sources (unexpired)	39		
74.10	Change in uncollected customer payments from Federal sources (expired)	6		
74.40	Obligated balance, end of year	1,840	1,876	2,037
Outlays (gross), detail:				
86.90	Outlays from new discretionary authority	4,925	4,647	5,188
86.93	Outlays from discretionary balances	2,560	2,182	2,006
86.97	Outlays from new mandatory authority		1	
87.00	Total outlays (gross)	7,485	6,830	7,194
Offsets:				
Against gross budget authority and outlays:				
Offsetting collections (cash) from:				
88.00	Federal sources	-748	-336	-336
88.40	Non-Federal sources	380	-100	-100
88.90	Total, offsetting collections (cash)	-368	-436	-436
Against gross budget authority only:				
88.95	Change in uncollected customer payments from Federal sources (unexpired)	39		
88.96	Portion of offsetting collections (cash) credited to expired accounts	6		
Net budget authority and outlays:				
89.00	Budget authority	6,905	6,195	6,792
90.00	Outlays	7,117	6,394	6,758

This appropriation provides for the full costs associated with the Exploration Capabilities activities of the Agency, which include the Space Shuttle, International Space Station, and Space and Flight Support programs, or themes, which are managed by 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 included in the NASA chapter of the 2008 President's Budget.

The Space Shuttle program's mission will complete the assembly of the International Space Station as planned by the end of the decade. In addition, the 2008 Budget supports one servicing mission to the Hubble Space Telescope. It provides for specific program investments for vehicle safety and supportability needed to maintain a viable Shuttle fleet through the end of the decade. The 2008 Budget request will allow NASA to provide appropriate contingency resources to combat flight hardware obsolescence, maintain ground systems and facilities, and continue the orderly phase-out of the program. In addition, the Shuttle program will support the Space Operations and Exploration Systems Mission Directorates in integrating selected Shuttle flight hardware and ground systems to advance the development of the Orion crew exploration vehicle and the Ares I and V launch vehicles.

The International Space Station is a complex of research laboratories in low Earth orbit in which American, Russian, Canadian, European, and Japanese astronauts are conducting unique scientific and technological investigations in a micro-gravity environment. The objective of the Space Station is to support scientific and engineering research for human space exploration. Development is complete on all U.S. flight elements required to finish assembly by the end of the decade. The on-orbit assembly of the Space Station is about 55 per-

cent complete. In 2006, the resumption of Space Shuttle flights returned the Space Station to assembly activities. The 2008 Budget provides funding for Space Station launch processing activities, maintenance of a crew of three on board, continuation of vehicle on-orbit assembly including construction of the truss and power segments and the addition of the international partner modules, and continuation of research payload and experiment deliveries to orbit. It also includes funding for development of habitability modifications, purchase of additional spares to be stowed on the Space Station for use during the post-Shuttle period, purchase of cargo and crew services from international partners, and the development of the ExPRESS Logistics Carrier to transport and stow critical Space Station components and spares on orbit.

Space and Flight Support is comprised of separate programs that provide ongoing 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 to the conduct of space exploration, science and aeronautical research, and physiological research. They are provided to a wide range of customers including NASA, other Federal agencies, foreign governments, and commercial interests. Space Communications is procuring two satellites to maintain and continue service using the aging Tracking and Data Relay Satellite System network. These two replacement satellites will meet user demand through 2016.

Object Classification (in millions of dollars)

Identification code 80-0115-0-1-252	2006 actual	2007 est.	2008 est.	
Direct obligations:				
Personnel compensation:				
11.1	Full-time permanent	556	571	586
11.3	Other than full-time permanent	56	57	59
11.5	Other personnel compensation	18	19	20
11.9	Total personnel compensation	630	647	665
12.1	Civilian personnel benefits	162	166	170
13.0	Benefits for former personnel	1	1	1
21.0	Travel and transportation of persons	28	28	29
22.0	Transportation of things	47	48	48
23.1	Rental payments to GSA	1	1	1
23.2	Rental payments to others	3	3	4
23.3	Communications, utilities, and miscellaneous charges	39	40	41
24.0	Printing and reproduction	7	7	7
25.1	Advisory and assistance services	138	142	143
25.2	Other services	527	541	547
25.3	Other purchases of goods and services from Government accounts	197	203	205
25.4	Operation and maintenance of facilities	2,208	2,268	2,290
25.5	Research and development contracts	2,513	1,625	2,009
25.6	Medical care	2	2	2
25.7	Operation and maintenance of equipment	56	58	58
26.0	Supplies and materials	97	99	100
31.0	Equipment	218	224	226
32.0	Land and structures	157	161	163
41.0	Grants, subsidies, and contributions	44	45	46
99.0	Direct obligations	7,075	6,309	6,755
99.0	Reimbursable obligations	384	557	600
99.9	Total new obligations	7,459	6,866	7,355

Employment Summary

Identification code 80-0115-0-1-252	2006 actual	2007 est.	2008 est.	
Direct:				
1001	Civilian full-time equivalent employment	6,398	5,911	6,963
Reimbursable:				
2001	Civilian full-time equivalent employment	21	52	57

HUMAN SPACE FLIGHT

Program and Financing (in millions of dollars)

Identification code 80-0111-0-1-252	2006 actual	2007 est.	2008 est.
Direct program:			
00.03 Investments and support	2	1	2
10.00 Total new obligations (object class 33.0)	2	1	2
Budgetary resources available for obligation:			
21.40 Unobligated balance carried forward, start of year	5	3	2
23.95 Total new obligations	-2	-1	-2
24.40 Unobligated balance carried forward, end of year	3	2	
Change in obligated balances:			
72.40 Obligated balance, start of year	118	39	15
73.10 Total new obligations	2	1	2
73.20 Total outlays (gross)	-75	-25	-12
73.40 Adjustments in expired accounts (net)	-6		
74.40 Obligated balance, end of year	39	15	5
Outlays (gross), detail:			
86.93 Outlays from discretionary balances	75	25	12
Offsets:			
Against gross budget authority and outlays:			
Offsetting collections (cash) from:			
88.00 Federal sources	-676		
88.40 Non-Federal sources	676		
88.90 Total, offsetting collections (cash)			
Net budget authority and outlays:			
89.00 Budget authority			
90.00 Outlays	75	25	12

NASA's Human Space Flight account formerly 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. Beginning in 2004, Safety, Mission Assurance, and Engineering was allocated as an indirect charge to all programs and all other programs (along with the Crosscutting Technologies portion of the Aerospace Technology Enterprise) were rolled into the Space Flight Capabilities account. In 2005, the Space Flight Capabilities account was renamed the Exploration Capabilities account. The Human Space Flight 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	2006 actual	2007 est.	2008 est.
Direct program:			
00.04 Construction of facilities	10	9	2
10.00 Total new obligations (object class 25.5)	10	9	2
Budgetary resources available for obligation:			
21.40 Unobligated balance carried forward, start of year	14	10	2
22.10 Resources available from recoveries of prior year obligations	6	1	
23.90 Total budgetary resources available for obligation	20	11	2
23.95 Total new obligations	-10	-9	-2
24.40 Unobligated balance carried forward, end of year	10	2	
Change in obligated balances:			
72.40 Obligated balance, start of year	391	234	207
73.10 Total new obligations	10	9	2
73.20 Total outlays (gross)	-163	-35	-35
73.40 Adjustments in expired accounts (net)	-1		

73.45 Recoveries of prior year obligations	-6	-1	
74.10 Change in uncollected customer payments from Federal sources (expired)	3		
74.40 Obligated balance, end of year	234	207	174
Outlays (gross), detail:			
86.93 Outlays from discretionary balances	163	35	35
Offsets:			
Against gross budget authority and outlays:			
Offsetting collections (cash) from:			
88.00 Federal sources	-1,663		
88.40 Non-Federal sources	1,660		
88.90 Total, offsetting collections (cash)	-3		
Against gross budget authority only:			
88.96 Portion of offsetting collections (cash) credited to expired accounts	3		
Net budget authority and outlays:			
89.00 Budget authority			
90.00 Outlays	160	35	35

NASA's Science, Aeronautics and Technology account formerly included Space Science, Biological and Physical Research, Earth Science, Aerospace Technology, and Education. Beginning in 2004, Space Science, Biological and Physical Research, Earth Science, the Aeronautics portion of Aerospace Technology, and Education were rolled into the Science, Aeronautics and Exploration account. The Science, Aeronautics, and Technology 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	2006 actual	2007 est.	2008 est.
Obligations by program activity:			
00.03 Construction of facilities	2	2	8
10.00 Total new obligations (object class 32.0)	2	2	8
Budgetary resources available for obligation:			
21.40 Unobligated balance carried forward, start of year	11	10	8
22.10 Resources available from recoveries of prior year obligations	1		
23.90 Total budgetary resources available for obligation	12	10	8
23.95 Total new obligations	-2	-2	-8
24.40 Unobligated balance carried forward, end of year	10	8	
Change in obligated balances:			
72.40 Obligated balance, start of year	20	4	5
73.10 Total new obligations	2	2	8
73.20 Total outlays (gross)	-6	-1	-2
73.40 Adjustments in expired accounts (net)	-11		
73.45 Recoveries of prior year obligations	-1		
74.40 Obligated balance, end of year	4	5	11
Outlays (gross), detail:			
86.93 Outlays from discretionary balances	6	1	2
Offsets:			
Against gross budget authority and outlays:			
Offsetting collections (cash) from:			
88.00 Federal sources	-98		
88.40 Non-Federal sources	98		
88.90 Total, offsetting collections (cash)			
Net budget authority and outlays:			
89.00 Budget authority			
90.00 Outlays	6	1	2

NASA's Mission Support account formerly included Research and Program Management and Construction of Facili-

ties. 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. The Mission Support 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, \$34,600,000, to remain available until September 30, 2009.

Note.—A regular 2007 appropriation for this account had not been enacted at the time the budget was prepared; therefore, this account is operating under a continuing resolution (P.L. 109-289, Division B, as amended). The amounts included for 2007 in this budget reflect the levels provided by the continuing resolution.

Program and Financing (in millions of dollars)

Identification code 80-0109-0-1-252	2006 actual	2007 est.	2008 est.
Obligations by program activity:			
00.01 Direct program activity	32	32	35
10.00 Total new obligations	32	32	35
Budgetary resources available for obligation:			
22.00 New budget authority (gross)	32	32	35
23.95 Total new obligations	-32	-32	-35
24.40 Unobligated balance carried forward, end of year			
New budget authority (gross), detail:			
Discretionary:			
40.00 Appropriation	32	32	35
Change in obligated balances:			
72.40 Obligated balance, start of year	6	5	5
73.10 Total new obligations	32	32	35
73.20 Total outlays (gross)	-33	-32	-35
74.40 Obligated balance, end of year	5	5	5
Outlays (gross), detail:			
86.90 Outlays from new discretionary authority	29	28	31
86.93 Outlays from discretionary balances	4	4	4
87.00 Total outlays (gross)	33	32	35
Net budget authority and outlays:			
89.00 Budget authority	32	32	35
90.00 Outlays	33	32	35

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	2006 actual	2007 est.	2008 est.
Direct obligations:			
11.1 Personnel compensation: Full-time permanent	19	19	20
12.1 Civilian personnel benefits	8	8	8
21.0 Travel and transportation of persons	1	1	1
26.0 Supplies and materials	4	4	6
99.9 Total new obligations	32	32	35

Employment Summary

Identification code 80-0109-0-1-252	2006 actual	2007 est.	2008 est.
Direct:			
1001 Civilian full-time equivalent employment	199	213	213

WORKING CAPITAL FUND

Program and Financing (in millions of dollars)

Identification code 80-4546-0-4-252	2006 actual	2007 est.	2008 est.
Obligations by program activity:			
09.00 Reimbursable program	32	64	83
10.00 Total new obligations (object class 25.2)	32	64	83
Budgetary resources available for obligation:			
21.40 Unobligated balance carried forward, start of year	1	11	11
22.00 New budget authority (gross)	42	64	83
23.90 Total budgetary resources available for obligation	43	75	94
23.95 Total new obligations	-32	-64	-83
24.40 Unobligated balance carried forward, end of year	11	11	11
New budget authority (gross), detail:			
Discretionary:			
58.00 Spending authority from offsetting collections: Offsetting collections (cash)	42	64	83
Change in obligated balances:			
72.40 Obligated balance, start of year	1	22	44
73.10 Total new obligations	32	64	83
73.20 Total outlays (gross)	-11	-42	-70
74.40 Obligated balance, end of year	22	44	57
Outlays (gross), detail:			
86.90 Outlays from new discretionary authority	11	31	41
86.93 Outlays from discretionary balances		11	29
87.00 Total outlays (gross)	11	42	70
Offsets:			
Against gross budget authority and outlays:			
Offsetting collections (cash) from:			
88.00 Federal sources	-37	-16	-35
88.40 Non-Federal sources	-5	-48	-48
88.90 Total, offsetting collections (cash)	-42	-64	-83
Net budget authority and outlays:			
89.00 Budget authority			
90.00 Outlays	-31	-22	-13

The Working Capital Fund provides goods and services on a reimbursable basis. The Fund finances Scientific & Engineering Workstation Procurement and the NASA Shared Services Center. The Shared Services Center commenced operation in 2006 and performs selected financial management, human resources, information technology, and procurement services for 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	2006 actual	2007 est.	2008 est.
01.00 Balance, start of year	14	14	14
01.99 Balance, start of year	14	14	14
Receipts:			
02.00 Earnings on investments, Science, space and technology education trust fund	1	1	1
04.00 Total: Balances and collections	15	15	15
Appropriations:			
05.00 Science, space, and technology education trust fund	-1	-1	-1
07.99 Balance, end of year	14	14	14

Program and Financing (in millions of dollars)

Identification code 80-8978-0-7-503	2006 actual	2007 est.	2008 est.
Obligations by program activity:			

SCIENCE, SPACE, AND TECHNOLOGY EDUCATION TRUST FUND—
Continued

Program and Financing (in millions of dollars)—Continued

Identification code 80-8978-0-7-503	2006 actual	2007 est.	2008 est.
00.01 Direct program activity	1	1	1
10.00 Total new obligations (object class 41.0)	1	1	1
Budgetary resources available for obligation:			
22.00 New budget authority (gross)	1	1	1
23.95 Total new obligations	-1	-1	-1
New budget authority (gross), detail:			
Mandatory:			
60.26 Appropriation (trust fund)	1	1	1
Change in obligated balances:			
73.10 Total new obligations	1	1	1
73.20 Total outlays (gross)	-1	-1	-1
Outlays (gross), detail:			
86.97 Outlays from new mandatory authority	1	1	1
Net budget authority and outlays:			
89.00 Budget authority	1	1	1
90.00 Outlays	1	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	2006 actual	2007 est.	2008 est.
Budgetary resources available for obligation:			
21.40 Unobligated balance carried forward, start of year	3	3	3
24.40 Unobligated balance carried forward, end of year	3	3	3
Net budget authority and outlays:			
89.00 Budget authority			
90.00 Outlays			

GENERAL FUND RECEIPT ACCOUNTS

(in millions of dollars)

	2006 actual	2007 est.	2008 est.
Offsetting receipts from the public:			
80-322000 All other general fund proprietary receipts including budget clearing accounts	53	15	15
General Fund Offsetting receipts from the public	53	15	15
Intragovernmental payments:			
80-388500 Undistributed intragovernmental payments and receivables from cancelled accounts	36		
General Fund Intragovernmental payments	36		

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, 2010.

Funds for announced prizes otherwise authorized shall remain available, without fiscal year limitation, until the prize is claimed or the offer is withdrawn.

The balances of prior appropriations to the 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 shall be merged with funds in the newly established account and thereafter may be accounted for as one fund under the same terms and conditions but shall remain available for the same period of time as originally appropriated.

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.