

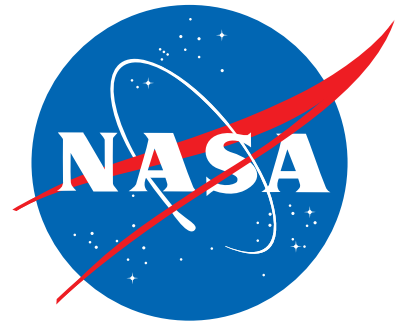
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

AT A GLANCE:

2006 Discretionary Budget Authority: \$16.5 billion
(Increase from 2005: 2 percent)

Major Programs:

- Exploration and science
- Space Shuttle and Space Station operations
- Aeronautics



MEETING PRESIDENTIAL GOALS

Agency-Specific Goals

- Pursuing a bold vision for sustained and affordable human and robotic exploration of space, with the Moon as a first step toward human missions to Mars and beyond.
- Developing a new space vehicle to transport humans to the Moon.
- Focusing research and technology development activities, including those conducted on the International Space Station, on enabling human and more productive robotic exploration of the solar system.
- Returning the Space Shuttle safely to flight, completing construction of the International Space Station, then retiring the Shuttle.
- Exploring the universe to understand its origin, structure, evolution, and destiny.
- Improving lives through Earth science and aeronautics research and education programs.

Making Government More Effective

- Improving the reliability of the National Aeronautics and Space Administration's financial management system.
- Implementing new agency-wide policies and processes to increase the accuracy of program cost estimates and, in turn, improve program management.
- Reformulating or eliminating programs that do not directly advance the President's space exploration vision or other agency priorities, have not performed as well as others, or are unsustainable given their high projected costs.

AGENCY-SPECIFIC GOALS

The National Aeronautics and Space Administration's (NASA's) activities center on four major areas: exploration, science, Space Shuttle and Space Station operations, and aeronautics research.

Gearing Up for Exploration

Recognizing the need to reinvigorate the Nation's civil space program and keep NASA focused on compelling and inspiring goals, President Bush outlined a bold, new vision for human and robotic space exploration on January 14, 2004. NASA will develop the necessary capabilities to move humans beyond Earth orbit, where we have been confined for more than 30 years, and on to the Moon, Mars, and destinations beyond. Both human and robotic explorers will help broaden scientific understanding of the universe and the possible existence of life beyond Earth.

With work on some needed systems already underway, the agency is taking action on many of the recommendations of the President's Commission on Implementation of United States Space Exploration Policy, a commission the President assembled to help guide the vision's implementation. In keeping with those recommendations, NASA has undergone an organizational transformation and has initiated

studies and discussions with industry and academic stakeholders to better understand the agency's options and opportunities for achieving the vision's goals. The agency is also paying close attention to the Commission's call to engage private industry and other nations in space flight operations and exploration activities.

New Vehicles and Technologies. To reach the Moon, Mars, and destinations beyond, NASA must develop technologies and perform research that will sustain human and advanced robotic explorers far from Earth. Among the key systems NASA must acquire is a vehicle that will transport crews in a safe and reliable manner. The agency has identified the major requirements for a Crew Exploration Vehicle to carry astronauts to the Moon and has asked industry to propose designs. NASA plans to perform flight tests in 2008 and stage its first crewed flight in 2014.

Still other technologies will play vital roles in the success of the President's vision. NASA will continue to work with industry, academia, and other Government agencies to develop nuclear technologies to provide energy sources for tools and instruments, lunar and planetary surface roving vehicles, and extended human stays on the Moon and Mars. While high costs and technical concerns prompted NASA to defer a nuclear-powered mission to study Jupiter's icy moons, the agency will start on a new nuclear technology demonstrator with direct applications to exploration. In addition, NASA will pursue technologies such as optical communications and radiation shielding. Following the model of the privately-run X Prize competition that led in 2004 to a small company successfully launching its own piloted rocket into suborbital space, NASA's new Centennial Challenges program will offer cash prizes to spur companies to compete to make several of the technology breakthroughs necessary for exploration.

Inspired by all that has come before, and guided by clear objectives, today we set a new course for America's space program. We will give NASA a new focus and vision for future exploration. We will build new ships to carry man forward into the universe, to gain a new foothold on the moon, and to prepare for new journeys to worlds beyond our own.

President George W. Bush
January 14, 2004

Understanding the effects of space on humans. Equally important to the agency's technology efforts is improving our understanding of how long-duration space flight may affect human health and physiology. NASA will engage in research on the International Space Station and on Earth to learn about and develop ways to improve human tolerance of the space environment. The agency is currently reevaluating its biological and physical research activities to determine how they can best serve exploration needs.

Making Scientific Sense of Space and Earth

Building on a strong performance record, the agency will continue to launch probes to improve scientific understanding of our planet and universe. Among the questions NASA's space and Earth science missions are helping to answer are: What scientific processes shaped the universe, stars, and planets? Could life exist beyond Earth? How is Earth's climate changing? NASA has combined its space and Earth science organizations to facilitate data exchanges among scientists and maximize technological investments in spacecraft that will study the Earth, Sun, planets, stars, and cosmos.

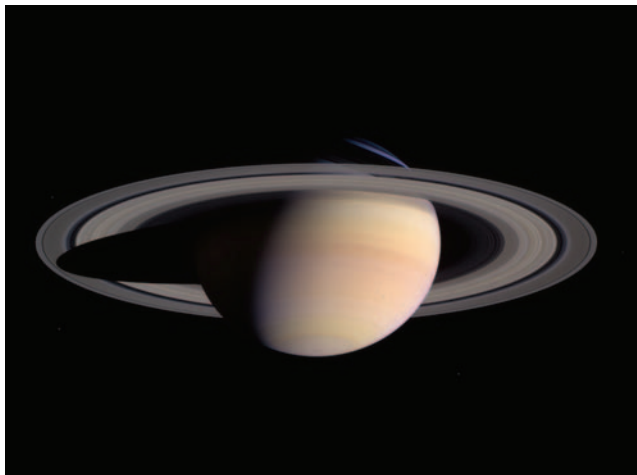
Unlocking Secrets of the Solar System and Universe. The President's 2006 Budget provides NASA with resources to pursue a program of exploration of the solar system and worlds beyond that not only will broaden scientific understanding of the Sun, Earth, and planets but also will inform decisions of where in the solar system human explorers should travel, the conditions they will endure, and the technologies necessary to support them. NASA's recent successful robotic investigations of Mars and Saturn will soon be followed by spacecraft bound for the planets Mercury and Pluto, asteroids, comets, and still other locations that have yet to be decided. The agency also will build on its legacy of revolutionizing the science of astronomy. NASA will continue to operate prolific space telescopes such as Hubble, Chandra, and Spitzer while planning for the next generation of spacecraft that will enhance our ability to find planets around other stars, peer deep into the history of the universe, and improve our understanding of its structure.

A Focus on the Moon and Mars. The President's vision for space exploration calls for a series of robotic spacecraft to explore the Moon starting in 2008 to advance lunar science, provide detailed maps of the Moon's physical geography and natural resources, and identify the best locations for humans to visit. NASA plans to return humans to the Moon by 2020 to learn how to live and work over the long periods of time that will be required for human visits to more distant locations. All the while, NASA will build on the success of spacecraft currently orbiting Mars as well as the *Spirit* and *Opportunity* rovers to develop and launch a series of increasingly capable spacecraft to orbit, land, and travel on Mars to sharpen our scientific understanding and test many of the technologies necessary to support future human exploration of the planet.



In an artist's rendering, a lunar exploration team attaches an inflatable laboratory to its landing vehicle.

AGENCY-SPECIFIC GOALS—Continued



Saturn and its rings, as imaged by NASA's Cassini spacecraft, which is currently in orbit around the planet.

Studying Earth and the Sun. The 2006 Budget continues to fund NASA's critical investments in Earth science satellites, technologies, and research. NASA plays a major part in the interagency Climate Change Science Research Program, contributes to the international initiative on the Global Earth Observing System of Systems, and has pioneered new methods to improve forecasting of the weather, monitoring of forest fires, and tracking of the spread of pollutants. The agency will also continue to develop space probes to study the Sun's influence on Earth and the space environment.

Capitalizing on Existing Space Infrastructure

The Space Shuttle has served as the centerpiece of the Nation's human space flight program for more than two decades. This vehicle is instrumental to the continued assembly of the International Space Station, the unique in-space laboratory shared by multiple international partners. NASA is committed to returning the Shuttle safely to flight for this purpose. Having worked diligently for more than a year to address the safety recommendations of the Columbia Accident Investigation Board, NASA anticipates that the Shuttle will resume operations during 2005.

NASA will retire the Space Shuttle once its role in Space Station assembly is complete. On January 14, 2004, the President said in announcing his Vision:

The Shuttle's chief purpose over the next several years will be to help finish assembly of the International Space Station. In 2010, the Space Shuttle—after nearly 30 years of duty—will be retired from service.

International Space Station assembly will be completed by the end of the decade. NASA is examining configurations for the Space Station that meet the needs of both the new space exploration vision and our international partners using as few Shuttle flights as possible. This assessment is critical to allowing NASA to continue work on Space Station assembly safely and retire the Shuttle as planned to make way for the Crew Exploration Vehicle.

In concert with the new exploration vision, NASA will refocus U.S. Space Station research on activities that prepare human explorers to travel beyond low Earth orbit, such as developing countermeasures against space radiation and understanding the long-term physiological effects of reduced gravity.

Keeping America at the Forefront of Safe, Secure, Environmentally Sound Flight



NASA's X-43A research craft set a speed record when its air-breathing engine propelled the vehicle to nearly Mach 10, or 7,000 miles per hour, in November 2004.

NASA will continue working closely with other Government agencies, academia, and industry to modernize equipment, software, and procedures for significant improvements in air traffic and its management both in the air and on the ground.

In 1903, the Wright brothers initiated the era of aviation with their breakthrough flight at Kitty Hawk, North Carolina. Since 1917, when it was established as the National Advisory Committee for Aeronautics, NASA has led the world in the development of advanced aeronautics technologies that have improved the Nation's aircraft and air transportation system. Most recently NASA has focused on ways to improve the safety and security of aircraft and the National Airspace System while reducing airport congestion, aircraft noise, and air pollution.











Today, NASA is transforming its aeronautics program to emphasize development and demonstration of technologies critical to the Nation's future aviation requirements, in areas where NASA has unique capabilities.

MAKING GOVERNMENT MORE EFFECTIVE



NASA is undergoing a major transformation into a stronger, better managed Federal agency. As its high ratings on several initiatives of the President’s Management Agenda show, the agency has taken much-needed actions, such as improving the security of its computer systems, better managing of its human capital needs, and justifying budget requests in terms of the results the agency expects its programs to achieve. NASA is working toward improving the reliability of its financial management system while strengthening the processes it uses to estimate its program and project costs. In addition, the agency has addressed several of the management challenges uncovered by program analyses using the Program Assessment Rating Tool. For example, the Space Station program has improved management of its budget reserves and has developed new measures with which to gauge its performance, while the Mars exploration program has begun to examine the technical feasibility, potential schedules, and estimated costs associated with mission options for the next decade of Mars exploration.

Update on the President’s Management Agenda

The table below provides an update on NASA’s implementation of the President’s Management Agenda as of December 31, 2004.

	Human Capital	Competitive Sourcing	Financial Performance	E-Government	Budget and Performance Integration
Status					
Progress					
<p>NASA remained strong in Human Capital by rolling out a multi-level employee performance appraisal system and beginning to address workforce need changes resulting from its organizational transformation to focus on the exploration vision. In support of Competitive Sourcing, the agency received and began to evaluate proposals under standard competitions for business functions agency-wide and testing and machining services at the Langley Research Center. NASA advanced E-Government by migrating from agency-specific information technology (IT) systems to more efficient, Government-wide IT solutions, including ePayroll, and supported Budget and Performance Integration by releasing new cost management standards to increase the accuracy of project cost forecasting. NASA’s 2004 financial statements received a disclaimer. Embracing the challenge of a financial management overhaul that began with the implementation of a new, integrated financial management system, the agency will strive to improve in Financial Performance by developing a plan with credible milestones to strengthen its financial management.</p>					

The 2006 President’s Budget includes \$16.5 billion for NASA to make progress toward realizing the President’s vision for space exploration and other agency priorities in a fiscally responsible manner. In support of the President’s goal to make Government spending more effective, some programs that are not directly relevant to the vision or other agency priorities, have not performed as well as others, or are unsustainable given their high projected costs will be reformulated or terminated to allow for greater focus on the vision’s high-priority programs, as discussed previously in the chapter.

Initiative	Status	Progress
Real Property Asset Management		
NASA is an active participant on the Federal Real Property Council, which helps inform and develop Government-wide best practices. The agency is currently developing a comprehensive asset management plan to guide planning, acquisition, operation, and disposal of real property.		

National Aeronautics and Space Administration
(In millions of dollars)

	2004 Actual	Estimate	
		2005	2006
Spending			
Discretionary Budget Authority:			
Science, Aeronautics, and Exploration.....	7,873	7,681	9,661
<i>Science (non-add)</i>	5,600	5,527	5,476
<i>Aeronautics (non-add)</i>	1,057	906	852
<i>Biological Sciences Research (non-add)</i>	986	1,004	—
<i>Exploration Systems (non-add)</i>	—	25	3,165
<i>Education (non-add)</i>	230	217	167
Exploration Capabilities.....	7,478	8,358	6,763
<i>Space Operations (non-add)</i>	5,890	6,704	6,763
<i>Exploration Systems (non-add)</i>	1,588	1,654	—
Inspector General.....	27	31	32
Total, Discretionary budget authority	15,378	16,070	16,456
<i>Memorandum: Budget authority from enacted supplementals</i>	—	126	—
Total, Discretionary outlays	15,188	15,718	15,743
Total, Mandatory outlays	1	1	1
Total, Outlays	15,189	15,719	15,744