



SPACE EXPLORATION

Research and Development Funding in the President's 2006 Budget

It has been one year since the President outlined 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. In that year, NASA has restructured its organization and reprioritized its programs to implement the vision. The current human spaceflight programs, Shuttle and International Space Station, are focusing their research and technology development activities on enabling the vision, while requirements are being established for the next generation of space transportation. An exciting array of space science missions are being planned that will enhance our understanding of the solar system, including interactions between the Earth and the space environment, and building observatories that will peer further into the cosmos to understand the origin of the universe, its structure, evolution and destiny.

The President's 2006 budget request for NASA is \$16.456 billion, a 2.4% increase from the 2005 budget, reflecting a strong commitment by the Administration to pursue the exploration vision. The FY 2006 budget request also makes some hard decisions, canceling some projects with high technical risk and whose cost estimates would have led to the certain cancellation and delay of several other important programs. The budget request maintains NASA's focus on exploration and science while strengthening the long-term foundation for continued success.

- **Gearing Up for Exploration.** The budget requests about \$3.2 billion in FY 2006 for new vehicles and technologies to enable sustained human and advanced robotic exploration far from Earth. NASA has identified the major requirements for a Crew Exploration Vehicle that will carry astronauts to the Moon. NASA plans to perform risk reduction tests in 2008 and stage its first crewed flight by 2014. NASA will also continue pursuing nuclear technologies for space applications, optical communications for high data rate connectivity to space probes, radiation shielding, and other advanced technologies to support the exploration vision. In addition, NASA is pursuing innovative means to engage private industry including offering space prizes to spur innovation.
- **Making Scientific Sense of Space and Earth.** The budget requests about \$5.5 billion in FY 2006 to not only continue advancing our scientific understanding of the Sun, Earth, and planets but also to inform decisions of where human explorers should travel, the conditions they will endure, and the technologies necessary to support them. NASA will also build on its legacy of revolutionizing astronomy by continuing operations of 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. The FY 2006 budget continues to fund critical investments in Earth science satellites, technologies, and research. NASA will continue to play a major part in the interagency Climate Change Science Research Program, and contribute to the international initiative on the Global Earth Observing System of Systems.
- **Capitalizing on Existing Space Infrastructure.** The budget requests about \$6.4 billion in FY 2006 for operating the Space Shuttle and continuing assembly and operations of the International Space Station. NASA is examining configurations that meet the needs of both the new space exploration vision and our international partners using as few Shuttle flights as possible to enable Shuttle retirement by 2010, following completion of its role in ISS assembly. In concert with the new 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 long-term physiological effects of reduced gravity.