National Aeronautics and Space Administration

NASA 101

From Vision to Reality

U.S. Space Exploration Policy

From Vision to Reality

The United States and NASA are committed to a long-term robotic and human program to explore the solar system, starting with establishing a permanent lunar presence on the Moon, which will ultimately enable the future exploration of Mars and other destinations.

NASA's exploration mission is guided by U.S. Space Exploration Policy, announced in January 2004, which was ratified by Congress in the NASA Authorization Act passed in December 2005. This guidance re-affirms NASA's commitment to human space exploration and provides the present focus and clear objectives. NASA's approach to the exploration mission is affordable and sustainable, and it maintains the highest levels of safety.

NASA's exploration mission is based on the following strategic goals:

- Fly the Space Shuttle as safely as possible until its retirement in 2010.
- Complete the International Space Station (ISS) in a manner consistent with NASA's commitments to international partners and to the needs of human exploration.
- Develop a balanced overall program of science, exploration, and aeronautics consistent with the redirection of the human spaceflight program to focus on exploration.
- Bring Orion, the new crew exploration vehicle, into service as soon as possible after the Shuttle's retirement.
- Encourage partnerships with the emerging commercial space sector.
- Establish a permanent lunar presence program with the maximum possible utility for missions to Mars and other destinations.

We will accomplish the exploration mission within the Agency budget allocation. In fact, NASA's total budget accounts for less than six tenths of one percent of the Federal budget.

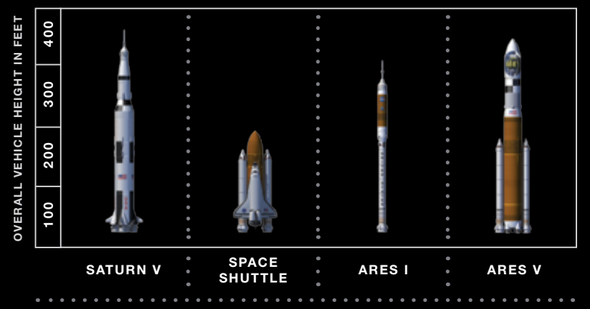
Constellation

Orion Crew and Ares Launch Vehicles

ARES I

Concept image of the Ares I crew launch vehicle during launch.

Before the end of the next decade, NASA astronauts will begin an extensive exploration of the surface of the Moon. Building on the short-duration, equatorially focused missions of the past, NASA will explore the lunar territories that were inaccessible to the Apollo generation. Our objective is to establish an outpost for exploration research near the most intriguing lunar features, including the Polar Regions. We will develop and learn the best techniques for survival on this natural "space station" before venturing further into the solar system.



This journey begins soon, with the development of a new spacecraft. Building on the best of Apollo and Shuttle technology, NASA is creating a 21st–century exploration system that will be affordable, reliable, versatile, and safe. The program is called Constellation.

The centerpiece of this system, Orion, is designed to carry four astronauts to the Moon and deliver crew to the ISS. The Ares I rocket will carry Orion and its crew into low-Earth orbit, while the Ares V rocket, the "heavy lifter" of America's next-generation space fleet, will carry the cargo, including the Altair lunar lander, vehicles for exploring the Moon, and outpost components.

A robust test plan starts this year, which will lead to human test flights of the Constellation missions in 2013 and 2014, assuring that all systems are operational to transport crews to and from the ISS by 2015. Full operational capability to support the ISS would occur the following year. In the meantime, robotic missions will lay the groundwork for lunar exploration, providing critical design data for development of equipment that can survive the harsh lunar environment. Plans call for returning humans to the Moon by 2020.

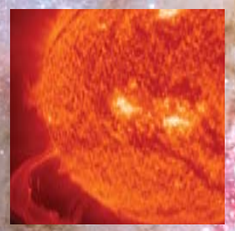
Once a lunar outpost is established, crews would be able to live on the lunar surface for up to six months. With a minimum of two lunar missions per year, momentum could build quickly toward an extended presence to conduct commercial, scientific, and other activities, including learning to use lunar resources. Crews could stay longer and learn to use the Moon's resources, while landers make one-way trips to deliver cargo. Eventually, the new system could rotate crews to and from a lunar outpost every six months.

SCIENCE

The Science Mission Directorate (SMD) projects humankind's vantage point into space with Earth-orbit and deep space observatories; spacecraft that visit other planetary bodies; and robotic landers, rovers, and sample return missions. SMD organizes its work to achieve the goals in the NASA Strategic Plan through Earth science, Planetary Science, Heliophysics, and Astrophysics.

Cassini-Huygens at Saturn

Cassini's view of Saturn eclipsing the sun reveals the wispy outermost "E" ring that is created by geysers on Saturn's moon Enceladus.



Mars Exploration Rover

NASA scientists exploring Mars via the robotic geologists Spirit and Opportunity have discovered evidence of an ancient wet environment that may have been suitable for life.

Earth Science

SMD works to develop a scientific understanding of the Earth system and how it responds to changes from both natural and human sources. NASA brings the view from space to bear on national priorities like climate change and improved weather forecasting.

Planetary Science

SMD advances scientific knowledge of the solar system's origin and history, the potential for life elsewhere, and the hazards and resources present as humans explore space. This includes exploring the wide variety of planets, moons, asteroids, and comets in our solar system, as well as the potential habitability of Mars and other bodies.

Heliophysics

Through studying the Sun and its affects on Earth and the solar system, SMD seeks to understand space weather, the heliosphere (space dominated by the Sun) and planetary environments as a single system. Doing so will help reduce the vulnerability of human activities to dangerous space weather events, like solar flares, and protect human and robotic explorers as they travel the solar system.

Astrophysics

SMD seeks to discover the origin, structure, evolution, and destiny of the universe and to search for Earth-like planets. Using space-based observatories, SMD exploits the entire spectrum of light in search of answers to fundamental questions, including the following: How did the big bang unfold? How were galaxies and stars created? What are dark matter and dark energy? Does life exist elsewhere in the cosmos?

SMD manages a diverse constellation of more than 60 spacecraft, and the directorate is a world leader working in concert with the science community and NASA's international partners. SMD has missions in all phases of development, as well as grant-based research programs designed to derive new scientific discoveries from their data, imagery, and samples. These missions help fulfill NASA's science mission by providing information as practical as next week's weather and as profound as clues to the nature of the universe. Scientific exploration both enables and is enabled by the human.

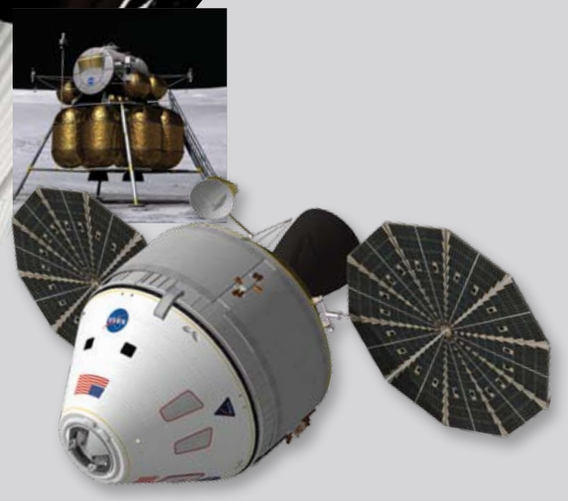
For more information on the Science Mission Directorate, go to *http://science.hq.nasa.gov.*

EXPLORATION

The Exploration Systems Mission Directorate (ESMD) develops the launch systems, vehicles, and other capabilities that will carry humans into space and, ultimately, enable exploration of the Moon and Mars, beginning with the servicing of the ISS following the retirement of the Space Shuttle in 2010.

LRO/LCROSS

In preparation for NASA's return to the Moon, the Agency is working toward the 2008 launch of the Lunar Reconnaissance Orbiter (LRO) and the Lunar Crater Observation and Sensing Satellite LCROSS).



Orion Crew Exploration Vehicle

Orion, NASA's new spacecraft, will succeed the Space Shuttle as NASA's primary vehicle for human space exploration.

To accomplish its mission, ESMD will:

- Develop the Orion crew exploration vehicle and the Ares I crew launch vehicle and associated support systems, with the first human flight to the ISS occurring no later than 2015. The Ares V heavy launch vehicle will carry larger equipment bound for the Moon and beyond.
- Work to achieve a sustained robotic and human presence on the Moon to prepare for human missions to Mars and beyond.
- Support the Advanced Capabilities program, which produces systems and technologies that will support the Orion crew exploration vehicle, the Ares I crew launch vehicle, and space travelers. These include advanced spacesuits, human medical and support technologies, and power-generation systems.

International Collaboration

ESMD worked with international and commercial partners to answer these questions: Why return to the Moon? What will we do when we get there? From this, the global community identified the following six themes that demonstrate the value of returning humans to the Moon:

- Preparation: Test the technologies, systems, flight operations, and techniques that we will need to go to Mars and beyond.
- Scientific Knowledge: Pursue scientific activities that address fundamental questions about Earth, the solar system, the universe, and our place in them.
- Human Civilization: Extend human presence to the Moon.
- Economic Expansion: Expand Earth's economic sphere to the Moon and pursue activities that directly benefit our lives.
- Global Partnership: Provide a challenging, shared, and peaceful activity that unites nations as we pursue common objectives.
- Public Engagement: Use a vibrant space exploration program to engage the public, encourage students, and help develop the high-tech workforce of tomorrow.

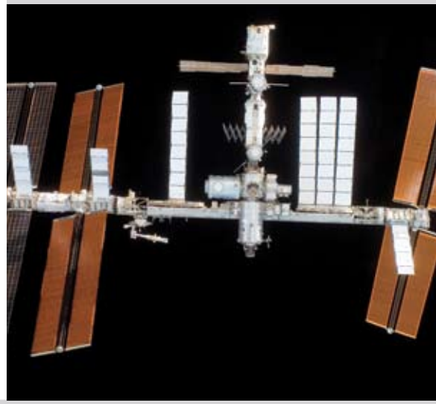
For more information on the Exploration Systems Mission Directorate, go to *http://exploration.nasa.gov.*

Space OPERATIONS

The Space Operations Mission Directorate (SOMD) manages the Space Shuttle, ISS, Launch Services, Space Communications and Navigation, Rocket Propulsion Test, and Astronaut Health and Safety programs.

ISS

The ISS will help human crews endure longer missions and venture farther from Earth in their exploration of space.



NASA Space Shuttle

The Space Shuttle is the most complex machine ever built.

International Space Station (ISS)

Scheduled for completion in 2010, the ISS serves as the largest scientific and technical cooperative program in history. The Station draws from the resources and scientific expertise of the U.S., Canada, multiple European States, Japan, and Russia. When assembled, the ISS will support exploration goals, with an emphasis on understanding how the space environment affects astronaut health and capabilities. The ISS will serve as a technology testing ground for future long-duration space missions.

Space Shuttle

The world's first reusable spacecraft to carry large payloads to and from orbit, the Shuttle launches like a rocket, maneuvers in Earth orbit like a spacecraft, and lands like an airplane. Until NASA retires its three orbiters — Discovery, Atlantis, and Endeavour — in 2010, Shuttle missions will focus on assembling the ISS. In addition, the Shuttle will conduct a servicing mission to the Hubble Space Telescope. SOMD and ESMD are working to transition from the Shuttles to the new Constellation vehicles, starting with the Orion crew exploration vehicle and the Ares I crew launch vehicle.

Launch Services and Rocket Propulsion Testing

SOMD oversees Agency launch requirements, including launches on commercial expendable launch vehicles (ELVs). Unpiloted ELVs have carried aloft some of NASA's most important Earth and space science missions. SOMD also oversees the Agency's capabilities for Rocket Propulsion Testing, including that needed for new engines being developed for Constellation.

Space Communications and Navigation

NASA operates space communications networks such as the Near Earth Network and the Deep Space Network to track and acquire data from its missions. Space communications support both launch vehicles and satellites reaching the limits of the solar system. In addition, SOMD is planning for future communications and navigation systems to support NASA's exploration efforts.

Crew Health and Safety

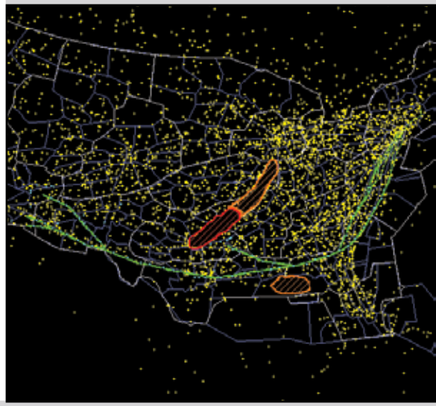
This program focuses on critical health and safety risks and risk-management solutions that improve crew performance and protect our astronauts from space travel hazards. The program also evaluates biomedical and space medicine research to determine potential applications on Earth.

For more information on the Space Operations Mission Directorate, go to *http://www.hq.nasa.gov/osf.*

The Aeronautics Research Mission Directorate (ARMD) generates the innovative concepts, technologies, and capabilities needed to enable revolutionary change to both the airspace system and the aircraft that fly within it. ARMD's concepts, technologies, and capabilities will lead to a safer, more environmentally friendly, and more efficient national air transportation system. ARMD's research will continue to play a vital role in supporting NASA's human and robotic space activities.

FACET

The display of simulated aircraft flows over the U.S. using the Future ATM (Air Traffic Management) Concepts Evaluation Tool (FACET) allows air traffic managers to utilize constrained airspace more effectively.



AERONAUTICS Research

X-48B or Blended Wing Body

Potential benefits of this aircraft configuration include an increase in aircraft performance, noise reduction, and improvements in structural efficiency.

Fundamental Aeronautics Program

This program conducts cutting-edge research to enable the design of vehicles that fly through any atmosphere at any speed. Long-term program goals include significantly advancing the state of the art fundamental technologies critical to reducing noise, emissions, and fuel consumption, as well as enhancing the performance of future vehicles. The program also supports the broader goals of the Agency by conducting fundamental research to enable the safe and accurate entry, descent, and landing of vehicles through planetary atmospheres.

Aviation Safety Program

This program focuses on developing cutting-edge tools and methods that will improve the intrinsic safety attributes of current and future aircraft. These tools and methods will help overcome aviation safety challenges that would otherwise constrain the full realization of the Next Generation Air Transportation System (NextGen). The research conducted in this program will have applicability to space exploration activities, such as enabling the self-reliant and intelligent systems necessary for long-duration travel by future space vehicles.

Airspace Systems Program

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

Aeronautics Test Program

This program ensures that NASA's aeronautical test facilities are available to meet its own research requirements and those of national partners. Strategic utilization, operations, maintenance, and investment decisions are made for facilities at Ames Research Center in Moffett Field, California; Glenn Research Center in Cleveland, Ohio; and Langley Research Center in Hampton, Virginia; as well as for the Western Aeronautical Test Range support and test bed aircraft at Dryden Flight Research Center in Edwards, California.

For more information on the Aeronautics Research Mission, go to *http://www.aerospace.nasa.gov.*

EDUCATION

NASA education activities are designed to reach the Nation's students with a balanced and diverse portfolio that includes Elementary and Secondary Education, Higher Education, e-Education, Informal Education, and Minority University Research and Education Programs.

Hands-On Experiences

NASA encourages college students to interact with their local Centers to gain insight into various NASA programs. This college student is learning about the dexterity of the astronaut glove.

Our Partners

NASA's Office of Education helps provide opportunities for children to explore and develop their full learning potential. NASA will continue to support the Nation's elementary and secondary schools, universities, colleges ,and community colleges by providing exciting research and internship opportunities that will light the fire and fuel the passion for a new culture of learning and achievement in STEM. Additionally, to strengthen STEM education, NASA will sustain professional development and research opportunities for pre-service and in-service teachers and university professors.

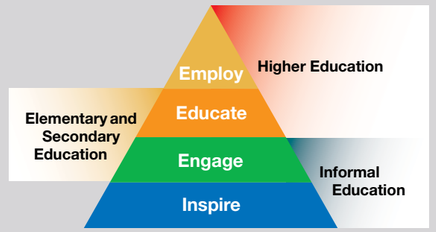
Federal Agencies	Business and Industry	Federal, State, and Local Entities	International Partners
National/State/Local Associations and Organizations Serving the Underserved and Underrepresented			
Network of Informal Education Organizations			
Schools, Colleges, and Universities			
Educators	Students	Parents	Communities

NASA's planned investments in education:

- Contribute to the development of the science, technology, engineering and mathematics (STEM) workforce in disciplines needed to achieve NASA's strategic goals, through a portfolio of programs.
- Attract and retain students in STEM disciplines through a progression of educational opportunities for students, teachers, and faculty.
- Build strategic partnerships and linkages between STEM formal and informal education providers that promote STEM literacy and awareness of NASA's mission.

NASA's Office of Education continues its efforts to motivate students to pursue careers in STEM. The efforts are accomplished through collaborative efforts within NASA's Office of Education, mission directorates, and Centers; with other Federal agencies engaged in education activities; and with NASA's various public and private partners.

As America builds upon the accomplishments of the first century of flight, NASA is paving the way for the next generation of explorers with great anticipation. These explorers of the new millennium will reflect the Nation's vibrant and rich diversity. The Office of Education will fully engage the underrepresented and underserved communities of students, educators, and researchers.

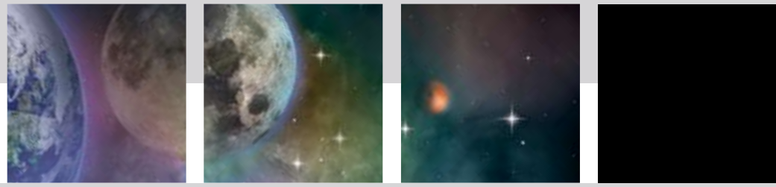


Student Collaboration

The Venetia Burney Student Dust Counter from the University of Colorado is the first science instrument on a planetary mission that was designed and managed by students. It was launched in January 2006 on the New Horizons mission to Pluto and is detecting dust grains on the long journey. It is an example of how NASA has worked and will continue to work with the formal and informal education communities to inspire, engage, educate, and employ the next generation of the STEM workforce in NASA missions.

For more information on the Office of Education, go to *http://education.nasa.gov.*

NASA'S TOP STORIES OF 2007



NASA moved forward in 2007 to explore the solar system, expand our knowledge of Earth and its place in the universe, and build the ISS. The Space Shuttle flew three highly successful missions to continue the Station's assembly, and construction began on projects designed to send astronauts to the Moon, where they will establish a permanent outpost and prepare for eventual voyages to Mars. Space science missions were launched to Mars and the asteroid belt. Closer to home, Earth science satellites made a number of key discoveries, such as how waterways beneath an Antarctic ice stream affect sea level and the world's largest ice sheet.

Constellation Builds Systems For Return To Moon

NASA began laying the foundation for the future of space exploration in 2007. Construction projects across the Agency supported the Constellation Program, which is developing next-generation spacecraft and systems to return astronauts to the Moon by 2020. All major contracts for the Ares I rocket were awarded in 2007. Construction got under way at the U.S. Army's White Sands Missile Range in Las Cruces, New Mexico, where NASA will hold the Constellation Program's first flight tests in 2008.

At NASA's Kennedy Space Center in Florida, workers are erecting a new lightning protection system at the Constellation launch pad, 39-B. Workers are building a new test stand for rocket engines at NASA's Stennis Space Center in Mississippi. NASA [unveiled] plans for a lunar outpost, complete with small, pressurized rovers that would travel in pairs and possible astronaut housing that could [switch locations]. NASA engineers also sought opportunities to test lunar equipment ideas at sites on Earth that are similar to the Moon, such as the Arizona desert and the Antarctic tundra.

An Historic Handshake Between Women Commanders

Space Shuttle Commander Pam Melroy and the ISS's Expedition 16 Commander Peggy Whitson made history on October 25, when Shuttle Discovery and the Station docked and the hatches between the two ships opened. While the two women shook hands 200 miles above Earth, they became the first female spacecraft commanders to lead Shuttle and Station missions simultaneously. Whitson, who also holds the distinction of being the first woman to command a Station mission, has accumulated more total time in orbit than any other female space traveler.

Rise Of The Phoenix

NASA's Phoenix mission launched on August 4 from Cape Canaveral Air Force Station in Florida on a nine-month trek to Mars. The robotic lander is scheduled to arrive at the Red Planet May 25, 2008, and it will begin a close examination of Mars' northern polar region. Phoenix will be the first mission to touch the planet's water-ice. The robot explorer will study the history of the water in the ice, monitor weather in the polar region, and investigate whether the subsurface environment in the far-northern plains of Mars has ever been favorable for sustaining microbial life.

International Space Station Keeps On Growing

NASA launched three successful Space Shuttle missions in June, August, and October to deliver pieces of the ISS, allowing it to grow in size, volume, and power production in 2007. The electricity generated by the Station and used aboard the outpost more than doubled this year. The Station's six solar panels now extend to more than half an acre of surface area. NASA astronauts and Russian cosmonauts safely conducted 23 spacewalks devoted to building and maintaining the Station in 2007, matching a record for the most spacewalks in a single year.

Cold As Ice

Scientists using NASA satellites discovered an extensive network of waterways beneath a fast-moving Antarctic ice stream. The waterways rovide clues as to how "leaks" in the system affect sea level and the world's largest ice sheet. Data from the Moderate Resolution Imaging Spectroradiometer instrument aboard NASA's Aqua satellite and data from the Geoscience Laser Altimeter System on NASA's Ice Cloud and Land Elevation Satellite provided a multi-dimensional view of changes in the elevation of the icy surface above a large subglacial lake and surrounding areas during a three-year period. Those changes suggest the lake drained to the ocean.

Circuit Chip Breakthrough

NASA researchers designed and built a new silicon carbide differential amplifier integrated circuit chip that has exceeded 4,000 hours of continuous operation at 500 degrees Celsius — a breakthrough that represents a 100-fold increase in what had been achieved previously. The extremely durable transistors and packaging technologies will enable highly functional but physically small integrated circuitry to be used for sensing and to control electronics in harsh environments, environments such as hot sections of jet engines and long-duration spacecraft.

New Human Spaceflight Records

NASA astronauts set two new human spaceflight milestones in 2007. Sunita Williams, the ISS's Expedition 14 and Expedition 15 flight engineer, broke the record for the longest duration single spaceflight by a woman, spending 195 consecutive days in orbit. She also completed the most spacewalks by a woman, logging 29 hours and 17 minutes during four spacewalks, and was the first astronaut to run a marathon while in orbit. At the end of the Expedition 14 mission in April, William's crewmate, Mike Lopez-Alegria, led all astronauts in the number of spacewalks with 10 and the amount of time spent spacewalking with 67 hours and 40 minutes. Lopez-Alegria's 215-day Space Station mission also marked the longest single spaceflight by a U.S. astronaut.

Star Power

The brightest stellar explosion ever recorded was seen by NASA's Chandra X-ray Observatory and ground-based optical telescopes. The discovery indicates that violent explosions of extremely massive stars were relatively common in the early universe, and a similar explosion in our own galaxy could be imminent. This new supernova may offer a rare glimpse of how the first stars died. It is unprecedented to find such a massive star and witness its death. The discovery of the supernova provided evidence that the deaths of such massive stars are fundamentally different from theoretical predictions.

Advanced New Aircraft Design Flies Successfully

NASA's ARMD, with the Air Force Research Lab and Boeing Phantomworks, successfully completed flight experiments for the X-48B Blended Wing Body advanced aircraft at NASA's Dryden Flight Research Center this year. The aircraft is a hybrid configuration combining the best attributes of a conventional tube-and-wing aircraft with a flying wing. [It could meet] future Next Generation Air Transportation System requirements for low noise, low emissions, and high performance. The Blended Wing Body also has the potential to land and take off on shorter runways than current aircraft. The experiments demonstrated the basic flying qualities of the X-48B and the effectiveness of the on-board flight control system.

Global Exploration Strategy Unveiled

NASA and 13 space agencies from around the world released the framework for a global exploration strategy in May 2007. The document, "The Global Exploration Strategy: The Framework for Coordination," reflects a shared vision of space exploration focused on solar system destinations where humans may someday live and work. The framework also allows individual nations to share their strategies and efforts so that all can achieve their exploration goals more effectively.

NASA Field Centers and Facilities

Ames Research Center, California
Ames provides products, technologies, and services that enable NASA missions and expand human knowledge. Ames's prime location in California's Silicon Valley affords outstanding opportunities for innovative partnerships with the Nation's technological, academic, and entrepreneurial leaders that will make NASA's exploration initiatives a reality.

Dryden Flight Research Center, California
Dryden performs flight research and technology integration to revolutionize aviation and pioneer aerospace technology. The Center validates space exploration concepts, conducts airborne remote sensing and science observations, and supports operations of the Space Shuttle and the ISS.

Glenn Research Center, Ohio
Glenn develops critical space flight systems and technologies to advance the exploration of space, while maintaining leadership in aviation propulsion research. Glenn leads the development of the service module and spacecraft adapter for the Nation's crew exploration vehicle.

- **Plum Brook Station, Ohio**
  Plum Brook Station is NASA's 6,400-acre remote test installation site near Sandusky, Ohio, that is home to four unique, world-class test facilities.

Goddard Space Flight Center, Maryland
Goddard is home to the Nation's largest organization of scientists and engineers dedicated to learning and sharing their knowledge of Earth, the Sun, the solar system, and the universe. Goddard was established in 1959 as NASA's first space flight Center.

- **Goddard Institute for Space Studies, New York**
  The Goddard Institute for Space Studies, which studies global climate change, is a laboratory of the Earth Sciences Division at Goddard Space Flight Center and a unit of the Columbia University Earth Institute.
- **Software Independent Verification and Validation (IV&V) Facility, West Virginia**
  IV&V provides safety and cost-effectiveness for mission-critical software.
- **Wallops Flight Facility, Virginia**
  Wallops Flight Facility is NASA's principal facility for the management and implementation of suborbital research programs and is managed by Goddard Space Flight Center.

Jet Propulsion Laboratory, California
The Jet Propulsion Laboratory, which is managed by the California Institute of Technology, is NASA's lead for robotic exploration of the solar system.

- **White Sands Test Facility, New Mexico**
  White Sands is a pre-eminent resource for testing and evaluating potentially hazardous materials, space flight components, and rocket propulsion systems. This facility is testing Orion's launch abort system.

Johnson Space Center, Texas
Johnson is the home of NASA Mission Control and the Astronaut Corps; it is NASA's premier Center for human space flight and related scientific and medical research efforts. The Center also manages the development, testing, training, production, and delivery of all U.S. human spacecraft, as well as the program offices for the Space Shuttle, the ISS, and Constellation.

Kennedy Space Center, Florida
The John F. Kennedy Space Center is America's Gateway to the Universe. Kennedy's legacy includes launching all U.S. human space flight missions, from the early days on Project Mercury to the Space Shuttle and the next generation of vehicles, and sending spacecraft to the farthest reaches of our solar system and beyond.

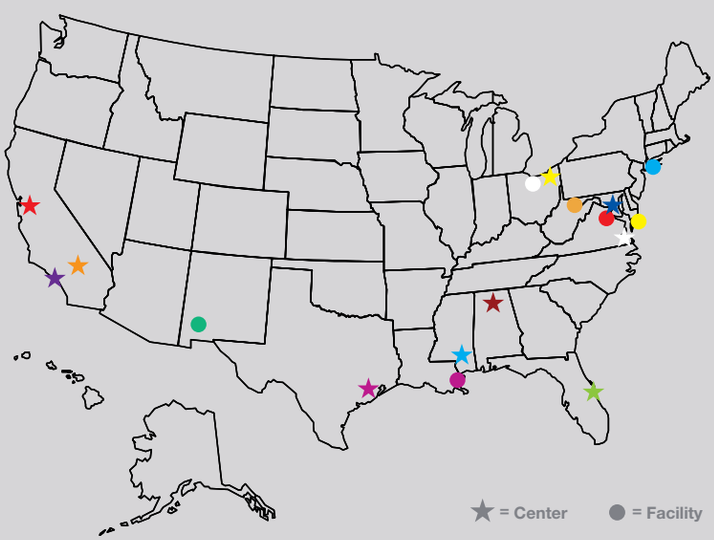
Langley Research Center, Virginia
Langley is NASA's original research and technology Center, recognized worldwide for its contributions to space exploration, aeronautics, and science. The Center is a key contributor to NASA's mission via its systems analysis capabilities.

Marshall Space Flight Center, Alabama
Marshall develops key space transportation and propulsion technologies, including the Ares I crew launch vehicle and Ares V cargo launch vehicle; manages Space Shuttle propulsion elements and science aboard the ISS; and pursues scientific research in space that will improve life on Earth.

- **Michoud Assembly Facility, Louisiana**
  Michoud is one of the largest manufacturing plants in the world. Managed by the Marshall Space Flight Center, Michoud's world-class manufacturing capabilities provide vital support to NASA programs and projects including manufacturing of the Space Shuttle's external fuel tanks and future manufacturing role for the Agency's exploration mission to return humans to the Moon and extend a human presence throughout the solar system.

NASA Headquarters, Washington, D.C.
NASA Headquarters manages the space flight Centers, research Centers, and other installations that constitute NASA.

Stennis Space Center, Mississippi
Stennis is home to America's largest rocket engine test complex, where every Space Shuttle main engine is tested and where future engines and stages will be tested for returning astronauts to the Moon, with eventual journeys to Mars and beyond. Stennis also helps partner agencies make more informed decisions through science research results, remote sensing, and other capabilities.



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