



# Congressional Research ★ Brief

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## Stennis, Sputnik & How the Space Race Changed America

Starting in the late 1950s, the world became enamored by space exploration, setting off by the “Space Race” — an extension of the Cold War into a new realm. For most of his career, Senator John Stennis served on the Senate Space Committee, which worked to oversee United States’ efforts to explore the universe outside our own planet, contemplating defense, offense and intellectual pursuits. This brief will explore the early efforts of the United States to explore space; special attention will be given to the influence of Mississippi’s own John Stennis.

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In 1957, the Soviet Union launched its first satellite, Sputnik 1, into space, turning the attention of the world toward the skies and what would become known as the “Space Race”. Rank and file Americans were first startled and then terrified that the USSR had made this effective launch. The 15-minute national news shows on the three traditional networks talked of little else for days. Because of national security, little was known of America’s projected space operations, but one thing was sure: Americans wanted in the “Space Race” in a big way, and quickly.

In response to the Sputnik launch, the US government decided that it was necessary to national security and technological advancement to establish a new federal agency charged with regulation of all non-military activity in Space. By the end of 1957, Senator Lyndon Johnson of Texas had begun investigations into space and missile activities using as his vehicle the Preparedness Investigating Subcommittee of the Armed Services Committee. The investigations by Johnson’s Subcommittee determined, according to later statements by Stennis, that “...we were dangerously behind in this area and made numerous recommendations as to what we had to do, as a nation, to catch up.” On February 6, 1958, the Senate Select Committee on Space and Aeronautics was established by Senate Resolution 256 to oversee the United States’ space activities. The resolution established a special committee consisting of 13 members (seven from the majority, six from the minority) appointed by the Vice Chairmen of the Committees on Appropriations, Foreign Relations, Armed Services, Interstate and Foreign Commerce, Government Operations, and the Joint Committee on Atomic Energy.

The National Advisory Committee for Aeronautics (NACA) was dissolved as a result of the creation of NASA, and its major assets, including 80 employees and four laboratories, became the bulwark of NASA’s initial assets.

The Space Committee was authorized to investigate any and all matters concerning space activity; the only injunction on the investigation was that the investigations must be deemed “necessary and appropriate” by the committee membership.. Later in 1958, Congress passed the National Aeronautics and Space Act creating the National Aeronautics and Space Agency (NASA). The Space Act set forth eight objectives for NASA: 1) expansion of human knowledge of the atmosphere and space; 2) improvement of aeronautical and space vehicles; 3) development of operational vehicles capable of carrying living beings, tools, and





**Ham, Able and Baker**

of \$80 million while the NACA's predecessor budget had been more than \$101 million. For 1959, the total amount spent on research and development for both agencies was estimated at \$50 million. In 1960 that number increased to more than \$333 million. By the mid 1960s, NASA had taken its place as the premier federal space and aeronautics agency and its budget had grown accordingly. For example:

- In 1967, NASA's budget request was more than \$4.35 billion, including more than \$2.55 billion for the Apollo program that would eventually lead to tremendous accomplishments by Americans in space.
- In 1971, Congress authorized more than \$3.3 billion for NASA (\$400 million less than the previous year.) The 1971 fiscal year saw the lowest NASA budget recommendation since 1961.
- By 1968, budget constraints compelled a cease in production of the Saturn V rockets which propelled the Apollo space missions. This led to the last of the Apollo missions, Apollo 19 in 1974.



**Alan Shepard**

**Alan Shepard became the first American in space when he made a 15-minute suborbital flight on May 5, 1961.**

Fiscal issues continued to plague NASA and space exploration efforts. Often the conflict was one of policy – do we place a premium on the exploration of space or do we place a premium on education, debt load and infrastructure requirements? The Apollo space missions made great strides for both America and Earth but cost the American people an exceptional amount of money: Apollo 11 cost \$355 million; Apollo 12, \$375 million; Apollo 13, \$375 million; Apollo 14 \$400 million; and Apollo 15, \$445 million. While the introduction of the Space Shuttle in the late 1970s created manned space missions which were more economical because of the reusable capability of the shuttle, costs for space exploration continues to astound. Senator Stennis, however, sought to capitalize on the savings realized by the reuse of hardware in the shuttle program, and often worked persuasively to encourage shuttle operational funding.



**John Glen**

**On February 20, 1962, Astronaut John Glen, and later US Senator, became the first American to orbit the Earth with three 90-minute orbits.**

NASA has continued to make manned space missions and scientific and technological discoveries throughout its long history, though the late 1960s and early 1970s were the hay day of space exploration in America. In 2007, NASA's budget was \$16.8 billion with three manned space missions as well as unmanned probes that explored the outreaches of our solar system and sent back significant information about the celestial world.

**Edward White became the first American to make a space walk in June of 1965.**

The United States officially entered the Space Race with the launching of Explorer 1 the first successful US satellite on January 31, 1958. On May 28, 1959, Able and Baker, two monkeys representing the United States, became the first living creatures to be retrieved from space after a 300 mile journey out of the atmosphere. Almost a year and half later in January 1961, a chimpanzee named Ham became the first hominid (higher primate) launched into space. Alan Shepard became the first

instruments into space; 4) establishment of long-term studies to determine the benefits and problems associated with space exploration; 5) preservation of the leading role of the United States in science and technology as it applies to space and aeronautics; 6) provision of information to military and civilian agencies any information or scientific findings that may be used for national security or defense; 7) cooperation with other nations to further the goals of NASA; and 8) cooperation with other US agencies to reduce redundancy in research. The previous agency in charge of space activities, the National Advisory Committee for Aeronautics (NACA), was dissolved and most of its assets and personnel were transferred to NASA. At its inception, the new space agency consisted of some 80 employees and four laboratories.

Funding for space research, investigation and travel has been a significant and consistent problem for NASA. In 1959, the newly formed NASA had a budget



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American in space when he made a 15-minute suborbital flight on May 5, 1961. On February 20, 1962, Astronaut John Glen, and later US Senator, became the first American to orbit the Earth with three 90-minute orbits. Edward White became the first American to make a space walk in June of 1965. In 1967, the United States, the Soviet Union, and more than 60 other countries signed a treaty to ban the orbiting of nuclear weapons in space.

Partially as a result of the influence of Senators Stennis and Eastland, and partially as a result of Mississippi's geographic location in the Sun Belt, Mississippi has profited from the "Space Race". In 1973, in remarks that were prepared but never used, and which are located in the Stennis Collection of the Mississippi State University Libraries' Congressional and

Political Research Center, Senator Stennis argued his "...opposition to any reduction of space shuttle funds..." because, "...in order to continue our space program, we need a less expensive launch system." As the Senator perceived it, the Space Shuttle was to be the first reusable space vehicle, in comparison to the early Apollo missions which were single use vehicles. He could grasp that the ability to reuse the Space Shuttle would dramatically cut cost for manned space missions. Eventually, as a result of the Senator's wisdom and persuasion, six Space Shuttles would be built.

## Like any agency charged with a dangerous mission, NASA has had its share of disasters.

The Space Shuttle Enterprise was test launched in 1977 as the initial Space Shuttle mission. The final planned mission is scheduled for 2010 by the Space Shuttle Endeavor. Originally four shuttles were planned: Columbia, Challenger, Discovery and Atlantis; Enterprise was to be used only for testing purposes. Endeavor was built to replace Challenger after its explosion in 1987. Columbia was destroyed in 2003. In 1986, the Space Shuttle Challenger disintegrated 73 seconds after launch killing all seven crew members. In 2003, the Space Shuttle Columbia disintegrated during re-entry killing all seven crew members.

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Stennis' influence landed a NASA facility in south Mississippi in the early 1960s. In 1961, NASA announced that it had acquired "...13,500 acres in Southwest Mississippi as a static test facility for Saturn and Nova Class Launch Vehicles." NASA, also, acquired easements for the rights to 128,000 acres that surrounded the test site: 98,500 acres in Pearl River and 2,700 in Hancock Counties in Mississippi with an additional 24,000 acres in St Tammany Parish, Louisiana. Originally, the Mississippi Test Facility was to manufacture "...one-half dozen or more stands capable of testing of complete booster stages in the 1.5 to 20 million pound thrust range." The land acquisition was estimated to cost \$13.5 million with construction beginning two to three years after the acquisition.

When first put into service, the facility was expected to employ 500 to 1000 engineers, technicians, and support workers. Of the land acquired through easement for the buffer zone, landowners were permitted to use the land only for agriculture, grazing, recreation, timber harvesting, mineral exploration, and improvements not susceptible to human occupation. At that time the economic impact was estimated to be around \$131 million. In the 1964 budget bill for NASA, \$55.7 million was allotted to the Mississippi Test Facility construction of facilities out of the total \$5.2 billion appropriated by Congress. The Mississippi Test Facility was used to test the Saturn V Rockets which were used for both the Apollo missions and for Skylab. For the fiscal year 1968, NASA spent more than \$36 million in Mississippi as well as more than \$31 million in 1969 and more than \$29 million in 1970.

In 1974, the name of the Mississippi Test Facility was changed to the National Space Technology Laboratories. In August 1988, the facility was once again renamed, this time after Senator John Stennis. In remarks at the dedication ceremony of the John C. Stennis Space Center, the Senator stated that "what sets this facility apart and makes all of it highly valuable is the work which done here – in space technology, science, engineering, oceanography and a broad spectrum of human endeavor – which represents, in a major way, the foundation for economic growth, development and national strength of the United States..."

With the end of the Apollo program, use of the Stennis facility decreased, and the economic impact to Mississippi decreased along with it. Stennis used his considerable influence in the Senate to lobby other government agencies to use the facilities.

Currently, the Stennis Space Center is home to not only NASA but also NOAA's National Data Buoy Center, a branch of the Naval Research Laboratory, the Lockheed Martin Mississippi Space and Technology Center, the Naval Meteorology and Oceanography Command, the Naval Oceanography Office, and the University of Southern Mississippi's High Performance Visualization Center, among others. As a result, Mississippi continues to gain economically from the impact of these state of the art technology centers.

During his time in the Senate, John Stennis worked diligently to bring the NASA facility to Mississippi and to assure its continual use and funding. He also worked tirelessly to ensure that the United States entered the "Space Race" in the wake of Sputnik and that it gained a position of dominance and superiority shortly thereafter. There is no doubt that the United States has won the "Space Race"; even the world seemed to concede this fact when our nation landed a man on the Moon. From initial steps to significant strides in space exploration, Senator John Stennis played a tremendous role in furthering the efforts of space exploration by serving on the Senate Committees that oversaw the activities, using his considerable influence to lobby his colleagues for the necessary funding to accomplish the nation's space goals, and wholeheartedly supporting America's role in intergalactic exploration. And his vision has not been lost. Following years of successful space missions and scientific discoveries, in 2004, President George Bush announced a new space initiative that would send astronauts back to the moon by 2015 and establish a permanent base on Mars. In the 50 years since its creation, thanks in no small part to Senator John C. Stennis of Mississippi, NASA has proven itself to be the premier space agency in the world by consistently pushing the boundaries of human exploration. To date, there have been 122 Space Shuttle missions with another 10 planned by the end of 2010. In 2014, the first space flights for the new Orion space vehicle are planned. The Orion ships are designed to take man back to the Moon and eventually on to Mars.

## About the Author

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### LUKE FOWLER, RESEARCH ASSISTANT

Luke Fowler is a Graduate Assistant at the Mississippi State University Library and the John C. Stennis Institute of Government. As a Graduate Assistant, Luke conducts primary research into the congressional papers and political papers located at the Congressional and Political Research Center of the Mississippi State University Library and produces scholarly papers on specific topics related to the extensive career of Mississippi political figures. Luke holds a B.A. in Political Science from the University of Southern Mississippi, and is currently working on his M.A. in Political Science at Mississippi State University. He finished his undergraduate degree in two and one-half years, graduating from Southern Miss at 19 years old. At Mississippi State, he is receiving training in Geographical Information Systems in complement to his political education. As a member of the Stennis-Montgomery Association, Luke worked as a volunteer at the 2007 debates for both the Governor and the Commissioner of Agriculture. In addition to his scholastic activities, Luke is an alumnus of Pi Kappa Phi fraternity, a certified SCUBA diver, and an avid participant in outdoor activities. Following graduation, Luke plans to continue his education at the doctoral level.

### EDITOR: JEFFREY MARKHAM, RESEARCH ASSOCIATE III / SIG RESEARCH LIAISON

Jeffrey Markham is a Research Associate III at the John C. Stennis Institute of Government at Mississippi State University and an Adjunct Instructor of History and Political Science at Itawamba Community College. As a Research Associate, Jeff provides human resources-related technical assistance to local governments throughout the State of Mississippi. Jeff personally developed the methodology for the annual Mississippi Municipal Compensation Survey and is responsible for its publication each year. Jeff holds a B.A. in History and an M.P.P.A. in Public Policy and Administration, both from Mississippi State University, where he is also a doctoral student, having completed all course work associated for a Ph.D. in Community College Leadership. In addition, Jeff functions as the Coordinator of Civic Education at the Institute as well as the Institute's liaison to the Congressional & Political Research Center of the MSU Libraries. As the Institute's historiographer, he is committed to the accessibility of history and politics. He is also the editor of the Congressional and Political Research Center Brief as well as a contributing author. Jeff is married to the former Leann Mills and has two children, Spencer and Emma Claire.

### EDITOR: LYDIA QUARLES, J.D.

Lydia Quarles is a Senior Policy Analyst at the John C. Stennis Institute of Government, Mississippi State University. She received her Juris Doctorate in 1975 from Cumberland School of Law, Samford University, and her MA and BA from Mississippi University for Women, in 1972 and 1971 respectively, in political science and communication. After over a dozen years in the private practice of law in Alabama and Mississippi, she joined the Mississippi Workers' Compensation Commission as an Administrative Judge in 1993. Eight years later, in 2001, she was appointed Commissioner of the agency. In 2006, she resigned to join the Stennis Institute.

Quarles remains active in bar work, and currently chairs the Women in the Profession Committee, a standing committee of the Mississippi Bar. She also serves as co-chair of the Mississippi Supreme Court's "Gender Fairness Implementation Study Committee" and acts as the Chief Operating Officer of the Workers' Compensation Section of the Mississippi Bar. She is a fellow of the Mississippi Bar Foundation, a recipient of the Mississippi Bar's Distinguished Service Award, a member of the Mississippi School for Math and Science Foundation Board and a member of the MUW Alumni Board. Quarles was recently honored by the American Bar Association's Administrative Law and Regulatory Practice Section, receiving the Mary C. Lawton Award for lasting contributions to the Mississippi Workers' Compensation Commission in the areas of alternative dispute resolution and access for Hispanic workers. In 2004, Quarles was named one of Mississippi's 50 Leading Business Women by the Mississippi Business Journal; the Journal recognized her service to the State as a Commissioner as well as entrepreneurial skills developed in her property management business in Starkville, Spruill Property Management, LLC.

## About the Institute

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Elected to the United States Senate in 1947 with the promise to "plow a straight furrow to the end of the row," John C. Stennis recognized the need for an organization to assist governments with a wide range of issues and to better equip citizens to participate in the political process. In 1976, Senator Stennis set the mission parameters and ushered in the development of a policy research and assistance institute which was to bear his name as an acknowledgment of his service to the people of Mississippi.

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