

# Biographical Data

Lyndon B. Johnson Space Center  
Houston, Texas 77058



National Aeronautics and  
Space Administration  
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## BRUCE MCCANDLESS II (CAPTAIN, USN, RET.) NASA ASTRONAUT (DECEASED)

**PERSONAL DATA:** Born June 8, 1937, in Boston, Massachusetts. Died on December 21, 2017 and is survived by his wife, two children and two grandchildren as well as his brother and two sisters.

**EDUCATION:** Graduate of Woodrow Wilson Senior High School, Long Beach, California; received a bachelor of science degree from the United States Naval Academy in 1958, a master of science degree in Electrical Engineering from Stanford University in 1965, and a master's degree in Business Administration from the University of Houston at Clear Lake in 1987.

**ORGANIZATIONS:** Member of the U.S. Naval Academy Alumni Association (Class of 1958), the U.S. Naval Institute, the Institute of Electrical & Electronic Engineers, the American Institute for Aeronautics and Astronautics, the Association for Computing Machinery, and the National Audubon Society; fellow of the American Astronautical Society, and former president of the Houston Audubon Society.



**SPECIAL HONORS:** Legion of Merit (1988); Department of Defense Distinguished Service Medal (1985); National Defense Service Medal; American Expeditionary Service Medal; NASA Exceptional Service Medal (1974); American Astronautical Society Victor A. Prather Award (1975 & 1985); NASA Space Flight Medal (1984); NASA Exceptional Engineering Achievement Medal (1985); National Aeronautic Association Collier Trophy (1985); Smithsonian Institution National Air and Space Museum Trophy (1985). Awarded one patent for the design of a tool tethering system that is currently used during Shuttle "spacewalks."

**EXPERIENCE:** McCandless was graduated second in a class of 899 from Annapolis and subsequently received flight training from the Naval Aviation Training Command at bases in Pensacola, Florida, and Kingsville, Texas. He was designated a naval aviator in March of 1960 and proceeded to Key West, Florida, for weapons system and carrier landing training in the F-6A Skyray. He was assigned to Fighter Squadron 102 (VF-102) from December 1960 to February 1964, flying the Skyray and the F-4B Phantom II, and he saw duty aboard the USS FORRESTAL (CVA-59) and the USS ENTERPRISE (CVA(N)-65), including the latter's participation in the Cuban blockade. For three months in early 1964, he was an instrument flight instructor in Attack Squadron 43 (VA-43) at the Naval Air Station, Apollo Soucek Field, Oceana, Virginia, and then reported to the Naval Reserve Officer's Training Corps Unit at Stanford University for graduate studies in electrical engineering.

He has gained flying proficiency in the T-33B Shootingstar, T-38A Talon, F-4B Phantom II, F-6A Skyray, F-11 Tiger, TF-9J Cougar, T-1 Seastar, and T-34B Mentor airplane, and the Bell 47G helicopter. He has logged more than 5,200 hours flying time -- 5,000 hours in jet aircraft.

**NASA EXPERIENCE:** McCandless is one of the 19 astronauts selected by NASA in April 1966. He was a member of the astronaut support crew for the Apollo 14 mission and was backup pilot for the first manned Skylab mission (SL-1/SL-2). He was a co-investigator on the M-509 astronaut maneuvering unit experiment which was flown in the Skylab Program, and collaborated on the development of the Manned Maneuvering Unit (MMU) used during Shuttle EVAs. He has been responsible for crew inputs to the development of hardware and procedures for the Inertial Upper Stage (IUS), Space Telescope, the Solar Maximum Repair Mission, and the Space Station Program.

A veteran of two space flights, McCandless has logged over 312 hours in space, including 4 hours of MMU flight time. He flew as a mission specialist on STS-41B (February 3-11, 1984) and STS-31 (April 24-29, 1990).

**SPACE FLIGHT EXPERIENCE:** STS-41B Challenger, launched from the Kennedy Space Center, Florida, on February 3, 1984. The crew on this tenth Space Shuttle Mission included Mr. Vance Brand (spacecraft commander), Commander Robert L. Gibson, USN, (pilot), and fellow mission specialists, Dr. Ronald E. McNair, and Lt. Col. Robert L. Stewart, USA. The flight accomplished the proper shuttle deployment of two Hughes 376-series communications satellites. Rendezvous sensors and computer programs were flight tested for the first time. This mission marked the first checkout of the Manned Maneuvering Unit (MMU), and Manipulator Foot Restraint (MFR). McCandless made the first, untethered, free flight on each of the two MMU's carried on board and alternated with Stewart in the activities constituting two spectacular extravehicular activities (EVAS). The German Shuttle Pallet Satellite (SPAS), Remote Manipulator System (RMS), six Getaway Specials, and materials processing experiments were included on the mission. The 8 day orbital flight of Challenger (OV-099) culminated in the first landing on the runway at the Kennedy Space Center on February 11, 1984. With the completion of this flight McCandless logged 191 hours in space (including 4 hours of MMU flight time).

STS-31 Discovery, launched on April 24, 1990, from the Kennedy Space Center in Florida. The crew aboard Space Shuttle Discovery included Col. Loren J. Shriver, USAF, (spacecraft commander), Col. Charles F. Bolden, USMC, (pilot), and Dr's. Steven A Hawley, and Dr. Kathryn D. Sullivan (mission specialists). During this 5 day mission, the crew deployed the Hubble Space Telescope, and conducted a variety of middeck experiments involving the study of protein crystal growth, polymer membrane processing, and the effects of weightlessness and magnetic fields on an ion arc. They also operated a variety of cameras, including both the IMAX in cabin and cargo bay cameras, for earth observations from their record setting altitude of 380 miles. Following 76 orbits of the earth in 121 hours, STS-31 Discovery landed at Edwards Air Force Base, California, on April 29, 1990.

This is only version available from NASA. Updates must be sought from the above named individual.