

ASTRONAUT BIOGRAPHY



National Aeronautics and Space Administration

Lyndon B. Johnson Space Center
Houston, Texas 77058

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Nichole "Vapor" Ayers

(Major, U.S. Air Force) NASA Astronaut

Summary:

Nichole Ayers was selected by NASA to join the 2021 Astronaut Candidate Class. She reported for duty in January 2022. The Colorado native graduated from the U.S. Air Force Academy in Colorado Springs, Colorado, in 2011 with a bachelor's degree in mathematics. She later earned a master's degree in computational and applied mathematics from Rice University in Houston. As an instructor in both the T-38A and F-22 Raptor, Ayers has flown missions all over the nation and the world. For her first spaceflight, Ayers served as the pilot of NASA's SpaceX Crew-10 mission, spending 146 days as a flight engineer during Expeditions 72 and 73 and completed one spacewalk, totaling 5 hours and 44 minutes.

Personal Data:

Ayers and her twin sister, Cydnee, were born in San Diego, California, but she considers Colorado Springs and Divide, Colorado, home. Ayers and her husband, Justin, were married in New Zealand in early 2020 and enjoy sailing, camping, hiking, biking, and working on home projects together.

Education:

Graduated Woodland Park High School in Woodland Park, Colorado. Earned a bachelor's degree in mathematics with a minor in Russian from the U.S. Air Force Academy in Colorado. Earned a master's degree in computational and applied mathematics from Rice University in Houston, where her studies focused on computational fluid dynamics, specifically modeling incompressible fluid flow.

Experience:

Ayers graduated from the U.S. Air Force Academy in 2011. There, she played Division I college volleyball all four years. Ayers also competed internationally on the USA Armed Forces Team while pursuing her master's degree in 2012. She graduated from Rice University in 2013, graduated pilot training in 2014, and began flying the T-38A in the adversary squadron at Langley Air Force Base, Virginia. She became an instructor pilot in the T-38, leading adversary missions that provided combat training for the F-22 Raptors at Langley AFB, Virginia. Ayers graduated from the F-22 Basic Course in 2018 and also became an instructor pilot in the F-22. She flew over 200 combat hours in Operation Inherent Resolve over Iraq and Syria. Ayers has over 1,400 total flight hours in the T-38A/B/C/N and F-22 Raptor. At the time of her selection as a NASA astronaut candidate, she was the assistant director of operations in the 90th Fighter Squadron at Elmendorf Air Force Base, Alaska.

NASA Experience:

Ayers was selected as a NASA astronaut candidate in December 2021 and reported for duty in January 2022 to complete two years of initial astronaut training. For her first spaceflight, Ayers served as the pilot of NASA's SpaceX Crew-10 mission, spending 146 days as a flight engineer during Expeditions 72 and 73 and completed one spacewalk, totaling 5 hours and 44 minutes.

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Spaceflight Experience:

Expedition 72/73 (March 14, 2025, through August 9, 2025). NASA’s SpaceX Crew-10 launched from NASA’s Kennedy Space Center in Florida aboard SpaceX Dragon capsule Endurance. Ayers, who served as the pilot, was joined by fellow NASA astronaut and commander Anne McClain, JAXA (Japan Aerospace Exploration Agency) astronaut and mission specialist Takuya Onishi, and Roscosmos cosmonaut and mission specialist Kirill Peskov. Together, the crew of all pilots conducted research and technology demonstrations and performed maintenance activities aboard the microgravity laboratory. During Expedition 73, Ayers was spacewalk crew member 2 for U.S. EVA 93, of which she and McClain relocated a space station communications antennae and installed a mounting bracket ahead of the installation of an additional set of International Space Station Rollout Solar Arrays, also called IROSA. This marked Ayers’ first spacewalk.

Awards/Honors:

Awarded the Meritorious Service Medal, the Air Medal, the Aerial Achievement Medal, the Air Force Commendation Medal, the Operation Inherent Resolve Campaign Medal, and various other unit and service awards. Named distinguished graduate and graduated with academic distinction from the U.S. Air Force Academy. Distinguished graduate from undergraduate pilot training. Four-time Mountain West Conference Academic All-Conference and Scholar Athlete Award winner in women’s volleyball. The Air Force Academy Association of Graduates 2022 Young Alumni Excellence Award Winner.

Organizations:

United States Air Force Academy Association of Graduates. Red River Valley Fighter Pilots Association. US Air Force Language Enabled Airman Program.