

# Three astronauts return to Earth after a year in space. NASA's Frank Rubio sets US space record

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NASA astronaut Frank Rubio is helped out of the Soyuz MS-23 spacecraft just minutes after he and Russian cosmonauts Sergey Prokopyev and Dmitri Petelin, landed in a remote area near the town of Zhezkazgan, Kazakhstan on Wednesday, Sept. 27, 2023. The extended mission means that Rubio now holds the record for longest spaceflight by an American. Credit: Bill Ingalls/NASA via AP

A NASA astronaut and two Russian cosmonauts returned to Earth on Wednesday after being stuck in space for just over a year. [American Frank Rubio](#) set a record for the longest U.S. spaceflight—a result of the extended stay.

The trio landed in a remote area of Kazakhstan, descending in a Soyuz capsule that was rushed up as a replacement after their original ride was hit by space junk and lost all its coolant while docked to the International Space Station.

What should have been a 180-day mission turned into a 371-day stay. Rubio spent more than two weeks longer in space than Mark Vande Hei, who held NASA's previous endurance record for a single spaceflight.

Russia holds the world record of 437 days, set in the mid-1990s.

The Soyuz capsule that brought Rubio and cosmonauts Sergey Prokopyev and Dmitri Petelin back was a replacement launched in February. Russian engineers suspect a piece of space junk pierced the radiator of their original capsule late last year, midway through what should have been a six-month mission. Engineers worried that without cooling, the capsule's electronics and any occupants could overheat to dangerous levels, so the craft returned empty.

There wasn't another Soyuz to launch a fresh crew until this month. Their replacements finally arrived nearly two weeks ago.



In this photo taken from video released by Roscosmos space corporation, NASA astronaut Frank Rubio sits in chair shortly after the landing of the Russian Soyuz MS-23 space capsule about 150 km (90 miles) south-east of the Kazakh town of Zhezkazgan, Kazakhstan, Wednesday, Sept. 27, 2023. The Soyuz capsule carrying NASA astronaut Frank Rubio, Roscosmos cosmonauts Sergey Prokopyev, and Dmitri Petelin, touched down on Wednesday on the steppes of Kazakhstan. Credit: Roscosmos space corporation via AP

"No one deserves to go home to their families more than you," the space station's new commander, Denmark's Andreas Mogensen, said earlier this week.

Prokopyev told ground controllers throughout the descent that all three were feeling good. They experienced more than four times the force of gravity as their capsule streaked through the atmosphere and came to a

touchdown in the barren Kazakh steppes, ending up on its side. Helicopters moved in with recovery crews to fetch the astronauts.

"It's good to be home," Rubio said after being pulled from the capsule.

Rubio, 47, an Army doctor and helicopter pilot, said at a news conference last week that he never would have agreed to a full year in space if asked at the outset. He ended up missing important family milestones including the oldest of his four children finishing her first year at the U.S. Naval Academy and another heading off to West Point.



The Soyuz MS-23 spacecraft lands in a remote area near the town of Zhezkazgan, Kazakhstan with NASA astronaut Frank Rubio and Russian cosmonauts Sergey Prokopyev and Dmitri Petelin, Wednesday, Sept. 27, 2023. The extended mission means that NASA astronaut Frank Rubio now holds the



record for longest spaceflight by an American. Credit: Bill Ingalls/NASA via AP



In this photo taken from video released by Roscosmos space corporation, Roscosmos cosmonaut Dmitri Petelin sits in a chair shortly after the landing of the Russian Soyuz MS-23 space capsule about 150 km (90 miles) south-east of the Kazakh town of Zhezkazgan, Kazakhstan, Wednesday, Sept. 27, 2023. The Soyuz capsule carrying NASA astronaut Frank Rubio, Roscosmos cosmonauts Sergey Prokopyev, and Dmitri Petelin, touched down on Wednesday on the steppes of Kazakhstan. Credit: Roscosmos space corporation via AP



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In this photo taken from video released by Roscosmos space corporation, rescue team members carry NASA astronaut Frank Rubio shortly after the landing of the Russian Soyuz MS-23 space capsule about 150 km (90 miles) south-east of the Kazakh town of Zhezkazgan, Kazakhstan, Wednesday, Sept. 27, 2023. The Soyuz capsule carrying NASA astronaut Frank Rubio, Roscosmos cosmonauts Sergey Prokopyev, and Dmitri Petelin, touched down on Wednesday on the steppes of Kazakhstan. Credit: Roscosmos space corporation via AP





In this photo taken from video released by Roscosmos space corporation, the Russian Soyuz MS-23 space capsule lies on the ground shortly after the landing about 150 km (90 miles) south-east of the Kazakh town of Zhezkazgan, Kazakhstan, Wednesday, Sept. 27, 2023. The Soyuz capsule carrying NASA astronaut Frank Rubio, Roscosmos cosmonauts Sergey Prokopyev, and Dmitri Petelin, touched down on Wednesday on the steppes of Kazakhstan. Credit: Roscosmos space corporation via AP





In this photo taken from video released by Roscosmos space corporation, a Russian Soyuz MS-23 space capsule descends about 150 km (90 miles) southeast of the Kazakh town of Zhezkazgan, Kazakhstan, Wednesday, Sept. 27, 2023. The Soyuz capsule carrying NASA astronaut Frank Rubio, Roscosmos cosmonauts Sergey Prokopyev, and Dmitri Petelin, touched down on Wednesday on the steppes of Kazakhstan. Credit: Roscosmos space corporation via AP



The Soyuz MS-23 spacecraft lands in a remote area near the town of Zhezkazgan, Kazakhstan with NASA astronaut Frank Rubio and Russian cosmonauts Sergey Prokopyev and Dmitri Petelin, Wednesday, Sept. 27, 2023. The extended mission means that NASA astronaut Frank Rubio now holds the record for longest spaceflight by an American. Credit: Bill Ingalls/NASA via AP



NASA astronaut Frank Rubio left, Russian cosmonauts Sergey Prokopyev, center, and Dmitri Petelin sit in chairs outside the Soyuz MS-23 spacecraft after they landed in a remote area near the town of Zhezkazgan, Kazakhstan on Wednesday, Sept. 27, 2023. The extended mission means that NASA astronaut Frank Rubio now holds the record for longest spaceflight by an American. Credit: Bill Ingalls/NASA via AP





NASA astronaut Frank Rubio is carried to a medical tent shortly after Rubio and Russian cosmonauts Dmitri Petelin and Sergey Prokopyev landed in their Soyuz MS-23 spacecraft near the town of Zhezkazgan, Kazakhstan on Wednesday, Sept. 27, 2023. The extended mission means that Rubio now holds the record for longest spaceflight by an American. Credit: Bill Ingalls/NASA via AP



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From left, NASA astronaut Frank Rubio, Roscosmos cosmonauts Sergey Prokopyev and Dmitri Petelin, crew members of the mission to the International Space Station (ISS), walk to the rocket prior the launch of Soyuz-2.1 rocket, at the Russian leased Baikonur cosmodrome, Kazakhstan, Wednesday, Sept. 21, 2022. The three are expected to return to Earth on Wednesday, Sept; 27, 2023, after being stuck in space for just over a year after their original capsule was hit by space junk. The 180-day mission turned into a 371-day stay. Credit: AP Photo/Dmitri Lovetsky, Pool, File







In this photo provided by NASA, astronaut Frank Rubio peers out of a window aboard the SpaceX Dragon Freedom spacecraft docked to the International Space Station. Rubio was observing the SpaceX Dragon Endurance spacecraft, carrying four SpaceX Crew-5 crew members, approach the orbital lab for a docking to the Harmony module's forward port. Rubio and Russian cosmonauts Sergey Prokopyev and Dmitri Petelin are expected to return to Earth on Wednesday, Sept; 27, 2023, after being stuck in space for just over a year after their original capsule was hit by space junk. The 180-day mission turned into a 371-day stay. Credit: NASA via AP

Rubio had said the psychological aspect of spending so long in space was tougher than he expected. He may hold on to this record for a while. NASA has no plans as of now for more yearlong missions.

It was the first spaceflight for Rubio and Petelin, 40, an engineer. Prokopyev, 48, an engineer and pilot, has now pulled two long station stints.

They logged 157 million miles (253 million kilometers) since launching from Kazakhstan last September and circled the world nearly 6,000 times.

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