NASA defers decision on Mars Sample Return to the Trump administration

“The samples that we have taken by Perseverance actually predate—they are older than any of the samples or rocks that we could take here on Earth,” Fox said. “So it allows us to kind of investigate what the early solar system was like before life began here on Earth, which is amazing.”

Fox said returning Mars samples before a human expedition would help NASA prioritize where astronauts should land on the red planet.

In a statement, the Planetary Society said it is “concerned that NASA is again delaying a decision on the program, committing only to additional concept studies.”

“It has been more than two years since NASA paused work on MSR,” the Planetary Society said. “It is time to commit to a path forward to ensure the return of the samples already being collected by the Perseverance rover.

“We urge the incoming Trump administration to expedite a decision on a path forward for this ambitious project, and for Congress to provide the funding necessary to ensure the return of these priceless samples from the Martian surface.”

China says it is developing its own mission to bring Mars rocks back to Earth. Named Tianwen-3, the mission could launch as soon as 2028 and return samples to Earth by 2031. While NASA’s plan would bring back carefully curated samples from an expansive environment that may have once harbored life,

China’s mission will scoop up rocks and soil near its landing site.

“They’re just going to have a mission to grab and go—go to a landing site of their choosing, grab a sample and go,” Nelson said. “That does not give you a comprehensive look for the scientific community. So you cannot compare the two missions. Now, will people say that there’s a race? Of course, people will say that, but it’s two totally different missions.”

Still, Nelson said he wants NASA to be first. He said he has not had detailed conversations with Trump’s NASA transition team.

“I think it was a responsible thing to do, not to hand the new administration just one alternative if they want to have a Mars Sample Return,” Nelson said. “I can’t imagine that they don’t. I don’t think we want the only sample return coming back on a Chinese spacecraft.”

https://arstechnica.com/science/2025/01/fund-or-cancel-robots-or-humans-nasa-punts-on-mars-sample-return-decision/