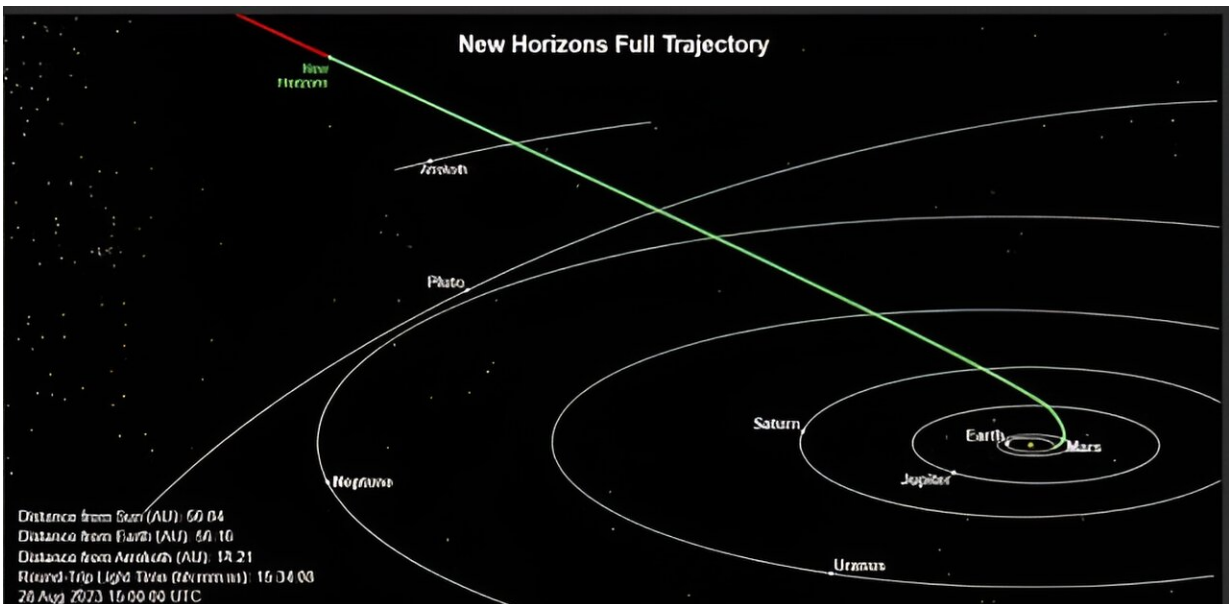


NASA's New Horizons mission still threatened

August 29 2023, by Carolyn Collins Petersen



New Horizons current path as of August 28, 2023. Credit: New Horizons Web site.

The New Horizons spacecraft that studied Pluto and Kuiper belt object Arrokoth continues its pioneering exploration of the Kuiper belt. However, that might soon end if NASA doesn't change course. The New Horizons science team has been told by NASA that the mission as they know it is slated to end September 30, 2024.

In response, many in the planetary science community have communicated extreme disapproval of that action to the agency. In addition, the National Space Society [launched a petition drive](#) to save the mission and its mission scientists. It's asking people to sign and show [public support](#) to the [decision-makers](#) at NASA. The deadline is the end of August.

Interested members of the public can also write to their Congressmembers or Senators directly about the issue. Those representatives can contact NASA administrator Bill Nelson to save the mission and its science team. It's particularly timely since NASA could require the current team to re-compete for its own mission later in September.

What's happening with NASA and New Horizons?

New Horizons is doing science every day as it passes through a never-before-explored region of the solar system. As we reported earlier this year, a 2022 NASA Senior Review panel praised the mission's accomplishments. This was in response to a request for ongoing funding from the New Horizons team. The panel noted that, "This is likely the only [spacecraft](#) humans will send through the outer solar system for at least 20–30 years. The investigations proposed are strengthened by the unique position of this asset."

The review did note some minor concerns. The panel did not conclude that these presented any barrier to moving forward with new funding for the mission to continue its Kuiper belt exploration after 2024. However, NASA's Science Mission Directorate (SMD) had an unexpected response to that review. It decided to solicit input from the larger science community for a new set of objectives. These are focused not on the Kuiper belt, but on heliophysics explorations of the sun's distant environment. Moreover, it mentioned the replacement of the Kuiper belt

New Horizons team with a purely heliophysics team. That team could be selected by NASA in the coming few months.

Such a move would be unprecedented. It's also puzzling because the mission is already doing heliophysics in the belt along with all other planned science observations. In fact, in September, the spacecraft will be looking toward Uranus and Neptune. That planetary science study takes advantage of its unique position in the Kuiper belt.

Planetary scientists react

These NASA plans are disappointing enough that they spurred a letter of protest from 25 prominent planetary scientists and former NASA officials. Signatories include past Planetary Society board chair Jim Bell, Lori Garver (past Deputy Administrator of NASA), Jim Green (Past Director of NASA's Planetary Science Division), Candice Hansen-Koharcheck (Past chair of the American Astronomical Society's Division of Planetary Sciences and Past Chair of NASA's Outer Planets Assessment Group), author Homer Hickham, Wesley T. Huntress (Past Director of NASA's solar system Exploration Group), astrophysicist Sir Brian May, Melissa McGrath (past NASA official and AAS Chair of DPS), and many others.

They wrote, "As the first and only planned spacecraft exploration of the Kuiper belt, New Horizons is a jewel in the Nation's and NASA's portfolio of space leadership. We the undersigned ask NASA, the Administration, and Congress to reverse course on both of these important matters."

According to New Horizons mission principal investigator, Alan Stern, NASA told the New Horizons team that its mission to the Kuiper belt will end on September 30, 2024. The agency also communicated its plans to dismiss the legacy New Horizons team. Presumably, it would be

replaced or be forced to re-compete to run the mission they've planned and run all along.

Stern recently pointed out that, despite the letter from the 25 community leaders, plus other appeals and advisory group recommendations to continue the New Horizons Kuiper belt mission, his team has heard no sign of relief on NASA's plans to terminate the exploration of the Kuiper belt by New Horizons. SMD's director of planetary sciences division director Lori Glaze has also mentioned simply putting the spacecraft in hibernation. If that happens, it certainly won't be able to study the Kuiper belt.

Is it a matter of money, or what?

The New Horizons mission to the Kuiper belt is currently costing NASA about \$10 million per year in total. That includes \$3 million per year to continue the Kuiper belt studies it was designed to do. That's for mission support and team salaries. The spacecraft could be exploring the Kuiper belt for at least another 3–5 years, so the Kuiper belt portion should cost a modest \$15 million over that time. NASA is currently grappling with other missions with huge cost overruns of hundreds of millions of dollars or more (Mars Sample Return, for example). Compared to that, the cost of continuing New Horizons as a Kuiper belt is a drop in the bucket.

However, it's not clear that budget considerations are at the heart of the unusual decisions about New Horizons. Stern remains concerned about the prospect of team replacement and/or hibernation. "You have a perfectly working spacecraft," he said, "and for only \$3 million a year that it costs to support our Kuiper belt science team, you're going quit the very exploration of the Kuiper belt the spacecraft was built and paid for to do? It makes no sense."

The New Horizons decisions play out against a backdrop of recent

frantic efforts to get the venerable Voyager 2 spacecraft to turn a few degrees so controllers could talk to it. That spacecraft is outside the solar system now. It's sending back sporadic but valuable reports about conditions at the interface between the heliosphere and interstellar space. It, like New Horizons, is exploring the new frontier.

So the question remains: Why divert the mission of a working spacecraft doing unique Kuiper belt science while working like crazy to keep the other one going? That's one NASA will need to answer soon before final decisions are made about shutting down valuable exploration in the Kuiper belt.

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