# Elon Musk highlights solar threat as NASA predicts Earth uninhabitable by year 1 billion



In a recent statement, Elon Musk asserted that "eventually, all life on Earth will be destroyed by the sun," igniting conversations about humanity's long-term survival and the necessity of a multi-planetary existence. Researchers from NASA and Tōhō University in Japan have precisely calculated when this might occur. According to their advanced simulations, life on Earth could become unfeasible by the year 1,000,002,021 due to the sun's gradual increase in brightness, which is expected to lead to rising global temperatures and a decline in oxygen levels.

This groundbreaking study, detailed in the journal *Nature Geoscience*, involved running over 400,000 simulations to explore the implications of solar evolution on Earth’s climate and biosphere. The researchers discovered that as the sun ages, it will enter a red giant phase in approximately five billion years, potentially engulfing the inner planets, including Mercury, Venus, and possibly Earth itself. This long-term outlook, while still billions of years away, serves as a stark reminder of our planet's vulnerability and underscores the urgency behind Musk’s ambitions for Mars colonisation.

Musk has framed this vision of Mars as "life insurance for life collectively," emphasising that the establishment of a self-sustaining city on the Red Planet is crucial. In a statement to Fox, he elaborated on this sentiment, stating, "If the resupply ships are necessary for Mars to survive, then we have not created life insurance." By this logic, Musk believes that developing a self-sustaining civilization on Mars is essential for humanity's survival in the face of looming existential threats.

The research confirming the sun's long-term expansion aligns with earlier projections about other potential existential risks. For example, a study suggested that in approximately 250 million years, a significant rise in Earth’s surface temperature could lead to the extinction of nearly all mammal species, indicating that solar changes will profoundly affect life well before the far-off future predicted by Musk. These findings underscore the broader implications of solar dynamics on Earth’s climate, reinforcing Musk’s argument for a proactive approach to colonization.

NASA's long history of research into the sun’s behaviour further supports the urgency of such discussions. Their ongoing studies leverage advanced supercomputing capabilities to simulate the sun's surface and its complex atmospheric phenomena, shedding light on how solar activity influences Earth and other celestial bodies. This comprehensive understanding of the sun’s lifecycle enhances our ability to predict and mitigate potential impacts on our planet.

Despite considerable scientific backing for the notion of a temperamental sun, there are practical challenges to achieving Musk’s vision. The financial implications of space exploration have been significant, especially in light of recent budget cuts under the Trump administration, which reallocated funds away from essential NASA projects. The effects of these funding adjustments have raised concerns about the viability of ambitious projects like the Mars Sample Return mission, which aims to bring Martian samples back to Earth for analysis.

Nevertheless, the push for Mars colonisation is relentless. Musk echoes the sentiments of many scientists and futurists who regard multi-planetary habitation as a necessary step for ensuring humanity's survival. He posits that without a proactive transition to becoming a spacefaring civilization, humanity may face inevitable extinction—whether through natural disasters, asteroid impacts, or the sun’s fiery expansion.

In summary, while the exact date of Earth's potential demise remains a distant threat, the ongoing dialogue surrounding the sun's life cycle and humanity's role in the cosmos is more relevant than ever. Elon Musk's ambition to establish a self-sustaining city on Mars could be a critical pivot point in ensuring the continuity of life, framing the future of human existence against the backdrop of an ever-evolving solar landscape. As these scientific and entrepreneurial endeavours unfold, the imperative to consider our place in the universe becomes increasingly urgent, reminding us that the fate of life may hinge on our ability to adapt and innovate.

### Reference Map

1. Paragraphs 1, 2, 3, 6
2. Paragraphs 4, 5
3. Paragraph 4
4. Paragraphs 5, 6
5. Paragraphs 5, 6
6. N/A
7. N/A

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## Bibliography

1. <https://www.dailymail.co.uk/sciencetech/article-14696987/Supercomputer-reveals-exact-date-Elon-Musks-doomsday-prediction-come-true.html?ns_mchannel=rss&ns_campaign=1490&ito=1490> - Please view link - unable to able to access data
2. <https://www.syfy.com/syfy-wire/did-a-supercomputer-predict-the-end-of-humanity> - This article discusses a 2023 study published in Nature Geoscience, which used supercomputer simulations to predict that in about 250 million years, Earth's surface temperature will rise significantly, leading to the extinction of nearly all mammals. The study does not specifically target humanity but focuses on the broader impact of the Sun's evolution on life on Earth. The findings highlight the long-term effects of solar changes on Earth's climate and biosphere.
3. <https://www.nas.nasa.gov/pubs/stories/2014/feature_Sun_Kitiashvili.html> - This NASA article details how supercomputers are used to simulate the Sun's surface, interior, and atmosphere to better understand solar phenomena like sunspots, solar flares, and coronal mass ejections. By running these simulations, scientists aim to improve their understanding of the Sun's structure and dynamics, which is crucial for forecasting space weather events that can impact Earth, such as magnetic storms affecting communication and power systems.
4. <https://www.livemint.com/news/elon-musk-two-choices-only-way-to-survive-when-earth-meets-doomsday-die-or-spacefaring-civilization-11726627359842.html> - This article reports on Elon Musk's statements about Earth's potential doomsday scenarios, including asteroid impacts and the Sun's expansion. Musk emphasizes the need for humanity to become a spacefaring civilization to ensure survival, suggesting that without becoming a multi-planetary species, extinction events are inevitable. He highlights the importance of establishing a self-sustaining city on Mars to continue life beyond Earth.
5. <https://www.livemint.com/technology/tech-news/tech-giant-elon-musk-plans-supercomputer-four-times-larger-than-metas-for-xai-report-11716738836328.html> - This article discusses Elon Musk's plans to build a massive supercomputer, termed the 'gigafactory of compute,' to support his artificial intelligence startup, xAI. The proposed supercomputer is expected to be at least four times the size of the largest GPU clusters currently in existence, including those used by Meta for AI model training. Musk aims to have this supercomputer operational by the fall of 2025, integrating 100,000 Nvidia chips to enhance xAI's capabilities.
6. <https://www.drfutureshow.com/links/> - This page provides links to various articles, including one about Elon Musk's announcement of an AI-focused supercomputer named Colossus. The supercomputer is designed to power his AI venture, xAI, and is said to run on 100,000 powerful Nvidia H100 graphics processing units (GPUs). The article also mentions other topics, such as advancements in luxury travel and medical diagnostics.
7. <https://www.nas.nasa.gov/pubs/stories/2014/feature_Sun_Kitiashvili.html> - This NASA article details how supercomputers are used to simulate the Sun's surface, interior, and atmosphere to better understand solar phenomena like sunspots, solar flares, and coronal mass ejections. By running these simulations, scientists aim to improve their understanding of the Sun's structure and dynamics, which is crucial for forecasting space weather events that can impact Earth, such as magnetic storms affecting communication and power systems.