# Cold War-era Kosmos 482 satellite debris may land across southern England in rare re-entry event



A significant piece of Cold War-era space debris, identified as the Kosmos 482 satellite, is on a collision course with Earth, with parts of the United Kingdom potentially in its landing zone. Weighing approximately 500 kilograms—equivalent to the cost of a small vehicle—this satellite debris is set to strike between May 9 and May 13, causing concern among residents in southern England, particularly in areas south of Cambridge, Ipswich, and Milton Keynes.

Dr Marco Langbroek, an expert in orbital tracking at Delft University of Technology, indicated that the probable landing trajectory extends between latitudes 52 degrees north and south. This trajectory passes directly over rural parts of England, raising alarm for residents in towns that may lie in the path of this historic piece of space debris.

Initially launched by the USSR in 1972, the Kosmos 482 probe aimed to study Venus. However, a malfunction prevented it from escaping Earth's orbit, leading to its eventual disintegration into four fragments shortly after launch. Two of these fragments were observed as fiery events in New Zealand’s skies; details of these incidents were downplayed by Soviet authorities at the time. Scientists now believe that the remaining piece, which is expected to re-enter the atmosphere at speeds of around 17,000 miles per hour, is the landing module of Kosmos 482.

Despite uncertainty surrounding its re-entry and landing location, Dr Langbroek remarked that understanding the risks is crucial. “The risks involved are not particularly high, but not zero,” he stated in a report by MailOnline. The module's titanium construction, designed to withstand intense atmospheric pressure during its intended descent into Venus, means that it may reach Earth’s surface largely intact rather than breaking apart during re-entry.

Opinions among scientists are varied regarding the potential impact timeline and location. Dr Jonathan McDowell, an astronomer who tracks satellite re-entries, posited that the scenario of a direct impact is unlikely, suggesting that if it were to cause damage or injuries, the responsibility would fall upon the Russian government. “There is no need for major concern, but you wouldn't want it bashing you on the head,” he cautioned.

The expected regions for the landing zone have been described as extensive, potentially encompassing the contiguous United States, the UK, Australia, South America, and parts of Africa. McDowell calculated that the odds of the module hitting a person are exceedingly low: approximately one in 10,000 for any random location on Earth, and about one in 10 billion for any specific individual.

As the Kosmos 482 module re-enters the atmosphere, it will encounter significant friction, resulting in a massive fireball and a shock wave. Initial predictions suggest the object will decelerate to an impact speed between 145 and 157 miles per hour, a velocity comparable to that of a car falling from the sky.

Dutch satellite tracker Ralf Vandebergh recently captured high-resolution images of the spacecraft component, providing insight into its current condition. He speculated that an elongated structure observed in the images might suggest a parachute, which, if deployed, would likely be nonfunctional during the imminent descent due to the high-stress re-entry environment. However, Dr Langbroek expressed skepticism about this claim, suggesting that the parachute may not have been deployed at all.

As the impending re-entry and potential impact approaches, residents in southern England, alongside others worldwide, find themselves uniquely involved in the final stages of a long-forgotten Soviet mission that dates back nearly half a century.

Source: [Noah Wire Services](https://www.noahwire.com)

## Bibliography

1. <https://en.wikipedia.org/wiki/Kosmos_482> - This Wikipedia page provides detailed information about the Kosmos 482 satellite, including its launch date, mission objectives, and the circumstances leading to its failure to escape Earth's orbit.
2. <https://www.technologyreview.com/2024/12/09/1108076/satellite-reentry-atmospheric-pollution/> - This article discusses the environmental concerns associated with satellite reentries, including the release of pollutants like aluminum oxides and their potential impact on the ozone layer.
3. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10851386/> - This scientific review examines the pollution effects and management of orbital space debris, highlighting the environmental impact of satellite reentries and the need for mitigation strategies.
4. <https://www.internationalinsurance.org/insights_cyber_the_space_debris_dilemma> - This article explores the complexities of risk assessment in the context of space debris, emphasizing the importance of collision avoidance protocols and end-of-life disposal plans for satellites.
5. <https://pmc.ncbi.nlm.nih.gov/articles/PMC11757734/> - This study analyzes the impact of reentering space objects on airspace, discussing the risks to aviation and the need for airspace closures during reentries.
6. <https://newspaceeconomy.ca/2024/07/01/potential-ozone-depletion-from-satellite-demise-during-atmospheric-reentry-in-the-era-of-mega-constellations/> - This article examines the potential for increased ozone depletion due to satellite reentries, particularly in the context of large satellite constellations.
7. <https://news.google.com/rss/articles/CBMiuwFBVV95cUxQcWFVRWFoeHhPd2xhQldwdURwdVpVUzRRcFdtY0NHbkNkT1Y3QjhSYXBySFNqTUl4M0hoQXVyYTNxVm5KTy1OZDRqc193NFRjczVtU3NBb2NCSmg1LVJSWVU5dTVHdGpsR25GSVVxYm9QZGxOY0l6Nmk1LXZTXzZKalhzN1laSVgzVzdVWndvZXQ1Z0h3N2pRZ0luZzRXYTN5czktckZqaUNUamJKcjcyNFFzMUVqMUpTZmpB?oc=5&hl=en-US&gl=US&ceid=US:en> - Please view link - unable to able to access data