

Video: Phobos-Grunt re-entry animation

December 30 2011, By Nancy Atkinson

When and where will Russia's Phobos-Grunt satellite crash back to Earth? It's too early to tell, but the engineers from Analytical Graphics, Inc. (AGI) have put together an animation which recaps what has happened with the spacecraft so far, and what is expected to occur during the uncontrolled re-entry.

The spacecraft is currently projected to re-enter Earth's atmosphere in early January 2012. Most of the spacecraft and leftover onboard fuel will burn up in the atmosphere, although some pieces may survive reentry, including the [Planetary Society's LIFE experiment](#). The return capsule is designed to survive the heat of reentry and make a survivable trajectory to the ground, and can withstand an impact force of 4,000 Gs.

Dr. David Warmflash, a scientist for the experiment, who has been writing updates on the mission for Universe Today, has hopes that the experiment can be recovered and the biological samples studied.

The experiment was originally designed to study the effects of the interplanetary environment on various organisms during a long duration flight, and how they would react beyond the Van Allen Radiation Belts, which protect organisms in low Earth orbit from some of the most powerful components of space radiation. Although the spacecraft has not traveled outside of the belts, the organisms contained within the LIFE biomodule will have been in space for more than two months when the probe reenters the atmosphere. Studying the samples may provide some insight on radiation in low Earth orbit.

However, if the capsule falls in water, which is highly likely since two-thirds of Earth's surface is covered by water, recovery would be highly unlikely.

Phobos-Grunt launched on November 9, but has been stuck in Earth orbit after the upper stage Fregat booster failed to boost the orbit and send the spacecraft towards Mars.

Provided by [Universe Today](#)

Citation: Video: Phobos-Grunt re-entry animation (2011, December 30) retrieved 1 May 2024 from <https://phys.org/news/2011-12-video-phobos-grunt-re-entry-animation.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--