

# Hazards Due to Comets and Asteroids: The University of Arizona Space Science

Comets and asteroids are small bodies that orbit the Sun. While they are often thought of as harmless, they can actually pose a significant hazard to Earth. Comets and asteroids can collide with our planet, causing widespread destruction. They can also release large amounts of dust and gas into the atmosphere, blocking out the Sun and causing global cooling.

The threat posed by comets and asteroids is real and growing. In the past century, there have been several close calls between Earth and these objects. In 1908, a comet exploded over Tunguska, Russia, leveling 800 square kilometers of forest. In 1994, a comet Shoemaker-Levy 9 collided with Jupiter, creating a series of large fireballs. And in 2013, a meteor exploded over Chelyabinsk, Russia, injuring over 1,500 people.

These events are a reminder that comets and asteroids are a serious threat to our planet. We need to be prepared for the next impact, and we need to take steps to mitigate the damage that they can cause.



## Hazards Due to Comets and Asteroids (The University of Arizona Space Science Series) by Leigh Tate

★★★★☆ 4.7 out of 5

Language : English

File size : 76814 KB

Print length : 1300 pages

Screen Reader : Supported



Comets and asteroids can cause a variety of hazards to Earth, including:

- **Impacts:** Comets and asteroids can collide with Earth, causing widespread destruction. The impact of a large comet or asteroid could create a crater several kilometers wide and release energy equivalent to millions of tons of TNT. This could cause widespread damage to infrastructure, property, and human life.
- **Dust and gas:** Comets and asteroids can release large amounts of dust and gas into the atmosphere, blocking out the Sun and causing global cooling. This could lead to crop failures, famine, and widespread death.
- **Tsunamis:** Comets and asteroids that impact the ocean can create tsunamis that can travel thousands of kilometers and cause widespread flooding.
- **Electromagnetic pulses:** Comets and asteroids that explode in the atmosphere can release electromagnetic pulses that can damage electronic equipment and infrastructure.

There is a growing body of research on comets and asteroids, and the strategies that are being developed to mitigate their threat. This research is being conducted by scientists at universities, government agencies, and private companies around the world.

One of the most important areas of research is the development of early warning systems. These systems would provide us with advance warning of an impending comet or asteroid impact, giving us time to prepare for the impact and evacuate affected areas.

Another important area of research is the development of deflection technologies. These technologies would allow us to deflect a comet or asteroid away from Earth, preventing it from impacting our planet.

There are a number of strategies that can be used to mitigate the threat posed by comets and asteroids. These strategies include:

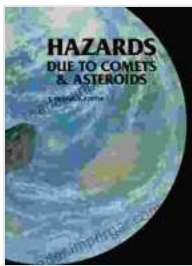
- **Early warning systems:** Early warning systems can provide us with advance warning of an impending comet or asteroid impact, giving us time to prepare for the impact and evacuate affected areas.
- **Deflection technologies:** Deflection technologies would allow us to deflect a comet or asteroid away from Earth, preventing it from impacting our planet.
- **Evacuation plans:** Evacuation plans would allow us to evacuate affected areas in the event of an impending comet or asteroid impact.
- **Disaster relief:** Disaster relief would provide assistance to affected areas in the aftermath of a comet or asteroid impact.

The threat posed by comets and asteroids is real and growing. We need to be prepared for the next impact, and we need to take steps to mitigate the damage that they can cause. By investing in research and developing mitigation strategies, we can reduce the risk of a comet or asteroid impact and protect our planet and its inhabitants.

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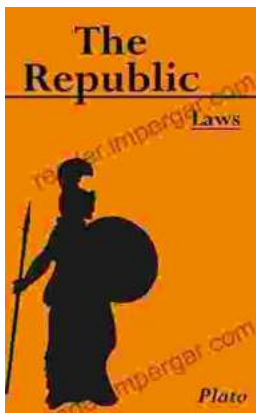
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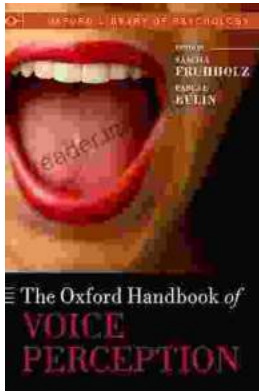
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