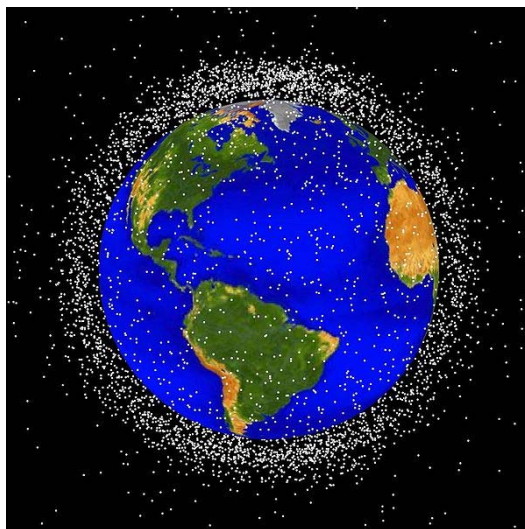


Space Junk

By Josh Adler



Many people know that trash is a big problem on planet Earth. What many people don't know is that trash has become a problem in outer space too. Years of space exploration have left tons of "space junk" in orbit around the planet.

According to *BBC News*, there are more than 22,000 pieces of junk in space around the earth. And these are just the items that we can see from the surface of the earth by telescopes or radars. There are also millions of smaller pieces of junk that we can't see.

Objects, like bits of old space rockets or satellites, move around the planet at very high speeds, so fast that even a very small piece can break important satellites or become dangerous to people, particularly astronauts. If the tiniest piece of junk crashed into a spacecraft, it could damage the vehicle. That's because the faster an object moves, the greater the impact if the object collides with something else.

To make things worse, when two objects in space collide, the two objects break into many smaller pieces. This happened in 2009 when a working United States satellite collided with a Russian satellite that was no longer functioning. The collision caused the satellites to break into more than 2,000 pieces, increasing the items of space junk.

To help minimize additional space junk, countries around the world have agreed to limit the time their space tools stay in orbit to 25 years. Each tool must be built to fall safely into the earth's atmosphere, or the mass of gases that surround the earth, after that. In the upper parts of the atmosphere, it will burn up.

Many scientists are also proposing different ways to clean up space junk. In England a metal harpoon is being tested that can be fired into space trash, grip the trash, and then pull the space junk into the earth's atmosphere where it would burn up.

The Germans have been planning a space mission with robots that would collect pieces of space trash and bring them back to Earth so that they can be safely destroyed.

In 2007 the Chinese tried to blow up one of its older satellites with a missile. Unfortunately, the explosion only created thousands of smaller pieces, adding junk in space!

"In our opinion the problem is very challenging, and it's quite urgent as well," said Marco Castronuovo, an Italian Space Agency researcher who is working to solve the problem. One reason that it's urgent is that countries are sending more and more objects into space. Many of these objects are tools that help people use their cell phones or computers.

"The time to act is now; as we go farther in time we will need to remove more and more fragments," he says.