

Mills hunter camp

[Environment](#), [Earth](#)



Mills Hunter Camp Mr. David Kelty English 105 3 December 2012 Threats From Space on Earth There are seven possible scenarios which scientists believe if occur, could naturally end this planet and humanity, the world as we know it. Orbital change, rotational change, collisions with the Earth, the big rip, the sun, black holes, and other systems going out of whack can cause events that could potentially cause an end to life on Earth. People have theorized about an end to the planet or people on it for most of time. However, the scenarios that will be explained are the most logical and probable scenarios that could occur. An orbital change could affect everything on Earth. This is when the Earth moves closer or farther from the sun. The effect of something like this happening is detrimental to life on Earth. It would cause the entire planet to freeze or burn. A change like this could be extreme or very subtle. The amount of change would determine what would happen to life. It could either completely end or there could be a step up in the evolutionary chain and organisms would adapt to the new environment. In a solar system, near a star, there is a region of space that is possible for life to manifest. The Earth resides in the Sun's Goldilocks Zone, or the distance from the sun that allows the Earth to be habitable (Villanueva)". Going slightly inside or outside of this region during orbit could be detrimental to us all. Though the Earth has a slight wobble to its orbit, which causes seasons to vary in climate from year to year, drifting out of the Goldilocks Zone could cause all life on Earth to become remnants of the past. The Earth's axis has a wobble to it that scientists believe over time will cause an orbital change, knocking the Earth's orbit out of whack (Miles and Smith p. 90). Over time this is what will cause an orbital change of the planet Earth

to occur. An event like this could be gradual or fairly rapid. Depending on how long it takes for an event like this to take place would determine what would happen to the organisms on the planet. A rapid change would probably kill them off. A slow, gradual change could kill them off as well but it is more likely that it would cause a step up the evolutionary ladder. If the Earth were to move closer to the sun after an orbital change, then the planet would dramatically heat up. Heating up the planet has various effects, one of the first of which is the spread of disease. This would cause most, if not all, of the organisms to die off. Whatever is left after the diseases have taken their toll will be scorched or burned up not much longer after the disease hits. Moving the Earth a minor fraction closer to the sun would cause a temperature increase so great that all life on Earth would perish if it were to occur. If the Earth were to move away from the sun because of an orbital change, then the Earth would cool down dramatically. An event like this would cause the planet to freeze. Cooling the Earth would put organisms into dormancy, and evolution would pause. This would be because the organisms would be frozen along with the planet. If the planet were to ever heat back up, then it would cause life to restart back to the primordial stages of life as a protein. If the Earth quit moving on its path around the sun, then it would cause drastic changes. An event like this would cause all the places on Earth to be stuck in one season (What If?). This would make only a small portion of the planet livable. The parts that would be uninhabitable would be facing the sun or facing black space. “ The portion looking at the sun would be burning or scorched barren deserts. The portion aimed out into space would be extremely cold, frozen, tundra that would be too harsh for life to be possible

(What If?). " Along with an orbit comes the rotation of a planet. Both are necessary for a planet to work properly. However, they are very different. The rotation of the Earth spins at about 1100 miles per hour, which allows everything to stay placed on the ground. It creates the gravity that makes our lives possible. If the Earth did not rotate, then it would cause major changes in the way it works. A rotational change can work two ways. It can speed up or it can slow down. Positive acceleration of the Earth would cause negative affects to life on Earth. A speed increase would make everything heavier. This is because the gravity on the planet would increase. The gravity becomes greater due to the planet spinning much faster than its natural intended speed. The other way a rotational change can work is by slowing down or stopping all together. Negative acceleration of a planet would be more detrimental to a planet than if it were to speed up. It would cause a loss of atmosphere and gravity would weaken. This would cause everything not attached to bedrock, to be swept out into space (Archive of Astronomy Q and A). Anything that would still be left on the planet would be exposed to gamma rays, because the atmosphere is gone, and would fry whatever is left. " This is because our sun produces radiation and our atmosphere protects us from it, otherwise we would all burn up (Patrick)". While all of that is going on, the planet would be hurling straight into the sun. An event like this would be the end of life on Earth and the planet itself, but it would more than likely disrupt the solar system, such a large amount, that everything within it would become chaotic. This could cause the solar system or even more to come to an end. After learning that the rotation of the planet is what keeps everything on the ground, you might be wondering to

yourself what about space. Well, space has its own dangers. Some of which are debris from space. If objects collide with the Earth it creates a lot of damage, and sometimes death, and possibly genocide of an entire species. It is highly believed that falling space debris is what caused the end of the dinosaurs. Most space debris, according to Spangenburg and Moser, is a rubble pile that drifts through space and are falling apart and reassembling. Comets, asteroids, and meteors are all objects that drift through space and occasionally get caught by gravity. When this happens it could just change the direction of the objects slightly, or it could pull it in completely, causing it to collide with the force of gravity. A big enough chunk colliding with the Earth could send a destructive wave across the planet. This would kill all life on Earth as soon as it made impact. Since it is believed dinosaurs were killed off by an event like this, scientists believe that an event like that could potentially end humanity and all life on Earth. Debris in space is left over materials that were not used after everything formed. This is very important because it tells us what it looked like before it was the giant space it is now. This means we could find out what organisms are the basic building blocks for life on planets and what it takes to be able to grow. It also can tell us what things will look like after everything falls apart. Because no one knows how long everything has been here, no one knows if planets and objects in space start out small. After a while objects could collect matter and grow into planets. The Big Rip is a possibility that could be the end of everything. It is a theory that states that everything expands forever. This expansion goes on until everything is so big that it cannot support itself anymore. An event like this would be, as the sun gets bigger all orbits will get bigger, which will

cause a planet's rotation to change. This, in turn, allows planets to grow and expand, and if the planet contains life, then that would become larger throughout time as well. After a while, everything will get so big that objects on the surface of a planet would sink into the planet itself, because there is nothing to support the surface weight. This would eventually cause everything to suck inside of itself, being the end of time itself. To create the big rip, things have to expand. For everything to expand there has to be a point of origin. This point would be the sun. So, if everything is constantly expanding, it has to be because of the sun. If the sun is the point of origin, then it will be the destination as well. This means that everything will get so large that eventually it will all suck itself into where it came from, or into the sun. Paul Fleisher asks what is the fate of the universe? The universe is still expanding. Will it expand forever, or will it eventually slow to a stop? Will it then contract and squeeze back together again. The sun is always expanding, which makes everything else expand. Eventually it will be three times its current size. Miles and Smith say that scientists believe it should be about 5, 000 million more years. But, at this point in time the Earth's temperature will to dramatically increase due to the sun's size. This would roast the Earth to the point nothing is alive. Once the sun reaches this point of expansion, according to Ellen Jackson, there will be supernova. This will cause a huge implosion, leaving behind only a white dwarf. An event of this magnitude would end all life and everything else, in the solar system. A product of massive stars, black holes can be as destructive as anything else out in space, maybe even more. Black holes are another source of destruction. They are massive amounts of energy that have such great

gravity that light cannot escape its grips. When something is caught in the gravitational pull of a black hole, it gets swallowed up, like water going down a drain (Dolan). If the Earth were to encounter a black hole, it would mean the end of the planet. The process of being engulfed by a black hole would only take a matter of minutes. An event such as this would mean the end of life on Earth and the planet itself. " Some scientists believe that black holes are common and that many large stars may end their lives as black holes (Simon). " Solar systems are enormous and contain planets, stars, and pretty much everything else. Space is so big that the number of solar systems out there is unfathomable. The Milky Way Galaxy, specifically, is the system of which the Earth resides. It is a system that is very predictable in its nature. This means scientists can easily tell what is going to happen with our solar system. Besides the Milky Way, there are an unknown number of systems out in space. Most systems in space, however, are very chaotic. Unlike the Milky Way, Moshkin says, most systems have dangerous orbits and are very unpredictable. This means that the system is not stable and could fall apart at any time. An example of this would be if a planet revolved around the sun 29 times in a day in a tiny revolution around its sun, the gravity would be so intense that if a person were on the planet they would be flatter than a piece of paper. Also, chaotic systems do not necessarily have orbits that are regular in comparison to the others in that system. Meaning, planets could potentially collide or cause other planets orbits to change due to gravitational pull. All life on Earth will, undoubtedly, one day cease to exist. This could be an extremely fast process or it could take millions of years. The end of life could bring about the end of the Earth shortly after life on Earth is

gone. The scenarios described are the most likely cause to an end to everything. There has to be an end to everything at some point, but who knows when. Who is to say it will not be tomorrow or hundreds of years from now. Works Cited " Archive of Astronomy Questions and Answers. " Archive of Astronomy Questions and Answers. N. P., n. d. Web. 10 Oct 2012. . Dolan, Terrance. " Probing Deep Space. " New York, NY: Chelsea House Publishers, 1993. Fleisher, Paul. " The Big Bang. " Minneapolis: Twenty-First Century Books, 2006. Irwin, Patrick. " Giant Planets of Our Solar System: Atmospheres, Composition, and Structure. " Chichester, UK: Praxis Publishing, 2003. Jackson, Ellen. " The Mysterious Universe. " Boston, NY: Houghton, Mifflin, Harcourt Publishing Co., 2008. Miles and Smith. " Book of Astronomy and Space. " Tulsa, OK: Usborne Publishing Ltd., 2001. Moskin, Marietta D. " Sky Dragons and Flaming Swords, " Published in the United States of America and Canada, 1985. Simon, Seymour. " Destination Space. " New York, NY: Smithsonian Institution, 2006. Spangenburg, Ray and Moser, Kit. " A Look at Comets. " Franklin Watts, 2003. Villanueva, John C. " What Is a Solar System? " Universe Today. N. P., 17 March 2010. Web. 10 Oct 2012. . " What If? — What If... the Earth Did Not Rotate or Revolve? " What If? — What If... the Earth Did Not Rotate or Revolve? N. p., n. d. Web. 10 Oct 2012. .