

How might we help to slow down the Sixth Extinction?

## BACKGROUND

### About

A mass extinction is defined as “the extinction of a large number of species within a relatively short period of geological time, thought to be due to factors such as a catastrophic global event or widespread environmental change that occurs too rapidly for most species to adapt.”<sup>1</sup> Geologists and other earth scientists agree that in the 3.5-billion-year history of life on earth, five mass extinctions have occurred, wiping out 50% or more of all species each time. Some may have been caused by asteroid impacts or huge volcanic eruptions; others are blamed on climate change. Most scientists also agree that life on earth is now experiencing another one - the Sixth Extinction<sup>2</sup> - with species disappearing at least 100 times faster, and up to 1,000<sup>3</sup> or 10,000<sup>4</sup> times faster, than normal. In many different but interconnected ways, humans are the ones causing this to happen... and we are just starting to realize it. “The asteroid is us”<sup>5</sup> this time!

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<sup>1</sup> [www.dictionary.com](http://www.dictionary.com)

<sup>2</sup> Kolbert, Elizabeth (2014). *The Sixth Extinction: An Unnatural History*. Bloomsbury Publishing.

<sup>3</sup> Pimm, Stuart (2014). – <http://science.sciencemag.org/content/344/6187/1246752>

<sup>4</sup> Wilson, E.O. (2003). *The Future of Life*. Vintage Publishers.

<sup>5</sup> McKibben, Bill (1996, 2006). *The End of Nature*. Random House. – See <http://www.billmckibben.com/>

## History

Scientists disagree about when this Sixth Extinction officially began. Some say it started about 13,000 years ago, after the last Ice Age ended and human animals spread all around the globe, killing *megafauna* (large animals) everywhere we went. Most agree that humans' relationship with the planet fundamentally changed around 10,000 years ago for a different reason: when we started farming and keeping domesticated animals like cows and sheep, changing local ecosystems to make space for our crops and grazing land. Recently, most scientists have reached *consensus* (agreement) that the biggest change in how we impact other living things started happening about 260 years ago, when we began burning fossil fuels<sup>6</sup> as an energy source during a time called the Industrial Revolution. This caused human population to grow faster than ever: in 1800, there were only about 1 billion people alive, but in just over 200 years, now there are more than 7 billion of us.<sup>7</sup>

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<sup>6</sup> Burning fossil fuels such as coal, oil, and gas – the remains of ancient plants and animals from hundreds of millions of years ago – releases carbon dioxide and other heat-trapping greenhouse gases into the air much more quickly than normal, causing global warming. While a warm planet isn't a bad thing by itself, it is how fast it is happening that's the problem. Climate and ecosystems are changing faster than plants, animals, and other organisms can adapt.

<sup>7</sup> "At the dawn of agriculture, about 8000 B.C., the population of the world was approximately 5 million. ... A tremendous change occurred with the industrial revolution: whereas **it had taken all of human history until around 1800 for world population to reach one billion**, the second billion was achieved in only 130 years (1930), the third billion in less than 30 years (1959), the fourth billion in 15 years (1974), and the fifth billion in only 13 years (1987)." – <http://www.worldometers.info/world-population/>

## OBJECTIVE

To design a scientific, technological, and/or social solution to slow down the Sixth Extinction. This could also include helping ordinary citizens of Earth to make basic changes in their lifestyles.

### Collect

Collect pictures, videos and artifacts of what you observe. Saturating your workspace with assets from the field is invaluable. Label everything with your individual or group hashtag.



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