

Following five previous mass extinctions over the course of Earth's lifespan, there are fears a sixth, the Holocene Extinction, is underway. The prime cause for this extinction: humans impacting the environment. Due to the greenhouse effect, the huge industrial combustion of fossil fuels has contributed to significant climate change. Mankind burns approximately 21.3 billion tonnes of fossil fuels a year, contributing to a 0.7°C temperature rise annually. This is roughly ten times faster than the average rate of ice-age-recovery warming. Temperature spikes lead to ice caps melting, which endangers polar bears and arctic animals as well as flora and fauna in other biomes such as the tropical rainforest. Species adapted to a consistent climate cannot cope with the increase in temperature and have to relocate to cooler areas or higher altitudes or face competition and extinction. It is impossible to relocate for immobile tree species, and flying fox bats have been dropping dead from the sky. Meat consumption, overfishing, and ocean acidification, as well as the decline in amphibian populations, are also broader examples of a cosmopolitan decline in biodiversity. Meanwhile, previous extinctions have been argued to be caused by volcanic activity. For example, the end-Permian extinction, killing 90% of all life, was due to eruptions from the Siberian Traps, and large releases from methane-producing microbes. Humans also produce the greenhouse gas methane, however this is from livestock digestion, when cows are farmed for meat. Another key difference is the speeds and distributions of these mass extinctions. Volcanic eruptions are incredibly sudden, with a gigantic impact. Human activity distributes its extinction over a longer time period. Gradual temperature increases threaten many species and landforms. Human disease may also be a consequence of climate change.

However, there are also similarities in the causes of these extinctions. The Triassic-Jurassic mass extinction was also a result of climate change and rising sea levels. Today, rising sea levels are due to glacial melting and global atmospheric circulation being affected by climate change. After volcanoes erupted in the Cretaceous-Paleogene period (although this cause is debated), three-quarters of all life, including the dinosaurs, were killed. Great outpourings of noxious gases from these volcanoes had disastrous environmental effects. Also, carbon dioxide caused a large rise in temperature, just like today. As the sea grew hotter, less gas could dissolve and many organisms were starved of oxygen. Sulphur dioxide would have combined with water vapour in the atmosphere to make sulphuric acid, which fell as acid rain, killing much of the plant life on land. This too, is a huge modern problem. In addition, toxic metals such as mercury accumulated and poisoned large areas. Similar events occurred after industrial oil waste dumpages from companies like Texaco, which contaminated water sources and harmed wildlife in the Amazon.

Compared to volcanic activity 66 million years ago, the chemicals involved and the effects of this increase in climate change parallels the modern Holocene extinction. Nevertheless, the most important cause of the Holocene extinction is human activity, not volcano eruptions.