Causes and Effects of Climate Change | National Geographic

Human activities from pollution to overpopulation are driving up the earth's temperature and fundamentally changing the world around us.

The main cause is a phenomenon known as the greenhouse effect. Gases in the atmosphere such as water vapour, carbon dioxide, methane, nitrous oxide and chlorofluorocarbons let the sun's light in, but keep some of the heat from escaping. Like the glass walls of a greenhouse - the more greenhouse gases in the atmosphere, the more heat gets trapped - strengthening the greenhouse effect and increasing the earth's temperature. Human activities like the burning of fossil fuels have increased the amount of CO2 in the atmosphere by more than a third since the Industrial Revolution.

The rapid increase in greenhouse gases in the atmosphere has warmed the planet at an alarming rate.

While Earth's climate has fluctuated in the past atmospheric carbon dioxide hasn't reached today's levels in hundreds of thousands of years.

Climate change has consequences for our oceans, our weather, our food sources and our health. Ice sheets such as Greenland and Antarctica are melting. The extra water that was once held in glaciers causes sea levels to rise and spills out of the oceans flooding coastal regions.

Warmer temperatures also make weather more extreme, this means not only more intense major storms, floods and heavy snowfall but also longer and more frequent droughts. These changes in weather pose challenges. Growing crops becomes more difficult - the areas where plants and animals can live shift and water supplies are diminished.

In addition to creating new agricultural challenges climate change can directly affect people's physical health. In urban areas the warmer atmosphere creates an environment that traps and increases the amount of smog, this is because smog contains ozone particles which increase rapidly at higher temperatures. Exposure to higher levels of smog can cause health problems such as asthma, heart disease and lung cancer.

While the rapid rate of climate change is caused by humans, humans are also the ones who can combat it. If we work to replace fossil fuels with renewable energy sources like solar and wind which don't produce greenhouse gas emissions we might still be able to prevent some of the worst effects of climate change.