Global Warming: Understanding the Threat

Page 1

What is Global Warming?

Global warming refers to the long-term heating of Earth's climate system observed since the pre-industrial period (between 1850 and 1900). This warming primarily stems from human activities, such as the burning of fossil fuels (coal, oil, and natural gas), which release greenhouse gases into the atmosphere. Greenhouse gases trap heat like a blanket, warming Earth's surface.

The Science Behind It

The Earth's natural greenhouse effect is essential for life. Certain gases in the atmosphere, like carbon dioxide, allow sunlight to pass through but trap some of the heat radiating back from Earth. This keeps our planet warm enough for life to exist. However, human activities have significantly increased the concentration of greenhouse gases, causing an unnatural warming effect.

Evidence of Global Warming

- **Rising Global Temperatures:** Since the late 19th century, Earth's average global temperature has increased by roughly 1 degree Celsius (1.8 degrees Fahrenheit). The last decade has been the warmest on record.
- **Melting Ice:** Global warming is causing glaciers and polar ice sheets to melt at an alarming rate, contributing to rising sea levels.
- **Extreme Weather Events:** The frequency and intensity of heat waves, droughts, floods, and wildfires are increasing due to global warming.

Page 2

The Impacts of Global Warming

Global warming poses a significant threat to our planet and its inhabitants.

- **Sea Level Rise:** Rising sea levels threaten coastal communities, ecosystems, and infrastructure.
- **Extreme Weather:** More frequent and intense weather events can cause damage to property, disrupt food production, and displace people.
- **Ocean Acidification:** As the oceans absorb more carbon dioxide, they become more acidic, harming marine ecosystems and fisheries.
- **Biodiversity Loss:** Rising temperatures and changing weather patterns threaten the survival of many plant and animal species.

What Can We Do?

There are solutions to address global warming. We can:

- **Reduce Greenhouse Gas Emissions:** Transitioning to renewable energy sources such as solar and wind power can significantly reduce emissions.
- **Improve Energy Efficiency:** Implementing energy-saving practices in homes, businesses, and industries can make a big difference.
- **Protect Forests:** Forests absorb carbon dioxide, so protecting existing forests and planting new trees are crucial.
- **Support Climate Action:** Individuals can support policies and initiatives that aim to mitigate climate change.

Taking action to address global warming is critical for ensuring a healthy planet for future generations.

Additional Resources:

- Intergovernmental Panel on Climate Change (IPCC): https://www.ipcc.ch/
- National Aeronautics and Space Administration (NASA): https://science.nasa.gov/climate-change/
- Environmental Protection Agency (EPA): https://www.epa.gov/climate-change