

Introduction to Climate Change

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Definition:

- Climate change refers to long-term changes in temperature, precipitation, and other atmospheric conditions on Earth.

Causes of Climate Change:

1. **Greenhouse Gases:** Increased emissions of greenhouse gases, such as carbon dioxide and methane, trap heat in the Earth's atmosphere.
2. **Deforestation:** The cutting down of trees reduces the Earth's capacity to absorb carbon dioxide.
3. **Burning Fossil Fuels:** The combustion of fossil fuels releases carbon dioxide into the atmosphere.
4. **Industrial Processes:** Certain industrial activities release greenhouse gases and other pollutants.

Effects of Climate Change:

1. **Rising Temperatures:** Global temperatures are increasing, leading to heatwaves and altering weather patterns.
2. **Melting Ice Caps:** Ice caps and glaciers are melting, causing sea levels to rise.
3. **Extreme Weather Events:** Increased frequency of hurricanes, droughts, and floods.
4. **Biodiversity Loss:** Changes in climate can disrupt ecosystems and lead to the extinction of species.

Mitigation and Adaptation:

1. **Mitigation:** Actions taken to reduce greenhouse gas emissions, such as transitioning to renewable energy sources and improving energy efficiency.
2. **Adaptation:** Strategies to adjust to the impacts of climate change, including building seawalls to protect against rising sea levels and implementing drought-resistant agricultural practices.

International Efforts:

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- The Paris Agreement: An international treaty aimed at limiting global warming to well below 2 degrees Celsius above pre-industrial levels.

Individual Actions:

- Reduce energy consumption, use public transport, recycle, and support sustainable practices to contribute to mitigating climate change.

Conclusion:

- Climate change is a pressing global issue that requires collective action at all levels to mitigate its impacts and safeguard the planet for future generations.