

1.2 Climate Change causes

The Earth is a massive ecosystem in which the living and non-living worlds interact through four major subsystems - the atmosphere, hydrosphere, geosphere and biosphere.

Atmosphere - The layer of gases surrounding the earth and composed of considerable amounts of nitrogen, hydrogen, and oxygen.

Hydrosphere - All of the planet's waters, except for moisture in the atmosphere.

Geosphere - The soil and the extreme upper portion of the continental crust

Biosphere - Includes all living organisms from plants, mammals, birds, reptiles, aquatic life, insects to bacteria and viruses.

Left on itself, the Earth is a self-sustaining and balanced ecosystem, with climate change occurring gradually through certain natural processes. With the advancement of mankind and technology, however, the Earth's climate has witnessed several alterations driven excessively by mankind. Hence the causes of climate change can be broadly partitioned into **Natural factors** and **Human factors**.

1. Natural

- a) External Changes (from extraterrestrial systems):
 - i) Changes in Solar Output
 - ii) Changes in the Earth's Orbit
- b) Internal Changes (from oceans, atmosphere and land systems)
 - i) Changes in the concentrations of atmospheric gases - Greenhouse Effect
 - ii) Natural processes on the Earth -- Mountain Building, Continental Drifts, Atmospheric/Ocean Heat Exchanges

2. Human

- a) Enhancing the Greenhouse Effect - increase CO₂ emissions through fossil fuel combustions
- b) Forms of Land Uses
 - i) Irrigation
 - ii) Deforestation
 - iii) Agriculture

Navigation Pane

1.	Climate Change
1.1	Definition
1.2	Causes <ul style="list-style-type: none">1.2.1 Natural Factors1.2.2 Human Factors
1.3	Impacts of Climate Change
2.	ICT as a Solution to Climate Change
2.1	Achieving a Green Business through ICT <ul style="list-style-type: none">2.1.1 ICT in Manufacturing Sector2.1.2 ICT in Transport Sector2.1.3 ICT in Building Sector2.1.4 ICT in Power Sector2.1.5 Case Studies
2.2	Role of the Internet in Promoting Green Awareness <ul style="list-style-type: none">2.2.1 Government Websites2.2.2 Other Internet Mediums
2.3	Other Spinoffs from the Advancement in ICT <ul style="list-style-type: none">2.3.1 Change in Working Styles2.3.2 Change in Lifestyles2.3.3 Change in Teaching and Learning Styles

3.	Limitations of ICT in Fighting Climate Change
3.1	Freedom of Expression
3.2	ICT's Two-fold Role
3.3	Inability of ICT to stand as an Independent Solution
4.	Ongoing Research and Development of ICT in fighting Climate Change
4.1	Symposium
4.2	Conference Talk
4.3	Progress
5.	Quotes on ICT and Climate Change
5.1	Quotes
6.	References

References

1. Answer.com.(2008). *Definition of ecosystem*. Retrieved 03 Nov 2008 from <http://www.answers.com/ecosystem&r=67>
2. The Green Lane.(2008)._Glossary_.Retrieved 13 Nov 2008 from http://www.ec.gc.ca/water/en/info/gloss/e_gloss.htm