

ENVIRONMENTAL, SOCIAL AND ECONOMIC ASPECTS OF GLOBAL CLIMATE CHANGE

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Climate change is the largest environmental change expected this century. It is likely to intensify droughts, storms and floods, which will undoubtedly lead to environmental migrations and potential conflicts in the areas migrated to.

One of the most significant aspects of the impacts of climate change, which has unfortunately not received adequate attention from scholars in the social sciences, relates to the equity implications of changes that are occurring and are likely to occur in the future. In general, the impacts of climate change on some of the poorest and the most vulnerable communities in the world could prove extremely unsettling. And, given the inadequacy of capacity, economic strength, and institutional capabilities characterizing some of these communities, they would remain extremely vulnerable to the impacts of climate change and may, therefore, actually see a decline in their economic condition, with a loss of livelihoods and opportunities to maintain even subsistence levels of existence.

The scientific community has reached a strong consensus regarding the science of global climate change. The world is undoubtedly warming, and the warming is largely the result of emissions of carbon dioxide and other greenhouse gases from human activities.

Carbon dioxide and other gases warm the surface of the planet naturally by trapping solar heat in the atmosphere. This is a good thing because it keeps our planet habitable.

However, by burning fossil fuels such as coal, gas and oil and clearing forests we have dramatically increased the amount of carbon dioxide in the Earth's atmosphere and temperatures are rising. The vast majority of scientists agree that global warming is real, it's already happening and that it is the result of our activities and not a natural occurrence.

The evidence is overwhelming and undeniable. We're already seeing changes. Glaciers are melting, plants and animals are being forced from their habitat, and the number of severe storms and droughts is increasing:

- The number of Category 4 and 5 hurricanes has almost doubled in the last 30 years.

- Malaria has spread to higher altitudes in places like the Colombian Andes, 7,000 feet above sea level.
- The flow of ice from glaciers in Greenland has more than doubled over the past decade.
- At least 279 species of plants and animals are already responding to global warming, moving closer to the poles.

If the warming continues, we can expect catastrophic consequences:

- Deaths from global warming will double in just 25 years -- to 300,000 people a year.
- Global sea levels could rise by more than 20 feet with the loss of shelf ice in Greenland and Antarctica, devastating coastal areas worldwide.
- Heat waves will be more frequent and more intense.
- Droughts and wildfires will occur more often.
- The Arctic Ocean could be ice free in summer by 2050.
- More than a million species worldwide could be driven to extinction by 2050.

Some regions are likely to be especially affected by climate change.

- The Arctic, because of the impacts of high rates of projected warming on natural systems and human communities,
- Africa, because of low adaptive capacity and projected climate change impacts,
- Small islands, where there is high exposure of population and infrastructure to projected climate change impacts,
- Asian and African megadeltas, due to large populations and high exposure to sea level rise, storm surges, and river flooding.

Migration and movement of people is a particularly critical source of potential conflict.

The goal is to bring global warming under control by curtailing the release of carbon dioxide and other heat-trapping "greenhouse" gases into the atmosphere. We can contribute to this global cause with personal actions. Our individual efforts are especially significant in countries like the US and Canada, where individuals release 10,000 pounds of carbon dioxide per person every year. We can help immediately by becoming more energy efficient.