

## Climate Change

- The paleoclimate record teaches us that past climates have been far from stable. There are large swings from glacial to interglacial states taking place over tens of thousands of years.

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- Anthropocene Era :The era of man.Refers particularly to the last two centuries in which mankind has made great impacts on environment through agriculture, urbanization, irrigation, and industrial revolution.

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- What are El Niño's effect on environmental and health ?  
El Niño causes excess rainfall and drought. It has been shown to increase incidence of malaria and cholera; changes in rainfall impact mosquito habitat and human water supply. El Niño is also implicated in outbreaks of dengue fever and hantavirus. More generally, diminished food supplies may make populations more susceptible to disease.

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- Cause of global climate change:  
Mainly anthropogenic-Production of green house gases mainly through fossil fuel burning ( $\text{CO}_2$ ,  $\text{NO}_x$ ,  $\text{SO}_x$  etc.)causes heat to be trapped near surface. "Green House Effect"

## Tolerance Limit

- Each population has a **range of tolerance** to variations in its physical and chemical environment. The largest number of individuals in a population will be in the optimum level or range, While a few can survive above or below that range (possibly in stress), but no individuals can survive outside of the range of tolerance.
- The **law of tolerance**: *the existence, abundance, and distribution of a species in an ecosystem are determined by whether the levels of one or more physical or chemical factors fall within the range tolerated by that species.*
- **Tolerance limits** are the minimum and maximum limits for physical conditions beyond which no members of a species can survive.