

science FRONTIERS



Melting Away (Climate Change)

Climate change, often called global warming, interests both scientists and the general public. It is a popular topic because it has the potential to cause major changes to our planet and the way we live.

As the earth's climate becomes warmer, rain patterns change. Some areas will become more arid and some will receive greater rainfall. Staple food crops grow in certain areas because of the temperature patterns, and the production of these crops may decrease if the climate change is too great. This could reduce the amount of food available on the planet.

The polar ice caps will also be affected as the earth warms. More ice will melt from glaciers and from Antarctica. This will raise the level of the oceans and flood the coastal regions of the world where millions of people now live.

Because of its potential impact, scientists are anxious to determine what's causing this climate change and how we can reduce the problem. One cause is the increasing amount of carbon dioxide added to our atmosphere by the burning of fossil fuels. The carbon dioxide in the atmosphere prevents heat energy from escaping into space. This is called the *greenhouse effect* because the carbon dioxide traps the heat on the planet like glass traps heat in a greenhouse. Fossil fuels such as coal and petroleum are the major energy sources used by most people in the world. Reducing the amount of fossil fuel burned would require significant changes in industry, transportation, and lifestyle for most of the population.

Some climate specialists, who examine evidence from long periods of earth history, see the climate change as part of recurring cycles that aren't simply a result of human activity. The earth has gone through cold periods, ice ages, and warm periods. This may not be unusual. The impact of human activity on the natural cycles is causing many people to examine solutions that may slow the warming process.

Global warming happens worldwide, but localized effects are what we notice. For some parts of the earth, the change is welcome, because warmer temperatures and increased rainfall mean more crop production and better living conditions. In other places, the impact is undesirable since decreased crop production can mean higher food costs.

Many of the current and potential changes on the planet are still unknown. Changes in the climate will cause ecological changes that won't be visible for years. Some of these future changes may cause severe problems that won't be identified until the damage is irreversible. Not everyone agrees on the causes or the solutions, but the evidence so far indicates that this is a problem we can't afford to ignore..

Questions for Research

Does the Bible say anything related to climate change? If so, what?

Is global warming evident where you live? Where? How?

What other effects may global warming have in your home town and country?

Research Ideas

Climatology, global warming, polar ice cap