

The BASICS of CLIMATE CHANGE

by Gerri King

Our climate is changing. The 20th century was the warmest the world has seen in 1,000 years, with the 1990s as the warmest decade in climatic history. Eleven of the past 13 years (1995-2006) rank among the 12 warmest years in the instrumental record of global surface temperature (since 1850).

Greenhouse Effect

Certain gases are always present in the atmosphere. Without gases like carbon dioxide (CO₂), methane, and water vapour in the atmosphere, the earth would be much colder than it is now and most of the water on the planet would be frozen. At certain levels, these greenhouse gases make the planet liveable for humans, plants, and animals. These gases trap some of the heat radiating outward from the earth, much like the walls of a greenhouse trap heated air. This process is known as the “greenhouse effect”.

While the greenhouse effect is natural – and is essential to support life – human activities are causing the earth to “overheat”. Everyday activities such as burning fossil fuels (oil, gas, and coal), clearing forests, and agricultural practices have resulted in the release of large amounts of the heat-trapping gases into the atmosphere in a relatively short period of time.

This rapid and large release of greenhouse gases has caused changes in the earth’s atmosphere. The most noticeable change is that the earth is getting warmer. Glaciers are melting, sea ice is thinner, snow cover has decreased, sea level has risen, and plant and animal species are changing their ranges.

Issue

A warmer planet may have serious consequences for Canada:

- more severe weather events;
- flooding and erosion in coastal areas;

- risks from pests, fires and disease to forests and farms; and
- damage to water sources.

Governments at all levels – local, provincial and federal – have undertaken action plans to reduce greenhouse gases and are developing solutions to respond to climate change and its effects. ■

Gerri King is the Manager of Environmental Initiatives for the City of St. John’s, Newfoundland and Labrador and can be reached at: gking@stjohns.ca

WorldMapper

by Ken O’Brien

WorldMapper (www.worldmapper.org) bills itself as “The world as you’ve never seen it before.” Based at the University of Sheffield in the United Kingdom and the University of Michigan in the United States, it is the collaboration of five researchers, who so far have produced 366 maps and continue to add to it. These are equal-area cartograms, also known as density-equalizing maps. Geographic areas shrink or expand, depending on the density of whatever variable is being explored.

Several of the maps, reproduced here, examine carbon emissions as well as greenhouse gases (which are linked to global warming and climate change). They provide food for thought.

The web site covers a wide range of social, economic, and demographic variables, and is well worth a look.

Carbon Emissions 2000



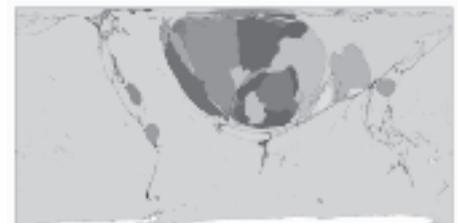
Greenhouse Gases



Carbon Emissions Increase



Carbon Emissions Decrease



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