

# The Kyoto Protocol: Universal Concern for Climate Change

By Oksana Kim, for the *Chronicle*

Scientific climate change models predict that in the next hundred years there will be a dramatic rise in the global temperature by 3.6° C. However, due to the uncertainty surrounding the measures humanity will take to tackle the change in climate, the variation in prognosis is considerable. According to one worst-case scenario, the temperature would rise by 5.8° C, which could lead to irreversible changes in ecosystems, a negative impact on the global environment, and a significant sea-level rise causing floods and widespread damage to human society through destruction of human settlements and infrastructures, as well as economic instability and massive food insecurity.

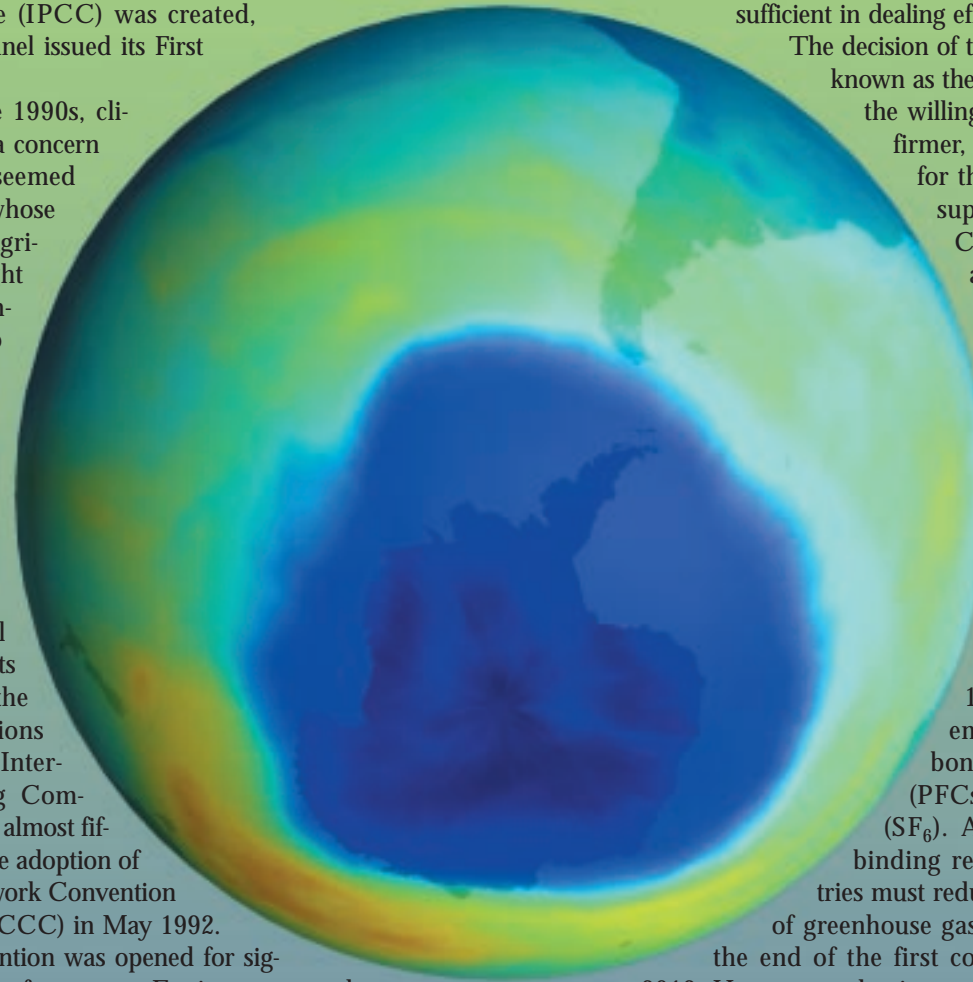
Scientific evidence indicates that during its millions of years of geological history, the Earth has experienced climate change several times due to long-term natural processes. However, the rapid climate change we have been experiencing during the last decades is the result of human activity. The so-called greenhouse gases, the product of industrial emissions, prevent the thermal infrared energy emitted by the Earth from directly escaping into space. In the long term, the Earth's surface must return as much energy as it receives from the sun so as to maintain a global energy balance. But greenhouse gases "blanket" the atmosphere, causing temperature imbalance and heating the atmosphere more than it would naturally be.

The First World Climate Conference, held in Geneva in 1979, presented the first evidence of the negative effects of human interference with the climate, and public concern about environmental disasters associated with climate change began to emerge. In the following decade, governmental efforts towards elaboration of the programmes of action dealing with climate change increased. A result of these joint efforts was the 1988 United Nations General Assembly resolution 43/53 urging the "Protection of global climate for present and future generations of mankind", in which it recognized climate change as a common concern

for mankind. That same year, the Intergovernmental Panel on Climate Change (IPCC) was created, and two years later the Panel issued its First Assessment Report.

At the beginning of the 1990s, climate change had become a concern worldwide, although it seemed that some regions—those whose economies depended on agriculture for instance—might profit from the rising temperature. However, no country in the long term could benefit from this process, as economic downfalls in one region would inevitably lead to destructive changes in other parts of the world. Thus, there was an evident need to create a global treaty, combining the efforts of all nations in tackling the climate change. Negotiations conducted by the Intergovernmental Negotiating Committee (INC) continued for almost fifteen months, resulting in the adoption of the United Nations Framework Convention on Climate Change (UNFCCC) in May 1992. Later that year, the Convention was opened for signature during the UN Conference on Environment and Development, better known as the Earth Summit, held in Rio de Janeiro, and entered into force on 21 March 1994.

The Conference of the Parties (COP) to the Convention was held annually with the purpose of monitoring its implementation and elaboration of further measures in preventing climate change. After the Convention's adoption,



Antarctic Ozone Hole

Image courtesy of NASA

Governments realized that its provisions would not be sufficient in dealing effectively with climate change. The decision of the first Conference (COP 1), known as the Berlin Mandate, represented the willingness of the Parties to create firmer, more detailed commitments for the countries in the form of a supplementary protocol to the Convention. This was adopted at the COP 3, held in Kyoto, Japan in December 1997, and the Kyoto Protocol was born (see box on page 00).

In general, parties to the Protocol must reduce or limit their emissions relative to their 1990 levels, although countries whose economies are in transition (EITs) may choose another base year, but any party may choose 1995 as a base year for its emissions of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF<sub>6</sub>). According to the Protocol's binding regulations, developed countries must reduce their collective emissions of greenhouse gases by at least 5 per cent by the end of the first commitment period of 2008-2012. However, reduction targets vary greatly within the group: for example, the Russian Federation and Ukraine are required only to stabilize their emissions, while Australia, Iceland and Norway may even increase emissions; and most European States, Canada, Japan and the United States are required to cut their emissions in order to achieve their group's 5-per-cent goal.

The Protocol's implementation is possible through three mechanisms. The joint implementation mechanism allows the so-called "Annex I Parties" (mainly industrialized countries, members of the Organization for Economic Cooperation and Development (OECD), as well as EITs),

*There are six main greenhouse gases considered to be responsible for the irreversible climate change: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) account for 74 per cent of the overall global warming, while hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF<sub>6</sub>) have less impact on it.*

to implement cooperative projects; while the emissions trading mechanism brings flexibility into the reduction process, as it allows industrialized countries to buy and sell emission credits among themselves. It also gives the Parties the opportunity to implement their reduction goals through cheaper means, allowing them to achieve overall cost-effectiveness, as the cost of emissions reduction varies from country to country. The Parties may also enhance their carbon sinks, which are less expensive abroad than at home. The clean development mechanism aims to enhance the transfer of environmentally friendly technologies and in general promote sustainable development. Industrialized countries would be able to finance emissions reduction projects in developing countries and, in turn, receive credits for this action. It was assumed that the first "demonstrable progress" by the Parties would be made by 2005, and the

## Convention Timeline



## Protocol Timeline

