

THE ISSUE

Continuing alteration of the global atmosphere threatens global security, the world economy, and the natural environment through:

- Climate warming, rising sea-level, altered precipitation patterns and changed frequencies of climatic extremes induced by the "heat trap" effects of greenhouse gases;
- Depletion of the ozone layer;
- Long-range transport of toxic chemicals and acidifying substances.

These changes will:

- Imperil human health and well-being;
- Diminish global food security, through increases in soil erosion and greater shifts and uncertainties in agricultural production, particularly for many vulnerable regions;
- Change the distribution and seasonal availability of freshwater resources;
- Increase political instability and the potential for international conflict;
- Jeopardize prospects for sustainable development and the reduction of poverty;
- Accelerate the extinction of animal and plant species upon which human survival depends;
- Alter yield, productivity and biological diversity of natural and managed ecosystems, particularly forests.

If rapid action is not taken now by the countries of the world, these problems will become progressively more serious, more difficult to reverse, and more costly to address.

Scientific Basis for Concern

The Conference calls for urgent work on an *Action Plan for the Protection of the Atmosphere*. This Action Plan, complemented by national action, should address the problems of climate warming, ozone layer depletion, long-range transport of toxic chemicals and acidification.

Climate Warming

1 There has been an observed increase of globally-averaged temperature of 0.5°C in the past century which is consistent with theoretical greenhouse gas predictions. The accelerating increase in concentrations of greenhouse gases in the atmosphere, if continued, will probably result in a rise in the mean surface temperature of the Earth of 1.5 to 4.5°C before the middle of the next century.

2 Marked regional variations in the amount of warming are expected. For example, at high latitudes the warming may be twice the global average. Also, the warming would be accompanied by changes in the amount and distribution of rainfall and in atmospheric and ocean circulation patterns. The natural variability of the atmosphere and climate will continue and be superimposed on the long-term trend, forced by human activities.

3 If current trends continue, the rates and magnitude of climate change in the next century may substantially exceed those experienced over the last 5000 years. Such high rates of change would be sufficiently disruptive that no country would likely benefit *in toto* from climate change.