

Hole In The Sky

In the last decade, each spring in the southern hemisphere has seen a short-lived but drastic thinning of the ozone layer above Antarctica: the so-called 'ozone hole'. This year the depletion was the most severe yet: between late August and mid-October over 60% of the ozone layer was destroyed. The loss was greatest, averaging some 95%, between altitudes of 12 and 20 km, the region in which ozone is normally most abundant over Antarctica.

Most workers in the field now blame the growth of inorganic chlorine compounds in the stratosphere, a growth attributable to the emission of chlorofluorocarbons (CFCs). These chemicals are widely used as foam-blowing agents, aerosol propellants, cleaning fluids by the electronics industry, and in refrigerators.

Ozone is the only constituent of the atmosphere present in sufficient quantity to serve as an effective screen against the adverse effects of solar ultraviolet (UV) radiation. Depletions of ozone of the magnitude seen over Antarctica simply cannot be tolerated over populated regions of the earth. Moreover, these gases also strongly enhance the 'greenhouse effect'. The release of one molecule each of the CFCs F-11 and F-12 (the most common) provide more heating of the earth's surface than the release of 10,000 molecules of carbon dioxide.

A protocol for the control of CFCs was, in fact, adopted at Montreal in September after some nine years of discussion. However, in retrospect, this can be seen as little more than a token gesture. The countries participating, capitalist and communist alike, seem to have been more anxious to protect their industries than the environment. The current situation is that people release CFCs five times faster than nature removes them from the atmosphere. The protocol envisages that, by 1999, the release rates will have been reduced by at most 50% .

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