The Problem of the Ozone Layer

The project
of the student of Class 7
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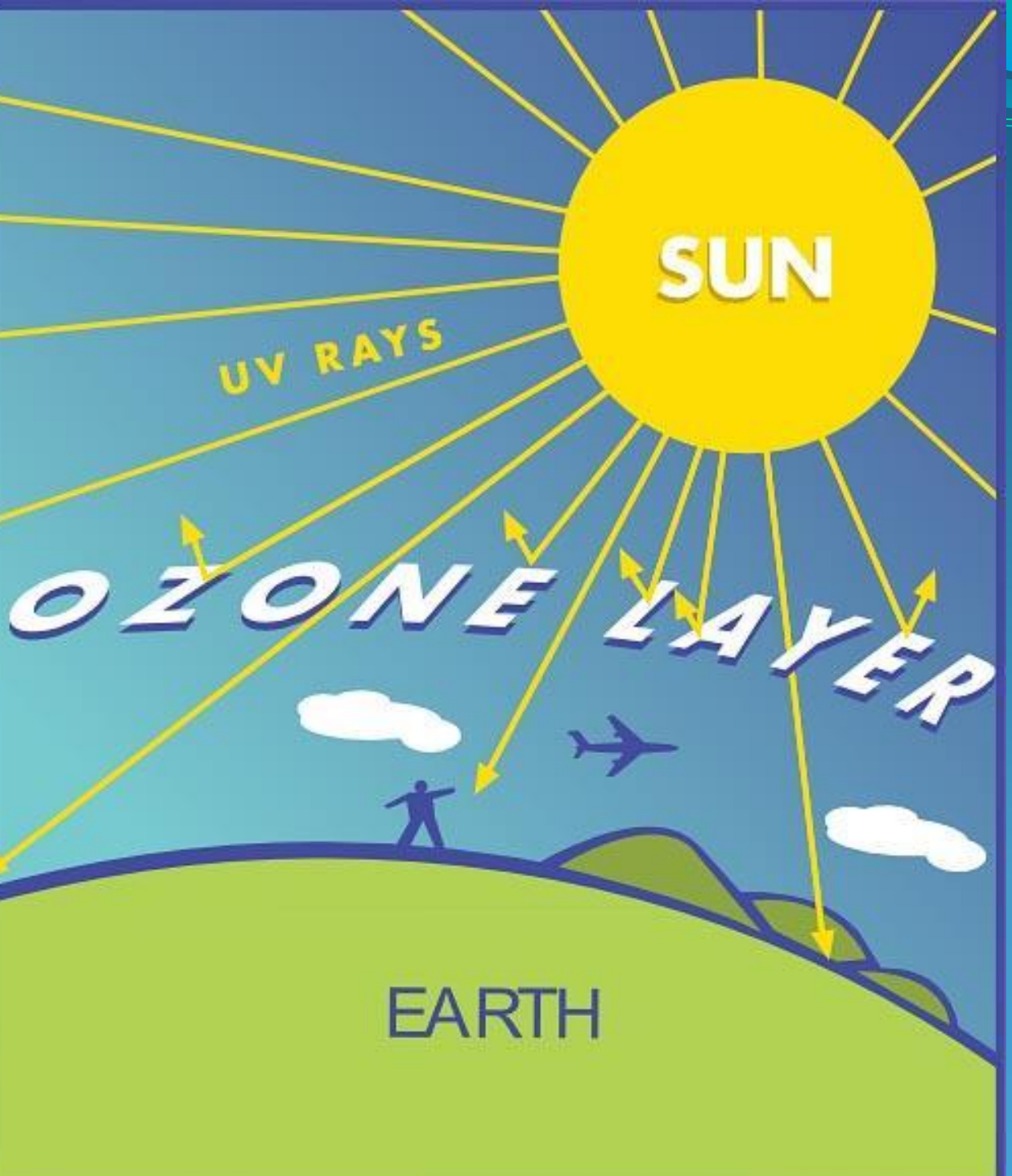
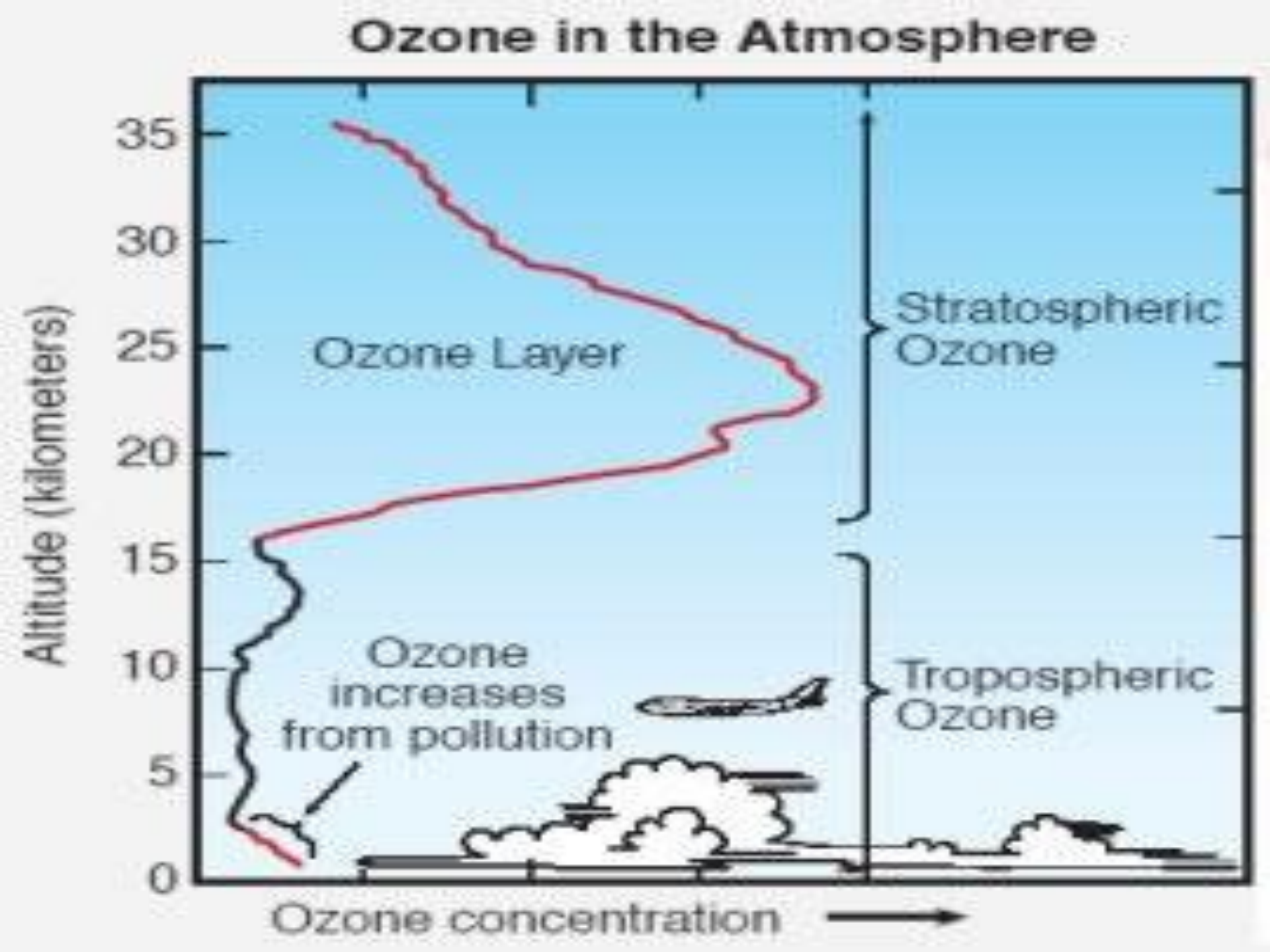
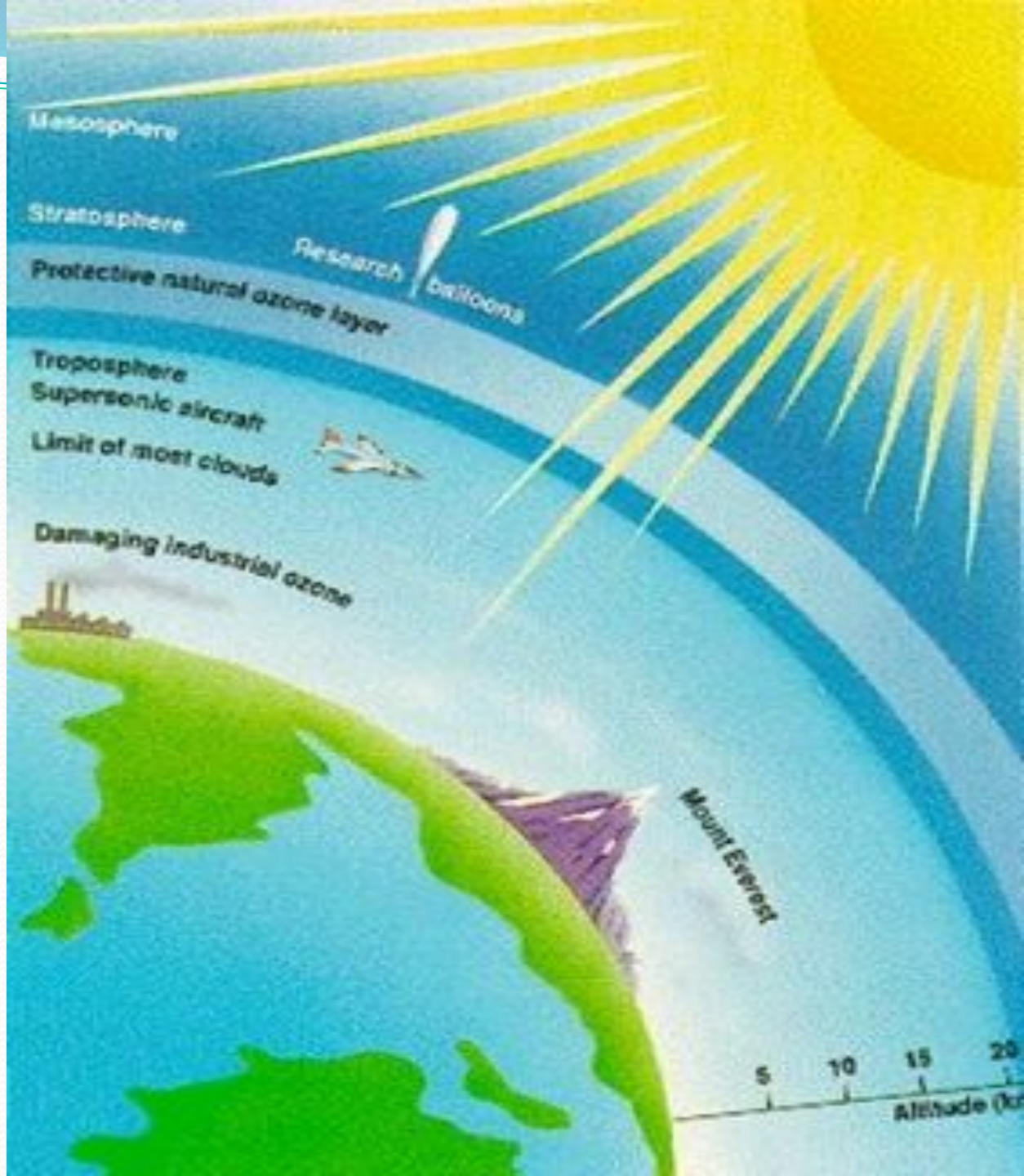
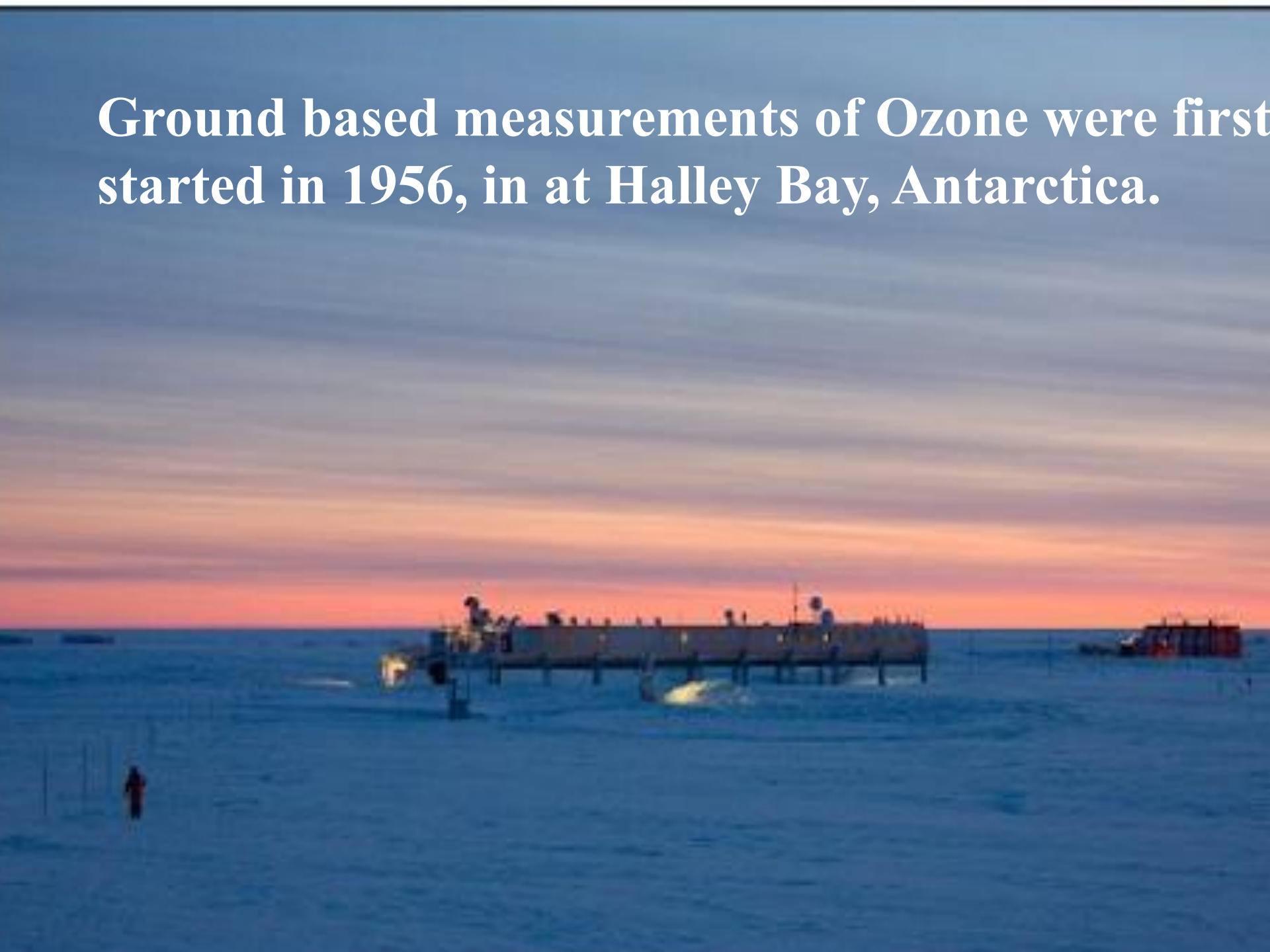


The ozone layer is a layer in the Earth's atmosphere which contains high concentrations of ozone.


Ozone in the Atmosphere
Altitude (kilometers)
35
30
25
20
15
10
5
0
Ozone Layer
Stratospheric Ozone
Ozone increases from pollution
Tropospheric Ozone
Ozone concentration

Ozone absorbs harmful ultraviolet radiation which is produced by the Sun and protects humans and other living things from it.

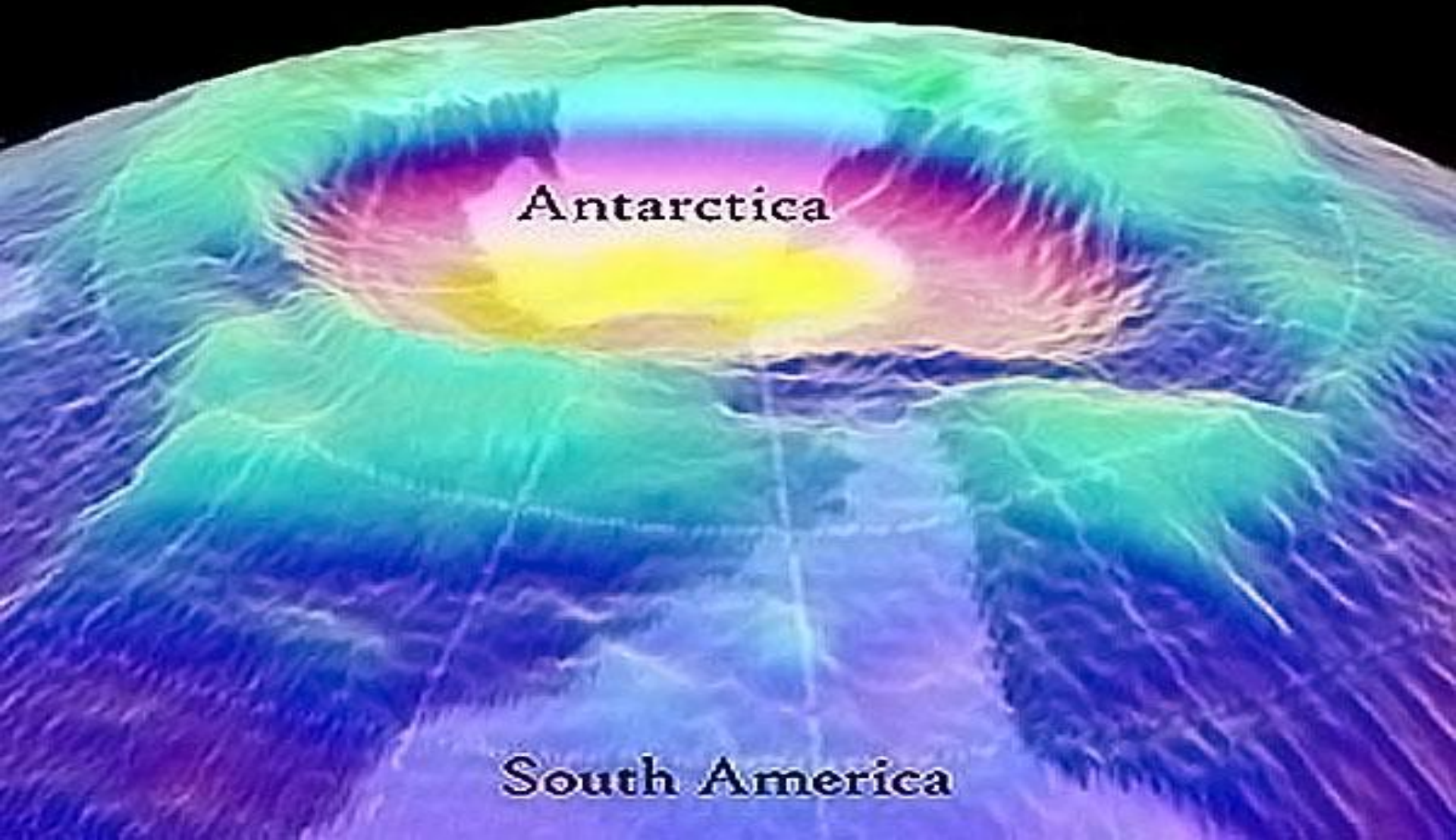



Ground based measurements of Ozone were first
started in 1956, in at Halley Bay, Antarctica.

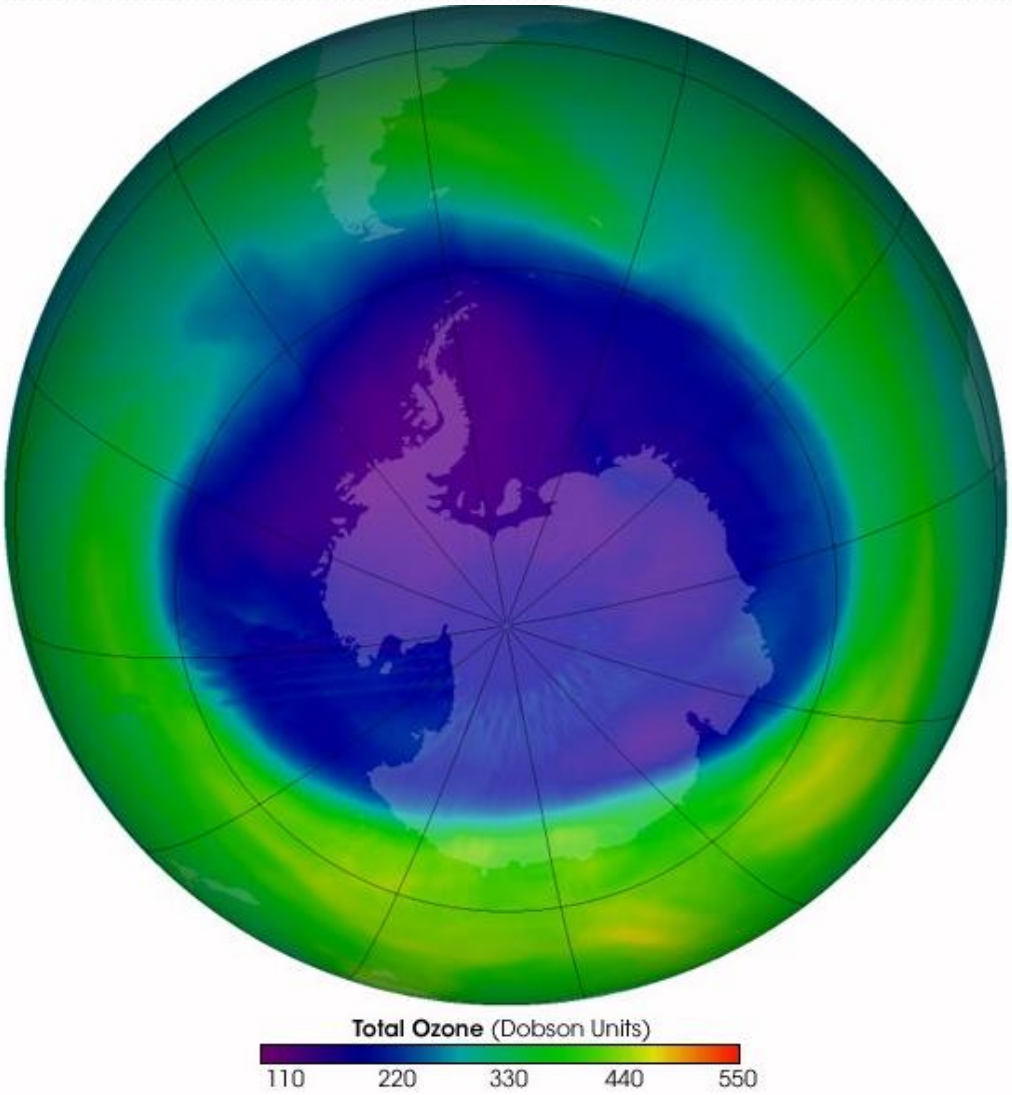
Comprehensive satellite measurements of ozone started in 1978 with the Nimbus-7 satellite. The creation of the program “Nimbus” (there were 7 satellites) was begun by NASA in the 70‘s years.


“Nimbus -7” was equipped with devices for air pollution's investigation. The Nimbus measurements made clear how severe the ozone hole problem was.

In 1985 the first ozone hole was discovered by the British scientists over Antarctica.

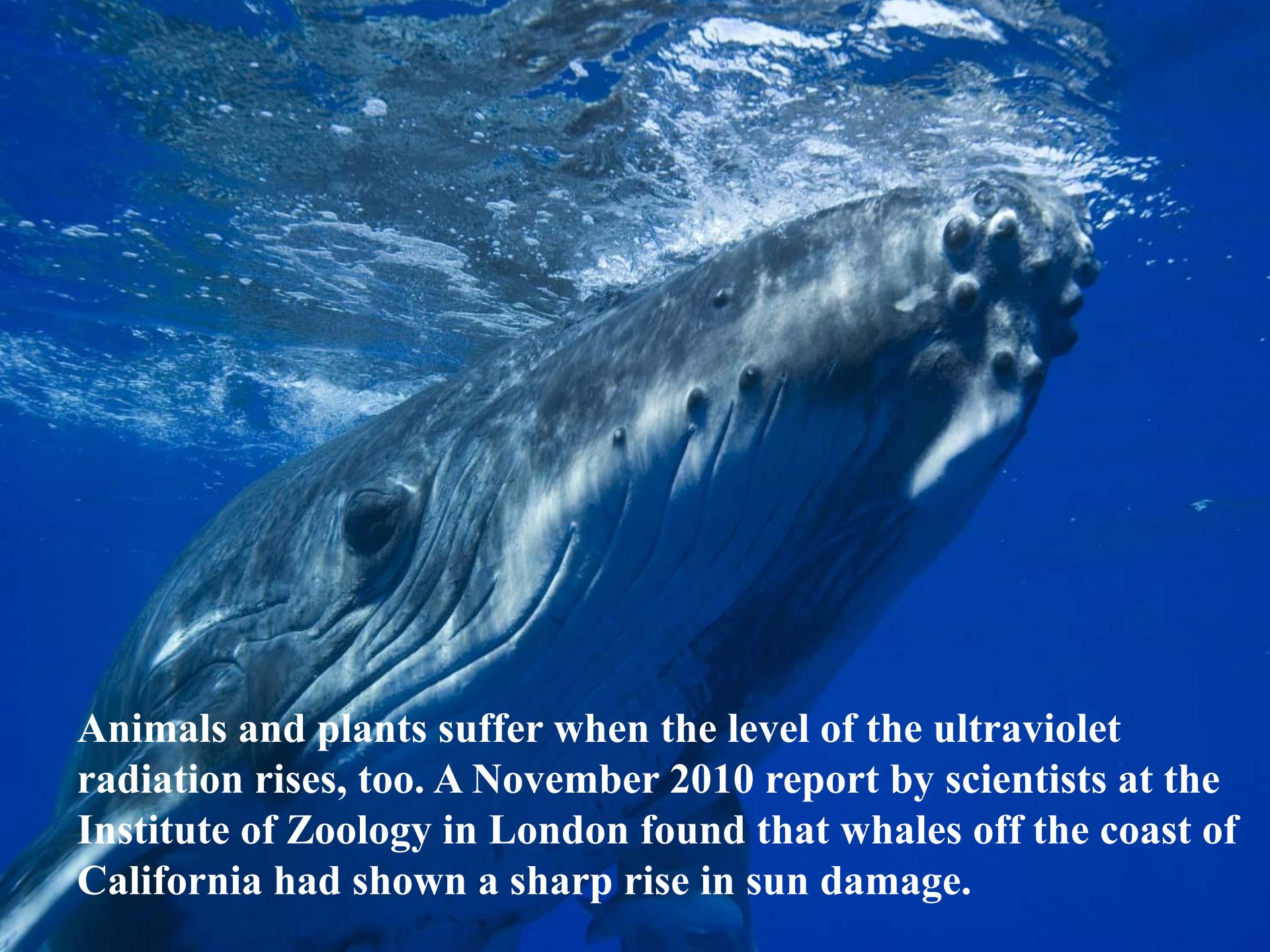


In spring 1998 the hole of South Polar Region mounted to the biggest area.



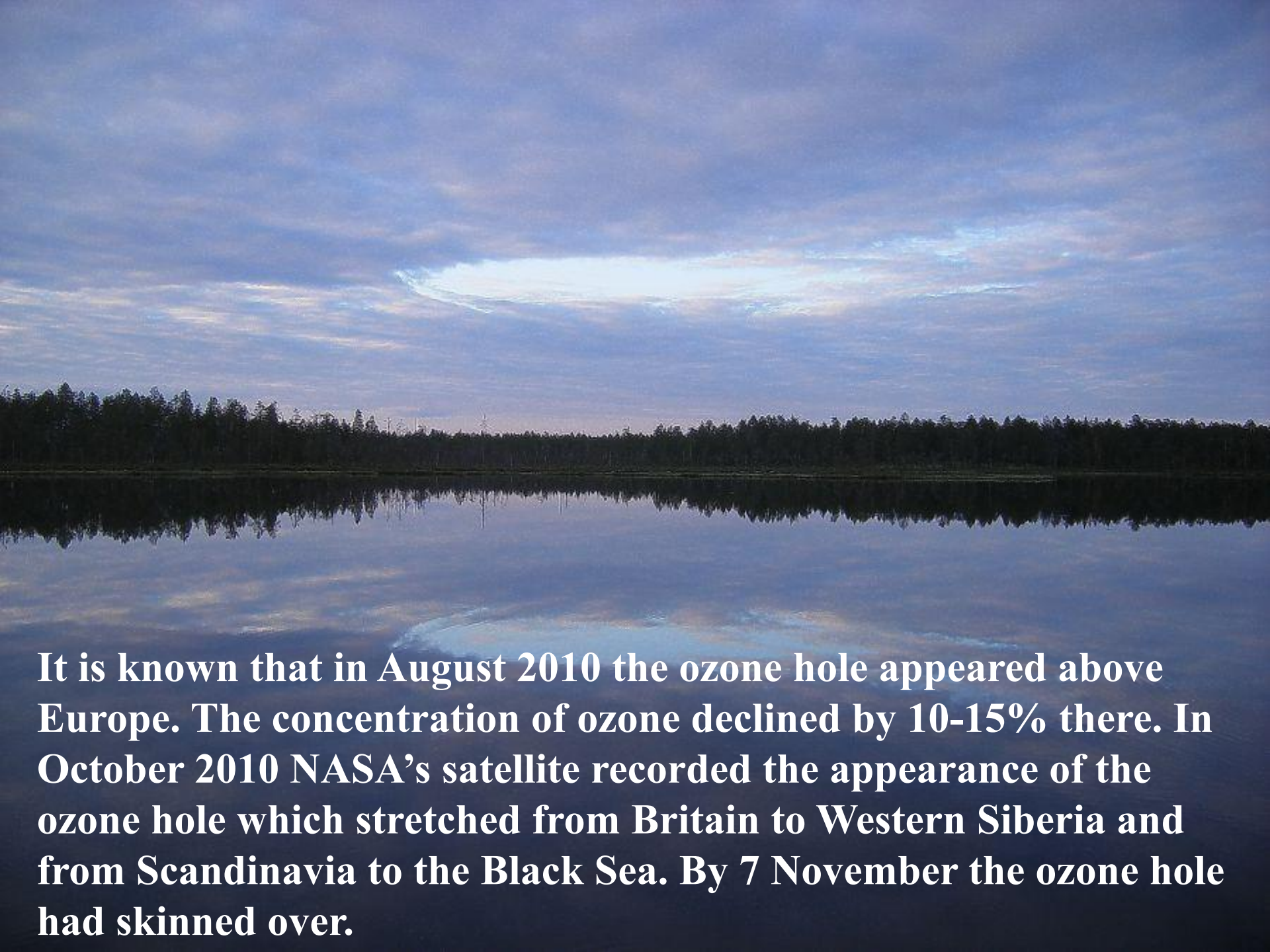
Biological effects of the ozone holes.

The ultraviolet radiation can get on the Earth through suc
holes. It leads to a number of serious health risks for huma
It causes eye cataracts, skin cancer and immuno-suppressi



Animals and plants suffer when the level of the ultraviolet radiation rises, too. A November 2010 report by scientists at the Institute of Zoology in London found that whales off the coast of California had shown a sharp rise in sun damage.

An increase of UV radiation effects on plant growth, thus reducing agricultural productivity, for example, crops of rice.



It is known that in August 2010 the ozone hole appeared above Europe. The concentration of ozone declined by 10-15% there. In October 2010 NASA's satellite recorded the appearance of the ozone hole which stretched from Britain to Western Siberia and from Scandinavia to the Black Sea. By 7 November the ozone hole had skinned over.

Reasons of ozone layer depletion.

Firstly, the launches of space rockets,

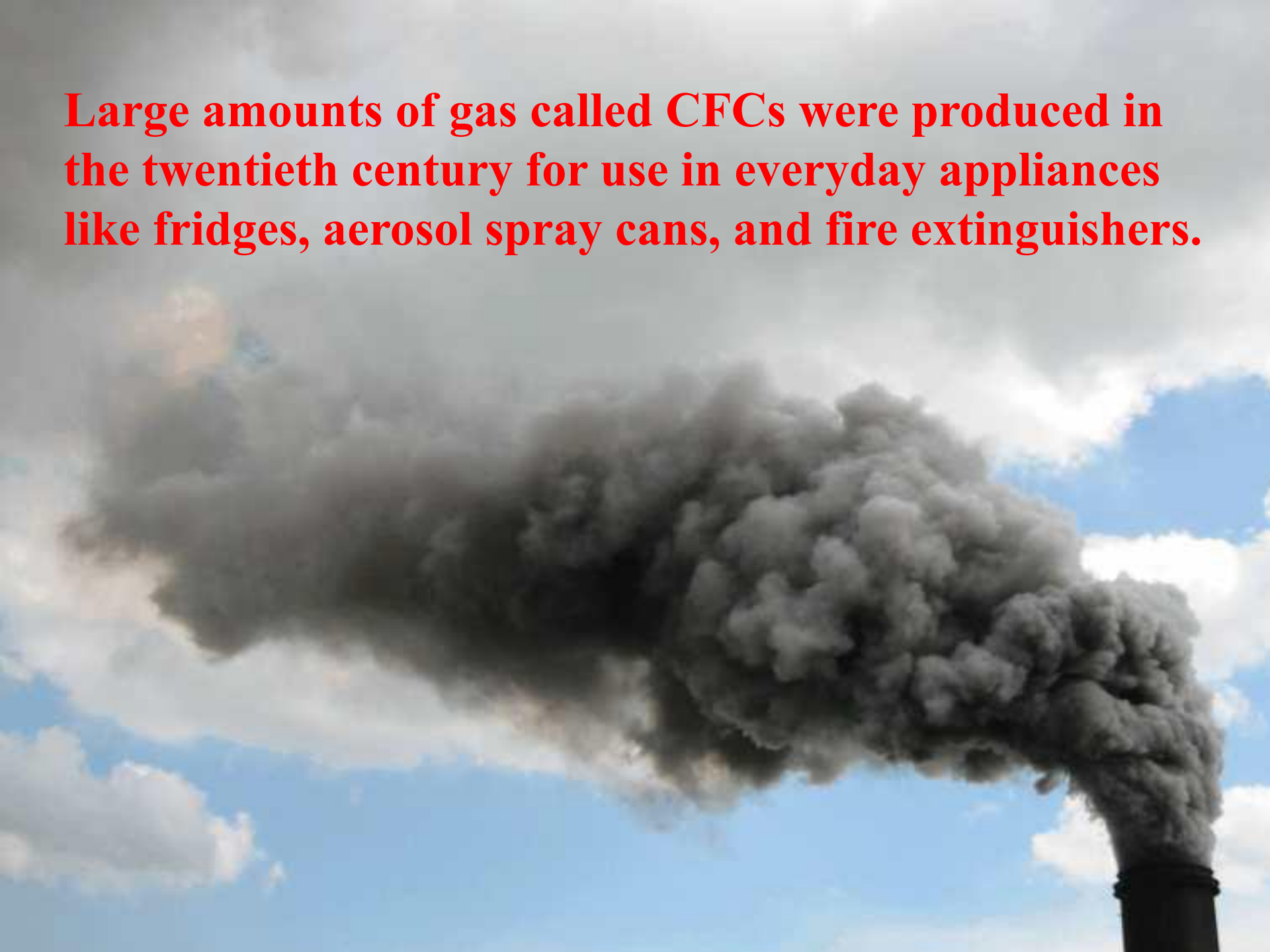
planes, that fly at the altitude of 12 – 15 km

and supersonic planes damages the ozone layer a lot.

Secondly, the use of the natural resources produces lots of chemical compounds.

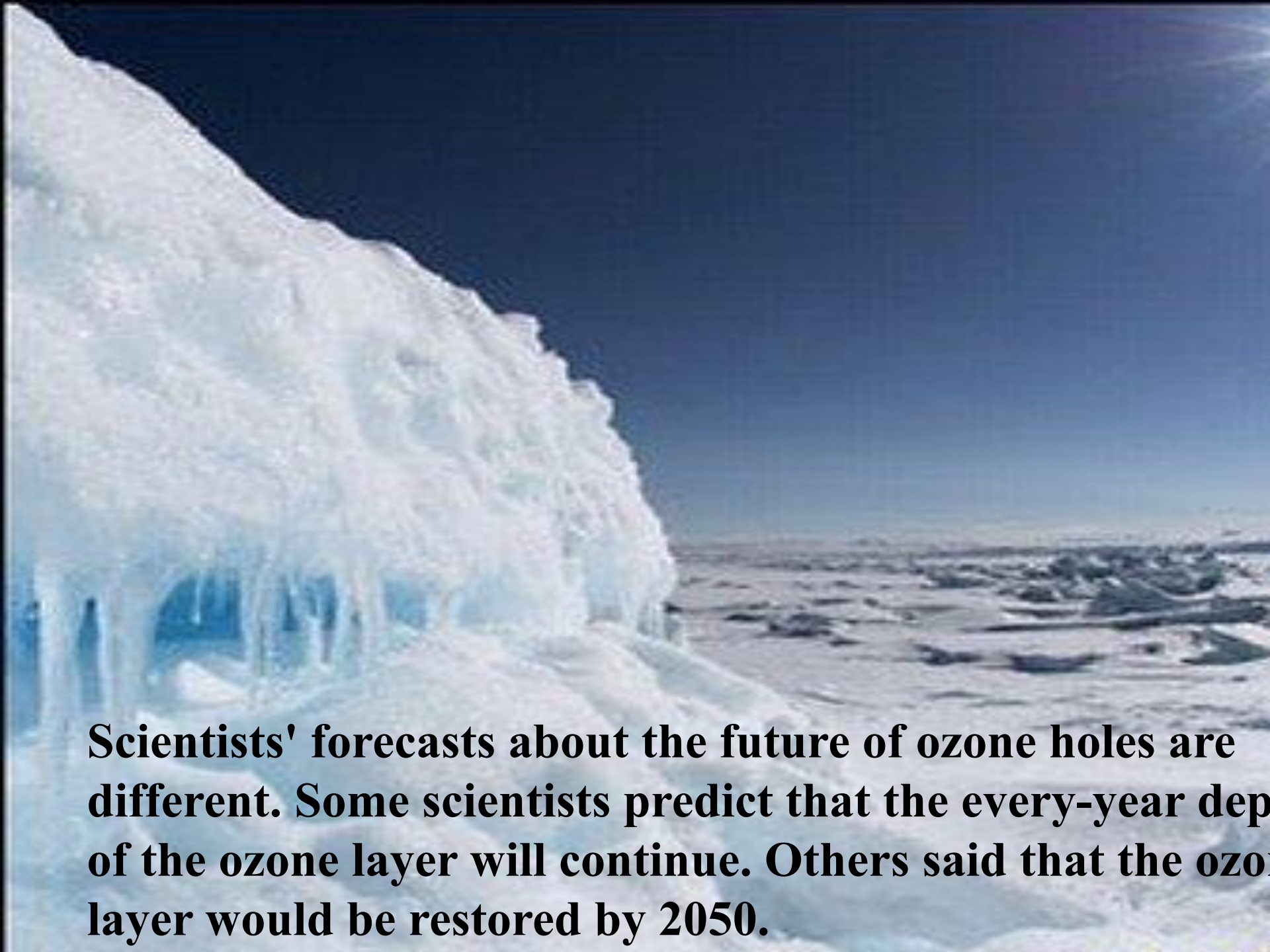
Cars and bus send more and more smog in the air.

One more source of organic pollution of atmosphere become a communal economy of cities.

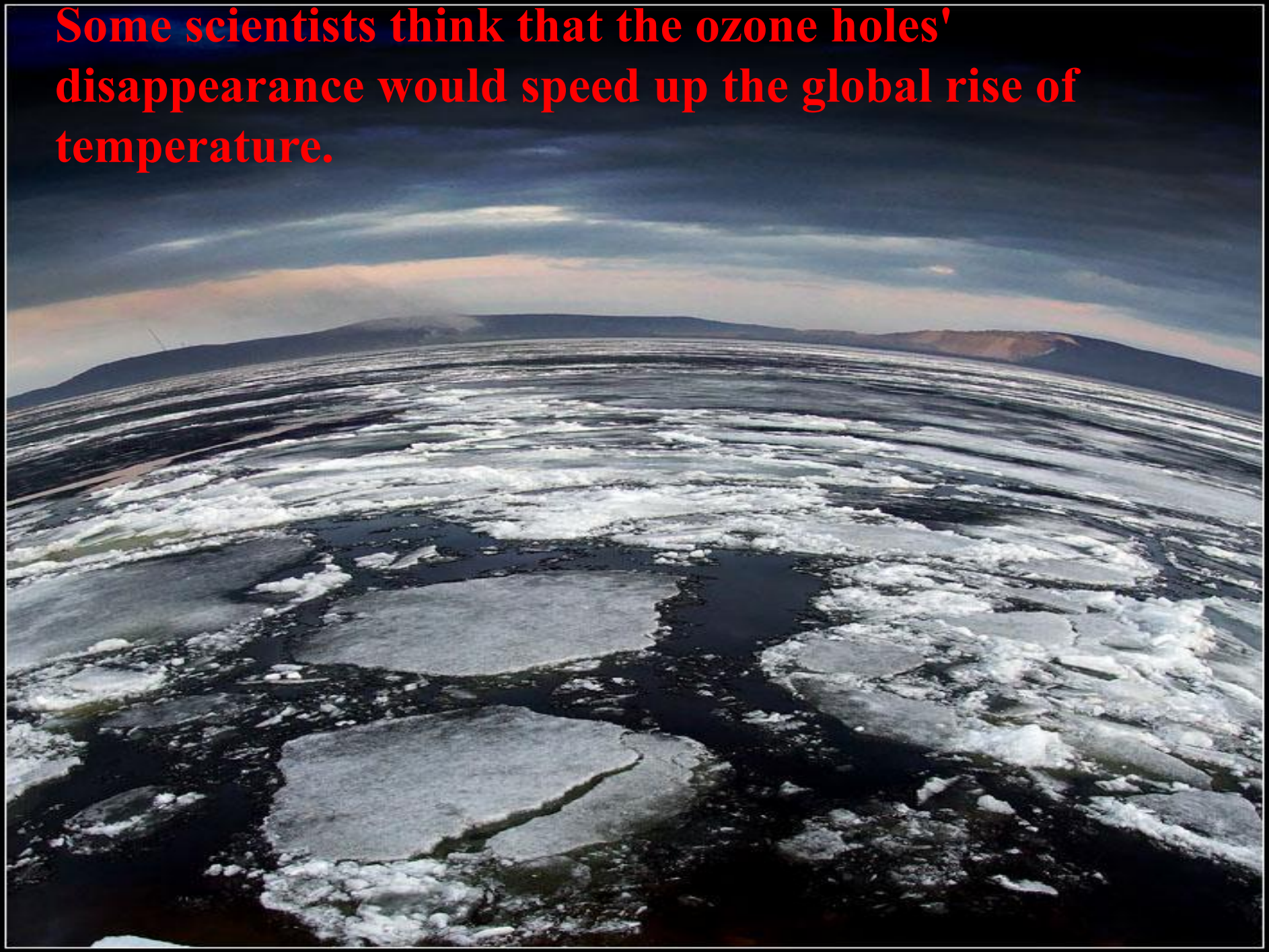


Large amounts of gas called CFCs were produced in the twentieth century for use in everyday appliances like fridges, aerosol spray cans, and fire extinguishers.


The sources of natural destroyers of the ozone layer are also mud volcanoes.

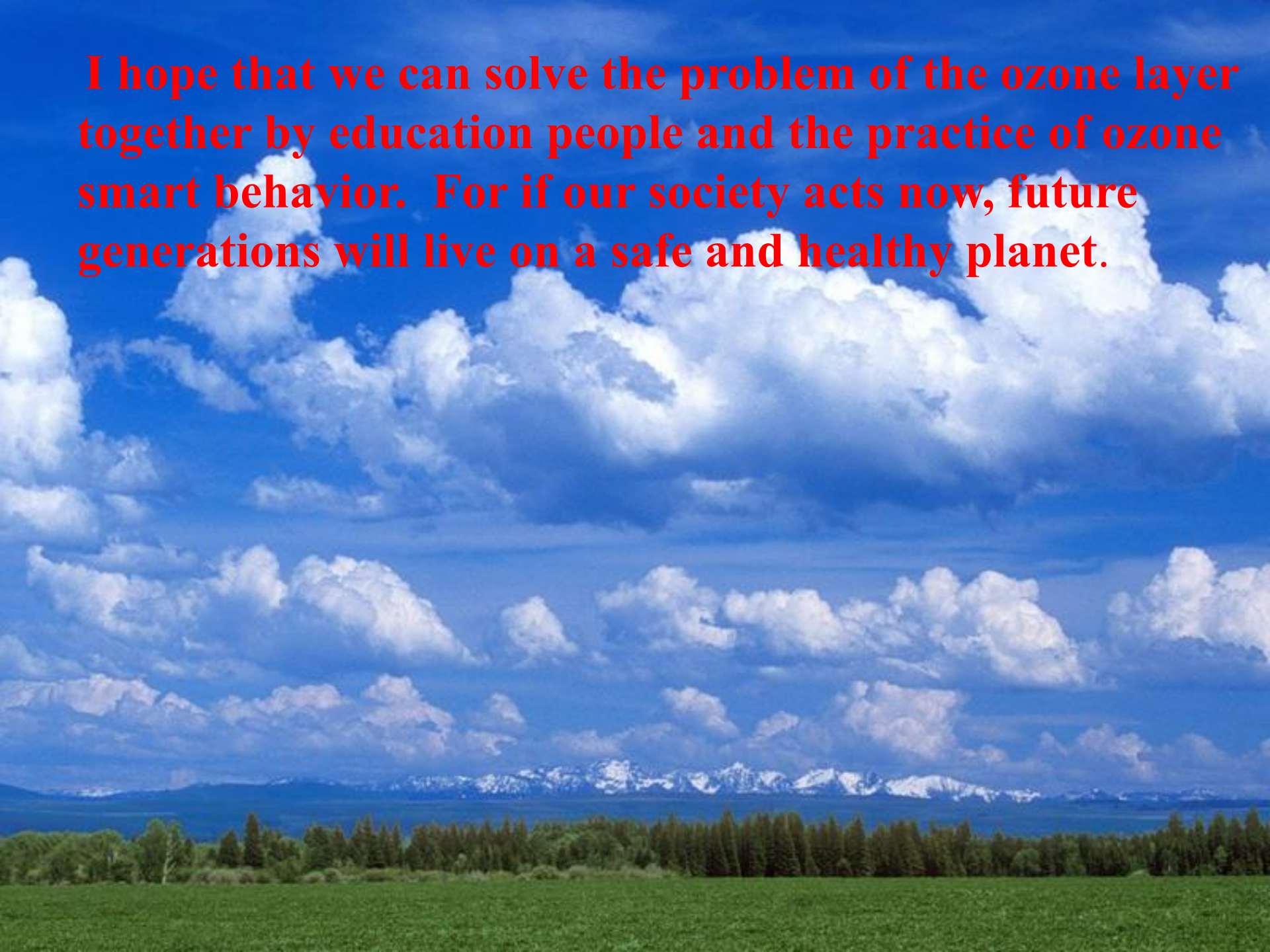


Scientists' forecasts about the future of ozone holes are different. Some scientists predict that the every-year dep of the ozone layer will continue. Others said that the ozo layer would be restored by 2050.


Some scientists think that the ozone holes' disappearance would speed up the global rise of temperature.

Protection of the ozone layer.

Governments of many countries recognized the problem of ozone depletion, and therefore, united in 1987 to sign the Montreal Protocol to reduce the amount of CFCs, and so to protect the ozone layer.


I hope that we can solve the problem of the ozone layer together by education people and the practice of ozone smart behavior. For if our society acts now, future generations will live on a safe and healthy planet.