

GREENHOUSE EFFECT

Naidenko M.S., *student*

The poisoning of the world's air and water is the fastest-spreading disease of civilization. It probably produces fewer headlines than wars, earthquakes and floods, but it is potentially one of history's greatest dangers to human life on earth. If present trends continue for the next several decades, our planet will become uninhabitable. Overpopulation, pollution and energy consumption have created such planet-wide problems as massive deforestation, ozone depletion, acid rains and the global warming that is believed to be caused by the greenhouse effect. The atmosphere is a blanket of gases around the Earth. For thousands of years these gases have kept the planet's temperature at about 15°C. How? By trapping some of the sun's heat. But now, because of pollution, there are more and more gases in the atmosphere. This means that the Earth is getting hotter. A greenhouse becomes hot for the same reason. Its glass lets the sun's heat pass through, then stops some of it from leaving. That's why scientists call the problem of Earth's rising temperature 'The Greenhouse Effect'.

Few people are unfamiliar with the term "greenhouse effect" and unaware of its association with the negative consequences human intervention can have on environment and climate. Nevertheless, the greenhouse effect is first and foremost an entirely natural phenomenon. So-called greenhouse gases (which include water vapour, carbon dioxide, methane, nitrous oxide, ozone and fluorohydrocarbons) are found in the earth's atmosphere. The greenhouse gases allow incoming short-wave solar radiation to pass through unhindered on its way to the earth. On reaching the earth's surface, a small portion is reflected back, but most is absorbed before being conducted back into the atmosphere in the form of long-wave heat radiation. It is then absorbed by the greenhouse gases and released in all directions in the form of heat radiation. Thus, some of it passes into space and the rest finds its way back to earth where it contributes to global warming.

The greenhouse effect is unquestionably real, and is essential for life on Earth. It is the result of heat absorption by certain gases in the atmosphere (called greenhouse gases because they trap heat) and re-radiation downward of a part of that heat. Water vapor is the most important greenhouse gas, followed by carbon dioxide and other trace gases. Without a natural greenhouse effect, the temperature of the Earth would be about zero degrees F (-18°C) instead of its present 57°F (14°C). If there were no natural greenhouse effect, we would be in the middle of an extreme ice age.

Most scientists agree that the Greenhouse Effect will change the weather everywhere. For example, the ice at the North and South Poles will start to melt. And when that happens the level of the sea will rise.

Morozova I.A. *EL adviser*