Global Warming, a wake up call

Students : Ariciu Andra Maria, Pop Daria Elena, Nagy Alin and Giurgiu Alex
Prof. Coord. : Covaci Magdalena

Colegiul National „Vasile Lucaciu" Baia Mare

ariciuandramaria@yahoo.com

dariapop2004@gmail.com

alinnagy2004@gmail.com

panomaramures@gmail.com

Key Words :

Earth;
Greenhouse effect;
Gas emissions ;
Glaciars;
Rdiation;
Atmosphere;
Poster;

ABSTRACT :

What is global warming? The majority of Earth's population probably have heard this term, but its meaning is still unknown to many people. Global warming is a serious issue that refers to the gradual rise in the overall temperature of the atmosphere of the Earth and it is caused by many different events. It has been affecting us for the past decades and it will continue to be a major problem for the next generation unless we will take the matter in our own hands and do something about it.

1. Introduction

Whatever we do, the Earth will no longer be habitable in the end. In 5.5 billion years, the Sun will turn into a Red Giant, the oceans will turn into vapors, the temperature of the Earth's surface will be hot enough to melt even the stone on the entire surface of the planet. As the brigher and brighter Sun evaporates our oceans, the effect will be much more intense than man-made global warming.

Global warming is known as the phenomenon of continuous increase in average recorded atmospheric temperatures in the immediate vicinity of the soil, as well as ocean water, observed in the last two centuries, but especially in recent decades. Global warming phenomenon have always existed in the history of the Earth, they being associated with the cosmic phenomenon of solar maximum, these alternating with small terrestrial glaciations associated with the phenomenon of solar minimum.

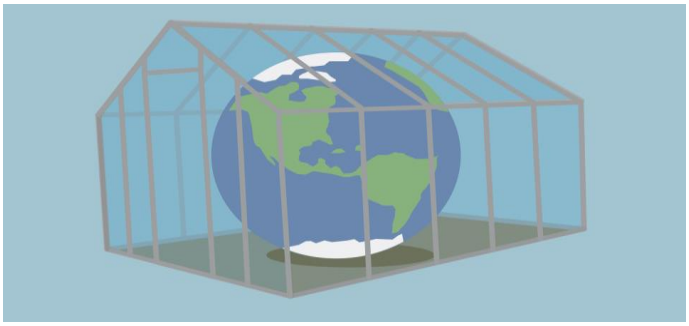
2.Causes

Global warming is mainly caused by the change of external forcing, depending on the influence of orbit around the Sun, volcanic eruptions and the greenhouse effect, the last one being the most important of these.

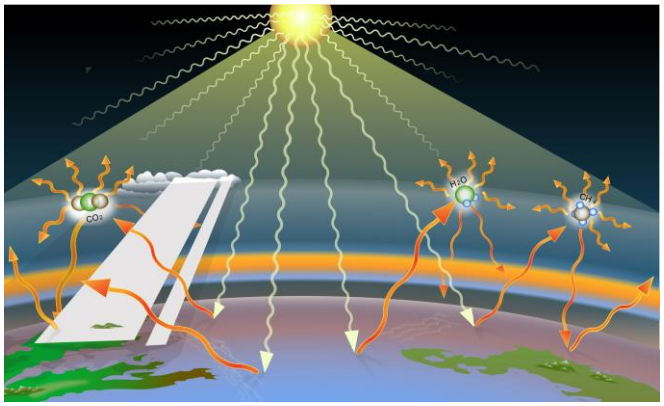
2.1 The Greenhouse effect

The greenhouse effect is a term used to highlight the contribution of certain gases emitted naturally or artificially to the warming of the Earth's atmosphere by changing the permeability of the atmosphere to solar radiation reflected from the Earth's surface.

This phenomenon was discovered by Joseph Fourier in 1824. In the case of the Earth's atmosphere, the greenhouse effect was responsible for its sufficient heating to allow the development of plants as we know them today. When sunlight reaches the Earth's surface, some of this energy is absorbed and warms the soil and oceans. The rest of the energy can return to space, but some of it is retained in the atmosphere and warms the Earth. The result is called a "greenhouse effect" because the atmosphere acts like glass covering a greenhouse - heating the interior.



The greenhouse effect normally maintains a comfortable temperature on our planet. However, human activities increase the amount of greenhouse gases in the atmosphere, and thus the greenhouse effect is increased and the Earth's temperature rises. The main element responsible for the production of the greenhouse effect is water vapor (70%). The next share is carbon dioxide (9%), followed by methane (9%) and ozone (7%).



2.2 Human influence

Besides nature's contribution to this unfortunate phenomenon the human race also participates to making the Earth's condition worse, by their lifestyle. By using fossil fuels, CO2 it's being released into the atmosphere, degrading it.

The most common issue is deforestation, because humans cut down trees in order ro make paper, houses, objects and furniture, etc. These plants absorb CO2 and release O2 which is inhaled by the living beings. If the human race will continue to do this kind of activity , slowly the atmosphere will be full of this toxic gas.

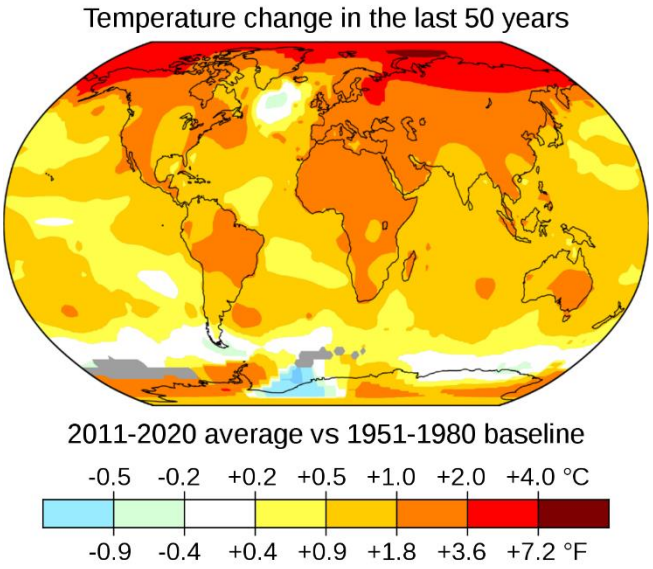
3.Studies

According to the IPCC Climate Change 2014: Mitigation of Climate Change report, 62% of greenhouse gas emissions between 2000 and 2010 are carbon dioxide. Greenhouse gas emissions increased faster between 2000 and 2010 than in the previous three decades, and almost half of the carbon dioxide emissions from 1750 to 2010 are due to the last 40 years.

In the last half century, these emissions into the atmosphere of very large amounts of gases have reduced the permeability of the atmosphere to the caloric radiation reflected from Earth to outer space. This led to the onset of the so-called global warming phenomenon.

According to a 2007 study, 22% of the world's greenhouse gas emissions come from agriculture, a percentage similar to that of the industrial sector, but higher than that of transport. Cattle farming, especially transport and feeding, is responsible for 80% of greenhouse gas emissions from agriculture (methane gas and carbon dioxide).

A massive source of pollution that few are aware of is concrete, with cement being the source of 8% of global carbon dioxide emissions. Cement pollutes more than all trucks, with studies showing that a tonne of cement generates at least half a tonne of CO2.



Accessing this site we can see how the Earth's condition has changed a lot in the past few years https://climate.nasa.gov/interactives/climate-time-machine/ , and it clearly shows that it is becoming worse as the years pass by. We can also acknowledge how we can improve Terra's state by planting more trees, reducing the deforestation movement or trying to remove as much carbon as possible from different types of activities, by accessing this interactive site https://en-roads.climateinteractive.org/scenario.html?v=2.7.39&p55=0.1&p57=-0.1 .

4.Effects

There are many effects that will happen in the future if global warming continues. That includes polar ice caps melting, economic consequences, warmer waters and more hurricanes, spread of diseases and earthquakes.

The most visible effect is that the ice caps are already melting. Because of this phenomenon the water level will rise and some places such as New Orleans or Miami will be destroyed. The melting of Arctic glaciers leads to the release of huge amounts of methane, which once released, will participate in increasing the greenhouse effect. Therefore, a continuous cycle will form, the planet warming itself.

Another effect is the species loss of habitat. Species that include polar bears and tropical frogs will be extinct due to climate change. They cannot adapt the habitat that changes their living or temperature.

5. Solutions

Besides the solutions we offered previously in the essay, we can add recycling. Recycling can reduce garbage by reusing plastic bags, bottles, papers or glass. It prevents pollution by reducing the need to use raw materials and conserves natural resources such as timber, water and minerals. These materials are biodegradable and can't pollute oceans or won't stay on the ground for millions of years.

Paper and cardboard make up 40% of the total amount of waste. It is fortunate that their recycling is relatively easy, because they are produced from cellulose, an organic compound found in most plants.

A similar circuit is covered by plastic. Plastic is a complex polymer with long and repetitive chain molecules which do not dissolve in water. The strength of these chains makes plastic durable and its natural decomposition is very long.

But why is plastic harmful? Because toxic materials such as acetaldehyde are used in its production. You may have noticed its effects, though without knowing it, because it is responsible for the slightly sweet taste of the bottled water. But more worrying are the emissions of harmful substances resulting from the production process.

These particles are a danger to the health of all living creatures and are found in food, on the ground, in the air, floating on the surface of the water and in the deep sea. Marine living creatures, as well as people, are consuming this wide variety, whether intentionally or accidentally.

In a study published by ecologist Elliott Hazen, it was found that marine fish, including some that are consumed by humans, ingested synthetic parts of different sizes. Out of 555 fish species surveyed, more than 2/3 had ingested plastic particles.

It is also impossible today to imagine life without face protection masks. They keep us away from the virus, but they are made of plastic, and we can say, according to an estimate, that they generate 66.000 tons of contaminated masks and 57.000 tons of plastic packs that are thrown into the territory of a single country each year (study in England). China, the largest mask manufacturer, reported that it reached 450 million units of this kind a day, At the cost of an extraordinary pollution.

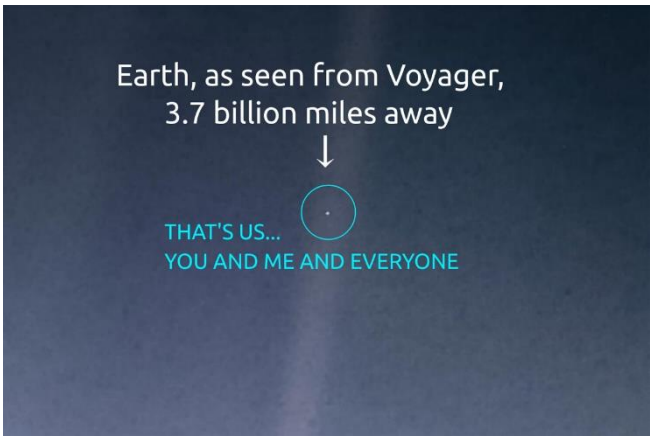
But what we can do to help? Well, you should purchase as few products as possible packaged in plastic. This will reduce their production and the producers will change their production lines to become eco-friendly (environmentally friendly).

During the pandemic, to protect yourself and others around you use a mask made of biodegradable, reusable textile material that can be quickly washed and dried. You should also use the paper responsibly and buy products from recycled sources as often as possible. In that way, you will help to reduce the pollution and make the planet a better place.

The recycling industry is constantly developing and is certainly a domain of the future. But no matter how technical recycling processes evolve, remember that while your role is the simplest, you are the most important part of this system.

6. Conclusions

However, in the next two billion years, temperatures will skyrocket, and if living beings do not adapt, or do not leave the planet in time, the life itself will disappear. We will have to find another habitable planet. Until then, we must save ourselves, we must take care of this planet, to cherish this "pale blue dot".



BIBLIOGRAPHY

https://ro.wikipedia.org/wiki/%C3%8Enc%C4%83lzirea_global%C4%83

https://ec.europa.eu/clima/sites/clima/files/youth/docs/youth_magazine_ro.pdf

https://ro.wikipedia.org/wiki/Efect_de_ser%C4%83

https://greatnews.ro/incalzirea-globala-2018-tot-ce-trebuie-sa-stii-despre-schimbarile-climatice/

https://www.elle.ro/lifestyle/8-documentare-despre-incalzirea-globala-care-te-vor-pune-pe-ganduri-658146/

https://climatekids.nasa.gov/greenhouse-effect/

https://en.wikipedia.org/wiki/Greenhouse_effect

https://www.epa.gov/recycle/recycling-basics

https://www.ukessays.com/essays/environmental-sciences/causes-effects-and-solutions-to-global-warming-environmental-sciences-essay.php

https://www.toppr.com/guides/essays/essay-on-global-warming/

Scorțar, Lucia-Monica - „Managementul deșeurilor”, ed. Risoprint, 2017

*** - „Manual de instruire în protecția și managementul mediului”, ed. Risoprint, 2008

https://www.nationalgeographic.org/

https://theconversation.com/