



CLIMATE CHANGE AS A PROBLEM OF THE 21ST CENTURY

S.A. Maksudova
D.N. Shakirova

Tashkent Pharmaceutical Institute, Uzbekistan
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ABSTRACT

Climate change is a widespread, rapid and accelerating process. Even for those living in the West, the threat of global warming is no longer a problem that only affects remote areas. People living in almost all parts of the world feel the effects of climate change in their bodies. This article highlights climate change as one of the urgent problems of the 21st century.

An intergovernmental panel of experts reports that the Earth is warming faster than previously estimated. The average global temperature has increased by 1.1 degrees. This means that the average temperature will increase by 1.5 degrees by 2040. Heat waves, strong winds, droughts, floods and fires have become more frequent, and the melting of glaciers has intensified. We can observe that this process has accelerated especially this year.¹

Thousands of hectares of forest and agricultural land have been damaged as a result of large-scale forest fires in the south of France, Spain and the Italian island of Sardinia. As a result of large-scale fires that started in northern California on July 13 and received the name Dixie, more than 200 thousand hectares of land were damaged. The government of North Macedonia has imposed a state of emergency for a month due to large forest fires. As a result of the abnormal heat, terrible fires broke out in the west and south of Turkey, tourist activities and excursions were completely stopped. Agricultural fields and farms were caught in the fire, livestock died. Strong forest fires have been raging in Greece for several days. The disaster happened because the temperature was above 40 degrees for more than a week. In some regions, the temperature has risen to 47 degrees. Forest fires in the Republic of Yakutia in eastern Russia, according to official data, have covered an area of 6 million hectares - twice the

¹ Kariyeva M. Nematjonov Sh. Sh. Impact of climate change on nature. Tashkent Pharmaceutical Institute, Proceedings of the 80th Scientific Conference of the Student Scientific Society, 2023. p 159.



size of Belgium. Three days of mourning have been announced in the country for those who died in the fires in Algeria.²

Another terrible natural disaster is floods. At least 150 people died in the floods that occurred in Nuristan province, located in the east of Afghanistan. Heavy rains in Zhengzhou, China caused floods and killed several people. Thousands of buildings were destroyed after large-scale floods in the Indian states of Goa and Maharashtra. The floods that occurred in Belgium on July 14-16 caused more than 10 billion euros in damage. In western Germany, thousands of people left their homes due to floods, and more than 100,000 people were left without electricity.

On June 3-7, it was recorded that the maximum temperature of three centuries was observed in Tashkent. On July 5, 7 and 8, record high temperatures were repeated in the capital. The Minister of Social Affairs and Health of France, Annes Bousen, announced that the anomalous heat observed in the summer caused the death of 1,500 people. Almost 500 people died in the Canadian province of British Columbia due to anomalous hot weather. The air temperature in the province has reached a record of 49.6 degrees. Before that, the temperature in Canada did not exceed 45 degrees. More than 8,000 people were hospitalized in Japan. Heat stroke due to the heat has been cited as the cause. From each of these events, we can see how climate change is threatening humanity. Experts predict that sea levels will rise for centuries, and what was once considered the "flood of the century" could become an annual event within 80 years.

According to the research conducted by experts of the Cloud to Street company, the number of people affected by floods has increased by 24% since the beginning of the 21st century. This indicator is 10 times more than the forecast of scientists. Scientists estimate that from 2000 to 2018, floods damaged an area of 2.23 million square kilometers of the planet, and about 290 million people were affected by floods.³ About 90 percent of floods occur in South and Southeast Asian countries, especially in the region of the Indus, Ganga-Brahmaputra and Mekong rivers. In addition, satellite data shows increased flooding in southern Latin America, the Middle East and Africa. Due to climate and demographic changes, floods are predicted to occur in 25 more countries by 2030. Greenpeace Australia Pacific head of research, Nicola Kazulet, said that due to global warming, some island countries in the Pacific Ocean may disappear. "The rise of the world ocean level will make Kiribati, Vanuatu and the Solomon Islands uninhabitable," says the expert. It is reported that since 1900, the world ocean level has risen by 20 centimeters. Experts note that the main factor of climate change is the greenhouse effect. The accumulation of heat from the sun on the Earth's surface and condensation is called the greenhouse effect. In other words, the Earth, in turn, returns the light from the sun to space through the atmosphere. Some of these rays are absorbed by various gases emitted by humans instead of escaping into space. As a result of its not returning to space, the Earth's surface heats

² Kariyeva M. Ilesov T. Climate change and its impact on human health. Tashkent Pharmaceutical Institute, Proceedings of the 80th Scientific Conference of the Student Scientific Society, 2023. p 168.

³ „Human Health: Impacts, Adaptation, and Co-Benefits — IPCC“. 2020.



up more than normal and a greenhouse layer is formed, which affects the climate. As a result, there is little difference between the highest and lowest temperatures during the day. That is, people and nature are affected by hot and humid air at night as well as during the day. Such daily heat causes a sudden warming phenomenon.⁴

The main gas that creates the greenhouse effect is carbon dioxide. It is added to the atmosphere both naturally and artificially. Methane, nitrogen oxide and other harmful gases are released into the air due to the human factor, which determines the level of the entire greenhouse effect. The increase in the concentration of gases that create the greenhouse effect disrupts the natural heat balance on the planet and causes the anthropogenic greenhouse effect. According to estimates, by the year 2100, due to the greenhouse effect, the global gross domestic product may decrease by more than 20 percent. Also, as the main problems today, the impact of anthropogenic factors and the drastic reduction of forest areas that absorb carbon dioxide, the depletion of the ozone layer, and the reduction of wildlife areas can be cited.

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⁴ „WHO calls for urgent action to protect health from climate change – Sign the call“. www.who.int. World Health Organization (2015).