

## CLIMATE CHANGE AND ECOLOGY IN UZBEKISTAN

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**Annotation:** This article discusses the current climate of increasingly globalized Uzbekistan and the noticeable changes occurring within it. In particular, it focuses on the sudden rise in temperature, unexpected rainfall, air pollution, and the growing amount of harmful emissions in the capital city of Tashkent. The article also touches upon several solutions to these environmental issues.

**Keywords:** Climate change, harmful gases, precipitation processes, industrial modernization, World Meteorological Organization, greenhouse gases, international community.

### Introduction

First of all, it is well known that our country belongs to the group of states located in the center of the Euro-Asian continent, meaning that Uzbekistan is far from large water bodies such as seas and oceans. Therefore, it is natural that our climate is not stable and undergoes frequent fluctuations.

Today, in economically developed countries, the rapid advancement of industrial enterprises has led to an annual increase in the amount of exhaust gases (hydrocarbons) released into the atmosphere. The rising levels of emissions around the world trigger drastic climate changes in different regions. As a result of these changes, natural disasters increase, and evaporation processes intensify.

The development of modern science and the burning of fossil fuels contribute to the rise in the concentration of greenhouse gases, which significantly affect the climate. Due to changes in climate patterns, the natural balance in many regions of the world is being disrupted:

- In recent years, extreme weather events, inhalation of hydrocarbons, and lack of access to clean drinking water have become direct threats to human health, causing growing concern among international health organizations.
- “Climate change is the greatest global threat to human health in the 21st century” — this statement was repeated in the 2015 WHO report, and in 2019 the Australian Medical Association declared climate change a “health emergency.”
- Climate changes occurring in Uzbekistan today have a strong negative impact on the health of the population living in the affected regions.
- Precipitation patterns may increase unusually in some areas while causing severe droughts in others.
- Preventing climate change and its harmful consequences, as well as resisting factors that threaten human life, is the responsibility of every citizen.

To improve people’s lives, the government of Uzbekistan is implementing several environmental protection measures. For instance, the government is taking steps such as introducing a green economy, shifting to renewable energy sources, modernizing industry, reducing the amount of harmful substances released into the atmosphere, promoting the efficient use of water resources, improving waste management, and strengthening

environmental education. These measures are being carried out within the framework of the National Strategy for Combating Climate Change until 2030.

The government also ensures environmental protection, rational use of natural resources, and reproduction through state administration. It works toward improving environmental conditions and safeguarding ecological systems, natural complexes, and individual objects.

State control is exercised over compliance with waste management regulations, including the collection, transportation, disposal, recycling, and utilization of household waste. Local government bodies and community organizations also participate in these activities.

State ecological monitoring ensures compliance in areas such as land, mineral resources, water, forests, protected natural areas, flora and fauna, and air protection. The coordination of environmental protection and the development of unified resource-saving policies are also key responsibilities.

Environmental education, retraining of specialists, and promoting public awareness are being actively carried out, which brings satisfaction and hope for improvement.

In addition, six out of fourteen specialized UN agencies deal with environmental protection. For example:

- UNESCO focuses on education, culture, scientific research, and the promotion of sustainable resource use.
- FAO deals with land, water, plants, and animals as well as increasing their productivity.
- WHO (VOZ) works on sanitary and hygienic issues related to environmental protection.
- WMO studies global climatic changes.
- IMCO focuses on the ecological aspects of using the world's seas and oceans.
- The UN Economic and Social Council (ECOSOC) also pays significant attention to environmental issues.

Despite ongoing global research, evidence shows that over the past 150 years, human activity has played a major role in climate change. Rapid industrialization, growing emissions, population increase, and the rise in the number of vehicles are all contributing factors to global warming.

Forests — vital for maintaining climate stability — are shrinking year by year. Climate change has significantly affected our region in the past 50 years. The Aral Sea, once vast and rich, has shrunk dramatically and turned into a desert. Due to rising temperatures, the Pamir and Tien Shan glaciers feeding the Amu Darya and Syr Darya rivers are melting rapidly, with some glaciers already reduced by 20–30%. Within a few decades, more than half of these glaciers may disappear.

To address these challenges, Uzbekistan has strengthened cooperation with the international community. The country joined the Paris Agreement on April 19, 2016. As a full-fledged member of the UN, Uzbekistan adheres to all decisions and protocols and continuously develops climate-related projects.

According to the Presidential Decree of June 8, 2023, “On Measures to Organize the Activities of the University for the Study of Environment and Climate Change in Central Asia,” the region’s first Green University is being established. This institution aims to prepare specialists capable of addressing major ecological, socio-economic, and scientific-technical issues in Uzbekistan and Central Asia.

## **Conclusion**

Environmental issues are not the responsibility of government agencies and specialists alone; every individual must contribute to preventing global warming and climate change. Using renewable energy sources in production, switching to environmentally friendly transportation (such as bicycles and electric cars), introducing car-free days in large cities, and increasing taxes on high-emission vehicles can help mitigate climate change.

Expanding green areas, preventing unnecessary tree-cutting, and using natural resources responsibly — especially water, gas, and electricity — can significantly contribute to environmental protection. By keeping our homes, neighborhoods, and cities clean, we all play a role in preserving the environment.

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