



ECOLOGICAL EMERGENCIES THEIR CLASSIFICATION AND DESCRIPTION PROTECTIVE MEASURES

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Abstract

"Ecology" is a Greek word that refers to the living conditions of living things and their interactions with the environment.

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Introduction

Ecological FVs are catastrophic situations that have a profound effect on human life, flora and fauna, the hydrosphere and the atmosphere (Figure 1).



Figure 1.

Their classification is diverse. Depending on the nature of the origin, environmental FVs are divided into:

1. Circumstances associated with changes in the state of land (soil, underground).
2. Circumstances associated with changes in atmospheric conditions.
3. Circumstances associated with changes in the state of the hydrosphere.

Circumstances associated with changes in the state of land (soil, underground):

- In the extraction of mineral resources, as a result of landslides and under the influence of human activities;
- As a result of the presence of heavy metals in the soil above the permissible concentration;





- Soil degradation is the process of erosion that occurs with the formation of saline soils.

Circumstances associated with changes in atmospheric conditions:

- Sudden changes in climate and weather as a result of anthropogenic impact;
- Exceeding the permissible level of harmful substances in the atmosphere;
- Rising temperatures in cities;
- Lack of "oxygen" in cities;
- Noise in cities is higher than PFC;
- Formation of a zone of acid rain;
- Depletion of the ozone layer of the atmosphere;
- Atmospheric clarity changes.

Circumstances associated with changes in the state of the hydrosphere:

- Lack of drinking water due to pollution of water sources;
- Decrease in water resources as a result of technological processes and human consumption (use) of water for domestic purposes;
- Disruption of the ecological balance as a result of pollution of the world's oceans and seas under the influence of human activities.

DESCRIPTION OF ECOLOGICAL EMERGENCIES

Deterioration of land conditions. Under the influence of natural causes or human activities, the properties of the soil are gradually deteriorating, that is, the land is degraded. This is due to the misuse of fertilizers and pesticides.

For example, increasing the amount of pesticides containing heavy metal salts can reduce soil fertility and kill microorganisms and worms. Unintentional reclamation works reduce the humus layer. Fills fertile soil with less fertile soil. When trees are cut down, the grass layer under them is damaged. Roads covered by tractors can also cause significant damage to the land. Forest fires are especially damaging. Along with trees, all animals, microorganisms, and plants become extinct. Soil degradation includes changes in soil flora and fauna and a decrease in productivity, as well as the process of erosion observed with the formation of saline soils.

Soil erosion is a process of various degradation of soil and adjacent layers with various natural and anthropogenic factors. The following types of soil erosion are distinguished by their causes: water, wind, ice, landslides, river biological erosions. Decreased arable land increases soil degradation, pollution, and salinization. Contamination of the soil layer with heavy metal salts is mainly due to the unauthorized burial of industrial and transport wastes and gases, as well as toxic wastes in the soil.





Biodiversity - Decreased or destroyed biodiversity leads to desertification. This is accompanied by depletion of water resources, loss of vegetation, impoverishment and reconstruction of the fauna. The irrational use of low-water lands by humans (overgrazing of animals, destruction of vegetation. Disruption of the rational relationship between geological exploration, earthworks and livestock) leads to their desertification.

Atmospheric changes. Protecting the environment and preserving ecological sustainability remains one of the most important issues in the world today.

Atmospheric pollution is caused by natural and anthropogenic sources.

A). Natural factors include landslides, earthquakes, volcanic activity (volcanic eruptions), landslides, and forest fires;

B). Anthropogenic factors include emissions from industrial activities, as well as the use of various fuels by road, rail and water transport, the release of harmful substances into the air, and other similar phenomena. Natural and anthropogenic sources also play an important role in the qualitative and quantitative composition of atmospheric air in Uzbekistan.

In the fuel, energy, chemical and petrochemical industries, nitrogen oxides are the main cause of emissions.

The low efficiency of fuel use leads to excessive emissions into the atmosphere. This affects the level of air pollution in the settlements and cities where these facilities are located (Tashkent, Angren, Navoi).

One of the measures aimed at reducing air pollution is the state control over the toxicity of exhaust gases and smoke from car engines. The work on the transition of vehicles to alternative fuels is underway in the republics. At present, the conversion of vehicles to compressed natural gas and liquefied petroleum gas is being successfully implemented.

The Uzavtosanoat system plans to produce Damas cars equipped with gas cylinders. Currently, work is underway with a number of large companies to install gas cylinder equipment in cars. Atmospheric gas and heat circulation are significantly affected by forest burning and deforestation, land reclamation, construction of new reservoirs, changes in water flow, and the drying up of swamps.

Industrial facilities, TETS, vehicles burn large amounts of fossil fuels, which leads to the following:

- Increase in the content of carbon dioxide in the atmosphere. This process causes the air to heat up as a result of the heat effect;
- Freon, fluorine, bromine and chlorine compounds that affect the global warming and release into the atmosphere, the ozone layer is depleted.





Other factors affecting climate change include:

- Pollution of the ocean with petroleum products, leading to disruption of moisture and heat exchange between the atmosphere and the ocean;
- Impact on clouds to cause precipitation;
- Release of water vapor into the atmosphere;
- The impact of the irrigation system, increased evaporation.

A layer of polluted air called “smog” forms over industrial centers or large cities. It can be divided into three layers: the lower layer is the layer between the houses, the middle layer is 20-30 m high, and the upper layer is 50-100 m high, mainly fed by smoke and waste from industrial enterprises.

The effects of solar radiation on hydrocarbon gases and nitrogen oxide mixtures emitted into the atmosphere from vehicles create photochemicals (photooxidants) that pose a serious threat to human health.

Oxygen deficiency is currently observed in many industrial zones. In such cases, photosynthesis results in less oxygen being consumed by plants, industry, transportation, humans, and animals, which in turn causes photosynthesis to produce less oxygen than humans, animals, and plants consume industrially. This condition can lead to lung and cardiovascular disease.

The advent of powerful vehicles on land, air and water transport makes people constantly exposed to high levels of noise. The share of transport in the total noise level of the city is 60-80%.

High temperatures, noise, dust, radiation, electromagnetic fields all lead to atmospheric air pollution.

Acid precipitation is the result of industrial air pollution, air pollution from exhaust gases from cars and aircraft engines, as well as the combustion of various fuels.

About 40% of all nitrogen oxides are produced by thermal power plants. These oxides are converted to nitrogen and nitrates, the latter interacting with water to form nitric acid.

One of the most common air pollutants is sulfur dioxide, which is formed by burning coal, oil and fuel oil. Acid rain is not only dangerous for the plant world, but also for human health.

Depletion of the ozone layer. The stratosphere absorbs the sun's ultraviolet rays and protects living things on earth from the destructive effects of these rays. The amount of ozone in the atmosphere is not large. It decomposes rapidly under the influence of hydrogen, nitrogen, chlorine compounds. The effects of global warming are accelerating the depletion of the ozone layer, the formation of "holes" in it, and the influx of ultraviolet light to the earth's surface. In recent years, there has been a sharp





increase in the release of substances containing these compounds as a result of human activity.

Dust is one of the most common atmospheric pollutants. Dust is caused by wind, forest fires, volcanic eruptions, and industrial waste. Dust has a detrimental effect on the human body, flora and fauna. Buildings accelerate the demolition of structures and cause a number of other negative consequences.

Changes in the state of the hydrosphere. The rapid growth of industrial and residential construction is leading to water shortages and declining quality. The main reasons for the decline in water resources are:

- Reduction of water resources due to human impact on the biosphere;
- A sharp increase in demand for water;
- Significant pollution of water sources.

Shallowing of water basins under the influence of human activities, extinction of small rivers, drying of lakes, deforestation, unplanned grazing of animals, continuous driving of deserts, careless development of land reclamation systems will give. The demand for water is growing by 6-8% every year, which is due to the growth of industrial enterprises. Water consumption for farming is increasing. In the coming years, it will reach 400 meters / day for everyone.

Contaminants can be biological, mechanical or chemical.

The water is so polluted that many living things, especially fish, are dying in rivers and ponds. Such water cannot be consumed without purification and disinfection. Industrial waste, household waste, petroleum products, and heavy iron waste are dumped into rivers and lakes.

The main pollutants are chemicals used in chemical plants, oil refining and petrochemical plants, the paper industry, fertilizers used to feed plants, and agricultural pests.

The crash of the tankers has led to large-scale fuel pollution of the seas.

Measures to protect the population from ecological emergencies in uzbekistan

Everyone should know the following in the process of environmental education:

- Rational use and protection of natural resources;
- Protection of the environment from pollution;
- Striving to leave nature natural for future generations.

It is expedient to develop the ecological culture of people in working communities on the basis of our previously tested values. It is necessary to use natural resources wisely and economically:





- Care of trees, shrubs and flowers in the garden and alley on the basis of scientific technologies;
- Establishment of forest areas in densely populated areas and their transformation into landscaped parks.

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