

ENVIRONMENTAL CONSEQUENCES OF EMERGENCY SITUATIONS

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An emergency situation is a system of suddenly and simultaneously emerging socially dangerous conditions and circumstances that have developed in a certain territory. They are caused by economic activity, socially dangerous actions of the population or natural disasters. Emergency situations are characterized by a threat to the vital interests of the individual, society and the state [1]. The catastrophe is a major accident, accompanied by damage to human health, loss of life, destruction of material assets in significant amounts, serious damage to the natural environment.

Ecological consequences of natural emergencies arise as a result of a technogenic emergency, if hazardous chemical, biological or radioactive substances enter the natural environments (atmosphere, surface and groundwater, soil, biological objects). They cause contamination of media, degradation or death of biological objects. Environmental consequences are also a change in the landscape, geological or geophysical processes that are not characteristic of a given territory, changes in existing ecosystems, health and welfare of the population [2]. Similar consequences can be caused as a result of extreme situations of geological origin: earthquakes and volcanic eruptions. A sharp change in environmental conditions as a result of large-scale emergency situations (earthquakes, floods, etc.) leads to a forced increase in the migration of populations and animals, excessive reproduction of rodents, insects and other vectors of infectious agents, violation of ecological balance in natural foci [3]. In the event of an earthquake and a flood, the sewerage, water supply, and dams are destroyed [4]. The migration of people and environmental pollution creates an unfavorable epidemiological and sanitary-hygienic situation [5,6], there may be the occurrence of intestinal infections (typhoid, dysentery, etc.) and anthrax among the population [7].

Due to the numerous manifestations of negative environmental changes, the systems of environmental monitoring is diverse. They differ in the object of observation (abiotic component: atmospheric air, land and sea waters, soils, geological environment, biotic component: plant and animal life, wildlife in protected natural areas, human physical effects: ionizing radiation, electromagnetic radiation, noise, thermal radiation, vibration); type of impact (geophysical, biological, medical-geographical, socio-economic, public); objectives (definition of the current state of the environment, the study of phenomena, evaluation and calibration of environmental models, short-term forecast, long-term conclusions, optimization and improving the economic

efficiency of research and forecasts, monitoring the impact on the environment, etc.), spatial coverage, etc. [8].

Environmental consequences of emergencies are characterized by an assessment of environmental damage. Direct damage to the environment is caused by the consequences of pollution of water sources and reservoirs, their disappearance, destruction or damage to flora and fauna, pollution or destruction of soils, pollution of the atmosphere. Indirect environmental damage from emergencies is associated with a violation of the climate balance, death and a decrease in the number of animals and birds, deterioration in the quality characteristics of natural resources .

Ecological monitoring is a system of information observations, assessments and forecasts of changes in the state of the environment, acting to isolate the anthropogenic component of these changes against the backdrop of natural processes [9]. Therefore, it is important to medico-ecological monitoring of the environment, which consists of environmental monitoring of physicochemical parameters of the environment and monitoring of public health by methods of early diagnosis of environmentally-related diseases [10].

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