

THE IMPORTANCE AND PROBLEM OF WATER RESOURCES

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Annotation: The causes of water scarcity include climate change, population growth, pollution of water bodies, and inefficient use of resources.

The article highlights the importance of water in nature and the solution to the problem of water scarcity, the development of seawater desalination technologies, modern methods such as reverse osmosis, which make it possible to obtain fresh water from seawater, etc.

Keywords: the source of life, water scarcity, water supply problems, wastewater treatment. biological processes,

Today, about 2 billion people in the world are experiencing a shortage of clean drinking water.

The reasons for the shortage include climate change, population growth, pollution of water bodies, and inefficient use of resources [1, p. 52]. In some regions (for example, in Africa and the Middle East), water scarcity leads to serious humanitarian crises, forced migration of the population, and exacerbation of conflicts over access to water sources.

Large cities also face water supply problems due to depletion of groundwater aquifers and surface water pollution. Solving the problem of water scarcity requires an integrated approach at the global and local levels. The main areas of action include:

- Development of seawater desalination technologies. Modern methods, such as reverse osmosis, make it possible to obtain fresh water from seawater [2, p. 38]
- Rational use of water resources. This includes the use of drip irrigation in agriculture, the use of water-saving technologies in industry and everyday life.;

Wastewater treatment. Recycling and reuse of water can reduce the burden on natural sources.;

- Protection of fresh water sources It is important to prevent pollution of rivers, lakes and groundwater by industrial waste and household garbage;
- Raising public awareness. Educational campaigns help to create a responsible attitude towards water consumption.

According to experts, the introduction of effective water-saving technologies can reduce water scarcity by 40% by 2050 [3, p. 74].

Since ancient times, water has played a crucial role in the development of human civilization. The first great civilizations that flourished in ancient times were those that were located in the basins of large rivers. Egyptian, Mesopotamian, Indian, and Chinese civilizations were based on water resources.

For example, in ancient Egypt, the Nile River was a source of life, providing agriculture with the necessary moisture and waterways for trade and communications.

In Mesopotamia, the inhabitants used irrigation of the Tigris and Euphrates rivers to grow crops in arid conditions.

In addition, the role of water in the myths and religions of ancient peoples was especially significant: water often represented the source of life and divine power. Water was used in rituals of purification and healing, in religious ceremonies and rituals. Water plays a key role in regulating the Earth's climate. This is due to its high heat capacity, which allows it to accumulate and redistribute heat. The water in the oceans, seas and lakes regulates the temperature, ensuring the stability of climatic conditions on the planet.

Oceans occupy about 71% of the Earth's surface and are able to absorb a huge amount of heat from the Sun. Due to their mass and thermal inertia, they can regulate climatic fluctuations for long periods. For example, carbon dioxide accumulates in the oceans, which affects the greenhouse effect and global warming. The process of evaporation of water from the surface of the oceans also plays an important role in the climate system. Water evaporating into the atmosphere condenses into clouds, which contributes to precipitation. These processes form sedimentary zones and climatic zones on Earth.

Water in the atmosphere (in the form of water vapor) is the basis for the formation of clouds, rain and snow. The process of condensation of water vapor forms clouds, which can then lead to precipitation. It is an important element of the water cycle in nature.

In addition, water also plays an important role in cycles such as El Niño and La Niña, which have a strong impact on climate conditions around the world. These phenomena are caused by abnormal fluctuations in water temperature in the Pacific Ocean and have a significant impact on the weather in different parts of the world.

The role of water in nature and human life cannot be overestimated. It is the basis of all biological processes, the source of life for all existing forms of life. Water is a

necessary element for the maintenance of life on Earth, and its deficiency can lead to serious consequences for ecosystems and human civilization.

In this regard, it is necessary not only to take care of water resources, but also to develop new water treatment technologies, improve water resources management, and look for new ways to solve water scarcity problems. It is important that everyone understands their role in the conservation of water resources and participates in solving global problems related to water scarcity.

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