FLOODS AND LANDSLIDES ARE ONE OF THE MOST FLOODS AND LANDSLIDES: CAUSES, CONSEQUENCES AND PREVENTIVE MEASURES

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Abstract. *This article discusses floods and landslides: causes, consequences and preventive measures.*

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Introduction

dangerous types of natural phenomena, which can cause serious damage to people and economies around the world. These disasters occur in connection with global climate change, natural geological processes and human activity. This article analyzes the main causes, consequences and preventive measures of floods and landslides.

1. Floods

1.1. Description and types of floods

A flood is the inundation of land areas as a result of a sharp increase in water level. Floods can be caused by natural and anthropogenic (caused by human activity).

The main types of floods are:

• River floods - the overflow of rivers due to heavy rainfall or snowmelt.

• Sea and ocean floods - the ingress of sea water onto land as a result of tsunamis and hurricanes.

• Rain floods - occur as a result of a large amount of rainfall in a short period of time.

• Floods after a dam break - occur as a result of the failure of artificial water bodies.

1.2. The main causes of floods

1.2.1. Natural causes

1. Rain and snowmelt – Prolonged rainfall and snowmelt cause water levels in rivers to rise.

2. Tropical storms and tsunamis – Strong ocean storms and tsunamis cause flooding in coastal areas.

3. Earthquakes and Volcanic Activity – Earthquakes can move sea and lake waters and cause strong waves.

1.2.2. Human-related causes

1. Deforestation – Trees store water, and their removal causes uncontrolled acceleration of water flow.

2. Urbanization – Construction work on land can change the natural flow of water.

3. Mismanagement of irrigation and water facilities – Mismanagement of canals and reservoirs increases flooding.

1.3. Consequences of floods

1. Social consequences

• Death and displacement

• Contamination of drinking water sources

• Spread of diseases (e.g. cholera and dysentery)

2. Economic consequences

• Destruction of roads, bridges and houses

• Damage to agricultural land

• Damage to enterprises and infrastructure

3. Ecological consequences

• Salinization and waterlogging

• Changes in flora and fauna

• Air and water pollution

1.4. Flood Prevention Measures

• Improvement of dams and canals

• Monitoring of rainfall

• Ecologically sound urban planning

• Restoration of natural water flows

2. Landslides

2.1. Description and types of landslides

Landslides are the process of shifting and downward movement of soil layers on mountains or hills.

Types of landslides:

• Landslides – occur as a result of high water penetration into the soil.

• Rock slides – occur as a result of large rocks and boulders falling.

• Mudslides – a fast-moving flow of water, mud, and rocks.

2.2. Main causes of landslides

2.2.1. Natural causes

1. Precipitation and water penetration into the soil

2. Earthquakes and volcanic activity

3. Natural properties of the soil

2.2.2. Causes related to human activity

1. Construction of roads and buildings in the mountains

2. Improper use of land for agriculture

3. Cutting down trees

2.3. Consequences of landslides

1. Damage to infrastructure (loss of roads, bridges and houses)

2. Blockage of rivers and alteration of water resources

3. Loss of agricultural land

2.4. Measures to prevent landslides

• Strengthening soil layers

• Limiting construction in landslide-prone areas

• Improving stormwater drainage systems

• Preserving natural vegetation cover

Conclusion

Floods and landslides pose a major threat to society and the economy.

To prevent these disasters, it is necessary to use natural resources wisely, conduct scientific research, and strengthen safety measures. Governments, international organizations, and the public must work together.

Cooperation between experts and the public is essential to prevent such natural disasters and reduce damage.

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