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СТИХИЙНЫЕ БЕДСТВИЯ

NATURAL DISASTERS

Natural disasters

Introduction

Every day many people watching TV, listening to the radio or searching the Internet. And there are a lot of news about natural disasters, which can destroy houses, streets and sometimes the whole cities. This phenomenon has interested me and I started to write this research work. The purpose of my work is to identify the most devastating natural disaster by comparing the 4 most dangerous forms. The problems are to classify natural disasters; to compare all of them; to define ways of a survival after a disaster.

Forms of phenomenon

First of all we need to understand the definition of this phenomenon. A natural disaster is the effect of the earth's natural hazards, for example flood, tornado, hurricane, volcanic eruption, earthquake, heat wave or landslide. They can lead to financial, environmental or human losses. The resulting loss depends on the vulnerability of the affected population to resist the hazard, also called resilience.

In my research work I want to tell you about the most 4 kinds of natural disasters: a tornado, an earthquake, a volcanic eruption and a tsunami.

A tornado

A tornado is a violently rotating column of air that is in contact with both the

surface of the earth and a cumulonimbus cloud or, in rare cases, the base of a cumulus cloud. The height of a tornado can reach 800-1500 m. The diameter of it is over the sea tens of meters, and over the land-hundreds of meters. The path length is about 40-60 km. He was accompanied by thunder, rain, hail. A tornado is not necessarily visible: however, the intense low pressure caused by the high wind speeds (as described by Bernoulli's principle) and rapid rotation (due to cyclostrophic balance) usually causes water vapor in the air to become visible as a funnel cloud or consideration funnel.

An earthquake

An earthquake (also known as a quake tremor or a temblor) is the result of a sudden release of energy in the Earth's crust that creates seismic waves. The seismicity, seismism or seismic activity of an area refers to the frequency, type and size of earthquakes experienced over a period of time. According to the used in the world of 12-point Richter scale earthquake the intensity of 6-7 points above give rise to risks to human health and life. The main characteristics of earthquakes are depths of the center, magnitude and intensity of energy on an earth surface.

A volcanic eruption

Te eruption of the volcano-active volcano activity, dangerous for all forms of life, throwing the Earth's surface is red-hot fragments, ash, lava outpouring. The eruption may last from several hours to several years. In explosive eruptions released large amount of material: volcanic bombs (ranging in size from a pea to 2-3 meters) of ash. As a result, the release of ash to high attitudes in the atmosphere affects the Earth's weather for a long time. Lava and other hot substances excreted drain on the slopes of the mountains, and burn everything that comes in its way, bringing untold casualties and material losses amaze.

A tsunami

A tsunami is a giant wave height 5-10 meters or more, moving with great speed. Tsunamis occur when a strong earthquake, especially underwater, force 6 or above. In the open ocean, tsunami waves travel at speed \sqrt{gH} , of which g is the acceleration of free fall, and H is the depth of the ocean. The speed tsunami waves, even near the shore, than the speed of wind waves. The kinetic energy of a tsunami is a thousand times more. The tsunami comes suddenly.

The nature of phenomena

A tornado

At the bottom layers of the atmosphere there should be a damp warm air and winds should blow in the southern direction. And in the top layers of the atmosphere thus there should be a dry and cold air. Under such circumstances there is a lifting of air mass at an earth surface, from where the tornado gains the energy.

An earthquake

Terrestrial subsoil is in continuous movement. In crust waves of low frequency (the period from seconds and above) extend. Earthquakes occur in those points where the surface of the earth can't plastically react to repeated increase in amplitude of fluctuations. Earthquake can be caused and is artificial: explosion of a large amount of explosives or at underground nuclear explosion.

A volcanic eruption

Shift of layers of crust, leads to cracks, earthquakes and lava splashes. Magma corks a volcano muzzle, like a stopper which the gases which have collected under a dome knock out from a muzzle.

A tsunami

The reason of the majority of a tsunami are underwater earthquakes during which there is a sharp shift (a raising or lowering) a seabed site. Tsunamis are formed at earthquake of any force, but big force is reached by what arise because of strong earthquakes (with magnitude more than 7).

The scale of destruction

A tornado

Intensity of a tornado is caused by speed of an internal wind (18-140M/c) from weak to the catastrophic.

An earthquake

Intensity depends on size of the hypocenter: normally — 70-80 km, intermediate — 80-300 km, deep — more than 300 km

A volcanic eruption

Depends on the number of erupted products from scratch - volume of emissions of less than 10^4 m³ up to eight - emitting into more than 1,000 km of ash and high column of ash more than 25 kilometers .

A tsunami

During the tsunami moves the entire water column from bottom to surface. Length of the crest of a ridge extends the length of the tsunami along the coast, and this is more than 1000kilometers.

The prediction of the phenomena

A tornado

Tornadoes occur each year in the summer in different parts of the globe, where the weather is hot, accompanied by the development of powerful thunderstorms. Tornadoes are born and over the water and over land.

An earthquake

Precursors of earthquakes are: rapid growth in the frequency of weak shocks (foreshocks), crustal deformation, determined by observation from space satellites or shooting at the ground surface using laser light sources, the change ratio of the velocities of longitudinal and transverse waves before earthquakes

A volcanic eruption

Almost every active volcano located station or apparatus for monitoring the life of the fiery mountain. The usual solution to the threat of disaster is the evacuation of nearby towns and cities. However, at times, and can compete with the elements.

A tsunami

Service tsunami warning. Seismic stations record the time and place of the earthquake, and if its epicenter is under water, you can expect a tsunami.

The methods of survival

A tornado

To close doors and windows, to avoid being on the last floor, to switch off gas and the electric power, to take cover in a cellar; if the house was in tornado epicenter some minutes before coming back there, examine a structure and perform possible repair work.

An earthquake

Do not panic, stay calm; shelter under sturdy tables, near the top of walls or columns; information is constantly listening to the radio; do not go to the balcony and did not use the elevator; no shelter near the dam, river valleys, sea beaches and lake shores - can cover a wave of underwater tremors; in public places the main danger is the crowd.

A volcanic eruption

Do not panic, stay home, shutting the doors and windows; If someone needs help, then leave the house, wearing warm clothes, preferably fireproof, protecting the nose and mouth with a damp cloth; do not use the car.

A tsunami

Immediately go to the lofty place or inland, avoiding moving along the valleys of rivers and streams. If the earthquake did you hear the alarm about the approaching tsunami, wait for rebound anxiety.

Conclusion

Natural disasters do not happen without a cause.

As the saying goes:” Neck or nothing”, one natural disaster can cause another. It is very dangerous, for example, earthquake of 2011 in Japan with magnitude 9,0. The death toll from earthquake and the arisen tsunami made more than 13 thousand. More than 12000 people were missing.

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