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ECOLOGICAL CONCEQUENCES OF NATURAL DISASTERS

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Summary: *Earthquakes and Tsunamis are probably the scariest among the natural disasters that teach us about the forces of nature and their unpredictability. Knowing that there is nothing we can do to prevent the occurrence of an earthquake, we are forced to learn from our own experience. The environment at the place of occurrence of an earthquake is important for the survival of victims and also defines the particular medical and public health needs arising from its specificity. Understandably, the ecological consequences of landslides can be divided into social, As a natural or anthropogenic-natural factor. In each of these groups, we can draw direct and indirect conclusions.*

Keywords*: earthquake; environmental impacts; public health impacts, tsunamis, landslide.*

Introduction

Earth is a dynamic planet, whose surface is continuously re-shaped by extreme, sudden events, such as fires, floods, storms, volcanic eruptions, earthquakes, and tsunamis. These phenomena are considered “natural disasters” from the human perspective, because they injure people and produce economic damages. From the ecosystem’s perspective, they are forms of disturbance, defined as any discrete event in time and space that disrupts ecosystem, community, or population structure, and changes resources, substrate availability, or the physical environment. As severe phenomena of disturbance, natural disasters may affect biodiversity by increasing mortality and altering habitat quality. Understanding the impacts of earthquakes on groundwater communities is crucial to assess the resilience and sustainability of subterranean ecosystems and hence to perform conservation actions, such as a strict regulation of water extraction [1-6].

Results and discussion

Earthquakes are natural disasters that can occur at any time, regardless of the location. Their frequency is higher in the Circum-Pacific and Mediterranean/Trans-Asian seismic belt. A number of sophisticated methods define their magnitude using the Richter scale and intensity using the Mercani-Cancani-Sieberg scale. Recorded data show a number of devastating earthquakes that have killed many people and changed the environment dramatically. The consequences of an earthquake depend mostly on the population density and seismic resistance of buildings in the affected area. Environmental consequences often include air, water, and soil pollution. Direct impacts will be felt immediately and will cause damage on structures, buildings and land, including ground failure, landslides, and seiches. The damage is influenced by the particularities of the affected area: coastal areas could expect tsunami followed by enormous floods; earthquakes caused or followed by volcano eruption can bring tons of ashes and fires. Direct impacts include big changes in land morphology as well (disappearance of existing lakes or formation of new ones, for example). Indirect impacts are those that are mostly unforeseen but can cause long time problems in the environment.Hazardous material spills introduce sewage, medical, radioactive and poisonous

material into the air, water and earth. Land without trees can be subjected to huge soil erosion problems. In the Japan earthquake (March 11, 2011; Fukushima) the subsequent tsunami destroyed a part of a nuclear plant and population was exposed to radiation.

This consequence has both a direct and an indirect impact on population: radionuclides will persist in this environment for a very long time, causing health issues. Lost vegetation or/and animal species will define(undermine) the progress of affected population once they are back. Environmental impacts are, thus, very important to be assessed while their strength and type will define expected medical and public health consequences in populated areas. An imaginary estimate of the aftermath of an earthquake is incomplete, with a view to the far-reaching consequences, which This part is also unknown to us.

There are more known geological features than others that can be used for the day. Let us present the quantitative properties according to the strength of the earthquake.
The epicenter of the magnitude of the earthquakes of various magnitudes is given in Table 1.

Table 1.

Magnituda	Kerry length, km	Kerry width, km
5,0	11	6
6,5	25	18
7,0	50	30
7,5	100	35
8,0	200	50

It is clear that such a wide landscape change can not lead to ecological Changes to the terms of this and subsequent territories. More free and easy to explore than just a green space. , With liquidation of animal habitats (sometimes humans), habitual Violation of natural resources by violating natural resources and land migration rules.

Medical impacts will be mostly defined by the environment in which the earthquake happened: dense population, a lot of structures, non-seismic resistance buildings, affected elderly and/or children. Medical impacts characteristic of earthquakes are: direct impact of trauma (fractures, musculoskeletal injuries, hemotorax, bleeding), burns, poisoning and related respiratory problems, neurological and cardiovascular symptoms, drowning (if tsunami followsearthquake).

Past experience has shown that several types of landslides take place in conjunction with earthquakes. The most abundant types of earthquake induced landslides are rock falls and slides of rock fragments that form on steep slopes. Shallow debris slides forming on steep slopes and soil and rock slumps and block slides forming on moderate to steep slopes also take place, but they are less abundant. Reactivation of dormant slumps or block slides by earthquakes is rare. Large earthquake-induced rock avalanches, soil avalanches, and underwater landslides can be very destructive. Rock avalanches originate on over-steepened slopes in weak rocks. One of the most spectacular examples occurred during the 1970 Peruvian earthquake when a single rock avalanche killed more than 18,000 people; a similar, but less spectacular, failure in the 1959 Hebgen Lake, Montana, earthquake resulted in 26 deaths. Soil avalanches occur in some weakly cemented fine-grained materials, such as loess, that form steep stable slopes under non-seismic conditions. Many loess slopes failed during the New Madrid, Missouri, earthquakes of 1811-12. Underwater landslides commonly involve the margins of deltas where many port facilities are located. The failures at Seward, Alaska, during the 1964 earthquake are an example.

Tsunamis are water waves that are caused by sudden vertical movement of a large area of the sea floor during an undersea earthquake. Tsunamis are often called tidal waves, but this term is a misnomer. Unlike regular ocean tides, tsunamis are not caused by the tidal action of the Moon and Sun. The height of a tsunami

in the deep ocean is typically about 1 foot, but the distance between wave crests can be very long, more than 60 miles. The speed at which the tsunami travels decreases as water depth decreases. In the mid-Pacific, where the water depths reach 3 miles, tsunami speeds can be more than 430 miles per hour. As tsunamis reach shallow water around islands or on a continental shelf; the height of the waves increases many times, sometimes reaching as much as 80 feet. The great distance between wave crests prevents tsunamis from dissipating energy as a breaking surf; instead, tsunamis cause water levels to rise rapidly along coast lines.

Conclusion

Thus, Tsunamis and earthquake ground shaking differ in their destructive characteristics. Ground shaking causes destruction mainly in the vicinity of the causative fault, but tsunamis cause destruction both locally and at very distant locations from the area of tsunami generation. Earthquakes cause fear, panic, diseases, deaths and changed environment, leaving people in discomfort with their own vulnerability. Living in an earthquake prone area doesn't make us more vulnerable. It is our ignorance of how to react that makes us vulnerable and lost. The most important thing is to bring people back to their homes once the disaster threat is over, to rehabilitate areas as soon as possible. As with all disasters, earthquakes function circularly, thusit is very important to learn from previous events and improve existing protocols based on experience.

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