

NAME: _____
 Social Sciences
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Natural Hazards Document

Document 1: “Facts and Figures”

Natural hazards have different origins.

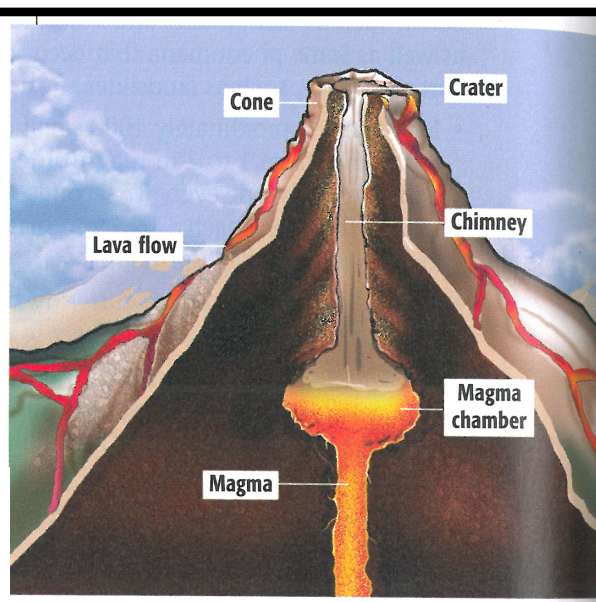
Geological hazards relate to movements within the Earth, such as earthquakes and volcanic eruptions, as well as some phenomena that occur on the Earth’s surface, such as landslides.

- Every day, approximately 1000 small earthquakes registering from 1 to 2 in **magnitude** occur: approximately one every 87 seconds. Another 800 earthquakes reach 5 to 5.9 in magnitude and about 18 reach 7 or higher.
 - Nearly 1500 volcanoes are currently active: they have erupted recently or are likely to erupt soon.
- Meteorological* hazards include severe tropical cyclones (hurricanes and typhoons), heavy precipitation, high winds and very high temperatures.
- Every year, about 80 cyclones sweep across the oceans. Less severe storms can also cause damage.

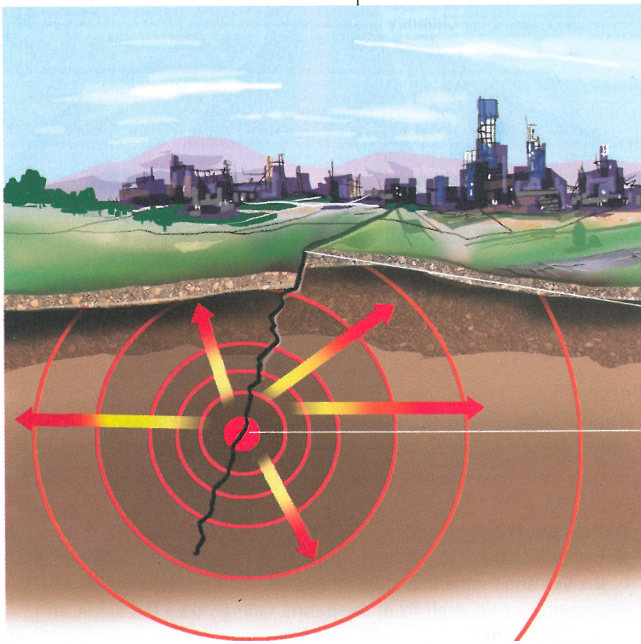
Hydrological hazards include tidal waves, also called tsunamis, and floods.

Document 2: “Volcanoes”

An extrusive eruption causes magma (molten rock) to spread slowly down the sides of a volcano in lava flows of a reddish colour. Because of the lava’s colour, this kind of volcano is called a “red volcano.” Lava flows down a volcano’s sides at speeds varying from 50 to 100 km/h. Lava is extremely hot when it leaves the volcano: it can reach 1200°C. While flowing down a volcano’s sides, lava cools and hardens. There is no way to stop a lava flow.



Document 3: "Earthquakes"



An earthquake, also called a seism, is characterized by more or less violent shocks that do not last for more than a few seconds or minutes. A violent earthquake is accompanied by a terrifying noise that comes from deep within the Earth. All earthquakes occur where there is a break in the Earth's crust. The movements that take place along such a break or fault produce waves that travel outward, like the ripples you see when you toss a pebble into water.

Epicentre: A point on the Earth's surface located straight above a break in the Earth's crust.

Hypocentre: The starting point of an earthquake, located beneath the Earth's surface.

We describe an earthquake's **magnitude** using the Richter scale. The magnitude depends on the earthquake's strength, duration and the distance between the earthquake's epicentre and the affected area. Places nearer to the epicentre will feel more violent shocks.

Damage caused by earthquakes is nearly always due to the collapse of buildings and structures that cannot withstand the shocks. Another major source of damage is fires caused, for example, by broken gas pipelines. In mountainous regions, earthquakes can also cause landslides and falling rocks and debris that may make it difficult to help victims.

Levels	Impacts
Less than 3.5	Shocks are recorded, but not usually felt
Between 3.5 and 5.4	Shocks are often felt, but damage is minor
Between 5.5 and 6.0	Slight damage to buildings
Between 6.1 and 6.9	Buildings may be destroyed
Between 7.0 and 7.9	Major earthquake – serious damage
8.0 or higher	Major earthquake – substantial destruction of the locality

Document 4: "Classification of hurricanes and hurricane damage"

Category	Wind speed (km/h)	Sudden rise in water level (in metres)	Impacts
1	118 to 153	> 1.2	▪ Slight damage
2	154 to 177	> 1.8	▪ Damage to trees, motor homes and small boats
3	178 to 210	> 2.7	▪ Damage to roofs and houses ▪ Some flooding
4	211 to 249	> 4.0	▪ Heavy flooding and building damage ▪ Local evacuation of residents
5	> 250	> 5.5	▪ Serious damage to trees and buildings and widespread electrical power failures ▪ Large-scale evacuation of residents

The Saffir-Simpson scale lists five categories to measure a hurricane's force.

Source: National Hurricane Center, Miami, Florida, United States.