

Taken from: <https://www.ifrc.org/en/what-we-do/disaster-management/about-disasters/definition-of-hazard/>

Earthquake

Earthquakes are the result of forces deep within the earth's interior. Sudden break within the upper layers of the earth, sometimes breaking the surface, resulting in the vibration of the ground, which when strong enough will cause the collapse of buildings and destruction of life and property.

They strike with no early warning and can be devastating, but after a major one, aftershocks may be as strong as a new earthquake. Earthquakes usually happens along a fault plate, the border between plates.

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Tsunami

A **tsunami** is a series of waves caused by a rapid displacement of a body of water (ocean, lake). The waves are characterised by a very long wavelength and their amplitude is much smaller offshore. The impact in coastal areas can be very destructive as the waves advance inland and can extend over thousands of kilometers. Triggers of a tsunami can be: earthquakes, volcanic eruptions, mass movements, meteorite impacts or underwater explosions. The Japanese term for this phenomenon "tsunami" (*"Wave in the port" in Japanese*), which is observed mainly in the Pacific, has been adopted for general usage.

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Volcanic eruption

Volcanic eruptions happen when lava and gas are discharged from a volcanic vent. The most common consequences of this are population movements as large numbers of people are often forced to flee the moving lava flow. Volcanic eruptions often cause temporary food shortages and volcanic ash landslides called Lahar.

The most dangerous type of volcanic eruption is referred to as a 'glowing avalanche'. This is when freshly erupted magma forms hot pyroclastic flow which have temperatures of up to 1,200 degrees. The pyroclastic flow is formed from rock fragments following a volcanic explosion, the flow surges down the flanks of the volcano at speeds of up to several hundred kilometres per hour, to distances often up to 10km and occasionally as far as 40 km from the original disaster site.

The International Federation response adjusts to meet the needs of each specific circumstance. As population movement is often a consequence, the provision of safe areas, shelter, water, food and health supplies are primordial. In general response prioritizes temporary shelter materials; safe water and basic sanitation; food supplies; and the short term provision of basic health services and supplies.

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Drought

Drought is an insidious phenomenon. Unlike rapid onset disasters, it tightens its grip over time, gradually destroying an area. In severe cases, drought can last for many years and have a devastating effect on agriculture and water supplies.

Drought is defined as a deficiency of rainfall over an extended period – a season, a year or several years – relative to the statistical multi-year average for the region. Lack of rainfall leads to inadequate water supply for plants, animals and human beings. A drought may result in other disasters: food insecurity, famine, malnutrition, epidemics and displacement of populations.

Rural communities can sometimes cope with one or two successive rain failures and crop or livestock losses: the situation becomes an emergency when people have exhausted all their purchasing resources, food stocks, assets and normal coping mechanisms.

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Meteorological hazards: Tropical storms, hurricanes, cyclones and typhoons

Tropical storms, cyclones, hurricanes and typhoons, although named differently, describe the same disaster type.

Essentially, these disaster types refer to a large scale closed circulation system in the atmosphere which combines low pressure and strong winds that rotate counter clockwise in the northern hemisphere and clockwise in the southern hemisphere.

The system is referred to as a "**cyclone**" in the Indian Ocean and South Pacific, "**hurricane**" in the Western Atlantic and Eastern Pacific and "**typhoon**" in the Western Pacific.

Hurricanes and typhoons are the same storm types as "**tropical cyclones**" (the local name for storms which originate in the Caribbean and China Sea region respectively).

A tropical cyclone is a non-frontal storm system that is characterised by a low pressure center, spiral rain bands and strong winds. Usually it originates over tropical or subtropical waters and rotates clockwise in the southern hemisphere and counter-clockwise in the northern hemisphere. The system is fueled by heat released when moist air rises and the water vapor it contains condenses ("warm core" storm system). Therefore the water temperature must be $>27\text{ }^{\circ}\text{C}$.

Cyclones, hurricanes and typhoons can be predicted several days in advance. The onset is extensive and often very destructive. These disasters are usually more destructive than floods.

First, in a sudden, brief onslaught, high winds cause major damage to infrastructure and housing, in particular fragile constructions. They are generally followed by heavy rains and floods and, in flat coastal areas, by tidal waves.

In the case of cyclones, accurate landfall predictions can give only a few hours' notice to threatened populations. In addition, people generally opt to wait until the very last minute before abandoning their home and possessions. Deaths from drowning in the high tides and sudden flooding and material losses are therefore often very high.

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Climatological hazards: extreme temperatures (heat wave, cold wave and extreme winter conditions)

Heat Waves

A **heat wave** is a prolonged period of excessively hot and sometimes also humid weather relative to normal climat patterns of a certain region.

Heat kills by pushing the human body beyond its limits. In extreme heat and high humidity, evaporation is slowed and the body must work extra hard to maintain a normal temperature.

Most heat disorders occur because the victim has been overexposed to heat or has over-exercised for his or her age and physical condition. Older adults, young children, and those who are sick or overweight are more likely to succumb to extreme heat.

Conditions that can induce heat-related illnesses include stagnant atmospheric conditions and poor air quality. Consequently, people living in urban areas may be at greater risk from the effects of a prolonged heat wave than those living in rural areas. Also, asphalt and concrete store heat longer and gradually release heat at night, which can produce higher nighttime temperatures known as the "urban heat island effect."

Cold waves, winter storms and extreme winter conditions

A **cold wave** can be both a prolonged period of excessively cold weather and the sudden invasion of very cold air over a large area. Along with frost it can cause damage to agriculture, infrastructure, property.

Cold waves, **heavy snowfall** and **extreme cold** can immobilize an entire region. Even areas that normally experience mild winters can be hit with a major snowstorm or extreme cold. Winter storms can result in flooding, storm surge, closed highways, blocked roads, downed power lines and hypothermia.