

Earthquake Preparation in Japan

Japan is in the Pacific Ocean and is part of Asia. Japan is near an area called the 'Ring of Fire' because it is in an area where many earthquakes happen.

Earthquakes

Earthquakes can cause extreme damage to buildings and homes. Earthquakes can vary dramatically and they can also cause injury or death. The vibrations of an earthquake are measured on a seismograph and the strength of the earthquake is measured on the Richter scale which compares them by size. Severe earthquakes can also trigger Tsunamis.

Tsunamis

A severe earthquake can cause a tsunami. During an earthquake, a sudden movement on the ocean floor can create a large tidal. To stop any damage, the Japanese government has used these strategies:

Seawalls

Seawalls higher than five metres have been proven to protect the coastlines from damage and casualties.

Coastal Forests

Forests along the Japanese coast have reduced the destruction and damage caused by a tsunami.



Strategies

Because Japan is affected by earthquakes, the Japanese government have created the following solutions:

Earthquake-resistant buildings have been designed, which protect people inside buildings. These buildings are unlikely to collapse in an earthquake.

Japan Railways use 'The Urgent Earthquake Detection and Alarm System' (UrEDAS). When an earthquake erupts, the power in the train line is cut off.



Earthquake Preparation in Japan

Japan is located in the Pacific Ocean and is part of the continent of Asia. It is found in an area in the Pacific referred to as the 'Ring of Fire' as it is located on the edges of continental and oceanic tectonic plates. This means there is a considerable amount of seismic and volcanic activity which causes earthquakes and tsunamis.



Japan is likely to have approximately 1500 earthquakes every year because of its location in the 'Ring of Fire.' Earthquakes are caused by movements of the Earth's tectonic plates. Earthquakes range in size and magnitude and depending on their severity, they can also cause injury or death. The vibrations of an earthquake are measured on a seismograph. The strength of the earthquake is measured using the Richter scale. Seismologists are scientists that study the effects of earthquakes and how to limit the damage they create.

Due to the frequency of earthquakes in Japan, earthquake-resistant buildings were designed to minimize the impact caused by the seismic waves. The aim of these buildings is to reduce the risk of the building collapse as well protecting the people inside a building in the event of an earthquake.

A severe earthquake can trigger a tsunami. A tsunami is a large wave caused by a sudden movement of the ocean floor, such as the shock of the seismic activity from an earthquake. A tsunami can cause devastation and destruction. As Japan is extremely liable to earthquakes, strategies have been implemented to minimize the damage caused by potential tsunamis.

The Urgent Earthquake Detection and Alarm System (UrEDAS) is a system designed for Japan Railways. Motion sensors are used to detect the beginning of an earthquake, registering small seismic waves. When seismic waves are detected, the power to the train line system is immediately cut off, bringing trains to a stop.

Seawall

A thick, high, concrete wall constructed along on the coastline where a tsunami might impact directly upon the landforms of the coast. Seawalls higher than 5 metres have proven to protect the coastlines from damage and casualties.

Coastal forests

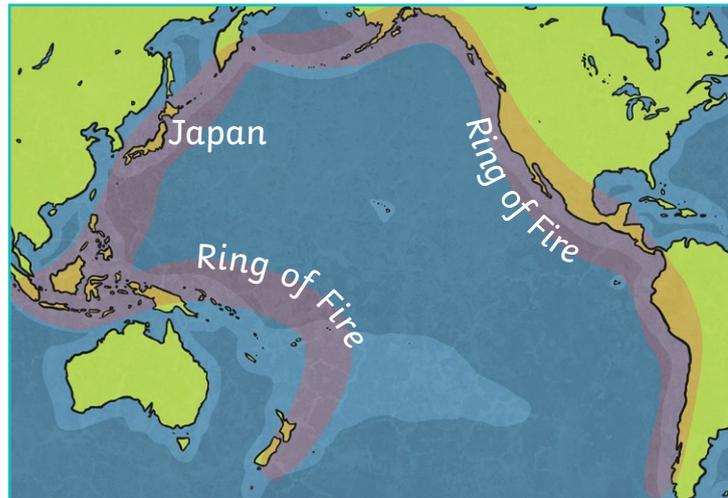
Forests along the Japanese coast have been shown to reduce the destruction and damage caused by a tsunami.



Earthquake Preparation in Japan

Located in the Pacific Ocean, near to China and Korea, Japan is an island that is affected significantly by earthquakes.

In fact, this area of the Pacific Ocean is so susceptible to earthquakes that it is referred to as The Ring of Fire.



Approximately 1500 earthquakes occur annually in Japan and this has resulted in the government having to create innovative solutions in order to prevent long-term damage and loss of life.

Earthquakes are caused by movements of the Earth's tectonic plates. Because Japan is at the meeting point of three plates (the Eurasian, the Philippine and the Pacific), it is more susceptible to tremors caused by the movement of these plates. Earthquakes can vary dramatically some going unnoticed and others causing large scale damage. Seismologists are scientists that study the effects of earthquakes. They measure earthquakes using the Richter scale, which determines the severity of an earthquake. It ranges from 0 to 10: an earthquake up to scale 2 is normally only detected on a seismograph; size 8 – 10 can cause severe devastation.

Due to the frequency of earthquakes in Japan, earthquake-resistant buildings were designed to minimize the impact caused by the seismic waves. The aim of these buildings is to reduce the risk of the building collapse as well protecting the people inside a building in the event of an earthquake. One of the features that engineers created in earthquake resistant buildings is base isolation. Japan is also home to one of the most sophisticated railway networks in the world. Therefore, it is critically important that Japan Railways are able to respond in the event of an earthquake. The Urgent Earthquake Detection and Alarm System (UrEDAS) is a system designed for Japan Railways. Motion sensors are used to detect the beginning of an earthquake, registering small, seismic waves. When seismic waves are detected, power to the train line system is automatically cut off, bringing trains to a halt. This will prevent damage and protect customers.

Earthquake Preparation in Japan

A severe earthquake can trigger a tsunami, a Japanese word that derives from the words for harbour and wave. It is a large wave caused by a sudden movement of the ocean floor such as the shock of the seismic activity from an earthquake. Because of the damage and devastating effects that tsunamis leave in their wake, Japan has implemented strategies to minimize the damage caused by potential tsunamis. One method that has been implemented is the construction of seawalls. A thick, high, concrete wall have been constructed along on the coastline where a tsunami might impact directly upon the landforms of the coast. Seawalls higher than five metres have a proven record of protecting the coastlines from damage and casualties. In addition to this, coastal forests have been planted. Forests along the Japanese coast have been shown to reduce the destruction and damage caused by a tsunami.

Earthquakes and tsunamis have affected Japan for many years. Scientists and the government are continuing to work together to find solutions in order to prevent damage happening in the future.

