



read

Natural Hazards

Management of Tectonic Hazards



quiz



The Big Picture



Key Terms



Economic – Relates to money including income levels and growth.



Monitoring – Recording physical changes, such as earthquake tremors.



Planning – Actions taken to enable communities to respond to hazards.



Prediction – Attempts to forecast when and where a hazard will strike.



Protection – Actions taken to reduce a hazard impact before it strikes.



Social – Relates to the factors that affect someone's lifestyle.



Why live at risk of hazards?



Economic reasons for living at risk

- Geothermal energy can be used to generate electricity and heat people's homes.
- Nutrient rich soils are ideal for agriculture.
- Resources and income is provided from mining minerals.
- Tourism creates jobs and provides income.
- It may be cheaper to stay in a tectonically active zone rather than move.



Social reasons for living at risk

- People want to stay close to family and friends.
- People may not understand the risk or the threat may not be great enough.
- People are confident that the measures taken to monitor, predict, plan and protect from tectonic hazards will keep them safe.



Monitoring



Earthquakes

- Foreshocks monitored using seismometers.
- Radon detection devices used to monitor the release of radon from cracks prior to earthquakes.



Volcanoes

- GPS is used to monitor changes in the shape of a volcano.
- Seismometers used to detect magma moving.



Prediction



Earthquakes

- Predicting location, date and time of earthquakes is notoriously difficult, though foreshocks can give an indication of a potential event.



Volcanoes

- Advance warning signals, such as earthquakes swarms and the deformation of land can support predicting volcanic eruptions.



Protection



Earthquakes

- Building and transport infrastructure design can include shock absorbers.
- Sea walls constructed to protect from tsunamis.



Volcanoes

- Buildings cannot be completely designed to protect from volcanic eruptions.
- Evacuation by the authorities is likely to be the most effective method of protection.



Planning



Earthquakes

- Practice drills can be help e.g. Japan, Sept 1st.
- Emergency supplies and evacuation centres.
- Securing objects/furniture.



Volcanoes

- Exclusion zones
- Evacuation
- Educating people how to response