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Mr. Schmidt Science 8

Elastic deformation epicenter fault focus plastic deformation

Primary wave secondary wave seismic wave strain stress

Seismogram seismometer amplitude magnitude modified Mercali scale

Moment magnitude scale Richter scale seismic gap soil liquefaction

Tsunami

1. Epicenter – point on Earth’s surface directly above the focus of an earthquake.
2. Seismogram – record produced by a seismometer that can provide individual tracking of each type of seismic wave.
3. Amplitude – the size of the seismic waves; an increase in the scale represents an increase in amplitude of a factor of 10.
4. Soil liquefaction – process associated with seismic vibrations that occur in area of sand that is nearly saturated; results in the ground behaving like a liquid.
5. Magnitude – measure of the energy released during an earthquake, which can be described using the Richter scale.
6. secondary wave – seismic wave the causes rock particles to move at right angles to the direction of the wave, known as the S-wave.
7. Elastic deformation – causes materials to bend and stretch; proportional to stress, so if the stress is reduced or returns to zero the strain of deformation is reduced or disappears.
8. Tsunami – large, powerful ocean waves generated by the vertical motions of the seafloor during an earthquake; in shallow water, can form huge, fast-moving breakers exceeding 30 m in height that can damage coastal areas.
9. Plastic deformation – permanent deformation caused by strain when stress exceeds a certain value.
10. Richter scale – numerical rating system used to measure the amount of energy released during an earthquake.
11. Modified Mercali scale – measures earthquake intensity on a scale from I to XII; the higher the number, the greater the damage the earthquake has caused.
12. Focus – point of the initial fault rupture where an earthquake originates that usually lies at least several kilometers beneath Earth’s surface.
13. Seismic wave – the vibrations of the ground during an earthquake.
14. Fault – fracture or system of fractures in Earth’s crust that occurs when stress is applied too quickly or stress is too great; can form as a result of horizontal compression (reverse fault), horizontal shear (strike-slip fault), or horizontal tension ( normal fault).
15. Moment magnitude scale – scale used to measure earthquake magnitude, taking into account the size of the fault rupture, the rocks’ stiffness, and the amount of movement along the fault-using values that can be estimated from the size of several types of seismic waves.
16. Stress – forces per unit area that act on a material-compression, tension, and shear.
17. Seismometer – instrument used to measure horizontal or vertical motion during an earthquake.
18. Strain – deformation of materials in response to stress.
19. Seismic gap – place along an active fault that has not experienced an earthquake for a long time.
20. Primary wave – seismic wave that squeezes and pushes rocks in the same direction that the wave travels, know as P-wave.