

Mass Wasting Video Worksheet

1. What was the trigger of the Nevado del Ruiz landslide event?

Volcanic eruption

2. Define “Mass Wasting”

Downslope movement of soil, regolith, and rock under the influence of gravity

3. What are the driving forces of mass wasting?

Gravity, water, loading

4. List some naturally steep slopes:

**coasts
stream channels
glacial valleys**

5. What human influences contribute to mass wasting?

**Road building
logging
development
landscaping**

6. What does water do?

**Lubricates particles
Separates particles
Overloads slope with weight**

7. What type of mass wasting causes the most economic damage?

Creep

8. In 1940, what area of the California coast began to slide?

Point Fermin landslide

9. Give the name of the specific type of mass wasting here:

Slump

10. How can this area be stabilized?

Compaction, regarding, at great expense!

11. At Portuguese Bend, what are the causes of mass wasting?

Old slide

Road building—fill dirt overloaded the old slide

12. What mitigation techniques (efforts to minimize the impact) are used at Portuguese Bend?

Concrete and steel nails at base of slide

Above ground utilities

Isolate house from ground

Drain water from water table

Gabions—rock structures to reduce erosion at shoreline

13. Which seems to have been completely ineffective?

Concrete and steel nails at base of slide

14. Which seems to have made the greatest impact?

Drain water from water table

15. What type of mass wasting affects Wrightwood, California?

Mudflows, debris flows

16. How large of particles can be carried by this type of mass wasting?

From silt to automobiles

17. In what manner do the residents of Wrightwood deal with their mass wasting problem?

**Grade debris from channel
Build higher banks on channel**

18. Why is Wrightwood so vulnerable?

San Andreas fault has pulverized nearby material.

19. In mountainous areas, what type of mass wasting is the biggest hazard?

Rock fall, rock slide, avalanche

20. In an area to be developed, what clues are gathered to determine the likelihood of mass wasting damage?

Look for evidence of creep and slump

21. What can be done to mitigate potential mass wasting?

**Careful grading
Removal of slide material before building**

22. What is the main concern, and can it be dealt with effectively?

**Slump, landslide
No, because it continues onto adjacent land that developer has no control over.**

23. At Portuguese Bend, what is the main cause of the mass wasting?

Road building

24. How fast do rock slides/rock avalanches travel?

Several hundred km/hr

25. What do humans do to contribute to mass wasting?

Steepen slopes, add excess water