

CHANGING SLOPES

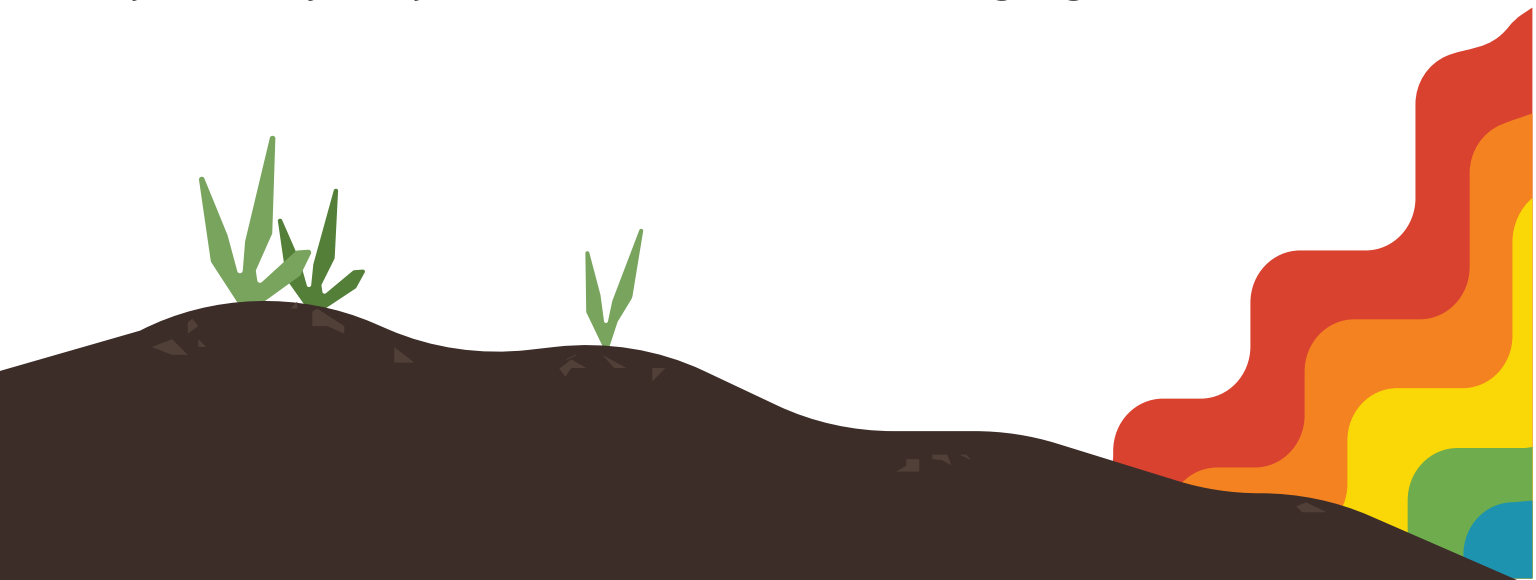


As with most natural disasters, climate change is expected to have an effect on the intensity and frequency of landslides, especially in mountainous areas with snow and ice. As permafrost melts, rocky slopes become more unstable. Increased rainfall compounds the problem by loosening and liquifying the soil

Areas where increased wildfires or human modification have destroyed vegetation also present a growing threat, as the slopes become more vulnerable to heavy rain. Post-fire landslide areas are prone to fast-moving, highly destructive debris, and frequent landslides only serve to worsen the slope.

Landslides pose a significant threat to human populations, settlements, infrastructure, and natural resources. They cause loss of life, and widespread destruction, and scientists are concerned with monitoring the condition of slopes as Earth continues to warm.

Because of the growing threat of climate change, humans are increasingly concerned with strategies to mitigate or prevent landslides, including modifying slope geometry, reinforcing slope materials with chemicals, installing structures such as retaining walls, and rerouting debris pathways and water drainage routes. However, one of the simplest ways to restore slope stability and prevent erosion involves restoring vegetation to areas.



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Plants have the capacity to greatly mitigate erosion, one of the main factors that leads to steepening slopes. Observe this for yourself using 2 containers, some sand or soil, and some grass from your yard or nearby grassy area!

- 1 Make two hills, one in each of your containers. Leave one of them bare and build the second one around a few clumps of grass, or plants pulled from the yard.
- 2 Pour a cup of water over each of your slopes.
- 3 Observe which of the hills lost more soil. Why do you think this is? How can a well-vegetated slope help to protect communities against potential landslides?

