Unit 1: Case study discussion questions

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1. Nevado Huascarán is composed primarily of granodiorite. Based on the tectonic setting of the area, propose a hypothesis about how Nevado Huascarán formed.
2. Would you expect seismicity to be a risk factor in the generation of landslides in the Nevado Huascarán and/or San Fratello study sites? Why/why not? If so, in which study area would you be MOST concerned about seismic hazards? Why?
3. Propose some factors that could have contributed to the Nevado Huascarán rock and ice fall turning into a debris flow.
4. In both study areas, scientific and historical evidence exists suggesting that mass-wasting events have occurred in the past. If this is the case, why do people continue to inhabit these areas?
5. What was water's role in the Nevado Huascarán and San Fratello events?
6. Mass-wasting events also occur in areas that receive very little precipitation. Propose some ideas for what might trigger slope failure in dry regions.
7. What might be some of the challenges in studying past mass-wasting events and predicting future events?
8. How have the community/government responses to the Nevado Huascarán and San Fratello events been different? How do you think that community and government officials would respond to a similar event in the United States?
9. Briefly describe the geological and climatological differences between the Nevado Huascarán and San Fratello sites. In both cases, how did the geology and climate contribute to the development of the slide?
10. Compare and contrast how infrastructure and human life were affected by the mass-wasting events in both locations.
11. Provide some specific ideas about how future climate change could impact mass-wasting events/hazards.
12. What did you learn about these two case study landslides that surprised you?
13. What else would you want to investigate about the sites to help the community make planning decisions?