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10/23/14

Geology

**Introduction – Landslide Map Assignment**

Landslides are a common occurrence in Utah. Figure 1 is a map showing areas where landslides have occurred in the past (red). These areas are considered the most likely areas to have landslides in the future.

1. Describe the topography in areas with the greatest landslide likelihood (red). What areas are most likely to experience landslides?

**The topography is of the red area is the benches on the mountain side. This is the type of area that is usually most likely to experience a land slide because humans disturb the area. Based off of the data from the map, clearly landslides happen on hills and mountain sides.**

1. A few “red” areas extend into the valley. Why do you think the landslide hazard extends into the valley in these areas? What major feature is associated with each of these areas and which area extends the furthest?

**The areas that extend into the valley is still prone to landslides because it’s surrounded by hills. The gravel pit area in South Weber is basically a giant hole in the ground that was man made making it pretty prone to a landslide because of the walls. The whole South Weber valley itself is basically a hole in the ground and is surrounded by hills and mountains.**

1. Based on the information in your notes, which factors increase the likelihood of landslides?

**There are lots of factors that go into landslides. Climate, sediment/rock type, water saturation and sudden storms, groundwater levels, slope angle, undercutting, development and construction. Basically its either water activity, or human intervention that initiates a landslide.**

Landslide events resulting in property damage have occurred recently. Go to the websites below and describe/summarize the dates and locations of these two events, the type of hazard, the extent of the hazard, and the risks/losses and damage. Based on the map above and information at the Internet sites, would you consider these areas vulnerable (explain)? In your opinion, could anything have been done to prevent or mitigate the risks/losses? Use an extra page as needed.

<http://geology.utah.gov/utahgeo/hazards/landslide/sweber0406/index.htm>

**This hazard was a land slide. It covered only one house, but caused a lot of damage. It was 80 feet wide and 600 feet long. What happened was the top of a hill had been modified by gravel-pit operations and gave way. As for if this could have been prevented, the area is historically known for landslides so that should be a red flag for those building there. Also, most of the contents of the landslide were human placed particles. This area is in South Weber which is in the red area on the map, so I would definitely consider this a vulnerable area.**

<http://geology.utah.gov/utahgeo/hazards/landslide/sweber0205/index.htm>

**This hazard was also a land slide. This one wasn’t as much caused by man intervention, but more by a heavy year of rainfall. It wasn’t quite as long as the first one, but it managed to not only destroy a barn, it also shut down South Weber Drive. The slide was caused by the materials in the hill which were sand, silt, and clay plus shallow land water. Again, looking at our map, this happened in the South Weber area, which is all covered in red. South Weber drive specifically goes right against the side of the mountain, so as far as preventing it, I guess they could have built the road in a different area.**