



Geologic Hazard Landslide-Hazard



Utah Geological Survey Special Study 127
Geologic Hazards and
Adverse Construction Conditions
St. George-Hurricane Metropolitan Area
Washington County, Utah, 2008



City of Hurricane
147 N 870 W
Hurricane, UT 84737
GIS



1 inch = 2,000 feet



Projection/Datum: Utah State Plane Zone South (FIPS 4303) NAD83
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Description
Geologic units in the study area are ranked into four broad susceptibility categories ranging from most susceptible (Very High) to least susceptible (Low), based chiefly on the perceived strength characteristics and relative percentage of strong versus weak lithologies in each unit, and secondarily on the number of landslides present in each unit.

The four landslide-susceptibility categories were combined with the critical slope inclinations determined for each of those categories to determine landslide hazard in the study area. The four levels of landslide hazard for the St. George-Hurricane metropolitan area are described below.

Using This Map
The Landslide-Hazard Map shows areas of relative landslide hazard, and provides a basis for requiring site-specific hazard studies. Site-specific studies can resolve uncertainties inherent in generalized geologic-hazard mapping and help ensure safety by identifying the need for hazard mitigation.

The Landslide-Hazard Map identifies areas based on previous landslide history, material characteristics, and slope where site-specific slope-stability conditions (material strength, orientation of bedding or fractures, ground-water conditions, erosion or undercutting) should be evaluated prior to development. The level of investigation needed at a given site depends on the relative hazard and the nature of the proposed development (structure size and placement, required cutting and filling, and changes in ground-water conditions). A valid landslide-hazard evaluation must address all pertinent conditions that could affect, or be affected by, the proposed development, including earthquake ground shaking. This can only be accomplished through the proper identification and interpretation of site-specific geologic conditions and processes (Hyland, 1996). Such conditions in areas near to the site that may affect the site must also be considered.

See section 5, "Landslide Hazard", in the full report for more detailed information on susceptibility categories and recommendations for landslide-hazard studies.

Classification:
For a detailed explanation of the contents of this map, contact the Hurricane Planning Department for a copy of Special Study 127

- Landslides**
- VH - Very High: Existing landslides (Category A)
 - H - High: Areas where Category B geologic units crop out on slopes greater than 15 percent (8.5°)
 - MB - Moderate B: Areas where Category B geologic units crop out on slopes less than 15 percent (8.5°)
 - MC - Moderate C: Areas where Category C geologic units crop out on slopes greater than 20 percent (11.3°)
 - L - Low: Areas where Category D geologic units crop out on slopes greater than 30 percent (16.7°)

Legend

- Hurricane City Limits
- Creek
- Canal
- Major Streets
- Dirt St.
- State Highway
- I-15
- Ramp
- RCDR Babylon Section
- Parcels
- Virgin River

Map Sources:
Parcels, Hurricane GIS Dept. Modified from Washington County GIS data downloaded Feb., 2009.
Streets, Hurricane City GIS Dept. Modified from Washington County GIS data downloaded Feb., 2009.
Aerial, USDA, National Agriculture Imagery Program (NAIP) 2006. Distributed by the Utah AGRC and reprojected to Utah State Plane, South (FIPS 4303), NAD 83 (CONUS), Survey Feet from the original. SID source file.