



Idaho Springs, Clear Creek County, Colorado, Area  
Geologic Hazards Map

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April-May, 1975

DOI: <https://doi.org/10.58783/cgs.of7505.ixlr2647>

GENERAL

Geologic hazards in the Idaho Springs area are natural geologic conditions that if ignored or poorly planned for can result in loss of life, damage to structures, or high maintenance costs, especially for roads. As such, there are three general kinds of potentially hazardous geologic conditions shown on this map: 1) mudflow-debris fan areas; 2) rockfall and rockslide areas; 3) unstable and potentially unstable slopes. Additionally, much of the Idaho Springs area is undermined and in some places subject to future surface subsidence following collapse of underground mining excavations. Man-made modifications of flood plains of Clear Creek and Chicago Creek make prediction of the nature of future flooding along these drainages difficult.

HOW TO USE THIS MAP

This map should be used as a guide to location of areas where the indicated geologic condition could cause difficulties for particular land uses. It is not intended to supplant detailed field investigations of building sites, but rather to signal places where the indicated geologic conditions could cause difficulties for particular land uses. If this map is used to designate geologic hazard areas as specified by H.B. 1041 (see Rogers, Wm. P., and others, 1974, p. 120-121), then it is suggested that this map serve as a basis for further investigation of individual sites.

EXPLANATION



**Mudflow-debris fan area:** area where rapid alluviation (movement of soil, rock, and debris by water and/or deposition of mud and debris) takes place. In the vicinity of Idaho Springs, these areas are found in and at the mouths of tributary drainages to Clear Creek, especially along the north side of Clear Creek where drainage basins head in near-barren, predominantly south-facing slopes where abundant debris can accumulate. These areas are dangerous as rapidly moving water, mud, and debris can flood and pose a serious threat to structures and at times to life. Prediction of exact timing and severity of this kind of event is nearly impossible, and some mudflow-debris fan areas in the vicinity of Idaho Springs probably have not been active during the recent history of the town. Reports of long-time resident(s) and turn-of-the-century photographs indicate most of these areas have been active and man-modified since the town was founded. Mapping of these areas disregards such modifications.



**Rockfall-rockslide area:** area where nearly instantaneous, unpredictable falling, sliding, and rolling downslope of large masses of rock or individual rock blocks take place. In the Idaho Springs area, south-facing slopes tend to be more susceptible to rockfalls and rockslides than north-facing ones as vegetation is more sparse and freeze-thaw action is more pronounced. Mapped rockfall-rockslide areas are only the extensive obvious areas subject to this geologic process. Many smaller areas of rockfalls and rockslides undoubtedly exist, and the presence of an active rockfall-rockslide area should be considered a possibility whenever evidence such as loose rocks on the ground surface or steep cliffs up slope are present.



**Unstable and potentially unstable slope area:** These are areas susceptible to translational or rotational landslides or slow mass wasting of surficial material downslope. In the Idaho Springs area, north-facing slopes are more likely to fail by slow mass wasting of surficial material than south-facing ones as they hold snow longer, tend to be more moist, and are typically heavily forested. Nearly all sloping ground in the Idaho Springs area has potential for slope failure with increased likelihood of failure on steeper slopes, places with relatively great depth-to-bedrock, and adjacent to deep (road) cuts and oversteepened mine tailings.

REFERENCE

Rogers, Wm. P., and others, 1974, Guidelines and criteria for identification and land-use controls of geologic hazard and mineral resource areas: Colo. Geol. Survey Special Publication 6, 146 p.

0 1/4 1/2 Mile

Scale  
1" = 885'  
1:10,600

