

EXPLANATION

2 RECORDED HISTORIC CLOUDBURST FLOOD - Approximate site. More than one flood is indicated by number

BOUNDARY OF MAJOR DRAINAGE BASIN

BOUNDARY OF SECONDARY DRAINAGE BASIN

BOUNDARY OF MINOR DRAINAGE BASIN

In the Salina quadrangle, as in most of the arid West, summer precipitation commonly occurs as thunderstorms. During these storms, rain falls as a torrential downpour, or cloudburst, in a local area. An inch of rain or more may fall in half an hour; U.S. Weather Bureau records show that 0.4 inch of rain has fallen in a period of 5 minutes (Woolley, 1946). Such a fall of water far exceeds the absorptive capacity of the ground surface, and in areas of steep sparsely vegetated terrain the runoff forms a cloudburst flood in which loose rock, soil, and alluvium combine with water to form a debris-laden mudflow. The mudflow then moves rapidly down gullies and canyons with power great enough to erode and to transport debris, and to destroy the works of man lying in its path. When the mudflow pours from the canyon mouth into an open valley, solid debris separates from the water and is added to the alluvial fan built by numerous previous floods. Because many towns in Utah are built on fans at the mouths of canyons, there has been loss of life and considerable damage to buildings, streets, and crops since 1847, when white men first settled in Utah.

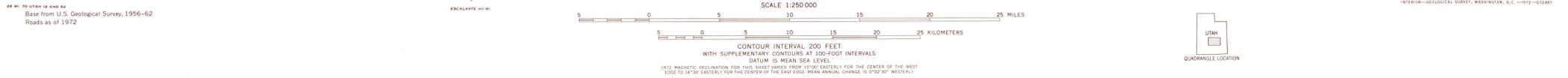
This map shows historical cloudburst floods for which records exist; data were taken from the sources listed below. Most of the flooded areas shown are in or near populated places, and so the floods were observed and recorded. Actually, no part of the quadrangle is exempt from cloudburst floods; every canyon, dry wash, and swale is visited sooner or later by a cloudburst and becomes, briefly, the site of a destructive mudflow. The traveler is advised to exercise caution in all drainageways, especially during July and August, when 80 percent of the cloudbursts occur.

SOURCES OF DATA

Butler, Elmer, U.S. Geol. Survey, unpublished data.

Hunt, C. B., Averitt, Paul, and Miller, R. L., 1953, Geology and geography of the Henry Mountains region, Utah: U.S. Geol. Survey Prof. Paper 228, 234 p.

Woolley, R. R., 1946, Cloudburst floods in Utah, 1850-1938: U.S. Geol. Survey Water-Supply Paper 994, 128 p.



MAP SHOWING DRAINAGE BASINS AND HISTORIC CLOUDBURST FLOODS IN THE SALINA QUADRANGLE, UTAH

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