

**U.S. DEPARTMENT OF THE INTERIOR  
U.S. GEOLOGICAL SURVEY**

**GENERALIZED SURFICIAL GEOLOGIC MAP OF THE  
PUEBLO 1° × 2° QUADRANGLE, COLORADO**

By

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**Miscellaneous Field Studies Map MF-2388  
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**ABSTRACT**

Fifty-three types of surficial geologic deposits and residual materials of Quaternary age are described in accompanying pamphlet and located on the map of the greater Pueblo area, in part of the Front Range, in the Wet and Sangre de Cristo Mountains, and on the plains east of Colorado Springs and Pueblo. Deposits formed by landslides, wind, and glaciers, colluvium, residuum, alluvium, and others are described in terms of predominant grain size, mineral or rock composition (for example, gypsiferous, calcareous, granitic, andesitic), thickness, and other physical characteristics. Origins and ages of the deposits and geologic hazards related to them are noted. Many lines drawn between units on our map were placed by generalizing contacts on published maps. However, in 1997–99 we mapped new boundaries as well. The map was projected to the UTM projection. This large map area extends from near Salida (on the west edge), eastward about 107 mi (172 km); and extends from Antero Reservoir and Woodland Park on the north edge to near Colorado City at the south edge (68 mi; 109 km).

This report may be used for: land-use planning (for example, selecting land-fill sites, greenbelts, avoiding geologic hazards), for finding aggregate resources (crushed rock, sand, and gravel), for study of geomorphology and Quaternary geology. The report identifies geologic hazards (for example, landslides, swelling soils, heaving bedrock, and flooding) if they are known to be located in, or characteristic of, mapped units. Surficial deposits in the quadrangle may be regarded as evidence of depositional events of the Quaternary Period (the most recent 1.8 million years). Some geologic events such as floods are familiar to persons living in the area, while other geologic events preceded human occupation. The latter include glaciation, probable large earthquakes, protracted drought, and widespread deposition of sand and silt by wind. At least twice in the past 200,000 years (most recently from about 30,000 to 12,000 years ago) global cooling caused glaciers to form on Pikes Peak and in the high parts of the Sangre de Cristo range. Some glaciers advanced down valleys, deeply eroded the bedrock, and deposited moraines (map units tbk, tbg, tbj, tbi) and deposited outwash (ggq, gge), in the Wet Mountain Valley. On the plains (east part of map), eolian sand (es), stabilized dune sand (ed), and loess (elb) are present and in places contain buried paleosols, which indicate periods of active sand dune deposition and periods of stabilized landscape during which soils developed.

The accompanying pamphlet comprises interpretive text, a full description of map units, and selected references. The map sheet itself comprises the principal map, a diagram showing stratigraphic correlation of map units, and an index map showing the area of the Pueblo quadrangle, the adjacent Denver quadrangle, and other published geologic maps in Colorado that cover 1° × 2° quadrangles.

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