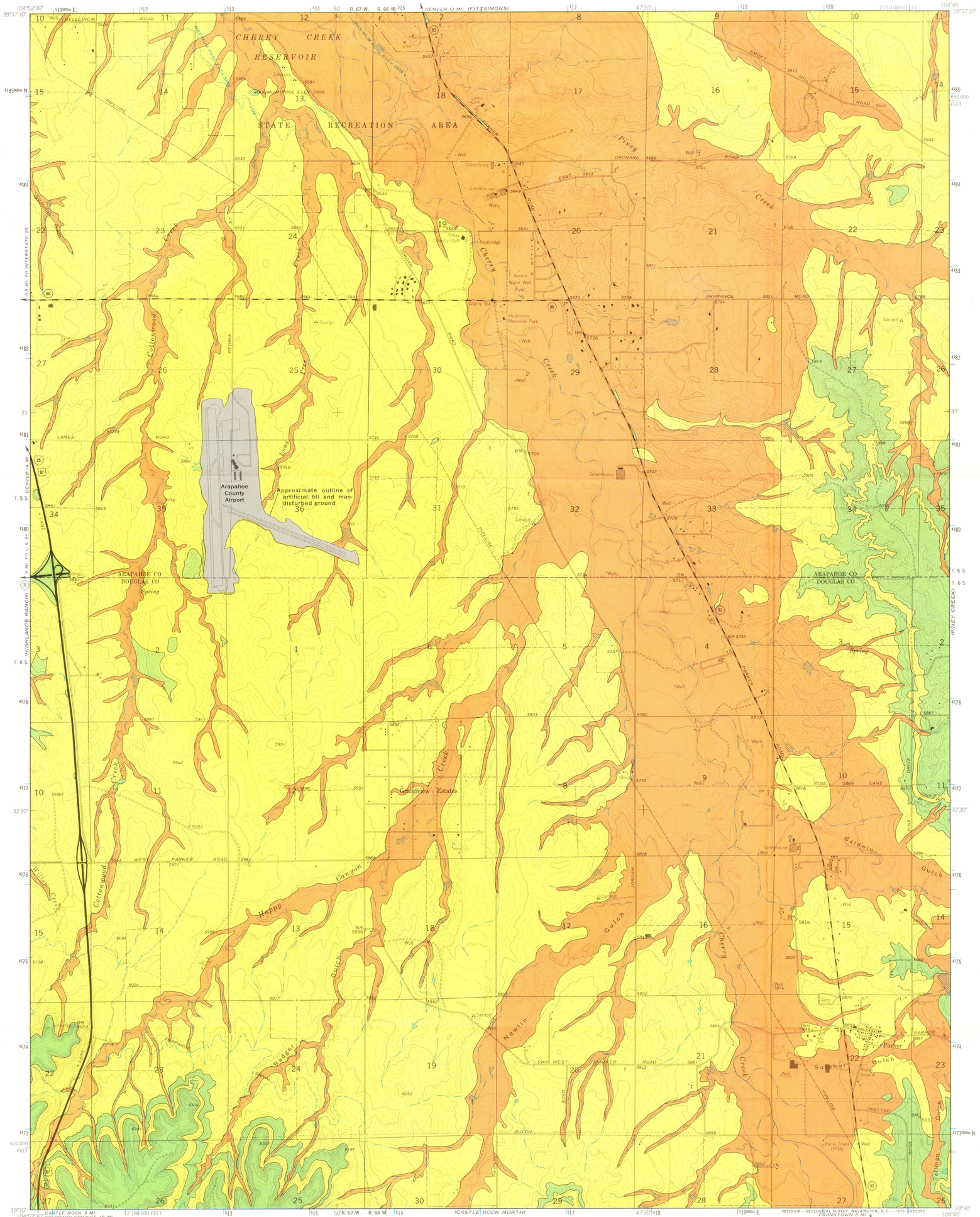
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

FOLIO OF THE
PARKER QUADRANGLE, COLORADO
MAP I-770-G



RELATIVE ERODIBILITY OF GEOLOGIC MATERIALS

HIGHEST – Most easily erodible by running water; local areas east of Parker Road are subject to severe wind erosion

MODERATE – Moderately erodible by running water; local areas may be subject to moderate wind erosion

LOWEST – Least readily erodible by running water or by wind action

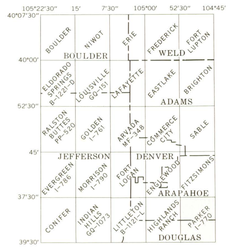
Knowledge of the physical properties of geologic materials is important in land-use planning. The physical property portrayed on this map is that of relative erodibility, or susceptibility to erosion, the tendency of earth materials to be worn away by natural means. In the Parker quadrangle, running water and wind currents are the most active agents of erosion. Running water is the dominant agent. This map is the product of field evaluation of engineering characteristics, including erodibility, during detailed geologic mapping of the Parker quadrangle. It is based on interpretation of the physical behavior of geologic materials under varying environmental conditions; measurement on aerial photographs of the amount of local erosion from 1963 to 1970; composition of the geologic materials, including mineralogy, grain size, and type of binding agent or cement; depth of weathering; local steepness of slope; and relative cohesion between grains in slope-forming materials. Because of these special parameters, the boundaries of geologic units as shown on Map I-770-A (Maberry and Lindvall, 1972) have been modified for this map. Artificial fill and other works of man were mostly disregarded, and the effect of vegetative cover on erodibility was not evaluated.

The geologic materials of the quadrangle are grouped into three categories of erodibility: highest, or most easily erodible; moderate; and lowest, or least readily erodible. The three categories are relative only to each other. Moreover, within each category geologic materials commonly vary widely in their comparative erodibility. Grouped in the moderate category, for example, are loess, a wind-deposited silt and clay; parts of alluvial units that are older than alluvium found in modern streamcourses; and certain types of bedrock. This grouping indicates only that, other conditions being equal, these materials tend to erode less easily than those in the highest erodibility category, and more easily than those in the lowest erodibility category. It does not mean that loess, alluvium, and bedrock all erode at the same rate.

This erodibility map is designed solely as a guide in land-use planning, and is in no way intended to supplant detailed field investigations and laboratory studies of geologic materials from specific sites.

REFERENCE

Maberry, J O., and Lindvall, R. M., 1972, Geologic map of the Parker quadrangle, Arapahoe and Douglas Counties, Colorado: U.S. Geol. Survey Misc. Inv. Map I-770-A.



INDEX SHOWING LOCATION OF PARKER QUADRANGLE

Base from U.S. Geological Survey, 1965
Photorevised in 1972
10,000-foot grid based on Colorado coordinate system, central zone
1000-meter Universal Transverse Mercator grid ticks, zone 13, shown in blue

SCALE 1:24 000
1 MILE
1 KILOMETER
CONTOUR INTERVAL 10 FEET
DATUM IS MEAN SEA LEVEL

APPROXIMATE MEAN DECLINATION, 1972

COLORADO
QUADRANGLE LOCATION

MAP SHOWING RELATIVE ERODIBILITY OF GEOLOGIC MATERIALS IN THE PARKER QUADRANGLE, ARAPAHOE AND DOUGLAS COUNTIES, COLORADO

By
John O. Maberry

1972