TOPOGRAPHY, SOIL PARENT MATERIALS and GENERAL CLIMATIC ZONES

SOIL PARENT MATERIALS
Soil parent materials consist of alluvium from areas upslope and from the mountains, which differ in their lithology as shown in the legend, and river alluvium from the ancestral Rio Grande. Carbonate content of the parent materials significantly affects soil morphology and classification. "High-carbonate" designates parent materials with more than about 15% CaCO₃ equivalent; "low-carbonate" designates parent materials with less than about 2% CaCO₃ equivalent. Mountain-derived alluvium from the sedimentary rocks is high-carbonate whereas river alluvium and alluvium derived from intermediate intrusive, rhyolite and undifferentiated volcanics are low-carbonate. High- and low-carbonate parent materials are dominant in the respective delineations shown, each generally contains some areas of the other (see detailed map in Volume III). Minor areas of groundwater carbonate have formed in the river alluvium. Eolian sediments, such as the sediments of coppice dunes (see coppice dune map), occur in places both on river alluvium and on lower slopes of alluvium from the mountains.

CLIMATE
Climatic data indicate that the highest mountain range (the San Andres-Organ mountains chain) is semiarid. Depth of wetting and darkening of upper soil horizons occurs in many places at about 5000 foot elevation, indicating increasing precipitation. Also, vegetative density tends to increase, and some of the vegetation characteristic of higher elevations, such as blue grama, first appears at about 5000 foot elevation, and this elevation is tentatively designated as an approximate boundary between the arid and semiarid zones. More data are needed to locate the actual boundary between the arid and semiarid zones. Smaller semiarid areas, not shown, probably also occur in the Dona Ana and Robledo mountains.

Bedrock Areas
- L: Sedimentary
- M: Intermediate intrusive
- R: Rhyolite
- Y: Volcanic (undifferentiated)

Includes areas of soils classified at the great group level and above. Small bedrock areas not designated (see detailed map in volume III).

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