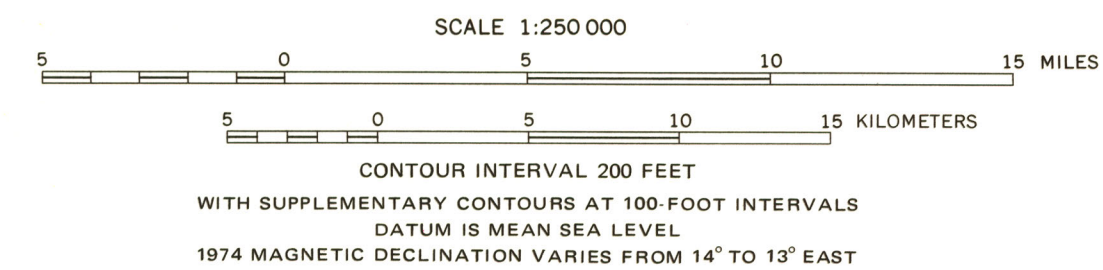


Earth fissures
Existing as of 1970

Measured land subsidence (dark color) is based on adjusted U.S. Coast and Geodetic Survey level data for 1948-67 except in the area southeast of the Sacaton Mountains, which is for 1948-64. Where estimated, amounts of land subsidence that may have occurred are based on water-level declines, peaches, and other factors. The amount of subsidence in the area southeast of the Sacaton Mountains may range from zero to greater than amounts shown.

The land subsidence and fissure fissures are related to the large-scale withdrawal of ground water and the resultant water-level declines in alluvial sediment. Fissure fissures generally first appear as long narrow linear features less than 1 inch wide and as much as 1 mile long. When irrigation water is applied, the fissures close and the ground surface returns to its original state as drains. Erosion caused by water draining into the fissures causes them to widen rapidly to as much as 30 feet at the land surface. In some places land has differentially subsided more on one side of a fissure than on the other side. The fissures are confined to the alluvial deposits and have not been observed in the adjacent bedrock outcrops (Shown in gray).

Land subsidence and fissures are related to the distribution of water in the distribution systems, streets, roads, interstate highways, and railroads and have necessitated rerouting of proposed aqueducts.



LAND SUBSIDENCE AND EARTH FISSURES IN ALLUVIAL DEPOSITS IN THE PHOENIX AREA, ARIZONA

By
H. H. Schumann
1974