

EXPLANATION

- -2.9 WELL IN WHICH DEPTH TO WATER WAS MEASURED IN 1967 AND 1975—Number, -2.9, is the difference between the 1967 and 1975 measurements
- IRRIGATED AREA AS OF 1974—Based on data from the Arizona Crop and Livestock Reporting Service and field checked by personnel of the U.S. Geological Survey; land under cultivation or that prepared for cultivation was considered irrigated
- - - - - APPROXIMATE BOUNDARY BETWEEN SATURATED ROCKS OF HIGH PERMEABILITY AND STORAGE AND ROCKS OF LOW PERMEABILITY AND STORAGE—Rocks of high permeability are mainly silt and sand and some clay and gravel; rocks of low permeability are mainly crystalline and well-cemented sedimentary rocks
- ARBITRARY BOUNDARY OF GROUND-WATER AREA

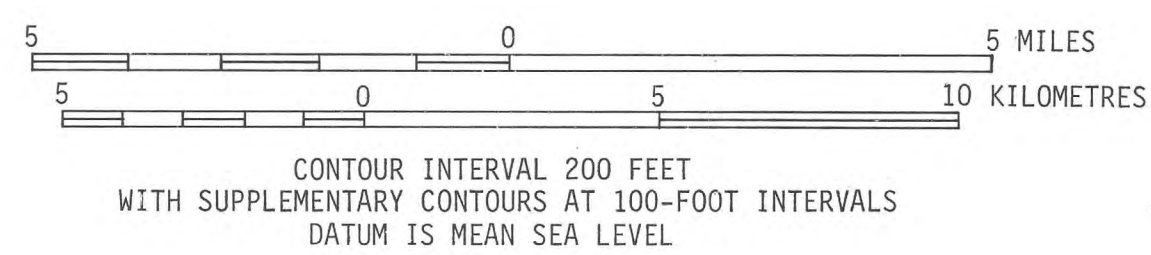
The area in Ranegras Plain and Butler Valley where wells are most productive is underlain by sedimentary strata to depths of more than 1,000 feet. The strata consist of silt, sand, and some clay and gravel beds and include a few basaltic lava flows. Well yields are as much as a few thousand gallons per minute, but the specific yield generally is less than 25 gallons per minute per foot of drawdown. The less productive part of the area is mountainous, and the exposed rocks consist of volcanic flows, well-cemented sedimentary rocks, and some crystalline intrusive rocks; well yields generally are not more than 10 gallons per minute.

In general water-level changes were minor in the Ranegras Plain and Butler Valley areas through 1975, and no particular pattern of rise or decline is discernible. For 1967-75, measured water-level changes ranged from a rise of 2.2 feet in a well in sec. 25, T. 5 N., R. 16 W., to a decline of 10.8 feet in a well in sec. 6, T. 5 N., R. 15 W. The water level declined nearly 26 feet in a well in sec. 21, T. 5 N., R. 15 W., for 1946-75; the water level rose nearly 9 feet in a well in sec. 1, T. 5 N., R. 16 W., for 1954-75.

For the most part, the hydrologic data on which these maps are based are available in computer-printout form for consultation at the Arizona Water Commission, 222 North Central Avenue, Suite 800, Phoenix, and at U.S. Geological Survey offices in: Federal Building, 301 West Congress Street, Tucson, and Valley Center, Suite 1880, Phoenix. Material from which copies can be made at private expense is available at the Tucson and Phoenix offices of the U.S. Geological Survey.

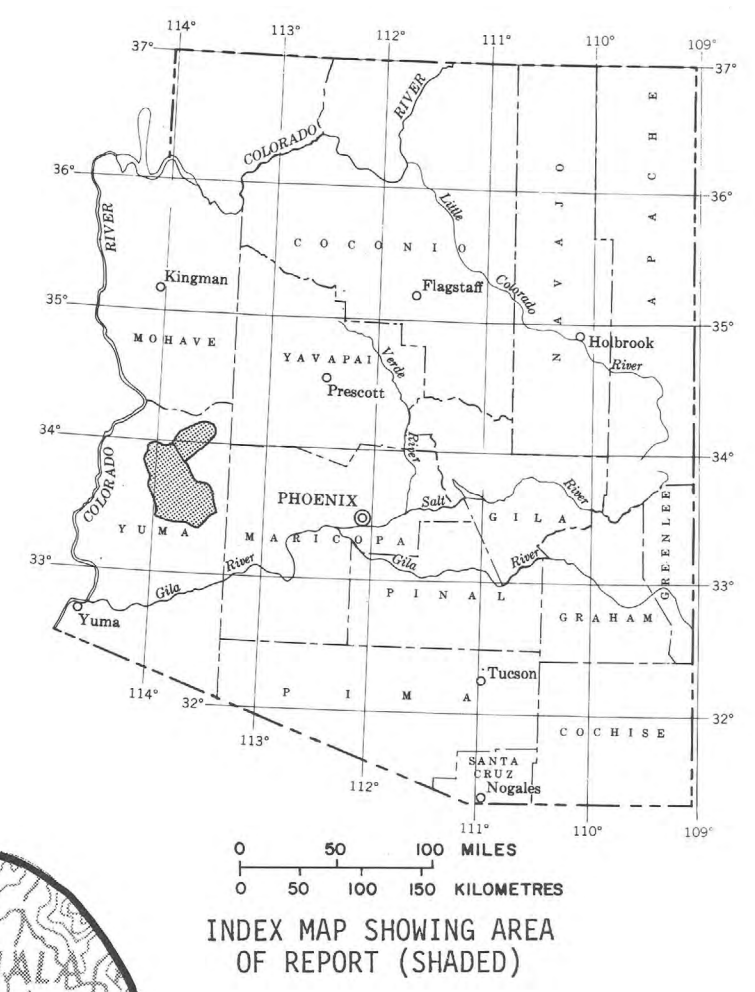
SELECTED REFERENCES

- Arizona Crop and Livestock Reporting Service, 1974, Cropland atlas of Arizona: Phoenix, Arizona Crop and Livestock Reporting Service duplicated report, 68 p.
- Briggs, P. C., 1969, Ground-water conditions in the Ranegras Plain, Yuma County, Arizona: Arizona State Land Dept. Water-Resources Rept. 41, 28 p.
- U.S. Public Health Service, 1962, Drinking water standards, 1962: U.S. Public Health Service Pub. 956, 61 p.



For use of those readers who may prefer to use metric units rather than English units, the conversion factors for the terms used in this report are listed below:

Multiply English unit	By	To obtain metric unit
feet (ft)	0.3048	metres (m)
acre-feet (acre-ft)	.001233	cubic hectometres (hm ³)
gallon per minute (gal/min)	.06309	litre per second (l/s)
gallon per minute per foot [(gal/min)/ft]	.2070	litre per second per metre [(l/s)/m]



Arizona (Ranegras Plain + Butler Valley) Ground water 1:250,000-1976.
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