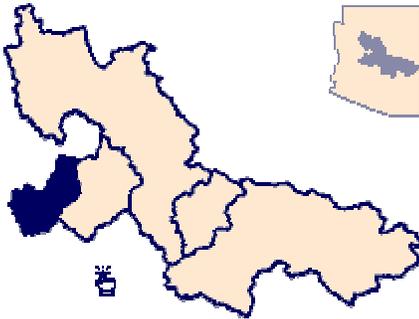


## UPPER HASSAYAMPA BASIN



The Upper Hassayampa basin includes about 740 square miles of the Central highlands physiographic province of central Arizona (Figure 3) and contains relatively small basins filled with alluvial deposits. The basin is bounded on the north by the Weaver Mountains, on the northwest by the Date Creek Mountains, on the south by the Vulture Mountains, and on the east by the Bradshaw Mountains. The mountains are composed of crystalline and sedimentary rocks. Elevations in the area range from 2,000 feet to over 7,000 feet above mean sea level.

The main water-bearing unit is the basin-fill deposits which is found in the valleys between the mountains. These deposits consist of gravel, sand, silt, and clay and may yield several hundred gallons per minute to wells. Where fractured, the crystalline and consolidated sedimentary rocks which make up the mountains may yield less than 10 gallons per minute (Sanger and Appel, 1980). In the alluvial basin north of the Vulture Mountains, the main water-bearing unit ranges from a few tens of feet thick near the margins to over 1,000 feet thick toward the middle (Sanger and Appel, 1980). In a few areas along the Hassayampa River, the crystalline rock is overlain only by a thin cover of stream deposits. Near Wagner, these deposits are up to 135 feet thick (Sanger and Appel, 1980).

Depth to groundwater varies across the basin. Water levels range from a few feet below land surface along the Hassayampa River to over 1,000 feet below land surface toward the middle of the basin. Approximately 1.1 million acre-feet of groundwater are in storage (to 1,200 feet below land surface). An estimated 1,450 acre-feet of groundwater were pumped from the basin in 1985 (Arizona Department of Water Resources, 1988). Most of the pumpage was for irrigation, domestic, stock and public supply purposes. Despite groundwater pumpage there has been little regional decline in water levels in the basin which suggests the area is still in a steady state condition. Large short-term changes in water level do occur, however, where water levels are directly influenced by precipitation and streamflow. Water quality is generally good. In most wells dissolved solids concentrations are below the maximum contaminant level set at 500 milligrams per liter for public supplies. Fluoride concentrations, however, exceed the maximum contaminant level in some areas (Sanger and Appel, 1980).