

EXPLANATION

Map Symbols

-  contact between alluvial units
-  contact between alluvium and bedrock
-  boundaries of 100-year floodplains determined through application of the FEMA alluvial fan methodology; pattern is outside the limit of the 100-year floodplain
-  boundaries of 100-year floodplain for North Ranch drainage; this drainage was not considered to be an alluvial fan by FEMA.

Unit Descriptions

- | Unit | Estimated Age and Physical Characteristics |
|------|--|
| 2c | Modern (less than 100 years)
This unit includes recently active channel and sheet-flow areas. Deposits of well-sorted sand and silty sand with lenses of coarse sand and fine gravel; boulders are found locally in larger washes. No soil development, and depositional stratigraphy is well preserved. Surfaces typically are sandy or gravelly, with organic material deposited by recent streamflow common. |
| 2b | Late Holocene (0 to 5,000 years)
This unit includes areas that have experienced deposition during channelized flow or sheet flow in the past few thousand years. Holokam (650 to 1,200 years old) artifacts have been found in 2b deposits on the lower piedmont and on 2b surfaces higher on the piedmont, indicating that some 2b surfaces are less than about 650 years and other 2b surfaces are older than 650 years. Channels typically are incised only 0.5 to 1 m below 2b surfaces; thus, these surfaces are not topographically isolated from major or minor washes and may be inundated during large floods. Original depositional topography is well preserved and surfaces are fairly planar between channels. Deposits are well-sorted sand and silty sand, with lenses of coarse sand, pebbles and cobbles. Depositional stratigraphy has been obscured by animal and plant activity. Soils typically consist of filaments or very thin, discontinuous carbonate coats on clasts and cambic horizons with 10 YR maximum redness. Surfaces are sandy or silty, with few pebbles and cobbles. |
| 2a | Early Holocene to Latest Pleistocene (5,000 to 20,000 years)
This unit includes areas that are geologically young but which have been isolated from significant flooding and deposition for at least 5,000 years. These areas are distinguished by dominantly erosional topography and moderate soil development. Channels are incised 1 to 2 m below 2a surfaces; surfaces are quite planar, but edges of surfaces adjacent to channels have been rounded by erosion. Deposits consist of sand and silty sand, with layers of gravel; cobbles are found locally. Soils have cambic horizons (maximum redness, 7.5 YR), thin, discontinuous to continuous carbonate coats or clasts, and disseminated carbonate in the soil matrix. Surfaces are typically sandy, with local surface gravel; incipient reddening on bottoms of some surface clasts. |
| 1b | Late Pleistocene (20,000 to 125,000 years)
This unit includes areas that have not been subject to substantial flooding for at least 20,000 years. 1b surfaces have similar topography as 2a surfaces, but are distinguished from them by greater soil development. Channels are incised 1 to 3 m below adjacent 1b surfaces. Deposits consist of moderately sorted sand, silty sand, and gravel, with coarser deposits nearer to the mountains. Soils exhibit weak to moderate clay accumulations (argillic horizons), with maximum redness of 7.5 YR to 5 YR. Thin, discontinuous to continuous carbonate coatings are found on clasts. Surfaces are typically sandy and gravelly, with clasts up to 50 cm in diameter, visible reddening and incipient varnish evident on some surface clasts. |
| 1 | Middle to Early Pleistocene (> 125,000 years)
This unit includes areas that have been isolated from significant fluvial deposition for more than 100,000 years. Topography on unit 1 surfaces is dominated by erosion; channels are typically incised at least 2 m below adjacent unit 1 surfaces, and areas between channels have been substantially rounded by erosion. Deposits consist of sand and silty sand, locally very gravelly. Soils have reddened (5 YR), clay-rich argillic horizons and strongly developed, locally cemented petrocalcic horizons (caliche). Surfaces are typically sandy and gravelly, with clasts up to 50 cm in diameter fairly common; surface clasts are strongly reddened and varnished. |

Scale: 1:12,000
(1 inch = 1000 feet)

Plate 1. Detailed surficial geologic map of the southern Tortolita piedmont.

Sheet 1 of 4

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