Soils of the San Carlos Apaches


The San Carlos Apache Indian Reservation is more than 1.8 million acres in size. It is a large Indian Reservation in central Arizona and fourth largest in the state. The town of San Carlos, location of the San Carlos Apache tribal government, is about 110 mi east of Phoenix, AZ. The reservation is located in parts of Gila, Graham, and Pinal Counties (Fig. 1).

Anthropologists believe that the Apaches are a southern branch of the Athabascan family that came to the Southwest from the far north around the 10th century (San Carlos Apache Tribe, 1984). By the 17th century they were widely feared by other tribes as savage warriors. The Apaches’ best-known warrior leaders were Mangas Colorados, Cochise, Diablo, and Geronimo. In 1886, hostilities ceased and the Apaches joined forces with Anglos and Hispanics to work together and to co-manage this great country.

The portion of the San Carlos Indian Reservation mapped in this effort is a study site known as the Mineral Strip in the southwestern part of the reservation (Fig. 1). The Mineral Strip consists of about 231,000 acres.

This soil and range survey was done under contract from January through May 1988. The Federal Government’s objective was to provide a basic resource inventory on behalf of the San Carlos Apache Tribe to assist in conserving, using, and developing their natural resources.

Temperature and Moisture Regime

In the Mineral Strip there are three distinct soil moisture regimes and two temperature regimes. The general soil maps for the counties covering the reservation (SCS, 1972, 1973, 1974) and more recent information were used to assist the field crew in making the initial separations. At elevations of about 2,000 to 3,600 ft the soils have a typic aridic (torric), thermic (TAT) moisture/temperature regime based on Soil Taxonomy (Soil Survey Staff, 1975). These areas receive about 7 to 12 in. of precipitation.

At elevations of about 3,600 to 4,800 ft the soils have an aridic that borders on ustic, thermic (VAT) moisture/temperature regime. These areas receive about 12 to 16 in. of precipitation.

At elevations of about 4,800 ft to 5,800 ft the soils have an ustic that borders on aridic, mesic (AUM) moisture/temperature regime. These areas receive about 16 to 20 in. of precipitation.

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2 In 1988 the soils (AUM) in the Mineral Strip were considered to have an ustic that borders on aridic, thermic moisture/temperature regime. Studies in 1989 provided the soil survey crew with data that these soils actually had an ustic that borders on aridic, mesic moisture/temperature regime.