

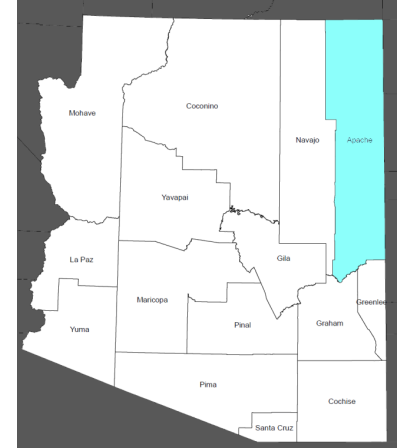
# Apache County, AZ

## Arizona County Agricultural Economy Profiles University of Arizona Cooperative Extension

### Overview

Apache County, in the northeastern corner of Arizona, is part of the Four Corners region, where the states of Arizona, New Mexico, Utah, and Colorado meet. As of 2018, the population was approximately 72,000, with nearly three-quarters of the population residing in rural areas. Population centers in the county include Chinle, Fort Defiance, and Eagar-Springerville. Top industries in Apache County include government, education and health services, and trade, transportation and utility industries.

Employment in on-farm agriculture represents less than 1% of private industry jobs, but accounts for approximately 2% of the county's GDP. Agriculture also plays an important role in land management, with more than 77% of Apache County land area in farms. County agricultural production is heavily influenced by tribal agriculture within the Navajo Nation, the Zuni Reservation, and the Fort Apache Reservation, which account for a majority of the county's land area. Apache County represents less than 1% of Arizona's total agricultural cash receipts but accounts for 21% of the state's total land in farms.



Map of Apache County, Arizona

Indicator	Apache County	Arizona
Land Area (square miles)	11,218	113,990
Land in Farms (Crops, Grazing) (square miles)	8,680	40,822
Population (2018)	71,818	7,171,646
Annual Average Population Growth Rate (2010-18)	0%	1.4%
Percent of Population Over 65 (2018)	15.3%	17.5%
Percent Population Rural (2010)	74.1%	10.2%
Total Employment (2018)	18,029	2,826,095
Share Federal, State, & Local Government Employment (2018)	59.1%	13.8%
GDP (2018)	\$3.0 billion	\$348.3 billion
Ag, Forestry, & Hunting GDP (on-farm only) (2018)	\$59.2 million	\$2.3 billion

Industry	Location Quotient
Coin-operated laundries and drycleaners	6.17
Elementary and secondary schools	3.89
Home health care services	3.11
Fuel dealers	2.88
Gasoline stations with convenience stores	2.52
<b>Water supply and irrigation systems</b>	<b>1.85</b>
<b>Beef cattle ranching and farming</b>	<b>1.69</b>
<b>Logging</b>	<b>1.32</b>
Assisted living facilities for the elderly	0.8
Nursing care facilities, skilled nursing	0.79

Top 10 Private Industries in Apache County by Employment LQ, 2018

An economy can be characterized by the industries that make up the “base” of the economy. A common way to measure this is with location quotients (LQs), which are the ratio of a particular industry's share of employment within a region to the same industry's share of national employment. An industry with a LQ greater than 1.25 is considered part of the economic base, exporting goods and services and bringing money into the region. LQs also help identify a region's areas of specialization. Higher LQs indicate greater specialization. Of the top 10 most concentrated private industries in Apache County, three are agriculture-related: water supply and irrigation systems, beef cattle ranching and farming, and logging. While there are many farms in Apache County, many do not employ individuals besides the farm proprietors.

# Apache County, AZ

Every 5 years, U.S. Department of Agriculture releases the Census of Agriculture, which provides the most comprehensive source of information on agricultural production by county. The Census provides information on the number of farms, types of crops and livestock produced, and farm characteristics, among other information. A farm is defined as any establishment that produced and sold, or could have sold, more than \$1,000 or more of agricultural products in the Census year. The following information comes from the most recent 2017 Census of Agriculture.

## Farms

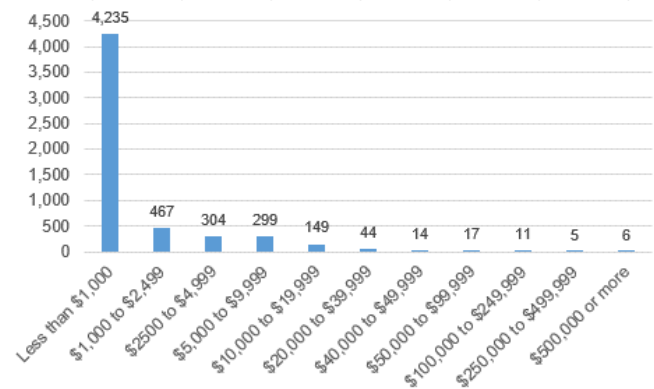
There were 5,551 farms in Apache County in 2017, covering 5,798 acres of cropland (74% irrigated) and 4,890,652 acres of pastureland (<1% irrigated). The average farm size was 1,001 acres, significantly larger than the national average of 441 acres, with the top 6% of farms accounting for 88% of county acreage.

Of 5,551 farms, 4,235 had less than \$1,000 in sales and 6 farms had more than \$500,000 in sales. The vast majority (94%) of county farms are family- or individually-held, and only 0.1% of farms were non-family-held corporate farms.

Farms are classified by the type of agricultural products they produce. When a farm or ranch produces more than one agricultural product, they are classified by the product that constitutes more than 50% of their sales. The most common type of operation in Apache County is sheep and goat farming (2,467 farms), followed by beef cattle ranching and farming (1,494 farms), and aquaculture and other animal production\* (1,129 farms).

While the number of farms is helpful in understanding how many farms “specialize” in different types of agricultural production, it does not reflect the magnitude or scale of production by commodity, which is better captured by sales or cash receipts (next page).

Apache County Farms by Annual Sales, 2017



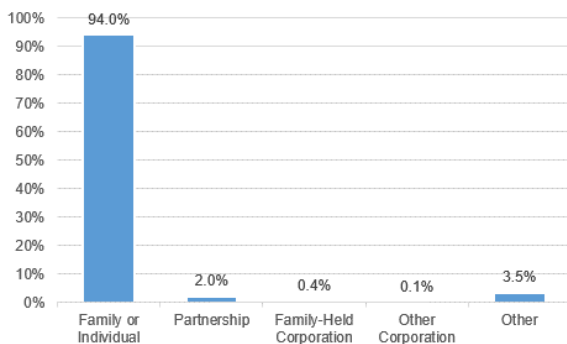
Source: USDA

Apache County Farms by Industry

Category	Farms
<i>Total farms</i>	5,551
Oilseed and grain farming	20
Vegetable and melon farming	256
Fruit and tree nut farming	10
Greenhouse, nursery, and floriculture production	7
Other crop farming	152
Cotton farming	0
Hay and all other crop farming	152
Beef cattle ranching and farming	1,494
Cattle feedlots	2
Dairy cattle and milk production	0
Hog and pig farming	3
Poultry and egg production	11
Sheep and goat farming	2,467
Aquaculture and other animal production*	1,129

\*Includes farms where no single type of livestock accounts for more than 50% of sales.

Apache County Farms by Legal Organization, 2017



Source: USDA

# Apache County, AZ

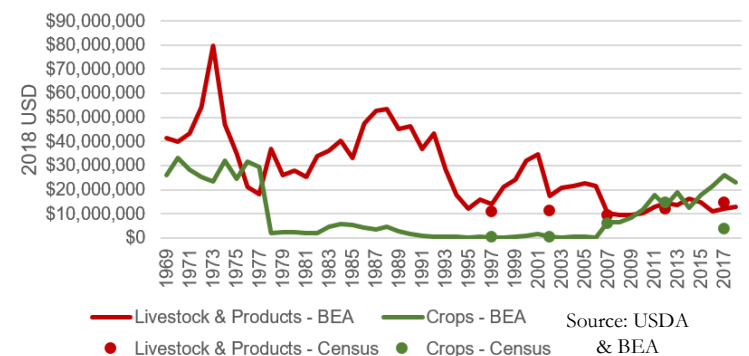
## Production & Marketing

Apache County has been heavily livestock-dominant in past years, though in recent years there has been a more even-split between crops and livestock. As of 2017, however, 80% of county cash receipts originated from livestock and 20% from crops.

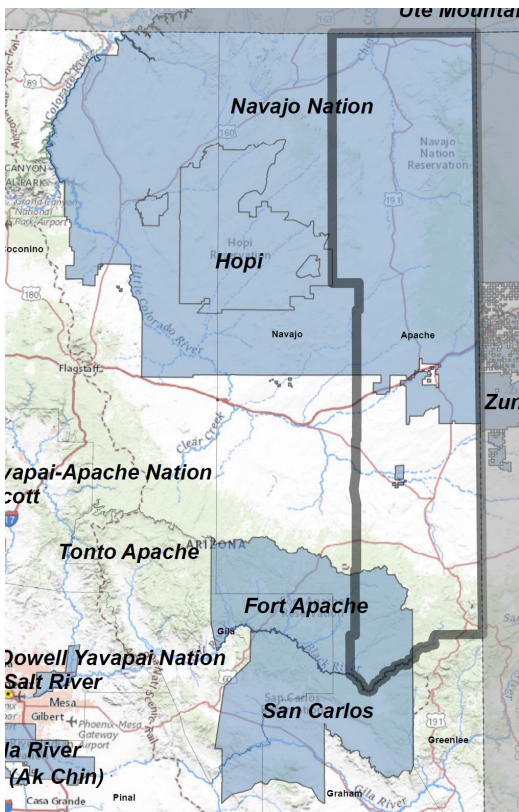
According to the 2017 Census of Agriculture, major agricultural products by value of sales include **cattle and calves** (\$11.8 million), **vegetables, melons, potatoes, and sweet potatoes** (\$2.1 million), **sheep, goats, wool, mohair, and milk** (\$1.6 million), and **other crops and hay** (\$1.3 million).

Local marketing represents less than 1% of county cash receipts, similar to the national average. In 2017, there were no operations in Apache County with reported sales of organic production.

Apache County Agricultural Cash Receipts for Crops & Livestock, 1969 to 2018



## Apache County Tribal Areas



## Tribal Agriculture

Apache County contains portions of the Navajo Nation, the Fort Apache Reservation, and non-contiguous portions of the Zuni Reservation. Of these three tribal areas, the 2017 Census of Agriculture reports only on agricultural production within the Navajo Nation.

The Navajo Nation is located in Arizona, New Mexico, and Utah and represents the largest tribal area in Apache County. Statistics reported below represent production within the entire Navajo Nation, therefore production occurring within Apache County is only a portion of the totals reported.

The Navajo Nation, in its entirety, had 16,129 farms with \$87.7 million in sales of agricultural products in 2017, of which \$69.4 million was crops and \$18.3 million was livestock and livestock products. There were 6,126 farms with cattle and calf inventories (2,447 of which had sales of cattle and calves) and 10,172 farms with sheep and lamb inventories (2,093 of which had sales of sheep and lambs). Focusing on crops, 1,977 farms grew traditional corn on 4,977 acres, 1,234 farms grew vegetables and melons on 8,394 acres, and 482 farms grew hay and forage on 30,010 acres.

Agriculture in Apache County is heavily influenced by tribal agriculture, both as a share of total farms, and in terms of top commodities produced. Sheep and goat farms are the most common type of operation in Apache County and the county ranks in the top 5% of U.S. counties for sales of goats, sales of sheep and lambs, and sales of wool. Apache County also ranks in the top 1% of U.S. counties for horses and ponies sold.

Tribal agriculture also influences the profile of Apache County agricultural producers. Within the Navajo Nation, 53% of producers are female, and the three Arizona counties that include Navajo Nation lands (Apache, Coconino, and Navajo counties) are also the three counties with more female than male principal agricultural producers. In fact, driven in part by female producers in these counties, Arizona has the highest share of female agricultural producers (49%) in the nation.

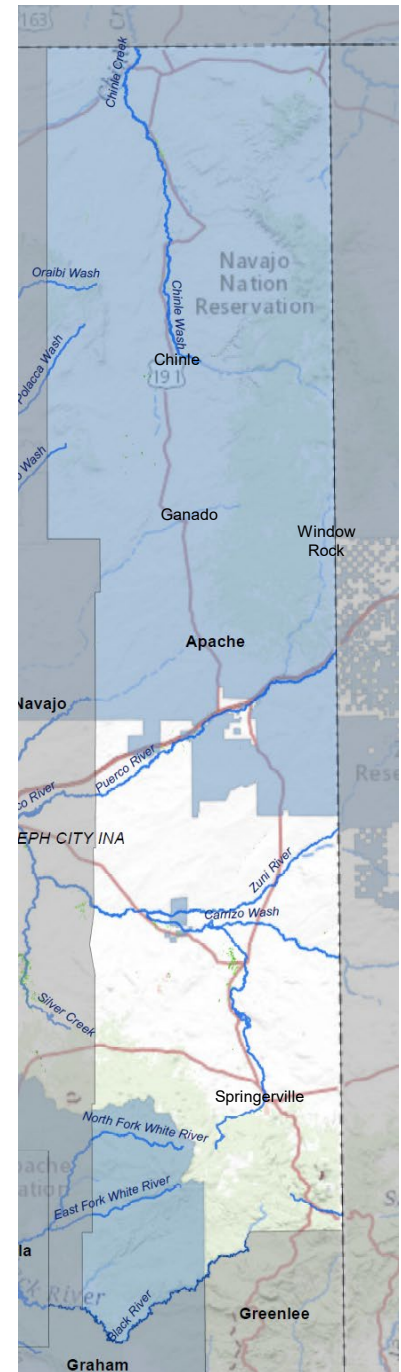
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## Irrigation Water Use

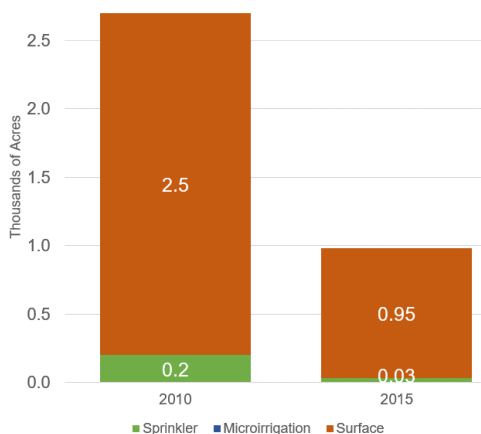
In Arizona, agriculture accounts for about 75% of the state’s water use. More than half of withdrawals for agricultural uses in the state are from surface water. In some areas of the state with high demand, groundwater withdrawals for irrigated agriculture are limited by the 1980 Groundwater Management Act. This legislation established five Active Management Areas (AMA) as well as other Irrigation Non-Expansion Areas (INA) where groundwater pumping and expansion of irrigated agriculture are limited. There is no land in Apache County within an AMA or INA.

Based on 2015 USGS estimates of water use, agriculture accounted for 13% of Apache County water withdrawals. Within the county, thermoelectric power generation represents the largest share of water demand, at over 60%. Agricultural irrigation water use in Apache County is dominated by production of crops, with the majority of irrigation water sourced from surface water. Surface water used for agriculture in the county was estimated at 2,050 acre-feet (AF) in 2015 and an estimated 930 AF was sourced from groundwater. An acre-foot is the amount of water required to cover one acre one foot deep in water. The USGS reported a sharp drop in surface water use between 2010 and 2015, and total irrigated acreage is reported as having dropped from 2,700 acres to 980 acres during the same period. Of the 980 total irrigated acres, 950 are irrigated using gravity-flow irrigation, and the remainder are irrigated with sprinkler irrigation. The Census of Agriculture reported a drop in irrigated harvested cropland between 2012 and 2017 from 6,888 to 4,309 acres.

Apache County Water Map

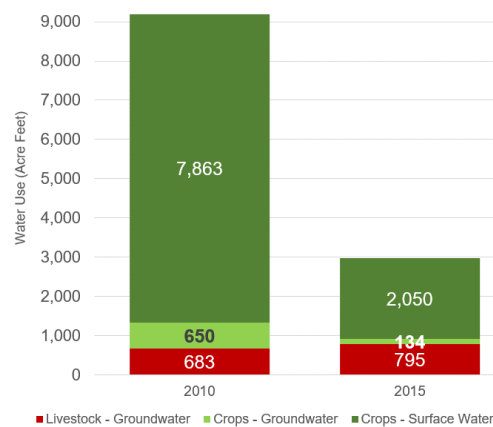


Apache County Irrigated Acres by Irrigation Technology



Source: USGS

Apache County Agricultural Water Use by Use and Source



Source: USGS