

Compact Facts
Arkansas River Compact of 1948

The Compact apportions the waters of the Arkansas River between Colorado (60%) and Kansas (40%) based on the opinion of the U.S. Supreme Court in Colorado v. Kansas, 320 U.S. 383 (1943). The Compact established the Arkansas River Compact Administration to prescribe procedures for Compact administration. The Compact Administration consists of three representatives from Colorado (a water user from above and below John Martin Reservoir and the Director of the Colorado Water Conservation Board), three Kansas representatives, and a federal representative.

The primary tool for administering the Arkansas River Compact is the 1980 Operating Principles, which provides for storage accounts in John Martin Reservoir and the release of water from those accounts for Colorado and Kansas water users. If the conservation pool (water user accounts) in the reservoir is depleted, Colorado is required to administer water rights priorities in District 67 (downstream from John Martin). During such periods, John Martin Reservoir Accounts are not entitled to water flowing into the reservoir.

Colorado and Kansas have litigated claims concerning Arkansas River water since the early twentieth century. In 1995, Colorado was found to have depleted stateline flows in violation of the Compact through use of tributary well groundwater. In response to an order of the Court and Special Master, the Colorado State Engineer promulgated well administration rules to bring Colorado into compliance with the Compact. Colorado has also compensated Kansas for damage claims (approximately \$34 million).

Major Storage Projects

Table with 2 columns: Reservoir, Normal Storage (AF). Rows include John Martin Reservoir, Pueblo Reservoir, Great Plains Reservoir, Twin Lakes, Turquoise Reservoir, Trinidad Reservoir, Adobe Creek Reservoir, Cuchara Valley Reservoir, Lake Meredith, Horse Creek Reservoir, Mt. Elbert Forebay, Clear Creek Reservoir, Lake Henry, St. Charles Reservoir No. 3, Dye Reservoir, Holbrook Reservoir, Brush Hollow Reservoir, Mt. Pisgah Reservoir, and Deweese-Dye Reservoir.

Source: Colorado Division of Water Resources Office of Dam Safety Database;
1 Colorado Water Conservation Board

Major Imports into the Basin Averaging Greater than 1,000 AF (1971–2003)

Table with 3 columns: Name, Recipient Stream, Average Diversions (AF). Rows list various tunnels and ditches like Boustead Tunnel, Twin Lakes Tunnel, Homestake Tunnel, etc.

Source: Upper Colorado River Commission

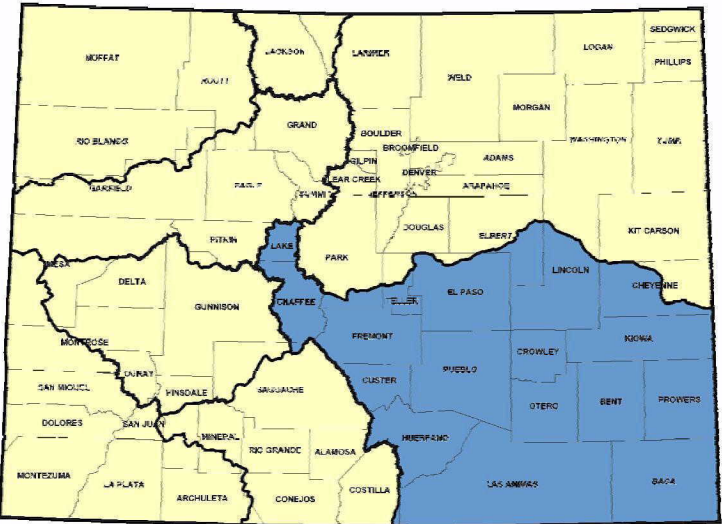
Major Exports from the Basin

Table with 2 columns: Name, Average Annual Diversions (AF). Row 1: Rocky Ford Ditch (to Aurora), 13,345.

Source: Southeastern Colorado Water Conservancy District and Division of Water Resources
1 Number represents the consumptive use total based on Rocky Ford Case one and two. Source: Division 2 Engineer.

Bill Owens
Governor
Russell George
Department of Natural Resources
Executive Director
Rod Kuharich
Colorado Water Conservation Board
Director

Arkansas Basin



Arkansas Basin Overview

The Arkansas Basin is spatially the largest river basin in Colorado covering an area of 28,268 square miles, or 27 percent of the surface area of the state. It comprises the southeast portion of the state, as shown in the figure above. The largest cities in the basin are Colorado Springs (population 373,328) and Pueblo (population 103,846). Steep slopes characterize the western part of the Arkansas Basin, while relatively flat plains characterize the eastern portion. The headwaters of the Arkansas River begin near Leadville at an elevation of more than 14,000 feet and drop to 3,340 feet at the Colorado/Kansas state line, representing a more than 10,000-foot change.

Grassland and forest are the predominant land use types in the Arkansas Basin, covering approximately 67 percent and 13 percent of the basin, respectively. The grassland areas are concentrated in the central portion of the basin whereas the forested land is located on the western portions of the basin.

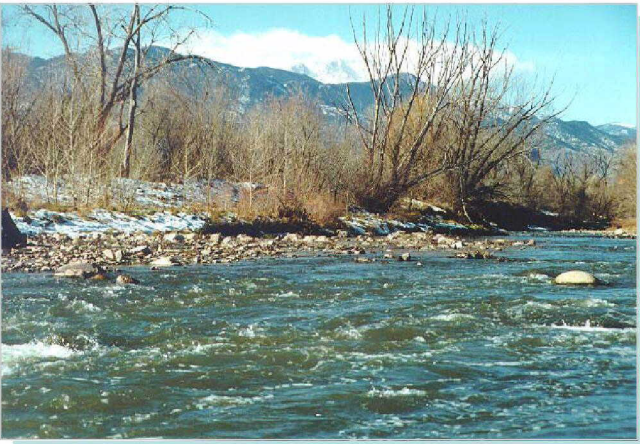
Water Conservancy Districts

- Arkansas River
- North La Junta
- Upper Arkansas
- Southeastern Colorado
- Huerfano County
- Purgatoire River
- Crooked Arroyo

Arkansas Basin Water Management Issues

The Arkansas Basin will face several key points and challenges with respect to water management issues and needs over the next 30 years. The following provides an overview of some of the points and challenges that have been identified through the Statewide Water Supply Initiative (SWSI) process.

- Arkansas River Compact requirements and existing uses and water rights result in little to no water availability for new uses.
- Growth in the headwaters region will present challenges in obtaining augmentation water for new demands.
- Concerns over agricultural transfers and its impact on rural economies are significant in the lower portion of the basin downstream of Pueblo.
- Recreational In-channel Diversions or water rights for recreation will have an impact on the development of augmentation plans for agricultural transfers.
- Concern over water quality and suitable drinking water are key concerns in the lower basin
- The success of two major projects are key to meeting future water needs.
- The urban landscape is very important to the economy and an important component to quality of life.



Fountain Creek



Arkansas Basin Growth

The Arkansas Basin is comprised of all or part of 18 counties. Changes in population from 2000 to 2030, including percent annual growth rate on a subbasin level, are shown in the table here. During that time, the population in the basin is expected to grow by almost half a million people, or 55 percent.

Arkansas Basin Population Projections

Subbasin Designation	2000 Population	2030 Population	Increase in Population 2000 to 2030	Percent Change 2000 to 2030	Percent Annual Growth Rate
Upper Arkansas	85,000	146,400	61,400	72	1.8
Urban Counties	662,600	1,028,000	365,400	55	1.5
Lower Arkansas	46,200	52,100	5,900	13	0.4
Eastern Plains	18,200	29,900	11,700	64	1.7
Southwestern Arkansas	23,100	36,600	13,500	58	1.5
TOTAL	835,100	1,293,000	457,900	55	1.5

Arkansas Basin Water Demands

Following the South Platte Basin, the Arkansas Basin is projected to experience the largest increase in municipal and industrial (M&I) and self-supplied industrial (SSI) water demand by 2030, for an increase of 98,000 acre-feet (AF). M&I is defined as all of the water use of a typical municipal system, including residential, commercial, industrial, irrigation, and firefighting. Large industrial water users that have their own water supplies or lease raw water from others are described as SSI water users. M&I and SSI water demand forecasts for the Arkansas Basin are shown in the table above.

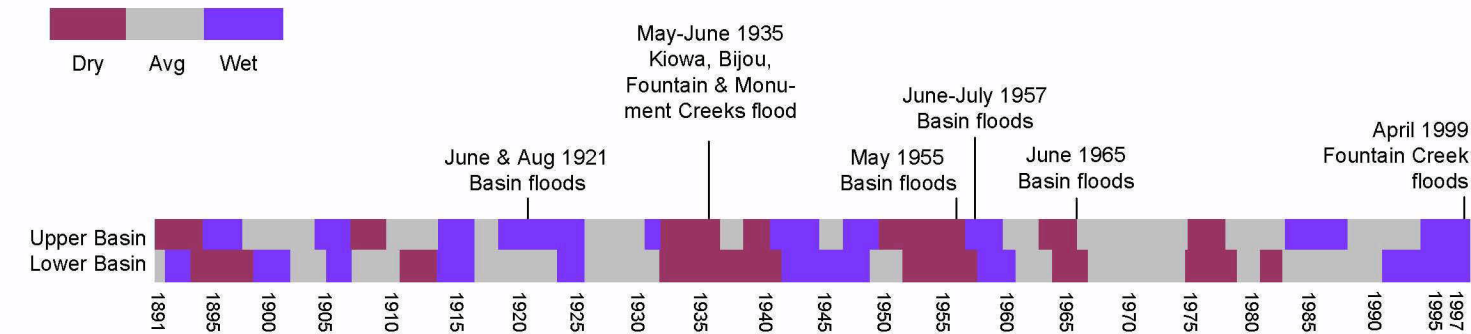
Arkansas Basin Demand Projections

Subbasin Designation	2000 Gross Demand (AF)	2030 Gross Demand (AF)	Projected Conservation Savings (AF)	Increase in Gross Demand (AF)	Identified Gross Demand Shortfall (AF)
Upper Arkansas	22,700	36,400	2,400	13,700	6,600
Urban Counties	212,900	292,800	14,500	79,900	8,000
Lower Arkansas	12,200	13,000	900	800	800
Eastern Plains	4,300	5,500	300	1,200	1,200
Southwestern Arkansas	4,800	7,200	500	2,400	500
TOTAL	256,900	354,900	18,600	98,000	17,100

Water use can be considered both in terms of gross water needs or demands—the total amount of water delivered to a user—and in consumptive use (CU), or the water that will actually be consumed. The 2000 and 2030 gross demands are presented in the table, along with the projected conservation savings. Conservation practices include ordinances and standards that improve the overall efficiency of water use, such as installation of low water-use plumbing fixtures. As the table indicates, the Arkansas Basin will need an additional 98,000 AF to meet the increased demands of M&I water use. The majority of the demand is expected to be met through existing supplies and water rights and through the implementation of various projects and processes. However, there are still some anticipated shortfalls expected in certain portions of the basin. This is also shown in the table.

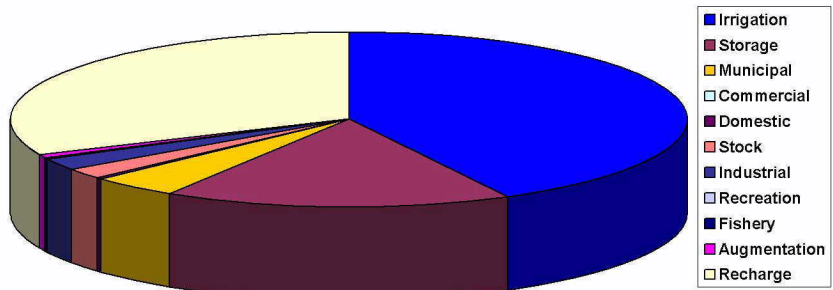
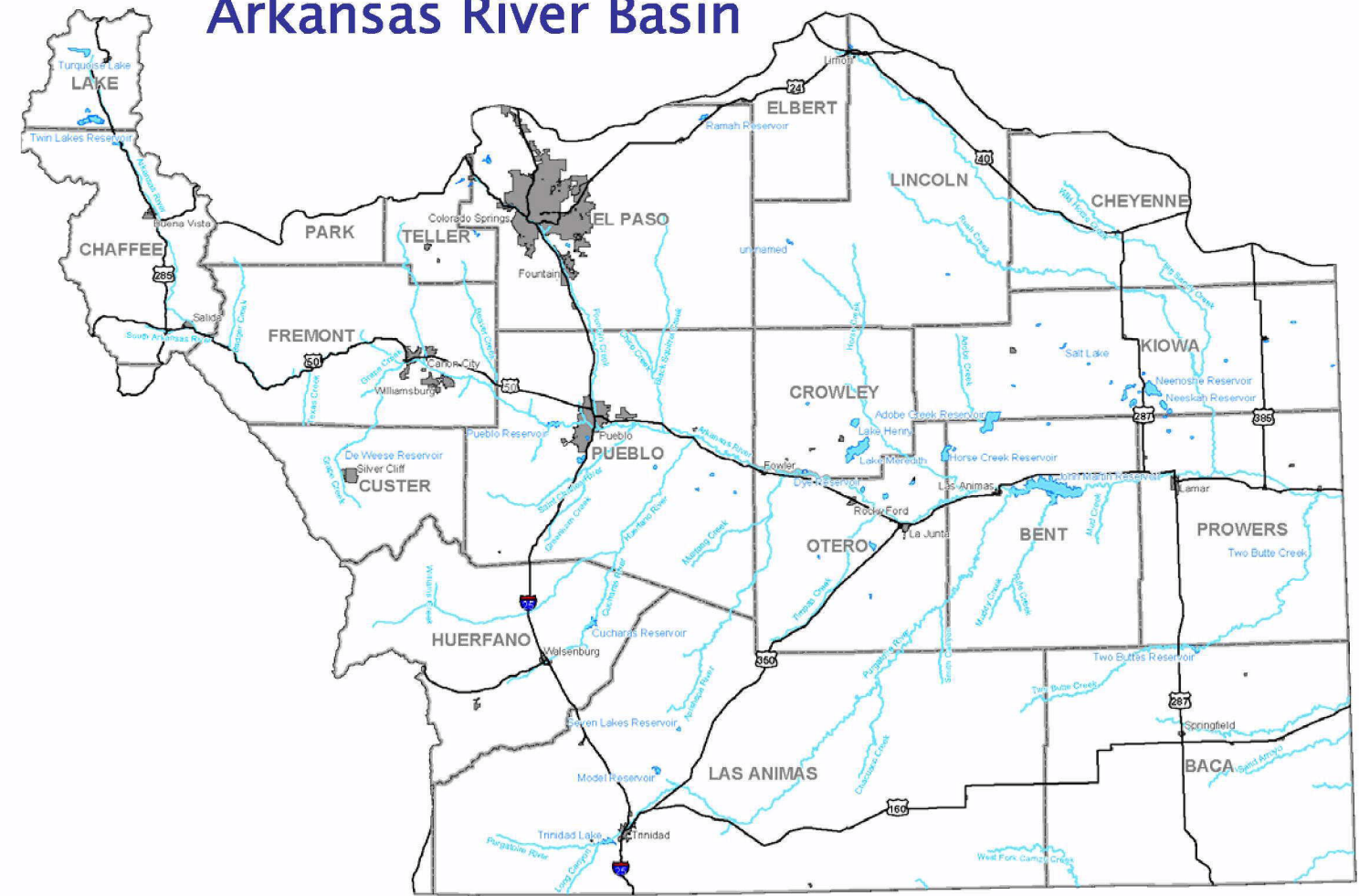
Wet and Dry Periods

Every year, there is at least one 100-year flood somewhere in the state. Colorado’s total flood losses to date have been documented to be \$4.9 billion. The Arkansas Basin’s most recent flood event was April 29-May 3, 1999. The estimated total historic damages for this basin are \$1.3 billion to date.



Source: Colorado Water Conservation Board; and McKee, Doesken, and Kleist, Historical Dry and Wet Periods in Colorado, Figures, Colorado Climate Center, Colorado State University, 1999.

Arkansas River Basin



Source: Colorado Division of Water Resources, Cumulative Yearly Statistics of the Colorado Division of Water Resources, 1999-2004



Fall at Ruby (photo courtesy of Colorado State Parks)