



Unit 1) Kansas Overview

That was Then and This is Now...

THEN

April

*"This is a day when it is a pleasure to be alive. The sky is intensely blue, and cloudless save for a few white wooly cumuli that be piled idly along the northern horizon, above the green hills that divide the waters of White Clay and Independence creeks. A scarcely perceptible breath blows from the west. The grass glitters in the sun. Dimly visible beyond the great curves of the shining river, veiled in amethyst, are the bluffs of St. Joseph and the trailing plumes of smoke from its towers. The hyacinths, red, white and blue, dazzle the eye like flame on the eastern lawn, and crimson tulips in another bed emulate their fragile glory. The cherry trees in the orchard are turning white with blossoms, and the apple trees are fairly green with their infant foliage."*¹

John James Ingalls, U.S. Senator 1873-1891



Now

*Oh beautiful for spacious skies
For amber waves of grain ...*

"Poets wax poetically (as poets are wont to do) about the beauty of the ocean - the waves breaking on the beach, the roar as the water washes over rocky cliffs, the bluest of blue hues, the ebb and flow as water surges and retreats.

*But I think poet Katharine Lee Bates was onto something. She wrote the words to **America the Beautiful** back in 1895. Bates, an English professor at Wellesley College, took a train trip to Colorado Springs to teach a summer school course at Colorado College. Several sights along the way inspired her, including the wheat fields of Kansas and the view of the Great Plains from the top of Pike's Peak.*

The wheat is our Kansas ocean. It ripples across the prairie with peaks and valleys generated by the southerly Kansas wind.

As I walk along the County Line, I hear the whisper of the wheat stalks as they brush against their neighbors. Instead of hearing the screech of gulls at the shore, I hear a symphony of Kansas song birds trill out a morning greeting.

Soon it will be the 'amber waves of grain' immortalized in Katharine Bates' beautiful words.

I'd better think poetically now about the beauty. When we are in the midst of the chaos of a Kansas wheat harvest and I'm sitting in a truck on a 100-degree day itching from the grain dust, I may have trouble seeing the beauty.

*But for now, I'll delight in my front-row seat along the County Line, glad to call Kansas and its amber waves home sweet home."*²

Kim L. Fritzemeier, May 28, 2010
from Kim's County Line blog

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Kansas Overview



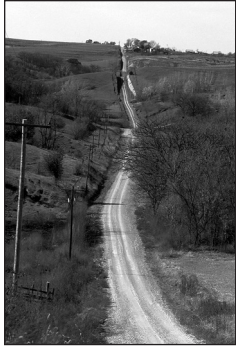
Red Hills, Clark County

Credit: John Charlton, KGS



Lane County

Credit: Louise Ehmke



Doniphan County

Credit: John Charlton, KGS



Wakarusa Valley, Douglas County

Credit: John Charlton, KGS



Russell County

Credit: Mary Anne Stoskopf



Elk Creek Valley, Jackson County

Credit: Roberta Spencer

KANSAS LANDSCAPES

Kansas is a fascinating state with many contrasting features that have been both admired and attacked throughout history.

In 1541, Francisco Vásquez de Coronado, a Spanish conquistador, explored Kansas while searching for the land of Quivira and the seven cities made of gold. Instead, he found an agricultural society along the Arkansas River in central Kansas and proclaimed, "The country is the best I have ever seen for producing all the products of Spain."³

Later, Lt. Zebulon Pike crossed Kansas in 1806 while exploring the southern portion of the newly acquired Louisiana Purchase. Pike's expedition was searching for the origins of the Arkansas and Red rivers. As Pike traveled through Kansas, he described the area as the "Great American Desert."

Today, the vast diversity of Kansas awaits further exploration by both residents and visitors.

LAND OF CONTRASTS

Since Lt. Pike was only familiar with the forested eastern states, he thought the lack of trees in central and western Kansas meant the region's soils were inferior. As a result, Pike's description of the plains as the "Great American Desert" was used by mapmakers and even published in textbooks. Many other travelers along the trails

crossing the plains thought the same. The depiction of the region as a desert played a significant role in delaying the development of the plains states, including Kansas. In fact, since the area was deemed undesirable for settlement, the federal government relocated many American Indian tribes and nations to the plains in efforts to accommodate the country's expanding population in the eastern states.

The Great Plains was the last area of the United States to be settled, partially due to the assumption that the soils were inferior to those in other areas of the country. In the 1850s, adventurous settlers pressured the federal government into relocating the American Indian tribes from the Kansas Territory further south into the part of the Indian Territory that is now Oklahoma. This allowed the federal government to sell the land previously held by the tribes, and settlers poured into the area when the Homestead Act of 1862 took effect.

A NEW STATE

Despite the fact that he lived and died long before Kansas was settled, Thomas Jefferson was one of the most powerful influences on the history – and layout – of the state. Prior to 1785, each state had its own methods of measuring land, often using geographical



Gray County

Credit: Delores Eberle, USDA NRCS



Kanopolis State Park, Ellsworth County

Credit: Wayne Stoskopf



Flint Hills, Chase County

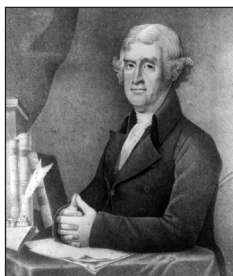
Credit: John Charlton, KGS



Point of Rocks, Morton County

Credit: John Charlton, KGS

identifiers such as rivers or streams to establish property boundaries. Disputes over land ownership, and even state borders, were common since the methods used by the states were inconsistent. To resolve those problems as the United States acquired additional land, Jefferson developed standard procedures for creating new states and surveying land. The Continental Congress officially adopted Jefferson's plans on May 20, 1785.



Thomas Jefferson
Source: Library of Congress

In the law passed by the Continental Congress, the borders of new states were to be defined by parallels of latitude and meridians

of longitude, except where rivers or lakes shaped the borders. All land would be surveyed before it could be purchased from the federal government. The land would be divided into simple squares, aligned with each other so that no land was left vacant. The U.S. Public Land Survey divided land that was not currently settled (with some exceptions) into townships of six miles square. Each 36-square-mile township was further divided into one-square-mile lots, described as "sections." Today, the Public Land Survey is still used to describe and survey real estate in most of the United States, including Kansas.

SECTION NUMBERS IN A TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

Credit: BJ Wooding, Cartographer, Barton County Appraiser's Office

THE HOMESTEAD ACT OF 1862

Prior to 1863, unclaimed public lands were sold to generate revenue for the federal government. Factory owners opposed efforts to improve homesteading laws, fearing that their cheap labor force would leave the northern states, while people in the southern states worried that homesteading would lead to new western states that would oppose slavery. In 1860, a homesteading bill passed the U.S. Congress, only to be vetoed by President James Buchanan.

Finally, in 1862, President Lincoln signed the Homestead Act into law. The law allowed any citizen or intended citizen who was at least 21 years old, the head of a family, or a military veteran to pay a small filing fee for the right to homestead 160 acres. The homesteader could gain ownership of the land by living on it, building a dwelling, and growing crops for five years.

The first homestead claims were filed on January 1, 1863. In Kansas, the population nearly quadrupled in just 20 years, going from 364,000 people in 1870 to more than 1.4 million people in 1890. Railroads and town development companies paid representatives to recruit people to come to Kansas from the eastern states and foreign countries. Wealthy families invested in land in Kansas, expecting large profits that were rarely achieved. Many homesteaders eventually abandoned their efforts due to the hard work or natural disasters.

By 1934, more than 1.5 million homestead applications had been processed and more than 270 million acres deeded to individuals.⁴ The Homestead Act of 1862 was eventually repealed in 1976. Even then, a 10 year extension was included for claims in Alaska.

In 1830, the creation of the state of Missouri determined the eastern border of what later became the state of Kansas, although changes to the border between the two states were made in 1837. At that time, the border between northeastern Kansas and northwestern Missouri became the mid-channel of the Missouri River. In 1854, the north-south borders of the Territory of Kansas were set at 40° North and 37° South (latitude). The western border of the Territory of Kansas originally extended to the Continental Divide. In 1859, delegates to the state's constitutional convention fixed the state's western border at the 25th meridian, 102° West (longitude).

THE GREAT PLAINS



Source: Commission for Environmental Cooperation

KANSAS BORDER – MISSOURI RIVER CHANNEL



Source: U.S. Geological Survey, EROS Data Center

THE WESTERN BORDER OF KANSAS

The Kansas-Nebraska Act of 1854 set the Continental Divide in the Rocky Mountains as the western boundary of the Territory of Kansas. However, none of the delegates at the Wyandotte Constitutional Convention in 1859 lived farther west than Manhattan or Council Grove. They decided to exclude the Rocky Mountains, and the miners in the Pike's Peak gold fields, from the new state and set the state's western border at the 25th meridian.

From 1850 to 1912, lines of longitude in the United States were measured from the Naval Observatory in Washington, D.C. Later, the Prime Meridian (zero) was set at the Greenwich Observatory in London, England. This means that the Kansas-Colorado state line is now about 2.8 miles west of the 102nd meridian – rounded to 102.05° west longitude.

The Territory of Kansas was surveyed and divided into townships and sections (one-square-mile lots containing 640 acres). The Kansas-Nebraska border and the 6th principal meridian (108 miles west of the Missouri River) served as the baselines (controls) for the public surveys in Kansas. The legal description of all land in Kansas is derived from those two baselines.

Early settlers generally located along the eastern border of the state, where they were able to adapt familiar farming methods and crops to a climate and soils much like those in the eastern states where they came from. When the Homestead Act of 1862 opened the new state of Kansas for ownership, settlers moved westward out into the prairie grasslands. Once there, they realized that the climate and weather of central and western Kansas was very different from that of eastern Kansas and required different farming methods.

PUBLIC LAND SURVEY IN KANSAS

The legal description of land in Kansas is derived from two baselines: 40° latitude (the Kansas-Nebraska border) and the 6th principal meridian (longitude). The legal description of land is recorded (in this order) as: section, township, and range.

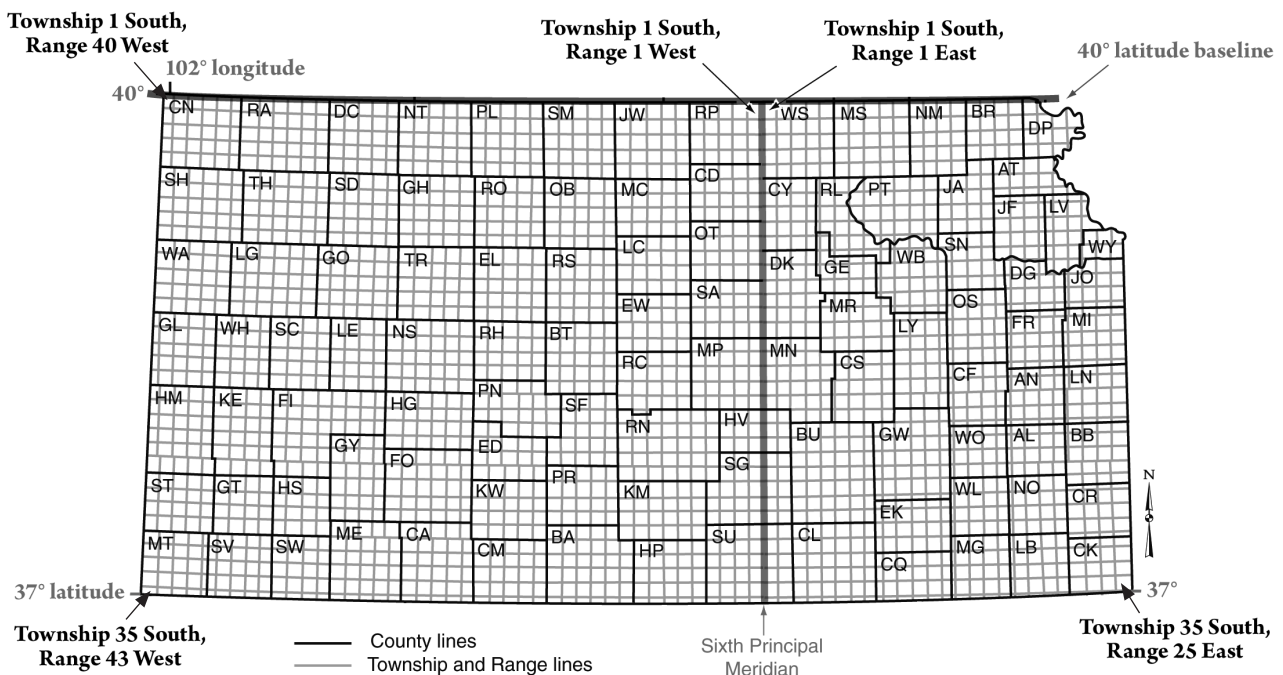
All townships in Kansas are numbered according to their placement south of the northern baseline, from 1 South (the first tier of townships south of the Kansas-Nebraska border) to 35 South (the southern tier of townships that lie alongside the Kansas-Oklahoma border). East-west "parallels" were located 30 miles apart to allow for adjustments due to surveying inaccuracies.

The east-west designation for each township, known as the "range line," begins at the 6th principal meridian. The surveyors located north-south range lines (meridians) every 48 miles and made adjustments for the curvature of the Earth at the parallels, which often created abrupt jogs in roads laid out on section lines.

The 36 sections in each township are numbered starting with Section 1 in the northeast corner of the township. The numbers travel west and then return east before turning back west again, correlating with how a man would plow back and forth across a field at the time the survey was taking place.

The legal description also records the number of acres in a parcel of land, such as 640 acres in 17-22 S-19W or the northwest 160 acres of 4-1 S-13 E.

KANSAS COUNTIES AND TOWNSHIPS



Source: Kansas Geological Survey

THE CLIMATE IN KANSAS

Kansas lies within a zone of interaction between two types of upper air masses that affect the climate of the entire North American continent – tropical air masses that move toward the poles and polar air masses that move toward the equator. These air masses have a symbiotic, push-pull relationship – either type of air mass may dominate at a particular point in time but neither type has total control of the climate in Kansas. In addition, the mountain ranges to the west of Kansas block ocean air masses moving in from the west, allowing polar air masses to dominate in the winter. At the same time, chinook winds – dry warm winds that blow down the eastern slopes of the Rocky Mountains – can warm western Kansas all the way into the 60s, 70s, or even 80s in the winter.

As a result of the interaction of the different air masses, Kansas contains three climate types according to the Koppen climate classification: humid continental, semiarid steppe, and humid subtropical. The eastern two-thirds of the state has a humid continental climate with cold winters and hot summers, with most of the precipitation falling in the summer or spring. The western one-third of the state has a semiarid steppe climate, meaning summers are hot – often very hot – and winters are cold in the northwest and cool to mild in the southwest. The far south-central and southeastern areas of the state have a humid subtropical climate, with long, hot summers; short, mild winters; and much more precipitation than the rest of the state.

Snowfall ranges from around five inches in the southern fringes of the state to 35 inches in the far northwest. Annual precipitation ranges from 44 inches a year in the southeastern corner of the state to less than 16 inches a year in the southwest. From east to west across Kansas, the amount of precipitation received during the growing season ranges from 65 to 75 percent.

Climate – the average weather conditions of a specific site during a particular set of dates.

Weather – the state of the atmosphere for a specific site at a specific point in time, including air temperature, air movement, evaporation rate, cloud formation, and precipitation.

JET STREAMS

Jet streams are bands of strong wind in the upper levels of the atmosphere. While the bands blow from west to east, the jet streams can shift to the north or to the south, following the boundaries between hot and cold upper air masses.



Source: National Weather Service

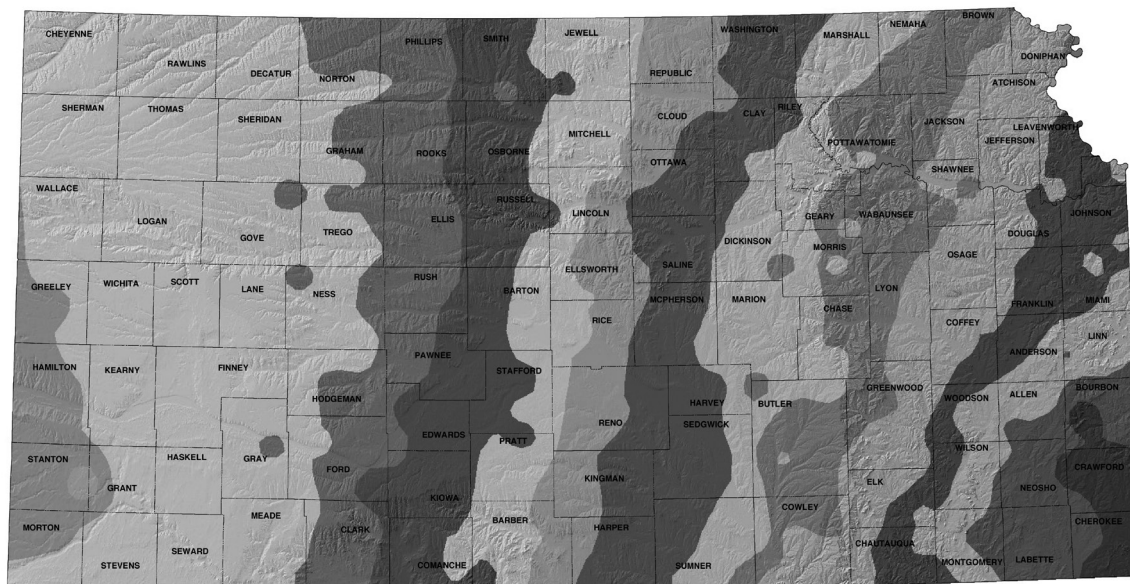
KOPPEN CLIMATE CLASSIFICATION

In the 1880s, Wladimir Koppen, a German climatologist, developed a climate classification system that is still widely used today. The Koppen climate classification system divides climates into categories, based in part on the types of plants that grow in each climate. According to the National Weather Service, the six climate categories are: tropical, dry, moist subtropical mid-latitude, moist continental mid-latitude, polar, and highlands.

Each of the climate categories are further divided into over 30 climate types.

Source: JetStream – Online School for Weather, National Weather Service

AVERAGE ANNUAL PRECIPITATION IN KANSAS



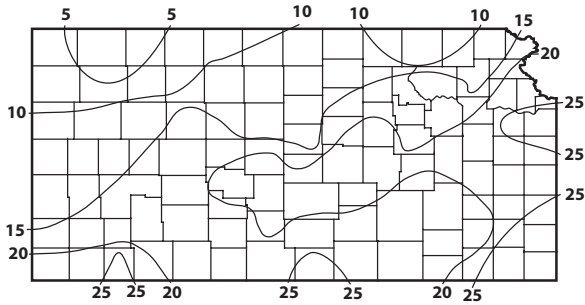
(inches per year)



Source: USDA NRCS – Salina, KS

Growing Season – the period during which plants can grow, defined as the time period between the day of the last frost (freezing low temperature) in the spring and the first frost in the fall.

AVERAGE FIRST 32° F FREEZE IN OCTOBER



Source: K-State Research and Extension

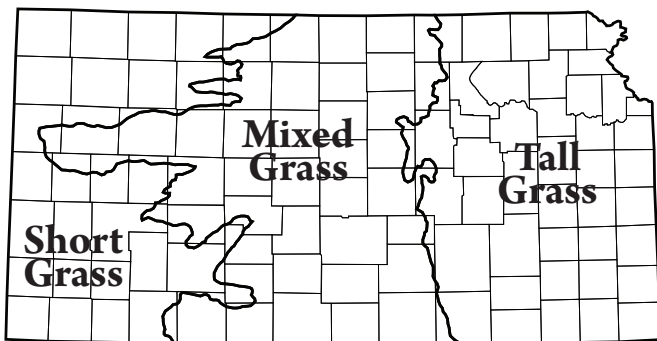
In Kansas, the growing season – the normal frost-free period – shortens from 200 days at the southeast corner of the state to only 154 days in extreme northwestern Kansas. The shortening of the growing season is due to the rise in altitude from 679 feet above sea level in the southeastern corner of the state to 4,039 feet above sea level at the highest point in Kansas. From the southern to northern borders of the state, the change in distance from the equator (latitude) also affects the length of the growing season. On average, the growing season shortens about one day for each additional eight miles north of the southern border of the state of Kansas.

PLANTS IN KANSAS

From east to west across Kansas, the occurrence of native tallgrass, mixed-grass, and shortgrass prairies can be charted almost exactly with the rain and snowfall changes. The differences in precipitation and length of the growing season, combined with more than 300 different soil types, contribute to the diversity of both native plant species and cultivated plants (crops) growing in Kansas.

Nearly 90 percent of the land in Kansas is devoted to agriculture. This includes cropland (land available for the cultivation of plants or agricultural produce, such as grain, vegetables, or fruit), land used for livestock production (pasture, rangeland, and grassland), and land producing forestry and other related products (forests, orchards, and Christmas tree farms).

KANSAS PRAIRIE REGIONS



Credit: Travis W. Taggart, Kansas Herpetofaunal Atlas, Sternberg Museum of Natural History

KANSAS ELEVATION EXTREMES

The lowest point in Kansas, 679 feet above sea level, is located in the Verdigris River channel in Montgomery County.

The highest point in Kansas, 4,039 feet above sea level, is at the top of Mount Sunflower in Wallace County.



Cropland and Pasture, Mitchell County

Credit: Mary Anne Stoskopf



Rangeland

Credit: Doug Wilson, USDA ARS

KANSAS CROPLAND

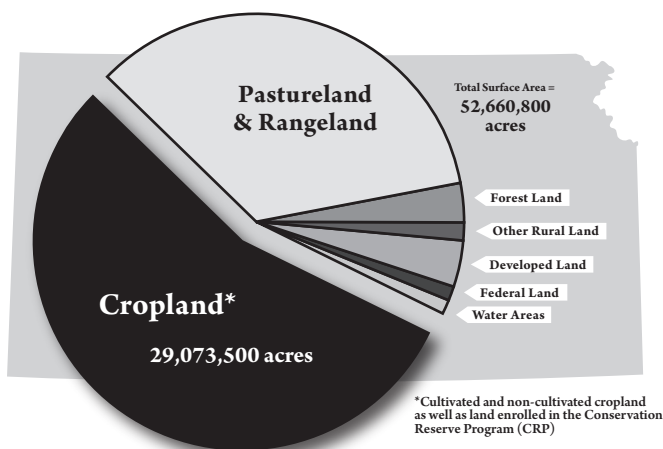
Land that can produce a crop for harvest is called cropland. Kansas has more available cropland, about 30 million acres, than any other state except Texas. Only a portion of that cropland – around 23 million acres – is planted to crops in any given year. One reason is that some of the cropland is left idle (unplanted). Cover crops and soil improvement crops, planted to prevent erosion or to add organic matter or nitrogen to the soil rather than for the harvest of the seeds or plants, are also planted on cropland. In addition, cropland may be enrolled in the Conservation Reserve Program (CRP), the Wetlands Reserve Program (WRP), or other soil or water conservation programs.



Cropland

Credit: Cindy Baldwin

SURFACE AREA OF KANSAS – CROPLAND



Source: 2003 Natural Resources Inventory, USDA NRCS

That cropland is planted to grasses and forbs or trees and shrubs that provide wildlife habitat, reduce soil erosion, and improve water quality.

IRRIGATED CROPLAND

Cropland is classified as irrigated or dryland (non-irrigated), depending on whether the precipitation falling on the land is supplemented with other sources of water or not. Irrigated cropland produces nearly 40 percent of the world's food supply.⁵ According to the Kansas Agricultural Statistics Service, about 14 percent of the cropland that is harvested each year in Kansas is irrigated. In contrast, about 70 percent of water used worldwide is for irrigation. Precipitation determines the need for irrigation water, which increases or decreases depending on the amount of rainfall during the crop's growing season and whether the rainfall occurs at critical stages of growth and development.

Irrigating land to grow food and to grow feed for livestock is an agricultural practice that stretches back at least 5,000 years. Some of the earliest methods included diverting surface water (water from streams, rivers, ponds, or lakes) through ditches and irrigation channels and creating storage reservoirs to hold water by blocking the

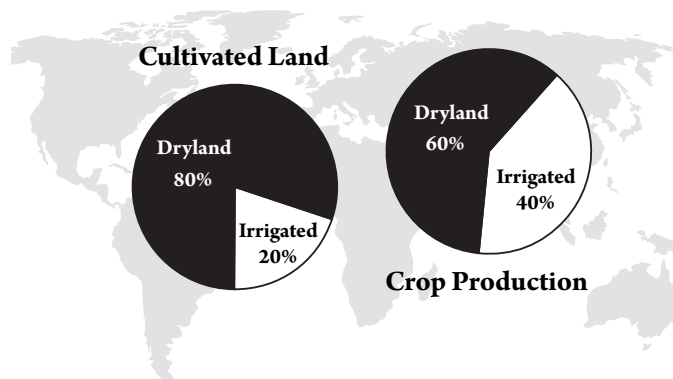


Flood Irrigation, 1939

Source: Library of Congress; Russell Lee, photographer

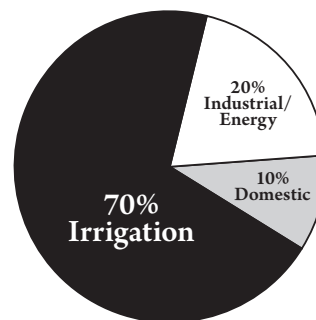
IRRIGATION WORDS	
Irrigation	– the intentional application of water to the soil, usually for the purpose of crop production.
Dryland	– land that is not irrigated.
Groundwater	– water stored underground in an aquifer.
Surface water	– water that flows across the surface of the land or is stored in a river, lake, or freshwater wetland.

GLOBAL CROP PRODUCTION



Source: The United Nations

ESTIMATED WORLDWIDE WATER USES



Source: The United Nations

natural flow of the water. In Kansas, early settlers tried to farm using the same methods they had used in eastern states or other countries, including irrigating crops using water from streams and rivers when necessary. However, in many areas of Kansas, those water sources were either unavailable or unreliable so the pioneers dug wells and relied upon groundwater for their needs.

By the late 1800s, many Kansans were relying on the wind to provide the power to pump groundwater from their wells. This included crop producers who used windmills to pump water to irrigate their



Windmill Display, 1904

Source: Library of Congress; C. H. Graves, photographer

THE IMPORTANCE OF WATER IN KANSAS

When comparing the percentage of a state's surface area that is water, only four states have a lower percentage of surface area that is water than Kansas. Precipitation and groundwater make up for the lack of surface water to allow Kansas to be a leading agricultural state while providing the water necessary for the state's population and other industries.

Kansas Overview

crops. In the 1940s and 1950s, new technologies developed that allowed water to be withdrawn in much larger quantities from the aquifers underlying central and western Kansas. Those cost-effective technologies drove an expansion in irrigated cropland in Kansas and surrounding states. Today, Kansas farmers continue to employ new technologies that allow them to use irrigation water more efficiently and reduce the demand on water resources.



Center Pivot Irrigation with Drop Nozzles

Credit: Cindy Baldwin

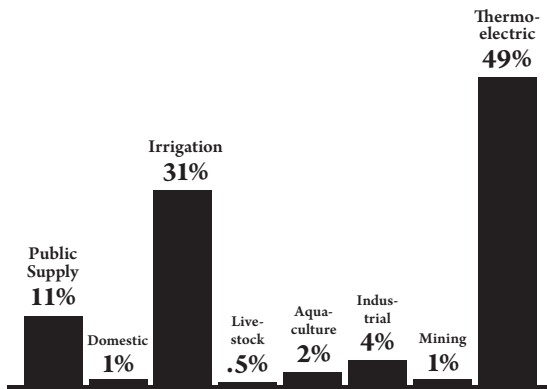
GROUNDWATER USE IN KANSAS

Groundwater is water stored underground in a body of rock or other materials called an aquifer. In some parts of Kansas, groundwater is the only reliable source of large volumes of water.

Overall, Kansans rely on groundwater for 85 percent of their water needs.⁶ This is a higher percentage than almost any other state in the United States.

Eastern and western Kansas differ dramatically in reliance on groundwater. In the western two-thirds of the state, where there is usually less precipitation, relatively abundant groundwater resources provide most of the water for all uses. Groundwater resources are more limited in the eastern one-third of the state; however, precipitation and surface water are more abundant in that area.

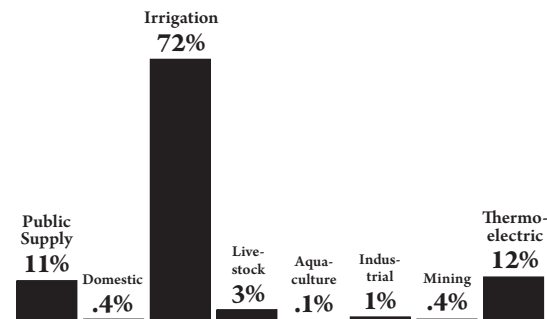
ESTIMATED U.S. WATER USES – 2005*



*Includes the Virgin Islands and Puerto Rico

Source: USGS

ESTIMATED KANSAS WATER USES – 2005



Source: USGS

KANSAS ANIMALS

Variations in temperature and precipitation across the state contribute to the diversity of wildlife present in Kansas. In addition, the state's central location on the North American continent also influences the diversity of wildlife. Species drop down from the north or move up from the south, either as seasonal visitors passing through as temperatures change or permanent residents expanding their range in response to changes in weather patterns or climate. Other species move into the state from the east, stopping when they hit drier regions with little water. Still others move in from the west and prefer a more arid climate.

Kansas provides a full range of environments enabling many different species to thrive within the state's boundaries. The state is home to 798 species of vertebrates, including 468 species of birds, 53 species of reptiles, 30 species of amphibians, 144 species of fish, and more than 100 species of mammals. In addition, there are approximately 24,000 species of invertebrates (insects, mussels, and crustaceans) in Kansas.



Whooping Crane

Credit: Bob Gress, GPNC

STATE SPECIES, PLANTS, AND SOIL

- State animal – American bison
- State reptile – ornate box turtle
- State amphibian – barred tiger salamander
- State bird – Western meadowlark
- State insect – honeybee
- State flower – sunflower
- State tree – cottonwood
- State soil – Harney silt loam
- State grass – little bluestem



Ornate Box Turtle

Credit: Bob Gress, GPNC



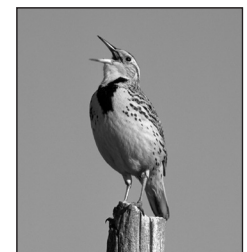
American Bison

Credit: Jack Dykinga, USDA ARS



Barred Tiger Salamander

Credit: Bob Gress, GPNC



Western Meadowlark

Credit: Bob Gress, GPNC



Beef Calves

Credit: Wayne Stoskopf



Flint Hills Ranch

Credit: Amy Langvardt

Many domesticated animals can also be found in Kansas. With 20 million acres of grass, Kansas is ideal for grazing animals. Ruminants, animals with a four-compartment stomach, are able to digest plants and grasses that humans cannot. These animals convert grasses into meat and milk, which are high quality, complete proteins for human consumption. According to the Kansas Agricultural Statistics Service, there are more than six million cattle in Kansas. The beef industry generates thousands of jobs in Kansas and plays a leading role in the state's economy.

Grasslands will support both native and domesticated species in harmony when the biome is thriving and healthy. Farmers and ranchers take their stewardship and management of natural resources very seriously. Due to their efforts, the Kansas prairie continues to sustain both wildlife and livestock.



Fawn

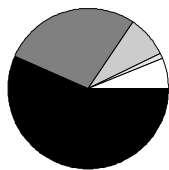
Credit: USACE



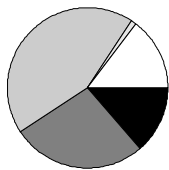
Doe

Credit: Jeff Vanuga, USDA NRCS

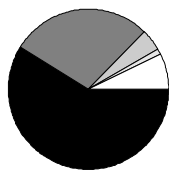
DIET OF WHITE-TAILED DEER IN KANSAS



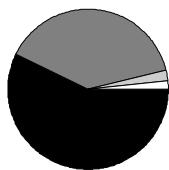
Spring



Summer



Fall



Winter

- Farm Crops
- Woody Plants
- Forbs
- Grasses
- Other

Source: Kansas Department of Transportation

AGRICULTURE'S IMPORTANCE

Agriculture is the number one industry in the state of Kansas, employing nearly one in five people. Kansas leads the nation in the production of several crops, including wheat and grain sorghum. Kansas is also the nation's second largest producer of beef cattle. Other major agricultural products include corn, soybeans, hay, sunflowers, cotton, and hogs.

According to the Kansas Agricultural Statistics Service, Kansas ranks fifth among the 50 states in the total market value of all agricultural products sold and tenth in the market value of crops sold, including nursery and greenhouse crops. In 2008, more than \$3 billion of crops and processed foods accounted for almost 25 percent of the state's international exports.⁷

The history of Kansas is unlike that of any other state. Once ridiculed as the Great American Desert, Kansans now know that the state is home to many diverse and complex ecosystems just waiting to be explored by both residents and visitors. Agriculture is just as important to the state's future as it has been in the state's past.

KANSAS AGRICULTURE
Agriculture is the number one industry in Kansas, employing nearly one in five people.



Ethanol Lab

Credit: ICM, Inc.



Farm Family

Credit: Pete Krumhardt, USDA NRCS



Kansas Wheat Harvest

Credit: Scott Bauer, USDA ARS



Checking the Corn Crop

Credit: Norm Klopfenstein, USDA NRCS

**2009 AGRICULTURE HIGHLIGHTS:
HOW KANSAS RANKED AMONG THE 50 STATES**

1st	grain sorghum	224,400,000 bushels
2nd	wheat	369,600,000 bushels
2nd	wheat flour milled	30,171,000 hundredweight ^a
3rd	sunflowers	245,200,000 pounds
3rd	cattle and calves on farms	6,000,000 head ^b
3rd	red meat production	5,283,200,000 pounds
5th	all hay	7,225,000 tons
5th	summer potatoes	1,728,000 hundredweight ^a
6th	alfalfa hay	3,655,000 tons
6th	exports of farm products	\$4,704,800,000
7th	corn for grain	598,300,000 bushels
9th	soybeans	160,600,000 bushels
10th	hogs on farms	1,810,000 ^c
14th	meat and other goats	42,000 head ^b
16th	milk production	2,488,000,000 pounds
17th	cotton	53,000 bales ^d
19th	sheep and lambs on farms	80,000 head ^b

^a one hundredweight = 100 pounds

^b January 1, 2010

^c December 1, 2009

^d based on 480 pounds per bale

Source: Kansas Agricultural Statistics Service



Wheat Harvest

Credit: Dean Stoskopf

ENDNOTES

1. William Elsey Connelley, *Ingalls of Kansas: A Character Study* (Topeka, KS: The Press of the Hall Lithographing Company, 1909), p. 42.
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TEACHER'S RESOURCES

The Kansas Foundation for Agriculture in the Classroom (KFAC) offers lesson plans and other educational resources on the KFAC website: www.ksagclassroom.org.

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