The Changing Face of Kansas

Created by:
Michael Hayden, former Secretary of the Kansas Department of Wildlife and Parks & Kansas Governor 1987-91

(modified and updated by Don Steeples, May 2011)
The Great Plains

98th Meridian

Population Density in Great Plains States by County—2010

Source: Proximity -- http://proximityone.com
based on Census Bureau decennial census data
Percentage Change in Population 1980-2005

Map data from www.census.gov
Peak Population 1890 - 2005

Positive Growth

Negative Growth

Increase in Population

Under 25% Decrease

50% - 70% Decrease

25% - 50% Decrease

Over 70% Decrease
Atwood, Colby and Leoti are county seat towns situated along State Highway 25 in western Kansas. Of the three, only Colby is also located on an interstate highway (I-70) and has a local community college. Both of these factors have likely contributed to a much less severe population decline.
Rural Population Decline and Urban Population Growth 1930-2005:
Starting in northwest Kansas, the number of counties it takes to equal the population of Johnson County.

Data for these maps taken from www.census.gov
Kansas has 9 Large Metro Counties & 78 Small Counties. Since 1990 nearly 90% of the state’s population growth has occurred in the Large Metro Counties, and from 1988 to 1998 nearly 75% of the state’s employment increase was in the same counties. In the Medium Counties, the mid-size communities, such as Hays, Salina, Hutchinson, and Manhattan, are growing, but the rural populations are declining.
## Urbanization of Kansas Population

<table>
<thead>
<tr>
<th>Year</th>
<th>Rural *</th>
<th>Urban *</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>1,066,719</td>
<td>1,297,517</td>
<td>2,364,236</td>
</tr>
<tr>
<td>1990</td>
<td>1,031,142</td>
<td>1,446,432</td>
<td>2,477,574</td>
</tr>
<tr>
<td>2000</td>
<td>1,044,126</td>
<td>1,644,292</td>
<td>2,688,418</td>
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<tr>
<td>2010</td>
<td>1,031,070</td>
<td>1,822,048</td>
<td>2,853,118</td>
</tr>
</tbody>
</table>

* Urban and rural (metro and nonmetro) definitions are based on the Office of Management and Budget (OMB) June 2003 classification.
As of 2009, nationwide the percentage of the population 65 and over was 12.6%, while Kansas was 13%. Within Kansas, the counties with the greatest population loss in the previous decade also have the highest percentage of people 65 and over.
Kansas experienced a 239% increase in the Hispanic population from 1990 to 2005.

As of 2009, 8.8% of Kansas population was of Hispanic or Latino origin; 15.1% of US population was.

Data used for graph from http://factfinder.census.gov/
From 1960 to 2003 the number of farms in Kansas decreased 41% from 110,000 to 64,500. However, the average size of the Kansas farm increased from 456 acres to 732 acres.
Extent of the Ogallala Aquifer in the Great Plains
Estimated Usable Lifetime for the High Plains Aquifer in Kansas

(Based on ground-water trends from 2000 to 2005 and the minimum saturated thickness required to support 400 gpm well yields under a 30 day pumping period with wells on 1/4 section)

B.B. Wilson, Kansas Geological Survey, University of Kansas, 1930 Constant Avenue, Lawrence, Ks 66047

Years from 2004 Until the Saturated Thickness (ST) Reaches Minimum Threshold

- Water Table Above 2000 Levels
- ST Already At Minimum Threshold
- Under 25
- 25 to 50
- 51 to 100
- 101 to 250
- Over 250

Extent of the Saturated Portion of the High Plains Aquifer

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Lawrence, Kansas 66044-3726
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http://www.ksge.ku.edu

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Preparation:
Standard Parallels:
Central Meridian:
Latitude of Origin:
Lambert Conformal Conical:
33 and 45 degrees North
-96.33 degrees West
30 degrees North

April 22, 2005
<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Prairie Dog Creek near Woodruff</td>
<td>5.16</td>
<td>n/a</td>
<td>43.30</td>
<td>20.30</td>
<td>6.86</td>
</tr>
<tr>
<td>Beaver Creek near Cedar Bluffs</td>
<td>0.12</td>
<td>n/a</td>
<td>1,734.00</td>
<td>16.30</td>
<td>3.59</td>
</tr>
<tr>
<td>Republican River near Hardy, NE</td>
<td>92.00</td>
<td>734.00</td>
<td>33.00</td>
<td>24.90</td>
<td>18.40</td>
</tr>
<tr>
<td>Big Creek near Hays</td>
<td>13.47</td>
<td>n/a</td>
<td>33.20</td>
<td>24.90</td>
<td>18.40</td>
</tr>
<tr>
<td>Smoky Hill River at Ellsworth</td>
<td>110.00</td>
<td>242.00</td>
<td>201.00</td>
<td>223.00</td>
<td>176.00</td>
</tr>
<tr>
<td>N. Fork Solomon River at Portis</td>
<td>46.40</td>
<td>n/a</td>
<td>110.00</td>
<td>85.30</td>
<td>60.90</td>
</tr>
<tr>
<td>S. Fork Solomon River at Osborne</td>
<td>21.50</td>
<td>n/a</td>
<td>88.50</td>
<td>55.70</td>
<td>49.00</td>
</tr>
<tr>
<td>Solomon River at Niles</td>
<td>159.00</td>
<td>360.00</td>
<td>364.00</td>
<td>333.00</td>
<td>491.00</td>
</tr>
<tr>
<td>Saline River near Russell</td>
<td>38.90</td>
<td>n/a</td>
<td>59.5*</td>
<td>66.50</td>
<td>46.70</td>
</tr>
<tr>
<td>Kansas River at Wamego</td>
<td>2,420.00</td>
<td>3,201.00</td>
<td>2,948.00</td>
<td>4,176.00</td>
<td>5,310.00</td>
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<tr>
<td>Arkansas River near Kinsley</td>
<td>20.40</td>
<td>n/a</td>
<td>116.00</td>
<td>176.00</td>
<td>35.60</td>
</tr>
<tr>
<td>Pawnee River near Rozel</td>
<td>9.82</td>
<td>50.80</td>
<td>56.20</td>
<td>43.50</td>
<td>36.90</td>
</tr>
</tbody>
</table>

Note: Average Annual streamflows in bold indicate lowest value

*indicates incomplete data for period
The majority of Kansas water, 86%, is used for crop irrigation.
Kansas Gas Production
1996-2002 By Month

Kansas ranked 9th in both oil production and gas production in 2010. Kansas oil production has increased in 7 of the last 11 years. 40 million bbl of oil and 331 BCF of gas worth $4.3 billion in 2010.
Color Elevation Map of Kansas
General Availability of Ground Water and Annual Precipitation in Kansas

- Yield of greater than 500 gallons of water per minute
- Yield of 100-500 gallons of water per minute
- Yield of less than 100 gallons of water per minute

Precipitation contours in inches per year

Reservoir

Scale: 0 km 100 km 100 mi

KGS map
The Earth is layered at all spatial scales. This is the Fencepost limestone layer near Russell, Kansas.
Monument Rocks, south of Oakley, KS.

When rock layers erode away, something has to be the last to go.
Fault in road excavation near Osborn, KS. (Yes we have faults and quakes in Kansas.)
Glacial boulder near Wamego, delivered about 700,000 years ago from Minnesota or the Dakotas
Areal Extent and Thickness of Hutchinson Salt Member
What Does the Future Hold?

- **Sustainability of Resources**
  - Water
  - Soil
  - Wildlife

- **Diversification**
  (Economic Gardening)
  - Agritourism, ecotourism and heritage tourism
  - Biosciences
  - Alternative Fuels
  - Wind Energy