THE GREAT PLAINS & PRAIRIES
Setting the Boundaries

- What states and provinces are part of the region?
  - Parts of TX, OK, NM, CO, KS, WY, NE, SD, MT, Alberta, Saskatchewan, and Manitoba. All of ND.

- What regions does it border?
  - Boreal Forest, Heartland, Inland South, Intermontane West, Rockies
Overview

- Flat area, sloping from west to east
- Unreliable climate for agriculture
- Most rural areas becoming abandoned
- Few areas with significant growth
Physical Geography
Physical Setting

- General Plain with slope of 10 feet / mile
  - 6,000 feet on the west end (Denver)
  - 1,500 feet on the east end (Tulsa)
- Also, differentiated between glaciated and unglaciated landscapes
- In much of the area, river valleys represent principal differences in terrain
Glaciated Missouri Plateau

- North of Missouri River
- Flat topography, moraines and lakes
Glaciated Missouri Plateau

- South of Missouri River
- Rougher terrain
Extrusions of Rockies

- South Dakota northward
- Black Hills most famous
- Similar history to Rockies, but situated in Plains
Climate

- Large inter-annual variability in precipitation
- Drier as you move westward
- Extremes of weather, summer and wintertime
- Many hazards
- Drought, floods, blizzards/hail, tornados
Climograph – Winnipeg, Manitoba
Climograph – Saskatoon, Saskatchewan
Climograph – Calgary, Alberta
Climograph – Glasgow, MT
Climograph – Billings, MT
Climograph – Bismarck, ND
Climograph – Fargo, ND
Climograph – Rapid City, SD
Climograph – Cheyenne, WY
Climograph – Scottsbluff, NE
Climograph – Valentine, NE
Climograph – Denver, CO
Climograph – Dodge City, KS
Climograph – Wichita, KS
Climograph – Oklahoma City, OK
Climograph – Amarillo, TX
Climograph – Midland, TX
Climograph – Del Rio, TX
## Climate Comparison

<table>
<thead>
<tr>
<th></th>
<th>Spokane WA</th>
<th>Edmonton Alberta</th>
<th>Denver CO</th>
<th>Del Rio TX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan Temp (F)</td>
<td>33 / 21</td>
<td>18 / -3</td>
<td>43 / 15</td>
<td>63 / 39</td>
</tr>
<tr>
<td>Jul Temp (F)</td>
<td>82 / 54</td>
<td>72 / 49</td>
<td>88 / 58</td>
<td>96 / 74</td>
</tr>
<tr>
<td>Rainfall</td>
<td>16.5 in.</td>
<td>19 in.</td>
<td>16 in.</td>
<td>18 in.</td>
</tr>
<tr>
<td>Snowfall</td>
<td>49 in.</td>
<td>48 in.</td>
<td>60 in.</td>
<td>1 in.</td>
</tr>
</tbody>
</table>
Drought

- **Dust Bowl: 1930’s**
  - Dust Bowl area principally lies west of the 100th meridian on the High Plains
  - The area is semi-arid, receiving less than 20 inches of rain annually
  - Rainfall supports the Shortgrass prairie biome originally present in the area.
  - Later droughts in the ’50s and ‘70s
Hail & Blizzards

- Hailstorm frequency greatest: WY – CO
- Blizzards greatest in the Dakotas
Hail
Hail
Flooding

- Grand forks, ND – 1997
- Red River 26 feet over flood stage
Tornados

- Path of the May 3rd, 1999 tornado Moore, Oklahoma
Natural Vegetation: Prairie

- Tallgrass
  - Wetter east
- Shortgrass “Steppe”
  - Drier west
Wildlife

- **Buffalo / American Bison**
  - Once 50,000,000 strong
  - Hunted to near extinction
  - Back to 250,000

- **Other large hoofed mammals**
  - Antelope, elk, sheep

- **Beaver, other furry animals**
  - Attracted early trappers

- **Much waterfowl**
  - Glaciated areas
Population & Settlement
Native Population

- Plains Indians
  - Dakota
  - Apache
  - Comanche
  - Many others

- Hunters and farmers

- Frequently battled other tribes
Decline of the Natives

- Crowded when eastern Indians pushed west
- Much more belligerent after horses were acquired
- Disease brought by Europeans
- Food shortage after buffalo decimation
- Forced out by European settlers
“Indian Territory”

- Last area for natives
- 1876: Oklahoma minus Panhandle
- 1889: “Oklahoma Territory” took half of land
- 1907: Oklahoma becomes a state
“Indian Territory”
Europeans

- Settled first in Texas (then part of Mexico)
  - San Antonio 1718
- Slow inward migration elsewhere
  - Some settlement in eastern parts
  - Most were passing through to the west coast
- Cowboys ranching began in 1860’s
  - Large trails developed
  - Ranches settlements followed
  - Texas north into Kansas and Nebraska
Europeans

- Railroad towns
- Built up around ranch market
Europeans

- Next comes the farmers: Wheat
  - Much ranchland moved west
  - Between WWI and the Dust Bowl, much of the Plains planted

- Exodus
  - Farming decimated by Dust Bowl
  - Many people leave, move west
  - Much land never returned to farming
Canadian Settlement

- Westward migration didn’t begin until 1870s
  - Aimed to keep western Canada from America
  - Strongly promoted by government
  - Picked up as railroad completed
Canadian Settlement

- Immigration rules relaxed to encourage settlement
- 160 acres for $10 if you farmed it
- Many groups settled
  - Asians (Chinese, Japanese)
  - Europeans (Ukrainians, Scandinavians)
  - Religious groups (Hutterites, Mormons)
Present Population

- Most European
- Very little Asian, African population
- Large Hispanic population in Texas
- Large Native population in places
  - Oklahoma, South Dakota
Population Trends

- Booming metropolitan areas
  - Denver, San Antonio, Calgary

- Severely declining smaller town in rural areas
  - Smallest county in US: Loving, TX (67)

- Native population to increase
  - 3 of 4 states that have counties where natives are in majority are here (NE, SD, ND)
  - 11% of Oklahoma’s population
Reversion of the Plains

- Natives replacing cattle with buffalo
- Eliminating fences to permit more roaming
- Restoring ecosystem of earlier
- Buffalo at highest count in 120 years
## Population Numbers

<table>
<thead>
<tr>
<th>State/Province/Metro area</th>
<th>2000 (1,000’s)</th>
<th>1990 (1,000’s)</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alberta</td>
<td>3,059</td>
<td>2,545</td>
<td>+17%</td>
</tr>
<tr>
<td>Saskatchewan</td>
<td>1,017</td>
<td>988</td>
<td>+3%</td>
</tr>
<tr>
<td>Montana</td>
<td>902</td>
<td>799</td>
<td>+12%</td>
</tr>
<tr>
<td>North Dakota</td>
<td>642</td>
<td>638</td>
<td>+0.8%</td>
</tr>
<tr>
<td>South Dakota</td>
<td>754</td>
<td>696</td>
<td>+8%</td>
</tr>
<tr>
<td>Denver, CO</td>
<td>2,852</td>
<td>1,980</td>
<td>+30%</td>
</tr>
<tr>
<td>Wichita, KS</td>
<td>545</td>
<td>485</td>
<td>+12%</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>3,450</td>
<td>3,145</td>
<td>+9%</td>
</tr>
<tr>
<td>Lubbock, TX</td>
<td>242</td>
<td>222</td>
<td>+9%</td>
</tr>
<tr>
<td>San Antonio, TX</td>
<td>1,592</td>
<td>1,324</td>
<td>+20%</td>
</tr>
<tr>
<td>US &amp; Canada</td>
<td>312,600</td>
<td>276,700</td>
<td>+13%</td>
</tr>
</tbody>
</table>
Population Density – Alberta
Population Density – MT

Source: U.S. Census Bureau
Census 2000 Summary File 1
population by census tract.
Population Density – ND

Source: U.S. census Bureau
Census 2000 Summary File 1
population by census tract.
Population Density – SD

Source: U. S. Census Bureau
Census 2000 Summary File 1
population by census tract.
Population Density – WY

Source: U.S. Census Bureau Census 2000 Summary File 1 population by census tract.
Population Density – NE

Source: U. S. Census Bureau
Census 2000 Summary File 1
population by census tract.
Population Density – CO

Source: U.S. Census Bureau
Census 2000 Summary File 1
population by census tract.
Population Density – KS

Source: U.S. Census Bureau
Census 2000 Summary File 1
population by census tract.
Population Density – NM
Population Density – OK

Source: U.S. Census Bureau
Census 2000 Summary File 1
population by census tract.
Population Density – TX

Source: U.S. Census Bureau
Census 2000 Summary File 1
population by census tract.
Human & Economic Geography
Agriculture/Livestock

- More acreage to livestock than agriculture
- Much irrigation necessary with most crops
- Soils excellent
Wheat

- Dominant crop of area
- Winter wheat south, moving north
- Spring wheat, Dakota’s, Manitoba
- Grows well in dry conditions
- Need to have fields fallow to recharge water
- Much harvested by migrant crews
Wheat Harvest in Canada

Wheat Area as Percentage of Canada Total 1997 - 2001

- <1%
- 1 - 2%
- 2 - 4%
- >4%
Wheat transportation to ports
Irrigated Crops

- Central pivot irrigation
- Some distinct crops
  - Alfalfa
  - Cantaloupes
  - Sugar Beets
- Other crops that grow more readily to the east
  - Cotton in West Texas
  - Corn in Nebraska
Water Resources

- Ogallala Aquifer
- Significantly depleting since 1930’s
- Wells need be continually dug deeper
- Competition for remaining water
- Lubbock may run out of drinking water
Ogallala Aquifer
Livestock

- Cattle
  - Increase in feed lots
  - Cattle’s entire lives now spent in area

- Sheep
  - On more marginal lands

- Goats
  - Texas Hill country
Mineral Industries

- Gold in Black Hills, SD
- Oil and natural gas
  - Throughout Plains area
  - Big concentrations in Alberta and Texas
- Coal
  - Wyoming and Montana fastest growing regions
  - Catching up with Appalachian areas
Tourism

- Limited
- “Gateway” cities: Denver, Colorado Springs, Calgary, Edmonton
- Black Hills, S.D.
Cities

- Originally developed along rail lines
- Only certain cities burgeoned
- Those cities still booming
- 3 primary US cities
  - Denver, San Antonio, Oklahoma City
- 3 primary Canadian Cities
  - Winnipeg, Edmonton, Calgary
Denver

- Over 2 million, largest in area
- Founded because of gold rush, positioned itself as supply and transportation hub
- Grew from 4,000 to 100,000 in 20 years
- Main regional financial and government center
- Gateway to Rockies through the Plains
San Antonio

- 2nd largest city in the state of Texas, and 7th largest city in the U.S.
- The city is a cultural gateway into the American Southwest.
- Famous for its River Walk, the Alamo, and Tejano culture
- Wolds Fair in 1968
Oklahoma City

- Is the capital and largest city in Oklahoma
- Large employers include Tinker Air Force Base, Federal Government, Dell, AT&T, Boeing, Xerox, UPS
- One of the more recession proof cities.
Calgary

- Capital of oil and gas industry
- Over 1 million people
- Calgary
  - Population nearly doubled in 70’s and 80’s after oil embargo
  - Hosted 1988 Olympics
  - Highest science/engineer population in Canada
  - “Cowboy town”
Edmonton

- Also a capital of oil and gas industry
- Over 1 million people

Edmonton
- Capital of Alberta
- Positioned as the mercantile center to north (Alaskan Hwy)
- Home to West Edmonton Mall, largest indoor mall in North America
Saskatoon

- Largest city in Saskatchewan
- The economy is based on mining, oil, food processing, technology & manufacturing
- Delta Bessborough Hotel is a historical landmark known for its beautiful, castle-like appearance.
  - Built during the Great Depression, and was designed to resemble a Bavarian castle.
Winnipeg

- Capital of Manitoba
- The name is a transcription of a western Cree word meaning "muddy waters".
- Railroad boomtown in the 1880’s when the Canadian Pacific completed the direct link to eastern Canada
Outlook

- Booming cities
  - Oil and gas towns continue to grow

- Declining rural areas
  - Many towns will disappear

- Reversion to the frontier
  - Increased native population, bison