

Regional Landscapes of the United States and Canada

The Empty Interior

Prof. Anthony Grande

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DATES TO REMEMBER

- **COURSE EVALUATION PERIOD NOW OPEN**
Go to www.hunter.cuny.edu/te
- **MAY 7-14:** Period to hand in **OPTIONAL EXTRA CREDIT PROJECT** listed on syllabus. Short research paper on a pre-approved topic.
- **May 16:** Last day to hand in **REQUIRED LANDSCAPE EXERCISE** without penalty
 - Last class lecture.
 - Last day of Spring 2013 course evaluation period
- **May 21:** Exam III: **The Final Exam**
 - From 5:20 PM to 7:20 PM. Same format and length as exams I and II.
 - **Last day** to hand in extra credit exercise for Ex. III and "Geography in the News" extra credit option.

Empty Interior

Long, narrow region with great variation in landforms and climate.

N-S: From **Alaska's North Slope** to the **Mexican border** and

E-W: From the **Great Plains** to the **Pacific mountain system**.

Wide in southern portion
Narrow in Canada
Wide in Alaska

OVERVIEW - Physical Geography

- **Harsh environment:** rugged, dry, isolated.
- **Great variation in topographic features.**
- **Contains North America's extreme points:**
the highest **Mt. McKinley** +20,320 ft
the lowest **Death Valley** - 282 ft
- **Great variation in climate** because of great range of **both** latitude and altitude.
- **Area of water deficiency.**

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OVERVIEW – Human Geography

- **Low population densities** with some large cities.
- **Regionally distinctive populations**, both ethnic and religious.
- **Resource removal** and **recreation** are chief economic activities.
- **Lack of water** is a problem to development.
- Significant amount of **government-owned land**.
- Emptiness ideal for **military activities**.
- Area of **conservation issues** and **conflicts**.
- **Spectacular scenery** preserved for people.

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THE EMPTY INTERIOR

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Physiography: MOUNTAINS

Major mountain ranges:

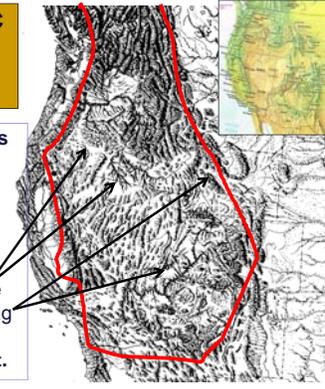
- **Rocky Mts.:** Northern or Canadian Rockies, Middle Rockies and Southern Rockies
- **Brooks Range**
- **Alaska Range**

Characteristics:

- **Continental Divide** - backbone of North America
- Very steep slopes with jagged summits.
- Dramatic elevation changes: local relief over 3000 ft from base to summit.
- Water- and ice-shaped landforms.
- Difficult movement within and through the region.

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Physiographic Map of the Rockies



There are very few routes across the region from the High Plains to the West Coast.

Canadian Rockies are very difficult to cross.

Gaps around the Middle Rockies through Wyoming and Colorado exist and were the pathways west.

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Physiography of Western US



Canadian Rockies



Physiography: INTERMONTANE AREA

Located between the Rocky Mts. and the Pacific mountain system. Three segments:

- ❖ **Colorado Plateau:** a dissected **sedimentary** plateau carved by rivers; "canyon lands" area over 5,000 ft thick.
- ❖ **Basin and Range:** a **fault-block** deformed area of sedimentary rock layers; area of interior drainage.
- ❖ **Columbia Plateau:** **basalt** plateau formed from the gradual buildup of lava flows; over 2,000 ft thick with narrow, deep canyons.

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Colorado Plateau

(dissected layers of sediment)

Grand Canyon National Park



Canyonlands National Park



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Colorado Plateau

(layers of sediment)

Bryce Canyon National Park



Monument Valley Navajo Tribal Park

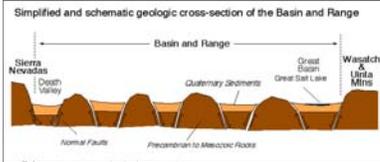


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Basin and Range Topography

80 broad, flat basins with over 200 linear ridges.

No drainage outlet to the sea. Streams from surrounding highlands flow into it, but none leave it.

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Basin and Range

Lake Bonneville (W Utah) was largest Ice Age lake. **Great Salt Lake** and numerous **salt flats** are its remnants.



Pleistocene lake locations.



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Columbia Plateau

(layers of lava flows)

Snake River Canyon



Craters of the Moon Nat'l Mon.






Hells Canyon

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Climate

❖ **Arid or semiarid throughout the area,** especially in southern portion.

- **Vertical zonation** of climate and vegetation
- **Snow** is the chief form of precipitation, especially in mountains.
- **Desert biomes and ecosystems** result.

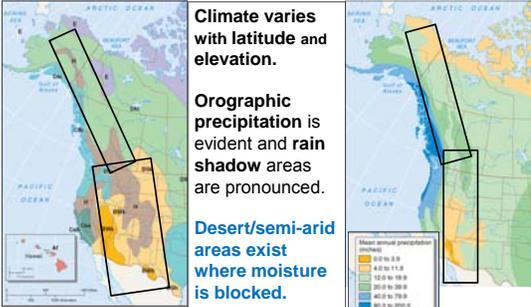
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Climate Regions

Climate varies with latitude and elevation.

Orographic precipitation is evident and rain shadow areas are pronounced.

Desert/semi-arid areas exist where moisture is blocked.



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Rain Shadow of Sierra Nevada Mts.



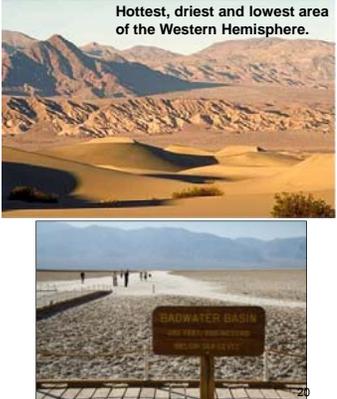
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Death Valley National Park

Hottest, driest and lowest area of the Western Hemisphere.

The hottest air temp. ever recorded was **134°F** on July 10, 1913 at Furnace Creek .

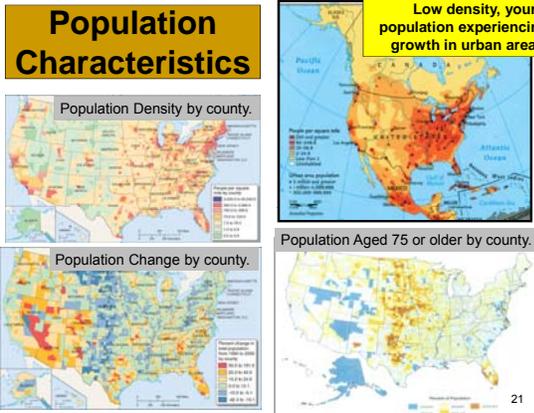
The highest **ground** temperature recorded was **201°F** at Furnace Creek on July 15, 1972. with an air temperature of **128°F**.



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Population Characteristics

Low density, young population experiencing growth in urban areas.



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Las Vegas Urban Sprawl



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Mormon Influence

- ❖ **Church of Jesus Christ of Latter-Day Saints (LDS; Mormon)** was founded in NYS (1830).
- **Moved west avoid persecution:** first to Illinois then Iowa then to Utah.
- **Rapid population growth:** high birth rate; in-migration; missionary outreach for converts.
- **Innovative farmers, esp. irrigation techniques.**
- **Strong central organization** (theocracy).
- **Failed to create the State of Deseret** (most of Intermontane area).
- **Utah Territory** (est'd. 1850) Admitted to the Union as the **State of Utah** in 1896.
 - See historical atlas maps on pp. 36, 42, 46.

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The Mormon Pioneer Trail



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WATER

Most important resource of the Empty Interior.

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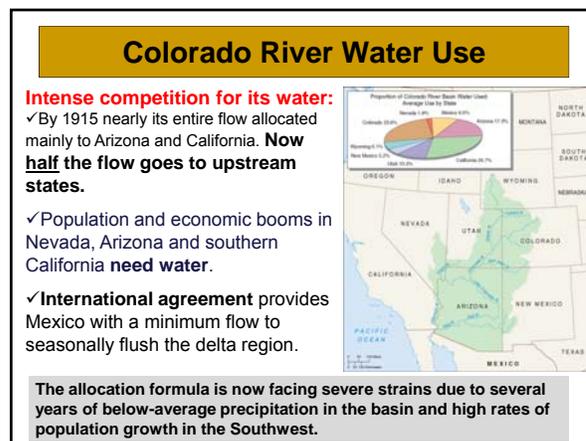
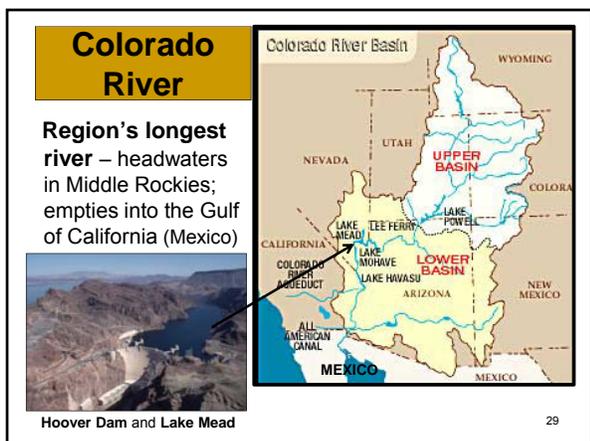
Irrigation and Agriculture

Arid conditions do not support agriculture without irrigation.

➤ Water from the **Colorado and Columbia-Snake** river systems is essential to the region.

- **Diversion of rivers practiced.**
- Doctrine of Prior Appropriation: "first come, first served" as opposed to eastern US view of equal sharing
- **Reclamation Act of 1902:** support for water works west of 100°W longitude.

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Glen Canyon Dam and Lake Powell





Evidence of drought

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Columbia River Basin

An international project to provide water for irrigation, navigation, hydroelectric power and flood control.




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Public Control of Land

- ❑ Most land in the region is still under government control.
- ❑ Largely unsuitable for agriculture but has grazing potential.
- ❖ Conservation Programs
 - ✓ U.S. national park system
 - ✓ U.S. national forests
 - ✓ U.S. Bureau of Land Management
 - ✓ Canadian provincial lands
- Criticism
 - Hindrance to planning
 - Hindrance to resource development
 - Hindrance to commercial grazing
 - Plight of Indian reservations in the region



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Tourism

- ❖ 20th century phenomena especially after enlargement of the National Parks System + road building + automobiles
 - Federal control of most major scenic attractions.
 - Related private enterprises
 - Needed tourist services
 - Distance between attractions overnight accommodations and supplies.



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Lumbering and Ranching

- Use of Federal Lands
 - U.S. Forest Service and Bureau of Land Management lands open to grazing
 - Most lumbering in national forests
 - Productivity of federal lands less than private lands because of the lower quality of federal lands
- Transhumance
 - Seasonal movement of animals
 - Especially important in sheep ranching
- Canadian Rockies: Wood products are economically important.

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Bureau of Land Management (BLM)




Part of the US Dept. of the Interior. Administers government-owned public lands.

- Covers about 1/8 of the country, mostly in the West and Alaska.
- Controversy regarding use and leasing of these lands to corporations. Allows grazing.

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Mining

- ❖ **Miners were the second largest group to settle the region** (after the Mormons).
 - **Variety of mineral deposits**
 - **Easily mined**
 - Numerous towns grew on or near the deposits
 - Today many towns serve as tourist attractions
- **Mining today:**
 - **Gold** and **silver** still mined, but less important
 - **Copper: most important mineral of the region**, especially in Arizona and Utah
 - **Lead** and **zinc**: mined in U.S. and Canada.

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Open Pit Copper Mine Bingham Canyon, Utah



Open pit mining is a means of extracting minerals from the earth by digging a bowl-like pit that gets wider and deeper with use.

It is used where the mineral is near the surface and/or if the ground is not unsuitable for tunneling.

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Abandoned Mines, Colorado



Oldest operations
Small scale
No longer economical
Environmental hazards

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Ghost Town



A town/settlement that has been abandoned by humans.

After the economic activity that supported the town, as mining, ceases to exist (or because some human or natural calamity forced people to leave the area) there is no reason for people to stay.



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Oil Shale

Oil shale a sedimentary rock containing **kerogen** a solid mixture of organic compounds from which liquid hydrocarbons called "**shale oil**" can be produced after heating.

Shale oil is a substitute for conventional crude oil and **not a petroleum product.**



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SKI RESORTS Sun Valley, Idaho




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