

**Regional Landscapes of the  
United States and Canada**

**The Empty Interior:  
Mountains, Plateaus and Basins**

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**The Empty Interior**

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

Extends from **Alaska's North Slope** to the **Mexican border** and from the **Great Plains** to the **Pacific mountain system**.

**Wide** through Alaska  
**Narrow** in Canada  
**Wide** in Southwest U.S.

See Ch. 2, 8, 10 and 15 in American Landscapes

continues

Different scale than main map.

**Empty Interior: Mountains, Plateaus and Basins**

When you think about this region, what images come into your mind?

Rugged landscape  
Grizzly bear  
Mining towns  
Desert conditions  
National parks  
Las Vegas  
Great scenery  
Mormon Church

**THE EMPTY LANDSCAPE**

**OVERVIEW - Physical Geography**

- **Harsh environment:** rugged, dry, isolated.
- **Great variation in topographic features.**
- **Contains North America's extreme points.**
- **Displays a variation in climate** because of the **great range of both latitude and altitude.**
- **Snowy winters and dry summers.**

Mt. McKinley +20,320 ft

Death Valley - 282 ft

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**Physiography of Western US**

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## OVERVIEW – Human Geography

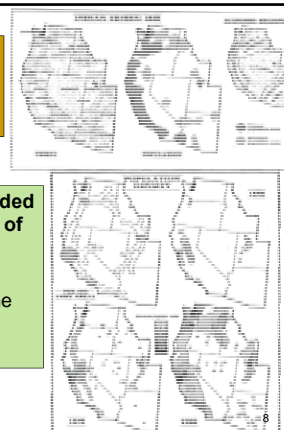
- **Very low population density** with few large cities.
- **Limited overland routes**; habitable areas isolated.
- **Regionally distinctive populations**: ethnic and religious.
- **Resource removal and recreation** are chief economic activities.
- **Most of the land is government-owned.**
- **Ideal for military training and testing.**
- **Area of conservation issues and conflicts.**
- **Spectacular scenery**, much preserved in parks.

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## Empty of Human Occupation

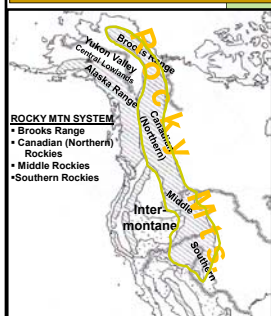
This area was generally avoided by the Indian tribes because of the harsh conditions.

Only the areas that had ample food, water and shelter from the elements became permanent settlements.



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## Rocky Mt. System



### Characteristics

**Steep slopes** with pointed summits.

**Dramatic elevation changes**: local relief over 3,000 ft from base to summit.

**Landforms shaped by water and ice.**

**Difficult overland movement** within and through the region.

**Continental Divide**: backbone of North America.

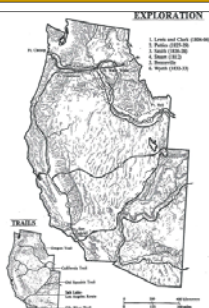


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## Canadian Rockies



## Physiography Makes it Difficult to Cross



There are few natural routes across it from the High Plains to the West Coast.

Canadian Rockies are a major impediment to east-west movement.

Gaps in the Middle Rockies (WY, CO) exist and were the pathways west used by explorers, frontiersmen and wagon trains. They are still used today.

## Dealing with the Physiography



Tunnel at Loveland, CO cuts through the Rockies at 11000+ ft.

Opened in 1908

## Yukon Valley Lowlands

**Characteristics:**  
**Located in Alaska and Yukon Territory between the Brooks and Alaska ranges.**  
 Has low, rolling hills and swampy river valleys.  
**Covered by taiga forest.**  
 Frozen and snow-covered from October to June.  
**Drained by the Yukon river system.**  
 The Yukon River is 1,980 mi. long and its drainage basin with Tanana River is larger than Texas.







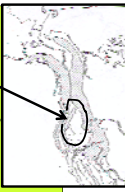
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## INTERMONTANE AREA

**Located between the Rocky Mts. and the Pacific mountain system.**

**Three segments:**


- 1. Colorado Plateau:** a dissected **sedimentary** plateau carved by rivers; "canyon lands" area is over **5,000 ft** thick.
- 2. Basin and Range:** a **fault-block** region of sedimentary rock layers; **area of interior drainage.**
- 3. Columbia Plateau:** **basalt** (lava) 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)

**Canyonlands National Park**

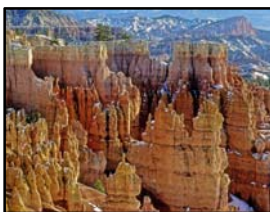


**Grand Canyon National Park**






## Colorado Plateau (layers of sediment)

**Bryce Canyon National Park**



**Monument Valley Navajo Tribal Park**

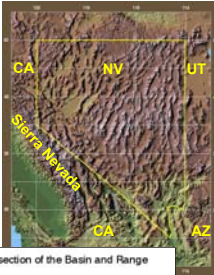


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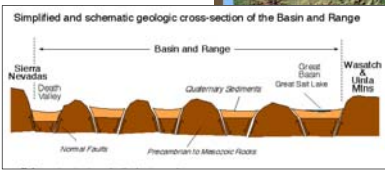
## Basin and Range

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.

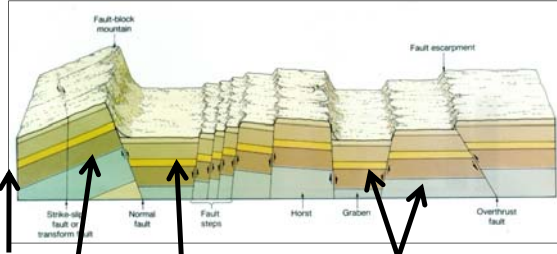


**Simplified and schematic geologic cross-section of the Basin and Range**



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## Diagram of Block Mountains California – Nevada - Utah



Central Valley  
 Sierra Nevada  
 Owens Valley; Death Valley; Salton Basin  
**CALIFORNIA**



Basins and ranges of the Great Basin Region  
**NEVADA** **UTAH**

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## Basin and Range

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

Pleistocene lake locations.

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## Sierra Nevada

**N-S trending fault block mountain range of eastern California.**

**Rises to 14,505 ft at Mt. Whitney**, the highest point in lower 48 states.

Major barrier to movement of people and air masses.

Few mountain passes cross it.



Mt. Whitney



Switch back road up east face



East face of the Sierra Nevada

Owens Valley (in the rain shadow)


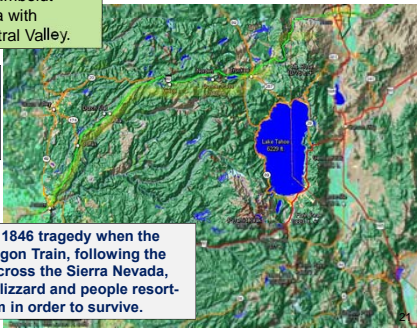
Basin and Range Province

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## Donner Pass

**Donner Pass** is the chief route across the Sierra Nevada.

Connects the Humboldt Valley in Nevada with California's Central Valley.

Infamous for the 1846 tragedy when the Donner Party Wagon Train, following the California Trail across the Sierra Nevada, got caught in a blizzard and people resorted to cannibalism in order to survive.

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## Lake Tahoe

**Largest and 2<sup>nd</sup> deepest** (~1600 ft) **mountain lake of North America.**

Occupies a graben whose outlet was blocked by a lava flow. Filled with glacial melt water.

Lake surface is 6200 ft above sea level; surrounded by peaks over 10,000 ft high.

**Located on the CA/NV border.**

Year-round recreation area.

Casinos on the Nevada side.







All the Nevada State's casinos begin

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## Sierra Nevada




Giant Sequoia Tree





Yosemite National Park


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## Columbia Plateau


(layers of lava flows)

Snake River Canyon



Craters of the Moon Nat'l Mon.



Hells Canyon of the Snake River (ID-OR)

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## Columbia Plateau

Washington State

Snake River cuts a canyon through the farmland of the **Walla Walla** section of the Columbia Plateau in southern Washington.



Palouse Falls, WA

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## Climate

**Harsh conditions throughout the area.**

❖ **Vertical zonation (H) of climate and vegetation.**

❖ **Sub-Arctic (Dfc and ET) in Alaska and Yukon Territory.**

❖ **Arid or semiarid (BS and BW) in the southern portion.**

▪ **Snow** is the chief form of precipitation, esp. in mts.; desert areas may get winter snowfall.

➤ **Tundra and taiga vegetation in the North.**

➤ **Dense forest cover in the middle portion.**

➤ **Desert biomes in the south.**

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## Climate Maps

CLIMATE



Climate varies with latitude and elevation

Arid and semi-arid throughout esp. in the southern portion.

Orographic precip. is evident: trees and snow on mountain tops. Rain shadows pronounced.

Desert/semi-arid biomes exist where moisture is lacking.

PRECIPITATION



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## Death Valley National Park

Hottest, driest and lowest area of the Western Hemisphere.

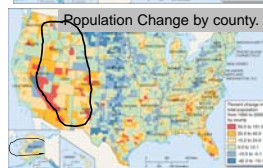
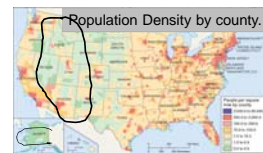


The hottest air temp. ever recorded was **134°F** on July 10, 1913 at Furnace Creek .

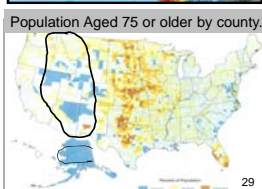
The highest ground temp. recorded was **201°F** at Furnace Creek on July 15, 1972. with an air temperature of **128°F**.



## Population Characteristics



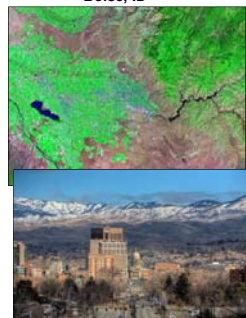
Low headcount.  
Low density.  
Young population.  
Growth in urban areas.



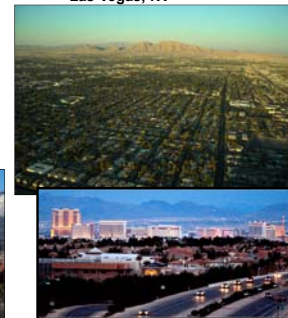
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## Urban Sprawl

Boise, ID



Las Vegas, NV





## Mormon Concentration



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## Mormon Influence

- **Innovative farmers**, esp. irrigation techniques.
- **Strong central organization** (theocracy).
- **Tried to create the State of Deseret** (1849). Covered most of Intermontane area.
- **Utah Territory** (est'd. 1850)
- Admitted to the Union as the **State of Utah** in 1896.
- **Today, area of rapid population growth**: high birth rate; in-migration; missionary outreach for converts.



See historical atlas maps pp. 36, 42, 46.

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## The Mormon Pioneer Trail



❖ 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.

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## Salt Lake City Utah



Salt deposits on the shore of Great Salt Lake



Salt Lake City metro area



Mormon Temple Tabernacle Square

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## WATER

**Most important resource of the U.S. portion of the Empty Interior.**

Coveted and diverted by the dry areas outside of the region.

Now increasingly needed and retained by those inside the region.

Important for the production of electricity.  
 Supplies affected by western drought.

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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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## Colorado River Basin

**Longest river** (1450 mi) of the southern region. Headwaters are in the Middle Rockies. Cuts through the Colorado Plateau. Empties into the Gulf of California (Mexico).




<<Hoover Dam and Lake Mead

## Columbia River Basin


**An international project to provide water for irrigation, navigation, hydroelectric power and flood control.** Allows ocean-going vessels to reach Canada.




Columbia River 1240 miles long  
Snake River 1078 miles long


## Public Control of Land

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



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## Bureau of Land Management (BLM)



**BLM is part of the US Dept. of the Interior.** Administers government-owned public lands.

- **Covers about 1/3 of the country**, mostly in the West and Alaska.
- **Allows grazing.**
- **Controversy regarding use and leasing of these lands to corporations at low cost.**

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## Mining

- ❖ **Miners were the 2nd largest group to settle the region** (after the Mormons).
  - **Variety of mineral deposits**
  - **Easily mined**
  - Numerous towns grew on or near the deposits
  - Today 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.




**Leadville, Colorado**  
Elevation 10,359 ft.




## Discovery of Gold

On Jan. 24, 1848 at **Sutter's Mill**, a lumber camp in the Sierra Nevada, **gold flakes** were discovered in the South Fork of the American River

**This set off the California Gold Rush of 1849.**



The find encouraged prospecting in the Rockies in the 1850s.

**Sutter's Mill:** a water-powered saw mill on the banks of the South Fork of the American River used to cut trees into lumber.

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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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## Tourism

❖ **20<sup>th</sup> century phenomena** resulting from the National Parks system + road building + automobiles + leisure time.

– **Federal control** of most major scenic attractions.

– **Related private enterprises**

- **Tourist services** are needed
- **Distance** between attractions necessitates overnight accommodations and supplies.

**Conflict with environment concerns.** Overuse, habitat destruction; air, water, land pollution; ski resorts; congestion.



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## The Military Landscape

**The emptiness and isolation of the area is an asset for:**

- ✓ Military bases/bomb-proof command centers
- ✓ Training centers
- ✓ Secret staging areas
- ✓ Practice bombing ranges
- ✓ Weapons testing
- ✓ Military development and manufacturing
- ✓ Nuclear waste storage



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