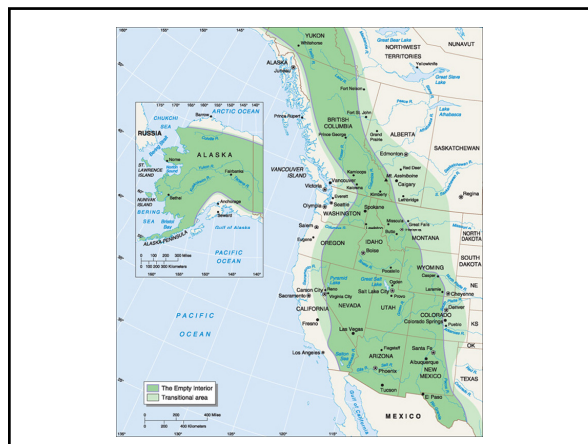
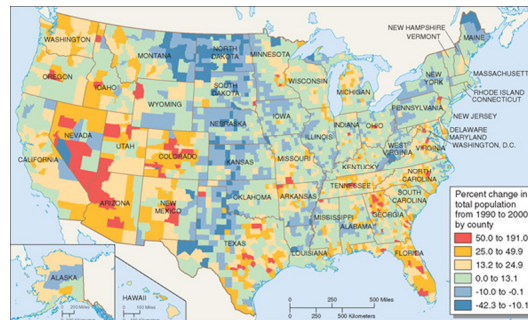
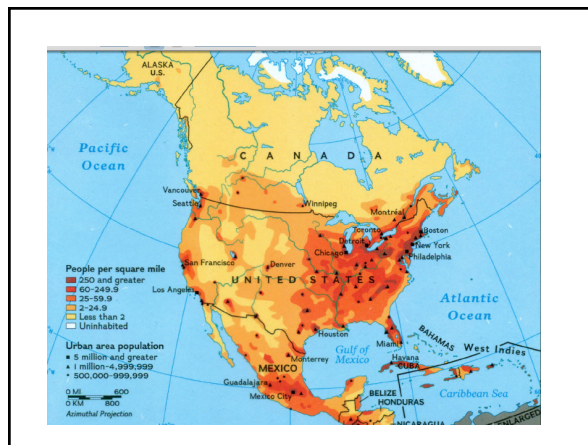


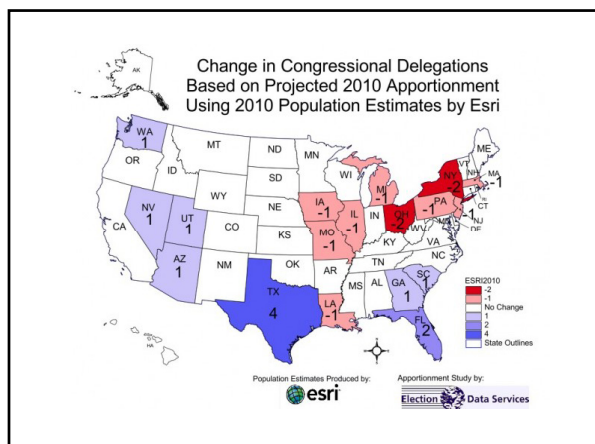
Somewhere in "The Empty Interior"



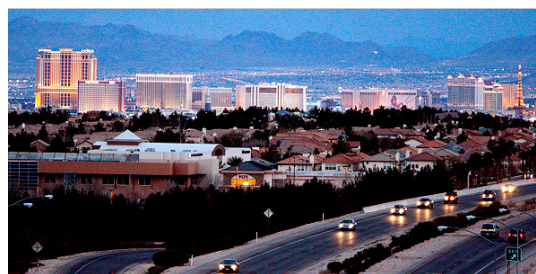
The Empty Interior is a vast area in the inland west characterized by

- Low population densities occasionally interrupted by large cities and areas of high growth
- A huge latitudinal extent and, therefore, significant climatic variation
- "Basin and range" topography
- The largest extent of arid conditions in North America
- In the U.S., a significant amount of federally owned lands, including what some consider the country's most spectacular national parks.
- Some regionally distinctive populations
- A growing imbalance between people and water





Leaving Las Vegas for the Suburbs



Isaac Brekken, *The New York Times*

Las Vegas urban sprawl



Phoenix, Arizona



Phoenix, Arizona

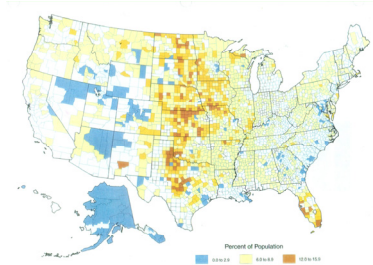


Scenes from Sun City, AZ



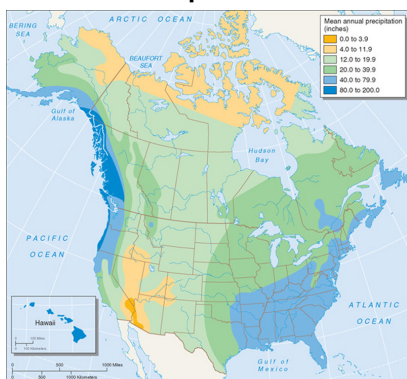
Percent of population aged 75 or older, by county (2000)

(Source: U.S. Census)



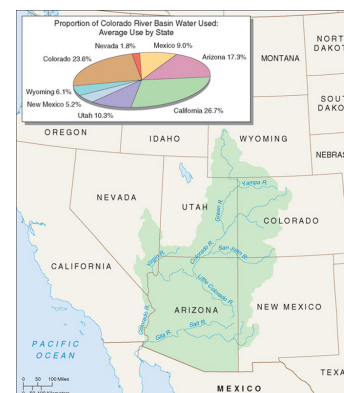
Climates of the U.S. and Canada

Precipitation



The Colorado River Compact

- A 1922 agreement among 7 states in the basin of the Colorado River and its tributaries governing the allocation of water rights.
- Members include CO, WY, UT, NM, AZ, NV and CA.
- Allocations have served to “guarantee” a precise amount of water each year, which has facilitated widespread irrigation and population growth.
- A certain amount is also allocated to Mexico as per an international treaty.
- The allocation formula is now facing severe strains due to several years of below-average precipitation in the basin and high rates of population growth in the Southwest.



Hoover Dam, Colorado River



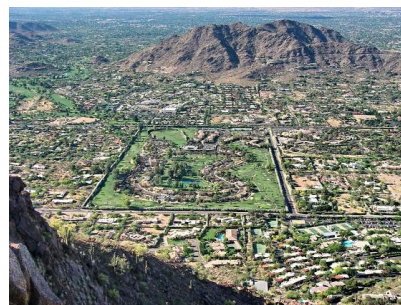
The Central Arizona Project



The Central Arizona Project

Brings Colorado River water to Phoenix and Tucson

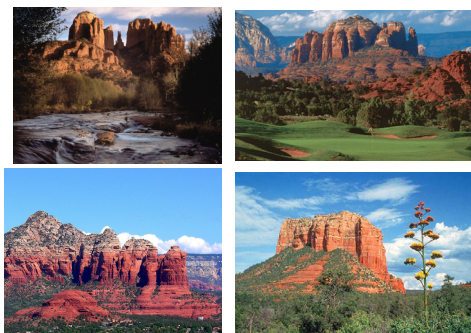
Residential portion of Phoenix with Camelback Mountain (note greenery)



Sedona, Arizona



Around Sedona



Death Valley National Park, CA



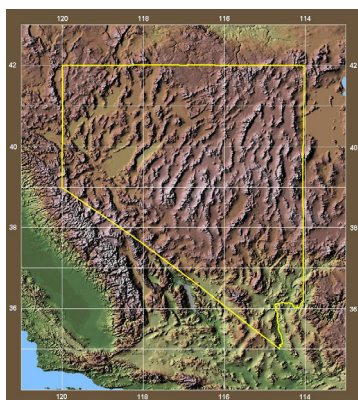
Sage brush on the eastern (leeward) side of the Sierra Nevada Range, CA



Saguaro Cactus Saguaro National Park, AZ

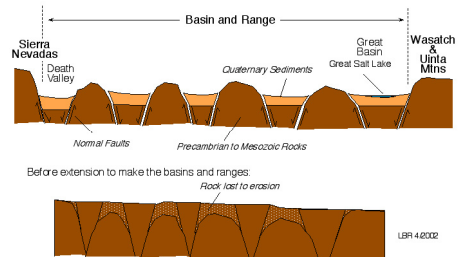


Capitol Reef National Park, Utah

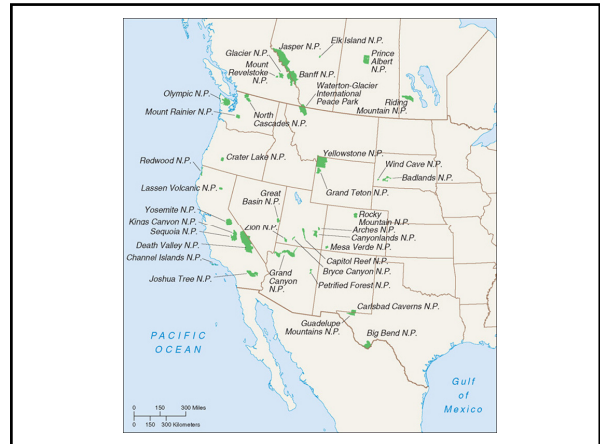
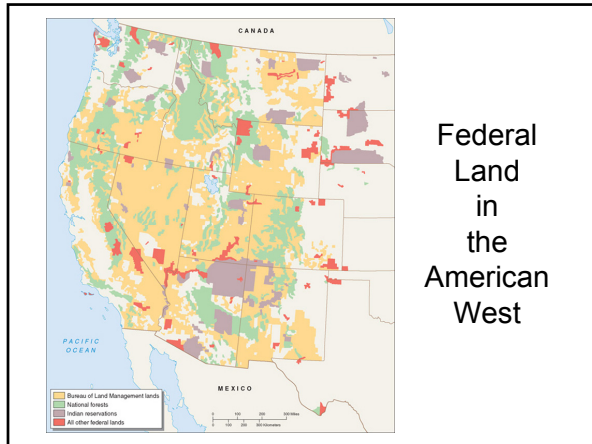


Basin and Range Topography in Nevada

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



Warning: This diagram is an extreme simplification for an introductory geology class for non-majors. There are many more basins and ranges than are shown here, and this would not be a cross-section along a straight line. The geology is considerably more complex than is shown.



Yellowstone National Park
Established March 1, 1872
The world's first national park



Old Faithful Geyser
Yellowstone National Park



How Geysers Work



Yellowstone National Park



Grand Canyon National Park, AZ



**The National Park Service's Mission:
To preserve and protect the
country's scenic wonders for the
enjoyment of present and future
generations.**

Yosemite Valley Yosemite National Park, CA



Yosemite Visitors



Trail to Vernal Falls Yosemite National Park



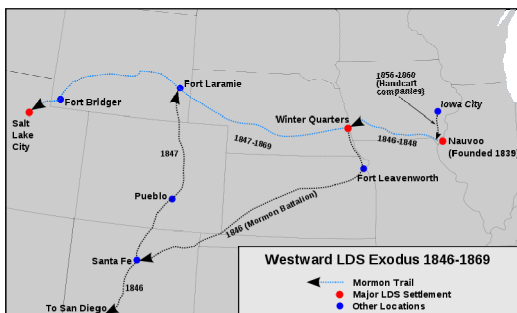
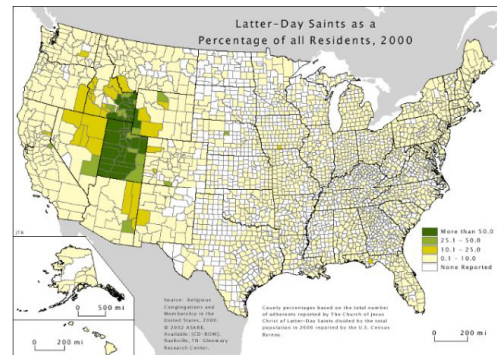
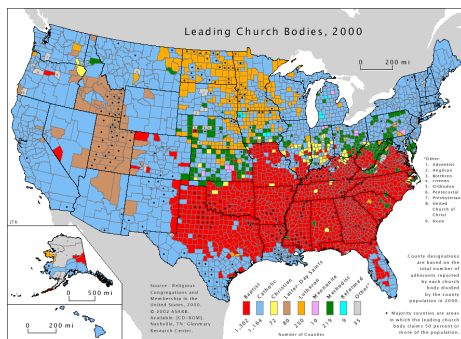
Traffic Yosemite National Park



Glacier National Park, Montana



A Portion of the Canadian Rockies



The Mormon Pioneer Trail



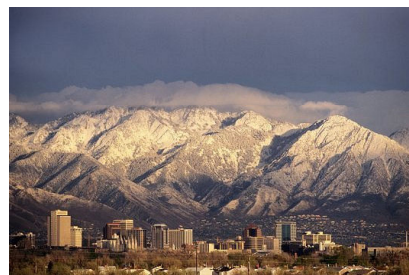
The Continental Divide (or Great Divide) refers to the principal hydrological divide in North America that separates the watershed that drains to the Pacific Ocean from the one that drains to the Atlantic and Arctic Oceans.



The Continental Divide at Monarch Pass, Colorado



**Salt Lake City
(Wasatch Mountains in background)**



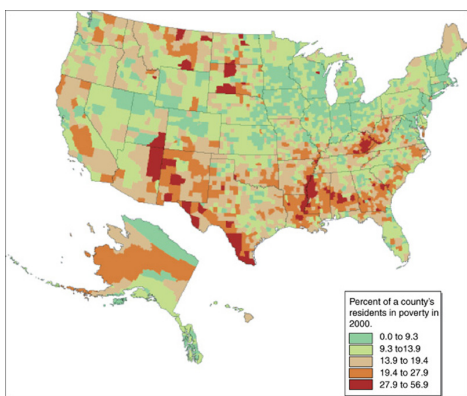
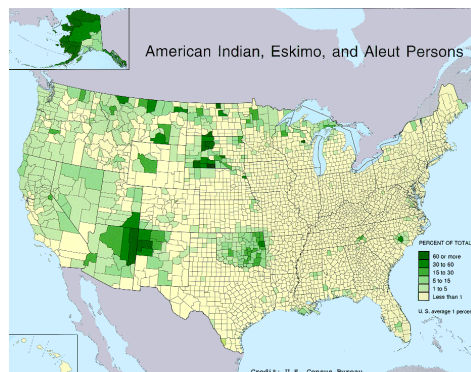
**Salt Lake City
(As seen from the Wasatch foothills)**



"This is the place" Monument



**Mormon Temple
Tabernacle Square, Salt Lake City**



Abandoned Mine, Colorado



Abandoned Mine, Colorado



Abandoned Mine, Colorado



Ghost town

(photo shows Jerome, Arizona)



- A town or city that has been completely abandoned by humans.
- Happens because the economic activity that supported it (e.g., mining) has failed, or because of some human or natural calamity.
- Most American examples are in the West.

Western “ghost town”



Aspen, Colorado



Aspen, Colorado





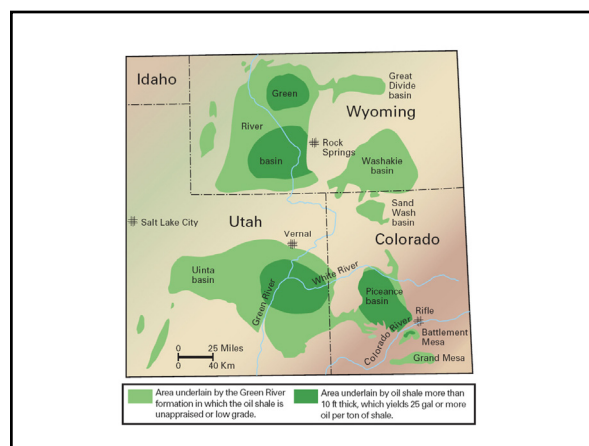
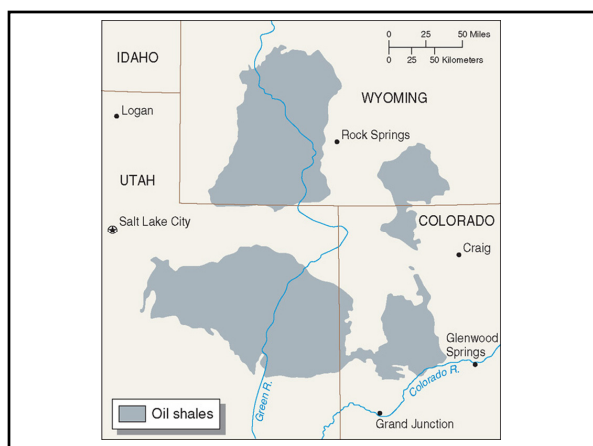
**Open pit copper mine
Bingham Canyon, Utah**



**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 continued use. Used where the desired mineral is near the surface and/or where the earth is structurally unsuitable for tunneling.



Alberta Tar Sands Strip Mining



Bureau of Land Management (BLM)

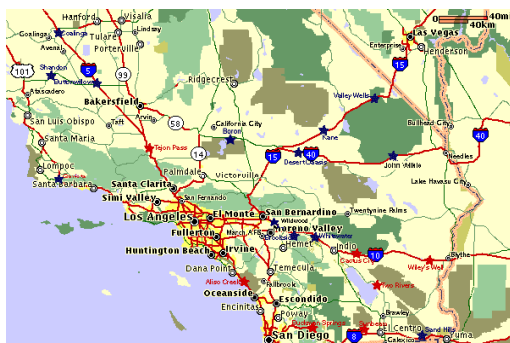
(Photo shows sheep grazing on BLM lands in Utah)



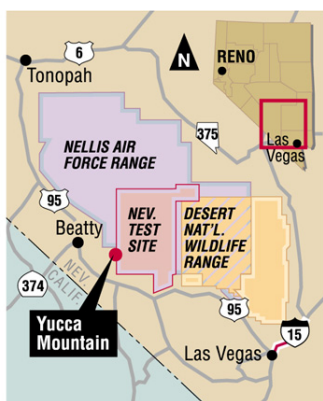
- A branch of the Department of the Interior that administers government-owned public lands.
- About 1/8 of the country
- Mostly in the West and Alaska.
- Controversy regarding use and leasing.

The Military Landscape

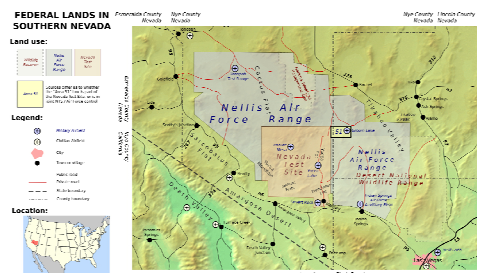
- Military bases
- National training centers
- Bombing ranges and weapons testing centers
- National Military Parks
- Historic Fortifications
- Military manufacturing



Make-believe town, Ft. Irwin



Nellis AFB and Area 51



LANDSAT
Image
of
Nellis AFB

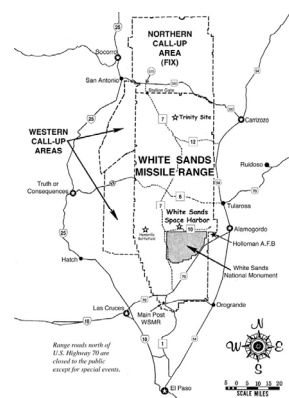
SR-71s at Nellis AFB



Now The Nevada National Security Site



Nevada Test Site Craters created by underground detonations

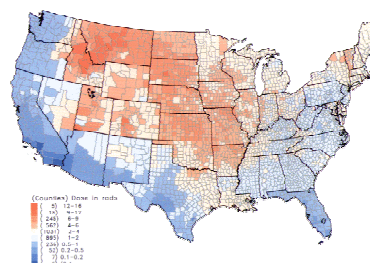


Trinity Site White Sands Proving Grounds Near Alamogordo, New Mexico



- Site of the world's first atomic bomb test, July 16, 1945.
- Conducted in the open atmosphere.
- Led to the dropping of two atomic bombs on Japan a few weeks later.

Nuclear fallout exposure rates



Yucca Mountain, Nevada
Prospective Nuclear Waste Repository



Workers riding tramway in
Yucca Mountain access tunnel

