

EXAM INFORMATION

❖ **Exam Two will be Tuesday, April 12.**

- Format same as Exam 1.
- Multiple choice short answer including maps plus choice of essay topics.
- **See Study Guide.**
- Missed exam make-up is all essay format .

➢ **The Extra Credit for Exam Two is due no later than the start of the exam on April 12.**

- ✓ Remember to provide examples from all 4 choices for max extra points.
- ✓ All other extra credit is by the end of the semester.

1

Regional Landscape Studies

- ✓ **NORTHLANDS**
- ✓ **NORTHEAST COAST**
- ✓ **MEGALOPOLIS**
- ✓ **CANADA'S NATIONAL CORE**
- ✓ **AMERICA'S HEARTLAND**
- **APPALACHIA and THE OZARKS**
- ❑ **THE SOUTH**
- ❑ **PLAINS and PRAIRES**
- ❑ **MOUNTAINS and PLATEAUS**
- ❑ **DESERT SOUTHWEST**
- ❑ **NORTH PACIFIC COAST**
- ❑ **HAWAII**

<<<For each region:

1. Know its physical geography.
2. Identify its unique characteristics.
3. Be able to explain the human imprint.
4. Discuss its sequence occupancy and economic development.

2

Regional Landscapes of the United States and Canada

Appalachia and The Ozarks

Prof. Anthony Grande

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Parts of chapters 13, 15 and 16 in Conzen textbook

Appalachians and The Ozarks

APPALACHIAN REGION

Alabama Georgia Tennessee
N. Carolina Kentucky Virginia
W. Virginia Ohio Maryland
Pennsylvania New York

OZARKS

Missouri
Arkansas
Oklahoma

Appalachians and the Ozarks

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

Poverty
Coal mining
Mountains
Hillbillies
Moonshine
Isolated towns
Run down houses
Scenery
Unpainted barns
Great Smoky Mts.

5

OVERVIEW

Geographic Theme: Limited Opportunity in a Landscape of Isolation

- ✓ **Grouped together because of similar geographies** (physical and human), **yet 300 miles apart.**
- ✓ **Both experience isolation** because of **geologic setting.**
- ✓ **Human geography distinguished by poverty** resulting from poor farming, poor education, poor transportation network and a lack of economic opportunity.
- ✓ **N. Appalachians have ties to the Heartland as a coal supplier; S. Appalachians and the Ozarks have ties to the South through historical interaction.**
- ✓ **Unique regional culture and landscapes are the result of numerous site and situation factors.**

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TERM: Appalachia

Appalachia: an area of eastern US characterized by poverty/life-style that is below the national norm.

- ❖ It is a cultural region, a social region and an economic region.
- ❖ It is **not** a physical region.
- ❖ It is **different** from the *Appalachians* (Appalachian Mountains or Highlands or Plateau) which is a physical region.

Yet Appalachia is located within the Appalachians and owes its identity and uniqueness to its geologic setting!

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Poverty in Appalachia

Using **economic and social criteria** the region is enlarged to include parts of New York State, Mississippi, and South Carolina. **It contains some of the highest levels of poverty in the US.**

Counties shaded as a percent of the US average for their population living under the poverty line. (Note correlation to the Coal Belt on map above.)

Source: Appalachian Regional Commission (ARC) from 2010 US Census data.

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Landscapes of Poverty

In parts of Appalachia, specifically the central region, many low-income families continue their struggle with make-do shacks. photo by Kim MacDonald

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Poverty and Health

Poverty and health issues are evident in both Appalachia and the Ozarks but are pronounced in the heart of the Appalachia's Coal Belt (WV, KY, TN).

Clay County, KY has the highest smoking rates in the US. **Over 36% of its people smoke.** It has high levels of poverty and some of the worst health issues in the US.

Source: Univ. of Minnesota as reported in the NYT 3/25/14

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Appalachia

Even though they are located near **Megalopolis** and the **Industrial Core**, many areas in this region have **not** been selected for development.

WHY?

➤ They do not have the demographics and location needs required by modern enterprises.

Note the location of the coal fields in relation to the most distressed counties.

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Land Use Limitations

What do you see or don't see?

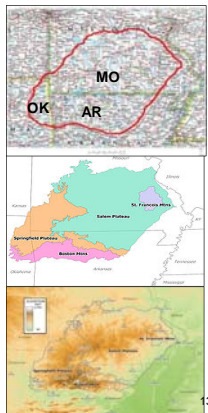
- ✓ Narrow valleys
- ✓ Steep hillsides
- ✓ Lack of flat land
- ✓ Poor soils
- ✓ Thick forest
- ✓ Low density network of roads, railroads and navigable rivers

➤ All these limit the area's appeal to industry (plus low education levels)

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The Ozarks

The Ozarks is a **physical** region, **cultural** region, **social** region **AND** **economic** region all within the **SAME** boundaries.



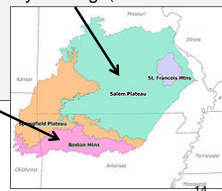
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Ozark Topography

This area is composed of two physical areas:

- **Ozark Plateau** (north)
 - Highest and most rugged area is in northern Arkansas.
 - Separated from Ouachita Mts. by Arkansas River Valley.
 - It is dissected plateau created by doming. (There are hot springs in the area.)
- **Ouachita Mts.** (south)
 - Folded parallel ridges run in an east-west direction.

+ Physical features support mining and forestry but hinder agriculture.
 + It became a retirement and vacation destination in the 1990s.



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Ozark Culture













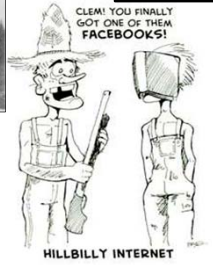
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Hillbilly Persona

Term "HILLBILLY" is applied to backwoods settlers of both areas.

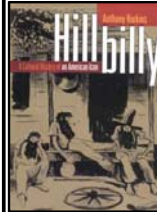







CLEM! YOU FINALLY GOT ONE OF THEM FACEBOOKS!

HILLBILLY INTERNET



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"Hillbilly Mansion"



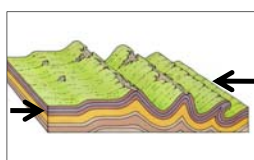
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Appalachian Mountain Region

Ancient folded mountains caused by the collision of Africa and North America (460 mya).



Western Maryland road cut



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Central Appalachian Region

Appalachian Plateaus
Great Valley
Blue Ridge
Valley and Ridge
Piedmont
Coastal Plain

Atlantic Ocean

Virginia
North Carolina

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Appalachian Mt. Topography

Five physiographic sub-regions:

- Blue Ridge
- Ridge and Valley
- Great Valley
- Appalachian Plateau
- Piedmont (to be covered in the section on The South)

Area exhibits vertical zonation of climate.

The Appalachians

- Piedmont
- Blue Ridge and northern highlands
- Ridge & valley
- Great Valley
- Appalachian Plateau
- Adirondacks
- Escarpment & Ridge mountains

Valleys

- Chambers Valley
- Marion Valley
- Madison Valley
- Rocky Mountain Valley
- Lehigh Valley
- Lebanon Valley
- Cumberland Valley
- Shenandoah Valley
- James River Valley
- Roanoke Valley
- North River Valley
- Indian River Valley
- Savannah Valley
- Conasa Valley

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Appalachian Topography

a) Blue Ridge

- Rises abruptly from the Piedmont to the east. Ridge and Valley to the west.
- Crestline preserved in national parks.
- “Gaps” allowed early settlers to cross the region.

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Cumberland Gap

Daniel Boone leading settlers across the mountains

Cumberland Gap National Historical Park preserves a key passage-way through the central Appalachians, first used by Native Americans then by American frontiersmen to cross the mountains. It was widened to create the **Wilderness Road** (called the “first doorway to the West”), the primary route of East Coast settlers into **Kentucky**.

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The Blue Ridge

Blue Ridge Mts.

Blue Ridge Parkway

The Blue Ridge Parkway connects Shenandoah National Park with Great Smoky Mountains Nat'l Park.

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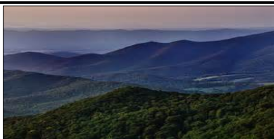

Great Smoky Mountains

National and state parks preserve the Appalachians' highest peaks, all around 6600 feet high.

Mt. Mitchell (6684 ft) in North Carolina is the highest point east of the Mississippi River.


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Appalachian Topography 2

b) Ridge and Valley
Area of parallel highlands and lowlands


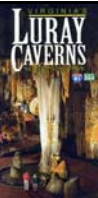



- **Ridge tops:** resistant shale and sandstone; forested slopes.
- **Valleys:** softer limestone; good farm land.

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Caves of the Appalachians

Hundreds of caves exist in the Blue Ridge and Ridge & Valley sections. Created as ground water dissolved soft sedimentary rocks.

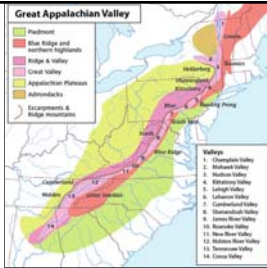







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Appalachian Topography 3

c) Great Valley

- Located between the **Blue Ridge** and **Ridge and Valley**.
- **Historic travel route between the south and north.**
- ✓ Strategically important in both the American Revolution and the Civil War.
- **Early importance as a productive agricultural area.**
- Provided food for the coastal cities.


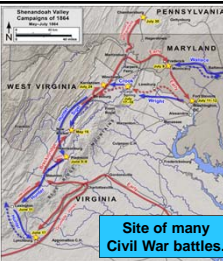



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Shenandoah Valley

part of the Great Valley

Area of rich agricultural land.

Site of many Civil War battles.

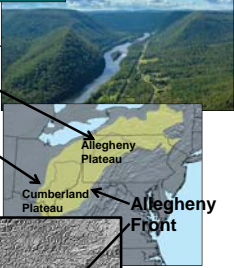
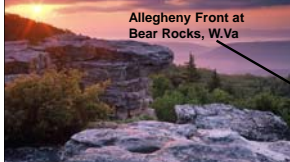
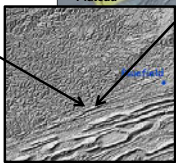
What's this land pattern called?

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Appalachian Topography 4

d) Appalachian Plateau
Two portions: Allegheny Plateau and Cumberland Plateau

Allegheny Front is an escarpment on the eastern edge of the plateau. Significant barrier to westward movement because of the rugged terrain

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Appalachian Plateau

A dissected plateau is one where rivers have cut into its flat top to create steep-sided valleys and gorges.

The section of I-64 across West Virginia was the most expensive stretch of the system based on cost per mile.




The **New River** cuts a deep gorge in the Appalachian Plateau of southern West Virginia. The **New Bridge** was the **world's longest arch bridge** when opened in 1977 (now 4th) and shortened the trip across the gorge from **45 min. to 90 seconds!**

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Northern Portion Social Landscapes (NY, PA, OH, MD)

- **Characterization**
Northern portion is less isolated, less poor and more modern than the southern portion.
- **Population**
Settled by people from Europe and New England.
(Pennsylvania Dutch really Deutsch = Germans)
- **Religion**
 - Less conservative; fewer fundamentalist churches.
 - Catholic and Orthodox Christian church affiliations.
- **Transportation**
 - Mountains easier to cross; access to the coast.
 - Links between eastern and western parts of Industrial Core
 - Link to Washington-Baltimore Metro Area.

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Southern Portion Social Landscapes (West Virginia to Alabama)

- **Characterization**
 - Unique culture development; limited mobility: width and height of ridges plus historic living in small valleys.
 - Little in-migration; little out-migration; little interaction with rest of country (assimilation and acculturation issues).
- **Population**
 - Predominantly white, Anglo-Saxon, Protestant with roots in Southern Colonies.
 - Largest **white low-income** region of the US.
 - Politically and religiously **conservative**.
- **Early stereotyped**
 - Labeled *unsophisticated* and *behind the times*.
 - “**Hillbilly**” tag remains.

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Divided States of Appalachia

Civil War Disparity (see maps in Section 5 of Historical Atlas)

- **Mountain people of Virginia opposed secession** (as did those of OH, PA and NY)
- Plantation agric. was not part of mountain way of life
- The mountain part of Virginia became West Virginia (1863).

West Virginia: The only state totally within Appalachia.

In the other states that are part of Appalachia:


- **Largest city, industrial center and/or state capital located outside of the Appalachia region.**
- So the **Appalachian areas became marginalized** by more prosperous/progressive sections of their states.
 - Less access to education, media, economic incentives.
 - Less access to the state’s tax base.

*Especially if you avoid paying taxes!
So isolation does not pay off.*

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Appalachian Landscape

- ❖ **Over 50% of the population is classified as rural living outside of towns.**
- Farming is main occupation, but...**
 - Most owner-operated farms, no corporations
 - Small farm sizes (c.100 acres on average)
 - Rugged topography, poor soil, short growing season in many areas.
 - General farming: no dominant crops
 - Recent trend: part-time farmers.
- **Very different from the agricultural core**
- **Coal mining and lumbering are still important.**




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COAL



- **Allegheny Plateau Beds**
 - Together world’s largest deposit.
 - Seams up to 10 feet thick.
- **Rise of Coal Mining**
 - Post-Civil War new iron and steel furnaces use **bituminous** coal
 - Area coal fueled rise of **Pittsburgh, PA** and **Birmingham, AL** as “steel cities.”
 - **Coal-powered generators created electricity** for East Coast cities and the Industrial Core.



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Coal Formation

Coal beds were created as tectonic movement compressed organic material in swamps under great heat and pressure. Geologically, it happened quickly: little decomposition so a high carbon content is retained.

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Coal Definitions

- **Anthracite** ("hard") coal is a metamorphic rock. **Highest grade of coal. Burns the hottest. Naturally clean and smokeless.**
It became the preferred fuel in cities in the mid-1800s and was supplied from mines in NE Pennsylvania.
- **Bituminous** ("soft") coal is cheaper and more plentiful than anthracite **but dirtier.**
It came into demand for railway locomotives and stationary steam engines.
It is used to make coke (coking coal).

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Coal Definitions cont'd

- **Lignite** (brown coal) and **peat** are the lowest grade and "coolest" burning of the carbon fuel fuels.
- **Coke (coking coal)** is the **result of processing bituminous coal with intense heat** to drive off its volatile components (man-made substance).
 - It is almost pure carbon and creates little ash.
 - Coke is used in blast furnaces to make steel.
 - It is usually made on site.
 - ❖ **Proximity to the industrial core is important because the bituminous coal was moved by rail from the coal fields to the steel mills.**

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Mining Coal in Appalachia




- Coal mining was very labor intensive at first.
 - Tunnels were dug by hand.
 - Coal was mined by hand.
 - Mine workers carried coal to mule-drawn carts or to the surface.
- The **conveyor belt for use in coal mines** was invented and installed in the early 1900s.



- **Mechanization = fewer miners.**
- **Unions protested the use of machinery.**
- **Strikes and concessions (higher salary in return for using machinery) hurt the miners more by eliminating jobs, esp. in WVA.**



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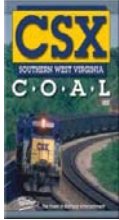

Coal Mining Persona

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Coal Mining Sights

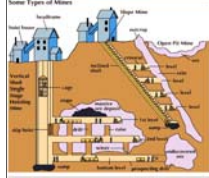




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Coal Mining Methods

Shaft (underground mining)

- Earliest and still dominant method
- Huge mobile drills
- Continuous mining machines bore and mine at the same time.

Coal Mine in Operation
Copyright: <http://coalgeology.com>

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Surface (strip) Mining Diagram

The diagram illustrates the surface mining process in several stages:

- shovel & truck overburden removal**: The top layer of soil and rock is removed.
- drilling & blasting of overburden**: Deeper layers are broken up.
- dragline overburden removal**: Large machines drag overburden to the side.
- lower seams uncovered by dragline**: Coal seams are exposed.
- upper seams uncovered by shovel and trucks**: The top coal seams are accessed.
- land surface restored after mining**: The final stage shows the site being rehabilitated.

Muhlenberg County, Kentucky

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Environmental Impact

Science Matters: Kill a mountain for its coal

Coal mining companies that do "mountaintop removal" say it is safer than deep-shaft mining - but it destroys land and pollutes streams.

- Coal location**: Geologists find and map coal seams.
- Base removal**: Miners dig and blast deep sections near base of mountain, dump debris into valley.
- Upper seam mining**: Coal near mountaintop is removed; excess rock is dumped into valley.
- Baseline seam mining**: Coal-rich baseline seam removed; some rock dumped as "backfill".
- Completion**: Baseline seam is completely mined and backfilled; leaves only a plateau or rolling hills.

Coal Sludge and **Marsh Fork School** are also shown as environmental impacts.

Source: West Virginia Department of Environmental Protection, U.S. Environmental Protection Agency, Graphic: Chicago Tribune © 2009 AP/WIDE

Mountain Top Mining Sequence

Sundial, W.Va

The sequence shows the landscape in Sundial, West Virginia, at three different points in time:

- 1996**: The initial mining operation.
- 2003**: Significant land alteration and valley filling.
- 2011**: The landscape is largely flattened and covered in waste rock.

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Coal's Decline and the Appalachians

- Post-World War II
 - **Coal's use declines** with growth of petroleum and natural gas
 - Leads to rising unemployment, out-migration
 - Economic **depression** in coal-mining regions
- Late 20th century
 - **Declining demand**
 - Shift to **other regions**
 - Fluctuation in **exports**
 - **Environmental concerns**

The chart shows the percentage of energy generated from various sources:

- Coal**: Dominant from 1900 to ~1980.
- Oil**: Rises sharply after 1940, peaking around 1970.
- Natural gas**: Rises after 1960.
- Hydro**: Steady increase from 1900.
- Nuclear**: Emerges after 1960.
- Wood**: Significant in the early 1900s.

Coal's Decline and the Appalachians

Mines Closed

- Mine shafts sealed
- Surface mines left exposed to rain/wind
- Buildings abandoned
- Towns emptied

Images include:

- A mine shaft with a red structure.
- An abandoned mine building.
- A street in an empty town.
- A truck with a sign that says "RESTORE OUR MOUNTAINS REEMPLOY MINERS".
- A large pile of coal.

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Pennsylvania Coal Mine Tours

Lackawanna Coal Mine Tour

Eckley Miners' Village (Look Inside)

Pennsylvania Task Force on Coal

Scranton/Wilkes-Barre area

Images include:

- A sign for Lackawanna Coal Mine Tour.
- A pile of coal.
- A book cover for Eckley Miners' Village.
- A sign for Pennsylvania Task Force on Coal.
- A tunnel interior.
- A yellow vehicle in a tunnel.
- A mine interior with wooden supports.

Tennessee Valley Authority (TVA)

A federally-owned corporation created by Congress (1933) to oversee production of electricity in a 7-state area drained by the Tennessee R and its tributaries. Dams created navigable waterways linked to the Ohio R. which allowed access to the ocean.

Project to get people back to work during the Great Depression (1930s). Still an essential component for the regional economy. Supports industrial, commercial and recreational activities.



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TVA's Landscape Altering Projects

TVA hydroelectric dams and navigational locks changed the area's landscape and ecology by creating reservoirs, flooding valleys and cutting down trees for power line corridors. Reservoirs are used for recreational activities. They require access and various support activities



NEXT

The South:
Atlantic and Gulf Coastal Plains,
The Piedmont,
and Florida