

EXAM INFORMATION

- ❖ **Exam Two will be Friday, April 7.**
- Format same as Exam 1
- Covers regions from Northlands to Appalachia **including** Canada's National Core.
- Multiple choice questions including maps, plus choice of essay topics.
- See Study Guide. Review PP lectures on home page + text chapters.
- 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 7.**

✓ **All other extra credit is by the end of the semester.**

SNOW DAY MAKE-UP HANDOUT: Take home assignment is due on April 21st. Canada's National Core material will be on Exam II.

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

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Appalachia and The Ozarks

APPALACHIA REGION
Alabama Tennessee
Georgia No. Carolina
Kentucky Virginia
Maryland West Virginia
Ohio Pennsylvania
New York

OZARKS
Missouri
Arkansas
Oklahoma

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Appalachia 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/
unpainted barns
Great Smoky Mts.

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OVERVIEW

Geographic Theme: Limited opportunity in a landscape of isolation.

- ✓ Grouped because of **similar geographies** (physical and human), **yet 300 miles apart.**
- ✓ **Both experience isolation** because of **geologic setting**
- ✓ **Unique regional culture and landscapes** are the result of many site and situation factors.
- ✓ **Human geography distinguished by poverty:** poor farming, poor education, poor transportation network and poor choices of economic opportunity.
- ✓ **Northern Appalachia** has ties to the Heartland (**coal supplier**); **Southern Appalachia** and **The Ozarks** have ties to the South (**historical interaction**).
- ✓ **West Virginia is the only state totally within this region.**

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TERM: Appalachia

- ❖ **Appalachia:** area of eastern US characterized by poverty/lifestyle that is below the national norm.
 - ✓ It is a cultural region, a social region and an economic region.
 - ✓ But it is **NOT** a physical region.
 - ✓ It is **different** from the physical region called *The Appalachians* (Appalachian mountains, highlands and plateau).
- 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 more counties of New York, 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

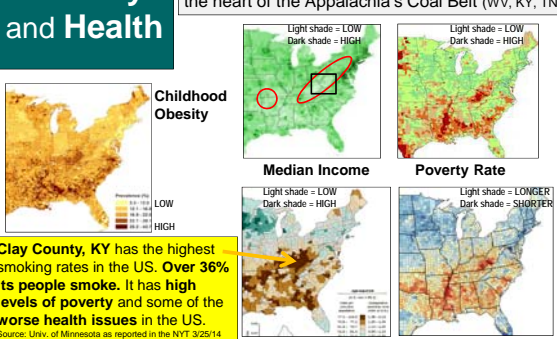


In parts of Appalachia, specifically the central region, many low-income families continue their struggle with material shortages. photo by Kim MacDonald

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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 **worse health issues** in the US.

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

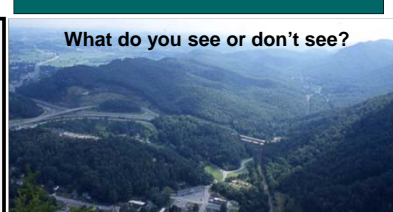

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Land Use Limitations

- ✓ Narrow valleys
- ✓ Steep hillsides
- ✓ Lack of flat land
- ✓ Thick forest
- ✓ Low density network of roads, railroads and waterways.

➢ All these limit the area's appeal to industry (plus low education levels/skill sets) in spite of the proximity to Megalopolis and Industrial Core.

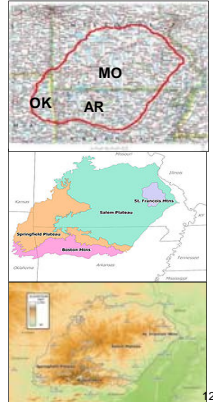
What do you see or don't see?

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The Ozarks

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

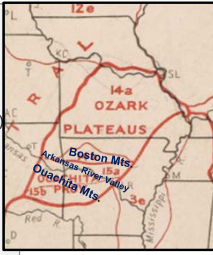


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Ozark Topography

This upland area is composed of two units:

- **Ozark Plateaus** (north)
 - Highest/most rugged area of the area is in N. Arkansas (Boston Mts)
 - It is dissected plateau created by doming (hot springs in the area).
- **Ouachita Mts.** (south)
 - Folded parallel ridges run in an east-west direction.
 - Separated from the Ozark Plateaus by Arkansas River Valley.



+ Physiography supports mining and forestry but hinders agriculture.
 + Area became a retirement and vacation destination in the 1990s.

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Ozark Culture

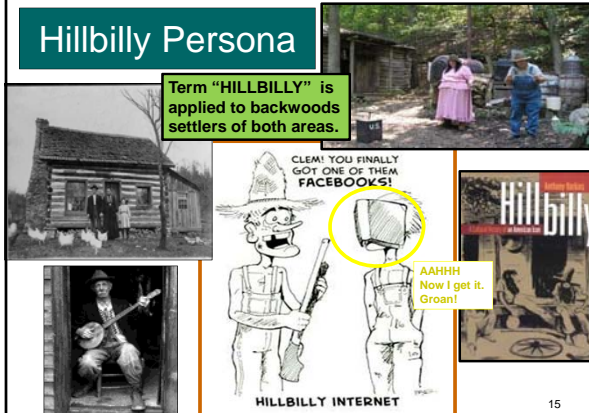


• Mountain Music
 • Ozark Artisans
 • Iron Skillet Restaurant
 • Dry Creek Lodge

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Hillbilly Persona

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



CLEM! YOU FINALLY GOT ONE OF THEM FACEBOOKS!

AAHHH Now I get it. Groan!

HILLBILLY INTERNET

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"Hillbilly Mansion"

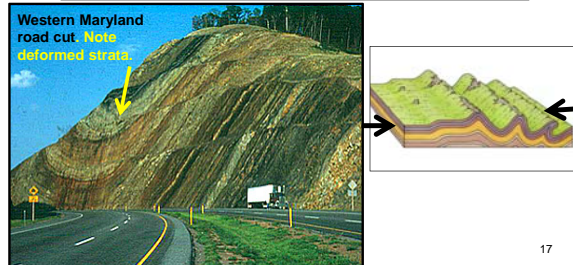


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Appalachian Mountain Region

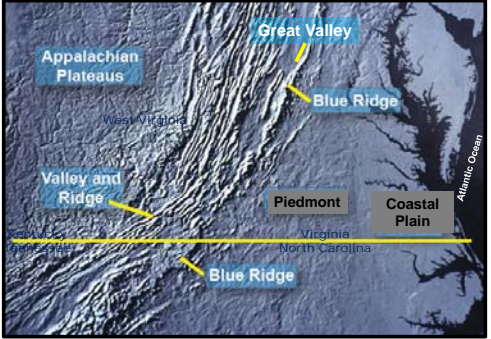
Ancient folded mountains caused by the collision of Africa and North America (460 mya).

Western Maryland road cut **Note deformed strata.**



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Central Appalachian Region



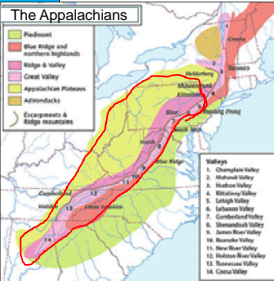
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Appalachian Mt. Topography

Five physiographic sub-regions:

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




➤ **Entire area exhibits vertical zonation of climate.**
Valleys tend to be warmer than the ridge crests.



Appalachian Topography

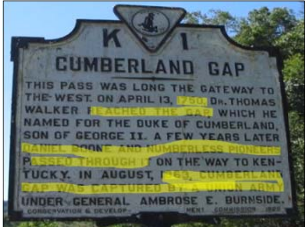

a) Blue Ridge

- 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 route through the central Appalachians, used by Native Americans then by the frontiersmen, to cross the mountains.
The trail was widened to create the Wilderness Road, 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.

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

- Series of parallel highlands and lowlands
- Ridge tops:** resistant shale and sandstone; forested slopes.
- Valleys:** softer limestone; good farm land.










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Appalachian Topography 3

c) Great Valley


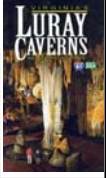
- Largest and longest of the valleys located between the Blue Ridge and Ridge-and-Valley sections.
- **Historic travel route betw. the south and north.**
 - ✓ Strategically important in the Amer. Rev. and the Civil War.
- > **Productive inland agricultural area that provided food for the coastal cities.**
- > **Shenandoah Valley** segment is best known farming area and was the **site of many Civil War battles.**









What's this land pattern called?

Caves of the Appalachians

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

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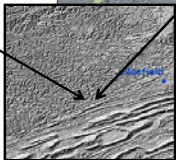
Appalachian Topography 4

d) Appalachian Plateaus

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

Allegheny Front at Bear Rocks, W.Va.

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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 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 minutes to 2 minutes!**

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

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Appalachia's Social Landscapes

<p>Northern Portion NY/PA/OH/MD</p> <ul style="list-style-type: none"> • Characterization: Less isolated, more modern, and less poor than southern portion <ul style="list-style-type: none"> ▪ Mountains easier to cross ▪ Access to coast ▪ Links to Industrial Core and to Washington/Baltimore areas • Population: Settled by people from Europe and New England. Penn. Dutch really <i>Deutsch</i> (Germans) • Religion: Less conservative; fewer fundamentalist churches. <ul style="list-style-type: none"> ▪ Catholic and Orthodox Christian church affiliations. 	<p>Southern Portion or Upland South (West Virginia to Alabama)</p> <ul style="list-style-type: none"> • Characterization: Limited mobility and interaction <ul style="list-style-type: none"> ▪ Width/height of ridges plus living in small valleys = isolated development ▪ Little in-migration; little out-migration; minimal interaction with rest of country = assimilation/acculturation issues • Population: Predominantly white, Anglo-Saxon, Protestant with roots in Southern Colonies. <ul style="list-style-type: none"> ▪ Largest US white low-income area ▪ Politically/religiously conservative • Early stereotyped: "Behind the times" and "unsophisticated"
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Divided States of Appalachia

- ❖ **West Virginia: only state totally within Appalachia**
 - Mountain people opposed secession from the Union
 - Plantation agric. was not part of mountain way of life
 - In 1863 mountain part of Virginia became the State of West Virginia (see maps in Section 5 of Historical Atlas)
- ❖ **The states that are partially in Appalachia have:**
 - Their largest city, industrial center and/or state capital (centers of power) sited **outside** of the Appalachia region.
 - Thus the **Appalachia areas** within those states became **marginalized** by more prosperous/progressive sections.
 - Less access to education, media, economic incentives.
 - Less access to the state's tax base.

! SO isolation does NOT pay off (you are forgotten) especially if you avoid paying taxes (you are ignored).


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Rural Landscape

❖ Over 50% 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.



➤ **Different from the Agricultural Core.**
 ➤ **Coal mining/lumbering are still locally important.**



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COAL

Thick coal seams.





Allegheny Plateau Beds

- World's largest deposit (in volume) with seams up to 10 ft thick.

Rise of Coal Mining

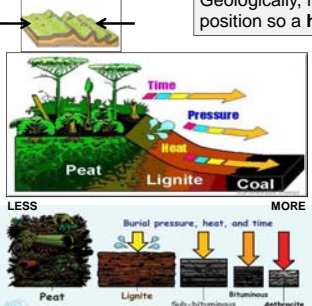

- New iron and steel furnaces (post-1870s) use **bituminous** coal.
- Sparked growth of Pittsburgh, PA and Birmingham, AL as "steel cities."
- **Coal-powered generators created electricity** for East Coast cities and the Industrial Core in early 1900s.



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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.
- ❖ **Bituminous coal** is softer, cheaper and more plentiful, but dirtier, than anthracite .
 - Powered railroad locomotives and stationary steam engines.
 - Used to make coke for furnaces (coking coal).
- ❖ **Lignite** (brown coal) and **peat** are the lowest grades
 - They are the "coolest" and "smokiest" burning of the carbon fuels.

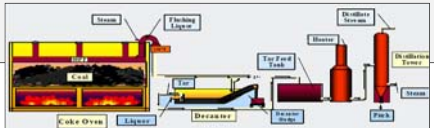
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Coking Coal

❖ **Coke** (coking coal) is created by **processing bituminous coal with intense heat** to drive off its volatile components.


- Result is almost pure carbon and creates little ash.
- Coke is used in blast furnaces to make steel.
- It is usually manufactured on site.

➤ **Region's proximity to the industrial core is important because cheap bituminous coal was moved by rail from the coal fields to the steel mills.**



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Mining Coal in Appalachia



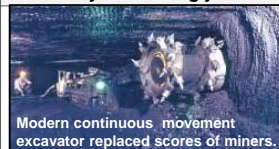
Early coal mining was very labor intensive. Provided steady source of income for local men with little education.

- Tunnels were dug **by hand**.
- Coal was mined **by hand**.
- Mine workers **carried** coal to mule-drawn carts or to the surface.

➤ **Conveyor belts for use in coal mines were invented 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.**



Modern continuous movement excavator replaced scores of miners.

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Coal Mining Persona

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Coal Mining Sights

Coal Mining Methods

Shaft (underground mining)

- Earliest and still dominant method
- Used when seams are deeply buried or tilted at sharp angles.
- Huge mobile drills make the shafts
- Continuous mining machines bore and mine at the same time.

Copyright: <http://localgeology.com>

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Surface (strip) Mining Diagram

Used when mineral is close to the surface, in near horizontal layers and spread over a large area.

Muhlenberg County, Kentucky

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Environmental Impact

Coal Shovel

Marsh Fork School

Science Matters

Kill a mountain for its coal

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

- 1 Coal location** Geologists find and map coal seams.
- 2 Base removal** Miners dig and blast away sections near base of mountains, dump debris into valley.
- 3 Upper seam mining** Coal near mountaintop is removed, excess rock is dumped into valley.
- 4 Baseline seam mining** Coal-rich baseline seam removed, some rock dumped as "tailcoke".
- 5 Completion** Baseline seam is completely mined and backfilled, leaving only a stream or rolling hills.

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Coal's Decline and Appalachia

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

- **Increased demand** as a fuel with 1980s energy crisis and clean-burn technologies. However...
- **Cheaper mining in other regions**, as Wyoming
- **Continued environmental concerns** (air, water, land pollution)



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Coal's Decline and Appalachia



Mines Shut Down

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

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Coal Mine Tours



BECKLEY EXHIBITION COAL MINE



Kentucky Coal Mining Museum



Lackawanna Coal Mine Tour



Eckley Miners' Village



Scranton/Wilkes-Barre, PA area




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Tennessee Valley Authority (TVA)

Created by Congress (1933) to oversee production of electricity in a 7-state area drained by the Tennessee River and its tributaries in southern Appalachia and to get people back to work during the Great Depression (1930s).

Dams created navigable waterways linked to the Ohio River which allowed access to the ocean, but impounded water flooded valleys.

- ✓ Still an essential component for the regional economy.
- ✓ Supports industrial, commercial and recreational activities.






Area served by TVA power



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TVA's Landscape Altering Projects

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.
- Coal-powered generators have added pollution to the area.

NEXT TIME: EXAM

Then "The South":

Atlantic and Gulf Coastal Plains,
The Piedmont, and Florida

(in two parts)