

# Teaching Students to Think Like a Geographer

Module 1.1 – Thinking Geographically: Teaching Spatially

# Lesson Hook

- In the next 3 minutes type as many characteristics of a “good” geography teacher that you can think of onto the google doc.

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# Lesson Hook

- *In the next 3 minutes type as many characteristics of a “good” geography teacher that you can think of onto the google doc.*
- *For the next 3 minutes type in as many characteristics of a “bad” geography teacher that you can think of into the next spot on the google doc.*
- For the last 3 minutes type out a list of all of the steps that a person would have to take in order to achieve the characteristics you had included in your first question

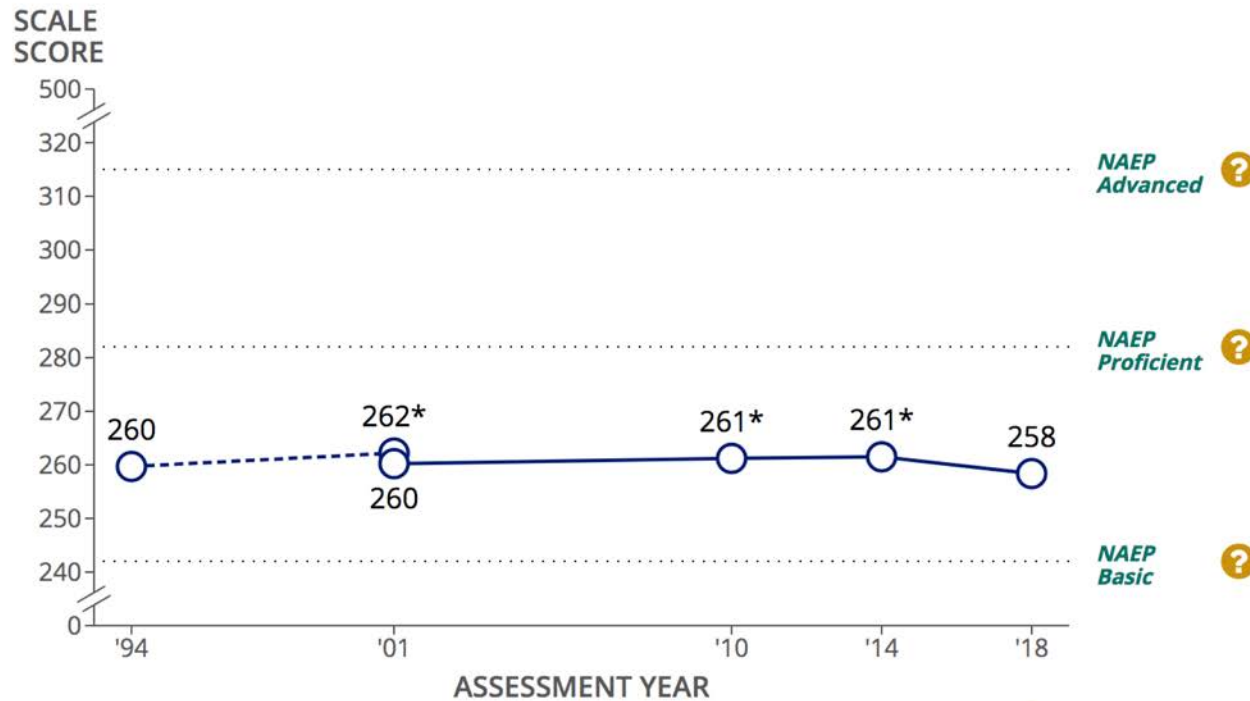
# Lesson Objectives

- Students will build an understanding of the sorts of policy issues that geography faces nationally and state-wide by reviewing relevant articles, direct instruction, and participating in class discussion.
  - Key Outcome – Be able to explain the state and national initiative that impact the quality and quantity of geography programs.
  - Key Outcome -

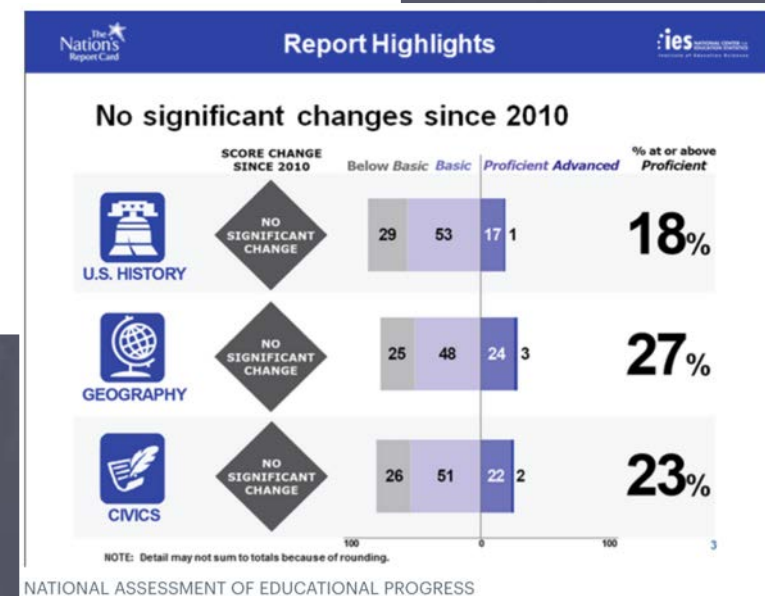
# An Urgent Need

FIGURE | Trend in eighth-grade NAEP geography average scores

DISPLAY AS GRAPH | [TABLE](#)



- Accommodations not permitted
- Accommodations permitted
- \* Significantly different ( $p < .05$ ) from 2018.



# Thinking Like a Geographer

## Geographic Perspectives

- Geography topics overlap with a number of other social and physical sciences, but the emphasis on identifying distribution, trends and patterns over space is what makes it unique.

## Geographic Skills

Pose Geographic Questions

Acquire Geographic Information

Organize Geographic Information

Analyze Geographic Information

Answer Questions and Design Solutions

Communicate Geographic Information

Interpret Maps and Analyze Geospatial Data

Understand Associations and Networks

Interpret Relationships among Patterns

Define Regions and Evaluate Regionalization

Analyze Changing Interconnections

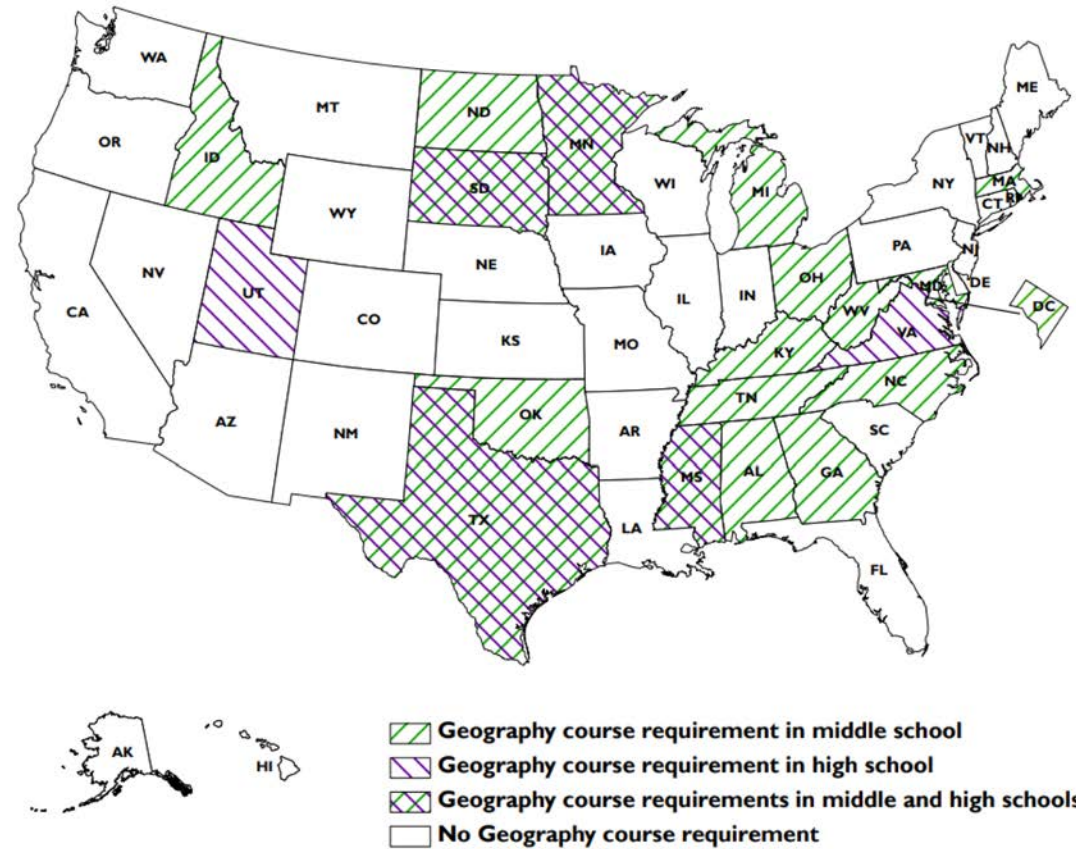
# Discussion 1 – Why GeoED Matters

- Read the Article by Joseph Kerski “Why Geography Education Matters” (2011)
  - Pull out a quote that most connects to your own feelings about the importance of Geographic education



# Geography's National Standing

State-Level Geography Course Requirements in Middle School and High School<sup>1</sup>



<sup>1</sup> A geography course requirement is defined as at least one semester- or year-long stand-alone course during middle school or high school. Sources: U.S. Department of Education, [www2.ed.gov](http://www2.ed.gov); Geography 2010 Report Card, [nationsreportcard.gov/geography\\_2010/](http://nationsreportcard.gov/geography_2010/)

# Differences in offerings of Geography

- Elementary School
  - Geography included in “Social Studies” class
- Middle School
  - Occasional world geography courses
  - geography incorporated into history or civics courses
- High School
  - Stand-alone geography courses sometimes required
    - Dependent on state or district guidelines
  - electives sometimes offered
    - Dependent upon staff availability and interest
  - Advanced coursework rarely available
    - 5,838 schools offered AP Human Geography in 2019 (about 2.18% of schools nationwide)
- University
  - 351 4yr Universities with Geography Majors (Niche.com)

# Geography Courses Offered around the Omaha Metro (\*=Graduation Requirement)

- Omaha Public Schools
  - Human Geography (On-level, Honors, AP)\*
  - Biogeography
  - World Religions
  - Ethnic Studies
  - Global Studies
- Millard Public Schools
  - World Geography\*
  - AP Human Geography
  - World Religions
  - World Geography
  - Human Diversity
- Bennington Public Schools
  - AP Human Geography
  - World Geography \*
- Papillion Public Schools
  - Issues and Geography in the Modern World
- Bellevue Public Schools
  - Multicultural Studies
  - Comparative World Religions
  - 21<sup>st</sup> century world studies
- Gretna Public Schools
  - Modern Problems
- Westside Public Schools
  - AP Human Geography
  - Global Geography \*
  - Dynamics of Global Intolerance Honors
- Elkhorn Public Schools
  - World Cultures \*
  - AP Human Geography

Most offer Environmental Science or AP Environmental Science

# Approaches to Geography Education in K-12

- **Human Geography**
  - Focused on spatial distribution and patterns of cultural and human processes
  - Most popular since 1980s
- **Physical Geography**
  - Focused on spatial distribution of physical processes with emphasis on systems
  - Mostly pushed to Environmental Science
- **Regional Geography**
  - Continent-based or sub-region approach to understanding unique characteristics of regions of the world
  - Other most popular approach
- **Special Topics (electives)**
  - Vary based on interests of district, teachers, or students (ex. Genocide and ethnic studies)
  - Depend on school's ability to offer electives

# OPS Curriculum Guide for Human Geography

## Pacing Guide

### Unit 4: Urban Geography

Cities emerge and develop according to the human and physical characteristics of place. In the 21<sup>st</sup> Century, the human population is both larger and more urbanized than ever before. The increasing sizes and densities of modern cities create political, social, economic, and environmental challenges. American cities, in particular, exemplify centralizing and decentralizing effects of transportation and socio-economic groupings. Comprehensive urban planning is a means by which the complex problems facing American cities can be addressed.

<b>Time Frame</b>	2 <sup>nd</sup> /4 <sup>th</sup> Quarter (Weeks 16-18)	
	This three-week unit is to be taught as the fourth unit of content instruction immediately after Political Geography.	
<b>Topics, Essential Questions</b>	<p><b>Topic-</b>  <b>Location of Cities</b></p> <ul style="list-style-type: none"> <li>• Transportation</li> <li>• Technology</li> <li>• Patterns</li> </ul> <p><b>Urban Models</b>  <b>Function of Cities</b>  <b>Urban Inequalities</b>  <b>Urban Planning</b></p> <p><u>Essential Question</u>  Analyze the patterns of urban development, such as site and situation; the functions of towns and cities; and problems related to human mobility, social structure, and the environment.</p>	
<b>Standards and Indicators</b>	See page 19 below	
<b>Vocabulary</b> Academic Vocabulary terms are taught using the Six-Step Process	<p><u>Academic Vocabulary</u> (to be taught throughout the course of the unit)</p> <p>Blight, Cantal Business District, Gentrification, Megacities, Megalopolis, New Urbanism, Public Housing, Shanty Town (Squatter Settlement, Favelas, Barricades), Urbanization, Urban Sprawl, World Cities</p>	<p><u>Other Unit Specific Vocabulary</u></p> <ul style="list-style-type: none"> <li>*automobile city</li> <li>*walking city</li> <li>*streetcar city</li> <li>*site</li> <li>*situation</li> <li>*centripetal forces</li> <li>*centrifugal forces</li> <li>*location &amp; place (themes)</li> <li>*municipal</li> </ul>

		<ul style="list-style-type: none"> <li>*mass transit*exclaves &amp; enclaves</li> <li>*break-in-bulk city</li> <li>*blockbusting</li> <li>*redlining</li> <li>*scarcity of resources</li> <li>*urban redevelopment</li> <li>*pollution</li> <li>*Burgess Concentric Zone Model</li> <li>*Centralization</li> <li>*centralization</li> <li>*commercial zone --</li> <li>*decentralization --</li> <li>*ethnic neighborhoods --</li> <li>*residential zone --</li> <li>*Rural</li> <li>*Suburbs</li> <li>*Suburbanization</li> <li>*transportation patterns</li> <li>*transportation technology --</li> <li>*urban</li> <li>*rural to urban migration</li> <li>*desegregation</li> <li>*Development</li> <li>*Poverty</li> <li>*Sanitation</li> <li>*Slum</li> <li>*Urban Planning</li> </ul>
<b>Common Assessments</b>	<b>Formative Assessments</b>	<b>Summative Assessments</b>
Assessments in bold are required.	<p><b>Leveled Questions: Use these questions to guide instruction in your classroom. Questions are leveled 2, 3, and 4.</b></p> <p><b>BASIC (2)</b>  What are the characteristics of site?  What are the characteristics of situation?  What are the characteristics of a walking city and how do they shape peoples' lives?  What are the characteristics of a streetcar city and how do they shape peoples' lives?  What are the characteristics of an automobile city and how do they shape peoples' lives?</p>	<p><b>RSP Final (weighted as two summative grades)</b></p>

# OPS Curriculum Guide for Human Geography

What are the major World Cities, and why are they important?  
 What are the megacities of today?  
 What are projected to be the megacities of the future?  
 What push and pull factors drive rural-to-urban migration?  
 What problems result from poor urban planning?  
 How does urban blight affect citizens' quality of life?  
 How do the principles of New Urbanism address urban problems?

## PROFICIENT (3)

Why do cities locate where they do?  
 What are the characteristics of a walking city and how do they shape peoples' lives?  
 What are the characteristics of a streetcar city and how do they shape peoples' lives?  
 What are the characteristics of an automobile city and how do they shape peoples' lives?  
 How did/do changes in transportation impact the location of cities?  
 How did/do changes in transportation impact the city?  
 How did/do changes in transportation impact commercial development?  
 What is the relationship between urban models and transportation technology?  
 What are the major World Cities, and why are they important?  
 What is the relationship between urban areas and their surrounding rural areas?  
 How do cities provide services to residents?  
 Analyze the location of the American Megalopolis.  
 What are the positive and negative effects of gentrification and New Urbanism?  
 What elements are needed to make urban redevelopment successful?  
 What are possible solutions to urban blight?  
 How do ethnic neighborhoods contribute to the vitality of a city?  
 How do pollution and blight detract from the quality of a city?  
 Why are squatter settlements allowed to develop?

## ADVANCED (4)

How are squatter settlements an inevitable result of rapid urban growth?  
 How can the problems of squatter settlements be fixed?  
 Does public housing cause or solve urban problems?  
 What are possible solutions to urban blight?  
 What are the limitations of the Burgess model?  
 Does the BCZM adequately reflect changes in transportation technology?  
 What are the forces that centralize and/or decentralize the city?  
 What is the world's most influential city today and what will it be in 20 years?  
 What economic and cultural functions do urban environments serve?

Explain how cities are centerpieces of global cultural and economic activities.  
 Prioritize the functions of a city: cultural, economic, political, technological, and services.  
 Analyze the interrelationship between urban settings and cultural change.  
 Predict and defend which urban areas will be designated as a megalopolis.  
 Explain how cities are beneficial and/or harmful for human beings

## Additional Notes- 21<sup>st</sup> Century Social Studies Focus Skills

### Critical Thinking and Problem Solving

- Exercising sound reasoning in understanding
- Making complex choices and decisions
- Understanding the interconnections among systems
- Identifying and asking significant questions that clarify various points of view and lead to better solutions
- Framing, analyzing and synthesizing information to solve problems and answer questions

### Flexibility and Adaptability

- Adapted to varied roles and responsibilities
- Working effectively in a climate of ambiguity and changing priorities

### Information Literacy

- Accessing information efficiently and effectively, evaluating information critically and competently, and using information accurately and creatively for the issue or problem at hand
- Possessing a fundamental understanding of the ethical/legal issues surrounding the access and use of information

# Differences in Offerings

- Standalone
  - A devoted geography course (semester or yearlong)
- Blended
  - Incorporation of geography into another subject (Usually history)
- Advanced Placement
  - Standalone Human Geography course modeled by College Board, culminating in test
- General Certificate of Education (GCE) A-Level
  - British system which includes geography as course of study (2 years)
- International Baccalaureate (IB)
  - Blends Physical and Human geography
- Elective
  - Non-required course, usually a special interest

# Undergraduate Geography Course offered at UNO with no Geography pre-reqs

- **GEOG 1000 FUNDAMENTALS OF WORLD REGIONAL GEOGRAPHY**
- **GEOG 1020 INTRODUCTION TO HUMAN GEOGRAPHY**
- **GEOG 1030 INTRODUCTION TO PHYSICAL GEOGRAPHY**
- **GEOG 1050 HUMAN-ENVIRONMENT GEOGRAPHY**
- **GEOG 1090 INTRODUCTION TO GEOSPATIAL SCIENCES**
- **GEOG 2620 AERIAL PHOTOGRAPHIC INTERPRETATION**
- **GEOG 3000 TRAVEL STUDY IN GEOGRAPHY**
- **GEOG 3030 GEOGRAPHY OF AFRICA**
- **GEOG 3050 GEOGRAPHY IN FILM**
- **GEOG 3060 GEOGRAPHY OF MIDDLE AMERICA**
- **GEOG 3070 GEOGRAPHY OF LATIN AMERICA**
- **GEOG 3080 EAST & SOUTHEAST ASIA**
- **GEOG 3330 UNITED STATES & CANADA**
- **GEOG 3440 NEBRASKA NATURAL RESOURCES MANAGEMENT**
- **GEOG 3510 METEOROLOGY**
- **GEOG 3930 POLITICAL GEOGRAPHY**
- **GEOG 4020 QUANTITATIVE ANALYSIS IN GEOGRAPHY**
- **GEOG 4120 URBAN GEOGRAPHY**
- **GEOG 4150 GEOGRAPHY, GENDER AND ENTREPRENEURSHIP**
- **GEOG 4160 URBAN SUSTAINABILITY**
- **GEOG 4230 GREAT PLAINS & NEBRASKA**
- **GEOG 4610 ENVIRONMENTAL MONITORING AND ASSESSMENT**
- **GEOG 4820 INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS**



# Sets of Standards Influencing Geography Education

- Nebraska State Department of Education
  - Social Studies Standards (updated 2020)
    - Nebraska is a “local control” state
- National Council For Social Studies (NCSS)
  - College, Career, and Civic Life (C3) Framework for Social Studies State Standards
    - Not Nebraska
- Council of Chief State School Officers
  - Common Core
    - 41/50 states – not Nebraska
- Geography Education National Implementation Project (GENIP)
  - National Standards for Geography
  - Updated 1994
    - Pieces incorporated by Nebraska

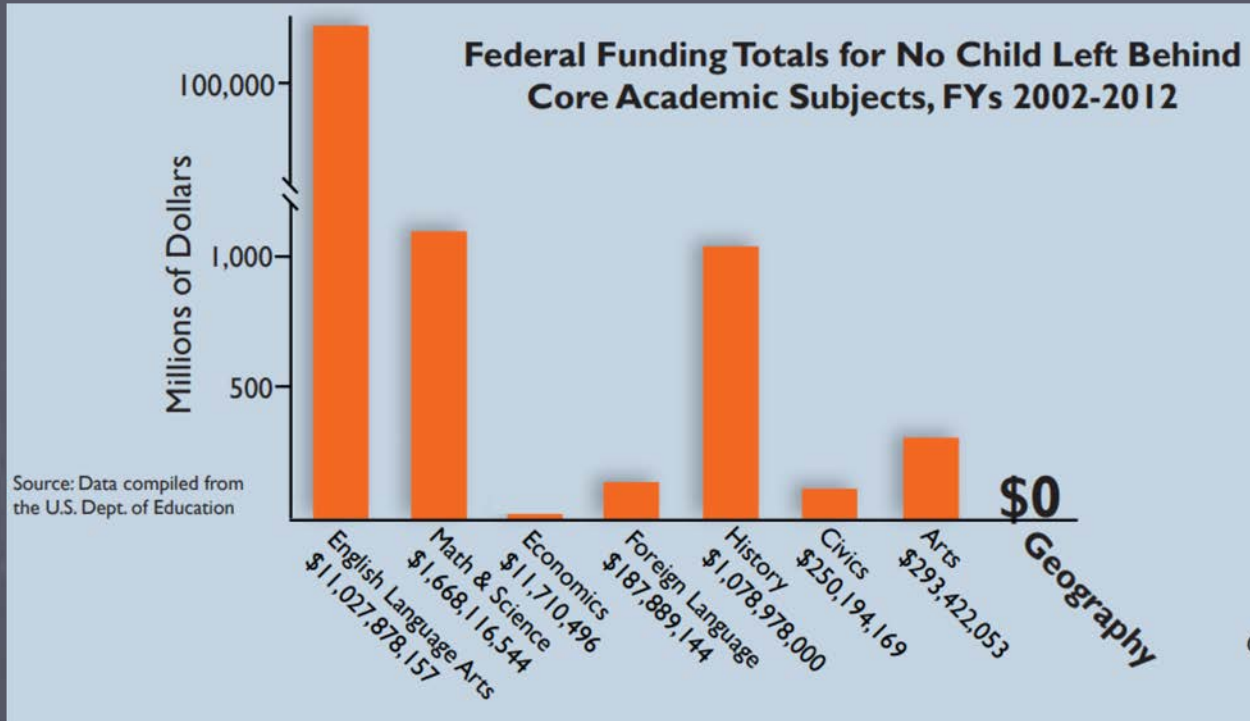
# Discussion 2 – Making Connections

- Question 1: What has been your own experience with geography in K-12?
- Question 2: What potential explanations are there for the marginalization of geography?

# Explanation for Geography's Exclusion

- Misunderstanding of nature of Geography
- No targeted standardized test
  - National Assessment of Education Progress (NAEP) only specific measure
- Bête Noire of Social Studies
  - History is dominant
  - Lack of quality pre-service teacher instruction (Boehm, Brierley, and Sharma 1994)
- Marginalization of Global education
  - Focus on civic education and Science Technology Engineering and Mathematics (STEM)

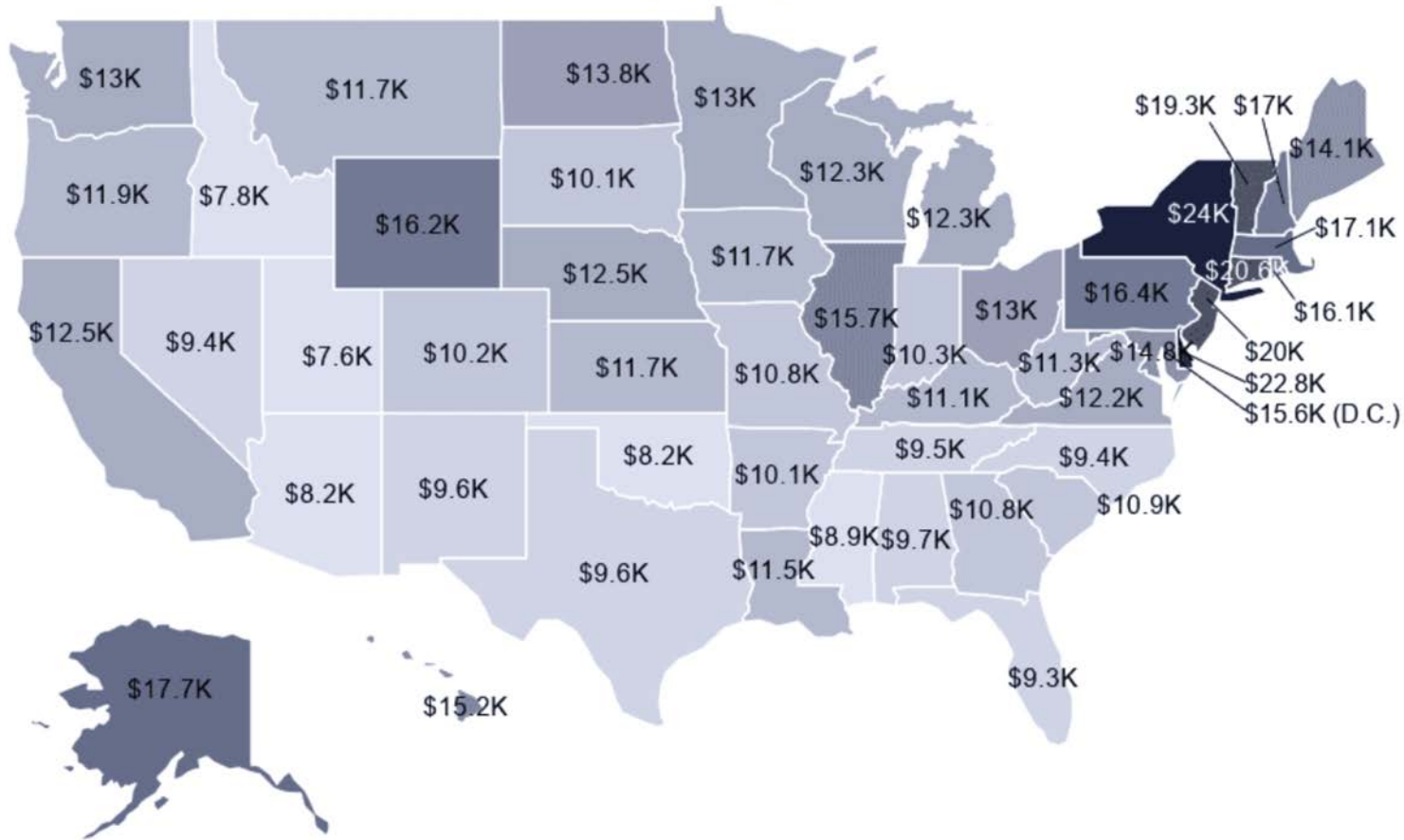
# Geography's Marginalization



- Geography excluded under NCLB and during Trump administration
- Every Student Succeeds Act (ESSA) (2015) Includes Geography
- Educating for Democracy Act (in progress) – no specific provisions for Geography
- Presently, US Federal government spends \$54/student on STEM, but \$.05 per student on civic education (Campaign for the Civic Mission of Schools)

# How are America's Public Schools Funded

Public School Spending Per Student



- 7.7% comes from Federal Government
- Around 46% comes from State governments (varies by state)
- Rest usually comes from property taxes

(2020) Source: Educationdata.org

# Nebraska

Nebraska ranks 22<sup>nd</sup> in school spending and 24<sup>th</sup> in funding.

- Nebraska schools spend \$12,491 per pupil for a total of \$4 billion annually.
- That's the equivalent of 4.2% of taxpayer income.
- Nebraska schools receive \$329.1 million, or \$1,018 per pupil, from the federal government.
- The state of Nebraska divides \$1.1 billion, or \$4,642 per pupil, among its public schools.
- Local funding totals \$2.7 billion, or \$8,479 per pupil.
- State and local funding is 4.4% of Nebraska's taxpayer income.
- Nebraska's federal education funding is the equivalent of 0.34% of the state's taxpayer income.
- Funding for education in Nebraska totals \$4.6 billion, or \$14,138 per pupil.
- The difference between spending and funding is \$532.8 million, or \$1,647 per pupil.

# Discussion 3 – Teacher Competencies

- Question 1 – What sort of training/skills would you expect/want geography teachers to have?
- Question 2 – What sort of content should geography teachers be proficient in?

# Most Common Tracks of Teacher Licensure

- Undergraduate Degree in Social Studies ED
- Undergraduate Degree in Content, Graduate in Education
- Alternative Certification Program
  - Open to members of industry with Bachelor's degree
- No License



# Complicating Factors of Teacher Licensure

- Social Studies teachers often licensed in GEOG, HIST (US& World), POLISCI, ANTHRO, SOC, PSYCH, ECON
  - Of 171 participants 35% had 1 or fewer geography courses in college
- Multiple grade levels (usually K-5 or 5-12, or K-6 or 7-12)
- Passing PRAXIS (or similar)
- Pay discrepancies compared to careers with comparable training
  - On avg \$.78 to the dollar
- Charter & Private Schools

Common High School Certifications in the Sciences and Social Studies

SCIENCES		SOCIAL STUDIES	
Single-subject	Multiple-subject	Single-subject	Multiple-subject
<ul style="list-style-type: none"> <li>■ Biology</li> <li>■ Chemistry</li> <li>■ Earth Science</li> <li>■ Physics</li> </ul>	<ul style="list-style-type: none"> <li>■ Physical Science (can teach chemistry and physics)</li> <li>■ General Science (can teach all the sciences)</li> </ul>	<ul style="list-style-type: none"> <li>■ History</li> <li>■ Economics</li> <li>■ Geography</li> <li>■ Political Science</li> <li>■ Psychology</li> <li>■ Anthropology</li> <li>■ Sociology</li> </ul>	<ul style="list-style-type: none"> <li>■ General Social Studies (can teach all the social studies)</li> </ul>

Content Category	# of Questions	% of Exam
US History	26	20%
World History	26	20%
Government/Civics/Political Science	26	20%
Geography	19	15%
Economics	20	15%
Behavioral Science	13	10%

# Requirements for a Nebraska Teaching K-12 License

- Completion of a Baccalaureate Degree
- Completion of a Teacher Education Program at a state approved college or university
- Completion of the Human Relations Training Requirement
- Completion of the Special Education Training Program
- Praxis – CORE Academic Skills (Basic Skills)
- Praxis Subject Assessments – (Content Test)
- Recent college credits or employment experience within the past immediate 5 years

# Discussion 4 – Improving Geography Education

- Based on what we have covered today and your prior knowledge what steps are needed to improve geography education? (List and explain 3)