

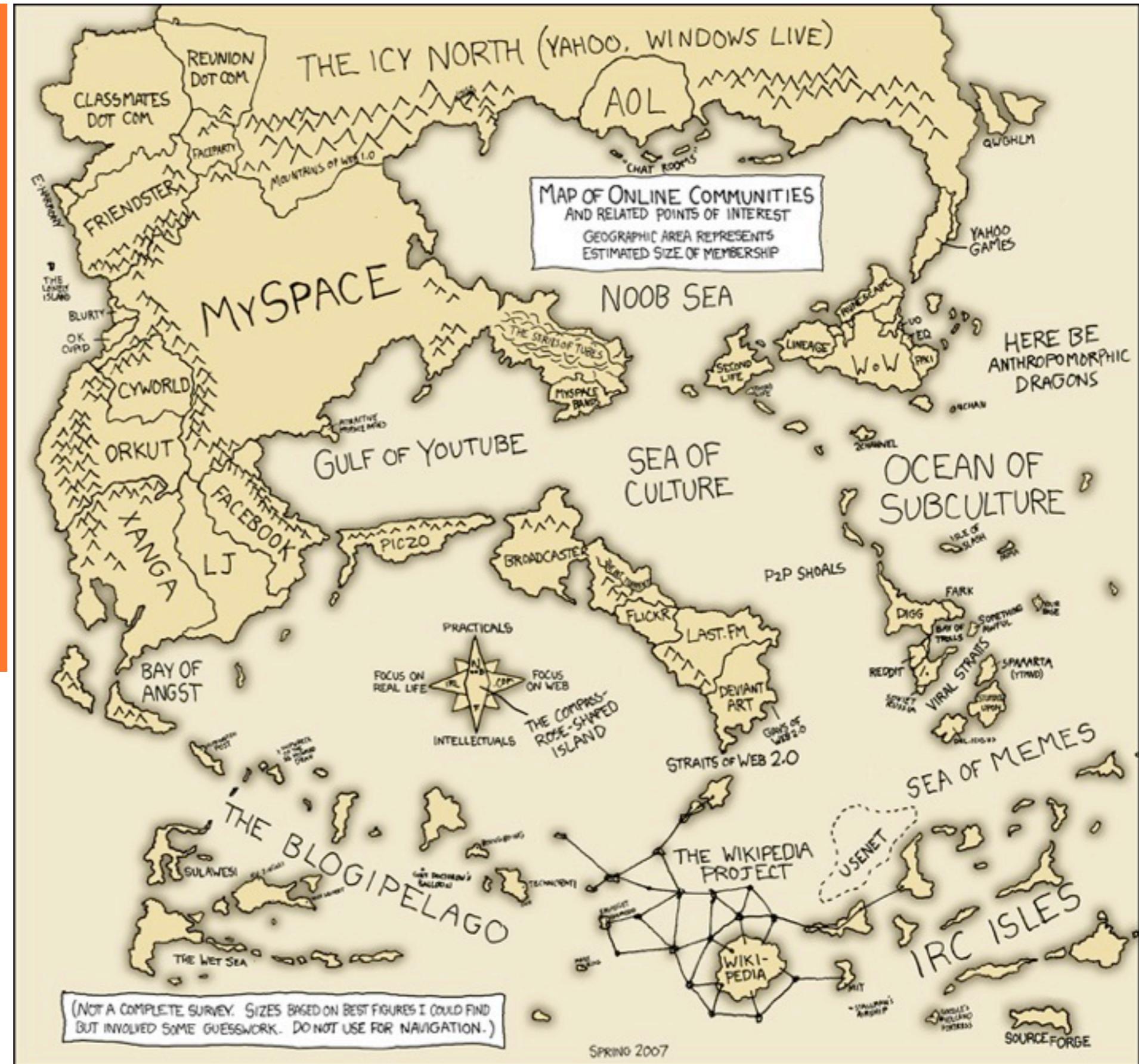


Week 2: MAPS!

Intro to Geography

Lehman College
GEH 101/GEH 501
Fall 2010

Keith Miyake



Source: <http://xkcd.com/256/>



Term Papers: Intro

- ⬢ The purpose of this paper is to help students relate the geographical ways of thinking introduced in the course to topics of personal interest, and in doing so, develop research, writing, and critical analytical skills.
- ⬢ You may work individually or in pairs
- ⬢ The content of the paper will be developed incrementally throughout the course through collaborative discussions during class.
- ⬢ Guidelines are available as a PDF on the course website
- ⬢ Due Dates:
 - ⬢ March 21, 11:59pm: Description of topic, outline, bibliography
 - ⬢ April 11, 11:59pm: Final paper due as email attachment



Term Papers: Topics

- ⬢ The topic can be anything the you choose
- ⬢ It is your responsibility to demonstrate how geographical knowledge and analysis is useful in understanding the topic.
- ⬢ Possible topics...
 - ⬢ Environmental Justice in New York
 - ⬢ Race, space and place in the evolution of Jazz music



Term Papers: Format and Style

- ⬢ 1,500–2,500 words, not including bibliography
- ⬢ 12-point, Times family font, 1" margins, double line spacings
- ⬢ APA Style:
 - ⬢ <https://owl.english.purdue.edu/owl/resource/560/1/>
- ⬢ Must use in-line citations:
 - ⬢ According to Jones (1998), "Students often had difficulty using APA style, especially when it was their first time" (p. 199).

Jones (1998) found "students often had difficulty using APA style" (p. 199); what implications does this have for teachers?



Term Papers: Content and Structure

Introduction and Thesis

-  Describe the purpose or argument contained in your paper
-  Very briefly (no more than 1 page) describe the topic as though it was being presented to peers who are mostly ignorant about the topic.



Term Papers: Content and Structure

- Body: Use geographic analysis to critically think about one or more aspects of the topic:
 - How spatial variations or interactions shape the processes involved in your topic
 - How place-specific physical landscape, political, economic, cultural, and social variables are influential factors
 - How factors in one place have uneven consequences for different populations across space and time
 - You might use of maps/spatial analysis, quantitative data, analysis of current affairs, policy analysis, media critique, or anything else that would enable others to better understand the chosen topic.



Term Papers: Content and Structure

❖ Conclusion and Discussion

- ❖ How the topic is relevant within contemporary society
- ❖ Pose questions or topics for further research



Term Papers: Assessment

- ❖ If you struggle with writing mechanics, it is highly recommended that you visit the Academic Support Center for Excellence, have a peer proof read your paper, or meet with me individually to work on making your paper more readable and comprehensible.
- ❖ Papers will be assessed based on geographic content and analysis as well as mechanics based on the rubric posted to the course website





Grade Component (Weight)	Exceeds Expectations (10)	Meets Expectations (8-9)	Approaching Expectations (6-7)	Does Not Meet Expectations (0-5)	Points x Weight
Thesis (8%)	Thesis clearly and provocatively advances an original argument	Clear and specific thesis that sets up the central argument(s)	Thesis vague or not central to implied argument(s)	No discernable thesis	$10*8\% = 0.8$
Conclusion (7%)	Conclusions critically reflect on the topic and positions it within existing and future research	Conclusions are convincing and function to position paper within an external context	Conclusions superficial or unconvincing and the relevance of the paper is not made clear	No conclusions or connections to the world outside of this paper	$10*7\% = 0.7$
Structure/Length (15%)	Paper structure is fluid and guides reader through arguments; scope of paper is clearly defined and appropriate to the arguments; within length requirements	Paper is organized in a coherent and logical manner; scope of paper is appropriate; within 15% of length requirements	Paper inconsistently organized but attempts to guide reader through arguments; scope of paper may be too broad/narrow; within 20% of length requirements	Paper is disorganized and lacks coherent structure; scope of paper is unclear; significantly outside of length requirements	$10*15\% = 1.5$
Use of Evidence (25%)	Engages with scholarly geographic research; synthesizes and critiques the arguments of scholarly geographic research	Appropriately cites academic geographic research to develop arguments; demonstrates comprehension of arguments and distinguishes argument from opinion	Uses academic and non-geographic sources inconsistently; arguments inconsistently supported by evidence; may contain unsubstantiated opinion	Does not cite relevant scholarly research to support arguments; arguments mostly unsubstantiated	$10*25\% = 2.5$
Analysis/Geographic Content (35%)	Critically engages topic in insightful ways; geographical analysis central to argument; clearly demonstrates engagement with different branches of geographic thought	Shows thorough understanding of the topic and goes beyond recitation of facts; may have minor factual or conceptual inconsistencies; engages with at least one branch of geographic thought	Shows basic understanding of ideas and information; may have some factual, interpretive, or conceptual errors; geographic connections not clear or shows lack of understanding of geographic concepts	Lacks an understanding of topic; no clear geographic analysis	$10*35\% = 3.5$
Mechanics (10%)	Grammar, punctuation, spelling are correct; formatting follows APA style conventions	Grammar, punctuation, and spelling mostly correct; evidence of proof reading; formatting generally consistent with an appropriate style convention	Some grammatical, punctuation, or spelling errors; appears not to have been proof read; formatting shows some use of style conventions	Grammar, punctuation, or spelling interfere with readability; little or no attempt to follow style conventions	$10*10\% = 1.0$

Grade Scale: **A** – 90-100%; **B** – 80-89%; **C** – 70-79%; **D** – 60-69%; **F** – < 60%

Total ÷ 10

100%

Sources and References

- ➊ At least 4 sources of information not including data or graphics
- ➋ At least 2 sources must be scholarly sources such as academic journals or books
- ➌ Wikipedia is **not** an acceptable source...
- ➍ Websites should be reputable and contain verifiable information (e.g., Huffington Post is OK, answers.yahoo.com is NOT OK)





How to use Wikipedia

Terminology

The most general definition of *climate change* is a change in the statistical properties of the climate system when considered over periods of decades or longer, regardless of cause.^{[1][2]} Accordingly, fluctuations on periods shorter than a few decades, such as El Niño, do not represent climate change.

The term sometimes is used to refer specifically to climate change caused by human activity; for example, the United Nations Framework Convention on Climate Change defines climate change as "a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods."^[3] In the latter sense climate change is synonymous with global warming.

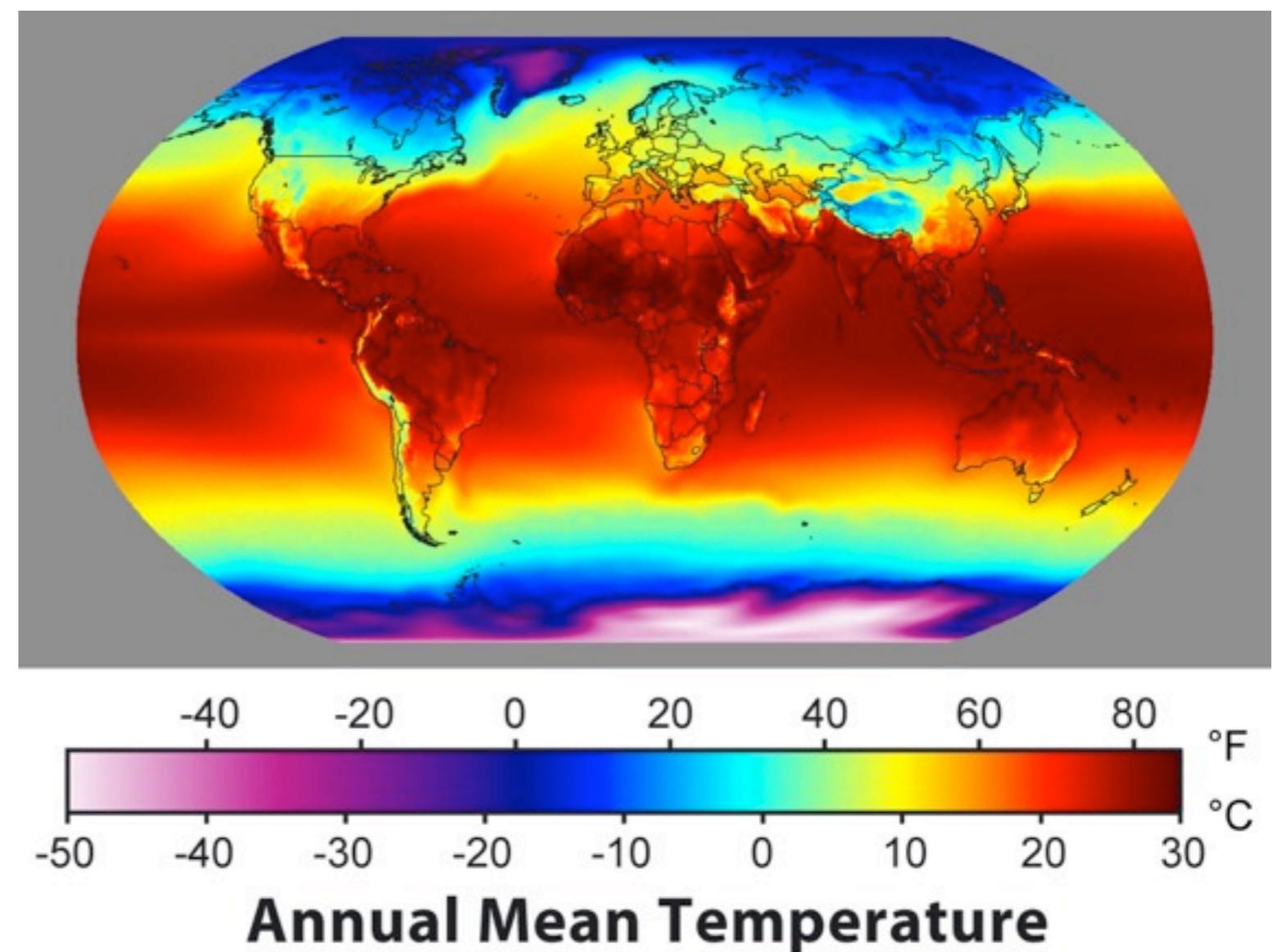
References

1. ^ "Glossary – Climate Change" ↗. Education Center – Arctic Climatology and Meteorology. NSIDC National Snow and Ice Data Center.
2. ^ Houghton, John Theodore, ed (2001). "Appendix I – Glossary" ↗. *Climate change 2001: the scientific basis: contribution of Working Group I to the Third Assessment Report of the Intergovernmental Panel on Climate Change* ↗. Cambridge, UK: Cambridge University Press. ISBN 0-521-80767-0.
3. ^ "The United Nations Framework Convention on Climate Change" ↗. 21 March 1994.



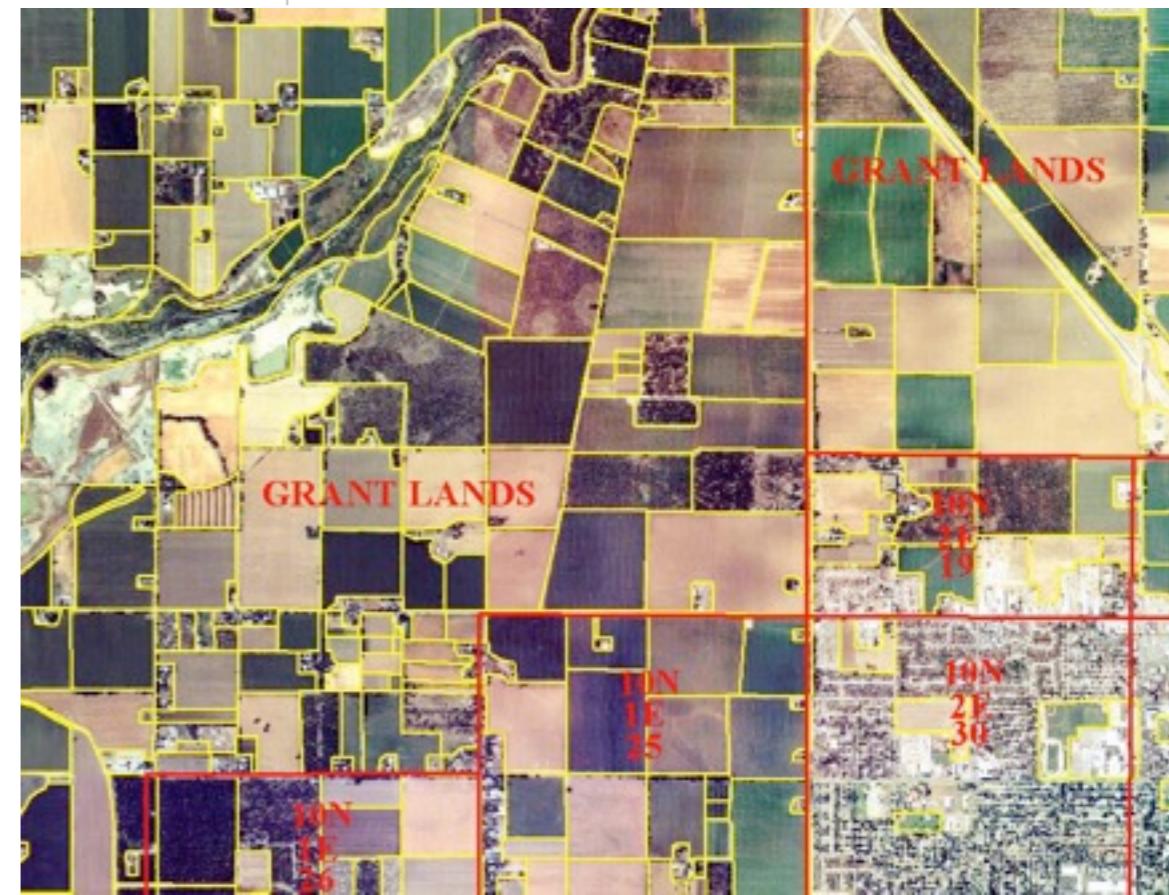
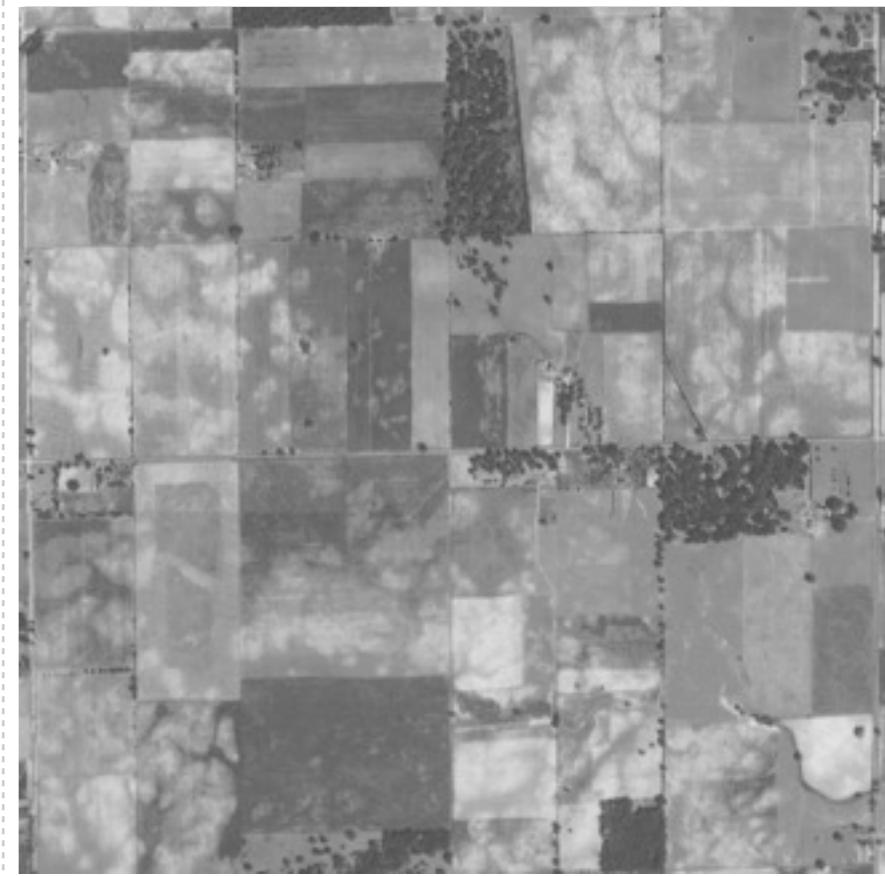
Why Maps?

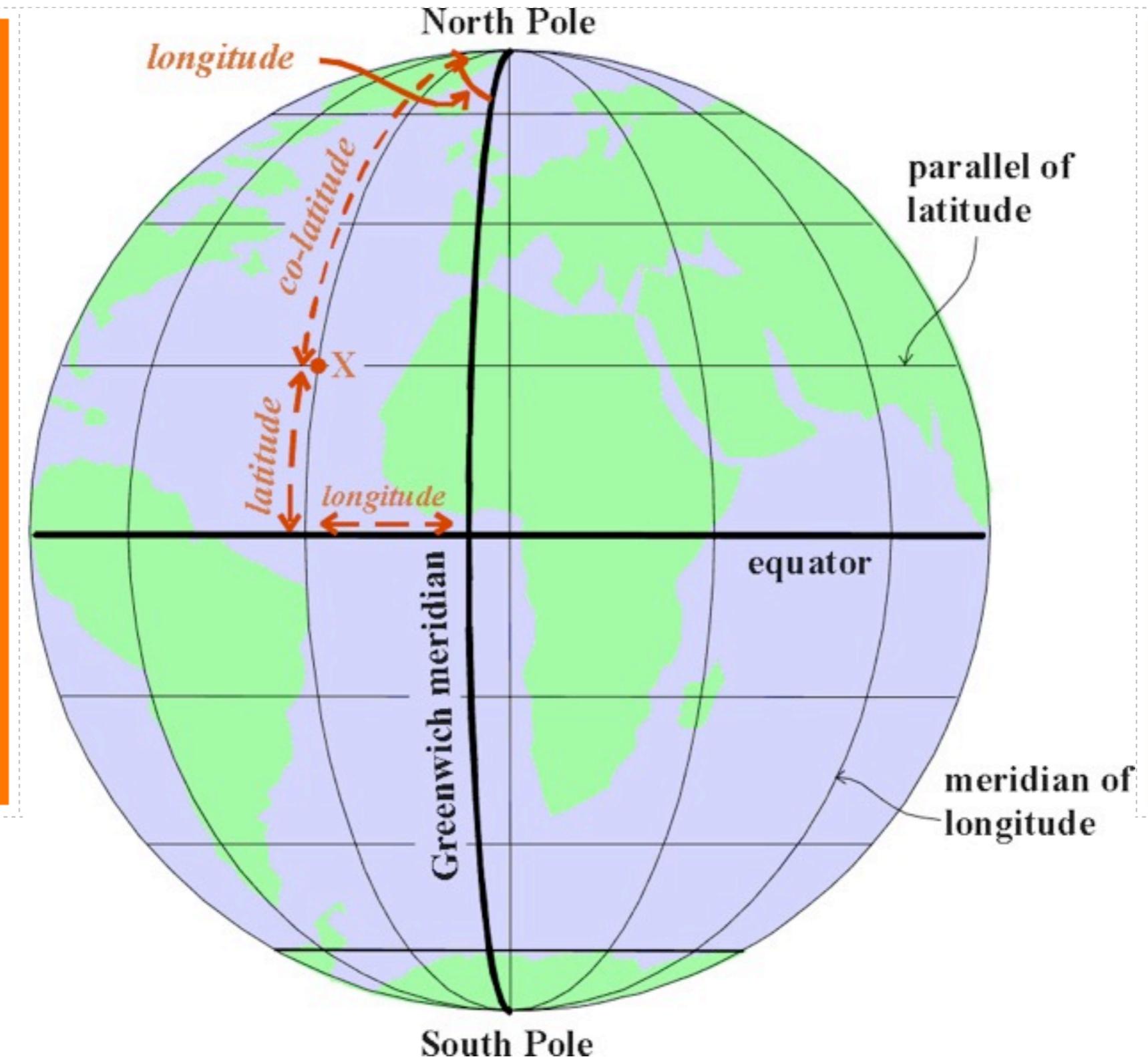
- ➊ Reference
- ➋ Spatial analysis
- ➌ Communicating information
- ➍ **Synesthetic device**



Absolute Locations

- ➊ **Geographic grids** are coordinate systems that allow us to locate places on a map
- ➋ Latitude-Longitude
 - ➌ $40^{\circ}47'49.84''\text{N}, 73^{\circ}58'15.41''\text{W}$
 - ➌ $+40.872617, -73.895845$
- ➌ Metes and Bounds
- ➌ Township and Range





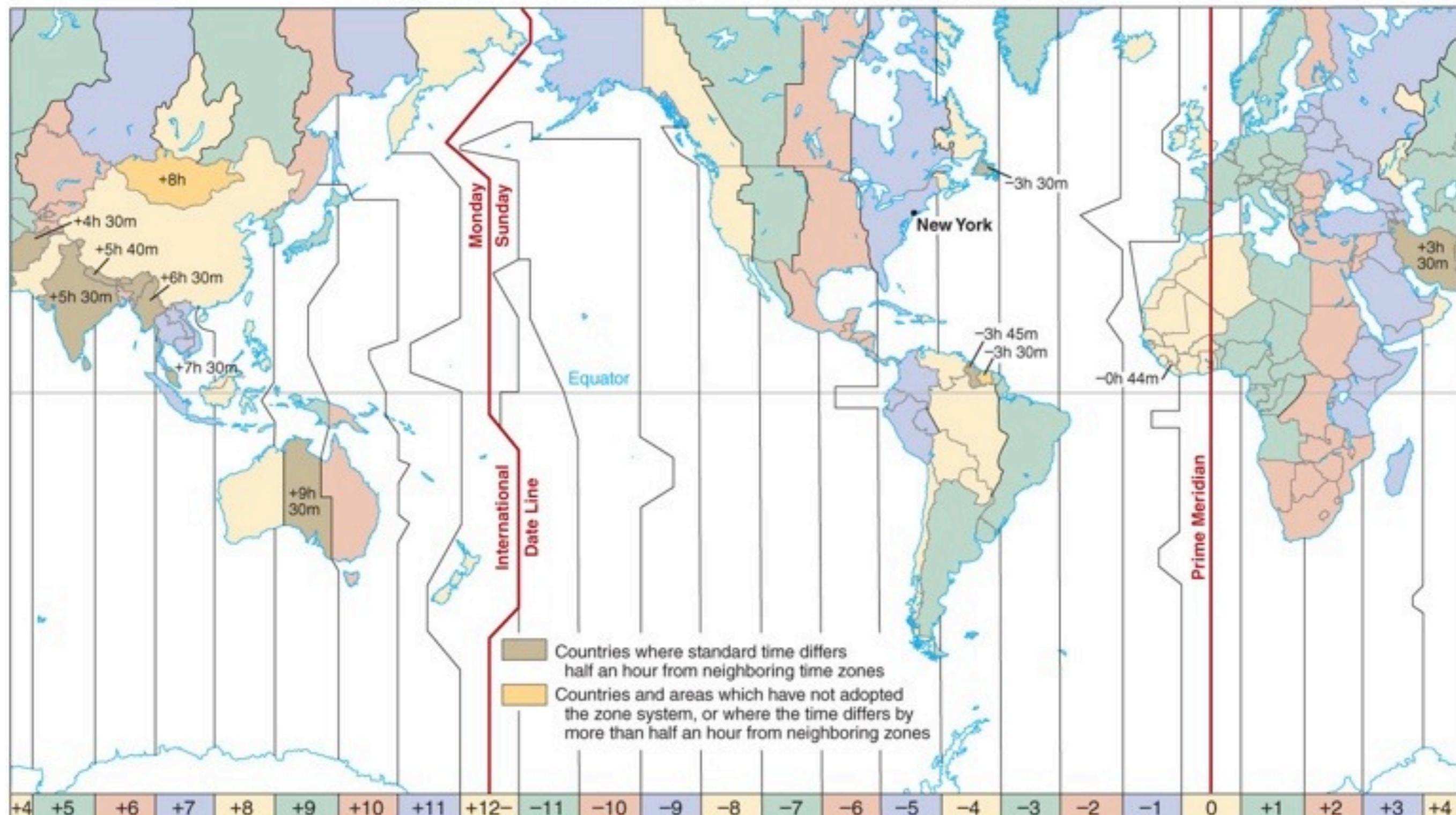
Coordinate Systems



Source: Fiona Vincent



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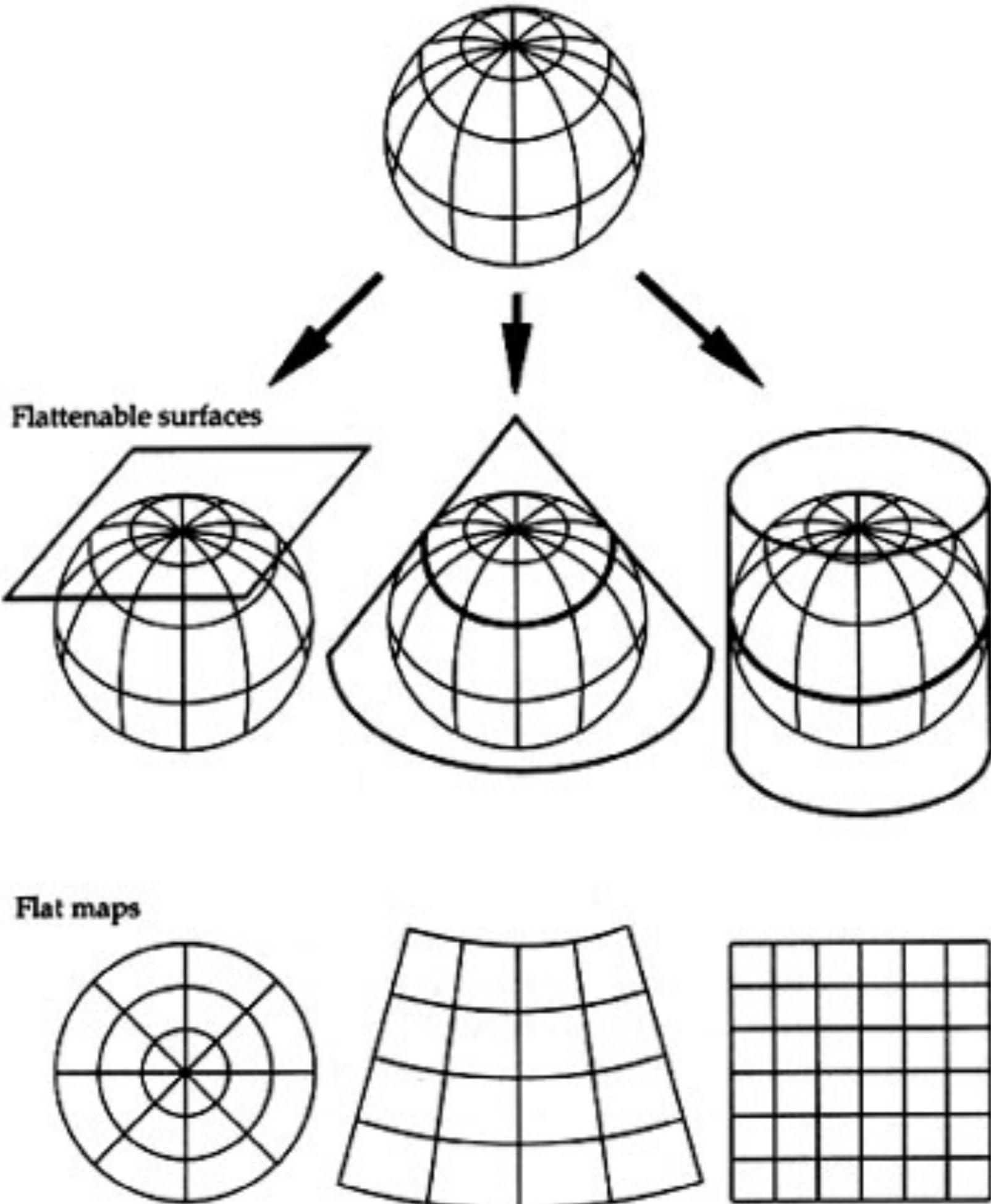


Time Zones and Longitude



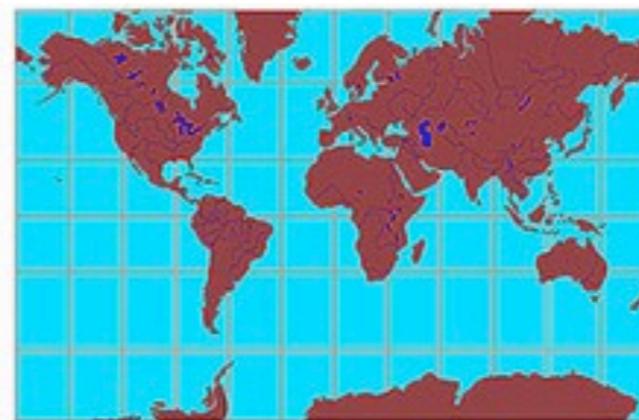


Map Projections: Flattening a Globe

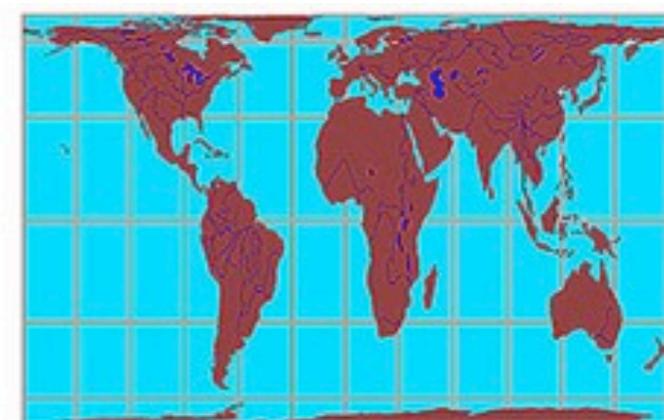




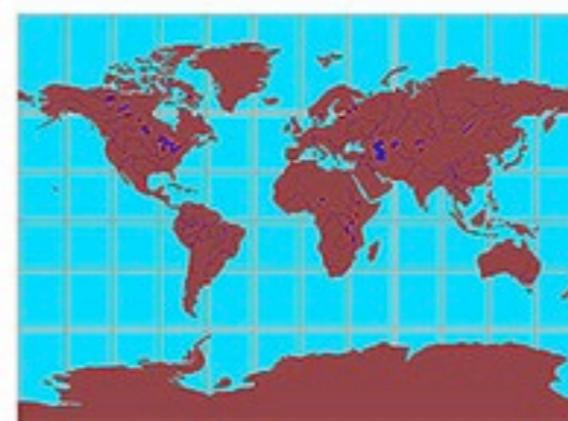
Map Projections: Equal-area (equivalent) vs. Conformal



Mercator Projection



Gall-Peters Projection



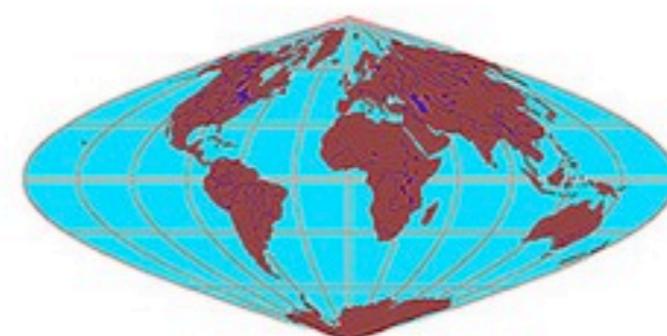
Miller Cylindrical Projection



Mollweide Projection



Goode's Homolosine Equal-area Projection



Sinusoidal Equal-Area Projection



Robinson Projection



Map Projections

Mercator

Sinusoidal

Plane Chart

Transverse Mercator

Equatorial Stereographic

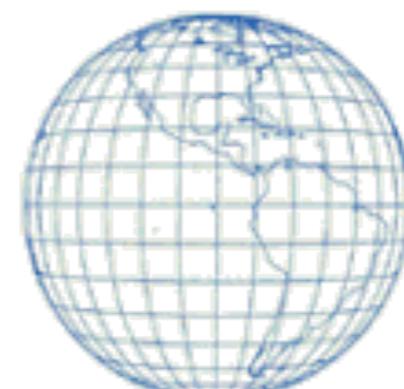
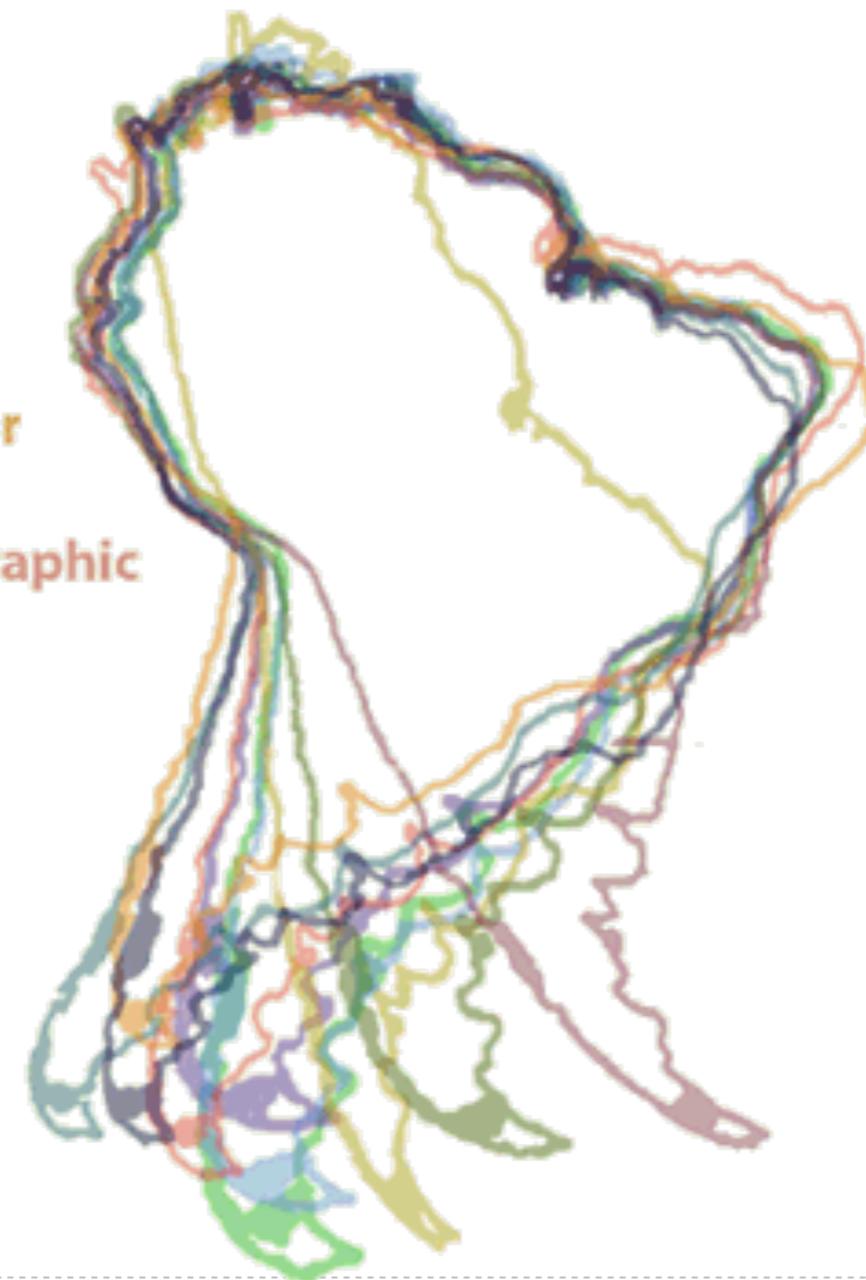
Equirectangular

Nicolosi

Cassini

Bonne

Oval



Reality?

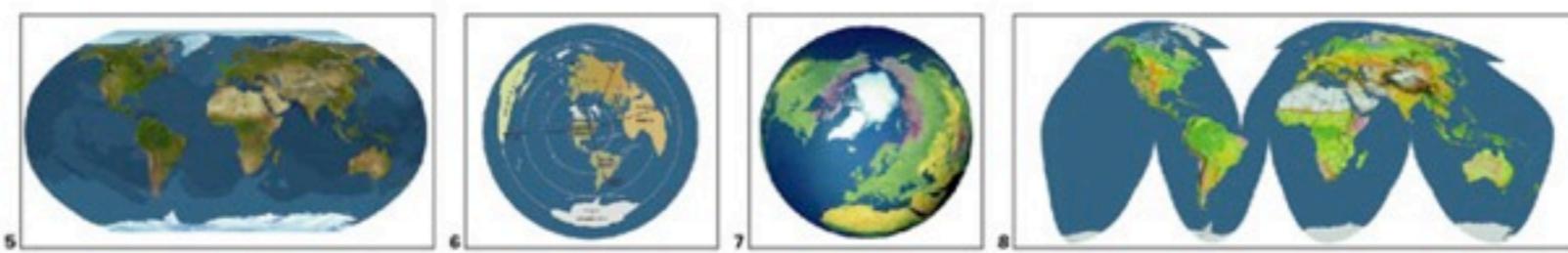




Take the quiz! Compare country size.

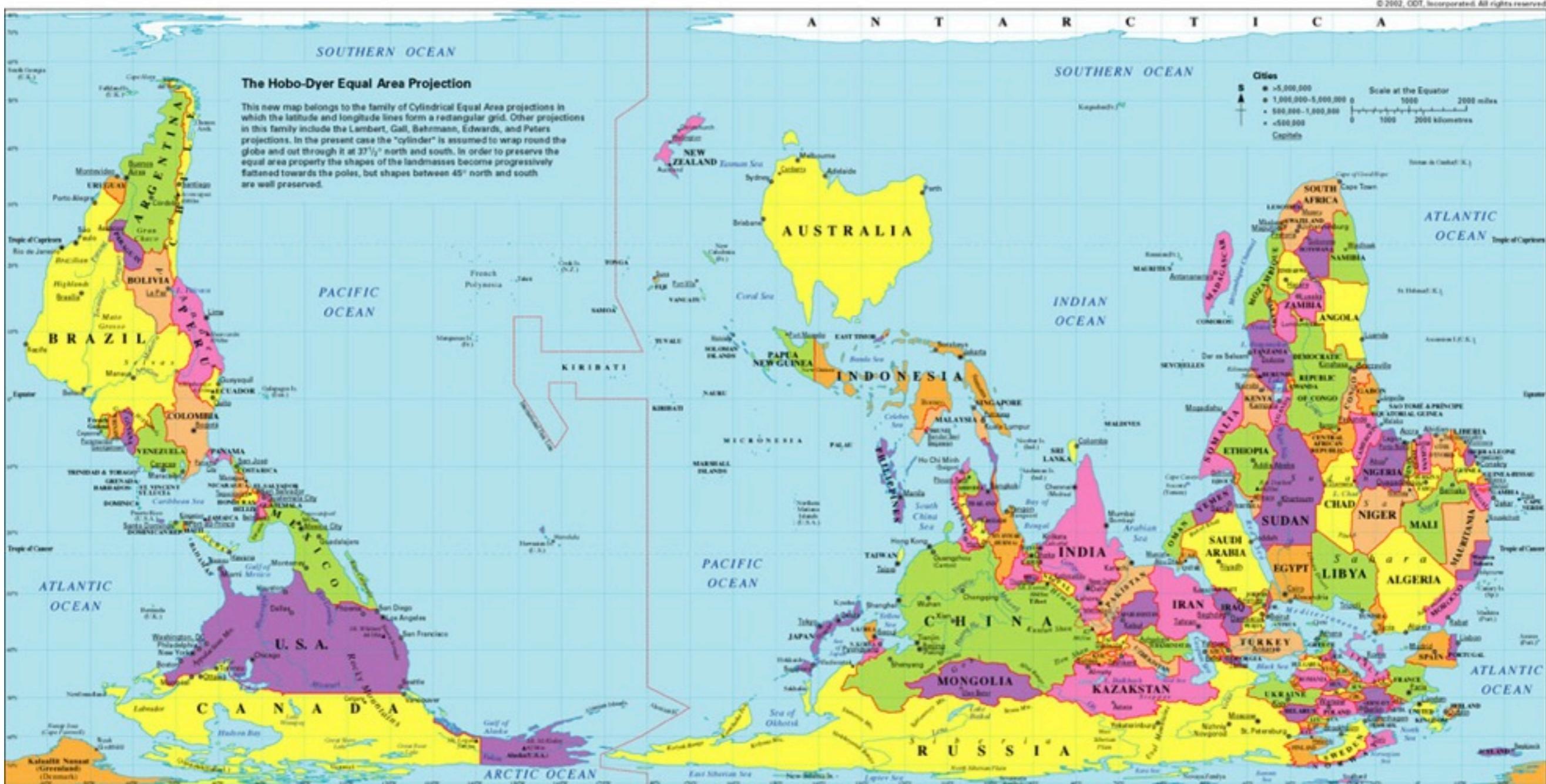
Which of the images on both sides of this placemat are "area accurate?" How is the Hobo-Dyer projection below different from the one on the reverse side? Answers and details about all the images are at www.odt.org/hdp. To the right:

- (5) Van Sant's Geosphere,
- (6) Guelke's Toronto-centered projection,
- (7) the Oxford Globe, and
- (8) Goode's Homolosine



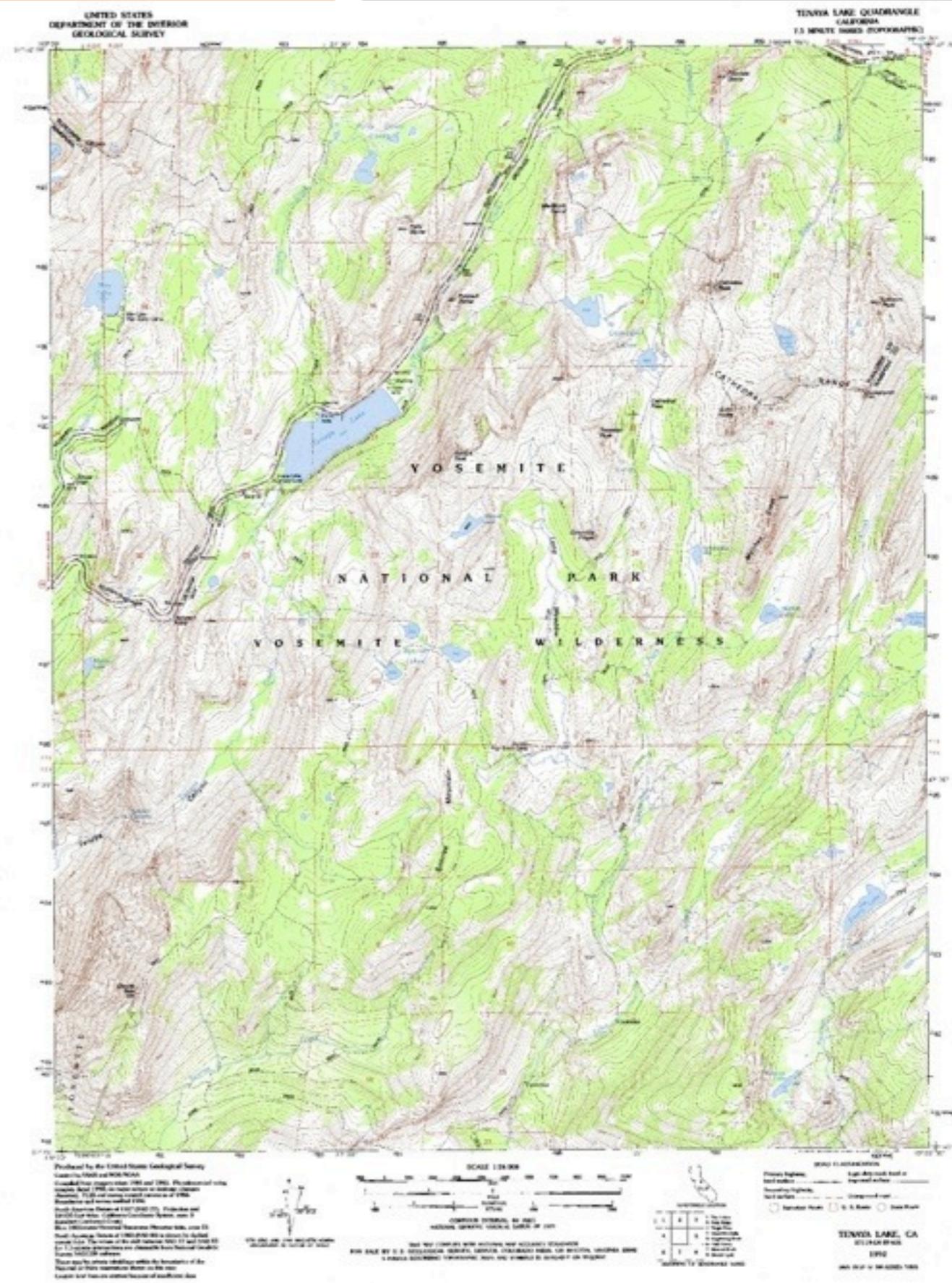
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Coordinate Systems



Source: USGS



Relative Information & Maps

- ➊ Distance-relationships are never entirely accurate on flat maps because flattening a map causes linear distortion
 - ➌ Maps tend to be most accurate with regard to distance near the center of the projection and least accurate at the edges
- ➋ Relationships between places can be expressed in different ways





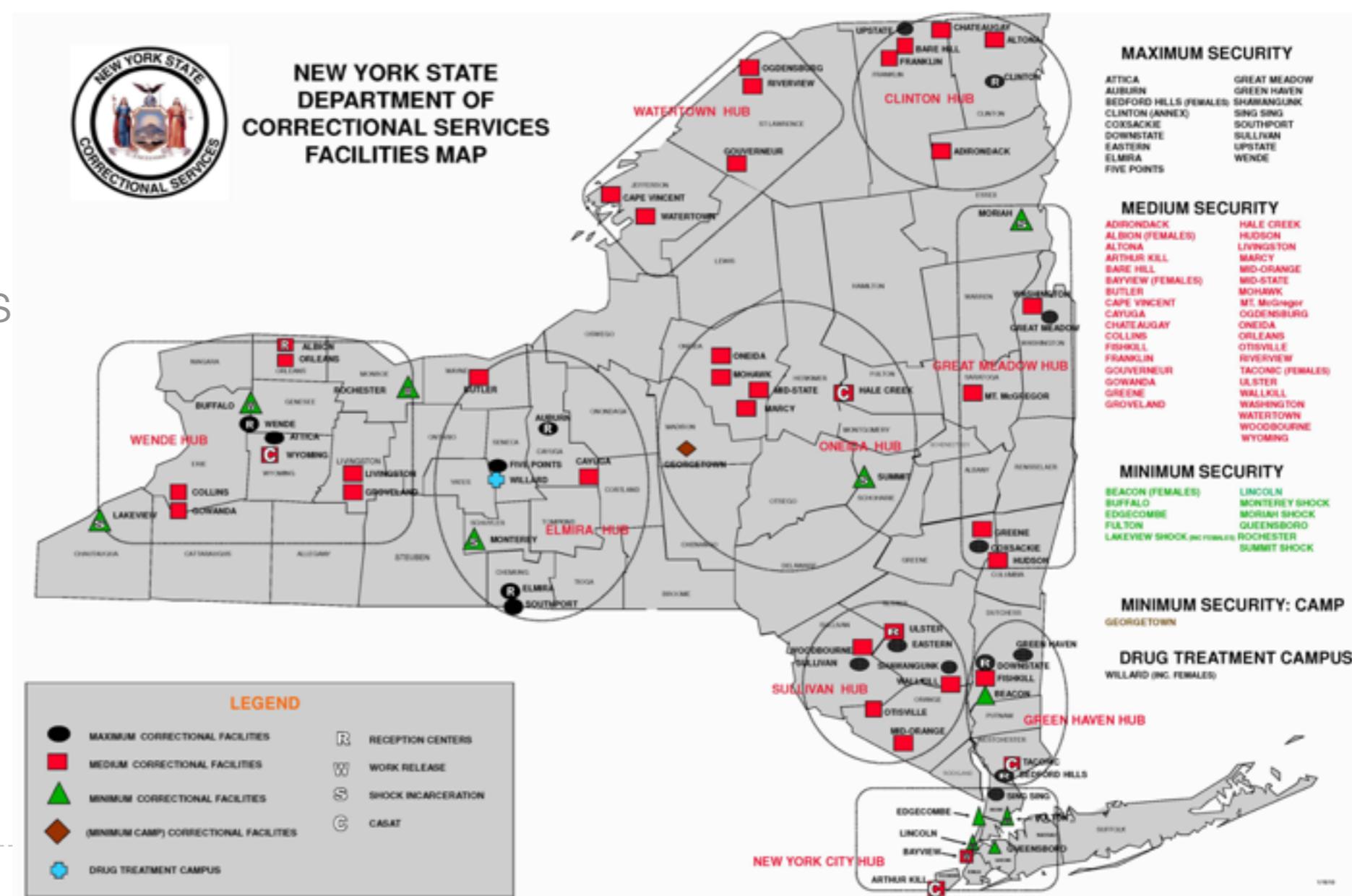
Map Symbology

Points and Lines

Isolines and Contours

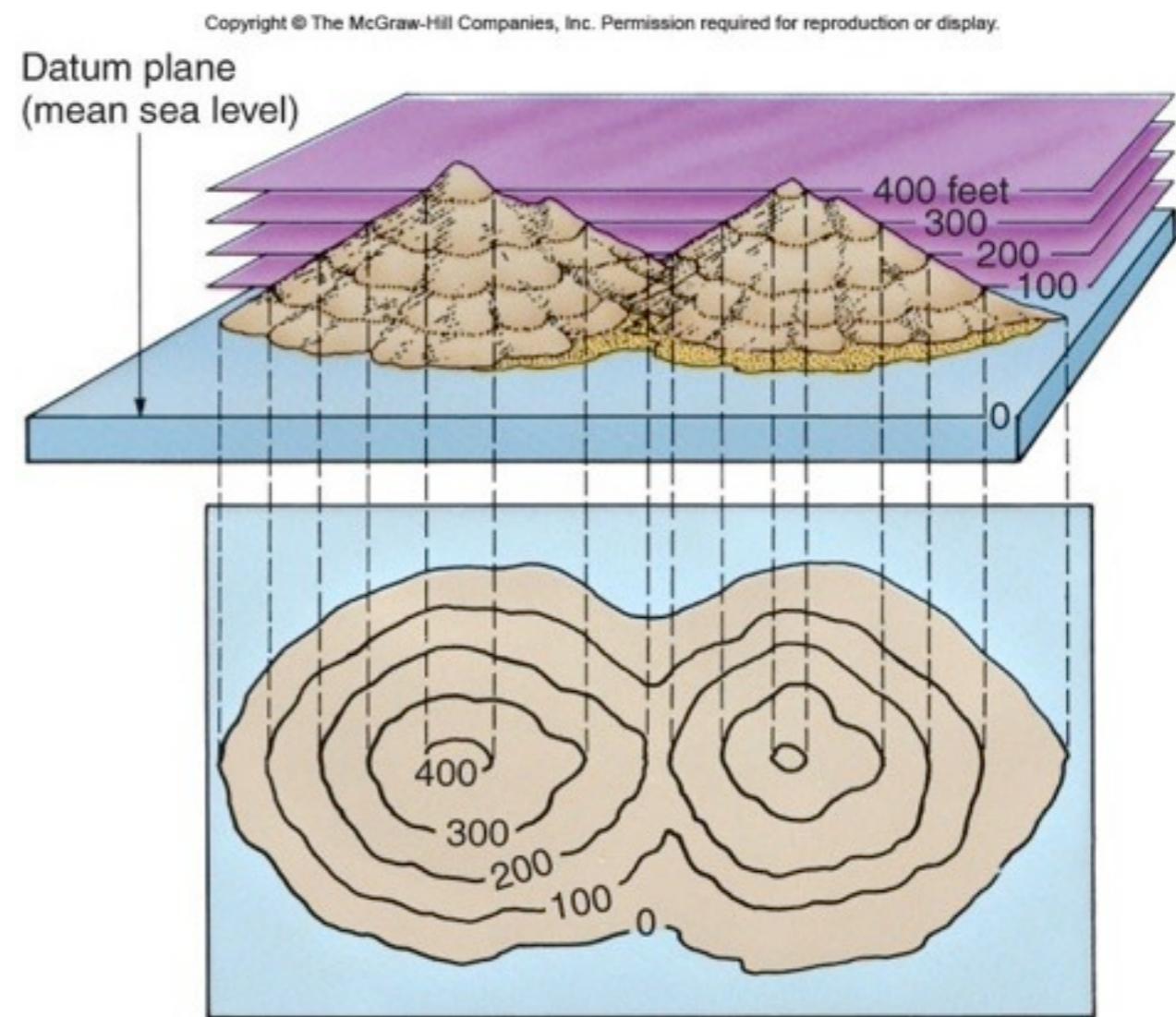
Areas

Flows



Map Symbology

- Points and Lines
- Isolines and Contours
- Areas
- Flows



Map Symbology

- Points and Lines
- Isolines and Contours
- Areas (choropleth map)**
- Flows





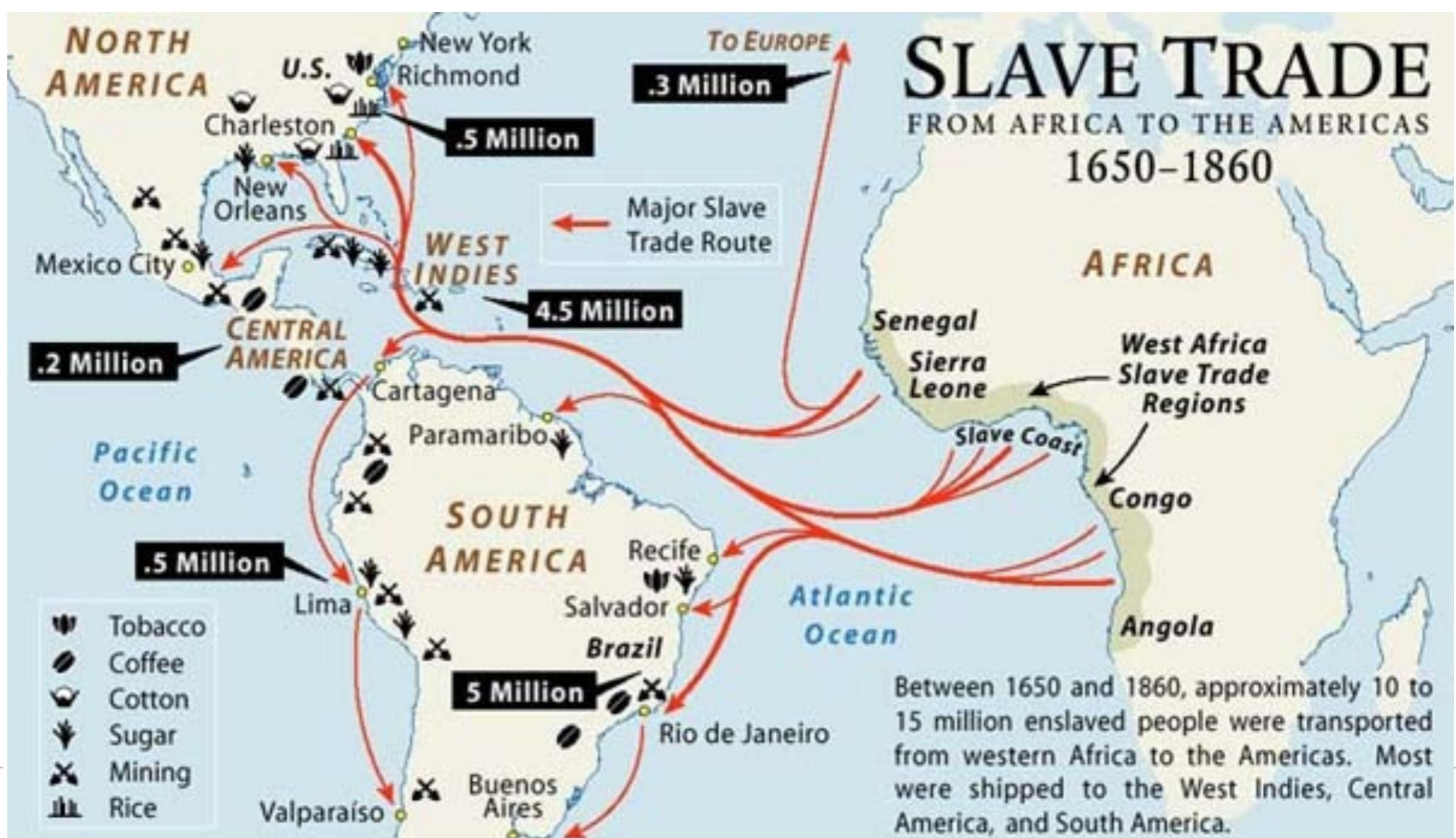
Map Symbology

Points and Lines

Isolines and Contours

Areas

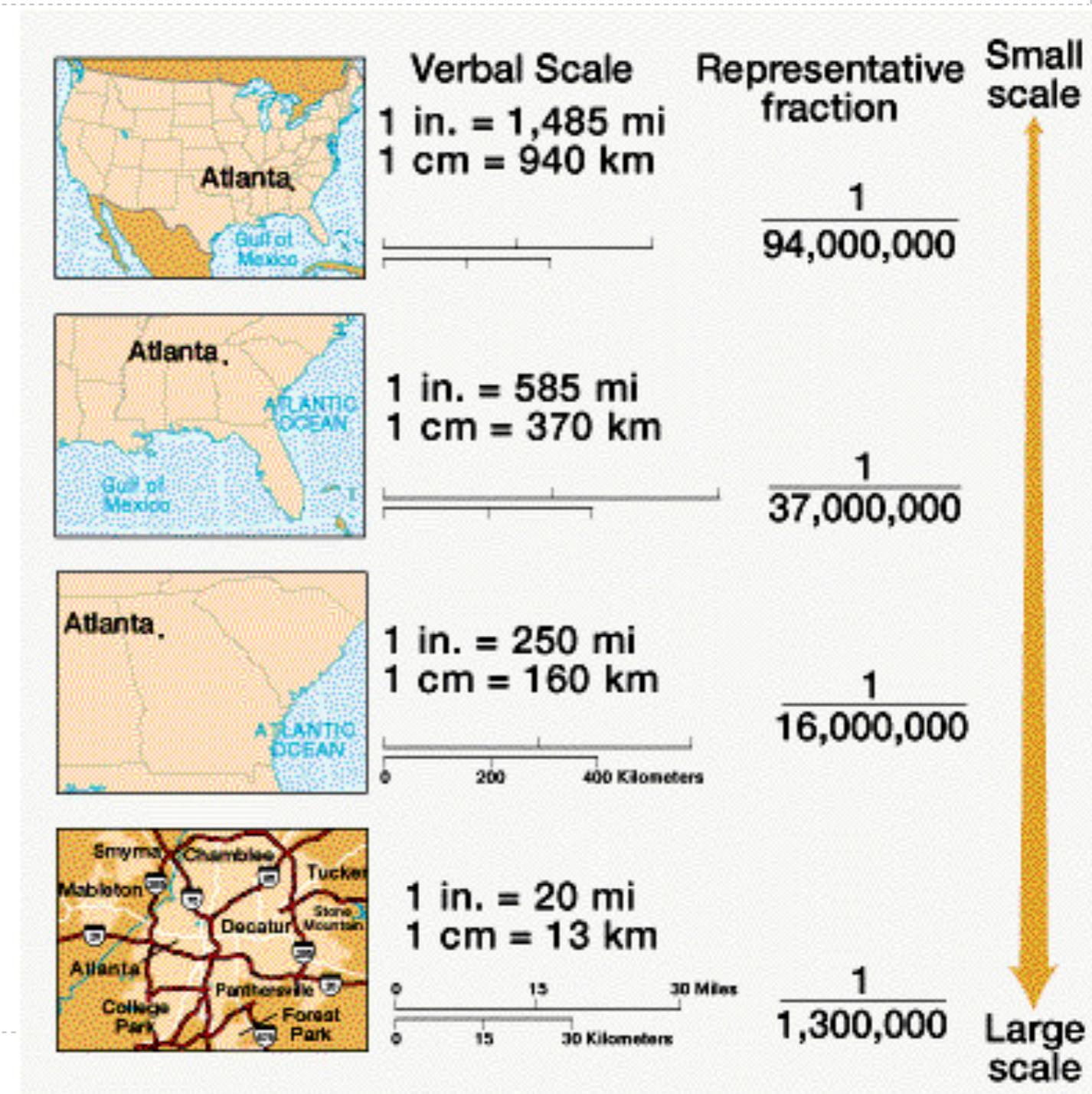
Flows

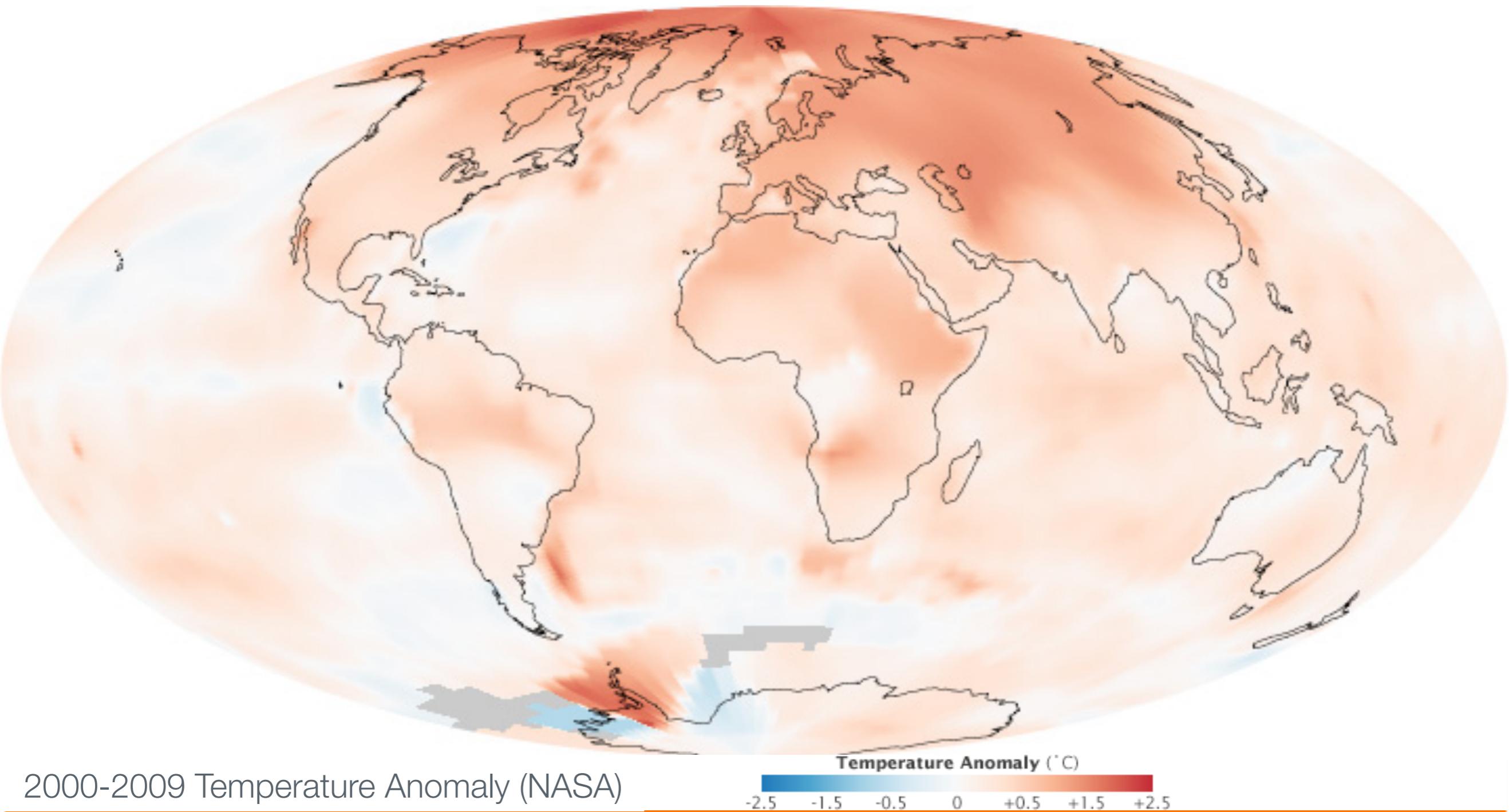




Map Scale

- ⬢ Large scale: more detail
 - ⬢ Scale ratio is larger
- ⬢ Small scale: less detail
 - ⬢ Scale ratio is smaller
- ⬢ 1:10,000,000 vs 1:10,000





Small scale map



Source: *Third World Atlas* by Alan Thomas

↓↓↓↓



Large scale map

Source: Keith Miyake for North Star Fund





Map 1.1

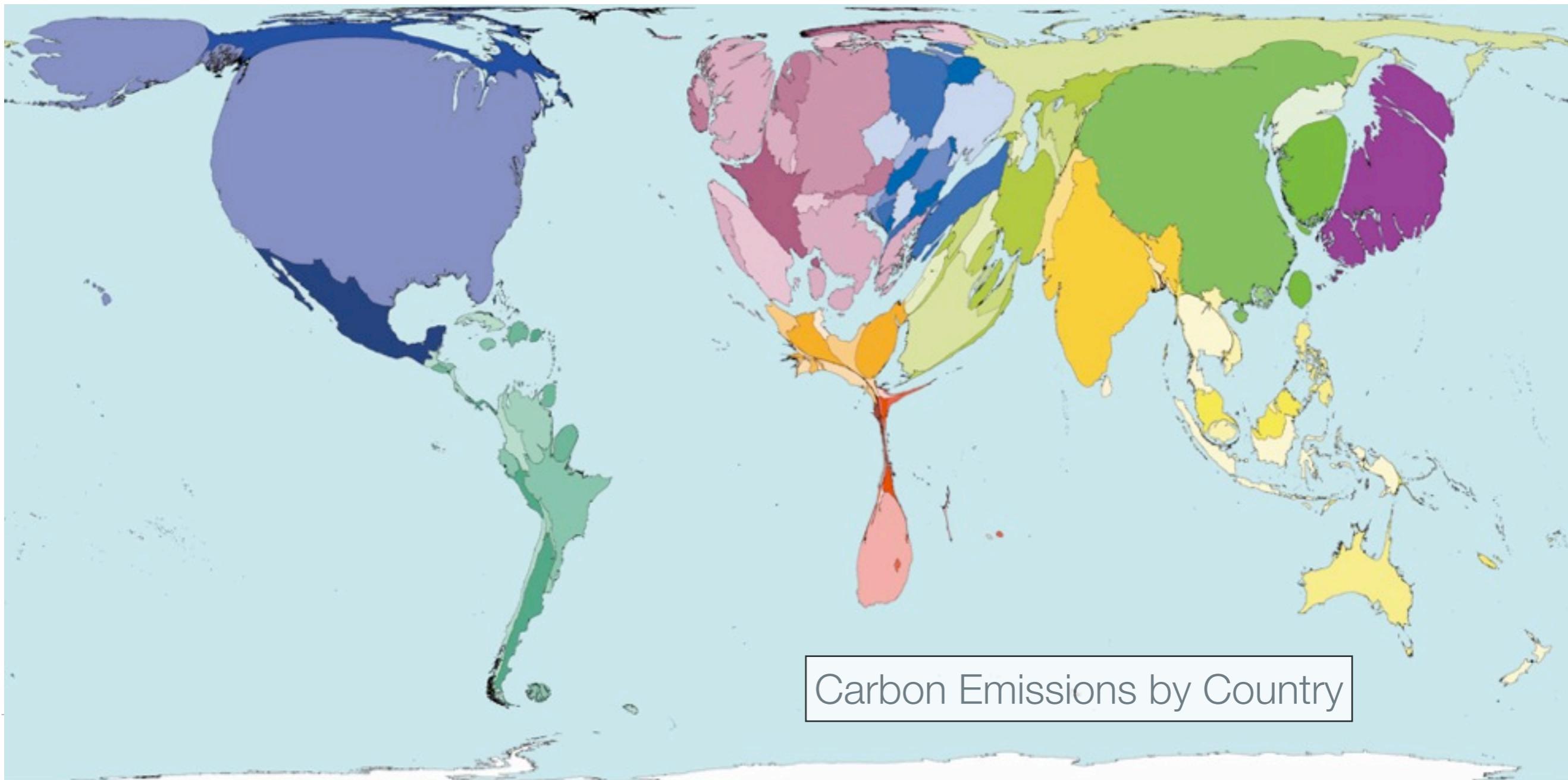
Borders matter

HDI in United States and Mexican border localities, 2000



Types of Maps: Choropleth

Source: <http://hdr.undp.org/en/reports/global/hdr2009/>



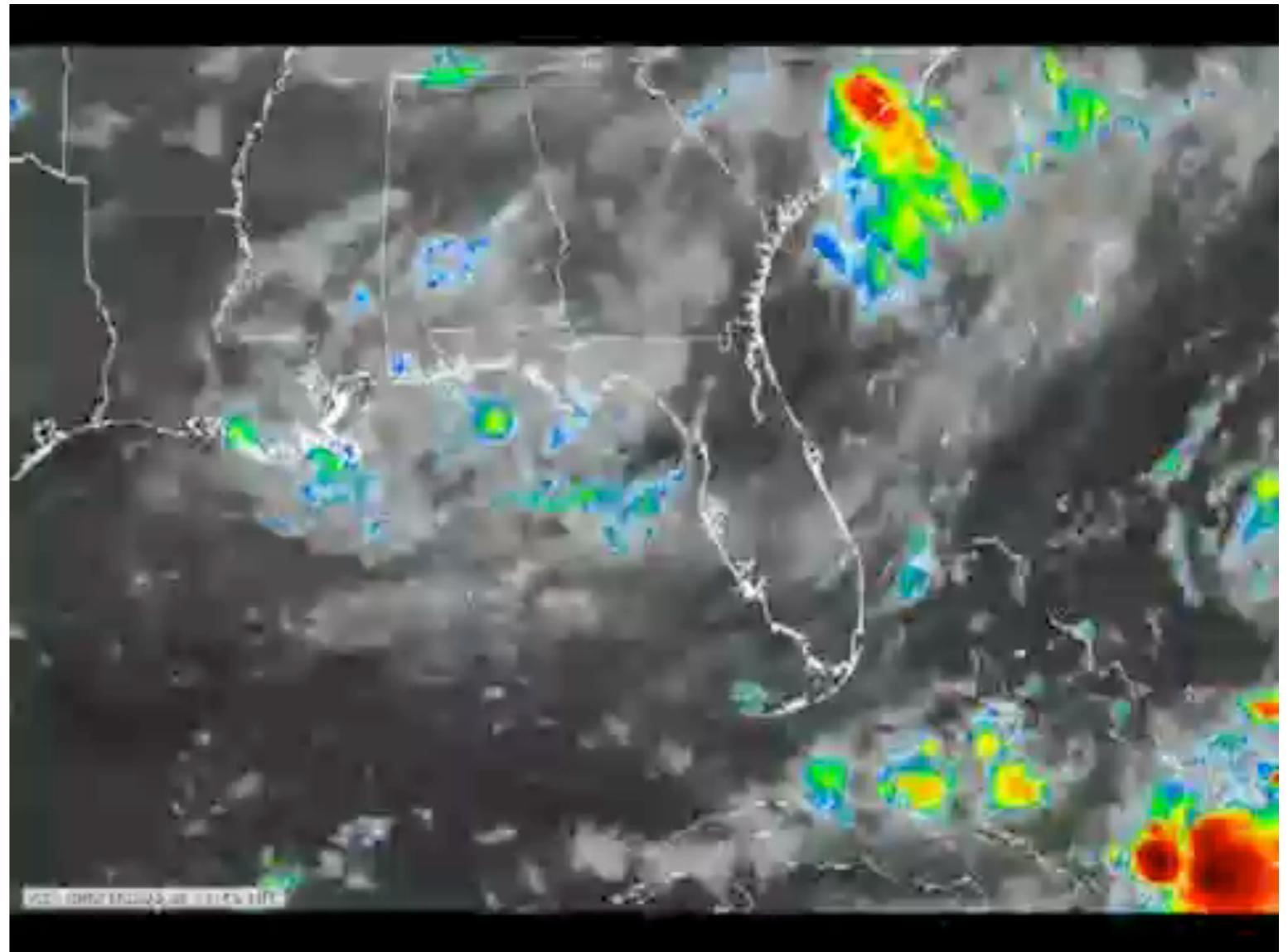
Types of Maps: Area Cartogram



Source: <http://www.worldmapper.org>

Maps and Technology

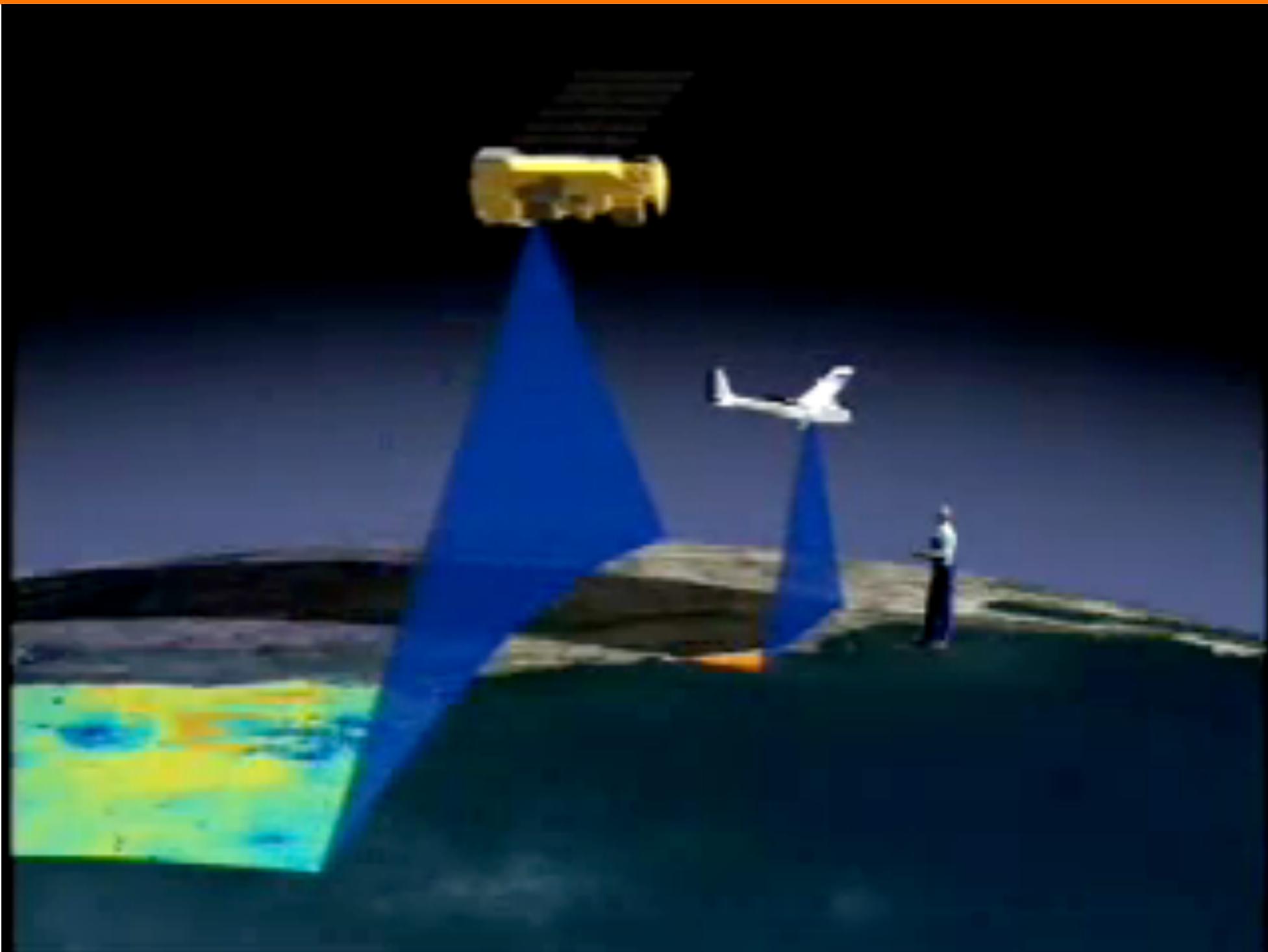
- ❖ Sensing and imagery
- ❖ GPS and locational devices
- ❖ GIS and computers
- ❖ The Internet
- ❖ Creative uses of existing technologies



Source: <http://www.youtube.com/watch?v=jB7t4KKV38U>

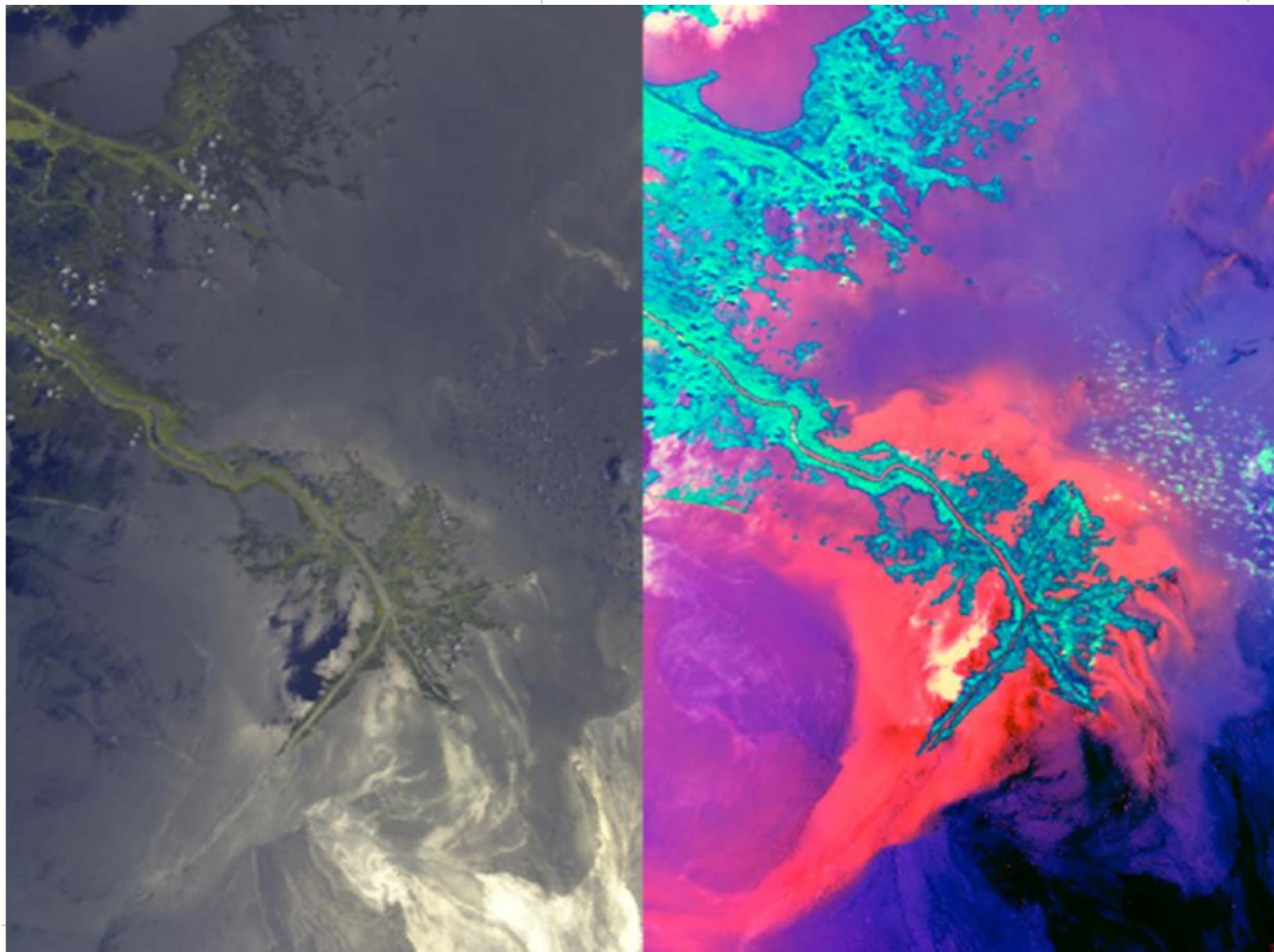


Remote Sensing



Remote Sensing

- ❖ Imagery of the Gulf of Mexico taken by NASA's Terra spacecraft
- ❖ (left) Near true-color image of Mississippi Delta
- ❖ (right) False-color image; oil is blue-black, delta waters are reddish, land is cyan



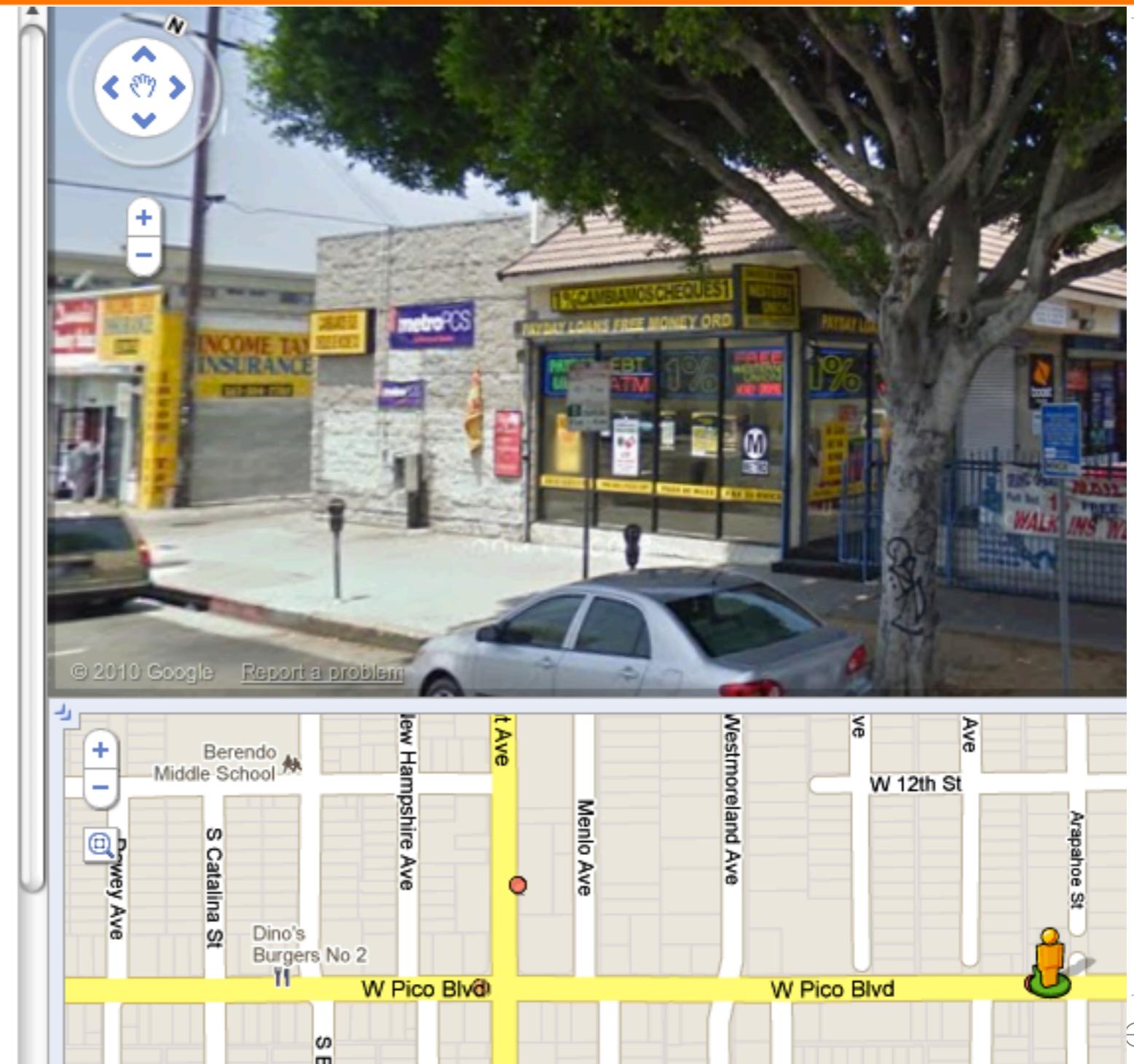


Remote Sensing and Internet Technologies

Check Cashing

- A** [Nix Check Cashing](#) - more info »
3087 W Pico Blvd # 1, Los Angeles, CA
(323) 732-1032
- B** [Union Check Cashing](#) - more info »
1144 South Western Avenue, Los Angeles, CA
(323) 766-7777
- C** [Bank of America](#) - more info »

3320 West Olympic Boulevard, Los Angeles, CA
(323) 373-2066
Category: Check Cashing SVC
- D** [W & S Global International](#) - more info »
2013 Venice Boulevard, Los Angeles, CA
(323) 766-7880
Category: Check Cashing Service
- E** [Jun Enterprises Co](#) - more info »
3170 West Olympic Boulevard, Los Angeles, CA
(323) 731-0000
Category: Check Cashing Service
- F** [Pls Check Cashers: Loan Store](#) - more info »
1570 S Western Ave # 110, Los Angeles, CA
(310) 219-1333
- G** [Soo Min](#) - more info »
945 S Western Ave # 208, Los Angeles, CA
(323) 732-2150
Category: Check Cashing Service



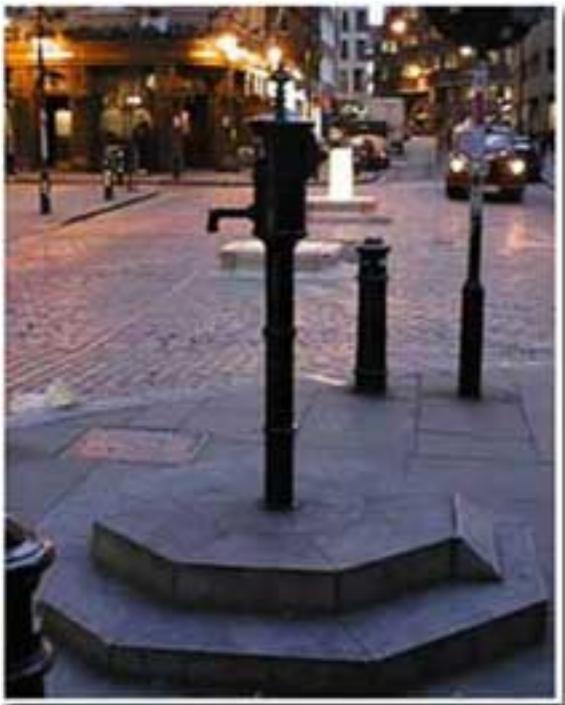
Geographic Information Science (GISc) and Spatial Analysis

Making Spatial Decisions





Spatial Analysis



John Snow, Cholera, Epidemiology

- 1800s cholera widely believed to be caused by *miasma* (pollution or bad air)
- 1849 Snow published: "On the Mode of Communication of Cholera" where he proposed that the "Cholera Poison" reproduced in the human body and was spread through contaminated food or water.
- Theory unproven until London in 1854
- Snow identified pattern of deaths surrounding a water pump on Broad St.
- Removal of pump handle coincided with reduction in deaths



Spatial Analysis: Environmental Racism

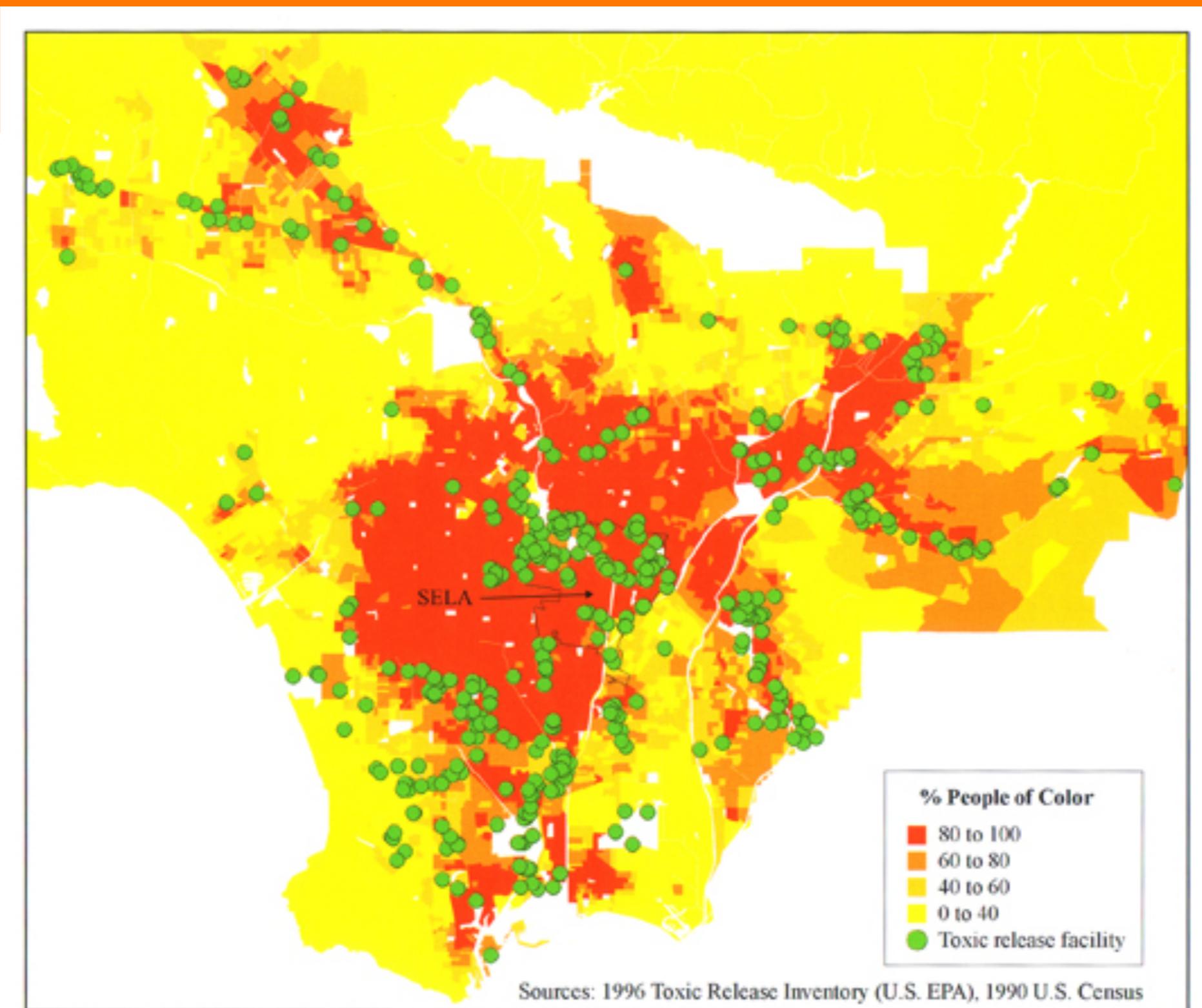
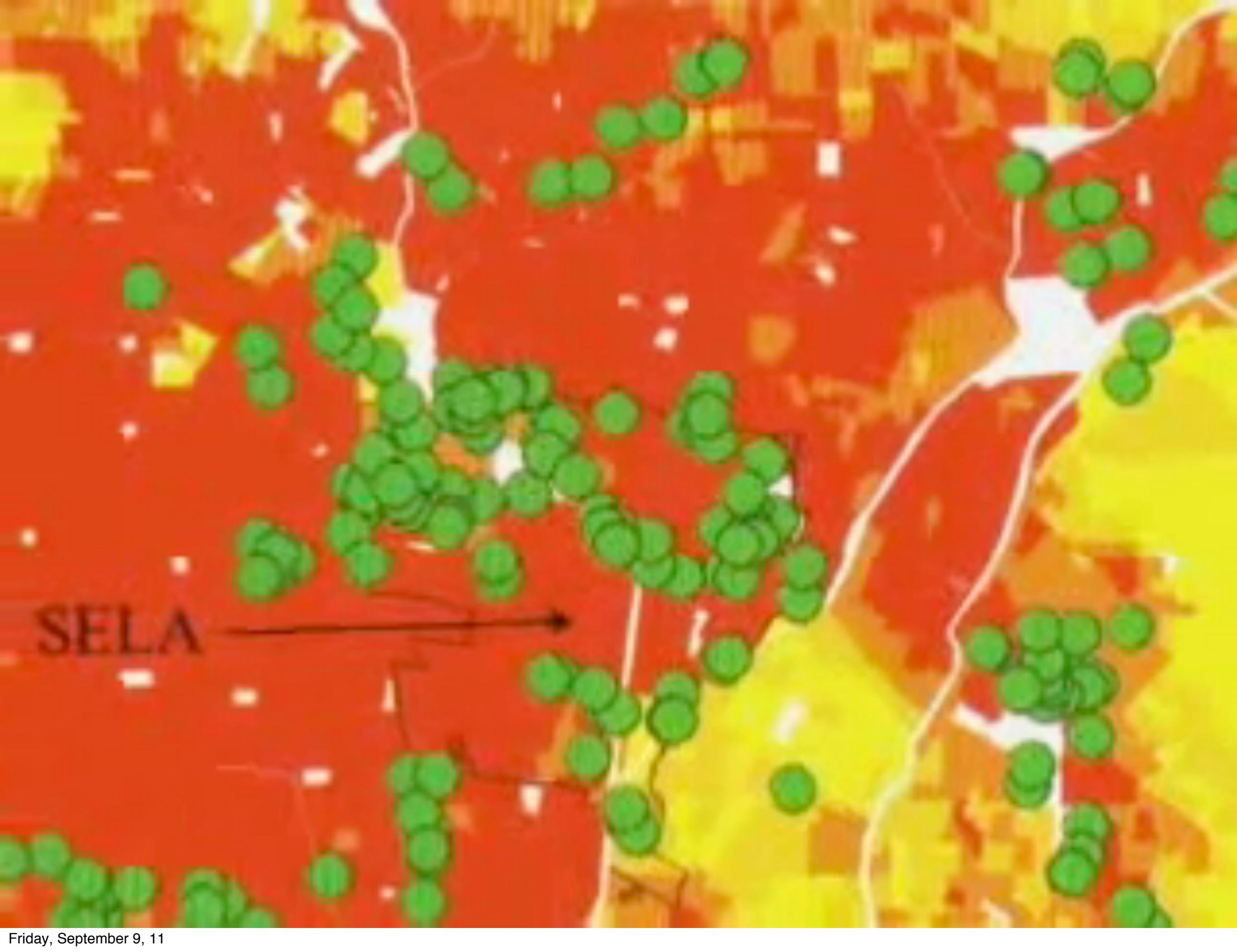


Figure 1.1: People of Color and Toxic Release Facilities in Los Angeles County



How to Lie with Maps

- ➊ Map standardization
- ➋ Who is making the maps and why?
- ➌ What social and psychological effects might standardization cause?
- ➍ People trust maps!
- ➎ Maps imply factuality and impartiality



How to Lie with Maps

- ⬢ Scale (size of different things, relative to what?)
- ⬢ Omission
- ⬢ Distortion
- ⬢ Symbology
- ⬢ How data are represented (e.g., density vs. population vs. per capita)
- ⬢ Implications?

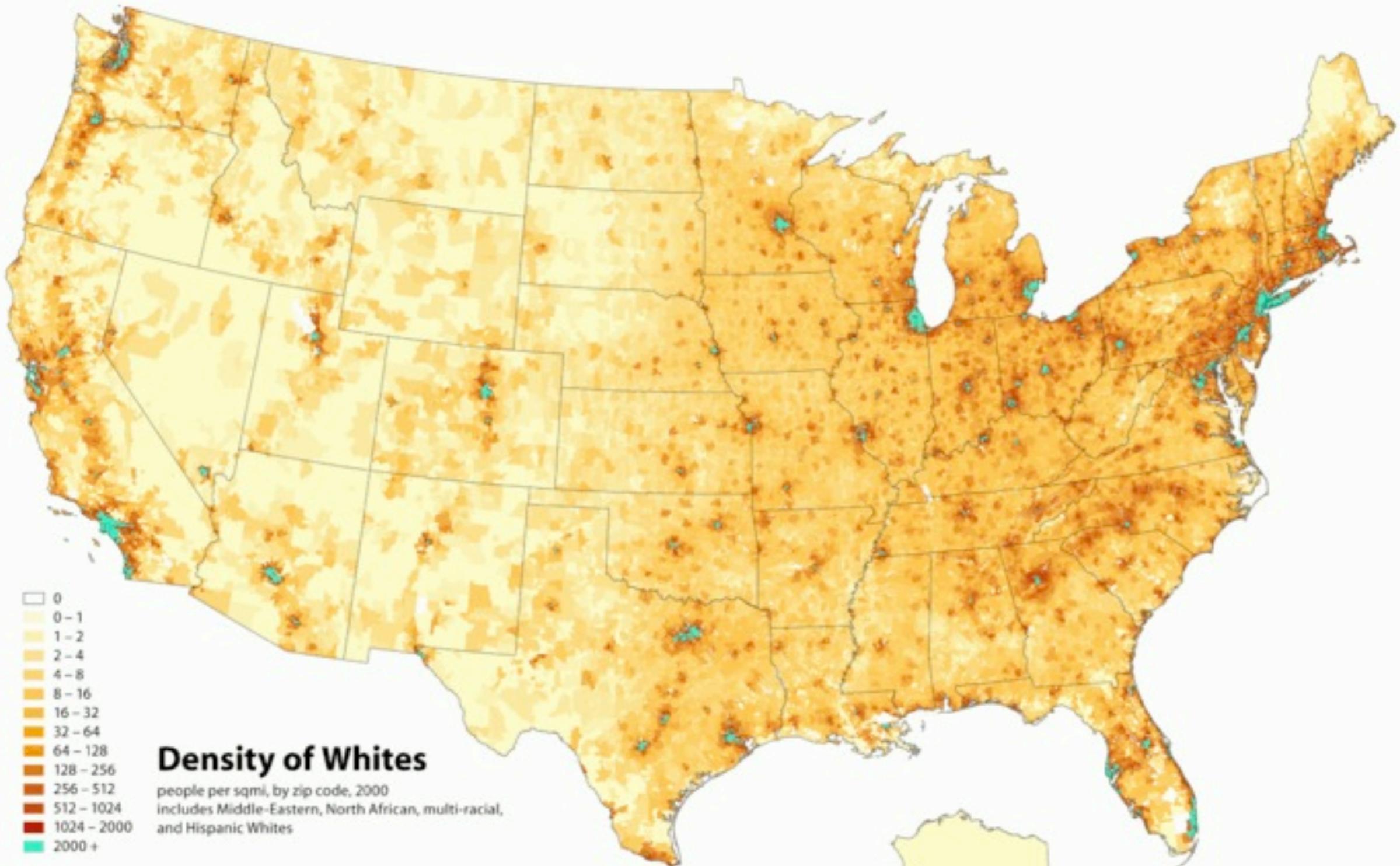


GEOGRAPHY



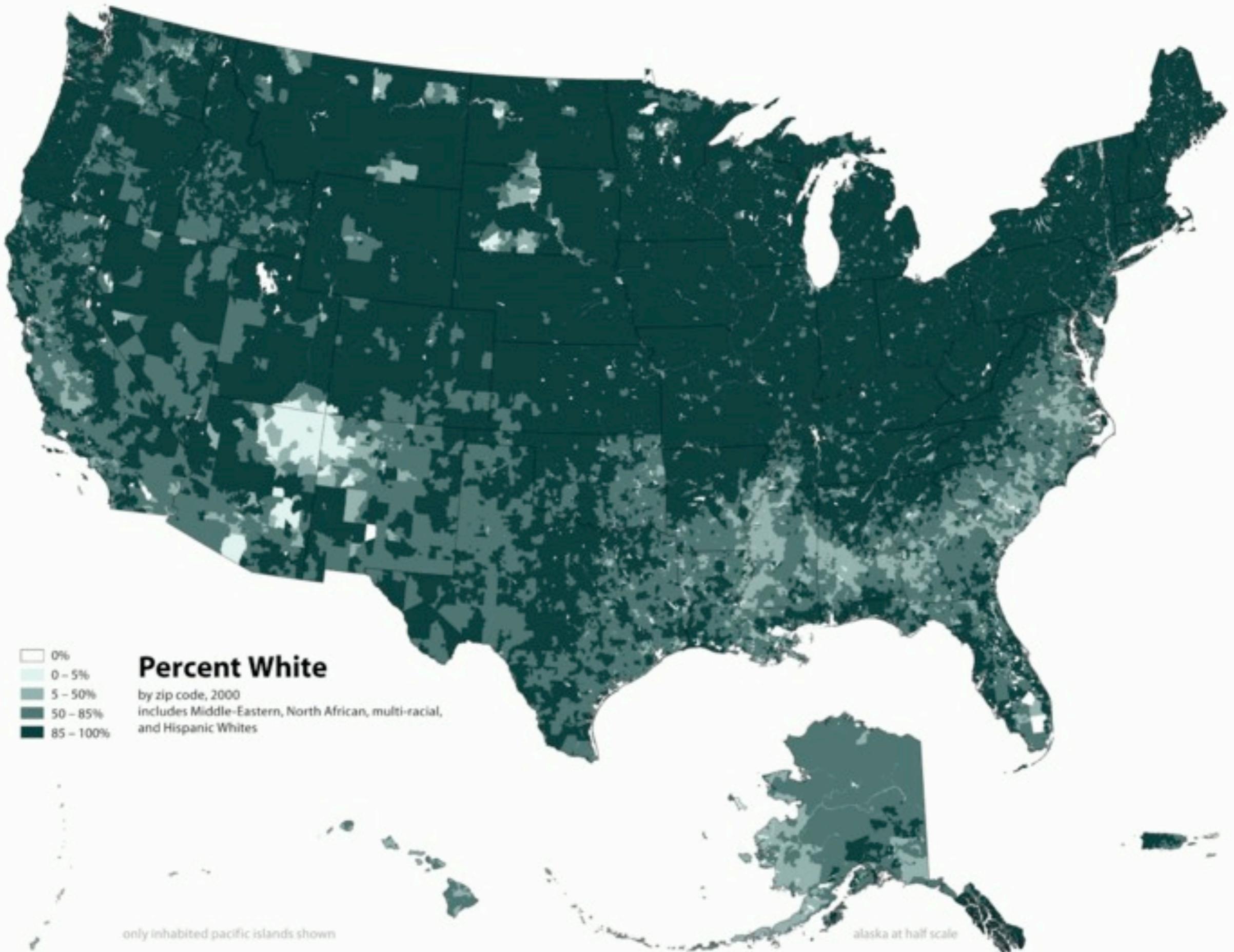
MAP: JAMES CHESHIRE, UNIVERSITY COLLEGE LONDON
DATA: 2000 CENSUS, U.S. DEPARTMENT OF COMMERCE
PHOTO: JAMES CHESHIRE, UNIVERSITY COLLEGE LONDON





only inhabited pacific islands shown

alaska at half scale



Gallery Walk

- ⬢ What is the map style or category?
- ⬢ What information is being conveyed?
- ⬢ Who is the audience?
- ⬢ What is the scale and scope of the map? Would the map be effective at different scales?
- ⬢ What layers and symbology are used?
- ⬢ Is the map effective?
- ⬢ Thinking about the range of information that can be conveyed through maps, what are some commonalities that all maps share?

