

# What Is This Class???

HES 505 Fall 2025: Session 1

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>Welcome to Space!!



# Today's Plan

- Introductions
- What can we do with spatial data?
- Course logistics and resources
- Testing out RStudio and GitHub Classroom

# Introductions



# About you?

- Your preferred pronouns
- Where are you from?
- What do you like most about Boise?
- What do you miss most about “home”?
- What is your research?

# About Me

- What I do
- My path to this point
- Why I teach this course





The background of the slide is a photograph of a coastal scene. In the foreground, several large, white icebergs with jagged edges float on a calm, greyish-blue body of water. The icebergs are reflected in the water's surface. In the background, a range of low, dark mountains or hills stretches across the horizon under a vast, overcast sky filled with soft, white and grey clouds. The overall color palette is muted, with greys, blues, and whites, giving it a serene and somewhat somber feel.

# What can we do with spatial data?

# What is geography

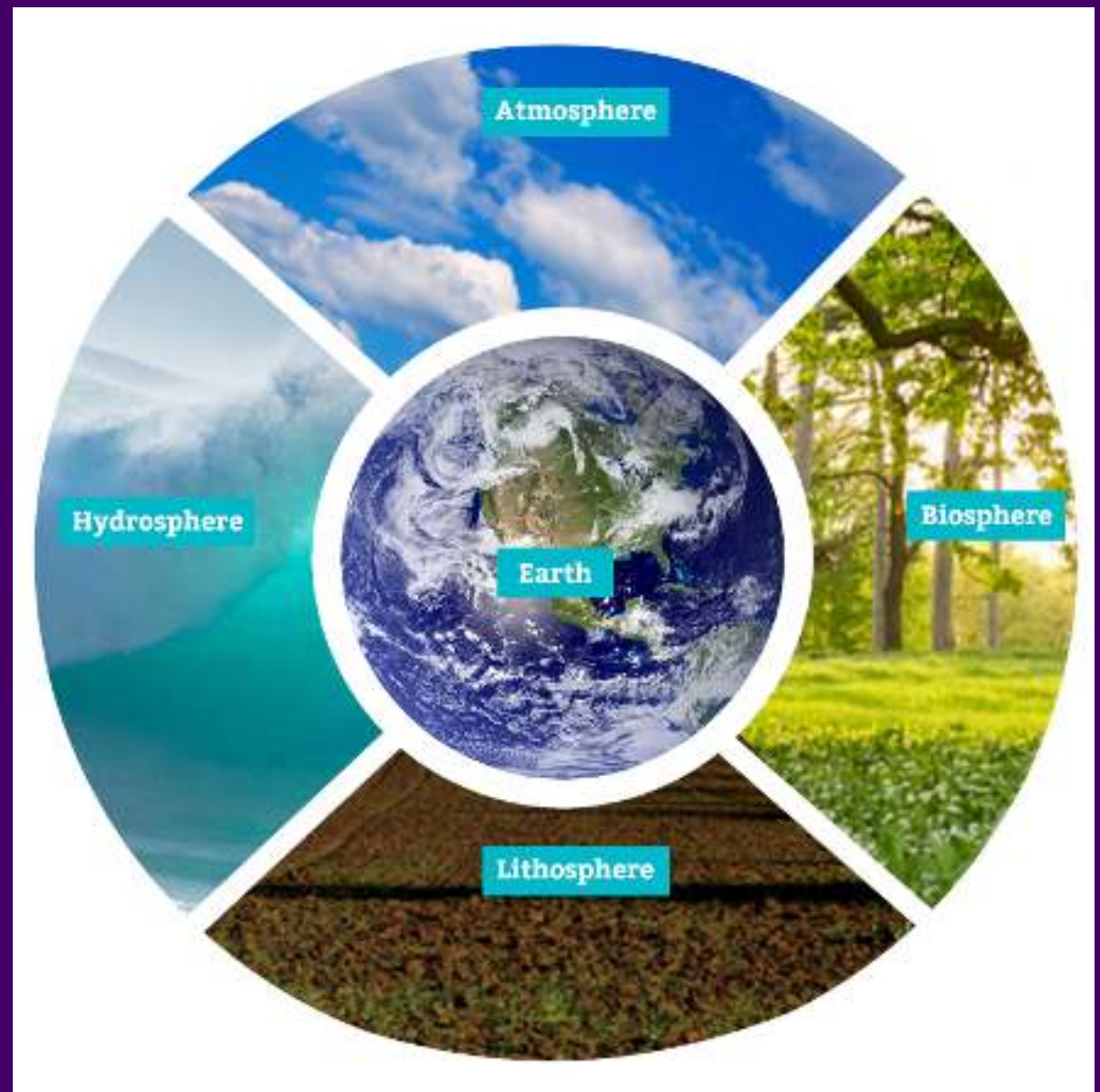
- **Geo:** land, earth, terrain
- **Graph:** writing, discourse
- Tuan: **Space** (extent) and **Place** (location)
- Analysis of the effects of extent and location on events or features



# Five Themes in Geography

- **Location**
  - **Absolute** location: the exact location of a place on Earth's surface, often given in terms of latitude and longitude
  - **Relative** location: the location of a place in relation to other places or features
- **Place**
  - **Physical** place: the natural features of a location, such as climate, topography, and vegetation
  - **Human** place: the human-made features of a location, such as buildings, roads, and infrastructure
- **Human-Environment Interaction**
  - **Modification**: the way humans change the environment
  - **Adaptation**: the way humans adjust to the environment
  - **Dependence**: the way humans rely on the environment for resources
- **Movement**
  - **Migration**: the movement of people from one place to another
  - **Trade**: the exchange of goods and services between different places
  - **Communication**: the sharing of information between different places
- **Region**
  - **Formal** region: a region defined by specific, measurable criteria, such as political boundaries
  - **Functional** region: a region defined by a common function or purpose, such as a metropolitan area
  - **Perceptual** region: a region defined by a common perception or image, such as the "South" in the United States

- Location
- Place
- Region
- Movement
- Human-  
Environment  
Interaction

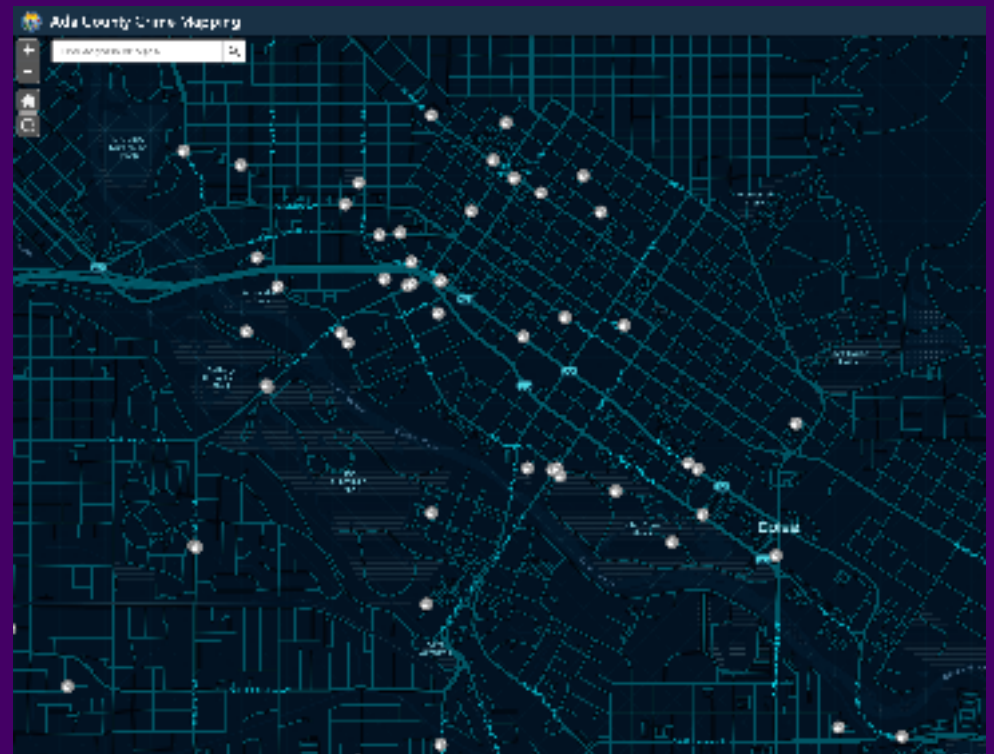
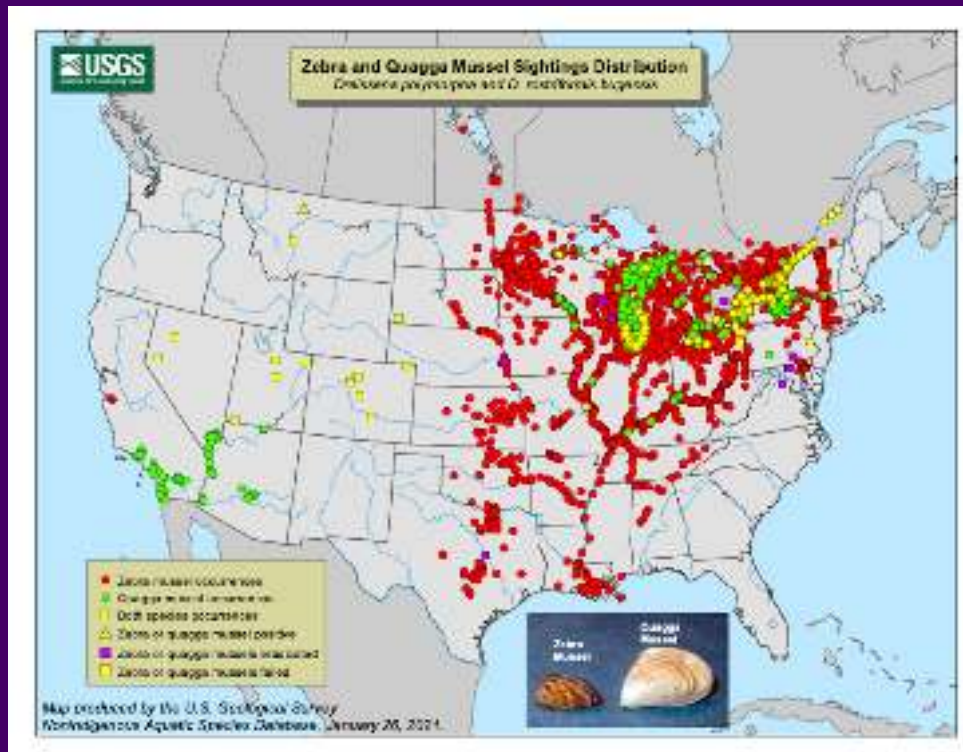


WGBH Educational Foundation



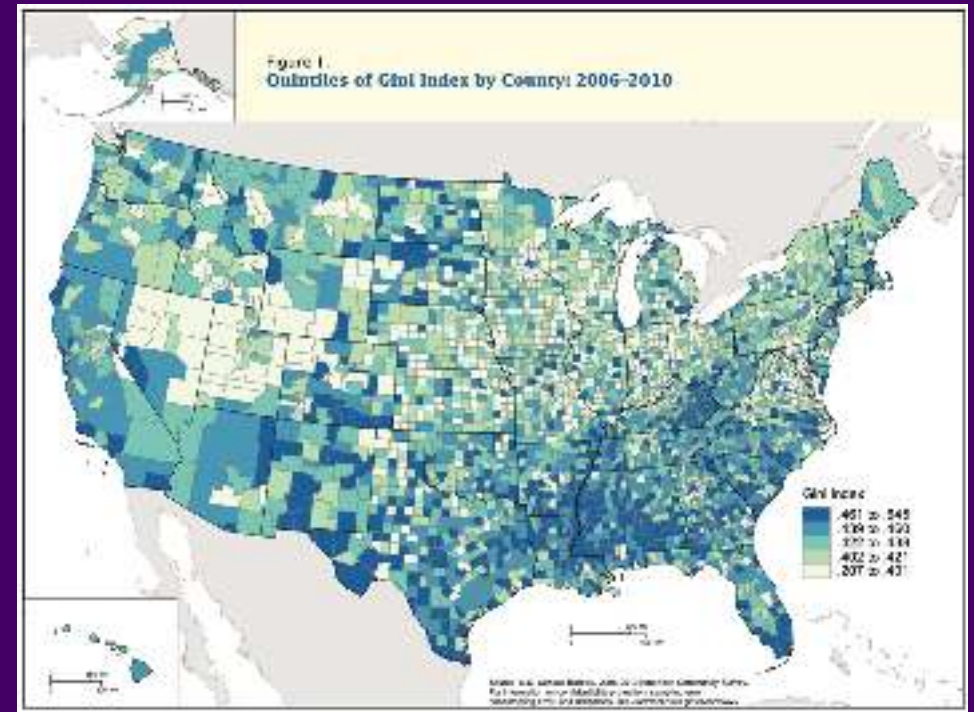
# Location

The place (on Earth) of a particular geographic feature



# Place

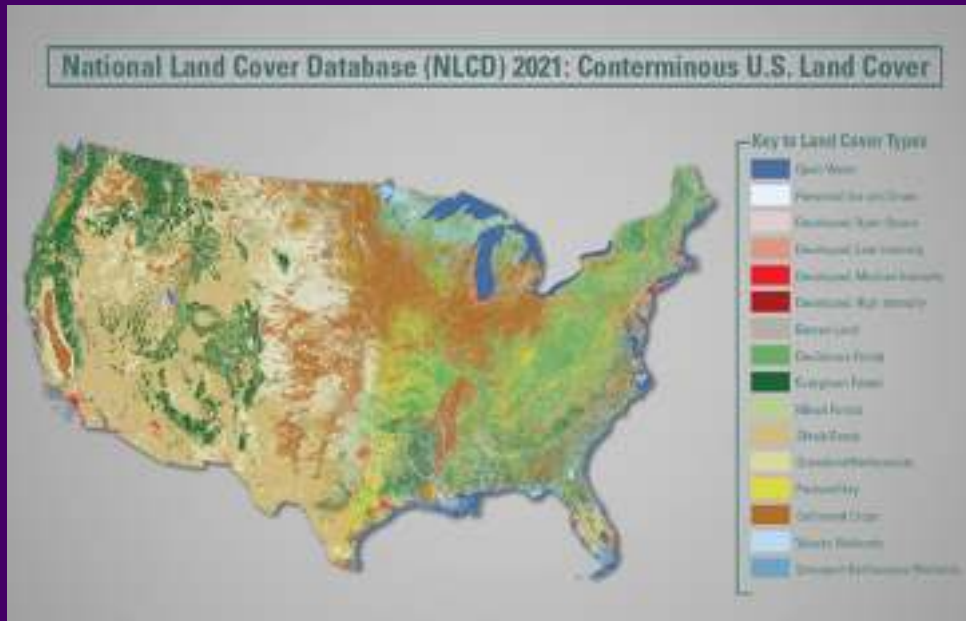
What is a location *like*?





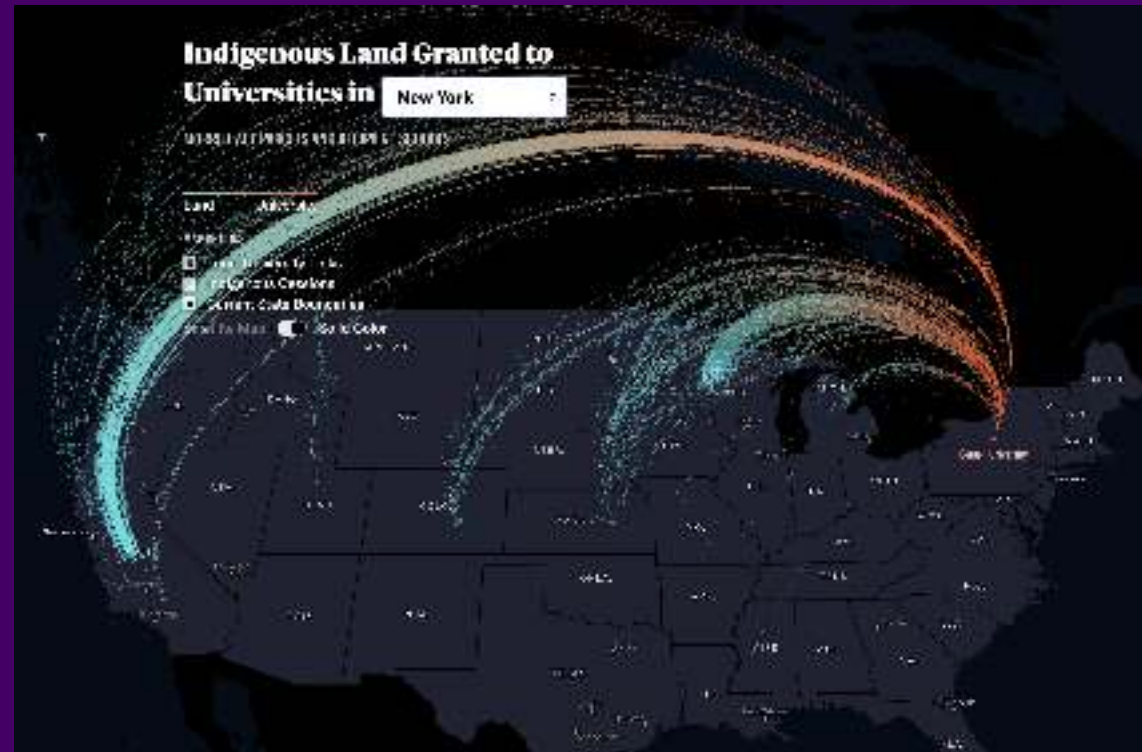
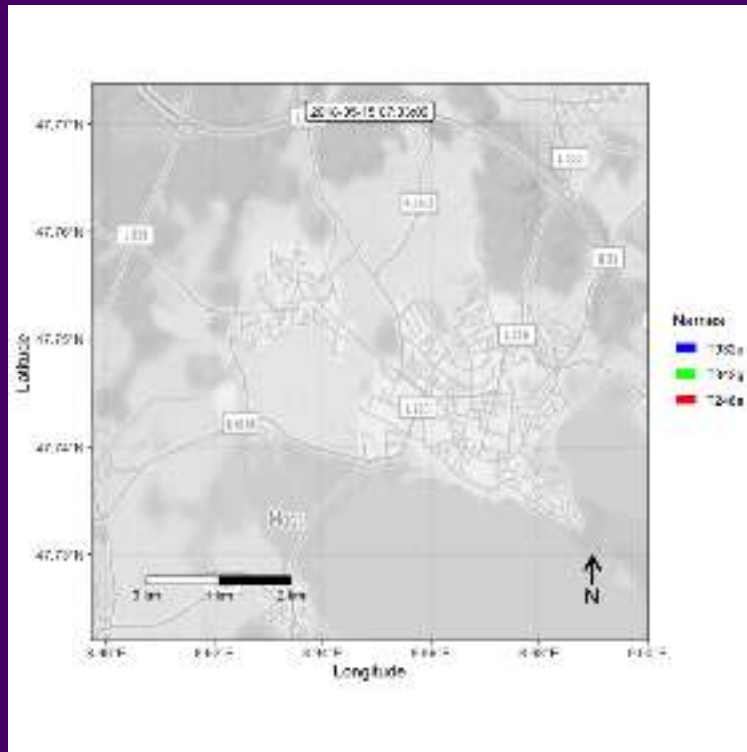
# Region

What attributes to different geographies share? What distinguishes them?



# Movement

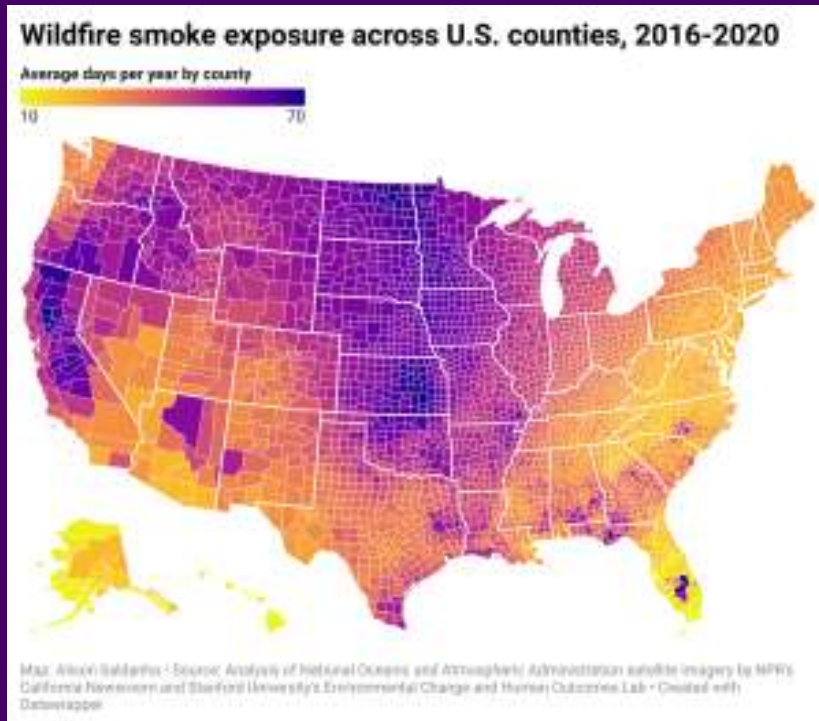
How do genes, individuals, populations, ideas, goods, etc traverse the landscape.





# Human-Environment Interactions

How do people relate to and change the physical world to meet their needs?



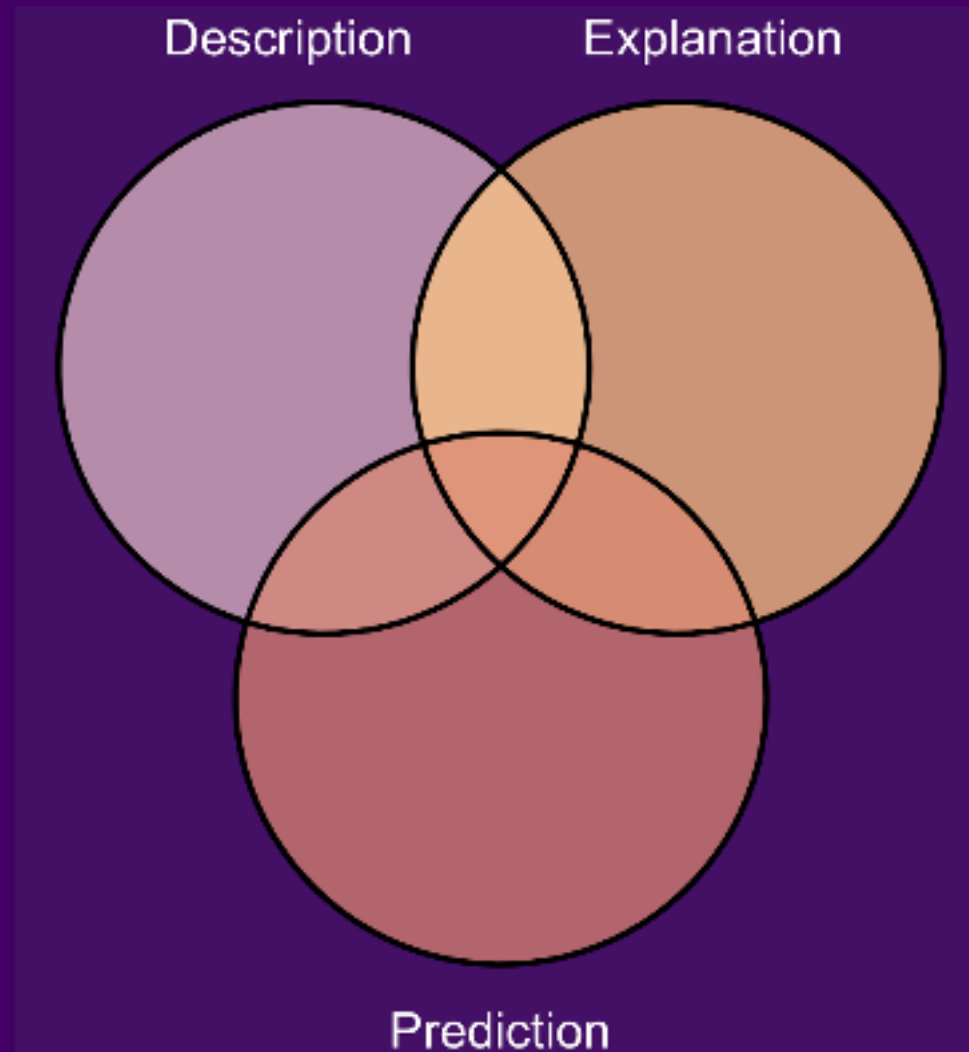
Towards *quantitative* spatial analysis



‘everything is usually related to all else but those which are near to each other are more related when compared to those that are further away’.

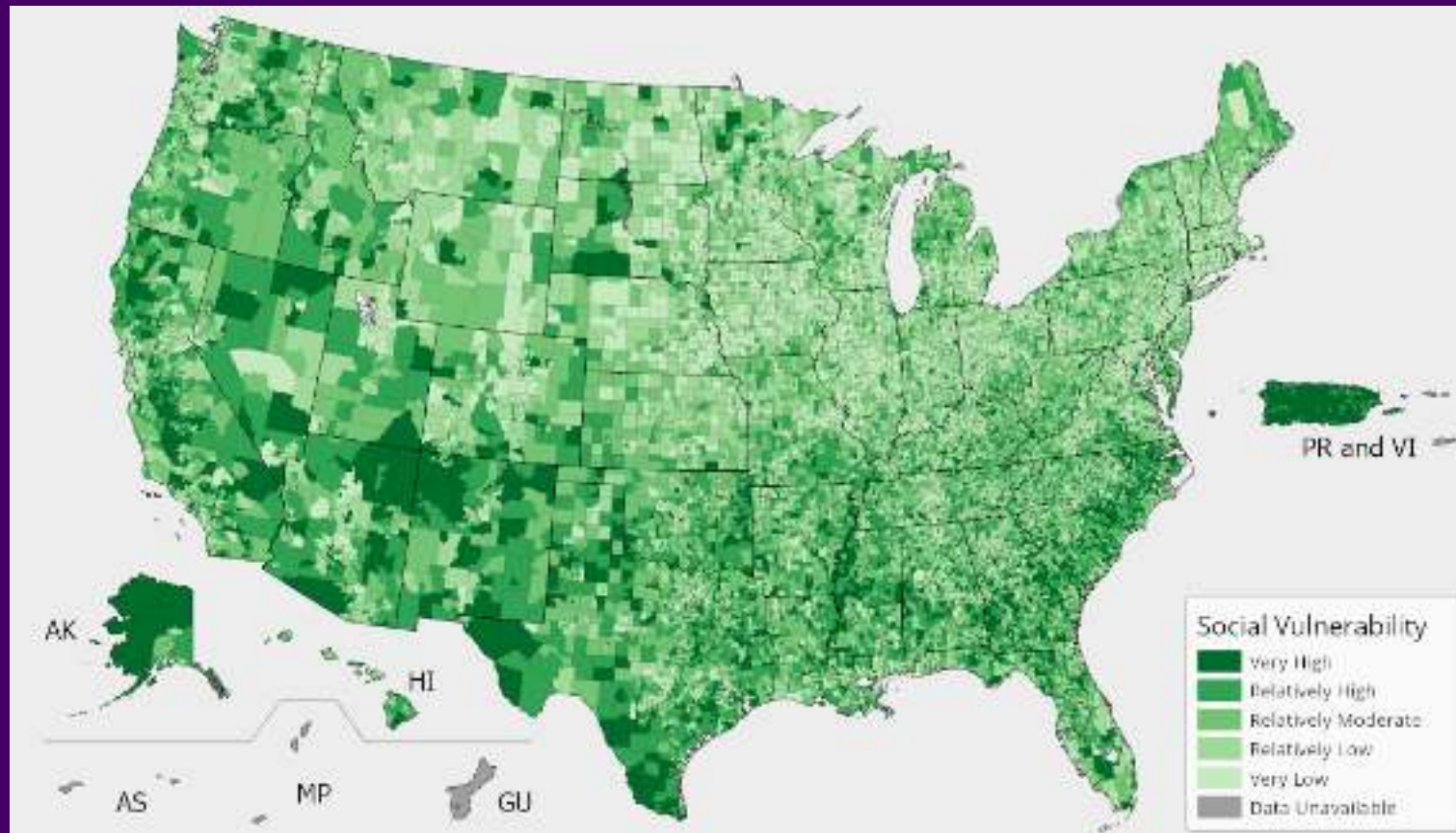
Waldo Tobler

# 3 “Faces” of Analysis





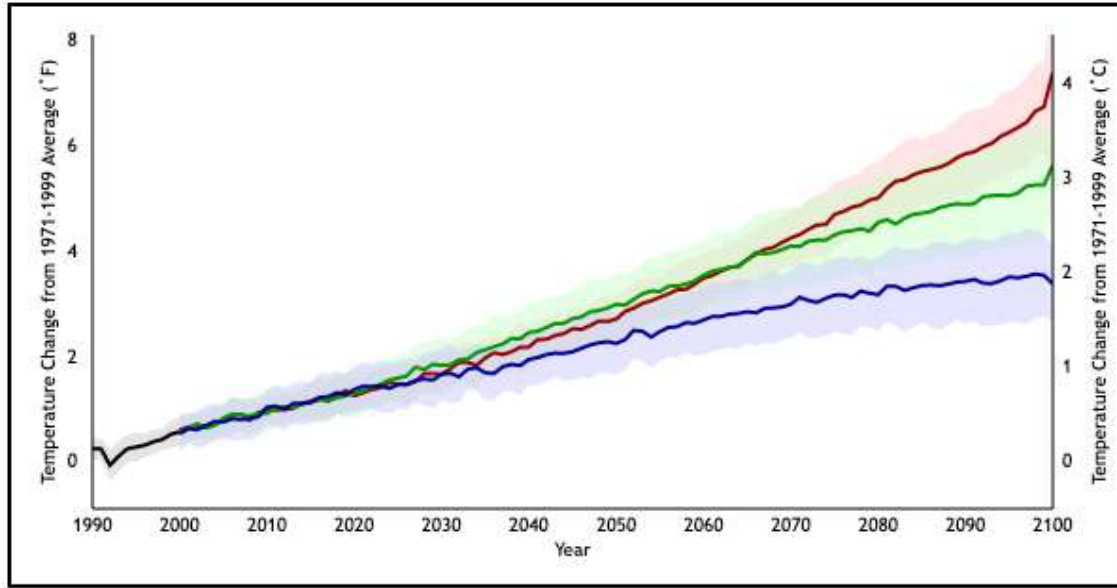
# Description



# Explanation and Inference

- **Cognitive Description:** collection ordering and classification of data
- **Cause and Effect:** design-based or model-based testing of the factors that give rise to geographic distributions
- **Systems Analysis:** describes the entire complex set of interactions that structure an activity

# Prediction



- Extend description or explanation into unmeasured space
- Stationarity: the rules governing a process do not *drift* over space-time



# Class Details

# Logistics

- Meet on Mondays and Wednesdays
- ~40 min lecture, 30 min practice
- 5 major sections
- A note about readings

“Office Hours” immediately following class



# Course Webpage

<https://isdrrfall25.classes.spaseslab.com/>

- Syllabus
- Schedule
- Lectures
- Assignments
- Resources



# Assignments

Check out the syllabus for more on grading!

- **Self-reflections (2x)**
  - Your goals for the course
  - Evaluation criteria
- **In-class exercises (30x)**
  - Problem solving
  - Reproducible workflows
  - Muscle memory
- **Final project (1st draft, final draft):** Practice a full analysis workflow; Integrate analysis & visuals to tell a story
- **Homework Assignments (5x)**
  - Integrate skills from the section
  - Practice visualization
  - Build version control habits
- **Code Revisions (5x)**
  - Common issues
  - More extensive feedback

# Wrapup

# Checking in

1. What can I clarify about the course?



A ORBIS TERRARUM  
MERIDIANO TABB.

DELINEATIO SINGULARI  
RUDOLPHI

RATIONE ACCOMMODATA  
ASTRONOMICARUM

