GIS Data Processing 2

11.S195: Computational Urban Science Workshop
Spring 2019, Nina Lutz

Last week…

General GIS data and formats

Processing it into a map

An approach to data and importance of open source

Demographic Data

Data that is **statistically socio-economic** in nature.

Population, race, income, education employment, and more.

Disclaimer

Population statistics are **complex.**

Lots of direct metrics like birth rates are quite accurate.

But more **interesting questions are less accurate.** Such as the **Census.**

Why do we want to use data that is largely known to be inaccurate?

Accuracy

Because even though it isn’t fully accurate it is a **powerful estimation that can be used for good or bad.**

Because it allows us to ask and show questions that make us **better scientists.**
Because we can ask questions that might make us **less comfortable.**

http://demographics.virginia.edu/DotMap/

Types of Metrics

Basically infinite. The sky is the limit. However availability and accuracy are the tradeoffs.

(Some) Types of Maps

Topographic, political, physical maps, network maps, temporal maps, heat map, choropleth map, geologic maps, income maps, etc.

There. Are. So. Many. Map. Types.

(Some) Methods

Correlation and other stats tests (Chi, Fischers, McNemar, ANOVA, etc)

Rasterization

Mapping and exploring

GeoPolitical analysis

Temporal analysis

Formats

Shapefiles are files of polygons, such that each contains data that is associated with that area.

Geodatabases are databases that can be read in by some GIS softwares.

Some Census Lingo

TIGER = geodata from Census

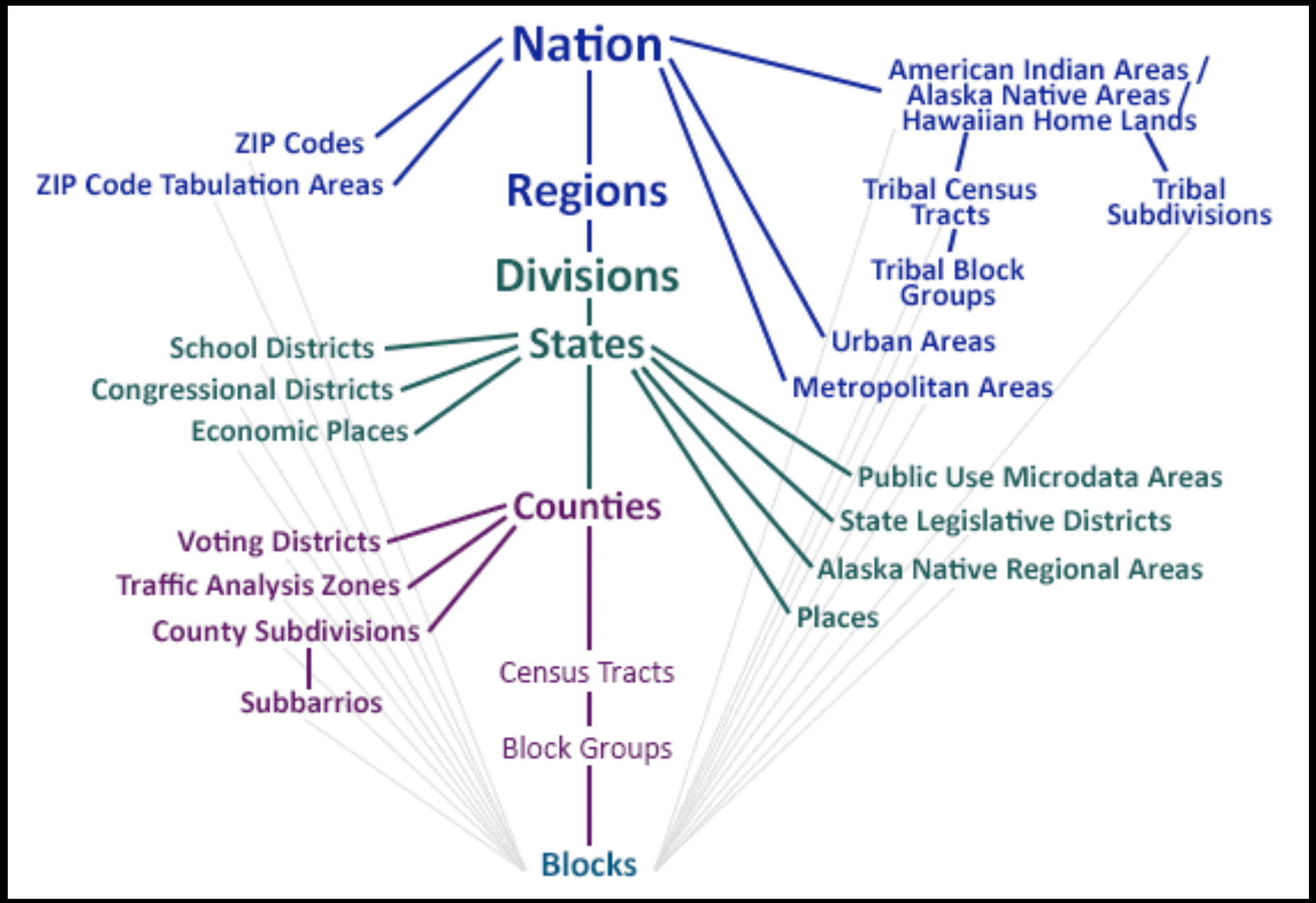
ACS = American Community Survey - yearly and community based

AHS = American Housing Survey

Economic Census

AND MORE

Census Geographies



Approach

Again, data is only part of your picture.

Demographic data can add a humanist element.

So treat it and your models with a humanist view.

Tutorial Time!

Go to the Github and go to Tutorial_3 —> PopulationMapFollowAlong