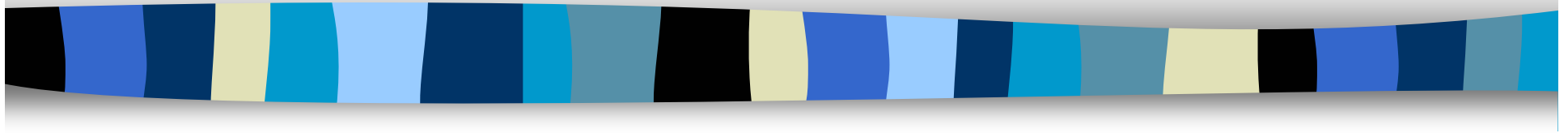


Challenges and Opportunities Rural States Face in Mapping NIBRS



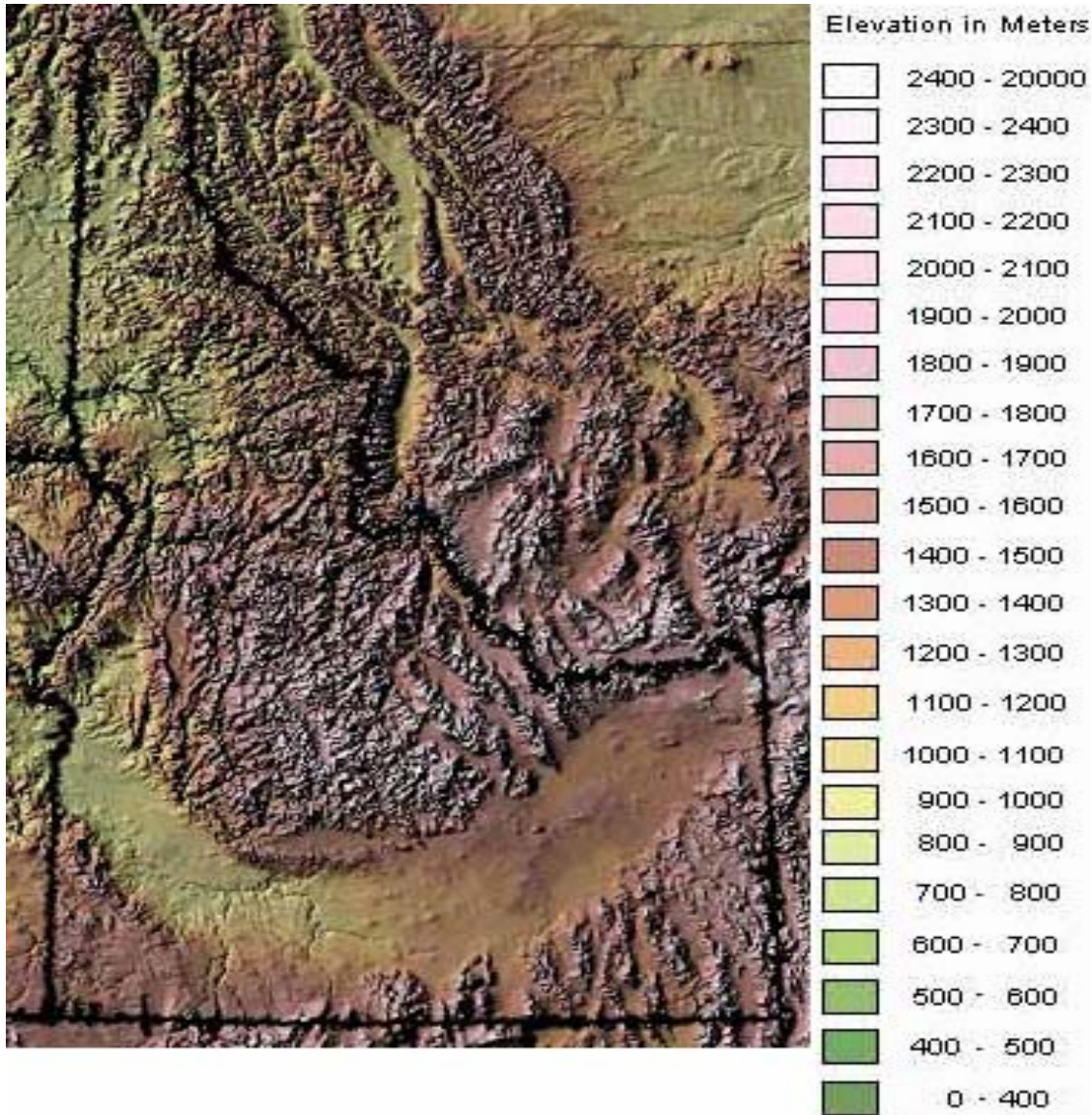
9th Crime Mapping Research Conference
Omni William Penn Hotel
Pittsburgh, Pennsylvania
March 29, 2007



NIBRS in Idaho

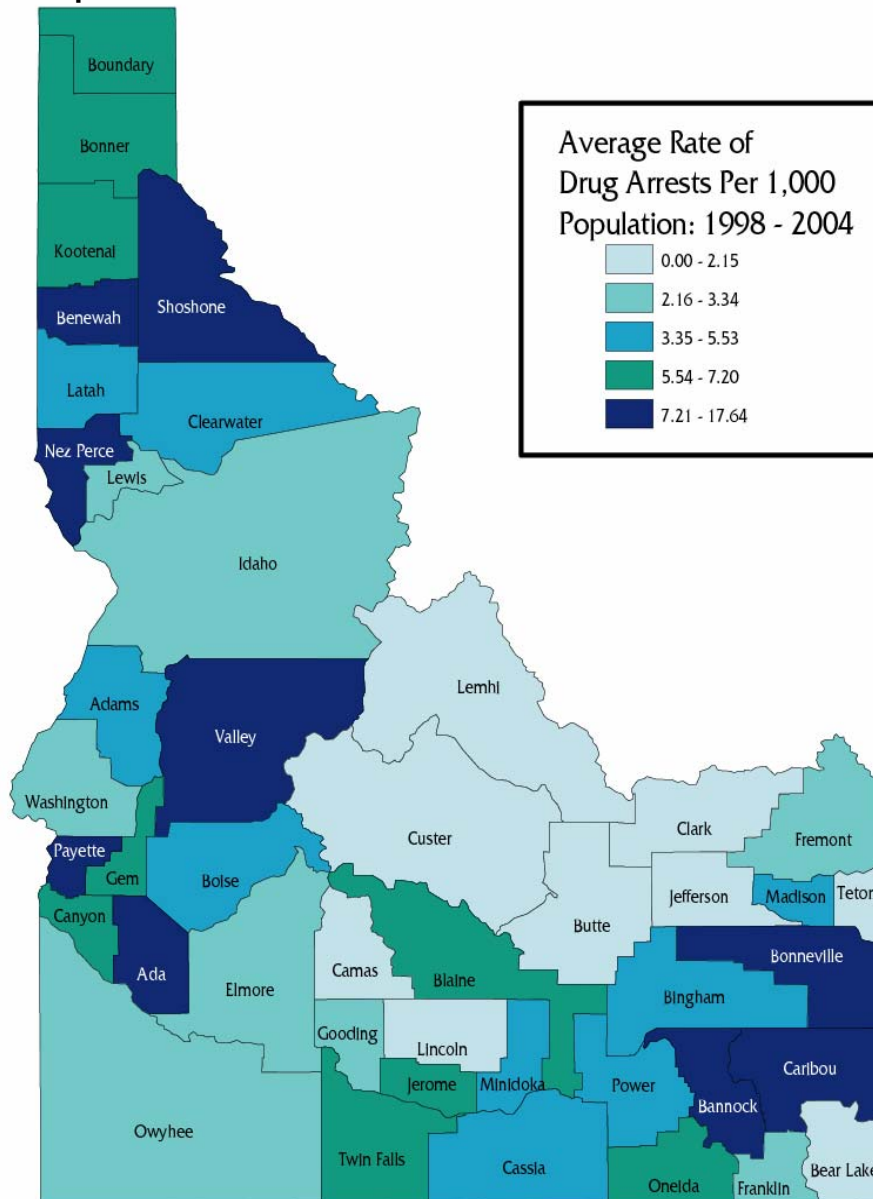
- NIBRS crime data are reported by 105 Idaho law enforcement agencies, representing 99.8% of the population in Idaho.
- NIBRS is the richest data set Idaho has available to determine the occurrence of crime.
- Idaho does not collect address location information for any incidents.

Most of Idaho Is Rural



- Because of the great extent of Idaho covered with mountains it becomes apparent why mapping crimes by county is not always appropriate.
- Most (approx. 75%) of Idahoans live in the Snake River plain.
- Currently, Idaho has 15.6 people per square mile (2003 est.)

Average Rate of Drug Arrests per 1,000 Population

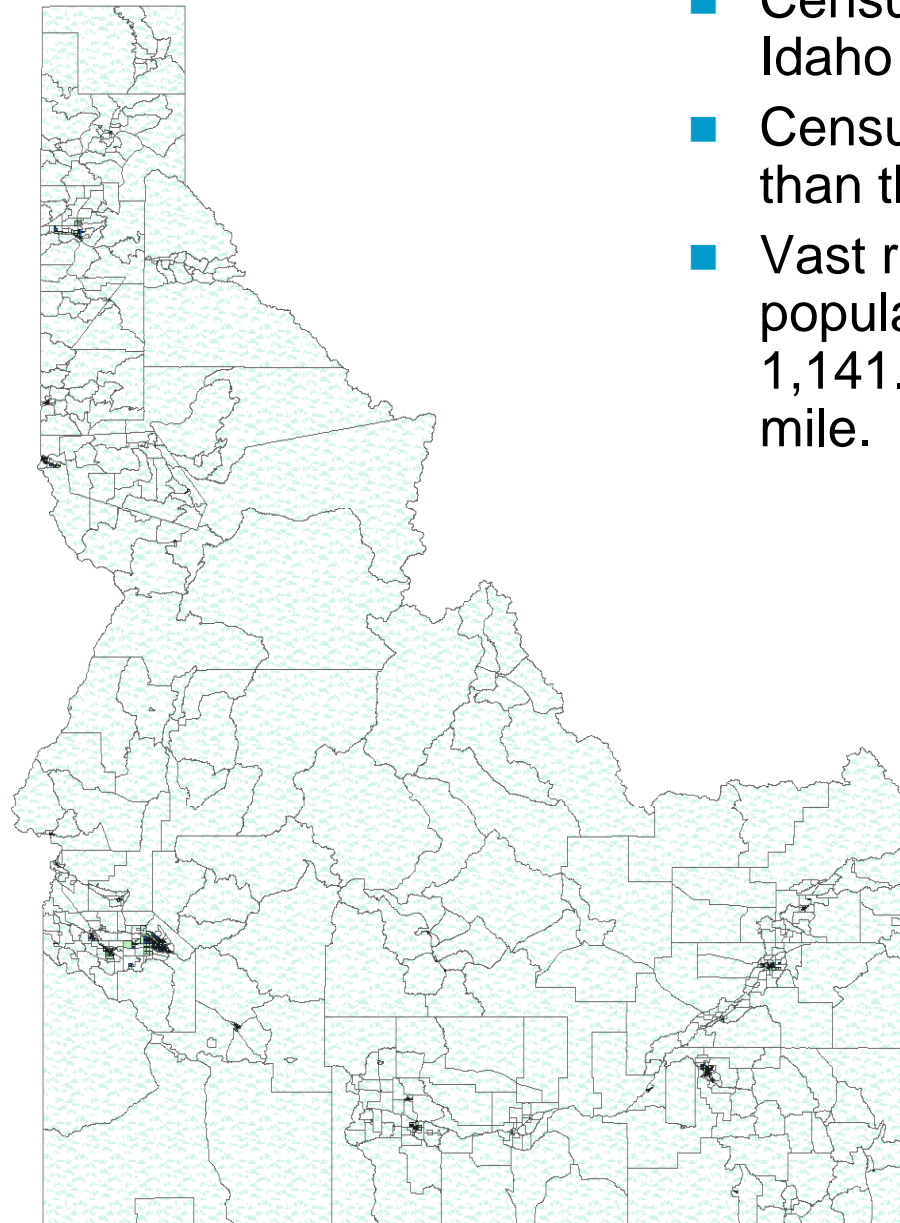


Using NIBRS to Plot Crime by County

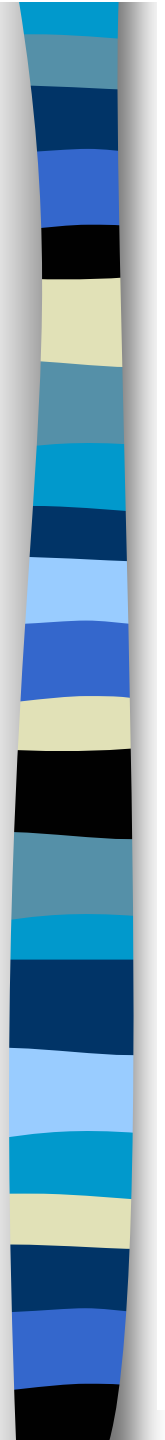
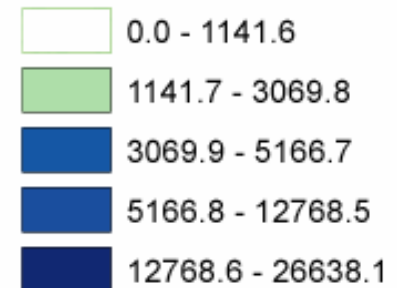
Mapping at the county level, it is difficult to determine which areas in Idaho have the greatest problems with crime.

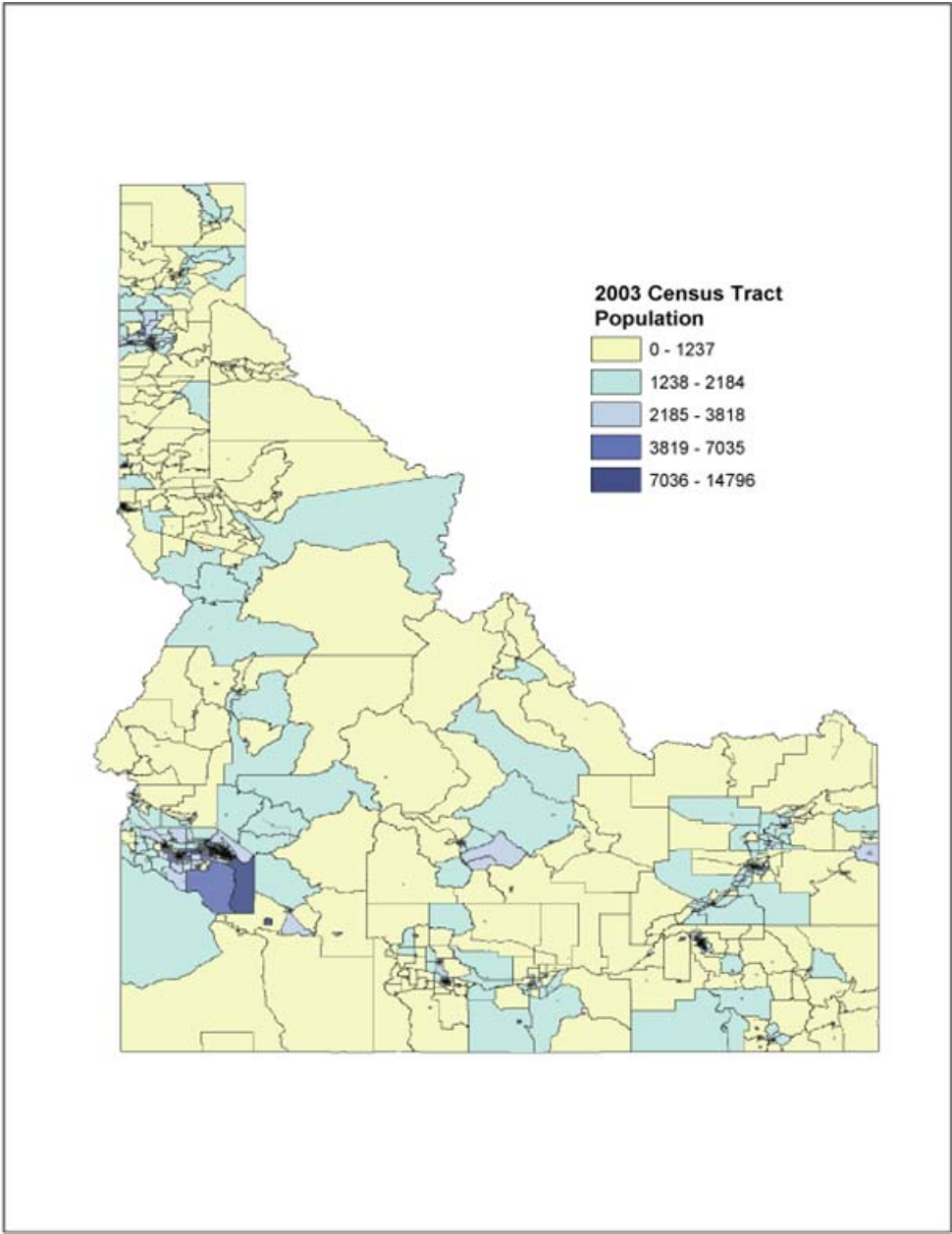
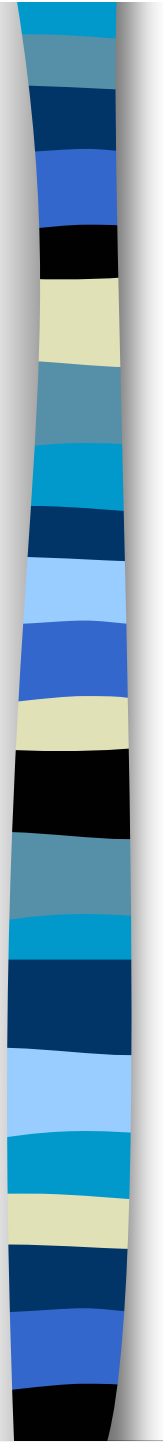
Need to have an idea of the extent of the problem in order to know how to handle it.

- Census Tracts throughout Idaho are more helpful.
- Census Tracts are smaller than the size of the counties.
- Vast regions in Idaho have populations with less than 1,141.6 persons per square mile.

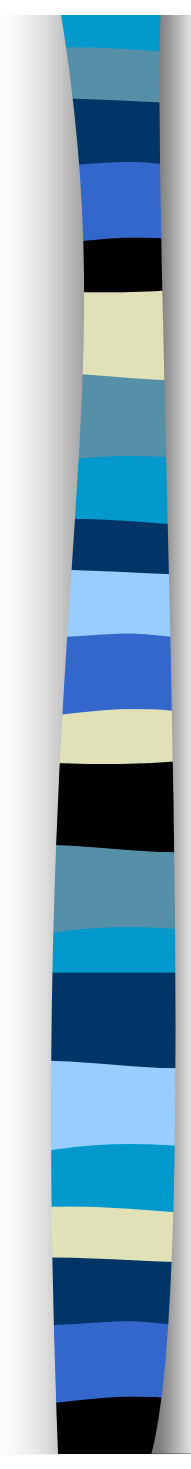


Population per Square Mile





- 2003 population per census tract
- Not only do many census tracts have few people per square mile, they also have small overall population.



Why try to scale down from county-level mapping of NIBRS?

1. Thematic maps can easily be misinterpreted.
2. NIBRS information provides regions with data defining areas of greatest concern for resources.
3. Crime rates developed from NIBRS affect grant funding for public and private jurisdictions within Idaho.
4. Maps depicting the overall grant funding an area receives could be more easily understood.



What will mapping NIBRS at census tract level hopefully provide?

1. Better idea of where crime is actually occurring and whom is more likely to be affected by crime.
2. Better idea of where to promote resources.
3. Linked up with other types of data (such as prevention, treatment, public health, etc.) can have better idea of current risks.



Crime in Idaho

- Crime patterns and demographics differ by type of crime under investigation.
- Population Density: Crime is more likely to occur in regions where there are more people per square mile.
- Census Bureau provides information on county level demographics. These were used to provide basis for violent crime study.
 - Violent crime occurs more often among 22-39 year olds.
 - Percent under poverty of area.
 - Sex and race did not have a significant relationship with county level violent crime.



Factors not accounted for:

- NIBRS includes reported crimes only.
- 70% of Violent Crime occurred at a residence. Census tract population is by residence. However, much of remainder included building or “city” locations (18.8%). About 10% occurred on a street/highway, and only 1.2% were field/woods locations.
- Family dynamics



Estimating NIBRS to Census Tract Level

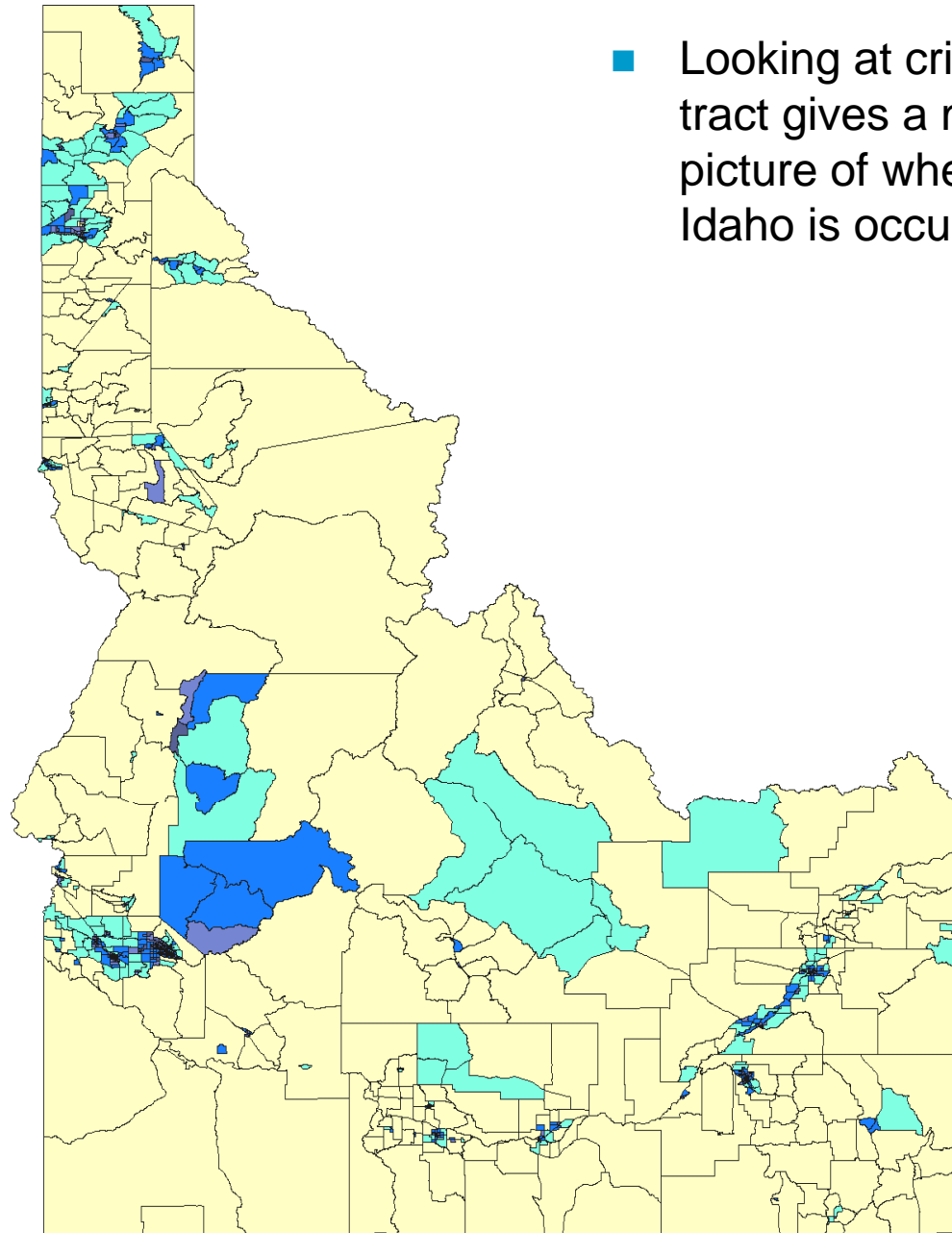
- First, totaled the amount of crime (in this case violent crime in 2005) reported by each jurisdiction in NIBRS. Summary total for each jurisdiction. This gave the number of cases needed to be distributed throughout the city or county.
- Second, calculated how much of each of 955 census tract lied within each jurisdiction (county versus city), and based population figures accordingly.



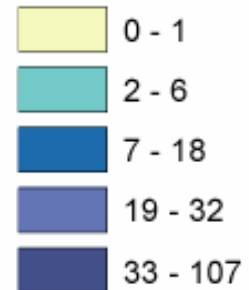
Estimating NIBRS cont.

- Third, ranked each census tract according to population, portion of individuals aged 22-39, and percent under poverty level.
- Fourth, based the proportion of violent crime per census tract upon the population per square mile, the proportion of 22-39 year olds, and the percent living under poverty (weights based on regression analysis, population = 83%, age, income = 17%).

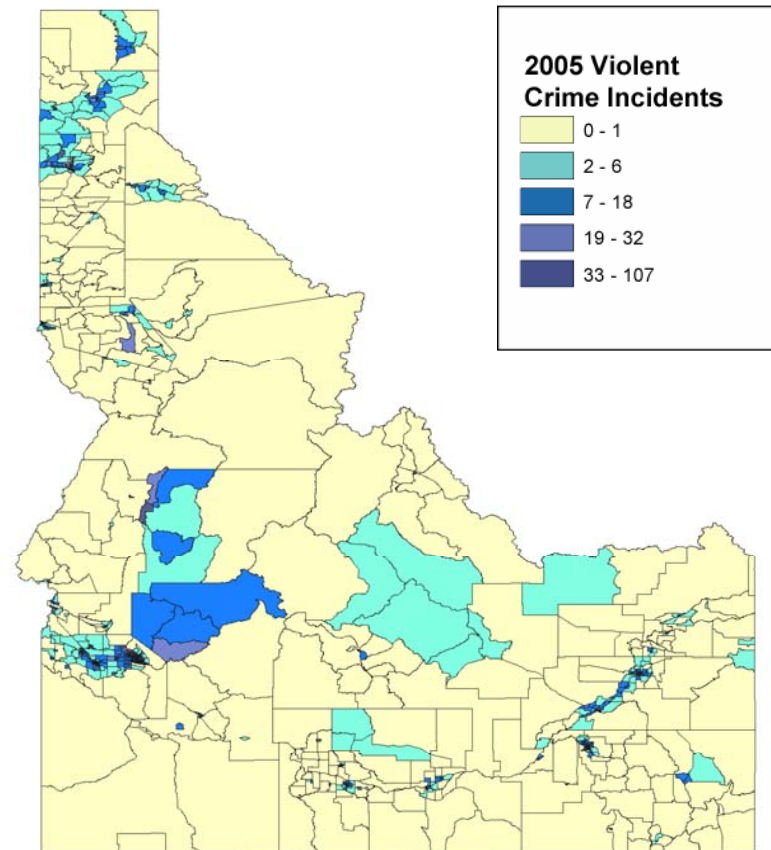
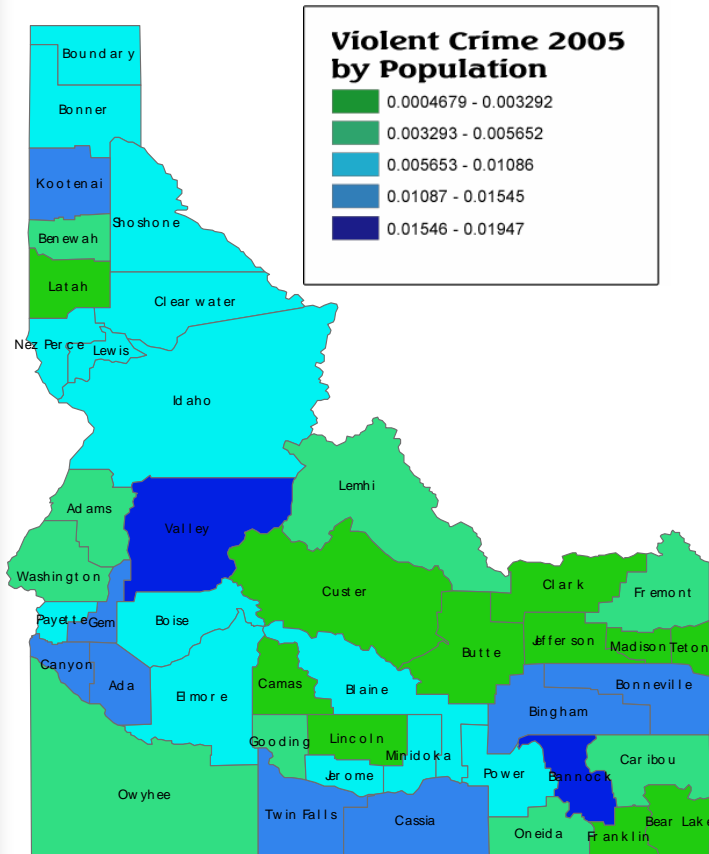
- Looking at crime by census tract gives a more realistic picture of where crime in Idaho is occurring.



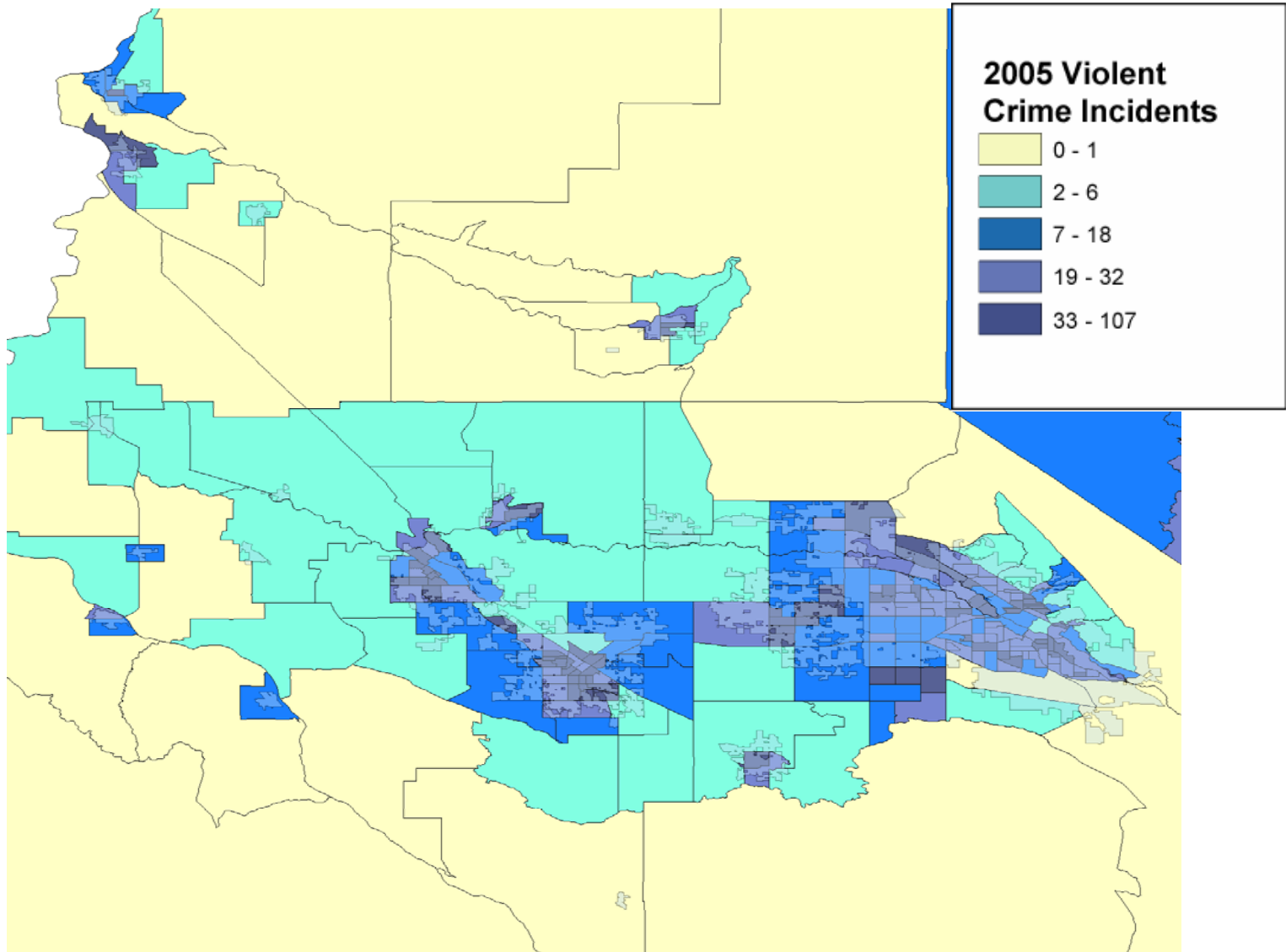
2005 Violent Crime Incidents



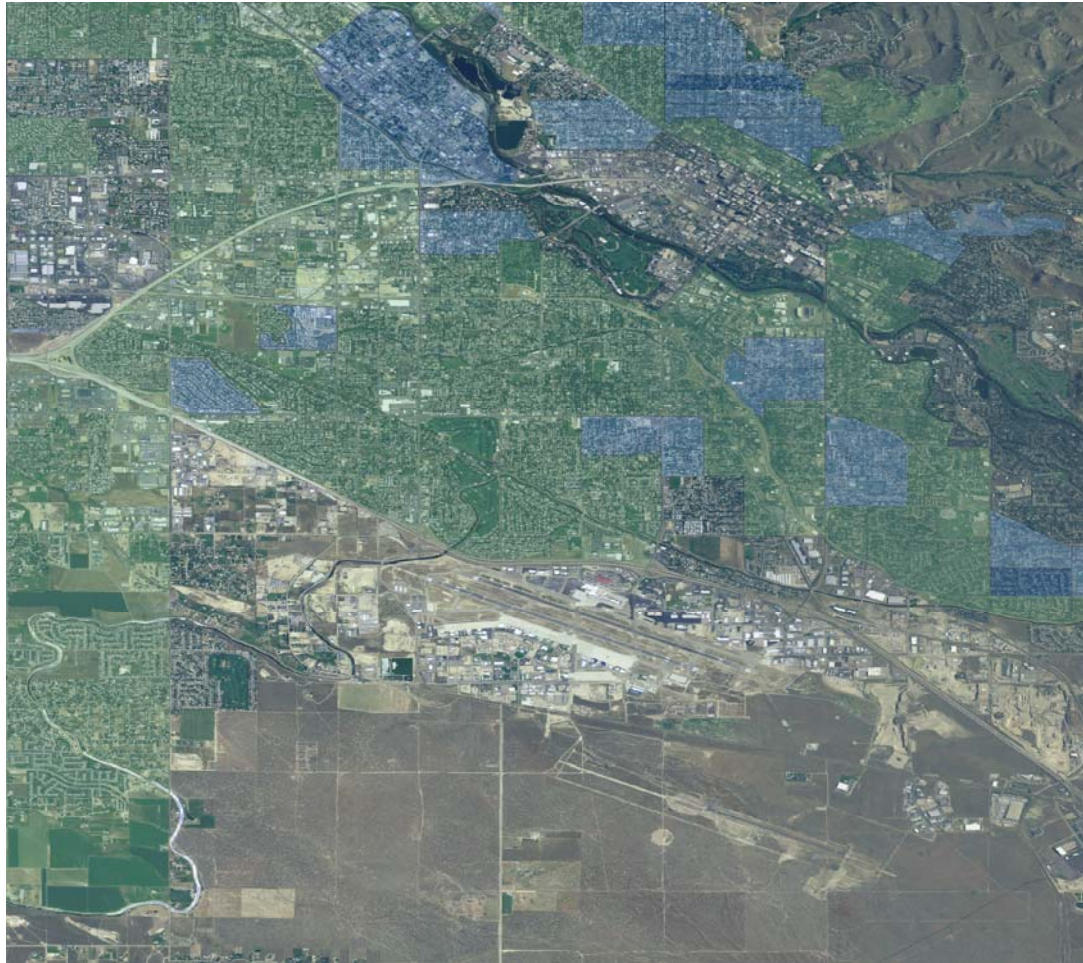
Violent Crime 2005 by County Versus Violent Crime 2005 By Census Tract



Boise Metropolitan Area



Census tracts overlaying Garden City/Boise



Just from
“eyeballing”
the crime
rates do
make sense
for the area
they
represent.



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