



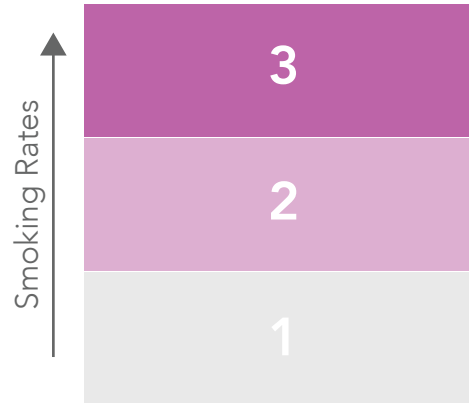
SMOKING MAPPED

A spatial exploration of the intersection between demographics and smoking rates in the United States

HOW TO READ THESE MAPS

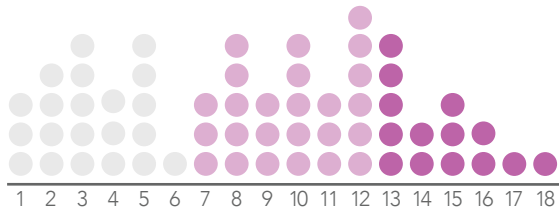
Choropleth

The first map in this atlas is a choropleth map which is perhaps one of the most common styles and techniques to show data that has been aggregated to the county, state, or national level. For this map, the values for each county were grouped into “bins” and then color coded to signify the data value.



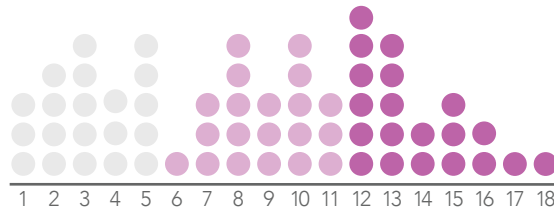
Classification

Data classification is the process used to create the “bins” or groups cartographers use to symbolize data values. These bins are defined using a variety of statistical methods. The two methods used in this atlas are described below.



Equal Interval

Divides data using classes of equal size.
(ex: 0–10, 10–20, 20–30)



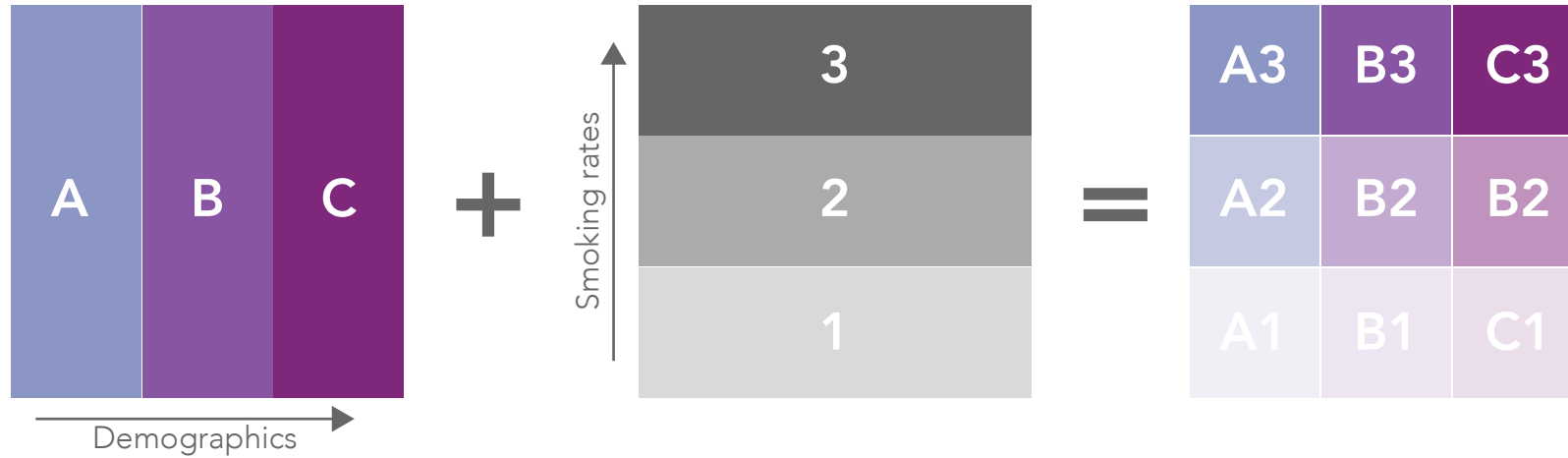
Quantiles

Places an equal number of observations in each bin

HOW TO READ THESE MAPS

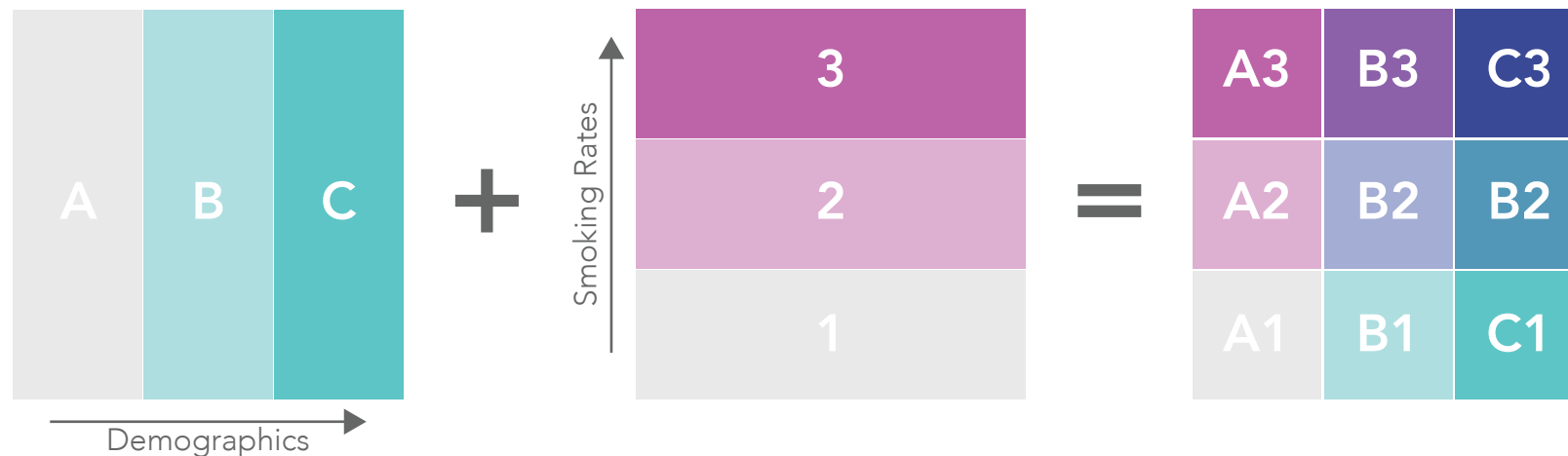
Value-by-Alpha

The maps showing smoking rates and race utilize a mapping technique known as value-by-alpha to literally highlight the counties that have both high smoking rates as well as a high percentage of certain ethnic groups. For these maps, look for the darkest and most saturated colors to reveal areas with high smoking rates and high concentrations of a certain demographic.



Bivariate Choropleth

Several of the maps included in this atlas utilize a two dimensional color scheme that allows us to see spatial patterns of smoking rates and their correlation with demographic patterns throughout the US. The A3 square for example represents high smoking rates and low concentrations of a certain demographic while C1 shows low smoking rates and a high demographic concentration.



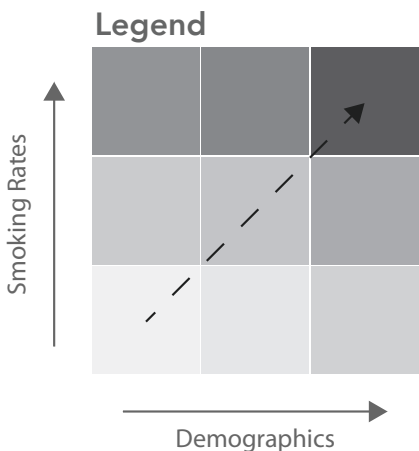
HOW TO READ THIS ATLAS



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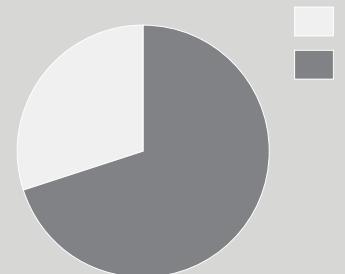
per 100 people who
smoke cigarettes

Tobacco Tactics
Tobacco companies use a variety of tactics to encourage certain communities to start and continue smoking. Here you will find facts about the ways "big tobacco" target minority groups.

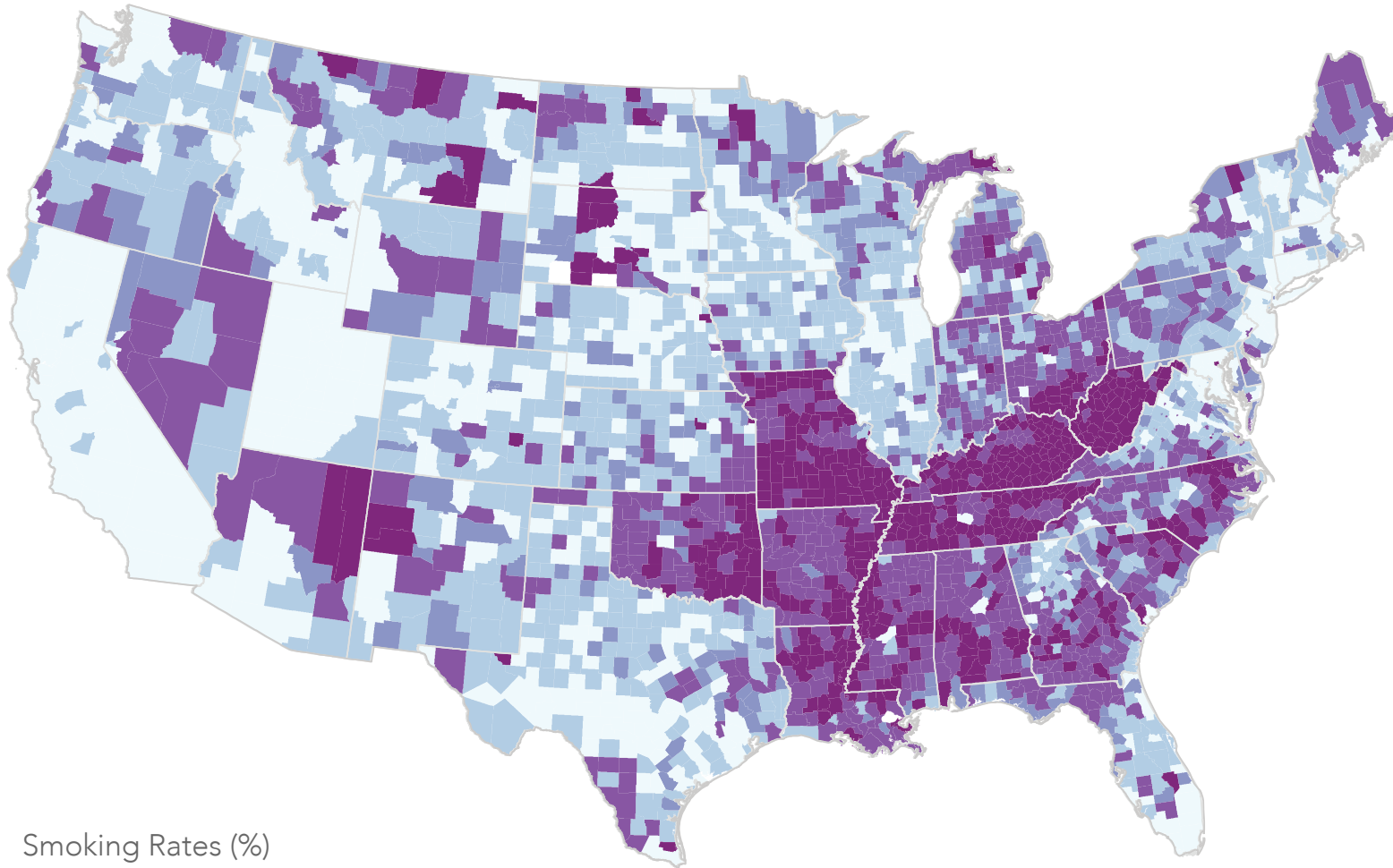


WHATS THE PATTERN?

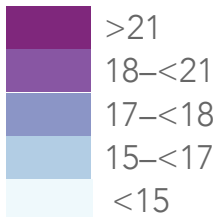
Here you will find a brief explanation of some of the patterns that can be seen in the map. This description will point out the colors and their meanings as well as why some of these patterns might exist.



SMOKING RATES IN THE UNITED STATES



Smoking Rates (%)



Classes divided by quantile

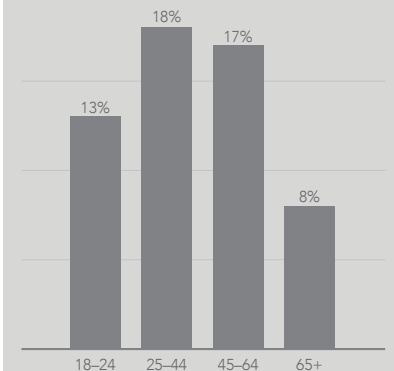
Smoking is the leading cause of preventable disease in the US, causing 480,000 deaths per year. While the percentage of smokers in the US is decreasing overall, major disparities exist between various demographics groups. From this map, you can see regions of the US in the south and midwest colored deep maroon and purple. These regions appear to have significantly higher smoking rates than other parts of the US. In contrast states like California and Utah in light blue have relatively low smoking rates.

15

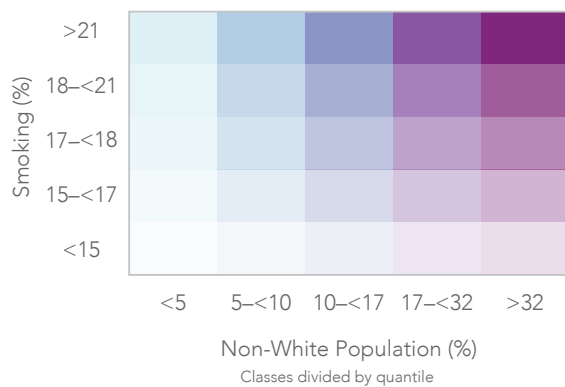
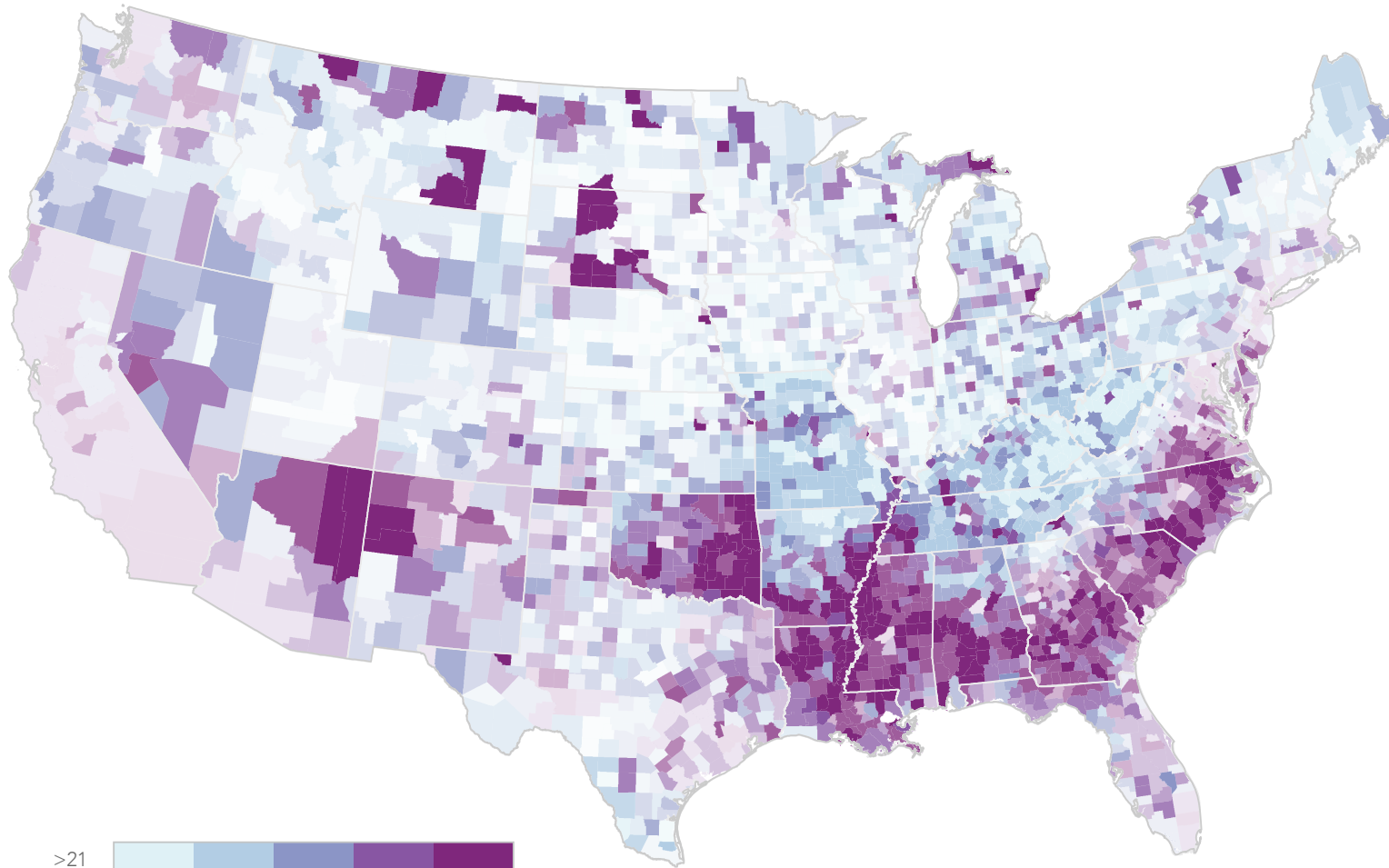
of every 100 U.S. adults aged 18 years or older smoke cigarettes

Tobacco Tactics
\$24M
million spent per day on advertising by tobacco companies in 2015

SMOKING RATES BY AGE



SMOKING AND RACE



In this value-by-alpha map we see a large cluster of counties colored deep maroon in the southern region of the United States, a region that is also known as the "Black Belt". The maroon color signifies a large percent of the population is non-white in these regions while it's lack of transparency signifies relatively high rates of smoking in these region.

17

of every 100 non-Hispanic blacks in the US smoke cigarettes

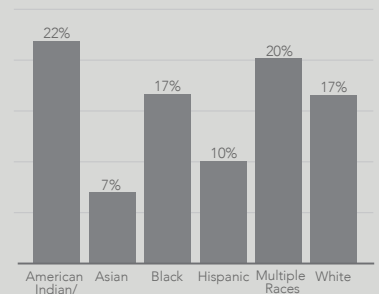
Tobacco Tactics

There are up to

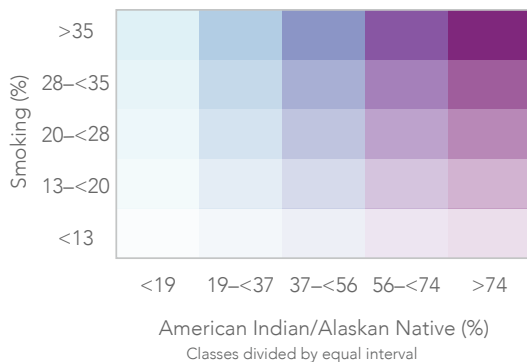
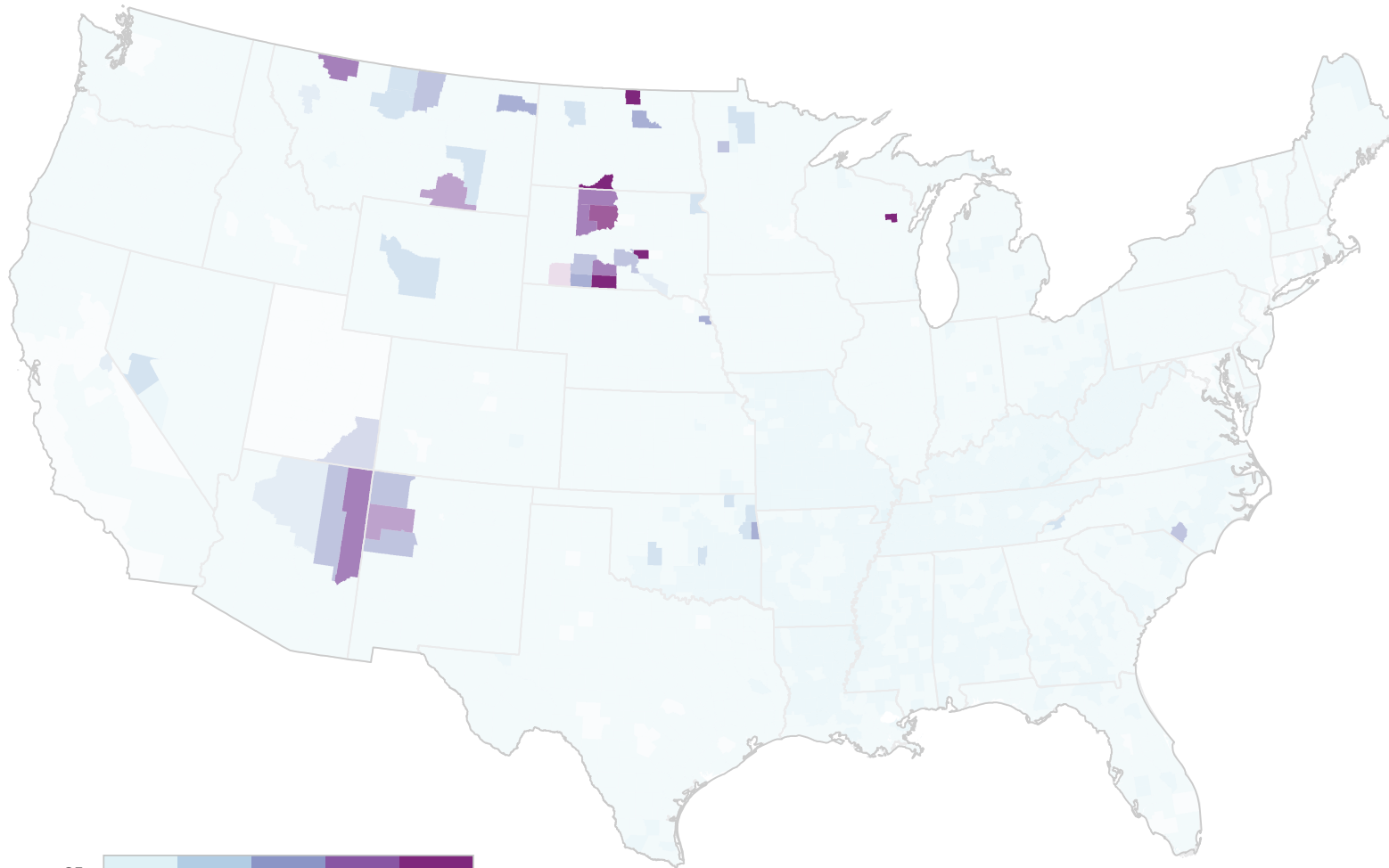
10X

more tobacco ads in black neighborhoods than in others

SMOKING RATES BY RACE



SMOKING AND RACE: AMERICAN INDIAN



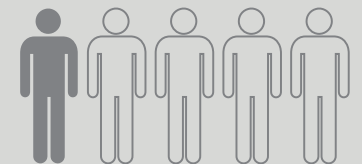
The American Indian population in the US exhibits higher rate of smoking than any other racial group in the US. Above, we see deep maroon and purple colors highlight counties with large American Indian populations. In Wisconsin for example, we can see the outline of Menomonee county colored a deep maroon. Menomonee county is the least populous county in Wisconsin, but is home to the Menomonee Reservation as well as the highest concentration of smokers in the state.

22

of every 100 non-Hispanic American Indian/Alaska Natives smoke cigarettes

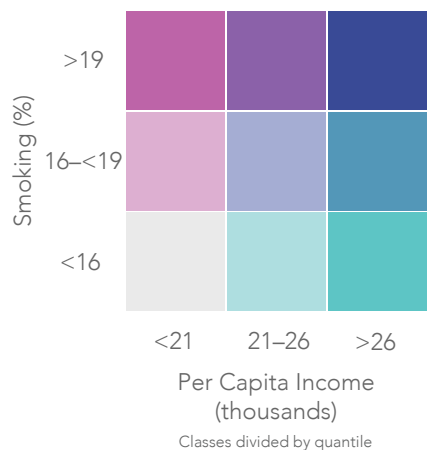
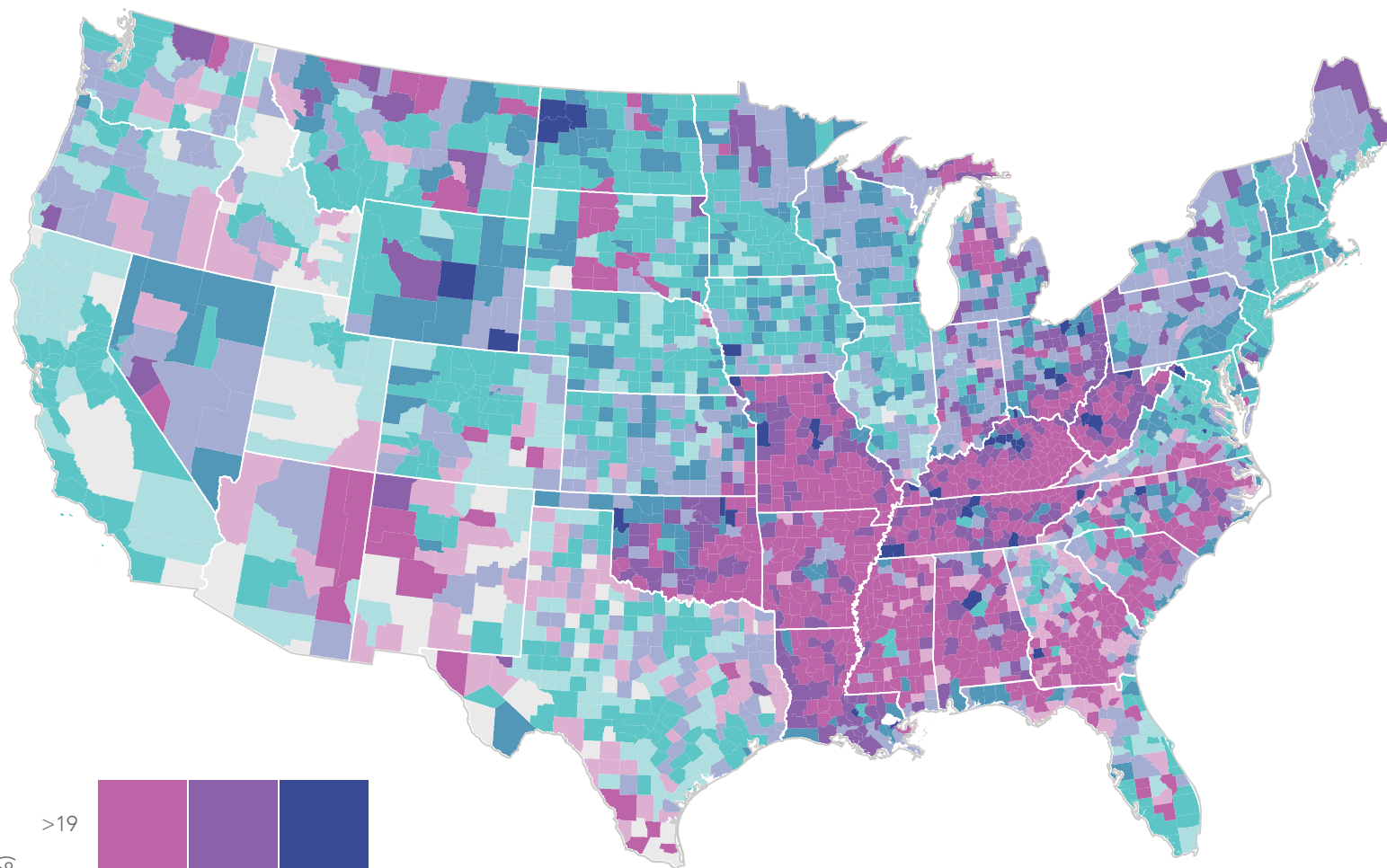
Tobaccos Tactics

Tobacco companies have been known to sponsor cultural events popular among certain communities such as Chinese New Year celebrations and American Indian Powwows.



1 in 5 American Indian women smoke cigarettes

SMOKING AND INCOME



With this map we are looking for a slightly different pattern than in the others included in this atlas. In the southern states of the US, we see a large clustering of counties in a dark pink color. This signifies that these counties have a low per capita income as well as high smoking rates. We can also see that there are a large number of counties with a high per capita income and low smoking rates signified by a dark teal color. Coupled with the fact that there are very few counties with high income and high smoking rates, we can observe that low income is associated with higher smoking rates.

26

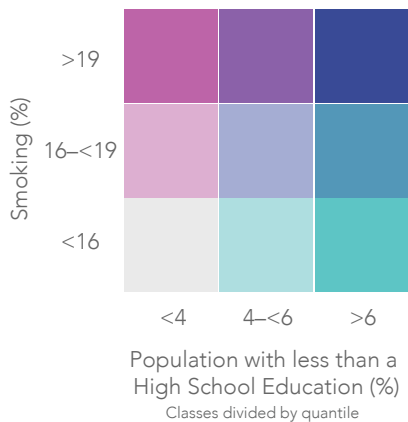
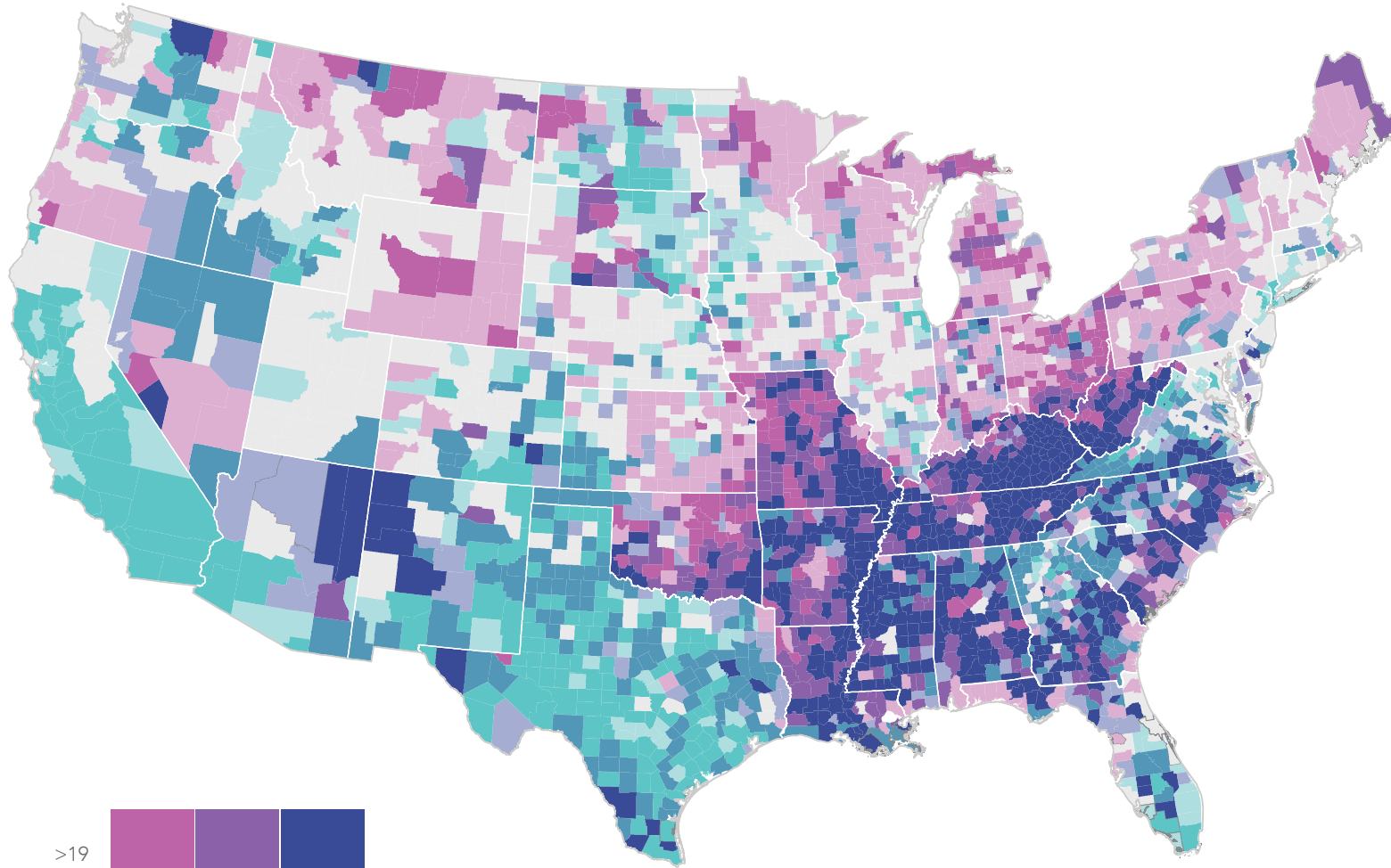
of every 100 adults who live below the poverty level smoke cigarettes

Tobaccos Tactics
Studies show low-income neighborhoods in the US have larger number of tobacco retailers and storefront signs.



More than 1/4 of people living below the poverty line smoke cigarettes

SMOKING AND EDUCATION



Regardless of all other demographic characteristics, individuals with a low level of education and low socioeconomic status have higher smoking rates than other demographic groups. In this map, we once again see many counties in the southern region of the US stand out in a deep blue. These counties are characterized by high rates of smoking as well as large populations of people with less than a high school education.

24

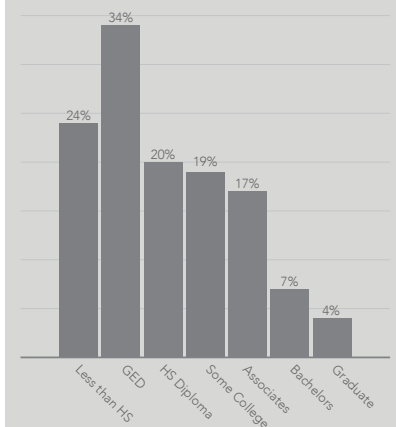
of every 100 adults with 12 or fewer years of education (no diploma) smoke cigarettes

Tobacco Tactics

\$27

spent per year per person on tobacco advertising every year.

SMOKING RATES BY EDUCATION



REFERENCES

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PROJECTION

USA Contiguous Albers Equal Area Conic. Central Meridian: -96.0 °W , Standard Parallels: 29.5 °N, 45.5°N

ICONS

Human Icon, Created by Alexander Smith from the Noun Project

COLOR SCHEME

Bivariate color scheme provided by Joshua Stevens and his tutorial on creating bivariate choropleth maps, <http://www.joshuastevens.net/cartography/make-a-bivariate-choropleth-map/>

Base colors for the value-by-alpha maps from Color Brewer, <http://colorbrewer2.org/#type=sequential&scheme=BuGn&n=3>

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