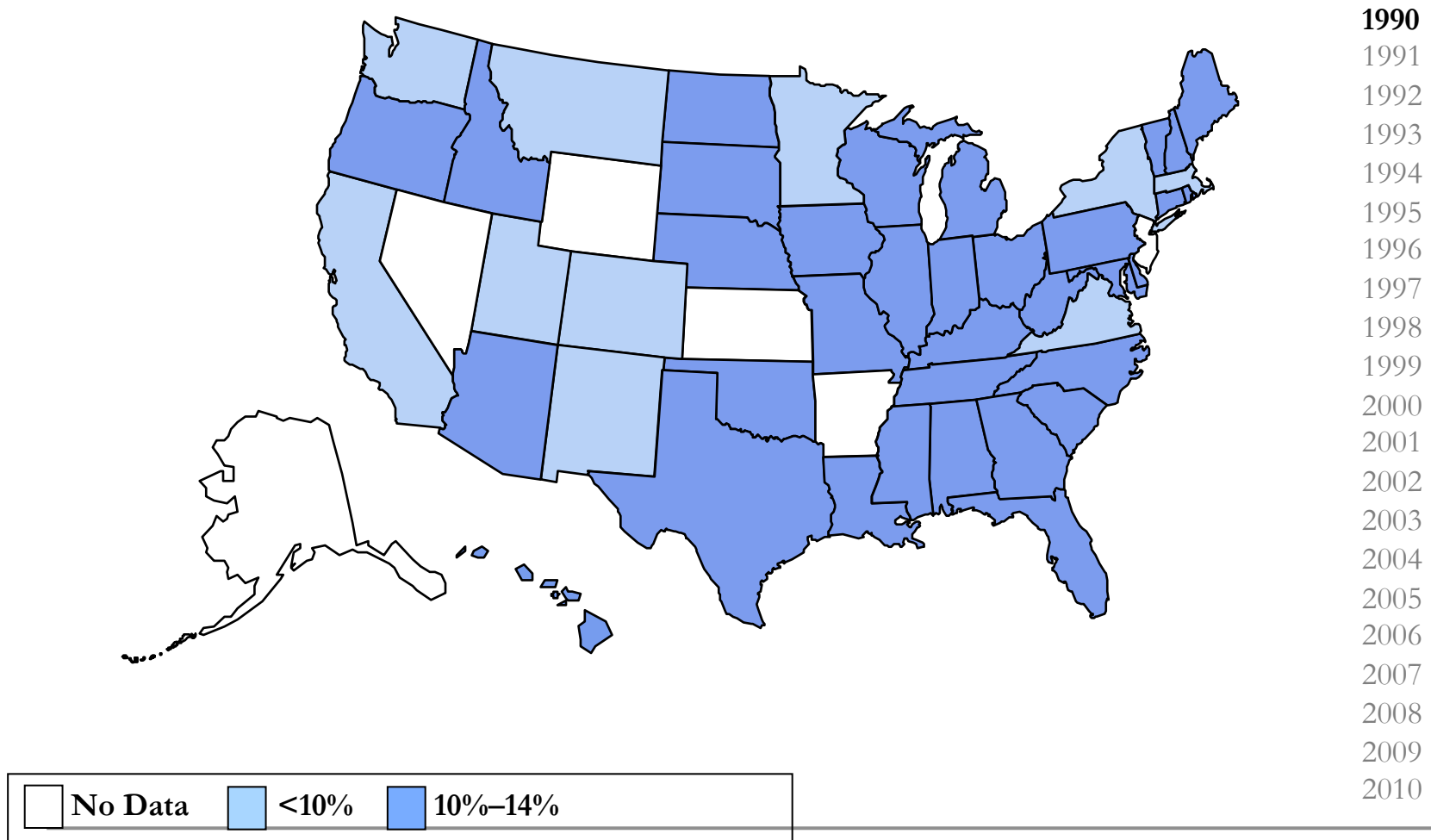


UNDERSTANDING FOOD

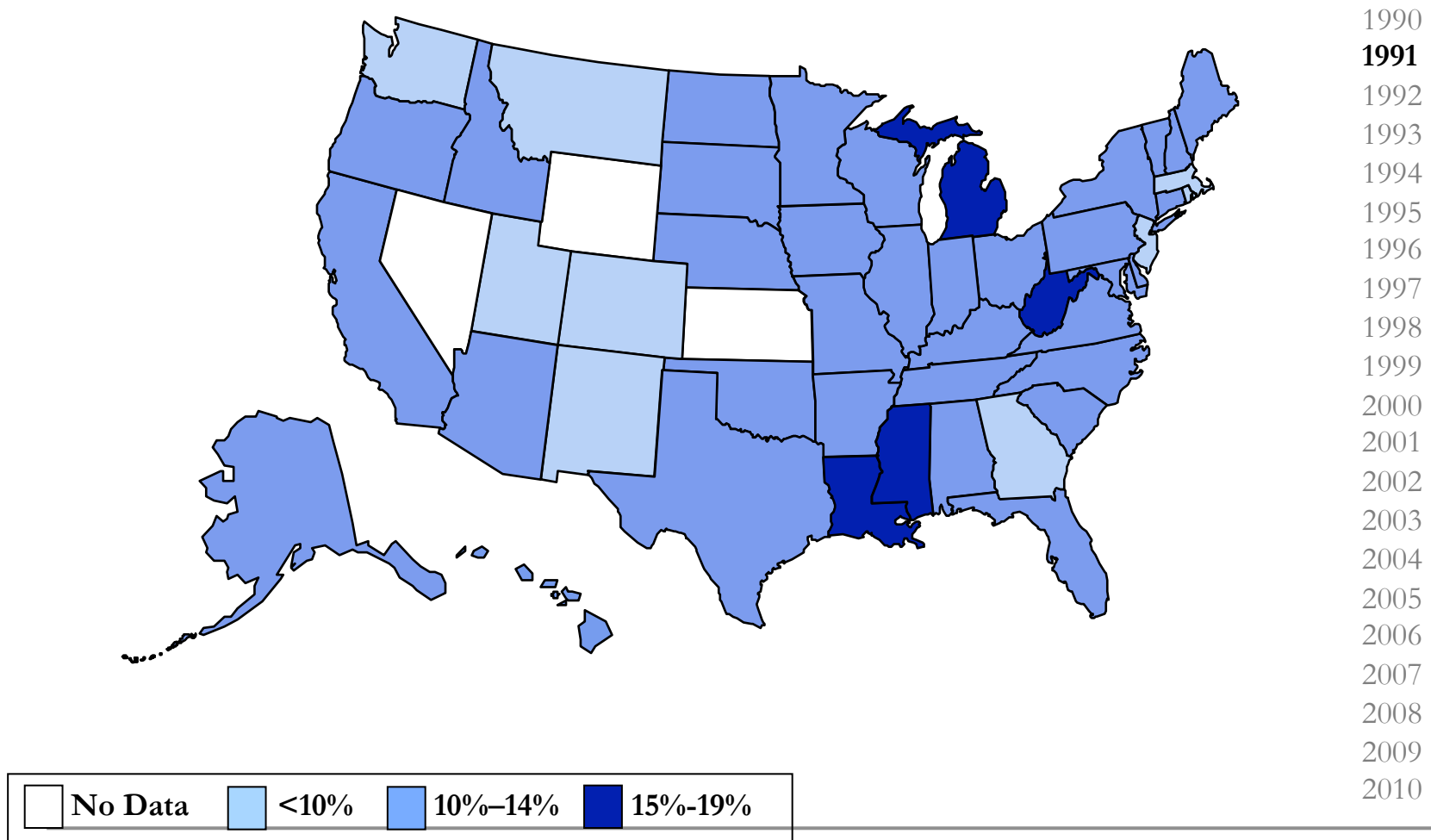
Nutritional Education with Data

15.071x – The Analytics Edge

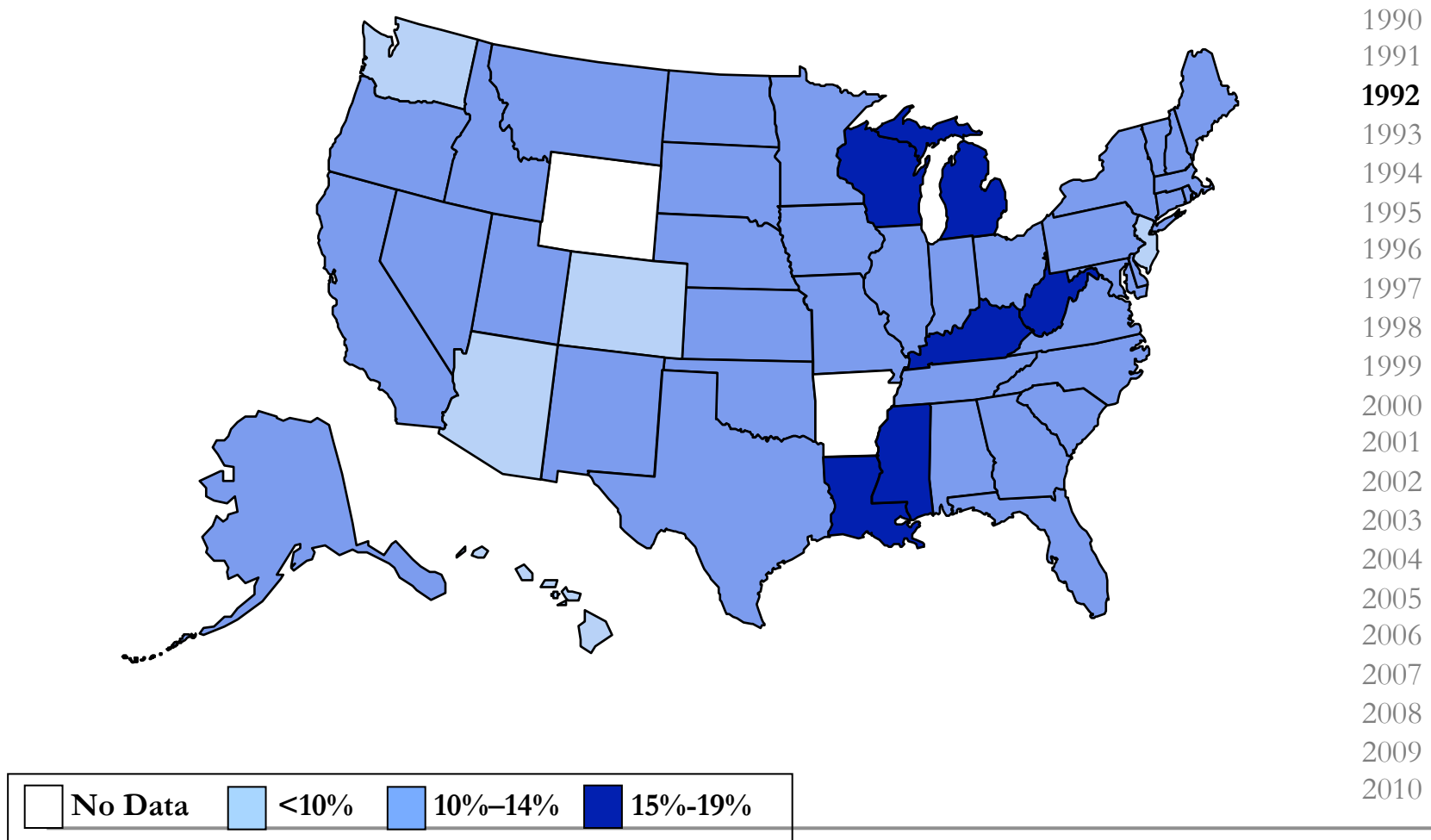
Obesity Trends Among U.S. Adults



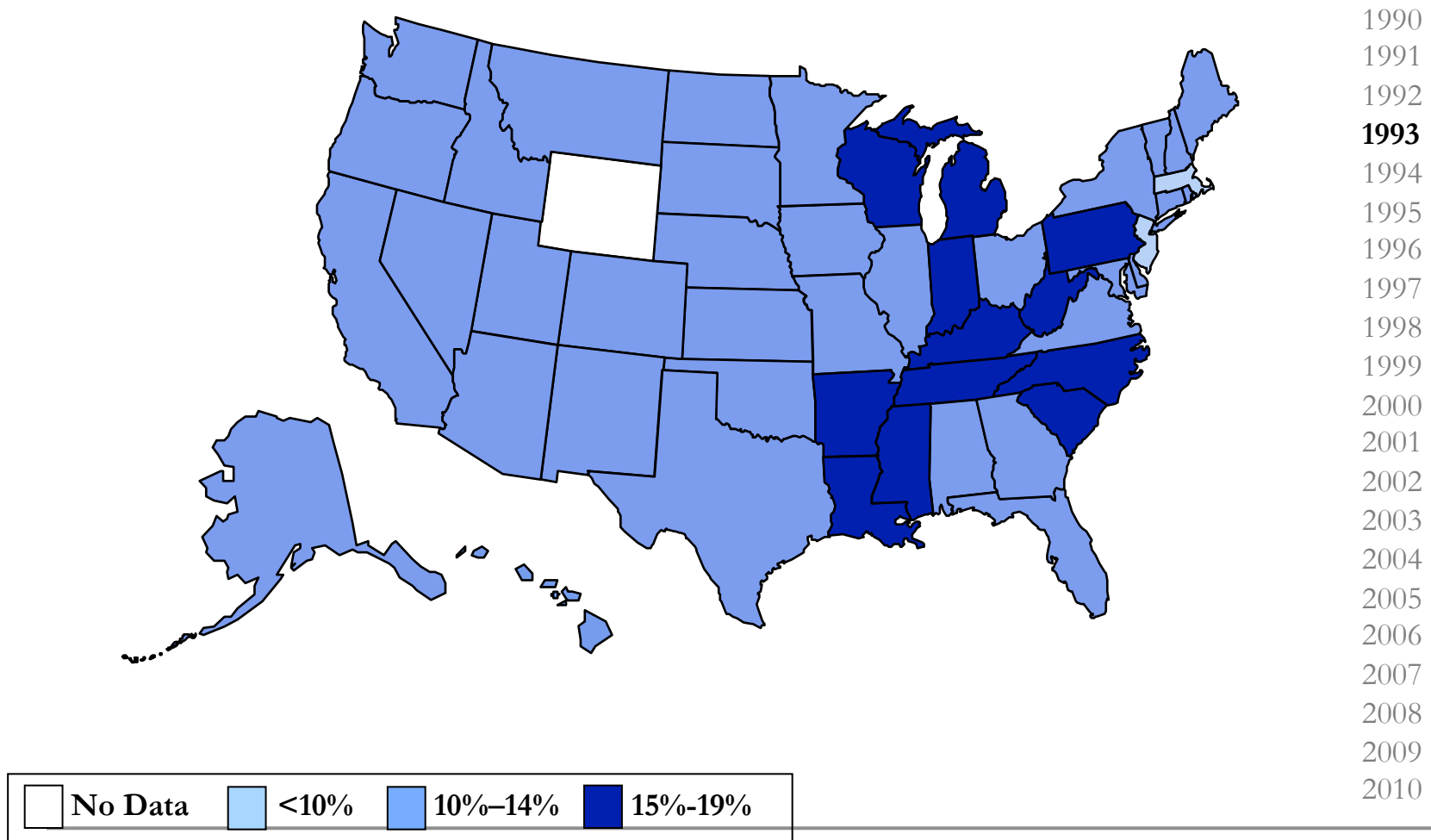
Obesity Trends Among U.S. Adults



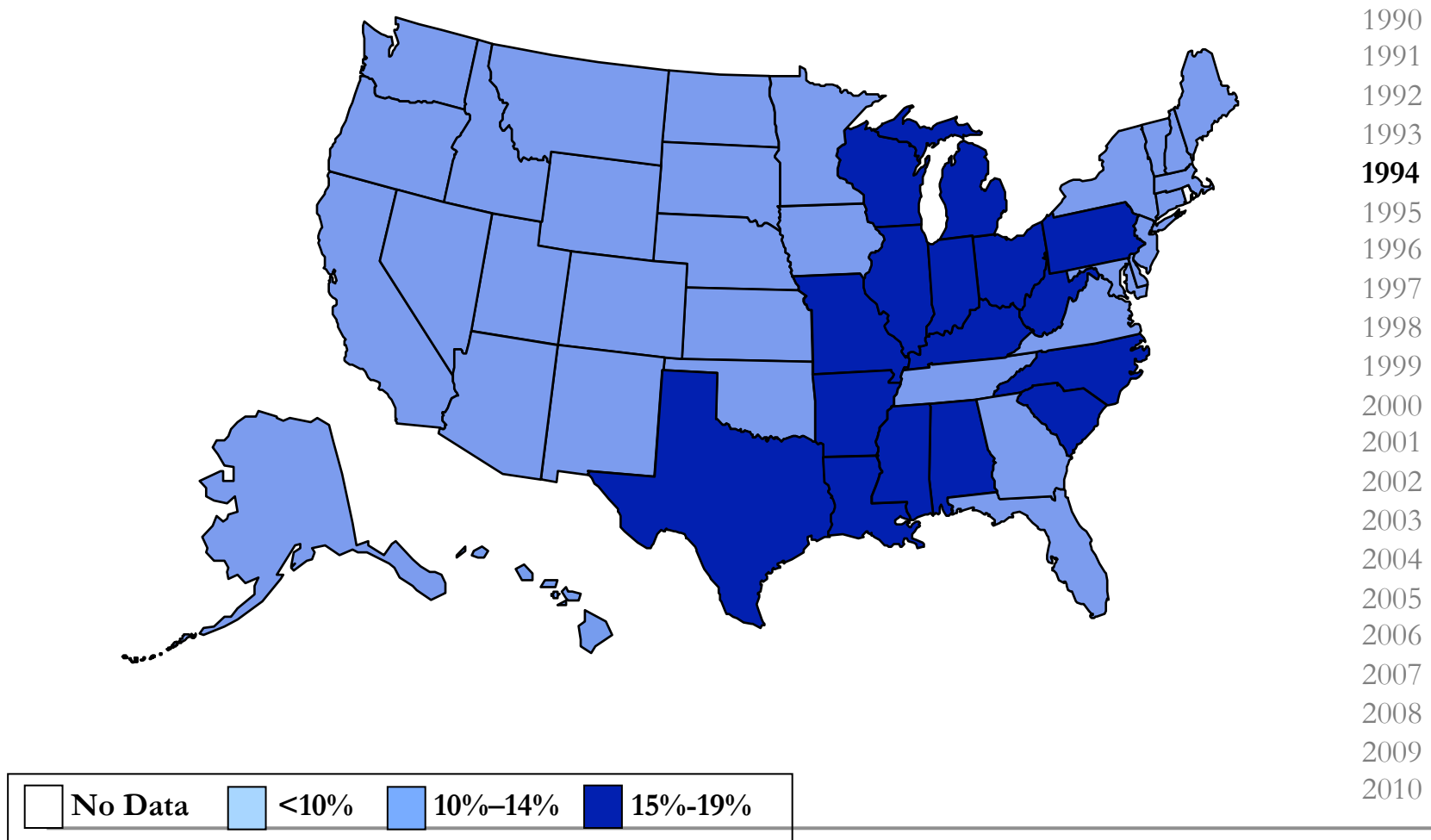
Obesity Trends Among U.S. Adults



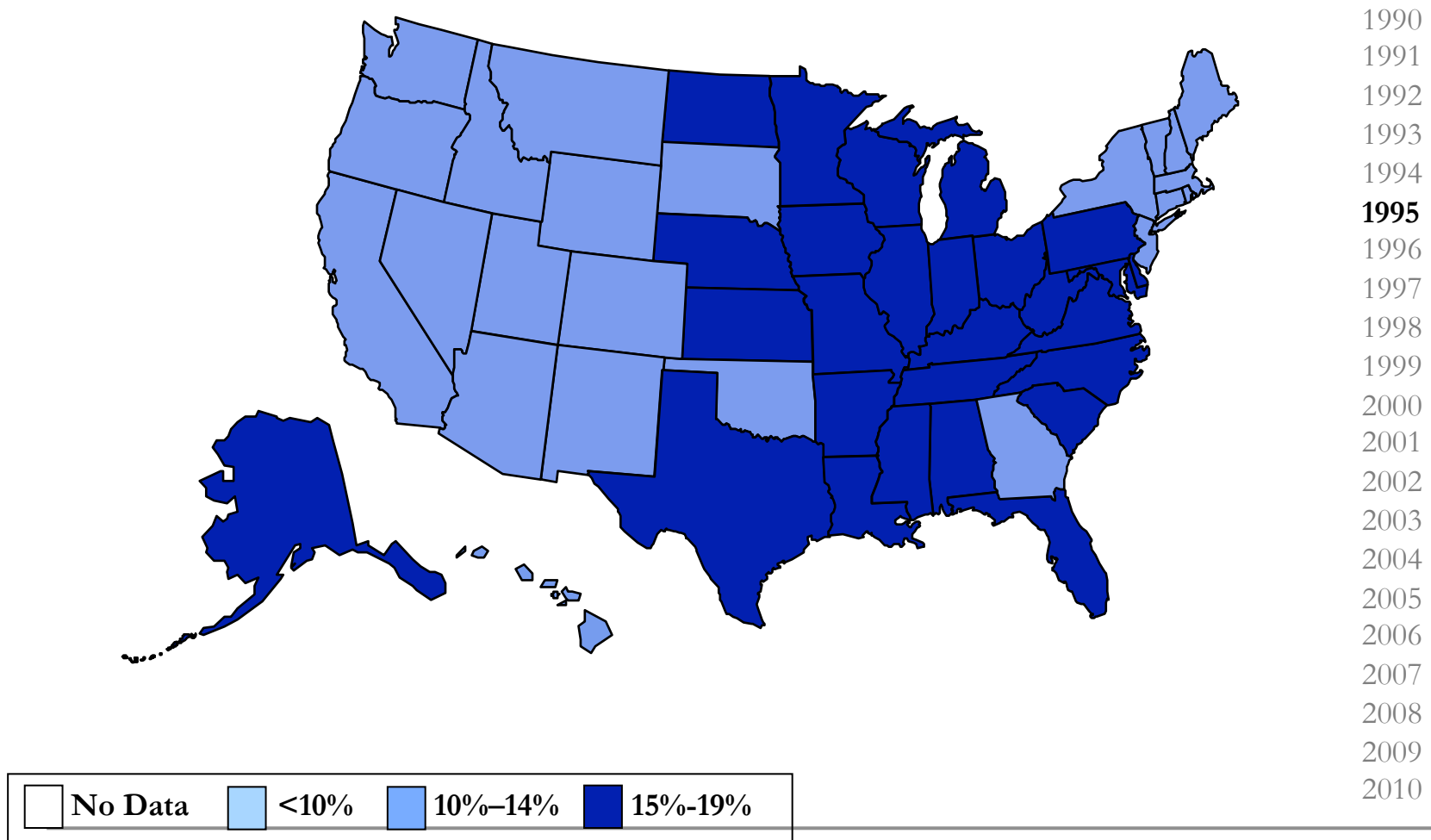
Obesity Trends Among U.S. Adults



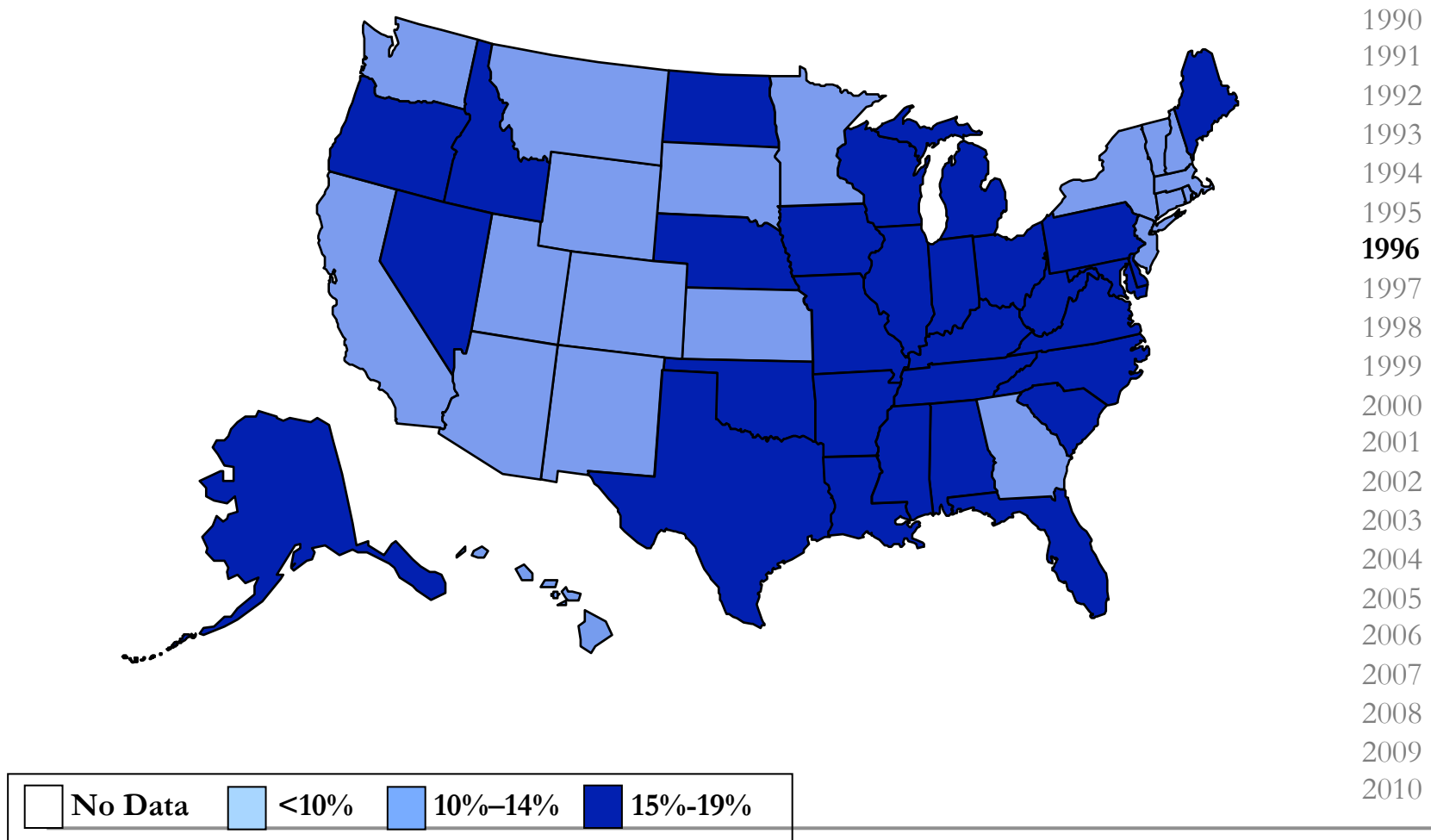
Obesity Trends Among U.S. Adults



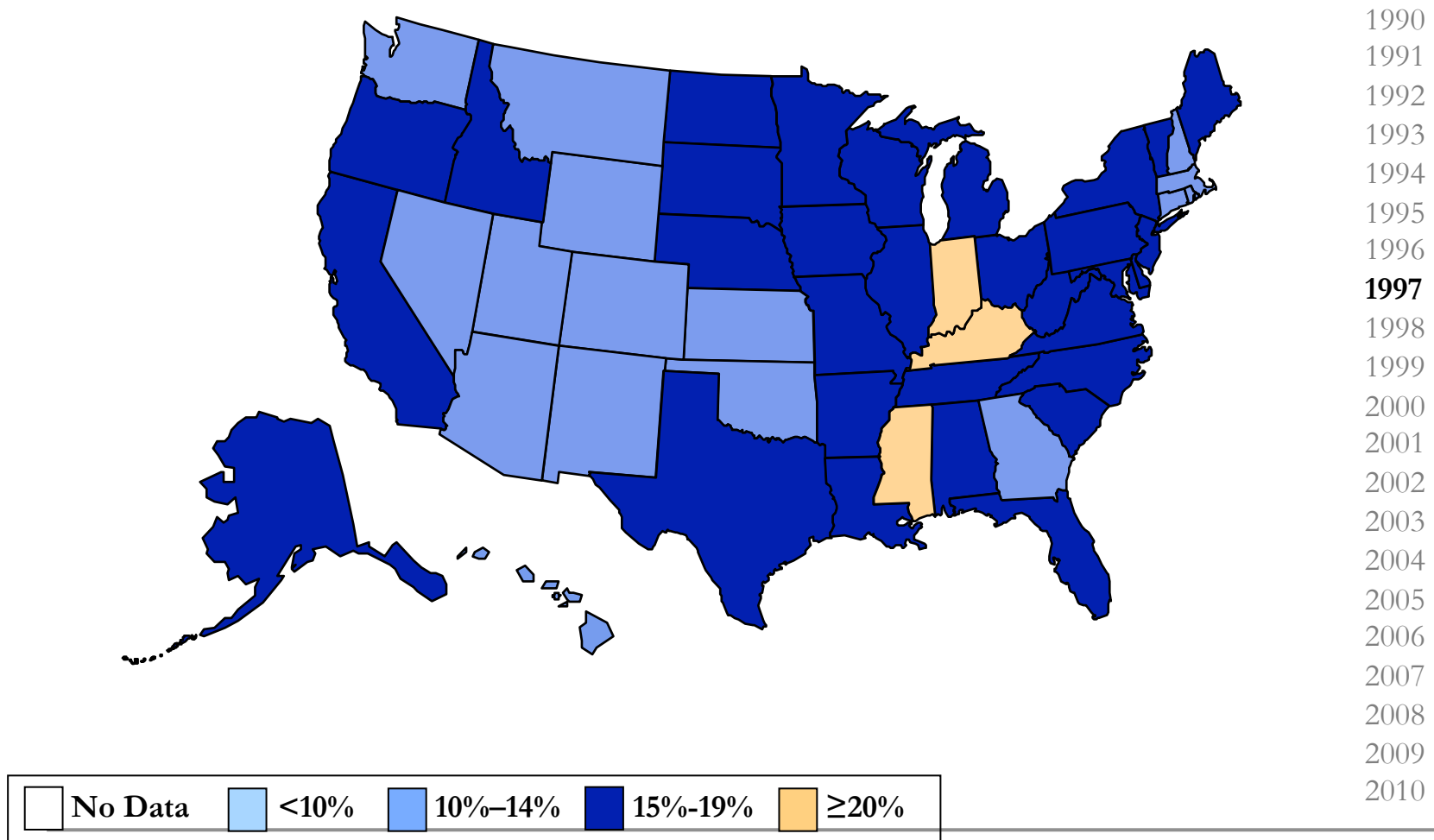
Obesity Trends Among U.S. Adults



Obesity Trends Among U.S. Adults



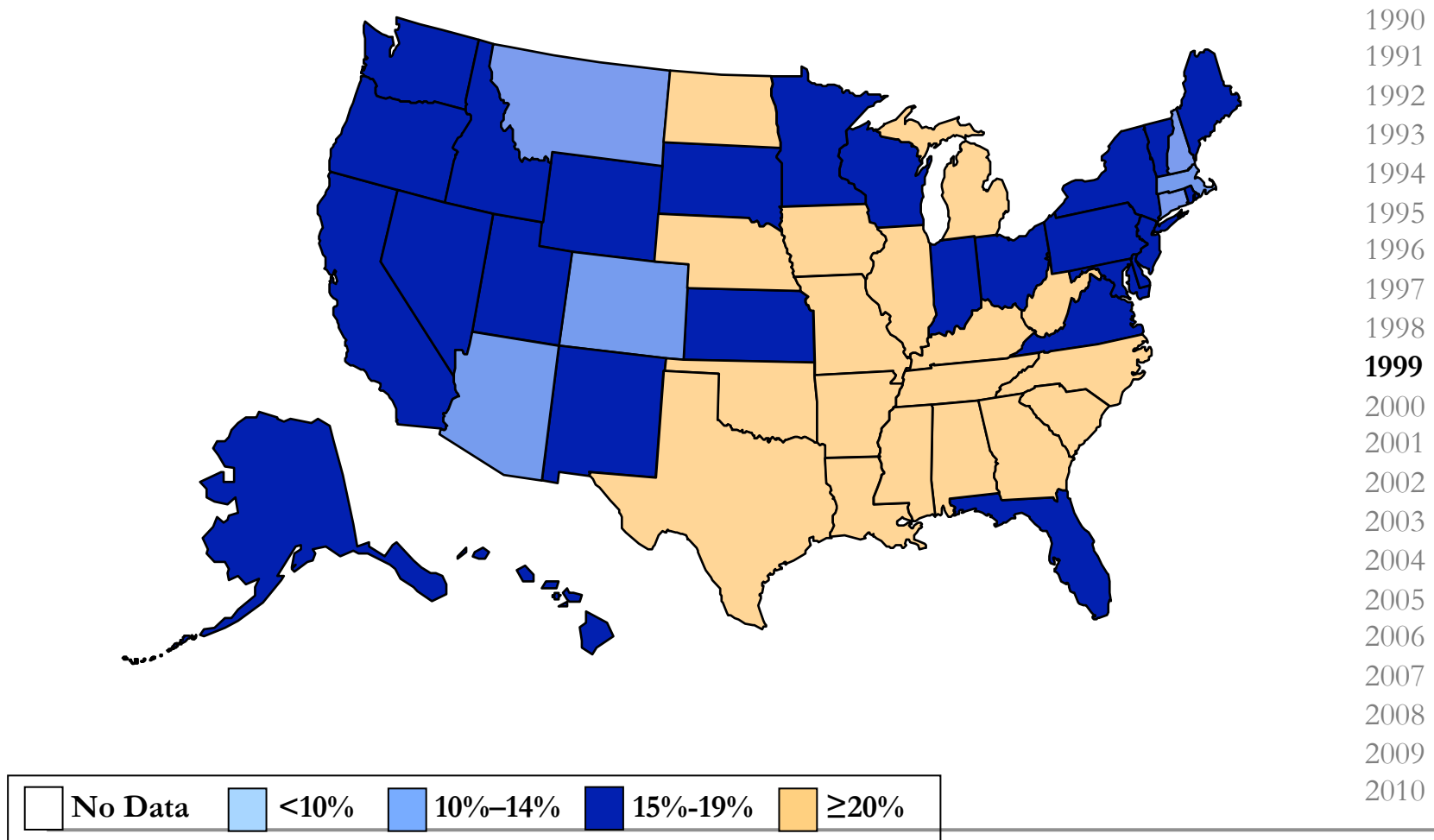
Obesity Trends Among U.S. Adults



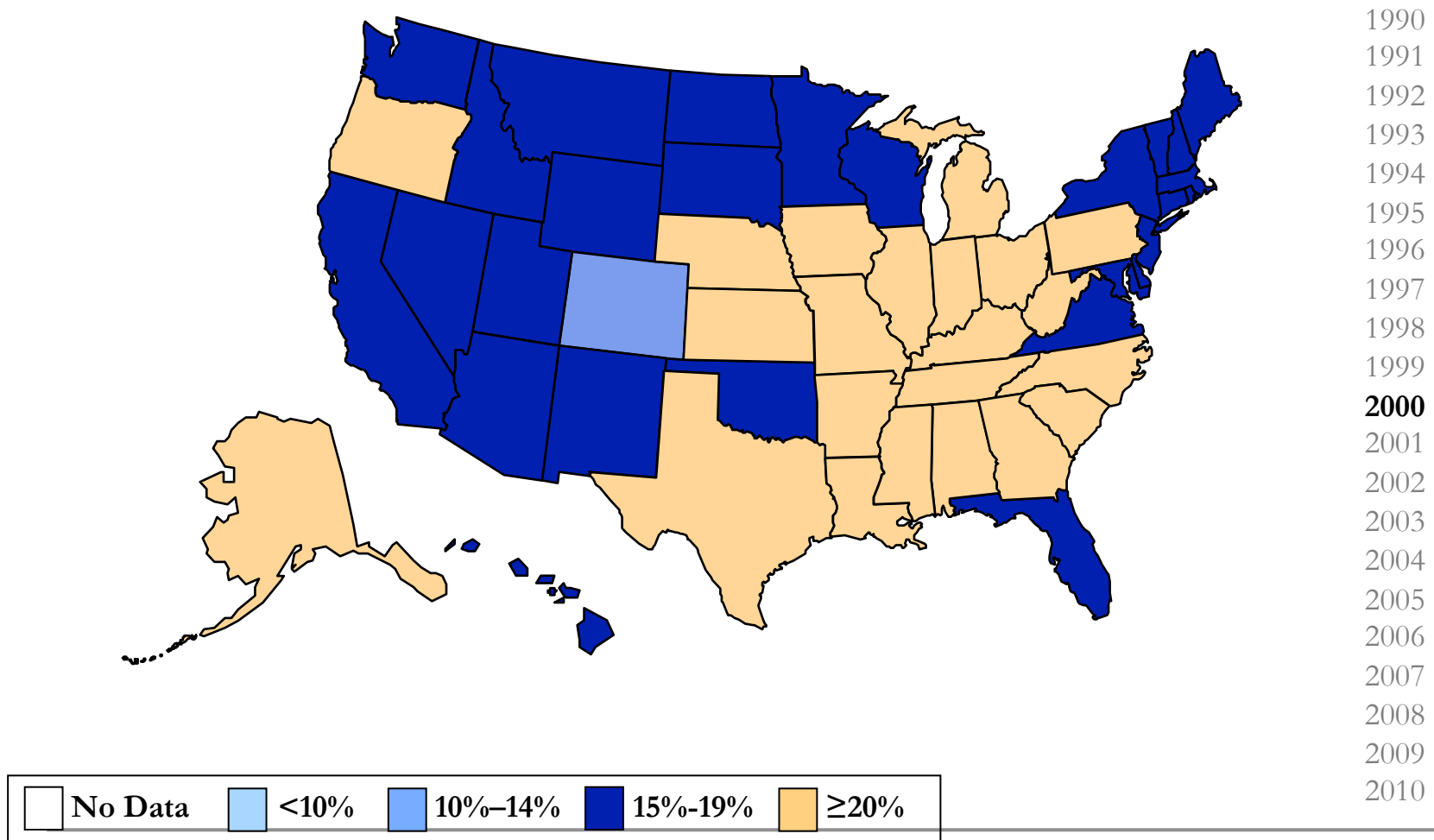
Response	Percentage
Yes	85%
No	15%



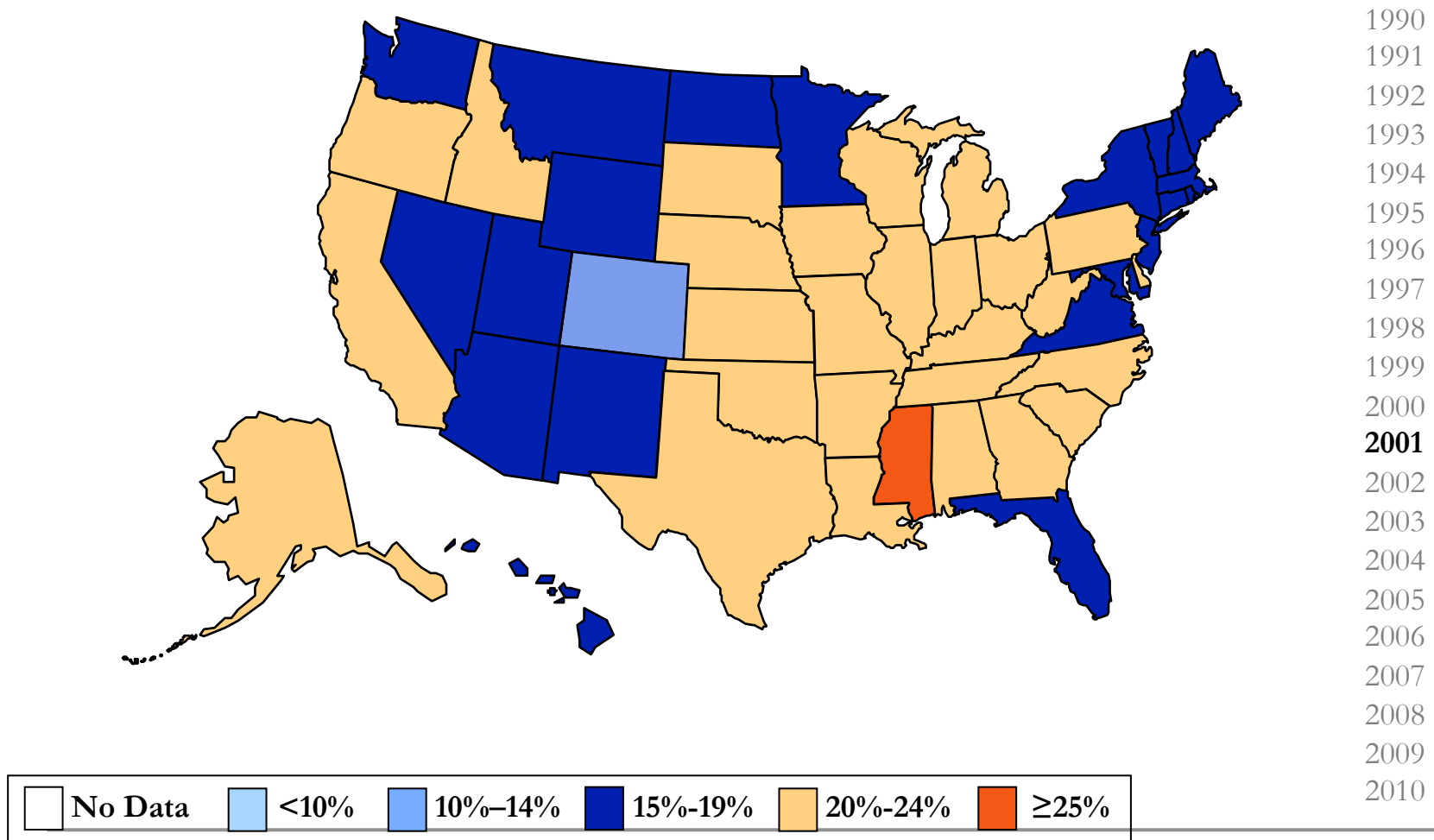
Obesity Trends Among U.S. Adults



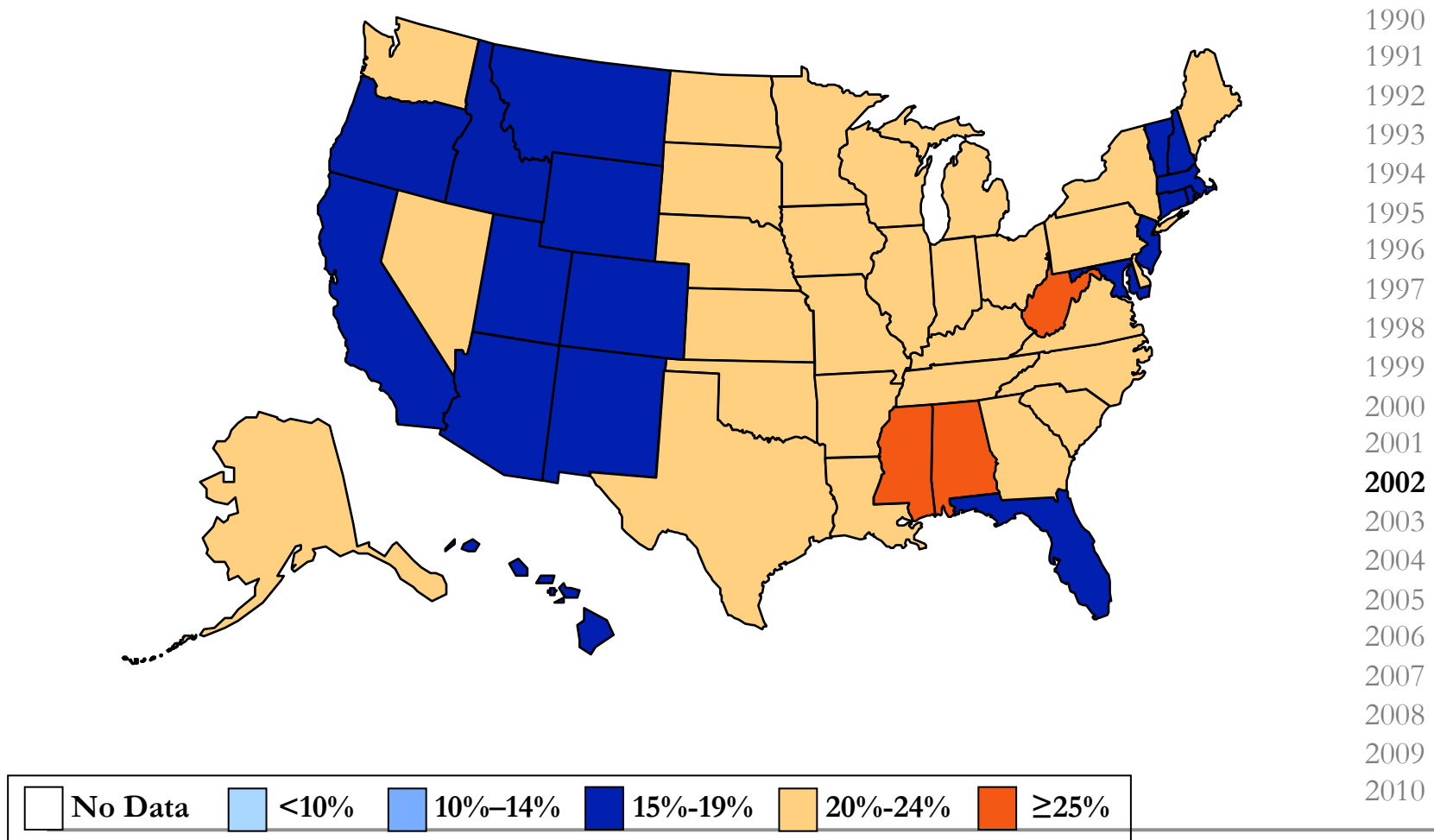
Obesity Trends Among U.S. Adults



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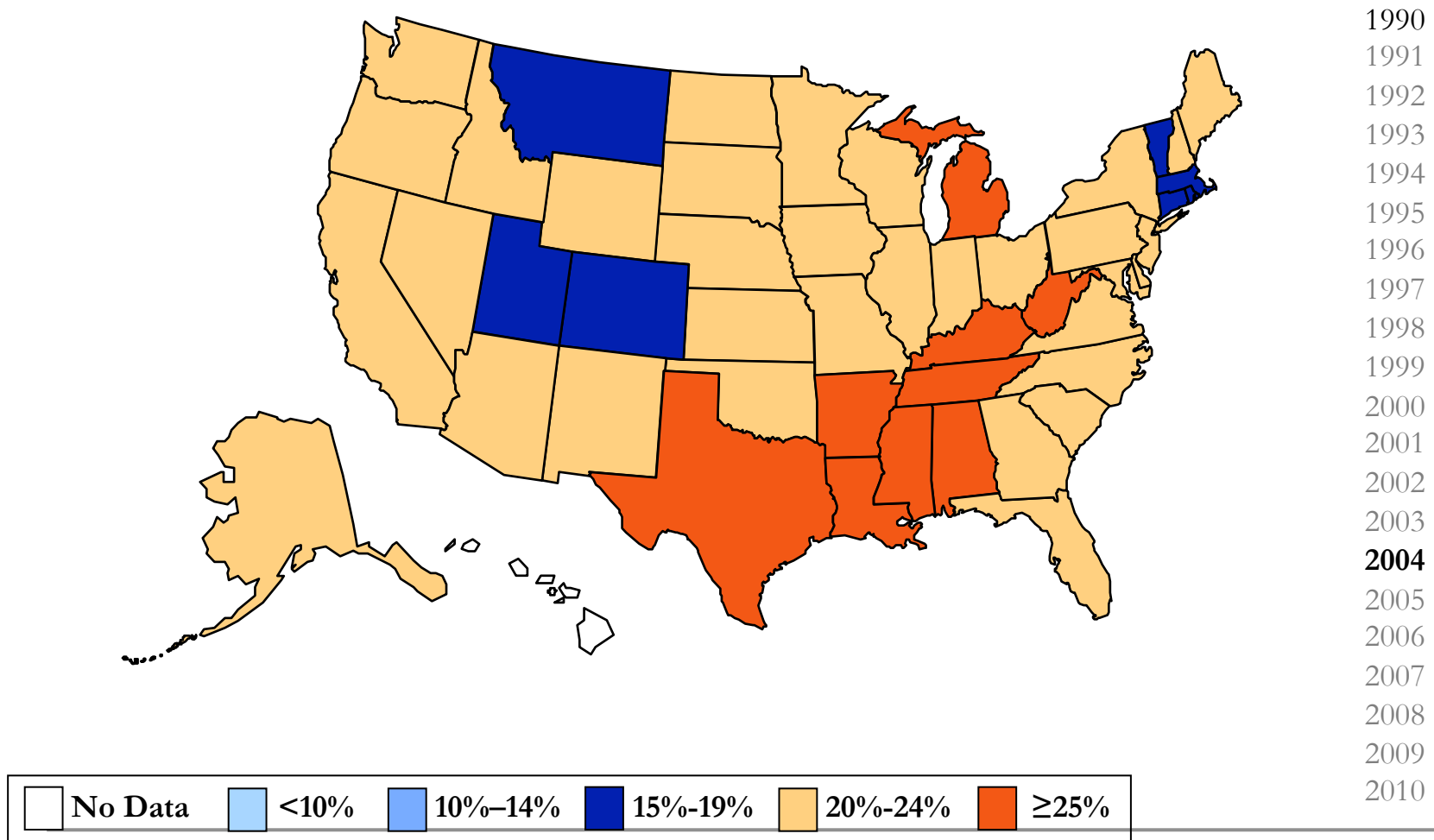
Obesity Trends Among U.S. Adults



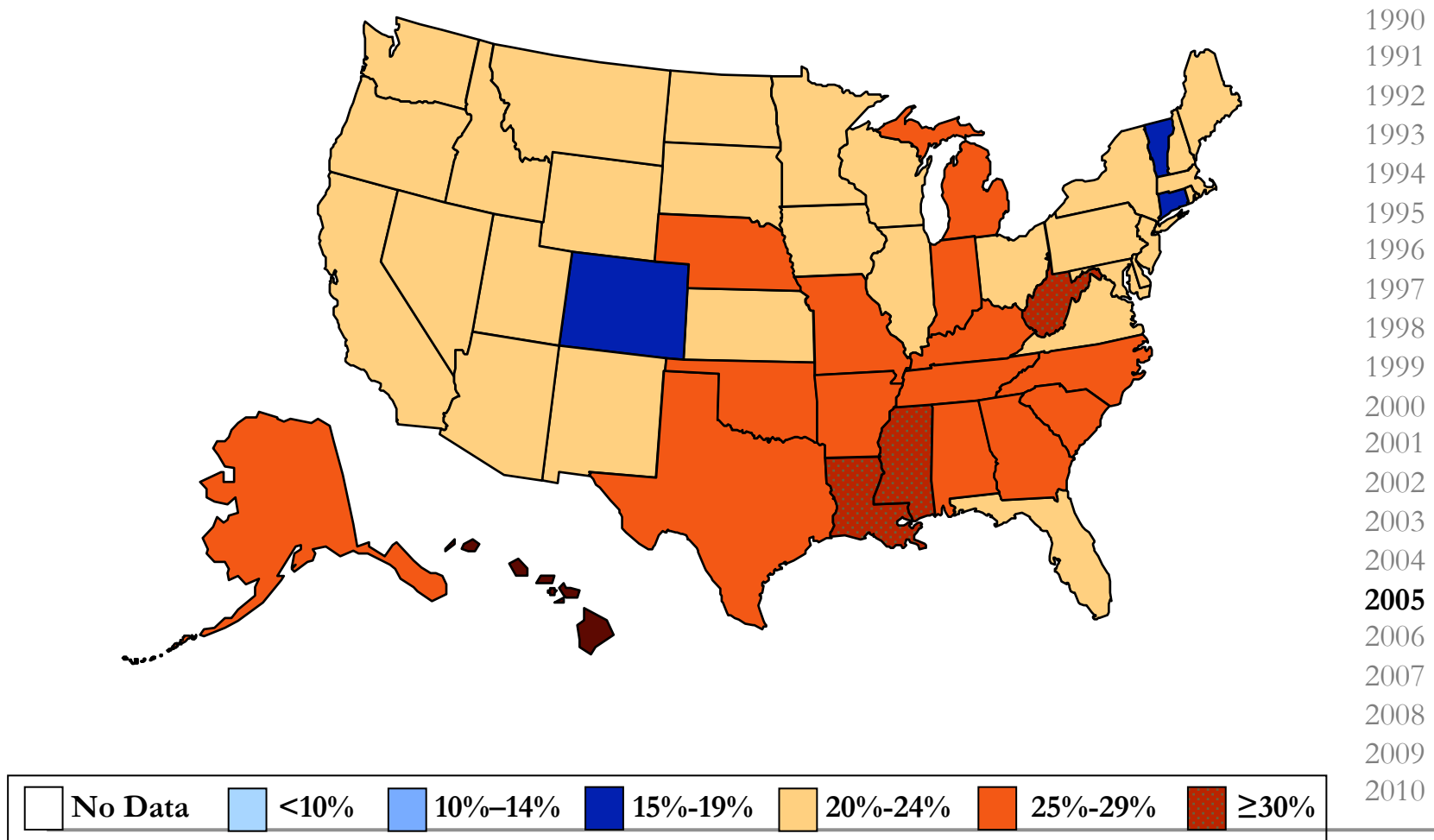
Response	Percentage
Yes, the U.S. should take action to reduce greenhouse gas emissions	95%
No, the U.S. should not take action to reduce greenhouse gas emissions	5%



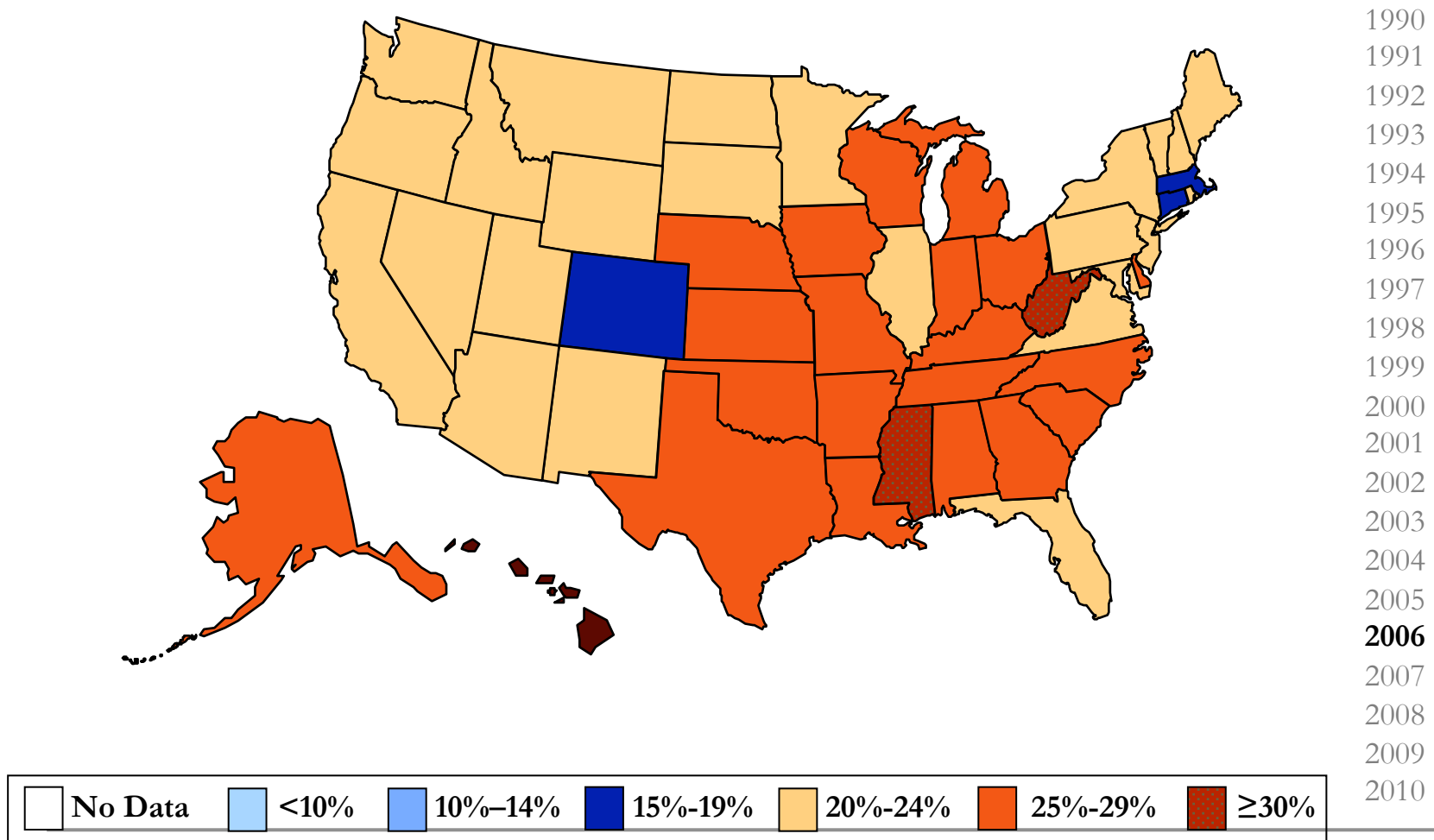
Obesity Trends Among U.S. Adults



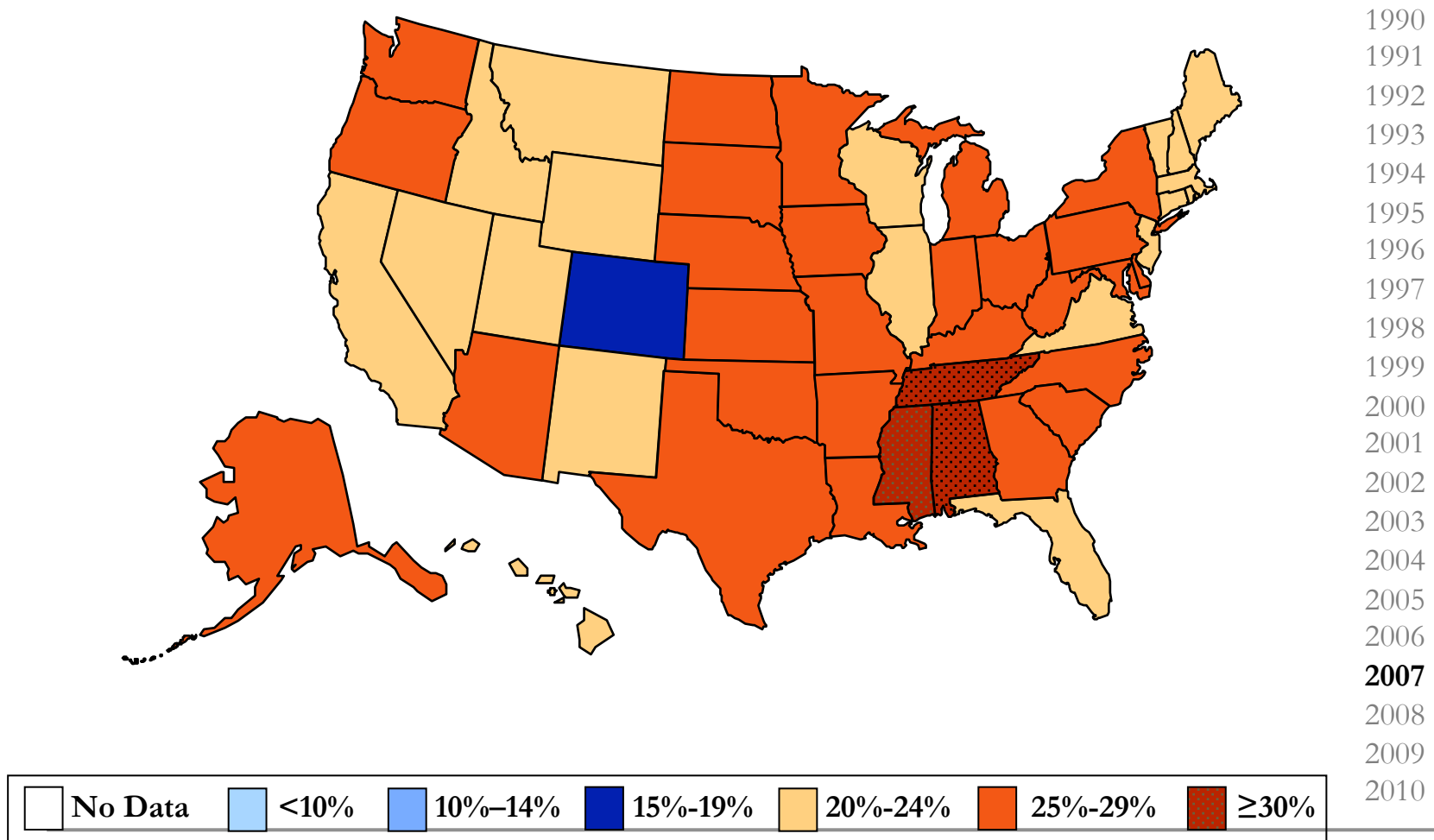
Obesity Trends Among U.S. Adults



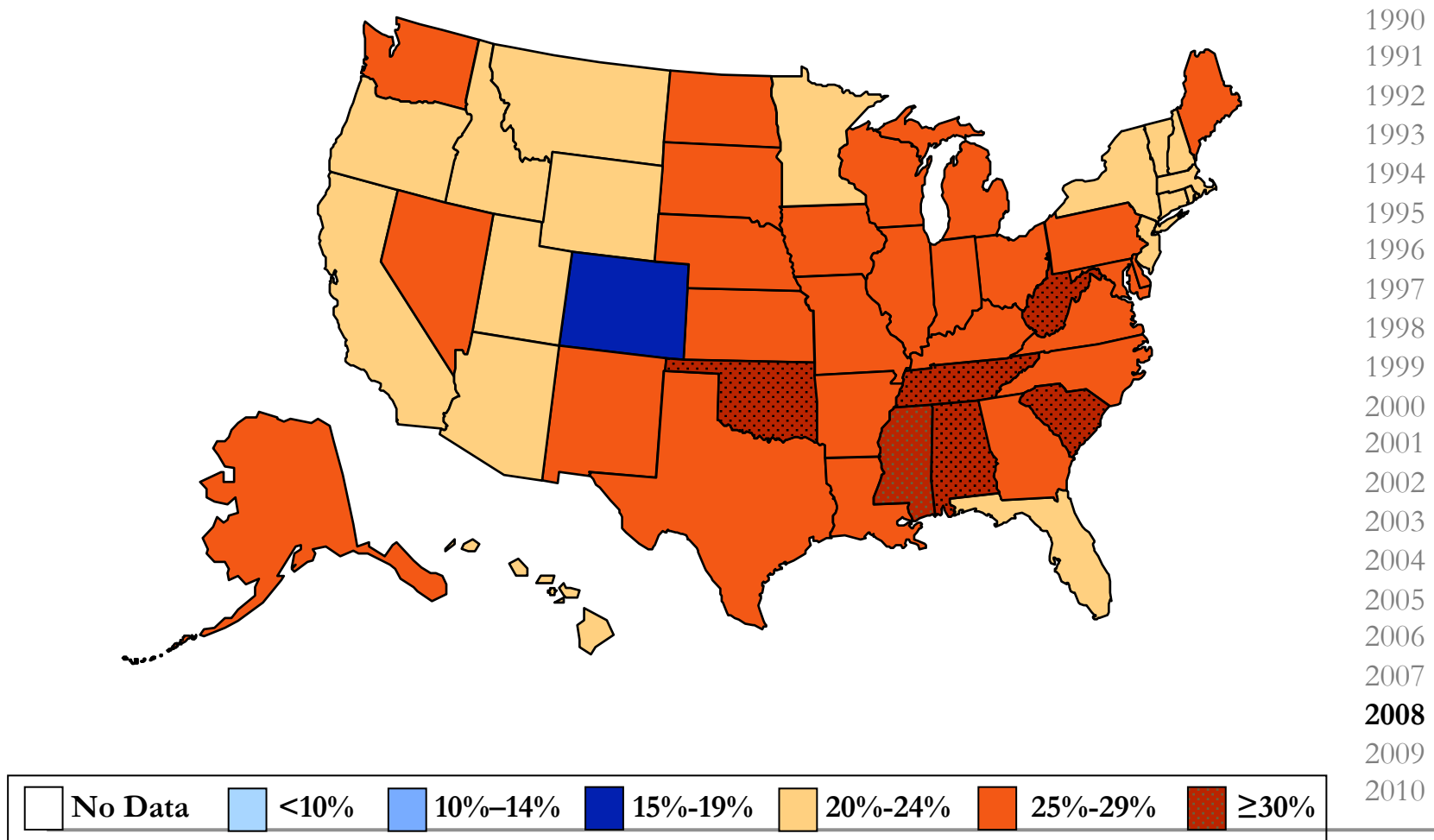
Obesity Trends Among U.S. Adults



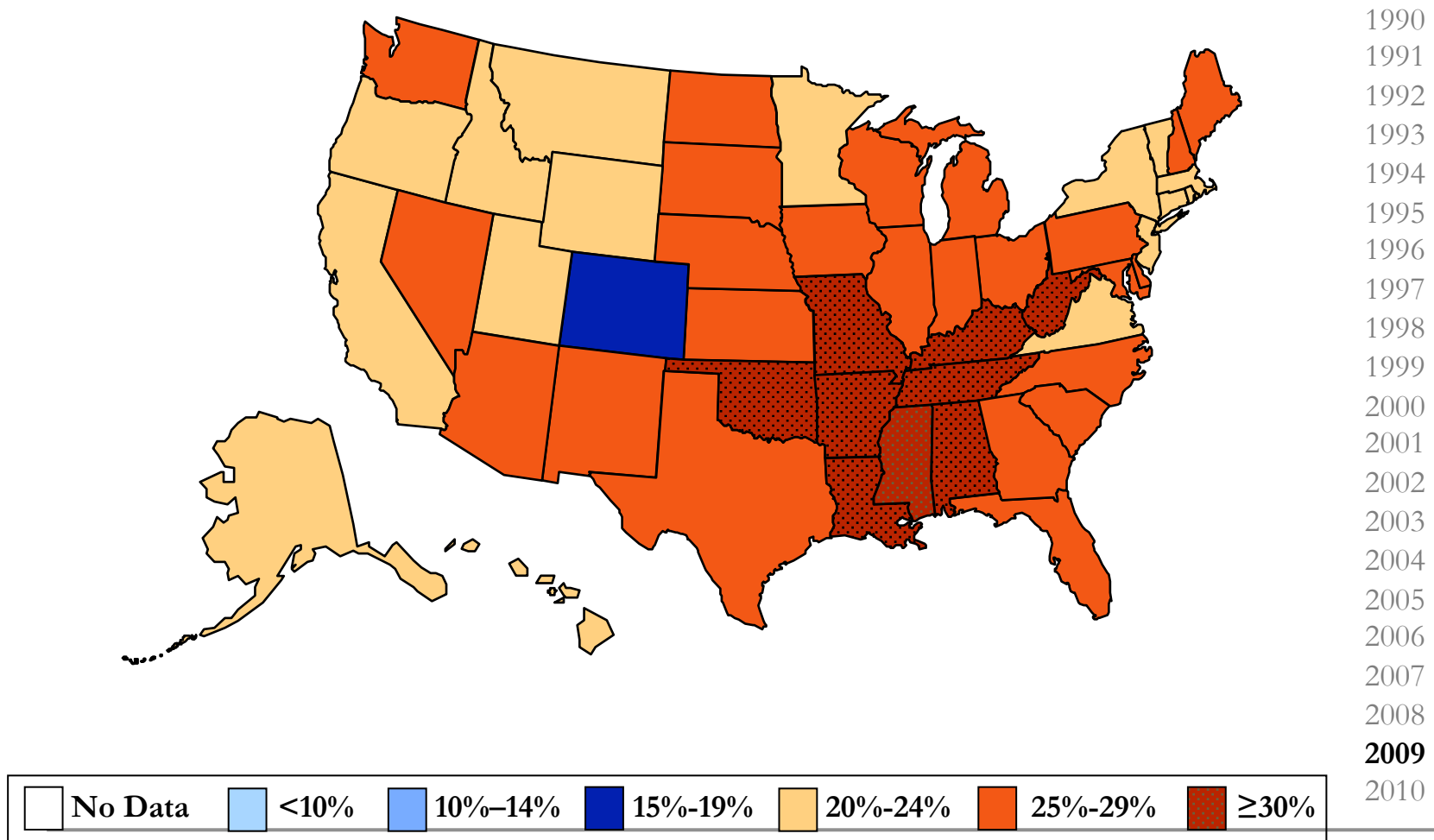
Obesity Trends Among U.S. Adults



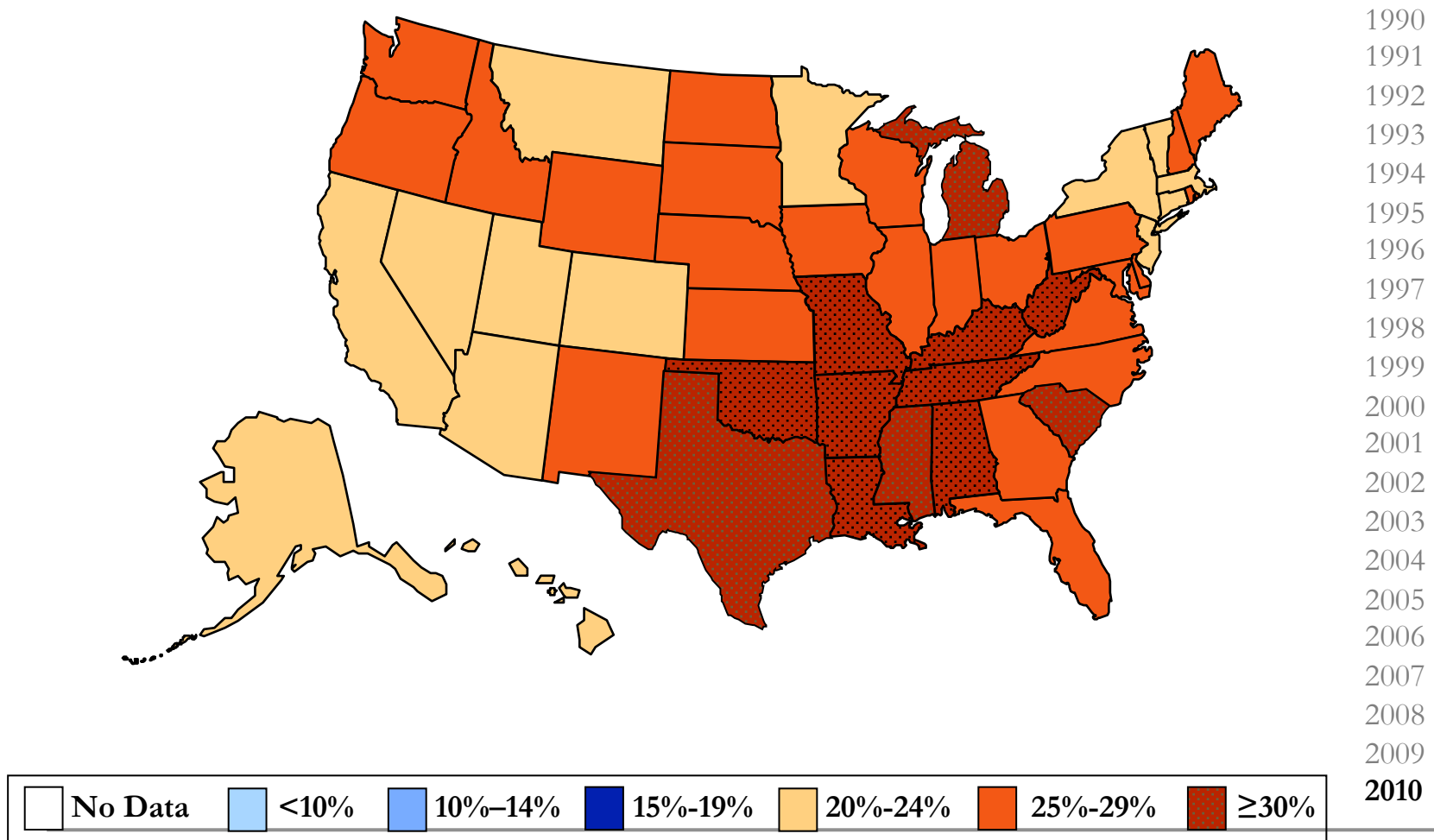
Obesity Trends Among U.S. Adults



Obesity Trends Among U.S. Adults



Obesity Trends Among U.S. Adults



Obesity



- More than 35% of US adults are obese
 - Obesity-related conditions are some of the leading causes of preventable death (heart disease, stroke, type II diabetes)
- Worldwide, obesity has nearly doubled since 1980
- 65% of the world's population lives in countries where overweight and obesity kills more people than underweight

Nutrition



- Good nutrition is essential for a person's overall health and well-being, and is now more important than ever
- Hundreds of nutrition and weight-loss applications
 - 15% of adults with cell phones use health applications on their devices
- These apps are powered by the USDA Food Database

USDA Food Database



- The United States Department of Agriculture distributes a database of nutritional information for over 7,000 different food items
- Used as the foundation for most food and nutrient databases in the US
- Includes information about all nutrients
 - Calories, carbs, protein, fat, sodium, . . .

Summarizing by Group: tapply

- The tapply function takes three arguments

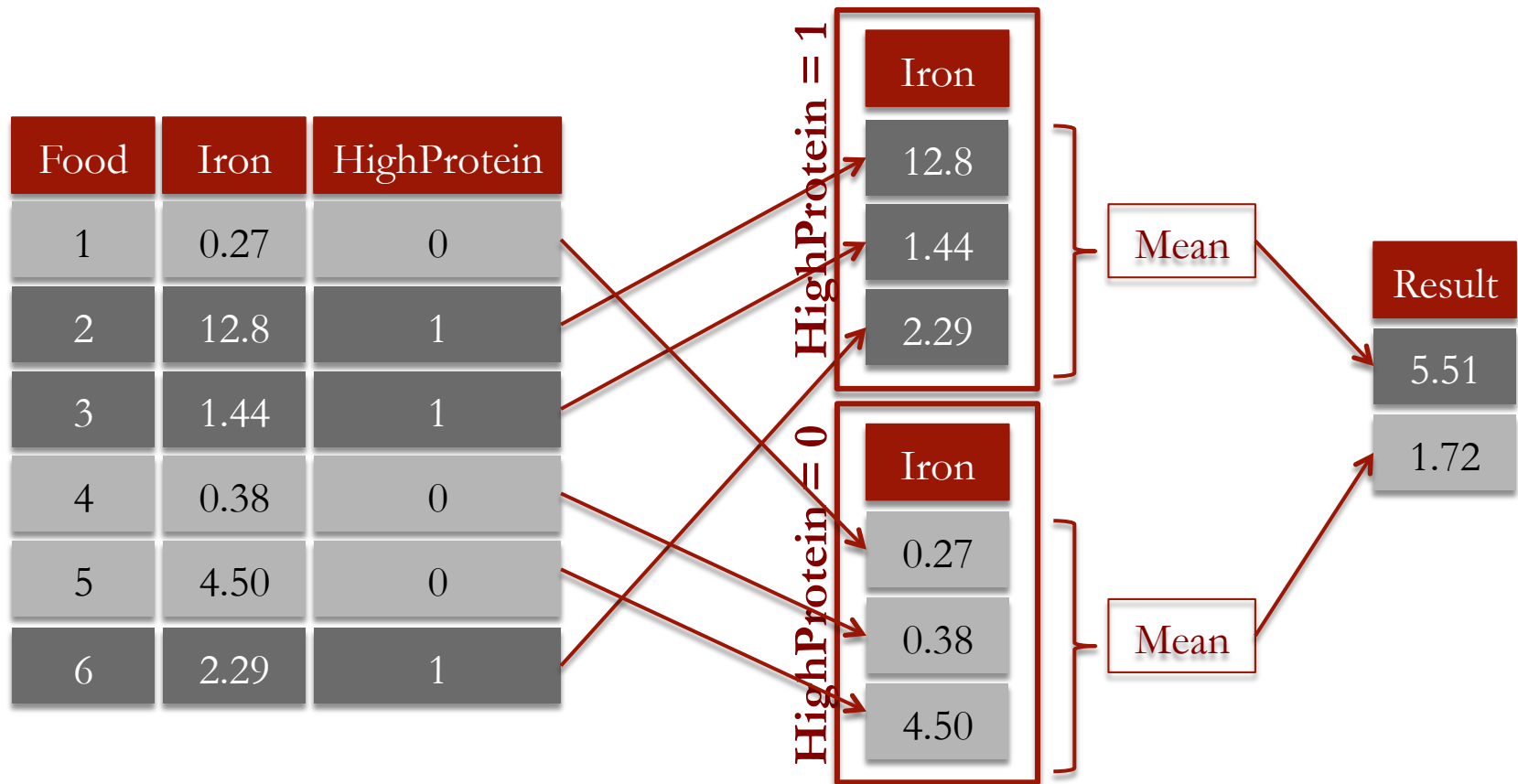
```
tapply(argument1, argument2, argument3)
```

- Group argument 1 by argument 2 and apply argument 3
- To compute the average amount of iron, sorted by high and low protein

```
tapply(USDA$Iron, USDA$HighProtein, mean, na.rm=TRUE)
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What exactly does tapply do?

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